Hampshire Water Transfer and Water Recycling Project

Environmental Statement Report – Appendix 18.1 Transport Assessment 1 of 3 documents

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Contents

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1 Introduction

1.1 Background

1.1.1 This Transport Assessment has been prepared on behalf of the Applicant in support of the Hampshire Water Transfer and Water Recycling Project (hereafter referred to as the 'Proposed Development'), which is being progressed by Southern Water Services Limited ('the Applicant').

1.1.2 In May 2022, under Section 35 of the Planning Act 2008, the Secretary of State (SoS) directed that the Proposed Development be treated as a project of national significance, for which development consent is required.

1.1.3 This Transport Assessment has been appended to the Environmental Statement (ES) and accompanies the Development Consent Order (DCO) application. This Transport Assessment assesses the extent of the Proposed Development's transport impact, specifically in relation to the construction and operation phases of the Proposed Development.

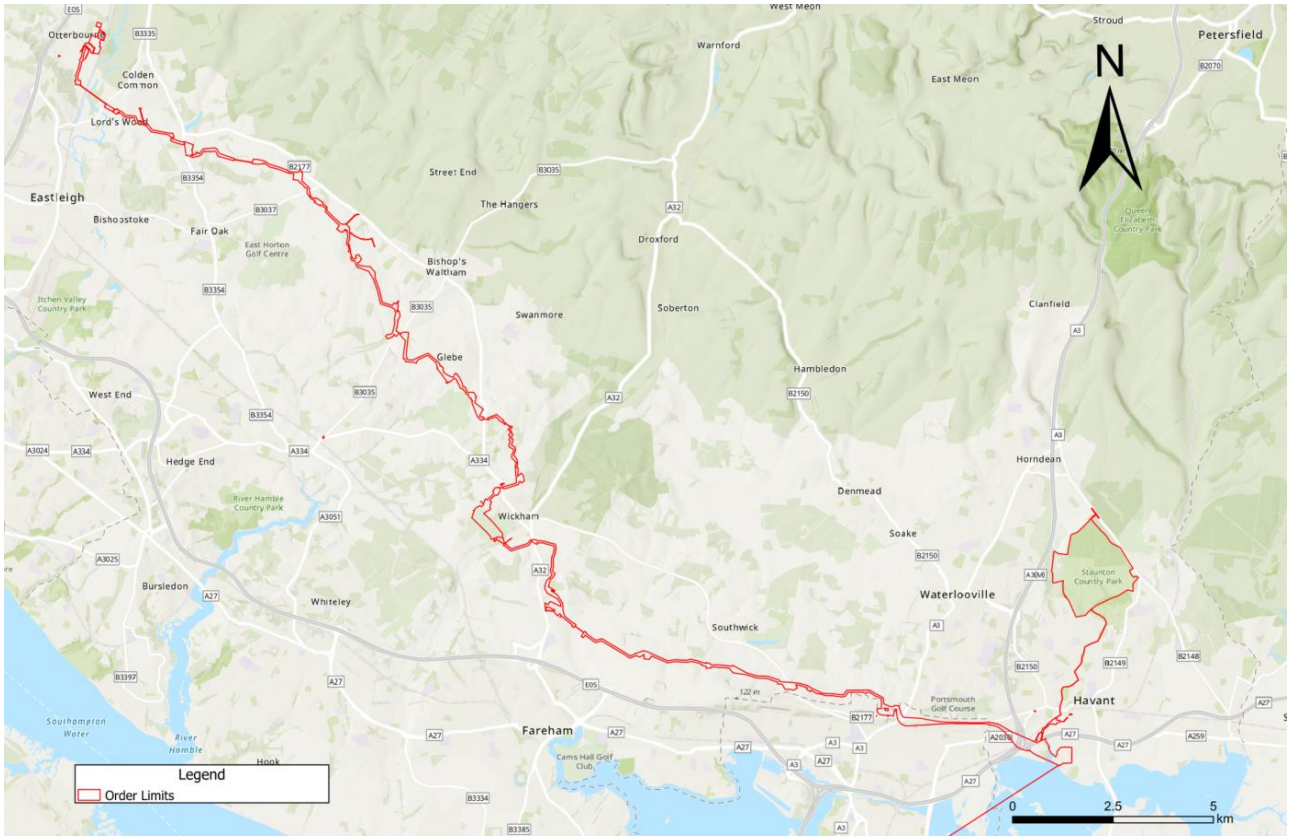
1.2 Overview of Proposed Development

1.2.1 An overview of the Proposed Development is provided in section 3.2 of the ES Chapter 3 Description of the Proposed Development, Volume I (Document reference 6.1, DCO Volume 6). The Proposed Development comprises the construction, operation and maintenance of the following principal components:

1. Water Recycling Plant and associated pumping stations.
2. Underground Pipelines between Budds Farm Wastewater Treatment Works and the Water Recycling Plant site.
3. Pipelines between the Water Recycling Plant site and Bedhampton Springs, connecting into pipelines being delivered by Portsmouth Water between Bedhampton Springs and Havant Thicket Reservoir.
4. Underground pipeline between the Water Recycling Plant site and Otterbourne Water Supply Works.
5. Above Ground Plant comprising Intermediate Pumping Stations and Break Pressure Tanks located along the Pipeline between the Water Recycling Plant and Otterbourne Water Supply Works.

1.2.2 The Order Limits represent the extent of the area within which the development authorised by the DCO may be carried out, including the permanent and temporary land needed for construction, operation and maintenance activities. The Order Limits (excluding the Eastney Long Sea Outfall (LSO)) are shown in Graphic 1-1.

Graphic 1-1 Order Limits



1.2.3 The Order Limits also include areas of the Proposed Development that do not comprise new development, but where the Applicant is applying for consent to use existing development (e.g. Otterbourne WSW).

1.3 Traffic and transport management plans

1.3.1 In addition to this Transport Assessment, four traffic and transport related management plans have been submitted as part of the DCO application. These management plans provide detail on traffic and transport measures to be implemented to effectively manage the construction phase of the Proposed Development.

1.3.2 The following traffic and transport related management plans have been submitted as part of the DCO application documents:

1. Framework Construction Traffic Management Plan (CTMP) (Document reference 7.2, DCO Volume 7), setting out how construction traffic would be managed, including hours of traffic movements, traffic routing, safe vehicular access and other ways to reduce traffic impacts. The Framework CTMP (Document reference 7.2, DCO Volume 7) also sets out any physical works to the public highway or traffic management measures required to enable access for construction vehicles. The Framework CTMP (Document reference 7.2, DCO Volume 7) provides a framework for the detailed CTMP documents, which will be prepared by the Contractor, post-consent.
2. Included in Appendix A of the Framework CTMP (Document reference 7.2, DCO Volume 7) is the Framework Construction Worker Travel Plan (CWTP).

This sets out measures to encourage construction workers to travel by sustainable modes of transport. The Framework CWTP sets out a framework for detailed CWTP documents, which will be prepared by the Contractor, post-consent.

3. Framework Rights of Way Management Plan (RoWMP) (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7), summarising the proposed Public Rights of Way (PRoW) mitigation measures, such as temporary closures and diversions, that are required as part of the Proposed Development. The Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7) outlines a framework for detailed RoWMP documents, which will be prepared by the Contractor, post-consent.

1.3.3 In addition, a Traffic Management Strategy (TMS) (Document reference 7.3, DCO Volume 7) provides a strategy as to what traffic management would be required and implemented, the expected duration of the works, and any calendar and programme restrictions. The TMS also sets out the notice periods for construction works and the responsive traffic management protocols. This TMS has been prepared and submitted as a certified document as part of the DCO application.

1.3.4 The measures contained within these management plans are secured by a requirement in the DCO.

1.4 Report structure

1.4.1 The remainder of the Transport Assessment is structured as follows:

1. Section 2: Engagement – provides an overview of the significant engagement with the highway authorities.
2. Section 3: Policy – details the national and local polices that are relevant to this assessment.
3. Section 4: Highway network – provides detail of the local highway network in the vicinity of the Proposed Development, including an initial review of road traffic collision data.
4. Section 5: Accessibility by sustainable modes – provides detail on walking, cycling, public transport and horse riding provision in the vicinity of the Proposed Development.
5. Section 6: Development proposals – Construction – provides an overview of the construction activities associated with the Proposed Development, including temporary accesses, traffic management and PRoW management.
6. Section 7: Development proposals – Operation – provides an overview of the principal components of the Proposed Development, alongside the permanent transport infrastructure and the associated operation and maintenance activities.
7. Section 8: Existing and future baseline – presents the baseline traffic data and sets out the assumptions and methodology that inform the future baseline.
8. Section 9: Construction traffic demand – Provides a forecast of construction traffic flows associated with the Proposed Development.

9. Section 10: Construction traffic impact assessment – Provides an assessment of the Proposed Development's impact at local junctions within the study area during construction.
10. Section 11: Sustainable modes impacts – Outlines the Proposed Development's impact on sustainable transport modes.
11. Section 12: Operational transport impacts – Details the operational traffic impact associated with the Proposed Development.
12. Section 13: Concludes the Transport Assessment, demonstrating that the Proposed Development is acceptable on transport grounds.

2 Engagement

2.1 Introduction

2.1.1 This section of the Transport Assessment provides detail on the scoping and engagement with the highway authorities that has informed this assessment and informed the design development.

2.1.2 This section should be read alongside the Consultation Report (Document reference 5.1, DCO Volume 5) prepared in response to the Summer 2024 Consultation and Spring 2025 Consultation and the Hampshire County Council (HCC), Portsmouth City Council (PCC) and National Highways (NH) Statements of Common Ground **(Draft SOCG Hampshire County Council/Portsmouth Cite Council/National Highways (Document reference 5.8, DCO Volume 5))**.

2.2 Transport Assessment scoping

Transport Assessment Scoping Report

2.2.1 A Transport Assessment Scoping Report was issued to HCC, PCC and NH as the local and national highway authorities in December 2023 for comment. A scoping meeting was held on 26 January 2024 to discuss the scope of the Transport Assessment with the aforementioned highway authorities. The Transport Assessment Scoping Report can be found in **Error! Reference source not found.**of this Transport Assessment.

2.2.2 NH provided written comments dated 15 December 2023 where the following was confirmed:

1. NH have an interest in the M27, A3(M), M3 and A27. In particular, they would be concerned with the construction traffic impact added to any junctions on these roads.
2. Additionally, the pipeline passes beneath the Strategic Road Network (SRN) and NH would be concerned with any direct impact to the potential network infrastructure.
3. A meeting was requested to discuss additional information which was scheduled for 26 January 2024 (as outlined above).

2.2.3 HCC provided written comments dated 6 February 2024. The following notes the key themes within their response, and sets out how these themes have been incorporated into the suite of documents prepared:

1. The Transport Assessment should consider the construction and operation phases of development and consider the impact of these phases of works on all modes of transport. An assessment of the construction and operational impacts of the Proposed Development can be found in sections 9 and 12 of this Transport Assessment respectively.
2. The Transport Assessment would need to be supported by a Framework CTMP (Document reference 7.2, DCO Volume 7), TMS (Document reference 7.3, DCO Volume 7) (for works to the road network and PRoW Network) and a Travel Plan for the construction stage of the development. The Framework

CTMP (Document reference 7.2, DCO Volume 7) and TMS (Document reference 7.3, DCO Volume 7) have been prepared and submitted as standalone DCO documents, whilst the Framework CWTP and Framework RoWMP has been appended to the Framework CTMP (Document reference 7.2, DCO Volume 7).

3. The Transport Assessment should include an assessment of the construction workers hub. This assessment can be found within section 10.6 of this Transport Assessment.
4. Commentary was provided on the baseline conditions and where HCC did not agree with the audit set out in the Transport Assessment Scoping Report. The audit of baseline conditions has been updated, as set out in sections 4 and 5 of this report.
5. The Personal Injury Accident extent should include the SRN and the junction between the SRN and the local highway network. The accidents and safety assessment should consider the vehicle composition. The baseline assessment with regards to highway safety can be found in section 4.5.
6. The latest version of TEMPro should be used. Revised TEMPro growth factors have been agreed with HCC, PCC and NH using the latest version of TEMPro, as detailed in section 8.4.
7. Operational impacts should be set out however it was broadly agreed there are unlikely to be significant impacts. The operational traffic impacts of the Proposed Development are set out in section 12 and demonstrate these would not be significant.
8. The assumptions that have informed the construction traffic generation and distribution require additional refinement. These have been refined through engagement with HCC, as detailed in the following section.
9. The qualitative assessment of the public transport impacts may need to be supplemented, based on identified impacts. As detailed in section 11, the impacts on public transport are not significant and therefore a quantitative assessment is not deemed to be required.

2.2.4 Various Technical Notes were subsequently issued to HCC, PCC and NH to seek agreement on key parameters of the Transport Assessment, including construction traffic generation, distribution and impacts, TEMPro growth factors and cumulative developments. These technical notes were supplemented by a series of workshops. A summary of this engagement is outlined below.

Construction traffic generation, distribution and impacts

2.2.5 To refine and agree the construction traffic assumptions there were workshops with HCC, PCC and NH held on 11 July 2024 and 3 September 2024. As part of these workshops, the appropriate routing for Heavy Good Vehicles (HGV) between the temporary construction compounds and the SRN were discussed alongside the methodology for distributing construction worker trips.

2.2.6 A Technical Note (dated 23 December 2024) was subsequently issued to HCC, PCC and NH to confirm the preliminary forecast construction traffic impacts of the Proposed Development on the highway network. The preliminary impacts of the Proposed Development, as detailed in the Technical Note, has informed the impact assessment carried out within this Transport Assessment.

2.2.7 In a written response dated 29 January 2025, PCC confirmed the following:

1. There would be limited works associated with the Proposed Development within the PCC highway network, with works predominately focused within the Portsdown Hill region north of the city.
2. The majority of the trips for construction workers are likely to be outside of the peak hour and therefore it is unlikely to result in any severe impact to the highway function within PCC network.
3. It is considered that the principle underpinning the planning submission so far appears acceptable from a PCC highway perspective but ongoing discussions should be continued.

2.2.8 National Highways also provided written comments on the Technical Note and confirmed the following:

1. The Technical Note has demonstrated that the vast majority of worker trips would occur outside of network peak times.
2. Whilst the number of construction worker trips using the SRN is relatively large, the nature of them occurring outside of network peak periods means that total network flows either do not exceed or only minorly exceed the existing network peak.
3. Heavy Good Vehicle trips would only occur between the network peak hours and outside of the times of construction worker trips. NH are therefore not concerned with the HGV trip impact of the proposals.

2.2.9 HCC requested additional information and therefore a workshop was arranged on 12 March 2025 to discuss the forecast traffic impacts in detail. HCC requested the traffic data was issued in another format and this was subsequently issued on 14 March 2025. HCC also noted concerns regarding traffic impacts at Fisher's Pond and therefore the Framework CTMP (Document reference 7.2, DCO Volume 7) has been updated to include measures to restrict construction worker movements during the traditional PM peak period (16:00-18:00).

2.2.10 In workshops dated 14 and 21 August 2025, the traffic impacts associated with construction workers were reviewed in additional detail. It was agreed that the Transport Assessment should clearly set out where there are existing congestions issues on the local highway network, including both links and junctions, alongside how construction worker traffic would either impact or extend the network peak hours. This assessment can be found in section 10.

TEMPro background traffic growth

2.2.11 A Technical Note was issued to HCC, PCC and NH dated 3 October 2024 which set out the proposed TEMPro growth factors that would inform this assessment. It also set out initial thinking regarding cumulative developments, however it was agreed this would be subsequently discussed with the local planning authorities as part of the ES.

2.2.12 With regards to the TEMPro growth factors, the following written comments were received:

1. PCC provided no comments on the TEMPro growth factors but identified two additional cumulative developments in written comments dated 3 October 2024.
2. NH confirmed on 25 October 2024 that the proposed methodology looked appropriate.
3. HCC also confirmed they were content with the methodology on 25 October 2024.

Cumulative developments

2.2.13 As noted above, it was agreed that the cumulative development long-list would be agreed with the local planning authorities as part of the ES. To supplement these discussions, HCC shared their records all major planning applications in Hampshire with at least 50 dwellings or 1,000m^2 located within 3km of the Order Limits.

2.2.14 The proposed long and short-list was issued to HCC and PCC for agreement on 26 March 2025. PCC confirmed in written comments dated 2 April 2025 that they had no additional comments. HCC provided additional comments on the long and short-list via emails dated 4 April, 10 April and 12 May 2025. These comments have been reflected in the long and short-list, as detailed in section 8.5 of this report.

2.2.15 NH confirmed by email that cumulative developments should be agreed with the local planning authorities.

2.2.16 As detailed in ES Chapter 20, Cumulative and in-combination effects, (Document reference 6.1, DCO Volume 6), there have been additional discussions with the host authorities following engagement in the Spring 2025. Following regard to host authority responses, the longlist of 'other developments' that underpins the cumulative effects assessment is based on a cut-off date of February 2026.

2.3 Framework Construction Traffic Management Plan

2.3.1 To inform the Framework CTMP (Document reference 7.2, DCO Volume 7), draft versions of the report have been issued to with HCC, PCC and NH and supplemented by several workshops to discuss the following key topics:

1. A draft Framework CTMP (Document reference: 710166-OQX-XX-XX-RP-EN-00037) was submitted as part of the Summer 2024 Consultation and HCC provided written comments, as set out in the Consultation Report (Document reference 5.1, DCO Volume 5).
2. At workshops on 11 July 2024 and 3 September 2024, the access strategies for the temporary construction compounds were discussed, including the access locations, management measures and the proposed routing of HGV. Comments received at these workshops informed the Framework CTMP (Document reference 7.2, DCO Volume 7).

3. An updated Framework CTMP was shared in April 2025 and written comments were received from HCC (on 4 August 2025) and discussed at workshops (on 7, 14, 21 and 28 August 2025).

2.4 Framework Construction Worker Travel Plan

2.4.1 A draft Framework CWTP was issued to HCC, PCC and NH in December 2024 and written comments were received in January 2025. Following a workshop on 6 May 2025, the Framework CWTP, included in Appendix A of the Framework CTMP (Document reference 7.2, DCO Volume 7) was updated to address the comments received. A subsequent draft was shared with HCC on 4 July 2025 and additional written comments were received on 4 August 2025. Where requested changes have been accepted, these have been reflected in the updated management plan.

2.5 Traffic Management Strategy

2.5.1 A draft version of TMS was issued to HCC, PCC and NH in December 2024. Written comments subsequently provided by HCC were discussed at a workshop on 28 April 2025. The TMS (Document reference 7.3, DCO Volume 7) was subsequently updated to reflect these written comments and the matters discussed at the workshop. Whilst an updated report was subsequently issued to HCC for comment, it was agreed that this would not be reviewed again until after the submission of the DCO application. This would allow a joint review of the Framework CTMP (Document reference 7.2, DCO Volume 7) and TMS (Document reference 7.3, DCO Volume 7).

2.6 Framework Rights of Way Management Plan

2.6.1 The Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7) was discussed with HCC and the South Downs National Park Authority (SDNPA) at workshops on 17 and 22 October 2024. Following the draft issue of the Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7) to HCC, PCC and the SDNPA in December 2024, HCC provided written comments in January 2025. These were discussed with HCC at a workshop on 1 May 2025 and have been addressed in the Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7) submitted with the DCO application.

2.7 Network Rail

2.7.1 Network Rail is the owner/operator of much of the UK railway network and has been consulted regarding the potential impacts of the Proposed Development, primarily associated with proposed tunnelling works under railway lines. Whilst engagement is ongoing, it is expected that the Proposed Development would not have an impact on the passenger rail services. Any impacts upon Network Rail tracks or assets are anticipated to be within Network Rail acceptance criteria and appropriate provision would be made for the management of these construction works.

3 Policy

3.1 National policy

National Policy Statement for Water Resources Infrastructure

3.1.1 Published in July 2025, the National Policy Statement for water resources infrastructure (NPSWRI) [1] outlines policies for developing Nationally Significant Infrastructure Projects (NSIP) for water resources in England, as defined in the Planning Act 2008 [2].

3.1.2 Under the 'Traffic and Transport' section, paragraphs 4.14.2-3 recognise that *"Environmental impacts may result particularly from trips generated on roads which may increase noise and air pollution as well as greenhouse gas emissions. Disturbance caused by traffic and abnormal loads generated during the construction phase will depend on the scale and type of the proposal."*

3.1.3 Paragraph 4.14.6 notes that *"Applicants should consult National Highways, Network Rail and Highway Authorities as appropriate on the assessment and mitigation".*

3.1.4 Paragraph 4.14.7 states that "*A construction management plan and travel plan should be prepared for the construction and operational phase of the Proposed Development. Both plans should include demand management and monitoring measures to mitigate transport impacts. Details of proposed measures to improve access by other means of sustainable transport should also be provided for example walking, cycling and public and shared transport*."

3.1.5 Paragraph 4.14.8 mentions that "*The assessment should also consider any possible disruption to services and infrastructure*."

3.1.6 As noted in paragraph 4.14.11, *"If a Proposed Development is likely to have significant transport implications, the Applicant's Environmental Statement should also include a Transport Assessment."*

3.1.7 Paragraph 4.14.12 highlights that "*Where mitigation is needed, possible demand management measures must be considered*."

National Networks National Policy Statement

3.1.8 Published as a revised version in May 2024, the National Networks National Policy Statement [3] provides planning guidance for nationally significant road, rail and strategic rail freight interchange proposed developments.

3.1.9 National networks are defined within the document as providing "*critical long-distance links between places, offering fast and reliable journey times and in doing so enable connectivity between people and communities, which in turn supports and stimulates economic growth*."

3.1.10 Paragraph 4.58 under the 'Road Safety' section states the following: "*The impact of the Proposed Development on safety including the impact of any mitigation measures should be assessed. This includes undertaking a road safety audit process and ensuring their implementation*."

3.1.11 Under the 'Impacts on transport networks' section, paragraph 5.271 states that: "*Applicants should consult the relevant highway and transport authorities, local planning authority, and Network Rail, as appropriate, on the assessment of transport impacts*."

3.1.12 Paragraph 5.271 also states an "*appropriate regard should be given to policies outlined in existing or emerging local plans, Local Transport Plans, Local Cycling and Walking Infrastructure Plans and Rights of Way Improvement Plans*."

3.1.13 Following this, paragraph 5.274 states that "*evidence should be provided as part of the Proposed Development regarding new or existing severance issues and/or safety concerns that act as a barrier to non-motorised users, unless it is safe or unviable to do so.*"

National Planning Policy Framework

3.1.14 The National Planning Policy Framework (NPPF) [4] was revised in December 2024. In February 2025, the Ministry of Housing, Communities and Local Government published the latest version of the NPPF [4]. Paragraph 11 states that "*plans and decisions should apply a presumption in favour of sustainable development*."

3.1.15 Under the 'Promoting healthy and safe communities' Chapter, Paragraph 105 states that "*Planning policies and decisions should protect and enhance public rights of way and access, including taking opportunities to provide better facilities for users, for example by adding links to existing rights of way networks including National Trails.*"

3.1.16 Under Paragraph 109, which notes that "*Transport issues should be considered from the earliest stages of development proposals*", criteria c) and e) state that this should involve "*Understanding and addressing the potential impacts on transport networks (109c)*" and "*Identifying and pursuing opportunities to promote walking, cycling and public transport use (109e).*"

3.1.17 Similarly, point f) of Paragraph 109 states "*Identifying, assessing and taking into account the environmental impacts of traffic and transport infrastructure – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains.*"

3.1.18 Under the 'Promoting sustainable transport' Chapter, Paragraph 116 notes that "*Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe*."

3.1.19 Paragraph 118 mentions that "*All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or Transport Assessment so that the likely impacts of the proposal can be assessed.*"

3.2 Local policy

East Hampshire District Council

East Hampshire District Local Plan: Joint Core Strategy (2014)

3.2.1 Adopted in 2014, the East Hampshire District Local Plan: Joint Core Strategy [5] sets out to provide a policy framework that plans for new development to deliver the vision that has been developed alongside the Sustainable Community Strategy. The Joint Core Strategy is a long-term document that will shape and guide development in the District to 2028.

3.2.2 Policy CP31 of the Local Plan indicates the need for development to enhance provision for walking, cycling and public transport. The Policy also states development proposals are required to ensure that the type and volume of traffic generated would not harm the countryside or the rural character of local roads. Additionally, the policy notes highway design, including signage, should meet the needs of motor vehicles and safety.

Local Plan Second Review saved policies (2006)

3.2.3 Adopted in 2006, the saved policies section of the Local Plan Second Review [6] sets out any remaining policies that remain within the 2006 iteration of the Local Plan after review.

3.2.4 Extant Policy T4 states that development will not be permitted where it would adversely affect the amenity of users of footpaths, bridleways or cycleways.

Eastleigh Borough Council

Eastleigh Borough Local Plan (2016-2036) (2022)

3.2.5 The Eastleigh Borough Local Plan [7], adopted in April 2022, sets out the policies and plans to guide future development to 2036, identifying how much development is required and key locations for this development, as well as the necessary infrastructure and services required to enable this development.

3.2.6 The Local Plan reflects the Council's three strategic priorities: A Green Borough; A Healthy Community, and; A Prosperous Place.

3.2.7 Within the Local Plan, Strategic Policy S12 notes that new development should integrate with existing routes and PRoW and wherever possible maintain, protect and enhance their function. Development that would sever, obstruct or otherwise have a detrimental impact on the existing or proposed network of green routes as shown on the policies map will not be permitted.

3.2.8 Policy DM13 states that new development must have safe and convenient access to the highway and be provided without unacceptable environmental impact. The policy also sets out that any development proposals that will generate vehicle movements - likely to have an adverse impact on traffic conditions beyond the immediate vicinity of the development site – will be required to incorporate and implement mitigation measures, such as contributions toward relevant off-site sustainable transport infrastructure, where required.

Fareham Borough Council

Fareham Local Plan 2037 (2023)

3.2.9 Adopted in 2023, the Fareham Local Plan [8] contains strategic priorities, policies and allocations which aim to achieve sustainable development in the Borough whilst also identifying and protecting its valued assets.

3.2.10 The Local Plan states the need for a convenient, efficient and safe transport network.

3.2.11 Strategic Policy TIN1 sets out that development will be permitted where it contributes to the delivery of identified cycle, pedestrian and other non-road user routes.

3.2.12 Policy TIN2 states that development will be permitted where there is no unacceptable impact on highway safety. Criterion b) of this policy states that impacts of the development or of cumulative development may be considered if they are mitigated through measures reducing the need to travel, active travel, public transport and enhancements to the local network or contributions towards necessary or relevant off-site transport improvement schemes.

Local Plan Part 3: The Welborne Plan (2015)

3.2.13 The Welborne Plan [9] section of the Local Plan, adopted in 2015, sets out a site-specific plan for how the new community of Welborne, to the north of the M27 at Fareham, should take shape over the period to 2036. The site plan boundary is located in the vicinity of the Proposed Development study area, as well as matters pertaining to transport, access and movement in relation to the Welborne site.

3.2.14 Policy WEL2 notes that development should incorporate a balanced package of measures to encourage smarter transport choices including the provision of a network of footpaths, cycleways and bridleways to enhance permeability within the site and to access the adjoining area. It is anticipated that the Proposed Development would interact with walking and cycling network infrastructure that would be enhanced in line with this Policy, as detailed within the Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7).

Hampshire County Council

Hampshire Local Transport Plan (LTP4) (2024)

3.2.15 The fourth iteration of the Hampshire Local Transport Plan (LTP4) [10], which was adopted in February 2024, forms the basis of the statutory requirement for HCC to set out its vision for future transport and travel infrastructure. The LTP4 describes the transport vision up to 2050, setting out key transport outcomes the Council seeks to achieve, and the principles that will guide future investment and decision making in relation to transport and travel.

3.2.16 Policy HP1 of the LTP4 sets out the need to deliver the infrastructure required to support a large-scale shift towards walking and cycling for everyday trips. The overarching principles of the policy are as follows:

1. *"Prioritise walking and cycling for healthier people, healthier transport and a healthier planet*
2. *Have an integrated approach to all aspects of planning, development, design and operation*
3. *Ensure our planning is network based, shaped by evidence, and monitored"*

3.2.17 Policy DM2 states the need to support proactive masterplanning of new development sites for high quality neighbourhoods. Implementation of the Policy will be supported by "*Prioritising high quality off site infrastructure for sustainable transport and only considering mitigation schemes that increase vehicle capacity once all other options have been explored*."

3.2.18 Policy DM2 will also be supported by "*Encouraging developers to reduce the need to travel and widen the choice of modes, by actively embracing concepts like liveable neighbourhoods, reallocation of road space, shared mobility hubs, parking strategies/parking standards, and by designing developments to enable convenient access to public transport options (including suitable access for buses to and through the development)*."

3.2.19 Policy RT2 sets out the aim to improve sustainable access to the countryside and notes Hampshire will seek to improve the accessibility and connectivity of the Rights of Way network.

3.2.20 Policy BTD2 relates to streetworks and other highway activities that could disrupt transport users. The policy notes that HCC will:

1. *"Publish a Network Management Plan*
2. *Manage and coordinate highway activities to reduce traffic disruption*
3. *Consider introducing a lane rental scheme to protect key strategic routes*
4. *Continue to use traffic control and information tools to actively manage the network"*

Havant Borough Council

Havant Borough Core Strategy (2011)

3.2.21 Adopted in 2011, the Havant Borough Core Strategy [11] sets out the strategic direction and broad distribution of development for the Borough, including strategic sites and areas for development and protection.

3.2.22 Policy CS20 notes that development will be permitted where it does not increase congestion and ensure highway design responds positively to the characteristics of the area.

Havant Borough Local Plan (Allocations) (2014)

3.2.23 Forming the second part of the Local Plan, the Havant Borough Allocations Plan [12] was adopted in 2014 to identify sites for specific uses including housing, employment, retail, recreation and Green Infrastructure up to 2026.

3.2.24 Policy CS20 of the Local Plan notes development will be permitted where it does not increase congestion and ensure highway design responds positively to the characteristics of the area.

3.2.25 Policy DM9 states that Planning Permission will only be granted for development in the coastal zone that upgrades existing footpaths and ensures that public access is retained and provided to connect existing paths along the waterfront where appropriate.

3.2.26 The Local Plan notes that construction traffic should be reduced in Leigh Park, Rowlands Castle and other residential areas that are within close proximity to the Havant Thicket Reservoir.

Portsmouth City Council

Portsmouth Plan (The Portsmouth Core Strategy) (2012)

3.2.27 Adopted in 2012, the Portsmouth Plan [13] is the overarching planning policy document that forms part of the wider Local Development Framework (LDF) for the city. The LDF replaced the formerly adopted City Local Plan (2006) [14].

3.2.28 The Portsmouth Plan is designed to set out a vision and objectives for development in Portsmouth up to 2027 through identifying broad locations for development, protection or change while allocating strategic sites.

3.2.29 Policy PCS16 states that the City Council will work with its partners to bring forward infrastructure to support community benefit.

3.2.30 Policy PCS17 notes the Council will work with its partners to deliver a strategy that will reduce the need to travel and provide a sustainable and integrated transport network.

Portsmouth Local Plan (2038) (Emerging Local Plan) (Regulation 19) (2024, Addendum 2025)

3.2.31 PCC are currently in the process of preparing a new Portsmouth Local Plan [15], which will supersede the current Portsmouth Plan and cover the period up to 2040. This document is expected to be formally adopted by the Council in Spring 2027. Draft Strategic Policy PLP47 of the Portsmouth Local Plan (2038) (Draft) concerns movement and transport in Portsmouth, and states that development proposals should contribute to the protection and/or delivery of a network of high quality walking and cycling routes throughout the City, including those identified in the Local Cycling and Walking Infrastructure Plan (LCWIP).

Winchester City Council

Winchester District Local Plan Part 1 Joint Core Strategy (2013)

3.2.32 Adopted in 2013, the Winchester District Local Plan Part 1: Joint Core Strategy [16] is the long-term strategic plan for development within Winchester District, and includes the strategic vision, objectives and the key policies required to enable sustainable development in the District up to 2031. It identifies the amount of development, broad locations for change, growth and protection, which includes allocating strategic sites.

3.2.33 Policy CP10 notes the aim to reduce demands on the traffic network, with the use of non-car modes, in particular walking and cycling, to be encouraged through the use of Travel Plans, improvements, and traffic management. The policy goes on

to state that development should be located and designed to reduce the need to travel.

Winchester City Council Local Plan (Your Place Your Plan) (Regulation 19) (2024)

3.2.34 The Proposed Submission Local Plan [17] for Winchester sets out the development strategy and policy framework for the area and allocates or designates land accordingly. Once adopted, the new Local Plan will be used to guide decision on planning applications up to 2040.

3.2.35 Like Policy CP10 of the Joint Core Strategy, draft Policy T1 of the Regulation 19 Draft notes the aim to reduce demands on the traffic network, with the use of non-car modes, in particular walking and cycling, to be encouraged through the use of Travel Plan, improvements, and traffic management. The policy goes on to state that development should be located and designed to reduce the need to travel.

South Downs National Park Authority

South Downs Local Plan (2014-2033) (2019)

3.2.36 Adopted in 2019, the South Downs Local Plan [18] is part of the statutory development plan for the whole National Park. The Plan sets out how the Park Authority will manage development over the period 2014 to 2033.

3.2.37 Policy SD19 of the South Downs Local Plan notes the following:

1. Development proposals will be permitted provided that they are located and designed to reduce the need to travel and promote the use of sustainable modes of transport.
2. Development proposals that are likely to generate a significant number of journeys must be located near existing town and village centres, public transport routes, main roads and, where relevant, the cycle network.
3. Development proposals must demonstrate the continued safe and efficient operation of the strategic and local road networks.

3.2.38 Policy SD20 states that development proposals will be permitted provided they contribute to a network of attractive and functional non-motorised travel routes, with appropriate signage, throughout the National Park. It also notes development proposals will be permitted provided they incorporate attractive, accessible public links through the site, which are suitable for pedestrians, cyclists, mobility scooters and equestrians as appropriate, which connect to the nearest convenient point on the PRoW network and/or local footway network.

South Downs Local Plan Review (Regulation 18) (2025)

3.2.39 The Regulation 18 South Downs Local Plan Review [19] provides an update upon the South Downs Local Plan (2019) [18] to ensure that it remains current and responsive to key issues including climate change.

3.2.40 The Regulation 18 South Downs Local Plan Review [19] allocates additional sites for development and provides additional narrative alongside several policies, including more emphasis on reducing car dependency and increasing active travel

use (Policy SD19) as well as a clearer expectation that parking layouts must avoid visual and landscape harm (Policy SD22).

3.3 Policy compliance

3.3.1 This Transport Assessment details how the Proposed Development positively contributes to the objectives of the national and local policy outlined in this section, as summarised below:

1. With the proposed managed plans, the construction and operation of the Proposed Development would not significantly impact the continued safe and efficient operation of the strategic and local road networks.
2. The Proposed Development would incorporate and implement mitigation measures to ameliorate any adverse impacts on traffic conditions within the vicinity of the Proposed Development boundary.
3. The Proposed Development would not have a significant adverse negative effect on the amenity of users of footpaths, bridleways or cycleways and would look to, where possible, maintain, protect and enhance their function.
4. The Proposed Development would provide safe and convenient access to the highway without producing any unacceptable environmental impacts.
5. Transport impacts would be assessed in-combination from the outset, taking into account demand management and monitoring measures to mitigate transport impacts.
6. The Proposed Development would, once fully operational, provide a key piece of regionally significant infrastructure that would provide opportunities for employment, and will aim to stay in keeping with the characteristics of the area through which it exists.

4 Highway network

4.1 Introduction

4.1.1 This section of the Transport Assessment presents an audit of the local and strategic highway network and a detailed review of road traffic collisions.

4.2 Study area

4.2.1 An overview of the route of the Proposed Development, inclusive of the Order Limits and the WRP site, is shown at ES Figure 1.1 Location of the Proposed Development and Order Limits, Volume III (Document reference 6.3, DCO Volume 6). This figure also shows the various sections that correspond to each part of the Proposed Development's route. This has informed the study area for the Transport Assessment.

4.2.2 The study area encompasses southern Hampshire and northern Portsmouth and is bound by Winchester and Petersfield in the north, the B2149 and Havant to the east, the M27 and A27 in the south, Langstone to the south-east and the M3 in the west. A number of routes within this study area would be directly affected by the construction phase of the Proposed Development. Direct impacts on routes may include temporary increases in traffic associated with construction vehicles, temporary traffic management, off-site works or the creation of permanent or temporary accesses. Details on these impacts are provided in sections 6, 7 and 9.

4.2.3 There would be minor impacts on other routes as a result of the Proposed Development, associated with relatively small dissipated volumes of construction traffic, temporary diversion routes associated with road closures or minor temporary haul road crossings. Full information on haul roads, diversions and construction routing is detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7) and the TMS (Document reference 7.3, DCO Volume 7).

4.2.4 The proposed routes for construction traffic are included within the study area. An overview of the roads that are likely to be impacted by construction traffic (i.e. expected to experience a change in traffic demand associated with construction traffic) is provided in Table 4-1 below.

4.2.5 Other roads were initially assessed, though following refinement of the Proposed Development negligible construction traffic impacts were forecast on these links and therefore they have not been quantitatively assessed as part of this Transport Assessment. As such these links have not been included in Table 4-1 and therefore the link references are not sequential.

4.2.6 Similarly, traffic data has not been collected at all of the links included at Table 4-1, including:

1. Brookside Road
2. Bidbury Lane
3. Mill Lane
4. West Street
5. Meyrick Road

6. Gillman Road
7. Crookhorn Lane
8. College Road
9. Purbrook Way (2)
10. Waterworks Road
11. Sparrowgrove
12. Brockhampton Road

4.2.7 This is either due to limited construction traffic impacts on certain links, or because certain streets are lightly trafficked, residential streets. The approach to traffic surveys was agreed through pre-application engagement with HCC.

4.2.8 As shown in Table 4-1 where there are multiple links with the same road name, suffixes have been added to each road name to distinguish between each discrete link (i.e. east (E), west (W), central (C)) or for longer links that are present throughout the study area, numbering has been used (i.e. B2177 (1)). This enables each link to have a unique reference. These links are also shown spatially in ES Figure 18.3 Study area links, Volume III (Document reference 6.3, DCO Volume 6).

4.2.9 Beyond these links, construction traffic is expected to use the SRN, including the M3, A3 (M), M27 and A27.

Table 4-1 Study area links subject to construction traffic

Ref	Link name	Component/ Section	Start junction	End junction
6	B2149 (S)	Pipelines between the WRP site and Bedhampton Springs	New Road roundabout (B2149 Park Road North/New Road/B2149 Petersfield Road/Elmleigh Road)	Langstone Interchange (B2149 Park Road North/A27/A3023 Langstone Road)
8	B2177 (1)	Pipelines between the WRP site and Bedhampton Springs	Belmont Junction (B2177 Portsdown Hill Road/B2177 Bedhampton Road/Brookside Road/B2177 Bedhampton Hill)	Rusty Cutter (B2177 Bedhampton Hill/A2030/A2030 Havant Road/A3 Slips)
12	Brookside Road	Pipelines between the WRP site and Bedhampton Springs	Belmont Junction (B2177 Portsdown Hill Road/B2177 Bedhampton Road/Brookside Road/B2177 Bedhampton Hill)	Brookside Road/Bidbury Lane/Lower Road
13	Bidbury Lane	Pipelines between the WRP site and	Brookside Road/Bidbury Lane/Lower Road	Bidbury Lane/Mill Lane

Ref	Link name	Component/ Section	Start junction	End junction
		Bedhampton Springs		
14	Mill Lane	Pipelines between the WRP site and Bedhampton Springs	Bidbury Lane/Mill Lane	Mill Lane
15	West Street	Pipelines between the WRP site and Bedhampton Springs	B2149 New Road/B2150 Bedhampton Road/West Street	Park Road North/Park Road South/West Street
16	Meyrick Road	Pipelines between the WRP site and Bedhampton Springs	West Street/Meyrick Road	Meyrick Road
17	Harts Farm Way (1)	WRP site	Tear Drop Junction (A2030/A27/Harts Farm Way)	Harts Farm Way
18	Gillman Road	Section D	Crookhorn Lane/B2177 Portsdown Hill Road/Gillman Road	Gillman Road
19	B2177 (2)	Section D	New Down Lane/B2177 Portsdown Hill Road	Crookhorn Lane/B2177 Portsdown Hill Road/Gillman Road
20	A3 (S)	Section E	A3 London Road/B2177 Portsdown Hill Road	A27 Southampton Road/A3 London Road/A27 Western Road/M275
21	A27	Section E	A27 Southampton Road/A3 London Road/A27 Western Road/M275	M27 Junction 12
22	Crookhorn Lane	Section D	Crookhorn Lane/College Road	Crookhorn Lane/B2177 Portsdown Hill Road/Gillman Road
23	College Road	Section D	Purbrook Way/College Road	Crookhorn Lane/College Road
24	Purbrook Way (2)	Section D	Purbrook Way/College Road	Purbrook Way/A3 (M) Slip

Ref	Link name	Component/ Section	Start junction	End junction
26	B2177 (3)	Section D	Crookhorn Lane/B2177 Portsdown Hill Road/Gillman Road	B2177 Portsdown Hill Road/Rectory Grove
29	New Down Lane	Section E	New Down Lane	New Down Lane/B2177 Portsdown Hill Road
31	B2177 (4)	Section E	New Down Lane/B2177 Portsdown Hill Road	B2177 Southwick Road
32	Boarhunt Road	Section E	Boarhunt Road	M27 Junction 11
33	A32 (S)	Section F	A32 Hoads Hill/Knowle Road	M27 Junction 10
34	A32 (C)	Section F	A32 Hoads Hill/A334 Winchester Road	A32 Hoads Hill/Knowle Road
35	A334 (E)	Section G	A334 Winchester Road/B2177 Winchester Road	A32 Hoads Hill/A334 Winchester Road
36	A334 (C)	Section H	A334 Station Hill/B3035 Botley Road/A334 Wickham Road	A334 Winchester Road/B2177 Winchester Road
37	Titchfield Lane	Section G	Titchfield Lane	Titchfield Lane/A334 Winchester Road/Blind Lane
38	Blind Lane	Section H	Titchfield Lane/A334 Winchester Road/Blind Lane	Blind Lane
39	B2177 (5)	Section H	B2177 Winchester Road/St Annes Lane	A334 Winchester Road/B2177 Winchester Road
40	Shirell Heath High St	Section H	B2177 Winchester Road/Shirell Heath High St	Shirell Heath High St
41	B3035	Section J	B2177 Winchester Road/Coppice Hill/B3035 Botley Road	A334 Station Hill/B3035 Botley Road/A334 Wickham Road
42	Curdridge Lane	Section J	B3035 Botley Road/Curdridge Lane	Curdridge Lane
43	B3037 (W)	Section K	B3037 Fair Oak Road/A335 Station Hill	B3354 Winchester Road/B3354 Botley Road/B3037 Fair Oak Road

Ref	Link name	Component/ Section	Start junction	End junction
44	B3354 (S)	Section L	B3354 Main Road/B2177 Portsmouth Road/B3354 Winchester Road	B3354 Winchester Road/B3354 Botley Road/B3037 Fair Oak Road
45	B3037	Section K	B3354 Winchester Road/B3037 Mortimers Lane	B3037 Mortimers Lane/B2177 Winchester Road
46	B2177 (6)	Section K	B2177 Winchester Road/B3037 Mortimers Lane/Upham Street	B2177 Winchester Road/Winters Hill
47	Winters Hill	Section K	Winters Hill/Scivier's Lane/Durley Street/Manor Road	B2177 Winchester Road/Winters Hill
48	B3335 (N)	Section L	M3 Junction 11/Hockley Link/B3335 Winchester Road	B3335 Winchester Road/B3335 Highbridge Road/B3354 Main Road
49	B3354 (N)	Section L	B3335 Winchester Road/B3335 Highbridge Road/B3354 Main Road	B3354 Main Road/B2177 Portsmouth Road/B3354 Winchester Road
50	B2177 (7)	Section L	B3354 Main Road/B2177 Portsmouth Road/B3354 Winchester Road	B3037 Mortimers Lane/B2177 Winchester Road
51	B2177 (9)	Section K	B2177 Winchester Road/Winters Hill	B2177 Winchester Road/Coppice Hill/B3035 Botley Road
52	Otterbourne Hill (N)	Section M	Otterbourne Main Road/Sparrowgrove	Otterbourne Main Road/Kiln Lane/Otterbourne Hill
53	Kiln Lane	Section M	Otterbourne Main Road/Kiln Lane/Otterbourne Hill	Kiln Lane
54	Church Lane	Section L	B3335 Highbridge Road/Brambridge	Church Lane
56	B3335 (S)	Section L	B3335 Winchester Road/B3335 Highbridge	A335 Allbrook Way/Allbrook Hill/A335 Twyford

Ref	Link name	Component/ Section	Start junction	End junction
			Road/B3354 Main Road	Road/Woodside Avenue
57	A335	Section L	M3 Junction 12	A335 Allbrook Way/Allbrook Hill/A335 Twyford Road/Woodside Avenue
58	Waterworks Road	Section M	Sparrowgrove/Waterworks Road	Otterbourne WSW
59	Sparrowgrove	Section M	Otterbourne Road/Sparrowgrove	Sparrowgrove/Waterworks Road
62	Brockhampton Road	Pipelines between Budds Farm WTW and the WRP site	West Street/Brockhampton Road	Harts Farm Way/Brockhampton Road/Brookside Road/Southmoor Lane/
63	Harts Farm Way (2)	Pipelines between Budds Farm WTW and the WRP site	Harts Farm Way	Harts Farm Way/Brockhampton Road/Brookside Road/Southmoor Lane
64	Otterbourne Road	Section M	B3335 St Cross Road/Hockley Link/Otterbourne Road/Badger Farm Road	Otterbourne Main Road/Sparrowgrove
65	Hockley Link	Section M	B3335 St Cross Road/Hockley Link/Otterbourne Road/Badger Farm Road	M3 Junction 11
66	Southmoor Lane	Pipelines between Budds Farm WTW and the WRP site	Harts Farm Way/Brockhampton Road/Brookside Road/Southmoor Lane	Southmoor Lane/Budds Farm access
67	Otterbourne Hill (S)	Section M	Otterbourne Main Road/Kiln Lane/Otterbourne Hill	Otterbourne Hill/Winchester Road/Winchester Road Link
68	B2177 (8)	Section D	B2177 Portsdown Hill Road/Rectory Grove	Belmont Junction (B2177 Portsdown Hill Road/B2177 Bedhampton Road/Brookside

Ref	Link name	Component/ Section	Start junction	End junction
				Road/B2177 Bedhampton Hill)
69	A334 (W)	Section J	A334 Station Hill/A334 Mill Hill/A3051 Botley Road	A334 Station Hill/B3035 Botley Road/A334 Wickham Road
70	Winchester Road Link	Section M	Otterbourne Hill/Winchester Road/Winchester Road Link	M3 Junction 12

4.2.10 The links presented in Table 4-1 do not comprise the full extent of the study area. Other roads that are not anticipated to accommodate construction trips but that may be affected by the Proposed Development (for example, through road closures) are reviewed across sections 4 and 5. These links have not been quantitatively assessed given traffic flows are likely to be low and therefore a quantitative assessment would not be required. These links are set out at Table 4-2.

Table 4-2 Other study area links impacted by Proposed Development

Link ID	Link name	Component/Section
71	Widley Walk	Section E
72	Mill Lane	Section E
73	Pigeon House Lane	Section E
74	Crooked Walk Lane	Section E
75	Portchester Lane	Section E
76	Monument Lane	Section E
77	Ashley Down Lane	Section E
78	Whitedell Lane	Section F
79	Forest Lane	Section F
80	Castle Farm Lane	Section G
60	Tanfield Lane	Section G
81	Prickett's Hill	Section H
82	Sandy Lane	Section J
61	Scivier's Lane	Section K
83	Alma Lane	Section K
84	Stroudwood Lane	Section L
55	Bishopstoke Lane	Section L

4.2.11 ES Figure 18.3 Study area links, Volume III (Document reference 6.3, DCO Volume 6), provides an illustration of links within the study area.

4.2.12 It should be noted that the study area is not restricted to the highway network, and encompasses a series of PRoW, as detailed in the Framework RoWMP (appended to the Framework CTMP (Document reference 7.2, DCO Volume 7).

4.2.13 Aside from those that are private, roads contained within the study area fall under the control of HCC, PCC or NH.

4.2.14 A site visit was undertaken on 24 and 25 September 2024. Observations during this visit have been used to inform the content of this TA, with a review of routes within the study area provided throughout the remainder of section 4 and section 5.

4.3 Local highway network

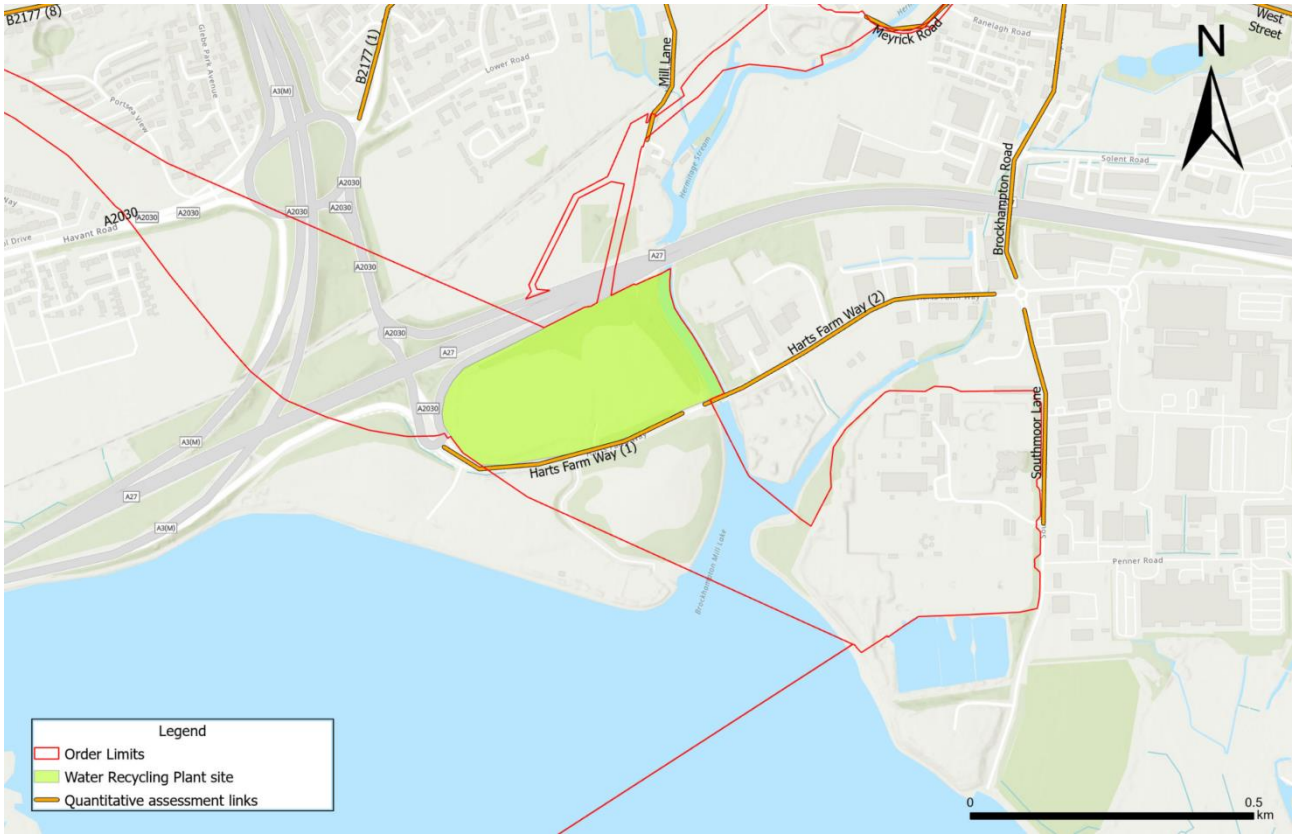
4.3.1 This section presents an audit of those roads that form part of the local highway network that are likely to be impacted by the Proposed Development. Given the large geographical scale of the Proposed Development, this audit has been split to reflect the sections of the Pipeline between the WRP site and Otterbourne WSW, as illustrated at ES Figure 1.1 Location of the Proposed Development and Order Limits (Document reference 6.3, DCO Volume 6).

4.3.2 This section details the local highway network by section as demarked by the following headers. For detail including road names in the vicinity of the study area, please refer to ES Figure 18.1 Local highway network, Volume III (Document reference 6.3, DCO Volume 6).

Water Recycling Plant site

4.3.3 This section of the report covers the local highway network in the vicinity of the WRP site, as shown in Graphic 4-1.

Graphic 4-1 Water Recycling Plant site, in context of key routes in the vicinity



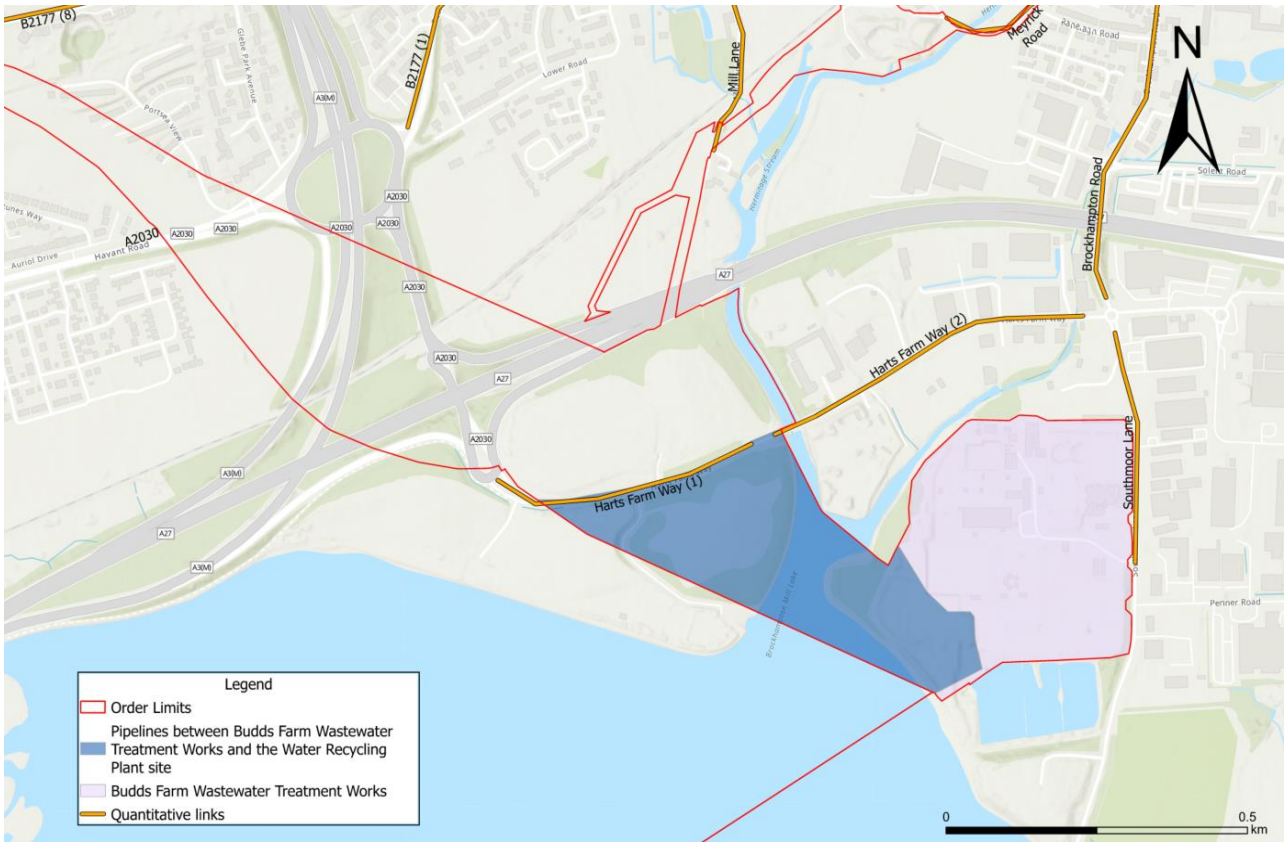
4.3.4 Key routes in the vicinity of the WRP site are set out as follows:

1. Harts Farm Way - a key local distributor road that runs in an east/west alignment to the south of Havant, connecting the Langstone Technology Park and Solent Road employment areas with the A27 Havant Bypass dumbbell junction to the west. Harts Farm Way is a core access point to Havant Town Centre and, due to its industrial nature, is also subject to a significant amount of HGV movements. To the south, Harts Farm Way provides connections to two car parks adjacent to Chalkdock Lake.

Pipelines between Budds Farm Wastewater Treatment Works and the Water Recycling Plant site

4.3.5 This section of the report covers the local highway network in the vicinity of the WRP site and Budds Farm WTW, as shown in Graphic 4-2.

Graphic 4-2 Pipelines between Budds Farm Wastewater Treatment Works and the Water Recycling Plant site



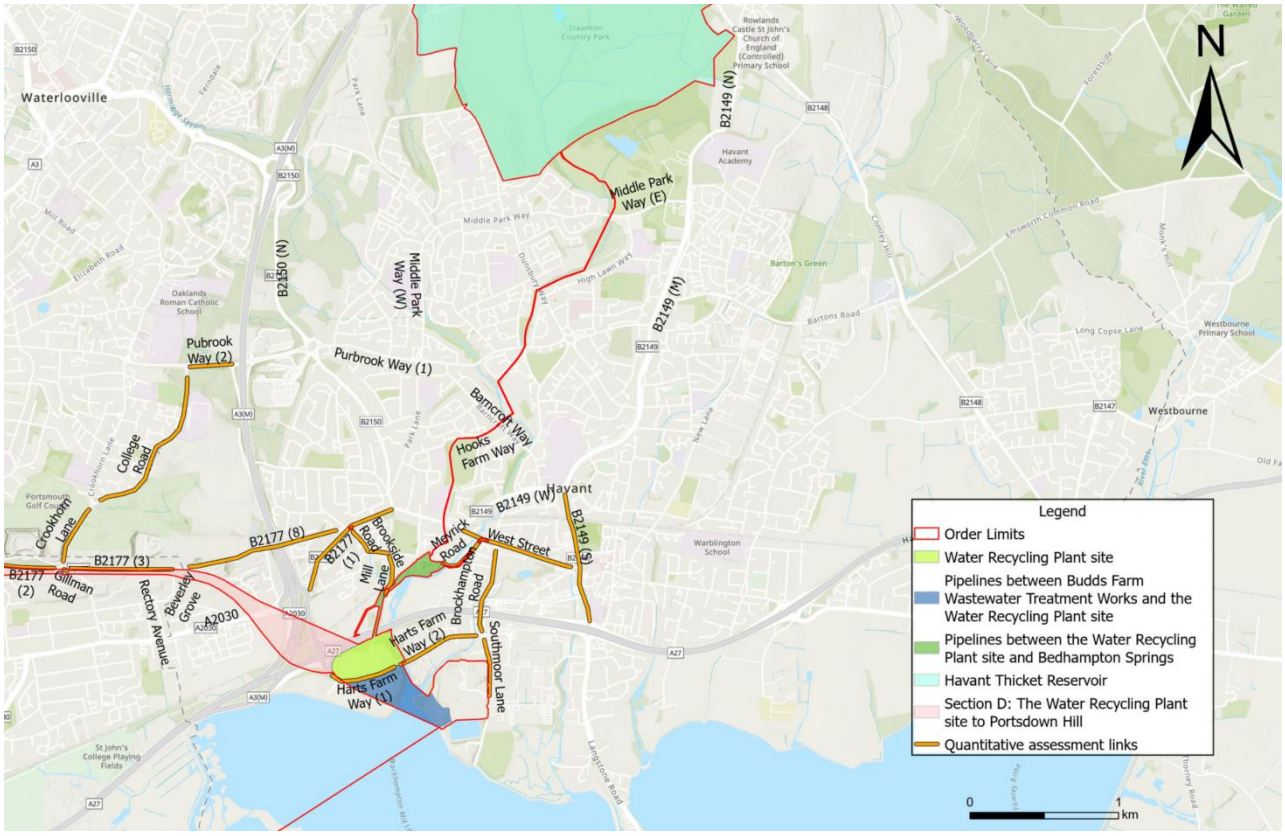
4.3.6 Key routes in the vicinity of the Pipelines between Budds Farm WTW and the WRP site include:

1. Southmoor Lane - a north/south connection between a four-arm roundabout junction with Brockhampton Road, Brookside Road and Southmoor Lane and Budds Wall to the south of Langstone adjacent to Budds Farm WTW. Southmoor Lane accommodates two-way vehicular traffic with a lane in either direction.

Pipelines between the Water Recycling Plant site and Bedhampton Springs

4.3.7 The Pipelines between the WRP site and Bedhampton Springs are shown at Graphic 4-3.

Graphic 4-3 Pipelines between the Water Recycling Plant site and Bedhampton Springs



4.3.8 Whilst the construction of the Pipelines between the WRP site and Bedhampton Springs would not directly impact the local highway network, construction traffic movements may impact the following roads:

1. Purbrook Way – an east/west link which provides access to Junction 4 of the A3 (M). Purbrook Way bisects the north of Havant, accommodating two-way vehicular traffic with a single lane in either direction. On-road parking is also provided along Purbrook Way.
2. B2149 Park Road (North and South) – provides a north/south connection between the A27 Havant Bypass and the four arm Elmleigh Road, Park Road North and New Road roundabout junction. Park Road is predominantly a dual carriageway, though it widens to three lanes northbound in the vicinity of the roundabout to the north and three lanes southbound towards the mid section in the vicinity of Bulbeck Road.
3. B2177 Bedhampton Hill – provides a north-east to south-west connection between Portsdown Hill Road and Bedhampton Road to the north-east, and Bedhampton Roundabout to the south-west, the latter of which provides onward connection to the A27 and A3. The B2177 Bedhampton Hill accommodates two-way vehicular traffic with a lane in each direction. The route is wide and residential in nature, with a significant portion of the route characterised by property frontages; these sections of the route provide footways on both sides that continue up to the B2177 Roundabout. Where the route provides access into residential streets, the traffic lanes are separated by sections of central hatching.

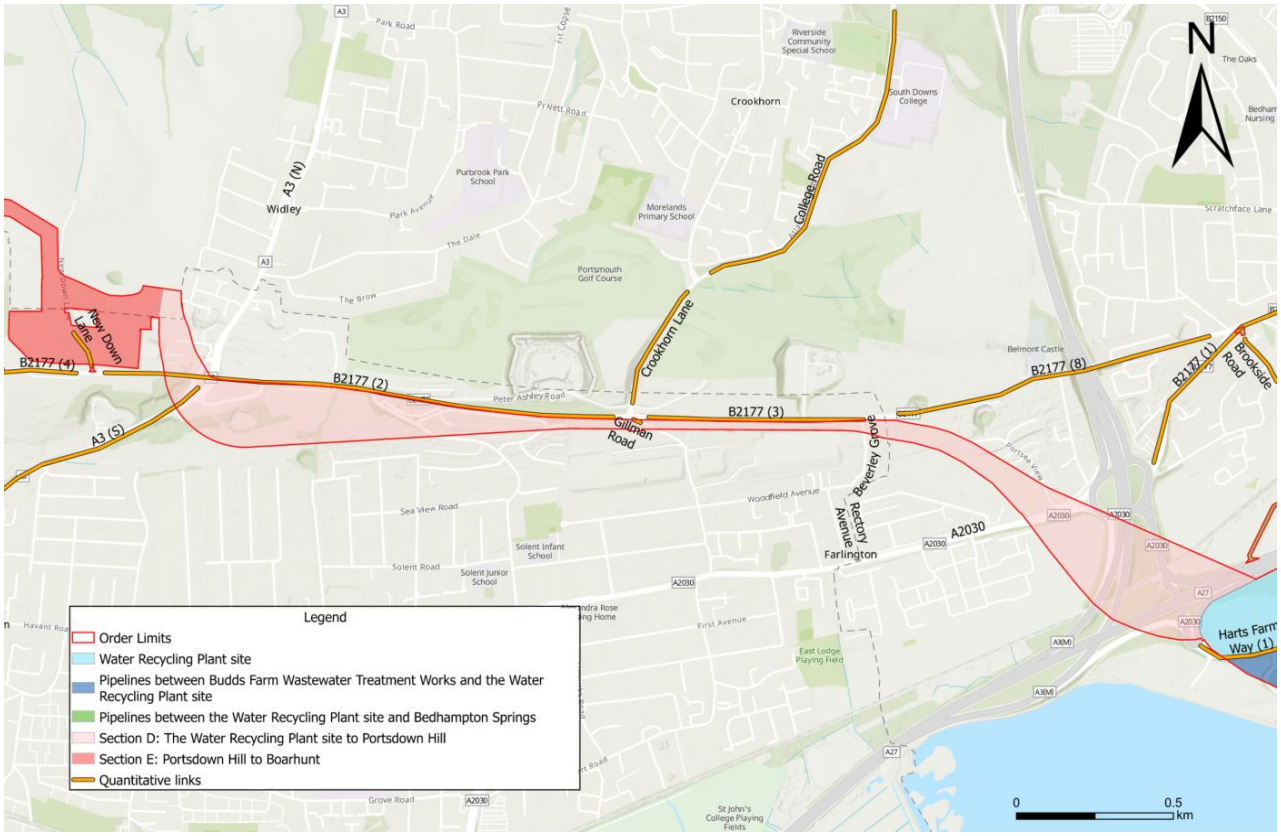
4. Brockhampton Road – a two-way north-south route providing connectivity between West Street to the north and Harts Farm Way to the south, Brockhampton Road is characterised by multiple uses and frontages along its extent, including residential frontages along sections of the western side and the entrance into the Portsmouth Water Headquarters on the eastern side. On the southern section of the route, Brockhampton Road passes under the Havant Bypass (A27), and provides access to a number of industrial utilities via Solent Road and Marples Way.
5. Brookside Road – provides a north-south connection between Bedhampton Road to the north and Bidbury Lane and Lower Road to the south. Brookside Road is a residential street, with many residential frontages on both sides, that accommodates two-way vehicular movements, although a centre line is only present at both ends of the route. The presence of large trees provides a sense of enclosure to the already narrow route with a typical width of 5.6m. Intermittent footways are present toward the northern end of the route. The presence of on-street parking may limit two-way movements at some points on the route.
6. Bidbury Lane – providing connectivity between Brookside Road and Lower Road to the west with King's Croft Lane to the east, Bidbury Lane is a narrow route typically measuring approximately 4.9m in width that enables two-way vehicular traffic along its extent. The western section of the route features a few residential frontages and access into Bidbury Mead Rec Carpark. East of the Carpark entrance, the route narrows further down to the width of one lane, constraining two-way vehicular movements.
7. Mill Lane – provides a two-way north-south connection between Bidbury Lane and an elevated footbridge over Havant Bypass (A27) and on toward Harts Farm Way. Mill Lane is a narrow route, measuring approximately 1.9m at its narrowest point, that also functions as an active travel route. Due to its narrow width, there is limited space to facilitate two-way vehicular movements along its entire extent. A small number of properties can be accessed from the route. There is no southbound onward connection for vehicles.
8. West Street – providing a connection between the B2149 to the west and Park Road South to the east, West Street is a route that accommodates two-way vehicular traffic along its entire extent. The route features a number of residential and business frontages. The Staunton Road/Brockhampton Road routes intersects West Street toward the western end of the route. The eastern end of the route features a narrow section, with a width of approximately 4.9m, with no central line that may limit two-way vehicular movements.
9. Meyrick Road – a north-east to south-west oriented route that is characterised by a number of residential frontages at its northern end, grass verges and vegetation along the middle section, and paddocks at the southernmost end. Access onto Meyrick Road and a gated entrance into Bedhampton Water Treatment Works can be found at the northern and southern points of the route respectively. The route becomes increasingly narrow (approximately 3.8m in width) as it continues south-west, making two-way vehicular movements increasingly constrained.

Pipeline between the Water Recycling Plant site and Otterbourne Water Supply Works

Section D: Water Recycling Plant site to Portsdown Hill

4.3.9 Section D: Water Recycling Plant site to Portsdown Hill of the Pipeline between the WRP site and Otterbourne WSW encompasses the WRP site to Portsdown Hill. The local highway network in the vicinity of Section D of the Pipeline is illustrated in Graphic 4-4.

Graphic 4-4 Section D: Water Recycling Plant site to Portsdown Hill



4.3.10 Affected routes in the vicinity of Section D of the Pipeline are set out as follows:

1. B2177 Portsdown Hill Road – The B2177 provides an arterial north-west/south-east link between Wickham and Cosham. The B2177 accommodates two-way vehicular traffic and is subject to the national speed limit.
2. Mill Lane – provides a north/south connection to the west of Fort Widley, connecting Portsdown Hill Road to the south to Purbrook Heath Road to the north.
3. Widley Walk – Widley Walk runs parallel to Mill Lane, providing a north/south connection between Portsdown Hill Road and Purbrook Heath Road. Widley Walk also provides access to the Fort Widley Electricity Sub-station as well as the Fort Widley Equestrian Centre. On-road parking is provided to the south of the road. Access from Portsdown Hill Road is constrained due to the tight nature of the junction followed by an immediate sharp bend to the left.
4. Crookhorn Lane - a north south route which links the B2177 Portsdown Hill Road to Purbrook Way. Crookhorn Lane accommodates one lane of vehicle

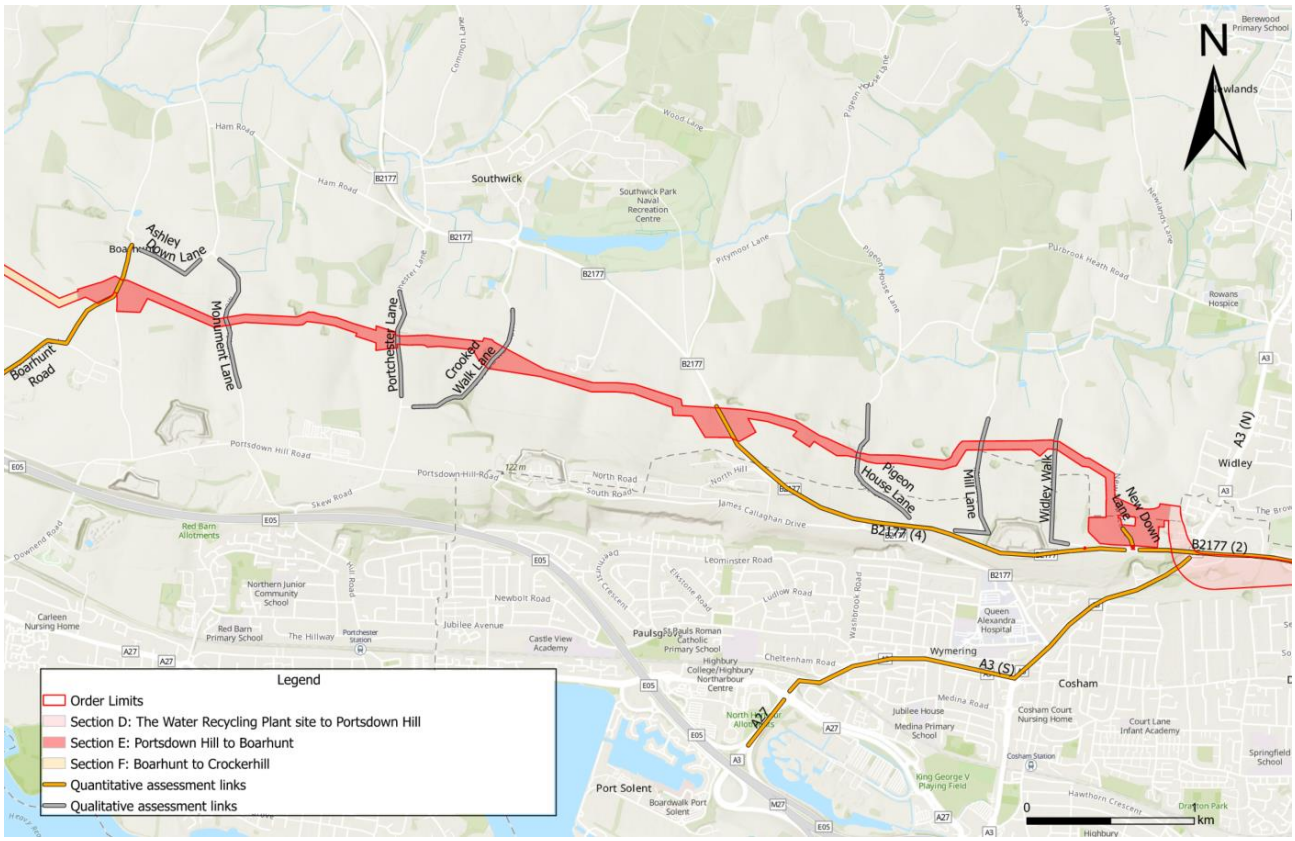
traffic in each direction, with footway also provided on both sides of the carriageway. The route becomes a residential in nature with a school and local centre on route.

5. College Road - an extension of the southern section of Crookhorn Lane, providing direct access to the SRN. Toward the northern end of the route, College Road provides access to both South Downs College and Purbrook Way, which provides a key corridor access to a number of schools.

Section E: Portsdown Hill to Boarhunt

4.3.11 Section E: Portsdown Hill to Boarhunt of the Pipeline between the WRP site and Otterbourne WSW routes to the north of Southwick. The local highway network in the vicinity of Section E of the Pipeline is illustrated in Graphic 4-5.

Graphic 4-5 Section E: Portsdown Hill to Boarhunt



4.3.12 Key affected routes within the immediate vicinity of Section E of the Pipeline, which covers a significant proportion of the Southwick and Widley CP area, includes:

1. Boarhunt Road – provides a north-east/south-west connection between Junction 11 of the M27 and Boarhunt. It accommodates two-way vehicular traffic flows, with the road measuring between 5.0m and 5.5m in width. Boarhunt Road is subject to the national speed limit.
2. Portsdown Hill Road/James Callaghan Drive – is an east/west link located to the north of Portsmouth. It accommodates two-way vehicular traffic and provides a connection between Portchester and Havant via the B2177.
3. Monument Lane – provides a north/south connection between Portsdown Hill Road to the south and Ashley Down Lane to the north measuring approximately

1.2km. Monument Lane is subject to the national speed limit and accommodates two-way vehicular traffic. Monument Lane measures approximately 4.2m in width in the vicinity of Nelson's Monument, narrowing to approximately 2.9m wide to the north of this.

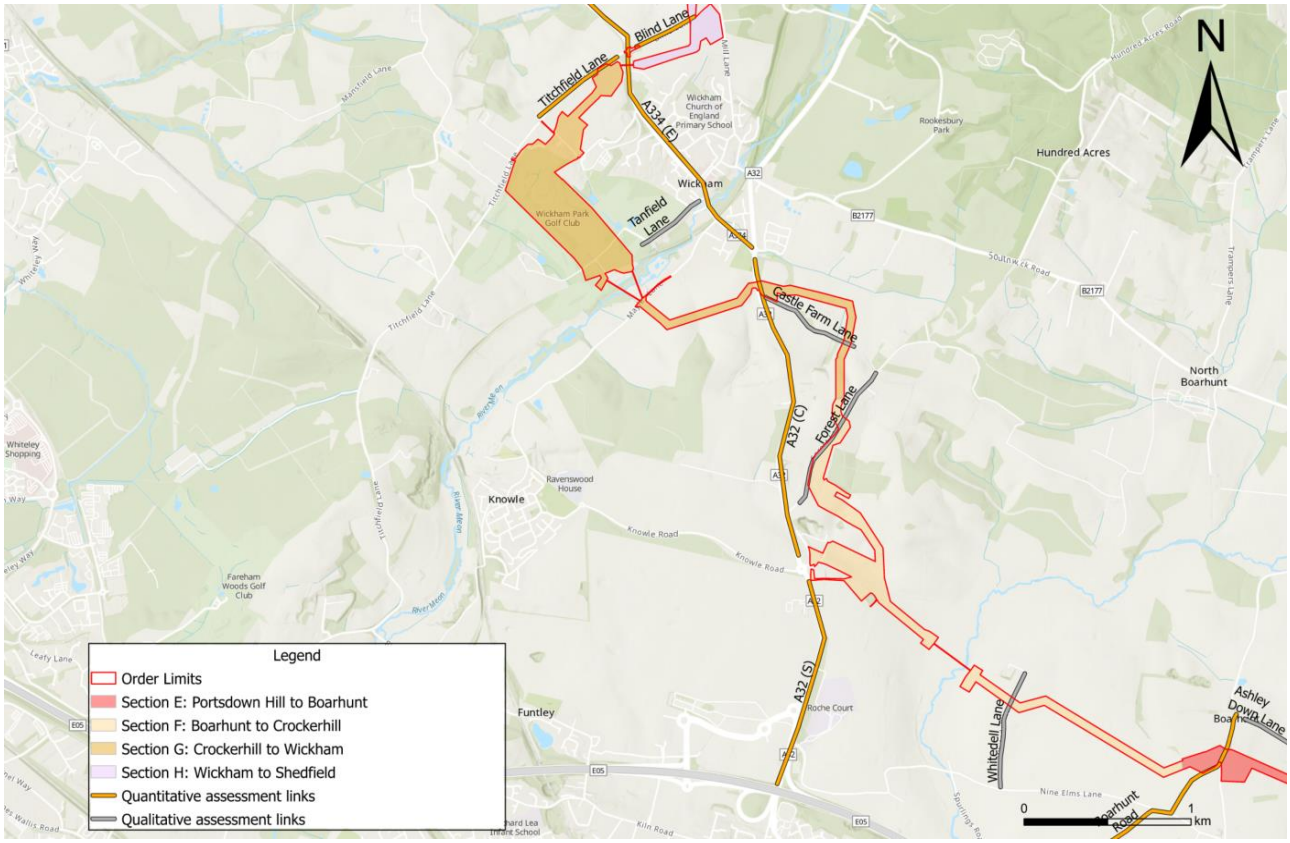
4. Portchester Lane – is a north/south route that connects Portsdown Hill Road to the south, to the B2177 to the north. Portchester Lane measures approximately 5.0m in width and accommodates two-way vehicular traffic. Portchester Lane also has a height restriction of 2m in place (except for access), making it unsuitable for HGV movements. At the junction with Crooked Walk Lane, a prohibition on motor vehicles except for access is present.
5. Crooked Walk Lane – provides a north-east/south-west link between the B2177 and Portchester Lane. Crooked Walk Lane typically measures between 3.8m and 4.8m in width and accommodates two-way vehicular traffic. Crooked Walk Lane is narrow in width and has a lack of frequent passing places. Based on observations, Google traffic data and through engagement with HCC it is understood that two-way traffic flow is limited on this route.
6. Pigeon House Lane – Pigeon House Lane measures approximately 3.8m in width and provides a north/south connection between Belney Farm to the north and the B2177 to the south. Pigeon House Lane is narrow in width and has a lack of frequent passing places. Based on observations, Google traffic data and through engagement with HCC, it is understood that two-way traffic flow is limited on this route.
7. Widley Walk – Widley Walk is a narrow north/south route rural in nature which measures approximately 4.2m in width. To the south Widley Walk forms a priority junction arrangement with B2177 Portsdown Hill Road and provides access to the Churchillian Cosham public house. To the north, it provides access to the Fort Widley Electricity Sub-Station and connects on to Purbrook Heath Road. To the south of the road, on-street parking bays are provided perpendicular to the road.
8. Mill Lane (Purbrook) – Mill Lane is a north/south route which is also rural in nature. It forms a priority junction arrangement with the B2177 Portsdown Hill Road to the south, and connects to Pigeon House Lane and on to Purbrook Heath Road to the north. Mill Lane is a narrow road, measuring approximately 3.5m in width.
9. Ashley Down Lane – is a short, narrow rural lane which provides an east/west connection between Boarhunt Road and Monument Lane, serving access to a small number of dwellings mid-way along its extent.
10. B2177 Portsdown Hill Road (as described in paragraph 4.3.10).

4.3.13 It is noted that a number of these roads form part of the classified road network.

Section F: Boarhunt to Crockerhill and Section G: Crockerhill to Wickham

4.3.14 Section F: Boarhunt to Crockerhill and Section G: Crockerhill to Wickham of the Pipeline between the WRP site and Otterbourne WSW pass near Wickham and Knowle. The local highway network in the vicinity of this Pipeline section is illustrated in Graphic 4-6.

Graphic 4-6 Sections F: Boarhunt to Crockerhill and Section G: Crockerhill to Wickham



4.3.15 Key routes affected within the vicinity of Wickham and Knowle are set out as follows:

1. A334 Winchester Road – the A334 Winchester Road provides a north-west/south-east link between Wickham and Botley. The A334 Winchester Road ranges between approximately 6.0m and 6.8m in width and accommodates two-way traffic. To the south-east of Wickham, the A334 forms a roundabout junction with the A32.
2. A32 (Hoad's Hill, Wickham Road) – the A32 provides an arterial connection between Junction 10 of the M27 to the south and Wickham to the north, forming a roundabout junction with the A334 to the south-east of Wickham. To the south, the A32 Wickham Road is a dual carriageway, with directional traffic segregated by a central reservation. To the north, the road narrows to a single lane in either direction, though a section of central hatching continues to separate directional traffic. The A32 has a speed limit of 50mph.
3. White Dell Lane – accessible from Nine Elms Lane, White Dell Lane is a narrow single-track route with a typical width of approximately 2.8m. Given the narrow nature of the route and presence of a single formal passing place halfway along the extent of the route, two-way vehicular movements are heavily constrained on this route. White Dell Lane provides access to a farm at the northern end of the route.
4. Chalk Lane – accessible from the Wickham Road (A32)/Knowle Road Roundabout, Chalk Lane provides access to a small business park immediately after entering the route, and a single property at the northern end of the route. A cluster of properties are accessible via an additional lane that can be

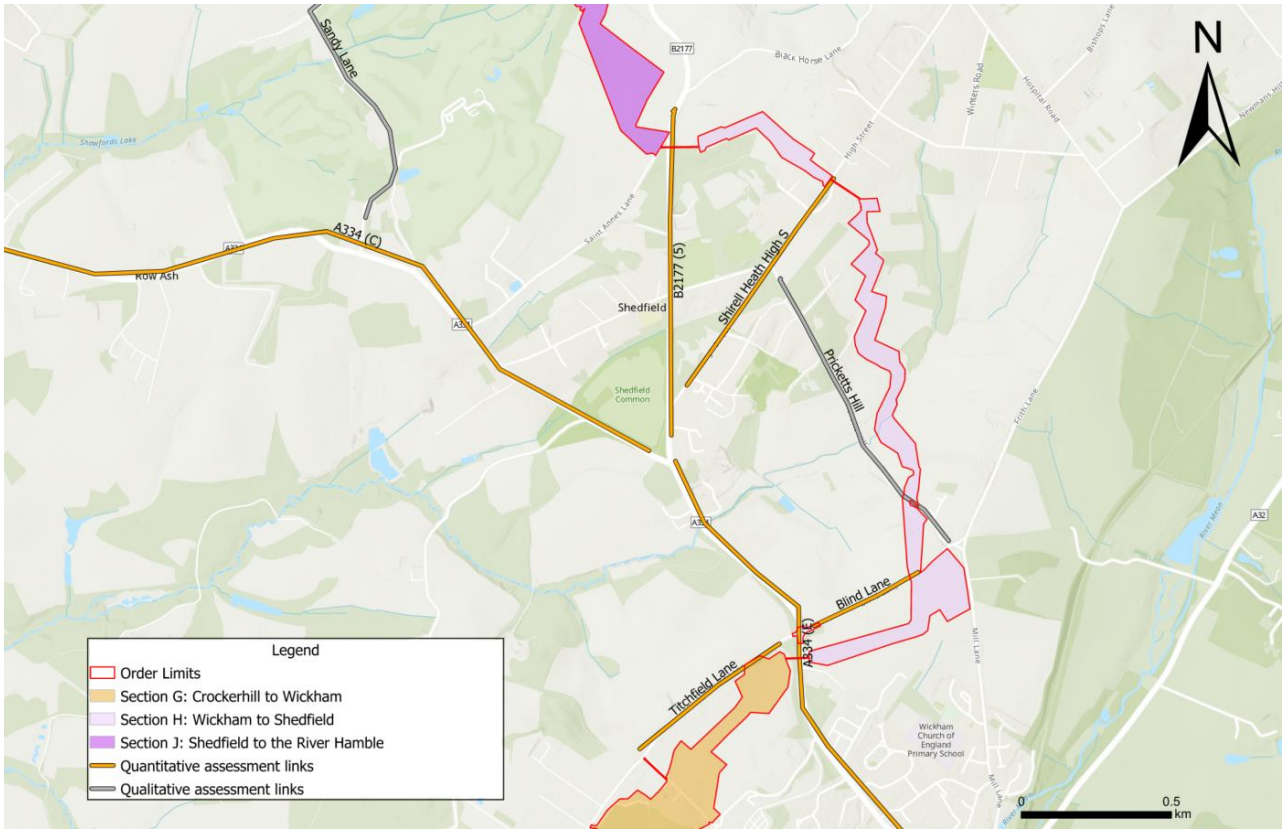
accessed at the northern end of the route. Access into neighbouring fields is also provided.

5. Forest Lane – accessible from Wickham Road to the south-west, Castle Farm Lane to the north-west and Bere Farm Lane to the south-east, Forest Lane is a long rural route that provides access to a number of fields and properties along its extent. A number of small businesses can be accessed from the section of the route close to the Wickham Road junction. The route is at its widest after turning off Wickham Road, before becoming continuously narrower and more constrained as the route progresses, reaching a minimum width of approximately 2.2m. Passing places are located intermittently along the extent of the route.
6. Castle Farm Lane – is a private road that provides connectivity between Hoad's Hill to the north-west and Forest Lane to the south-east. While the route resembles a single lane track with the width varying between approximately 2.2-2.8m, two-way vehicular movements are permitted, with a number of formal and informal passing places on route. This private road is also a Public Right of Way, as detailed in section 5.2.
7. Tanfield Lane – is a narrow, approximately 4.0m wide road which is primarily residential in nature, providing access to Tanfield Park and a series of dwellings to the west. Further west it also provides access to a water treatment works facility before terminating. To the east it forms a priority junction with the A334 Winchester Road.
8. Titchfield Lane – a north-east/south-west minor road which connects Wickham to Titchfield, located to the south-west of Knowle. Titchfield Lane typically measures approximately 5.5m in width and accommodates two-way vehicular traffic. Titchfield Lane has a speed limit of 40mph.
9. Mayles Lane – one of two routes to/from Knowle, Mayles Lane extends for approximately 2.8km, connecting Wickham in the north-east to Knowle and on to Funtley to the south. Mayles Lane is narrow, typically measuring between 4.0m and 5.3m in width. It has a speed limit of 20-30mph for the majority of its extent, reducing to 20mph in places. Much of Myles Lane is private, with access restricted to authorised vehicles only. South of the section of Mayles Lane that forms part of the adopted highway network, there is a 3t weight restriction on route.

Section H: Wickham to Shedfield

4.3.16 Graphic 4-7 presents the local highway network in the vicinity of Section H: Wickham to Shedfield of the Pipeline between the WRP site and Otterbourne WSW.

Graphic 4-7 Section H: Wickham to Shedfield



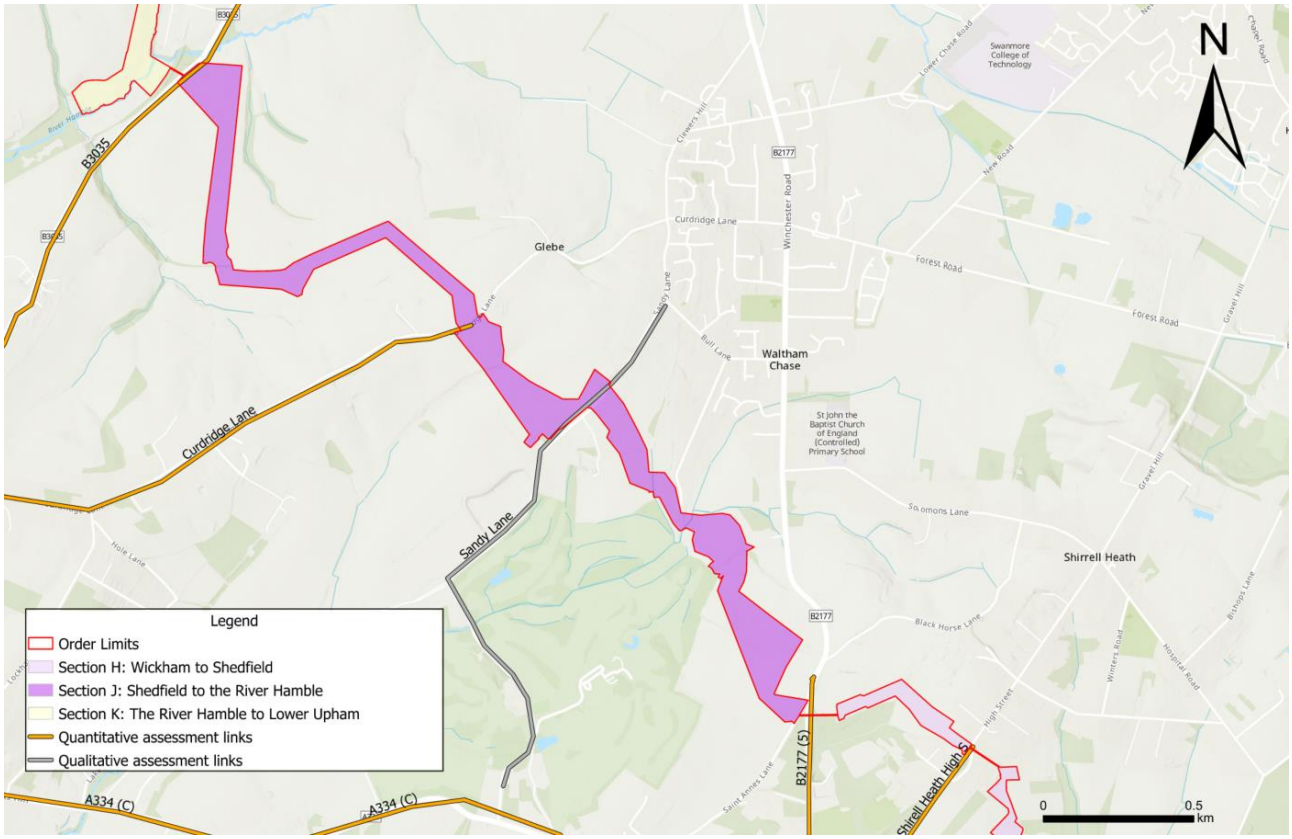
4.3.17 Routes affected within the vicinity of the Section H of the Pipeline include:

1. A334 Winchester Road (as described in paragraph 4.3.15).
2. B2177 (Portsmouth Road, Winchester Road) – a north-west/south-east route which provides a link between the B3354 and Lower Upham. The B2177 is subject to the national speed limit and accommodates two-way vehicular traffic. It measures approximately 6.0m in width and, while noted to be substandard, there is provision for pedestrians along the length of the route.
3. Pricketts Hill - a narrow north-west/south-east road connecting Shedfield High Street to Blind Lane, north of Wickham. The lane measures approximately 4.2m in width and accommodates two-way vehicular traffic (with passing places). While the route does not benefit from having formal footway provision, pedestrian movements should be expected due to the presence of properties fronting the carriageway.
4. Blind Lane - approximately 3.8m to 4.3m in width and provides an east/west link between the A334 Winchester Road and Pricketts Hill/Mill Lane to the east. Despite being narrow in width, there are passing places to accommodate two-way vehicular traffic. Access to the route from the A334 is constrained. While the route does not benefit from having formal footway provision, pedestrian movements should be expected due to the presence of properties fronting the carriageway.
5. Shirell Heath High Street - a north-east/south-west link between Shedfield and Hillpound. It accommodates two-way vehicle traffic and has a speed limit of 40mph. Further north, where the route features residential frontage on parts of the road, the route becomes subject to a speed limit of 30mph.

Section J: Shedfield to the River Hamble

4.3.18 Section J: Shedfield to the River Hamble of the Pipeline between the WRP site and Otterbourne WSW passes near Waltham Chase and Shedfield. The local highway network in the vicinity of Section J of the Pipeline is illustrated in Graphic 4-8.

Graphic 4-8 Section J: Shedfield to the River Hamble



4.3.19 The following routes are located within the vicinity of the Proposed Development near to Waltham Chase and Shedfield:

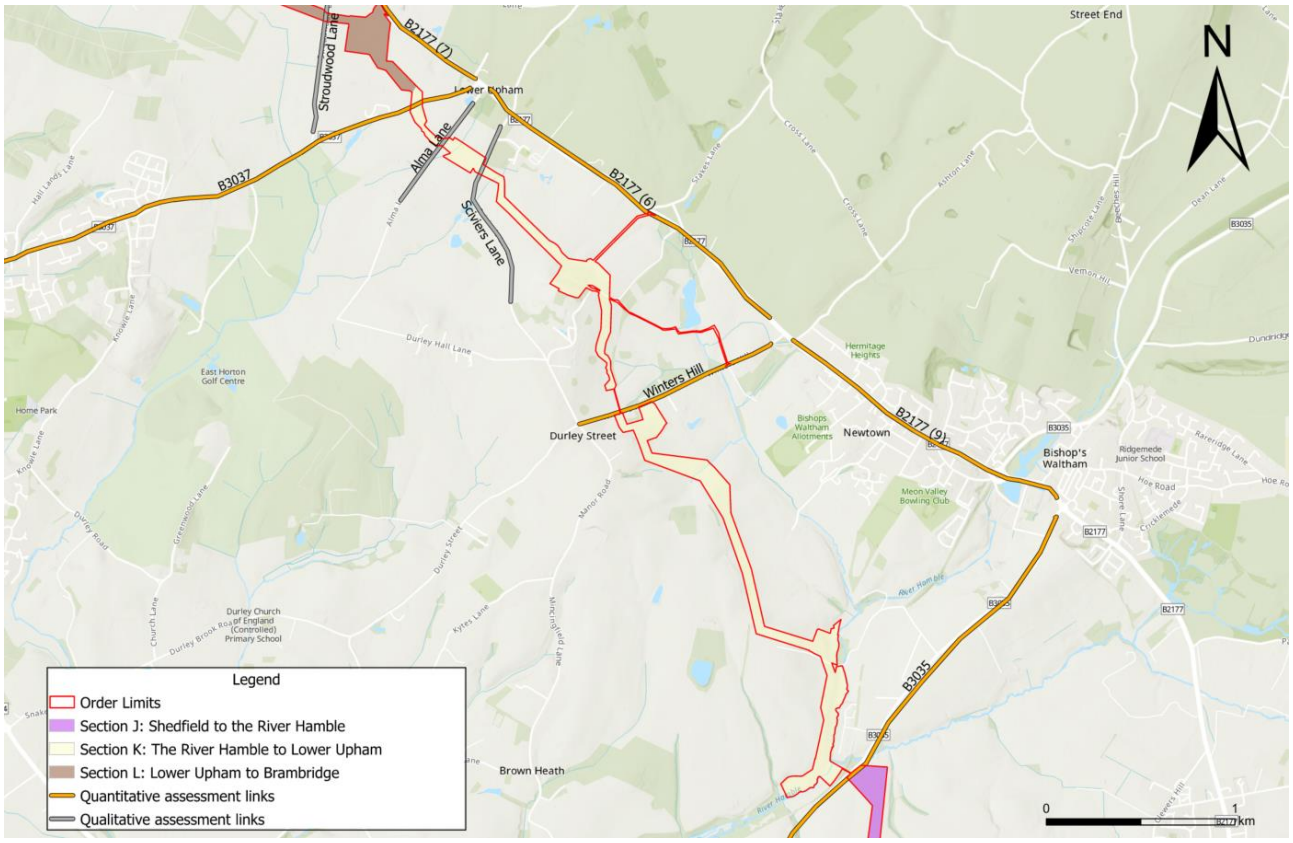
1. B3035 Botley Road - extends from Bishop's Waltham in the north-east to Botley to the south-west. It accommodates two-way traffic and typically measures approximately 6.0m in width. There is a 40mph speed limit.
2. Curdridge Lane – a well-utilised east/west route, typically measuring approximately 4.2m in width, which provides a link between the B3035 Botley Road in the west and the B2177 Winchester Road in the east. While featuring no formal passing places, Curdridge Lane is suitable for accommodating two-way vehicular traffic flow and generally features one lane in each direction. The route is subject to a speed limit of 40mph that is reduced to 30mph at the eastern end of the route which is more residential in character.
3. Sandy Lane – a narrow rural lane which measures approximately 3.5m in width and provides a connection between Shedfield and Waltham Chase. Given the narrow width of the road, there are passing places provided frequently along its extent.
4. B2177 Winchester Road (as described in paragraph 4.3.17).

5. A334 Station Hill – Station Hill constitutes a section of the A334 connecting Mill Hill (A334) to the south-west and Botley Road (B3035) and a continuation of the A334 to the north-east toward Wickham. Located on route is a petrol station, access to several industrial amenities and small businesses via Hillsons Road, a public house, and Botley Railway Station. A footway/cycleway (segregated with a white line) runs parallel to the northbound lane that merges with the road directly before the turning into the Railway Station. Further south, this cycle lane merges into a segregated shared use path. The route is subject to a 40mph speed limit.

Section K: The River Hamble to Lower Upham

4.3.20 Graphic 4-9 presents the local highway network in the vicinity of Section K: The River Hamble to Lower Upham of the Pipeline between the WRP site and Otterbourne WSW.

Graphic 4-9 Section K: The River Hamble to Lower Upham



4.3.21 The Proposed Development would affect the following routes near Lower Upham and Bishop's Waltham:

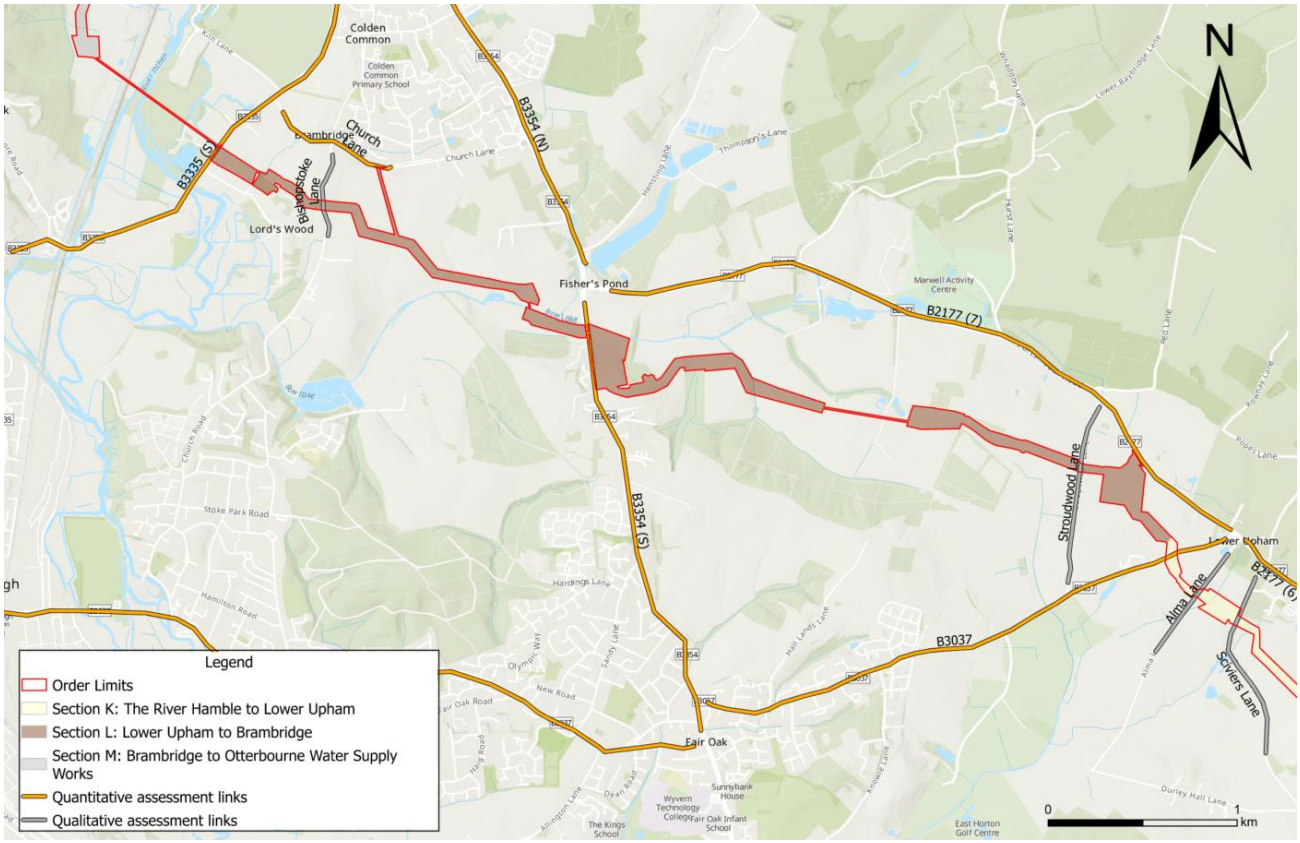
1. B2177 Winchester Road (as described in paragraph 4.3.17).
2. B3037 Mortimers Lane – an east/west link connecting Fair Oak to the west to Lower Upham to the east. The B3037 Mortimers Lane measures approximately 5.5m in width and accommodates two-way vehicular traffic. The speed limit ranges between the national speed limit and 40mph. The 40mph limit is in place on the approach to Lower Upham, which is demarked by signage and gateway features.

3. B3035 Botley Road (as described in paragraph 4.3.19).
4. Scivier's Lane - a narrow single carriageway rural road characterised by its narrow profile, ranging from 4.8m to 5.5m in width, which provides a link between the B2177 and Winters Hill. A C Class classified road, Scivier's Lane provides a connection to the residential area of Durley. While rural by nature, the route also serves residential areas along its extent.
5. Winters Hill - an east/west link which measures approximately 4.5m in width, providing a connection between Scivier's Lane and the B2177. Like Scivier's Lane, Winters Hill also provides a connection to Durley. The narrow route also serves residential areas along its length, despite being rural by nature.
6. Alma Lane - a narrow, single carriageway north-east/south-west link measuring approximately 2.8m – 3.0m in width that connects Lower Upham to Greenwood Lane to the south-west.

Section L: Lower Upham to Brambridge

4.3.22 Section L of the Pipeline between the WRP site and Otterbourne WSW includes Colden Common, Fair Oak and Lower Upham. The local highway network in the vicinity of Section L of the Pipeline is illustrated in Graphic 4-10.

Graphic 4-10 Section L: Lower Upham to Brambridge



4.3.23 The Proposed Development would affect the following routes in the vicinity of Colden Common, Fair Oak and Lower Upham:

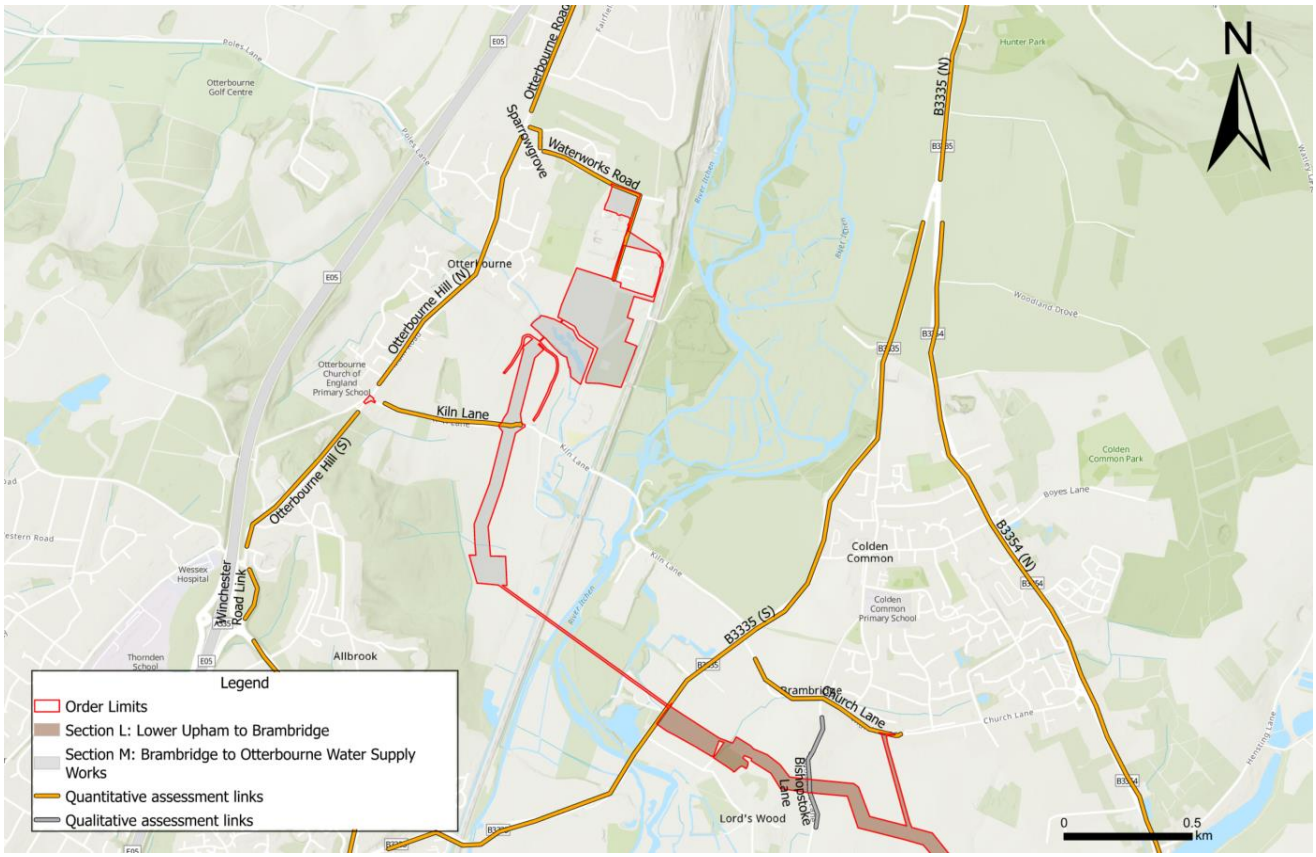
1. B2177 Winchester Road (as described in paragraph 4.3.17).

2. B3354 (Main Road, Winchester Road) – a north/south route connecting the B3335 to the north and Botley to the south, the B3354 accommodates two-way vehicular traffic. There are multiple formal crossing points on the B3354 through Colden Common, including signalised pedestrian crossing points. The speed limit ranges between 30mph (through Colden Common) to 50mph outside of residential areas.
3. B3037 Mortimers Lane (as described in paragraph 4.3.21).
4. Stroudwood Lane - a narrow, two-way lane, typically measuring 3.8m wide, that provides a short link between the B2177 Winchester Road and the B3037 Mortimers Lane. There are adequate passing places on route to facilitate two-way flow.
5. Bishopstoke Lane - a narrow, approximately 3.8m wide lane which permits two-way vehicular traffic, providing a link between Eastleigh and Colden Common.
6. Church Lane – a narrow, single-track route with a width of approximately 2.4m, Church Lane is accessible from the north via Cox's Hill (B3335) and from High Street (B3335) to the south. The route also provides access to a number of properties on route. Given the narrow nature of the route, opportunities for vehicles moving in opposite directions to pass one another are limited.

Section M: Brambridge to Otterbourne Water Supply Works

4.3.24 Graphic 4-11 presents the local highway network in the vicinity of Section M of the Pipeline between the WRP site and Otterbourne WSW.

Graphic 4-11 Section M: Brambridge to Otterbourne Water Supply Works



4.3.25 The Proposed Development would either directly or indirectly affect the following links in the vicinity of Otterbourne and Colden Common:

1. B3335 (Coxs Hill, High Street, Highbridge Road) – a north/south route connecting J11 of M3 to the north to Colden Common and Otterbourne to the south. The B3335 accommodates two-way traffic and measures between 5.2m to 7.0m in width. The road has a speed limit which varies between 30mph through Twyford to 50mph outside of residential areas, although the section of the route in closer proximity to the M3 junction is subject to the national speed limit. To the south-west, the B3335 Highbridge Road passes under a railway line, and therefore this link may not be suitable for some HGVs given that the height clearance of the bridge is 3.7m.
2. A335 (Allbrook Way) – a north/south route connecting J12 of the M3 to the B3335 Highbridge Lane to the east. The A335 accommodates two-way vehicular traffic, is subject to the national speed limit (reducing to 40mph as it approaches Eastleigh) and measures approximately 7.2m in width.
3. Kiln Lane – an east/west route connecting the B3335 to the east to Main Road to the west. Kiln Lane is a two-way vehicular traffic route providing a key link to Otterbourne. Kiln Lane ranges in width between 4.5m and 5.8m. Kiln Lane is subject to the national speed limit, although towards Otterbourne a speed limit of 30mph is in place. As with the B3335, Kiln Lane may be unsuitable for some HGV movements due to a clearance height (4.8m) underneath the railway bridge and the two bridges on route being subject to a 3T weight restriction.
4. Otterbourne Main Road – provides a north/south connection through Otterbourne, linking to Kiln Lane to the south. The Main Road provides access between the M3 J11 and M3 J12, and provides additional access to a number of facilities and amenities in central Otterbourne and, as such, pedestrian facilities including formal crossing points permeate the extent of the road. Aside from the section of route between the Otterbourne site and the M3 J11 being subject to a 40mph speed limit, Main Road has a speed limit of 30mph. Frequent crossing spaces are provided for pedestrians. Main Road accommodates two-way vehicular traffic, which is separated by sections of central hatching.
5. Otterbourne Hill – accessible from Winchester Road Link Road to the south-west and Main Road to the north-east, Otterbourne Hill is a route that accommodates two-way vehicular movements. Sections of the route are separated by central hatching coupled with pedestrian islands. Toward the south-west end of the route, advisory cycleways are present in both directions, with the south-west bound cycleway providing a continuation of the off-road cycleway that is separated from the vehicular route. Boyatt Lane is accessible off Otterbourne Lane, which provides an onward connection to a housing estate.
6. Winchester Road Link – this route provides a connectivity between Otterbourne Road to the north and the Allbrook Interchange at the M3 Junction 12 to the south. The route is subject to a 40mph speed limit and accommodates two-way vehicular traffic movements.
7. Hockley Link – accessible from the Badgers Farm Road/St Cross Road/Otterbourne Road Roundabout to the north and from Junction 11 of the M3 to the south, Hockley Link is a two-way motorway junction link road that

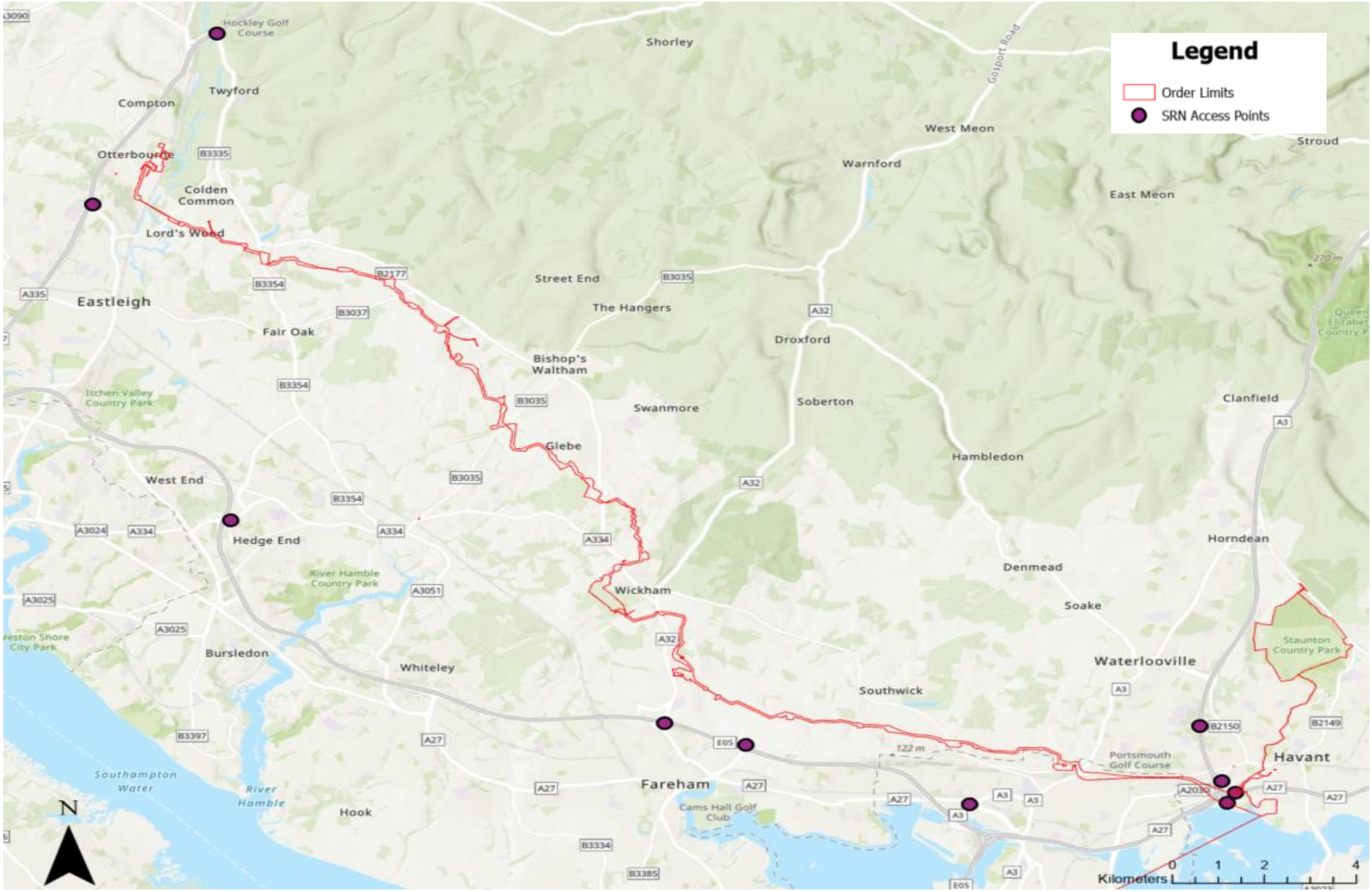
constitutes both the route between the aforementioned Roundabout and Junction 11 Roundabout, and the connecting route between the Junction 11 Roundabout and the M3 on-slip. From the latter, Hockley Link also provides onward connection to the B3335 south toward Twyford. Both sections of the route are characterised by a 50mph speed limit, while the latter section becomes characterised by the national speed limit closer to the on-slip. The former section of the route features two traffic lanes in the southbound direction.

8. Sparrowgrove – accessible from Otterbourne Road, Sparrowgrove is a two-way residential vehicular route that provides access to a cluster of houses. At the south-eastern end of the route, access is provided to Southern House South Central Ambulance Service and ALS Laboratories. Sparrowgrove is a spacious route with a typical width of approximately 6.6m. The route is subject to a 30mph speed limit.
9. Waterworks Road – accessible from Sparrowgrove to the east and north, Waterworks Road is a minor residential route with residential frontages along its extent. Sections of parking bays are provided along the route. Beyond the residential area, Waterworks Road continues east toward the South Central Ambulance Service and ALS Laboratories. The route is subject to a 20mph speed limit.

4.4 Strategic Road Network

4.4.1 Whilst the Proposed Development would not directly impact the SRN, it is anticipated that construction traffic would utilise several SRN junctions within the Hampshire area. Graphic 4-12 illustrates the SRN access points that are anticipated to be used by construction traffic associated with the Proposed Development.

Graphic 4-12 Strategic Road Network access junctions



4.4.2 As shown in the Graphic 4-12, the following junctions along the SRN would be used by construction traffic:

1. M3 Junction 11 Hockley Cross
2. M3 Junction 12 Allbrook
3. M27 Junction 7 Hedge End
4. M27 Junction 10 North Hill
5. M27 Junction 11 Wallington
6. M27 Junction 12 Hilsea/Paulsgrove
7. A3(M) Junction 4 Purbrook
8. A3(M)/A27 (T)/A2030 Junction 5 Broadmarsh (including eastbound entry slip)

4.4.3 In utilising these junctions, construction vehicles would route on either the M3, M27, A27 (T) or the A3(M). A description of these routes in the context of the Proposed Development study area is provided as follows:

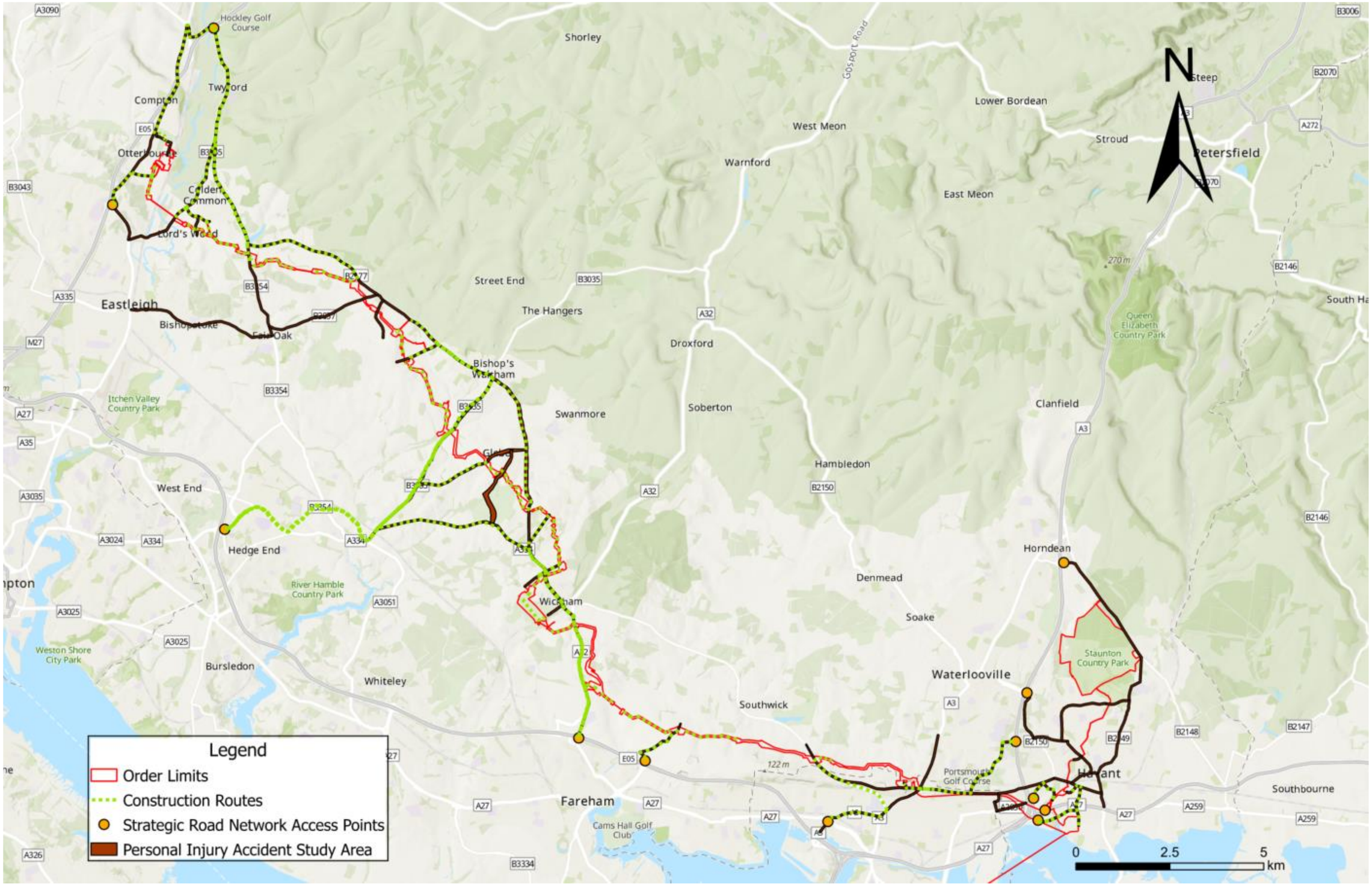
1. M3 – the M3 provides a strategic connection between Eastleigh and West London. In the vicinity of the Pipeline between the WRP site and Otterbourne WSW it connects the M27 Junction 4 south of Eastleigh to Winchester to the north-west of Otterbourne.
2. M27 – the M27 offers an east/west connection between the New Forest and Portsmouth, circumventing Southampton to the north where it forms a junction with the M3. The M27 is aligned to the south of the Pipeline between the WRP site and Otterbourne WSW as it passes through areas such as Wickham and Boarhunt.
3. A3 (M) – the A3 (M) runs in a north/south alignment from Junction 5 of the A27 at Broadmarsh to West London via Petersfield, Guildford and a number of other settlements. The A3 (M) bounds Havant to the west, segregating it from Waterlooville to the west. The Pipeline between the WRP site and Otterbourne WSW is to pass underneath the A3 (M) in the vicinity of Junction 5.
4. A27 (T) – the A27 (T) provides an east/west connection between the M27 north of Portsmouth and Polegate to the south-east of England. It passes to the south of the Pipeline in the vicinity of Cosham/Farlington, and passes immediately north of the WRP site. The Pipeline between the WRP site and Otterbourne WSW would pass underneath the A27 (T) adjacent to Junction 5 at Broadmarsh.

4.5 Highway safety

4.5.1 This section presents a review of recorded Personal Injury Collision (PIC) and casualty data obtained from Hampshire Constabulary for the most recent five-year period data was available (31 July 2019 to 31 July 2024). This data is contained at **Error! Reference source not found.**.

4.5.2 The study area for this review has been informed by the HGV access routes to the temporary construction compounds (see section 9.7) and the areas where the Proposed Development is forecast to have a perceptible increase in daily traffic flows. The study area is shown below in Graphic 4-13.

Graphic 4-13 Personal Injury Accident study area and Heavy Good Vehicle routes



4.5.3 Given the large geographical scale of the Proposed Development, this review presents a general overview of the collision data before providing a detailed review of the collisions relevant to the Proposed Development, for example where temporary/permanent accesses are proposed. This review has been set out with reference to the sections of the Pipeline between the WRP site and Otterbourne WSW (as detailed in section 4.2).

4.5.4 This detailed review identifies any cluster locations and common causation factors which may highlight any existing safety issues. Only locations that have been identified as having a cluster of collisions with a pattern or a seemingly high number of collisions on a link have been mentioned within the highway safety section.

4.5.5 A threshold of four collisions has been used to define a cluster. This lower threshold has been used as it represents a notable number of repeat collisions in the context of baseline traffic volumes within the study area, indicating the possibility that some common underlying causation factors may be present.

4.5.6 Over the five year period, there were 926 PICs within the study area which resulted in 1,219 casualties, the severity of these collisions is shown in Table 4-3.

4.5.7 It should be noted that the COVID-19 pandemic occurred within the five-year period, and this is likely to have had some impact on the data recorded. Specifically, there was less traffic on the road network resulting in the potential for fewer collisions.

Table 4-3 Road traffic collision summary

Severity[1]	Collisions
Fatal	17 (1.8%)
Serious	213 (23.0%)
Slight	696 (75.2%)
Total	926

4.5.8 The condition of the road surface during the time of these road traffic collisions is summarised at Table 4-4.

Table 4-4 Road surface condition summary

Road surface	Collisions
Dry	676 (73%)
Wet/Damp[2]	250 (27%)
Total	926

4.5.9 The light condition at the time of these incidents is summarised at Table 4-5.

[1] Collision severity split into three categories as per Department for Transport [25] guidance; Slight collision – one in which at least one person is slightly injured but no person is killed or seriously injured, serious collision – one in which at least one person is seriously injured but no person (other than a confirmed suicide) is killed, and fatal collision – a collision in which at least one person is killed.

[2] Note that frost, ice and flood are included in the Wet/Damp figure

Table 4-5 Light condition summary

Light condition	Collisions
Daylight	651 (70.3%)
Darkness[3]	275 (29.7%)
Total	926

4.5.10 The detailed review also considers the involvement of Vulnerable Road Users (VRUs), who are classed as road users who have less protection than the occupant of a motor vehicle. VRUs include pedestrians, cyclists (including e-bikes and e-scooters) and motorcyclists.

4.5.11 For context, the analysis that follows refers to aspects of the Proposed Development, including the location of temporary construction compounds and AGP, which are detailed in sections 6 and 7.

Water Recycling Plant site

4.5.12 The WRP site would be located to the north of Harts Farm Way, immediately south-east of the A27 Tear Drop junction.

4.5.13 No PICs were recorded at the A27 Tear Drop junction, with two PICs (one slight and one serious) recorded on the A2030 approach to the junction.

4.5.14 Two PICs were recorded on Harts Farm Way in the vicinity of the WRP site access. This included a serious PIC to the west of the proposed access and a slight PIC to the east of the proposed access.

4.5.15 There were five PICs (three serious and two slight) on the eastern extent of Harts Farm Way and an additional five PICs (two serious and three slight) at the Harts Farm Way/Brockhampton Road/Brookside Roa/Southmoor Lane roundabout to the east of Harts Farm Way. All five collisions on Harts Farm Way and three of the collisions at the roundabout involved VRUs.

4.5.16 The majority of HGV trips on Harts Farm Way associated with the construction of the Proposed Development would not route to the east of the WRP site on Harts Farm Way, with only a small number of HGV trips forecast further east on Harts Farm Way and the roundabout in the vicinity of these historical collisions. It is also anticipated that the majority of construction worker trips associated with the WRP site would route west to the SRN junction, thereby avoiding these cluster locations.

Pipelines between Budds Farm Wastewater Treatment Works and the Water Recycling Plant site

4.5.17 Two temporary construction compounds, both located within Budds Farm WTW, would facilitate the construction of the Pipelines between Budds Farm WTW and the WRP site (see ES Figure 1.1 Location of the Proposed Development and Order Limits, Volume III (Document reference 6.3, DCO Volume 6) for locations of all construction compounds).

4.5.18 As referenced in paragraph 4.5.15, there were five PICs towards the eastern end of Harts Farm Way as well as five PICs at the roundabout of Harts Farm Way and

[3] Note that darkness includes no street lighting, street lighting present and lit/unlit and 'unknown'

Brockhampton Road. A small number of HGV and construction worker trips associated with the Budds Farm WTW are anticipated to utilise the eastern section of Harts Farm Way and this junction.

Pipelines between the Water Recycling Plant site and Bedhampton Springs

4.5.19 Three temporary construction compounds (B1-1, B1-2 and B1-3) associated with the Pipelines are located to the south of Havant and north of the A27.

4.5.20 On the B2177 Bedhampton Hill approach to Rusty Cutter junction there have been seven PICs. One of these was serious. Four of these PICs were shunt type collisions and four involved VRUs (two motorcyclists and two pedal cyclists).

4.5.21 At the B2177 Bedhampton Hill/Bedhampton Road roundabout, to the north-east of the Rusty Cutter roundabout, there were seven PICs during the study period. Six of these collisions involved VRUs (two motorcyclists and four pedal cyclists). No PICs were recorded on the Brookside Road arm of this junction, which may provide access for some Light Goods Vehicles (LGV) and HGVs to temporary construction compound B1-1 to the south via Mill Lane.

4.5.22 Similarly, no PICs were recorded along the entirety of Mill Lane including the location of this temporary construction compound access.

4.5.23 No PICs were recorded at the West Street/Meyrick Road junction, which would provide access to temporary construction compounds B1-2 and B1-3.

4.5.24 To the north-east, on the B2149 New Road there were 22 collisions, one of which was fatal, six which were serious, with the rest categorised as slight. There were 18 collisions that involved VRUs (four pedestrians, nine pedal cyclists, four motorcyclists and a road user on an E-scooter). The fatal collision involved a pedestrian crossing the carriageway from behind a parked vehicle before being struck by a car. To the north-east, a number of collisions were recorded on the B2149 Petersfield Road, including notable clusters at the B2149 New Road/Park Road N/Petersfield Road roundabout, the B2149 Petersfield Road/Bedhampton Way junction and the Purbrook Way/Middle Park Way/Park Lane roundabout junction.

4.5.25 It is not anticipated that construction traffic associated with the Proposed Development would utilise the B2149 Petersfield Road. The B2149 Petersfield Road and the other aforementioned routes and junctions will not be used by HGVs associated with the construction phase of the Proposed Development, and it is not anticipated that construction worker trips would utilise this route.

Pipeline between the Water Recycling Plant site and Otterbourne Water Supply Works

Section D: The Water Recycling Plant site to Portsdown Hill

4.5.26 There is one temporary construction compound (D-1) proposed in Section D of the Pipeline between the WRP site and Otterbourne WSW which is located south of B2177 Portsdown Hill and west of Gillman Road (opposite Crookhorn Lane). Crookhorn Lane has a left and right turn lane for road users to turn onto the B2177 with Gillman Road being a gated road that prohibits motor vehicles with a supplementary ‘except for loading by HGVs’ plate.

4.5.27 Temporary construction compound D-1 is anticipated to accommodate a very small number of HGV and LGV construction trips.

4.5.28 At the B2177 Portsdown Hill Road junction with Crookhorn Lane and Gillman Road there have been four PICs (one serious, three slight). All of the collisions involved vehicles turning right and being struck by road users travelling eastbound. Three of the collisions recorded at the junction were during the hours of darkness. Traffic signals are planned at this junction as part of the Campdown development proposals which would likely reduce the potential for this type of collision occurring in the future.

4.5.29 Portsdown Hill Road between Crookhorn Lane and the B2177 Southwick Road/James Callaghan Drive roundabout to the west is discussed within the analysis of Section E of the Pipeline below.

Section E: Portsdown Hill to Boarhunt

4.5.30 Up to eight temporary construction compounds (E-1, E-2, E-3, E-4a, E-4b, E-5, E-6a and E-6b) are proposed within Section E as well as several haul road crossings. Temporary accesses would be provided on New Down Lane, the B2177 Southwick Road and Boarhunt Road. A permanent access would also be located on New Down Lane to serve two AGP sites at this location.

4.5.31 Preliminary analysis using CrashMap software indicated that no road traffic collisions were recorded on Widley Walk, Mill Lane, Pigeon House Lane, Crooked Walk Lane, Portchester Lane and Monument Lane in the immediate vicinity of the proposed haul road crossings, and as such no additional analysis was conducted beyond the southern extent of these roads.

4.5.32 On B2177 Portsdown Hill Road, between Crookhorn Lane and the B2177 Southwick Road/James Callaghan Drive roundabout to the west, there have been 38 collisions (two fatal, eleven serious and 25 slight). Of these:

1. 21 collisions resulted in 27 vulnerable road user casualties.
2. Almost half of the collisions (47%) occurred during the hours of darkness, including both of the fatal collisions and four of the serious collisions.
3. There were six collisions associated with the access/egress of Portsdown Hill Viewpoint (which is in close proximity to proposed temporary construction compound and AGP accesses on New Down Lane), three of which were serious.
4. Five collisions involved road users turning in or out of the viewpoint car park or slowing/stopping on the mainline to turn.
5. Five of the six collisions also involved VRUs (two pedal cyclists and three motorcyclists. Half of these collisions (three) were during the hours of darkness.

4.5.33 This part of the B2177 Portsdown Hill Road would be used by HGVs and construction workers routing between several of the temporary construction compounds in this area and the SRN.

4.5.34 At the junction of New Down Lane and the B2177 Portsdown Hill Road, and on New Down Lane itself, no PICs were recorded.

4.5.35 At the A3(S) London Road/B2177 Southwick Hill Road junction there were five collisions (one serious and four slight). Three of these collisions occurred during the hours of darkness.

4.5.36 Overall, in the vicinity of the A3 Northern Road/A3 Southampton Road roundabout there have been 22 collisions (three serious and 19 slight), 19 of the collisions involved VRUs. Eight of the collisions were during the hours of darkness (36%).

4.5.37 Nine slight collisions occurred on the northern arm of the roundabout (six on the southbound carriageway and three on the northbound). Eight of these collisions involved VRUs. Six collisions were as a result of road users failing to give way to users on the Zebra crossing, the remaining three collisions were shunt type collisions (one due vehicles stopping for a crossing users, two into the rear of a stationary VRUs waiting to enter the roundabout).

4.5.38 On the eastern arm of the roundabout there have been five collisions between VRUs on the zebra crossing and road users approaching the roundabout travelling westbound.

4.5.39 The remaining eight collisions were on or near to the roundabout six of these involved VRUs (five pedal cyclists and one motorcyclist) three of the collisions involving pedal cyclists were serious.

4.5.40 A27 Southampton Road/Western Road/A3 Southampton Road junction there have been four failure to stop/shunt type collisions involving road users in the left turn lane from A27 Southampton Road to A3 Southampton Road (west to north).

4.5.41 Between the A3 London Road/B2177 Portsdown Hill Road junction and the A27 Southampton Road/Western Road/A3 Southampton Road junction, construction vehicles associated with the Section E temporary construction compounds are anticipated to lead to a temporary 0.63% increase in traffic flows during the construction phase.

4.5.42 Temporary construction compounds E-4a and E-4b are proposed to be located on the B2177 Southwick Road. On the B2177 Southwick Road between the Boarhunt Road/Fareham Road junction and Southwick Road/James Callaghan Drive roundabout to the south-east there have been 18 collisions (one fatal, ten serious and seven slight (61% Fatal and Seriously Injured). Eleven of these collisions involved VRUs. Ten of the collisions occurred when there was a wet, damp or icy road surface (56%).

4.5.43 In the vicinity of the proposed temporary construction compound access to temporary construction compounds E4-a and E-4b, as well as the proposed haul road crossing at this location, there were two PICs recorded. This involved one slight incident and one serious incident, the latter of which involved a cyclist falling off their bike when a loose article fell from the handlebars and got caught in their front wheel.

4.5.44 Temporary construction compounds E-6a and E-6b are proposed to be located east and west of Boarhunt Road with access from the south. There have been nine collisions along Boarhunt Road (three serious and six slight), including one PIC adjacent to the proposed temporary construction compounds and haul road crossing. Seven of the collisions involved a single road user losing control whilst two involved road users crossing the centreline and colliding with road users in the opposite lane.

Section F: Boarhunt to Crockerhill and Section G: Crockerhill to Wickham

4.5.45 Section F contains three temporary construction compounds (F-1, F-2 and F-3), but only one temporary construction compound access which would be located on Chalk Lane. IPS-F would also be located within this section. A permanent access would serve IPS-F from Albany Business Park, though the potential to provide a future access via roads that will come forward as part of the Welborne development is currently being discussed with the Welborne developers.

4.5.46 One slight PIC occurred at the A32 Wickham Road/Knowle Road/Chalk Lane roundabout junction.

4.5.47 On the A32 Wickham Road between the M27 Junction 10 and the A32/A334 priority junction (a section of the road which measures approximately 3.3km), twelve PICs occurred (three serious and nine slight). This link would be used by HGVs and construction worker vehicles travelling to and from temporary construction compounds within Section F, G, H, J and K.

4.5.48 Section G contains seven temporary construction compounds (G-1, G-2, G-3, G-4, G-5, G-6 and G-7). These would be accessed from temporary access points on the A32 Hoads Hill and Titchfield Lane. A separate permanent access is also proposed on Titchfield Lane to provide access to IPS-G.

4.5.49 There were two serious collisions recorded on Titchfield Lane approximately 650m southwest of the crossroads with the A334 and Blind Lane (west of the proposed temporary access and east of the permanent access). One collision involved a motorcycle that lost control in wet conditions and collided with a tree. The second serious collision involved two cars and seven casualties, with one car veering into the opposing lane and colliding head on with an oncoming car.

4.5.50 West of the temporary access, Titchfield Lane would not be used by a perceptible number of HGV and LGV construction vehicles. This section of Titchfield Lane would be used by operational vehicles associated with the AGP, but traffic volumes associated with this use are expected to be very low as detailed in section 12.

4.5.51 The A334 Winchester Road/Blind Lane/Titchfield Lane traffic signal junction, which would be used by HGV and construction worker vehicles to access Section G temporary construction compounds and AGP, is discussed in paragraph 4.5.53.

Section H: Wickham to Shedfield

4.5.52 Section H would contain five temporary construction compounds which would be accessed from Blind Lane and Shirrell Heath High Street. A haul road crossing would also be located on Blind Lane.

4.5.53 At the A334 Winchester Road/Blind Lane/Titchfield Lane traffic signal junction there were there were five collisions (one serious and four slight). Four of the collisions occurred during the hours of darkness (80%). Three of the collisions occurred within the junction and involved vehicles turning right into Titchfield Lane from A334 Winchester Road colliding with vehicles travelling south to north on the A334 Winchester Road.

4.5.54 This junction would be used by both HGVs and construction workers to access the temporary construction compound accesses on Titchfield Lane and Blind Lane.

4.5.55 No PICs were recorded on Blind Lane.

4.5.56 There have been twelve collisions (two serious and ten slight) at the A334/B2177 Winchester Road junction. Eight of the collisions occurred during the hours of darkness (67%) and five of the collisions (42%) occurred when there was a wet/damp road surface (four of these also happened during hours of darkness). Five collisions involved vehicles turning right from the A334 in front of vehicles on the mainline. Two collisions were shunt type collisions on the A334 approach to the give way, there have also been an additional two slight PICs on the A334 eastbound approach to the junction that may also be attributed to queuing traffic.

4.5.57 This junction would be utilised by HGVs and construction worker vehicles accessing the temporary construction compound access on Shirrell Heath High Street.

4.5.58 Three slight PICs took place at the A334 Winchester Road and Shirrell Heath High Street junction. Two slight PICs also took place on Shirrell Heath High Street itself, though both of these PICs took place south-west of the temporary access location.

4.5.59 On the A334 between A334/B2177 Winchester Road junction and B3035 Botley Road there have been 14 PICs (four serious and ten slight). Half (50%) of the collisions occurred during the hours of darkness. Five of the collisions occurred on a wet/damp road surface (36%).

4.5.60 This link (the A334) would not be used by HGVs but would be used by a number of construction worker vehicles accessing temporary construction compounds to the south and east.

Section J: Shedfield to the River Hamble

4.5.61 Section J would contain three temporary construction compounds (J-1, J-2 and J-3), accessed from three temporary accesses on St Annes Lane, Curdridge Lane and the B3035 Botley Road respectively. A haul road crossing would also be provided on Curdridge Lane.

4.5.62 On A334 Station Hill between the A334/A3051 junction and the A334/A3035 Botley Road junction, there were eleven collisions (one serious and ten slight). Four of these collisions were southbound shunt type collisions into slowing/stationary road users.

4.5.63 There have been 15 collisions (one fatal, five serious and nine slight) on the B3035 Botley Road between the A334 Wickham Road/B3035 Botley Road junction and Botley Road/ B2177 Coppice Hill roundabout. Six of the collisions were attributed to ‘loss of control’. The fatal collision was at the Chapel Lane junction where a car pulled onto the mainline in front of a motorcycle. No PICs were recorded in the immediate vicinity of the temporary construction compound access to J-3 on the B3035 Botley Road.

4.5.64 These links would be utilised by HGVs accessing temporary construction compounds J-1, J-2 and J-3, as well as some Section K temporary construction compounds. They would also be used by construction worker vehicles to access these temporary construction compounds, as well as temporary construction compounds to the south-east.

4.5.65 One slight PIC was recorded on Curdridge Lane in the immediate vicinity of the J-2 temporary construction compound access and haul road crossing. Three

additional PICs were recorded to the west of here on Curdridge Lane, with one PIC recorded to the east.

4.5.66 Curdridge Lane would be used by HGVs and construction worker vehicles to access temporary construction compounds J-1 (HGVs only) and J-2.

Section K: The River Hamble to Lower Upham

4.5.67 There would be six temporary construction compounds in Section K, with four of these accessed from a temporary access on Winters Hill. Two temporary construction compounds would be accessed from the B2177 Winchester Road. An existing permanent access taken from Winters Hill would provide access to BPT-K. There would also be haul road crossings on Scivier's Lane, Alma Lane and the B3037 Mortimers Lane.

4.5.68 On B2177 Winchester Road between the B3035 Botley Road/B2177 Coppice Round roundabout and B2177 Winchester Road/B3037 Mortimers Lane junction there have been 19 collisions (three fatal, five serious and eleven slight). Twelve of the collisions occurred when there was a wet/damp road surface (63%). The fatal collisions involved a motorcyclist overtaking into the path of an oncoming HGV, a car turning at a junction in front of a motorcyclist and single car loss of control.

4.5.69 One serious PIC took place in the immediate vicinity of the temporary construction compound access on the B2177 Winchester Road.

4.5.70 Four of the above collisions occurred at the B2177 Winchester Road junction with Winters Hill, all of these collisions were slight in nature, three involved road users turning right from Winters Hill into the path of road users travelling north-west on the mainline.

4.5.71 This link would be utilised by HGVs and construction worker vehicles to access the Section K temporary construction compounds.

4.5.72 On Winters Hill, one slight PIC occurred within the vicinity of the temporary construction compound access.

4.5.73 One slight PIC took place in the vicinity of the haul road crossing locations on Scivier's Lane, Alma Lane and the B3037 Mortimers Lane.

Section L: Lower Upham to Brambridge

4.5.74 Section L would contain ten temporary construction compounds, with temporary access points to be provided on the B2177 Portsmouth Road, the B3354 Winchester Road, Church Lane and the B3335 Highbridge Road. There would also be haul road crossings on Stroudwood Lane and Bishopstoke Lane.

4.5.75 One slight and one serious PIC took place on the B2177 Portsmouth Road in the immediate vicinity of the temporary construction compound access to K-5 and K-6. The serious incident involved a car losing control before it came off the carriageway and collided with an electricity pole and overturned.

4.5.76 No PICs were recorded on Stroudwood Lane.

4.5.77 One PIC (slight) was recorded on the B3354 Winchester Road in the immediate vicinity of the temporary construction compound accesses.

4.5.78 Two PICs were recorded at the Fisher's Pond junction (one serious and one slight), with an additional serious PIC recorded to the south of the junction on the B3354 Winchester Road arm. The serious incident at the junction involved a vehicle allegedly disobeying a red traffic signal, whilst the serious incident to the south of the junction involved a stationary vehicle opening its door into the path of a motorcycle.

4.5.79 One slight PIC was recorded in the vicinity of the proposed temporary haul road access on Church Lane, whilst no PICs were recorded in the vicinity of the Bishopstoke Lane haul road crossing.

4.5.80 There have been six collisions at the B3335 Highbridge Road/Brambridge/Kiln Lane staggered junction (one serious and five slight). All four collisions at the Brambridge junction involved road users turning into or out of Brambridge in front of vehicles travelling southbound on the mainline. Both collisions at the Kiln Lane junction involved road users turning out of Kiln Lane in front of vehicles travelling northbound on the mainline.

4.5.81 The construction phase of the Proposed Development would lead to a temporary minor increase in traffic movements at this junction which would include both additional HGV and construction worker vehicle movements. However, these movements would largely be confined to straight ahead movements on the B3335 Highbridge Road.

4.5.82 No PICs were recorded in the immediate vicinity of the proposed temporary construction compound access to temporary construction compound L-10 on the B3335 Highbridge Road.

4.5.83 Further afield, a limited number of PICs were recorded across other notable junctions that would be utilised by HGVs and construction worker vehicles associated with Section L including the B3335/B3354 junction, the B3037/B3354 junction and the A3335/B3335 junction.

Section M: Brambridge to Otterbourne Water Supply Works

4.5.84 Section M would contain three temporary construction compounds which would be accessed from Kiln Lane and the existing Otterbourne WSW. A haul road crossing would also be provided on Kiln Lane.

4.5.85 No PICs were recorded at the Otterbourne Hill/Kiln Lane mini-roundabout junction.

4.5.86 Similarly, no PICs were recorded on Kiln Lane in the vicinity of the proposed haul road accesses.

4.5.87 No PICs were recorded at the Otterbourne Road/Sparrowgrove junction.

Highway safety summary

4.5.88 Within some of the more urban areas across the study area and at roundabouts, many of the PICs involve VRUs, particularly cyclists, however the temporary increase in construction traffic is forecast to be relatively limited in these urban areas (as detailed in section 10), especially in relation to HGV trip generation.

4.5.89 There appear to be an elevated number of collisions during the hours of darkness in some areas, particularly; the A334/B2177 Winchester Road junction (67%), the A334 between the A334/B2177 Winchester Road junction and the B3035 Botley

Road (50%) and the B2177 Portsdown Hill Road between Crookhorn Lane and the B2177 Southwick Road/James Callaghan Drive roundabout to the west (47%).

4.5.90 Aside from some nighttime works, including HGV deliveries to temporary construction compound B1-1 during evening hours (a route which is unaffected by this elevated rate of collisions during darkness), most construction activities would take place during daylight hours as detailed within the Framework CTMP (Document reference 7.2, DCO Volume 7). As such, most construction traffic movements would also take place during daylight hours.

4.5.91 There also appears to be some areas where there has been an elevated number of collisions with a wet/damp road surface, particularly;

1. The B2177 Winchester Road between the B3035 Botley Road/B2177 Coppice Round roundabout and the B2177 Winchester Road/B3037 Mortimers Lane (63% of collisions at this location).
2. The B2177 Southwick Road between the Boarhunt Road/Fareham Road junction and the B2177 Southwick Road/James Callaghan Drive roundabout to the south-east (56% of collisions at this location).
3. The A334/B2177 Winchester Road junction (42% of collisions at this location).

4.5.92 As detailed in the Framework CTMP, wheel washing facilities would be provided at all temporary construction compounds to stop debris being tracked on to the public highway, limiting any impacts on the road surfaces.

4.5.93 On Boarhunt Road, all of the PICs involve single vehicle loss of control or road users entering opposing lane. As detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7), temporary traffic signals or a temporary speed limit is proposed to manage access into the temporary construction compounds accessed from Boarhunt Road.

4.5.94 This road safety review has helped to shape the management measures set out in the management plans, including the TMS (Document reference 7.3, DCO Volume 7) and the Framework CTMP (Document reference 7.2, DCO Volume 7).

5 Accessibility by sustainable modes

5.1 Introduction

5.1.1 This section of the Transport Assessment presents an audit of the local transport network for sustainable modes of transport, including walking, cycling, horse riding, bus and rail.

5.2 Walking and cycling

5.2.1 This section presents an audit of the walking and cycling routes (including PRoW) that are likely to be impacted by the Proposed Development. Given the large geographical scale of the Proposed Development, this audit has been split to reflect the Proposed Development components, as illustrated in ES Figure 1.1 Location of the Proposed Development and Order Limits, Volume III (Document reference 6.3, DCO Volume 6).

5.2.2 Unless citations indicate otherwise, photos used in this section were taken during a site visit undertaken in September 2024.

Pipelines between the Water Recycling Plant site and Bedhampton Springs

Walking

5.2.3 Formal pedestrian crossing points are provided plentifully throughout Havant, with crossing types varying between simple uncontrolled pedestrian crossings with dropped kerbs and tactile paving, to pedestrian refuge island crossing points and signalised crossings complete with a pedestrian phase.

5.2.4 Footways are provided along the extent Bedhampton Hill that become wider once running parallel to the residential frontages toward the north-eastern end of the route. A continuation of these footways can be found on Bedhampton Road, including a footway along the northern edge of the route at the western end that is separated further from the road by vegetation (see Graphic 5-1). Signalised crossings are provided at traffic signals. As Bedhampton Road merges with West Street at the eastern end of the route, the footways continue over a level crossing. The footways provided on West Street are narrower than those on Bedhampton Road (approximately 1.4m in width) with less separation from traffic.

Graphic 5-1 Footways provided on Bedhampton Road

5.2.5 Footways are provided more intermittently on some residential routes within Havant. Routes such as Brookside Road, Bidbury Lane and Meyrick Road feature inconsistent footway provision that would require pedestrians to switch between using them and walking along the edge of the road where they are not provided. Other routes such as Mill Lane feature no dedicated pedestrian infrastructure and would require pedestrians to travel along the edge of the route and stop at passing spots to allow oncoming vehicles to pass.

Public Rights of Way network

5.2.6 Table 5-1 provides an overview of the PRoW network within south Havant to the north of the Proposed Development.

Table 5-1 Public Rights of Way – South Havant

Public Rights of Way	Overview
Havant 45/2	Route connecting Harts Farm Way to other PRoW at the bank of Broad Lake.
Havant 30/1	Route connecting PRoW to Harts Farm Way. Route includes a footbridge over the A27 (t).
Havant 30/2	Route connecting Bidbury Lane to other PRoW. Route includes a link over the West Coastway Railway Line.
Havant 30/3	Route providing a link between Harts Farm Way and the car parks at the bank of Broad Lake.
Havant 34/1	Route connecting various PRoW.
Havant 34/5	Route connecting various PRoW.
Havant 40/1	Route connecting Hook's Farm Way to Havant 40/2.

Public Rights of Way	Overview
Havant 40/3	Route connecting Bedhampton Road to Havant 40/2.

5.2.7 Although not a designated PRoW, the Denmead to Emsworth section of the Wayfarer's Walk utilises a section of Bedhampton Road before passing through Brockhampton to the south. The Wayfarer's Walk is a 70 mile, long-distance walking route from Inkpen to Emsworth Harbour.

Cycling

5.2.8 Local roads within Havant are generally considered suitable for cycling in line with Local Transport Note (LTN) 1/20 guidance [20] as set out in Graphic 5-2.

Graphic 5-2 Appropriate protection from motor traffic on highways (LTN 1/20)

Speed Limit[1]	Motor Traffic Flow (pcu/24 hour)[2]	Protected Space for Cycling			Cycle Lane (mandatory/ advisory)	Mixed Traffic
		Fully Kerbed Cycle Track	Stepped Cycle Track	Light Segregation		
20 mph[3]	0					
	2000					
	4000					
	6000+					
30 mph	0					
	2000					
	4000					
	6000+					
40 mph	Any					
50+ mph	Any					

Provision suitable for most people

Provision not suitable for all people and will exclude some potential users and/or have safety concerns

Provision suitable for few people and will exclude most potential users and/or have safety concerns

Notes:

1. If the 85th percentile speed is more than 10% above the speed limit the next highest speed limit should be applied
2. The recommended provision assumes that the peak hour motor traffic flow is no more than 10% of the 24 hour flow
3. In rural areas achieving speeds of 20mph may be difficult, and so shared routes with speeds of up to 30mph will be generally acceptable with motor vehicle flows of up to 1,000 pcu per day

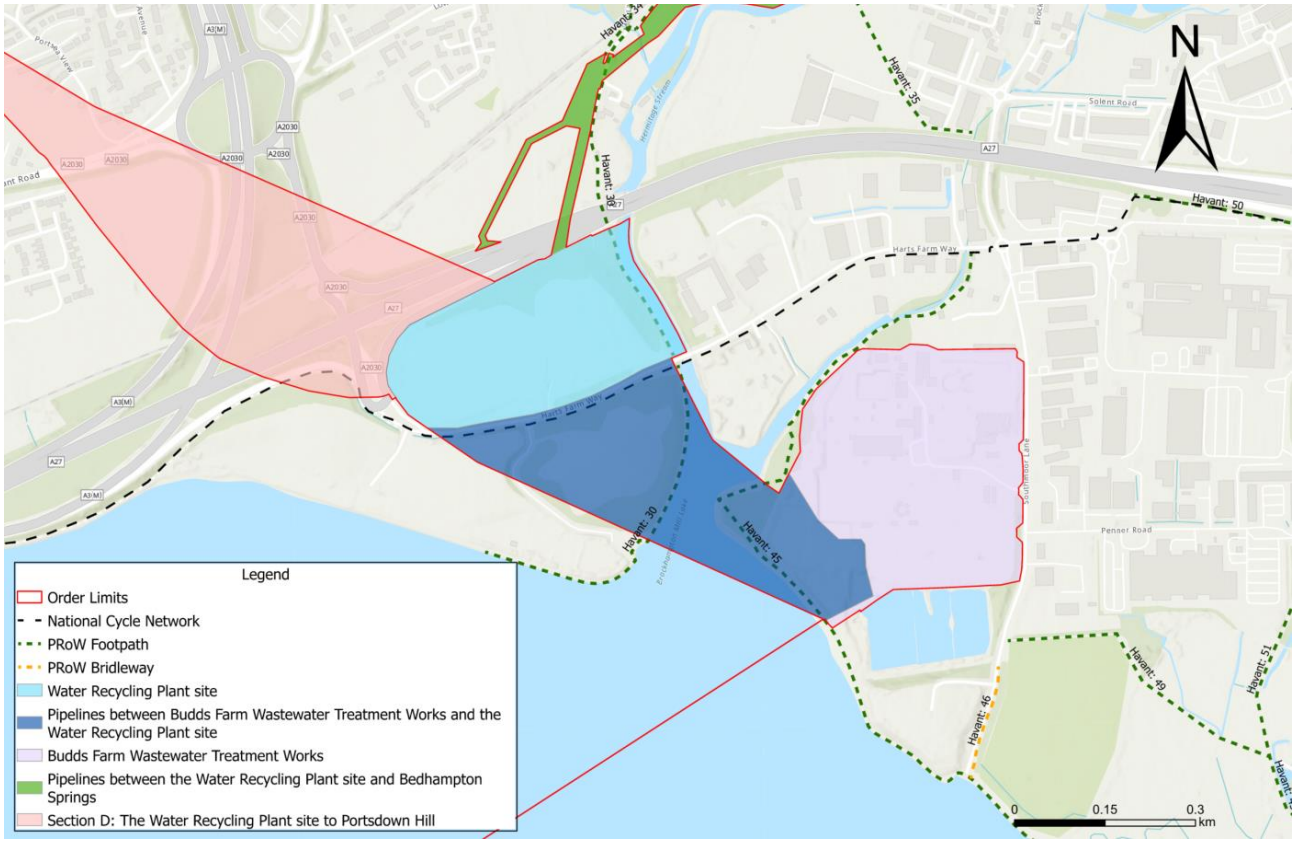
5.2.9 This guidance advises that cyclists of all abilities would likely be comfortable mixing with traffic on roads with low speed limits and low traffic volumes. This criterion fits many of the residential roads within Havant. Some of the busier roads however, such as Purbrook Way, do not match these criteria and lack dedicated continuous cycling facilities. As such, only more experienced cyclists would likely be confident mixing with traffic.

5.2.10 The National Cycle Network (NCN) Route 22 bisects Havant in a north/south alignment, passing Havant railway station to the north-east. NCN 22 also provides a connection to NCN 2 to the east, which goes on to link to Hayling Island to the south and Chichester to the east.

Water recycling Plant site and the Pipelines between Budds Farm Wastewater Treatment Works and the Water Recycling Plant site

5.2.11 The PRoW and cycle infrastructure in the vicinity of the Pipelines between Budds Farm WTW and the WRP site are shown in Graphic 5-3.

Graphic 5-3 National Cycle Network and Public Rights of Way – Pipelines between Budds Farm Wastewater Treatment Works and the Water Recycling Plant site



Walking

5.2.12 A footway is provided along the southern side of the carriageway at Harts Farm Way in the immediate vicinity of the WRP site. Dropped kerb and tactile paving crossings provide a continuous connection to the Langstone Technology Park to the east.

5.2.13 To the west, a continuous off-road shared footway/cycleway provides a connection to Farlington Marshes approximately 2.8km west of the WRP site.

5.2.14 A pedestrian footway bounds the WRP site to the west, measuring approximately 125m. To the north, a signalised pedestrian crossing provides access to the off-road footway to the west of the A2030. The footway then terminates to the north, at which point it does not tie into any other existing infrastructure.

Public Rights of Way network

5.2.15 There are two PRoWs within the vicinity of the Pipelines between Budds Farm WTW and the WRP site. This includes Havant 30/3, which provides a connection along the west bank of the stream feeding into Brockhampton Mill Lake. This link runs along the eastern boundary of the WRP site and provides a connection across the A27 via a pedestrian footbridge. A section of Havant 30/1 north of the footbridge is shown below in Graphic 5-4.

5.2.16 The other link within the vicinity of the WRP site is the PRoW 'Havant 45/2' which provides a connection from Harts Farm Way on the eastern side of the stream feeding into the Brockhampton Mill Lake to the south of Brockhampton.

Graphic 5-4 Section of Public Right of Way Havant 30/1

Cycling

5.2.17 The NCN Route 22 traverses the southern boundary of the A27 and passes through Harts Farm Way. The NCN Route 22 is a predominantly off-road link which, locally, provides a connection between Route 222 of the NCN to the west

and Havant Town Centre and Route 2 to the east. At Harts Farm Way, the link comprises a shared use footway/cycleway. It links to Farlington Marshes to the west and to the Langstone Technology Park to the east.

5.2.18 The NCN Route 22 off-road link on Harts Farm Way is shown at Graphic 5-5. This section of the link comprises a shared use footway/cycleway segregated from the carriageway by a narrow grass verge.

5.2.19 Harts Farm Way itself is a primary route within the Havant LCWIP, and currently serves a wider strategic purpose for cycling as it provides access to Havant Town Centre via the public footpath to the north of Langstone Technology Park

Graphic 5-5 Off-road shared use cycleway on Harts Farm Way

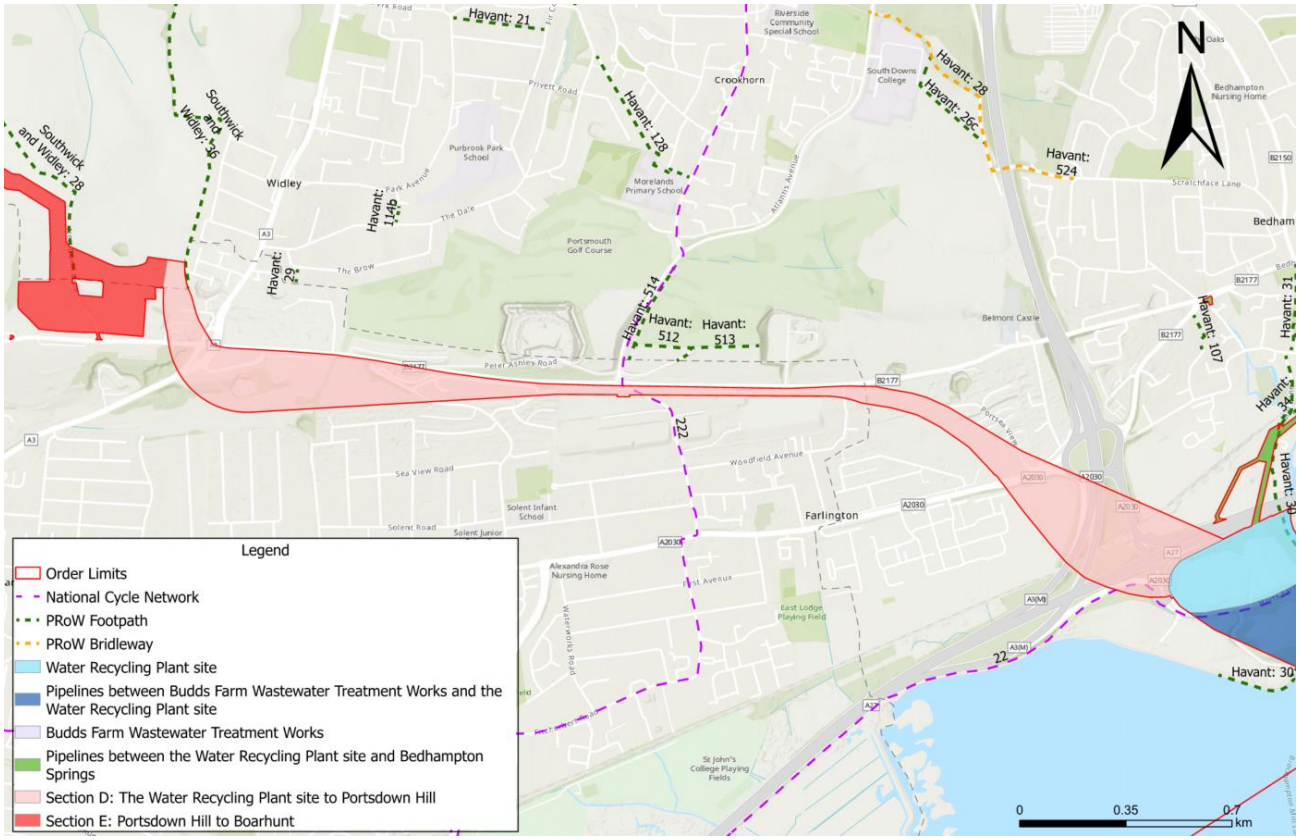
Source: Google

Pipeline between the Water Recycling Plant site and Otterbourne Water Supply Works

Section D: The Water Recycling Plant site to Portsdown Hill

5.2.20 The PRoW and NCN routes in the vicinity of Section D of the Pipeline between the WRP site and Otterbourne WSW are illustrated below in Graphic 5-6.

Graphic 5-6 National Cycle Network and Public Rights of Way – Section D



Walking

5.2.21 Walking infrastructure within Section D of the Pipeline between the WRP site and Otterbourne WSW largely comprises of footways provided along principal road links including B2177 Portsdown Hill Road, A3 London Road and Crookhorn Lane.

5.2.22 On the B2177 Portsdown Hill Road, pedestrian provision comprises of a footway along the northern side of the carriageway. To the east, this footway is segregated from the carriageway with a grass verge. An uncontrolled crossing with a refuge island is provided at the junction with Crookhorn Lane as shown at Graphic 5-7. North of this crossing, a footway is provided on both sides of the carriageway to the north.

5.2.23 Along the extent of the A2030, footway and crossing facilities are provided to allow pedestrians to access the existing route around the Rusty Cutter Roundabout.

Graphic 5-7 Pedestrian provision at B2177 Portsdown Hill Road/Crookhorn Lane junction (source: Google)

5.2.24 Continuous footway also connects the B2177 to the A3 London Road, though crossing provision at the junction between these two links is limited to intermittent provision of uncontrolled, dropped kerb crossing points.

Public Rights of Way Network

5.2.25 There are few PRoW within the immediate vicinity of Section D of the Pipeline. The Southwick and Widley 36/1 PRoW is located to the west of Section D, and this connects Widley to Purbrook Heath Road to the north. The Havant 514 PRoW is also located within this area, providing a paved north/south link along Crookhorn Lane immediately north of the junction with the B2177 Portsdown Hill.

Cycling

5.2.26 Route 222 of the NCN passes along Crookhorn Lane, crossing the B2177 Portsdown Hill Road in the vicinity of the Pipeline's southern route and Purbrook Way along the pipeline's northern route. Locally, this route provides a connection between Portsmouth to the south and Horndean to the north.

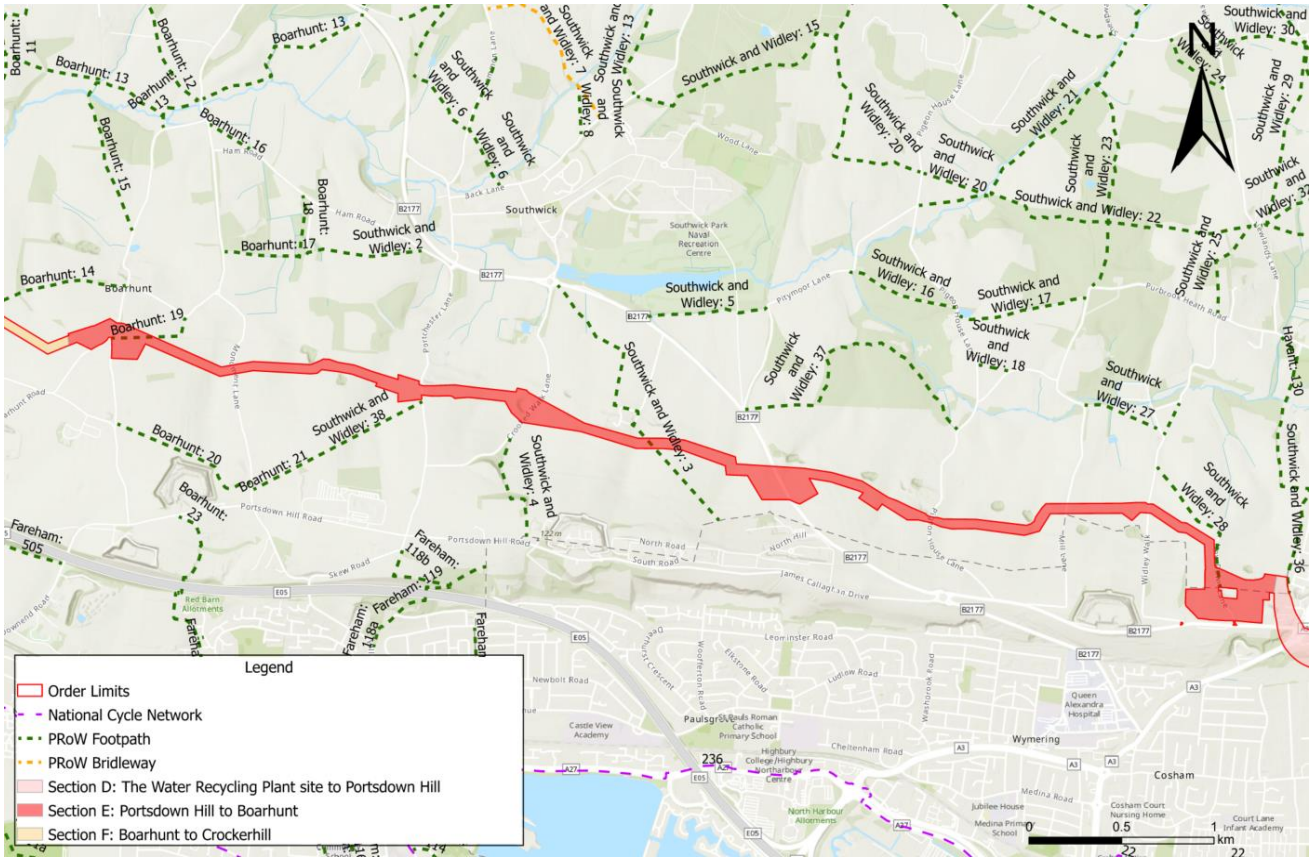
5.2.27 Except for the B2177 Portsdown Hill Road and the A3 London Road, local roads within the vicinity of Section D are generally lightly trafficked and suitable for cyclists to mix with vehicle traffic in line with LTN 1/20 guidance. Some intermittent advisory cycle lane provision is present on the A3 London Road, which may be suitable for more experienced riders.

5.2.28 As previously mentioned, footway and crossing facilities are provided along the A2030 to allow cyclists to access the existing route around the Rusty Cutter Roundabout.

Section E: Portsdown Hill to Boarhunt

5.2.29 Section E of the Pipeline between the WRP site and Otterbourne WSW, alongside nearby PRoW and NCN routes is illustrated in Graphic 5-8.

Graphic 5-8 National Cycle Network and Public Rights of Way - Section E



Walking

5.2.30 Within Section E of the Pipeline between the WRP site and Otterbourne WSW there are several rural lanes which do not have dedicated pedestrian provision such as Crooked Walk Lane, Portchester Lane (see Graphic 5-9) and Monument Lane. These roads are anticipated to accommodate a small number of pedestrian movements associated with access to dwellings, farms and PRoWs.

Graphic 5-9 Portchester Lane

Source: Google

5.2.31 There is understood to be slightly more pedestrian demand along lanes in the vicinity of Fort Nelson and Nelson's Monument, which are located to the south of the study area. These two tourist attractions are understood to mostly be accessed by car, as reflected by car parking provision and a lack of pedestrian provision in the vicinity of them, however some trips may be taken by foot. There is limited pedestrian infrastructure on roads to the north of these attractions including Monument Lane and Swivelton Lane which fall within Section E.

Public Rights of Way Network

5.2.32 Table 5-2 presents the PRoW that are located within the Order Limits for Section E of the Pipeline.

Table 5-2 Public Rights of Way – Section E

Public Rights of Way	Overview
Boarhunt 14/1	Grassy link route between fields connecting Boarhunt Road to Fareham: 107/1.
Boarhunt 15/1	Grassy link route between fields connecting Boarhunt Road to PRoW Boarhunt 13.
Boarhunt 12/1	Grassy link route across fields connecting Blackhouse Lane to Monument Lane.
Boarhunt 13/5	Grassy link route across fields connecting various PRoW.
Boarhunt 13/1	Link route across grassland connecting South Boarhunt Road to B2177 Southwick Road.
Boarhunt 16/1	Link route across a field connecting two separate sections of Ham Road.
Boarhunt 19/1	Link route between and across fields connecting Boarhunt Road to Ashley Down.

Public Rights of Way	Overview
Boarhunt 17/2	Partially wooded link route between fields connecting Boarhunt Road to Ham Road, via PRoW Southwick and Wadley 2.
Southwick and Widley: 3/1	Link route across fields with hedgerows, with partial sections on road, connecting B2177 Southwick Road to Portsdown Technology Park (see Graphic 5-10).
Southwick and Widley: 28/1	Link route across fields and on sections of road connecting Widley Walk to New Down Lane via Widley Farm.
Southwick and Widley: 36/1	Wooded link between fields connecting Purbrook Heath Road to Dellcrest Path.

Graphic 5-10 Public Right of Way Southwick and Widley 3/1

Cycling

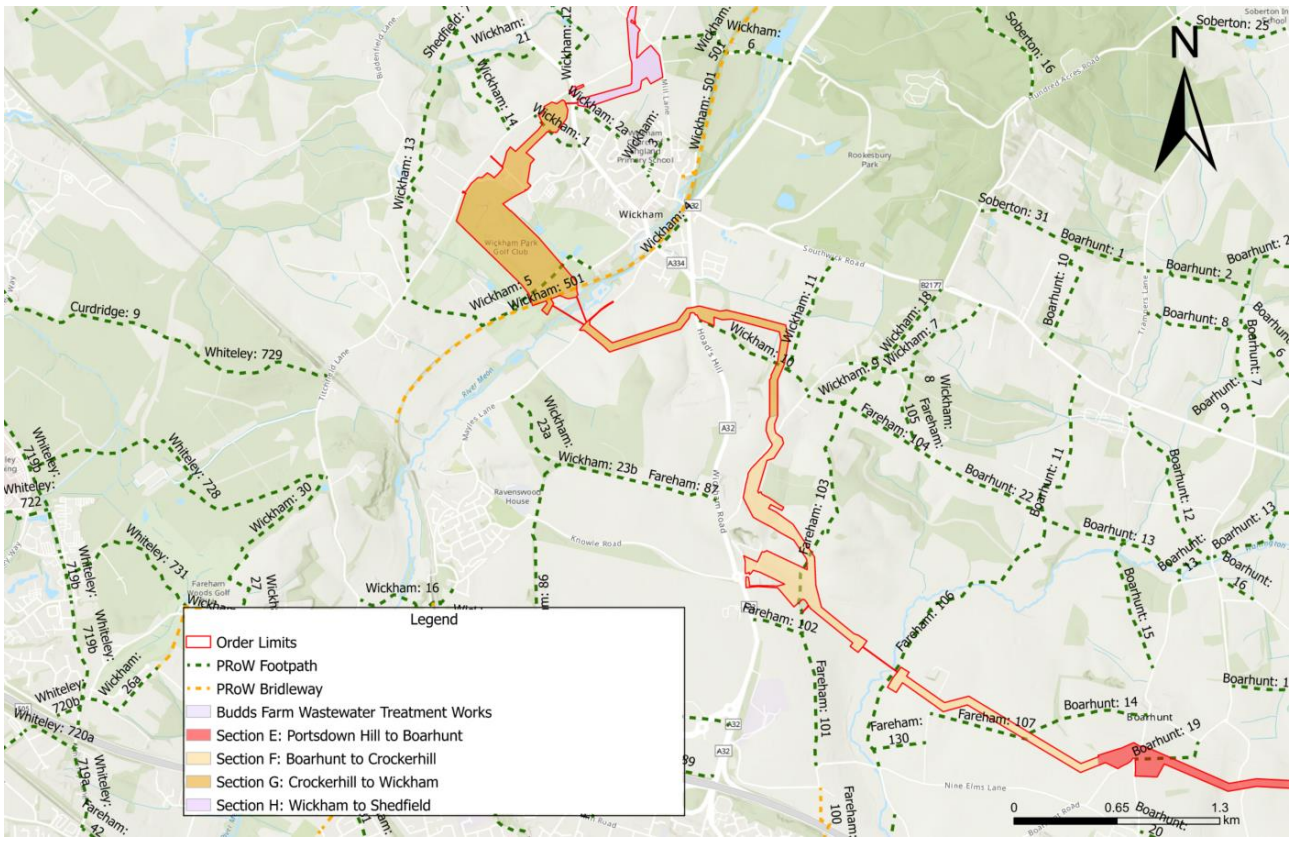
5.2.33 There are limited dedicated cycling facilities within Section E, though some on-road advisory cycle lanes are provided on the B2177 Southwick Road. These advisory facilities stretch from the B2177 Southwick Road/Pitymoor Lane to the Portsdown Technology Park to the south.

5.2.34 With the exception of the B2177 Southwick Road, local roads within the vicinity of Section E are generally lightly trafficked and have low speed limits and can therefore be considered suitable for cycles to mix with traffic in line with LTN 1/20. Cyclists may choose to utilise these local routes to access Fort Nelson and Nelson's Monument and would therefore be required to cycle on carriageway.

Sections F: Boarhunt to Crockerhill and Section G: Crockerhill to Wickham

5.2.35 Section F and Section G of the Pipeline between the WRP site and Otterbourne WSW pass near Wickham and Knowle. The nearby PRoW and NCN routes are illustrated in Graphic 5-11.

Graphic 5-11 National Cycle Network and Public Rights of Way - Sections F and G



Walking

5.2.36 There is a footway on the west side of the A32 (Hoad's Hill/Wickham Road) approximately 1-2m in width, as shown in Graphic 5-12. The footway provides a link between the residential settlement to the north of Crockerhill with Wickham. As such, the footway is likely to be utilised by residents to access the facilities and amenities within Wickham. Crossing provision at local junctions along the A32 comprises of dropped kerb crossings with tactile paving and pedestrian refuge islands.

Graphic 5-12 Footway provision on Wickham Road and crossing provision at A32/Knowle Road

(source: Google)

5.2.37 There are no dedicated pedestrian facilities on either Titchfield Lane, Mayles Lane or Forest Lane despite these links providing access to rural settlements and dwellings, in particular the access to Knowle via Mayles Lane.

Public Rights of Way network

5.2.38 Table 5-3 provides an overview of the PRoW network within the vicinity of Sections F and G of the Pipeline.

Table 5-3 Public Rights of Way – Sections F and G

Public Rights of Way	Overview
Wickham 5/1	Link route across grassy fields connecting Titchfield Lane to Tanfield Lane, via a short section of the Meon Valley Trail.
Wickham 501/1	Bridleway route linking Wickham Lodge Knowle to Wickham along the Meon Valley Trail (see Graphic 5-13).
Wickham 10/1	Link route on Castle Farm Lane that connects A32 Hoad's Hill to Forest Lane.
Fareham 86/3	Link route through fields that, via an intersection with Knowle Road, connects to various other PRoWs.
Wickham 9/1	Link route between fields connecting Forest Lane to the west with various other PRoWs to the east.
Fareham 101/1	Link route between fields connecting Pook Lane to PRoWs Fareham 102/1 and Fareham 103/1.
Fareham 102/1	Link route through a field connecting A32 Wickham Road to PRoWs Fareham 101/1 and Fareham 103/1.
Fareham 103/1	Link route through fields and grassland that connects to various PRoWs at both ends of the route.
Fareham 104/1	Link route through a field connecting various PRoWs at both ends of the route.
Fareham 104/2	Link route through a field connecting various PRoWs.

Public Rights of Way	Overview
Fareham 105/1	Link route through a field connecting PRoWs Fareham 104/2 and Wickham 8.
Fareham 106/1	Link route between fields and through wooded grassland connecting Nine Elms Lane to other PRoW.
Fareham 107/1	Link route between fields connecting PRoW Boarhunt 14 to White Dell Lane and Whitedell Farm, via Bere Farm Lane.
Boarhunt 22/1	Link route along a track between fields connecting PRoW Fareham 104/2 to Bere Farm.
Boarhunt 11/3	Link route along Bere Farm Lane, connecting B2177 Southwick Road to Bere Farm.

Cycling

5.2.39 The Meon Valley Trail is located to the north-east of Sections F and G of the Pipeline, though it is not directly affected by the Proposed Development. The Trail provides a link north-east along a disused railway towards West Meon, and east toward the South Downs National Park. Though the Meon Valley Trail would not be directly affected by the Proposed Development, the bridleway referred to as 'Wickham 501/1' (Graphic 5-13), which provides a direct link from Wickham Lodge Knowle to the Trail, would be crossed by the pipeline alignment. This bridleway link is likely to be used by some cyclists and equestrians prior to the Meon Valley Trail.

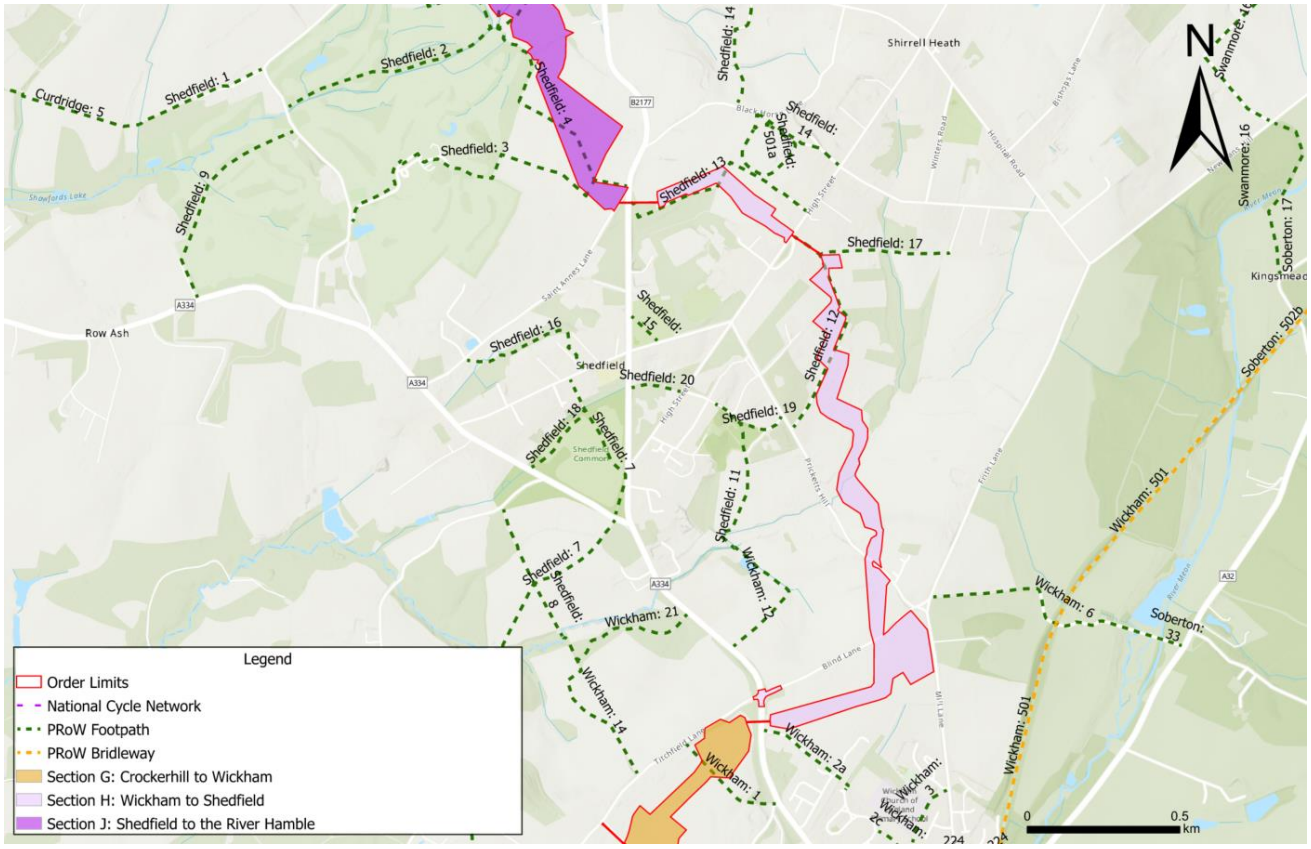
Graphic 5-13 Wickham 501/1

5.2.40 Route 224 of the NCN is located near the Proposed Development, commencing/terminating within Wickham. Locally, this is an on-road link between the finish point of the Meon Valley Trail to the north-east of Wickham and North Fareham to the south. Despite there being no dedicated cycle infrastructure, the link also utilises Mayles Lane, passing through Knowle.

Section H: Wickham to Shedfield

5.2.41 Section H of the Pipeline, alongside nearby PRoW and NCN routes is illustrated in Graphic 5-14 below.

Graphic 5-14 National Cycle Network and Rights of Way - Section H



Walking

5.2.42 Section H covers the A334 Winchester Road and the Shirrell Heath High Street – both of which include pedestrian footway and crossing provision.

5.2.43 The A334 Winchester Road and the Shirrell Heath High Street both contain pedestrian footway, the latter of which is shown at Graphic 5-15. Despite the intermittent provision of footway along these roads, there is very limited provision of pedestrian crossing facilities even at notable junctions such as the A334/B2177 junction to the south of Section H.

Graphic 5-15 Pedestrian footway on Shirrell Heath High Street

Source: Google

5.2.44 Other minor roads including Pricketts Hill and Blind Lane do not have any pedestrian provision, with pedestrian movements expected to mix with traffic. These routes primarily function to serve the frontages of residential dwellings, and do not accommodate significant pedestrian trip volumes.

Public Rights of Way network

5.2.45 Table 5-4 provides an overview of the PRoW network within the vicinity of Section H of the Pipeline.

Table 5-4 Public Rights of Way – Section H

Public Rights of Way	Overview
Shedfield 4/2	Link route between woodland and fields connecting various PRoWs at both ends of the route (see Graphic 5-16).
Shedfield 2/1	Link route that intersects grassland and a golf course to connect Sandy Lane to Winchester Road, via a number of other PRoWs on route – much of the route runs parallel to Shawfords Lake.
Shedfield 3/2	Link route that intersects grassland, field and a golf course to connect Sandy Lane to B2177 Winchester Road, via the Marriot Meon Valley Hotel and Country Club - the PRoW also utilises the paved road from Sandy Lane to the Hotel.
Shedfield 13/1	Link route that follows a country lane before diverting through fields and grassland, connecting High Street to B2177 Winchester Road.
Shedfield 12/1	Grassy link route between residences that connects High Street to PRoW Shedfield 12/2.
Shedfield 12/2	Link route through grassland, with a paved section at the southern end, connecting Pricketts Hill with High Street, via PRoW Shedfield 12/1.

Public Rights of Way	Overview
Wickham 12/1	Link route between fields and through grassland connecting A334 Winchester Road with PRoW Shedfield 11/1.
Wickham 14/2	Link route through a field connecting Titchfield Lane with PRoWs Shedfield 8/1 and Wickham 21/1.
Wickham 1/1	Link route between grassy fields connecting A334 Winchester Road to Titchfield Lane.

Graphic 5-16 Public Rights of Way Shedfield 4/2

Cycling

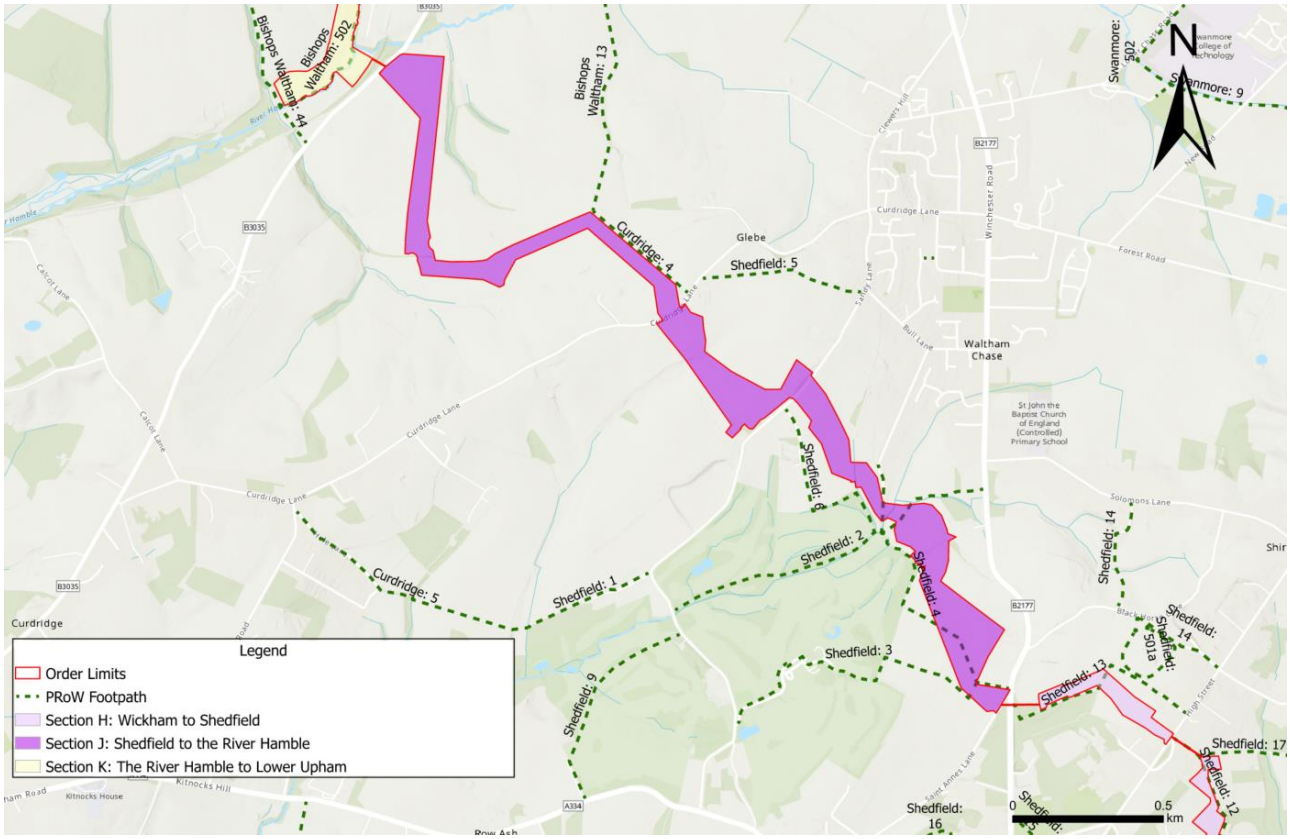
5.2.46 There is a lack of dedicated cycle infrastructure within the vicinity of Section H. Links such as Blind Lane, Pricketts Hill and Shirell Heath High Street are generally lightly trafficked routes, however given that Blind Lane and Pricketts Hill have higher speed limits, they are generally unsuitable for inexperienced cyclists to mix with traffic in line with LTN 1/20 guidance and, as such, a limited number of cycle movements are expected to take place on these routes.

5.2.47 Other links are of an arterial nature, including the A334 Winchester Road and the B2177 Winchester Road. These routes do not have any dedicated cycle infrastructure and are not suitable for cyclists of any ability given they accommodate high traffic volumes and are subject to relatively high speed limits.

Section J: Shedfield to the River Hamble

5.2.48 Section J of the Pipeline between the WRP site and Otterbourne WSW passes near Waltham Chase and Shedfield. The nearby PRoW and NCN routes are illustrated in Graphic 5-17.

Graphic 5-17 National Cycle Network and Public Rights of Way - Section J



Walking

5.2.49 Section J encompasses rural lanes that are primarily used for access, including Sandy Lane and Curdridge Lane. In addition, arterial routes including the B3035 Botley Road and the B2177 Winchester Road provide connectivity at a district level. There are no formal footways along these roads and there are limited pedestrian crossing facilities, even at larger junctions such as the A334/B2177 junction north of Section J.

5.2.50 Other roads within the vicinity of Section J of the Pipeline between the WRP site and Otterbourne WSW such as Pricketts Hill, Sandy Lane and Curdridge Lane provide access to the frontages of dwellings and accommodate a low volume of pedestrian movements associated with this use, with pedestrians expected to share the carriageway with traffic.

Public Rights of Way network

5.2.51 Table 5-5 provides an overview of the PRoW network within the vicinity of Section J of the Pipeline.

Table 5-5 Public Rights of Way – Section J

Public Rights of Way	Overview
Bishop's Waltham 502/1	Link route through grassy fields and between fields, via a section of country lane, connecting PRoW Bishop's Waltham 44/1 to Brooklands Farm.
Bishop's Waltham 44/1//44/2	Link route that runs parallel to a wooded hedgerow between grassy fields, connecting PRoW Bishop's Waltham 43 to B3035 Botley Road.
Curdridge 4/1	Link route that runs through and between grassy fields connecting PRoW Bishop's Waltham 13/1 to Curdridge Lane.
Shedfield 6/1	Link route through woodland and along a paved side road, connecting Sandy Lane to PRoW Shedfield 2.
Shedfield 4/1	Link route along a paved track (a southern extension of Little Bull Lane) connecting Little Bull Lane in the north various other PRoWs to the south.

Cycling

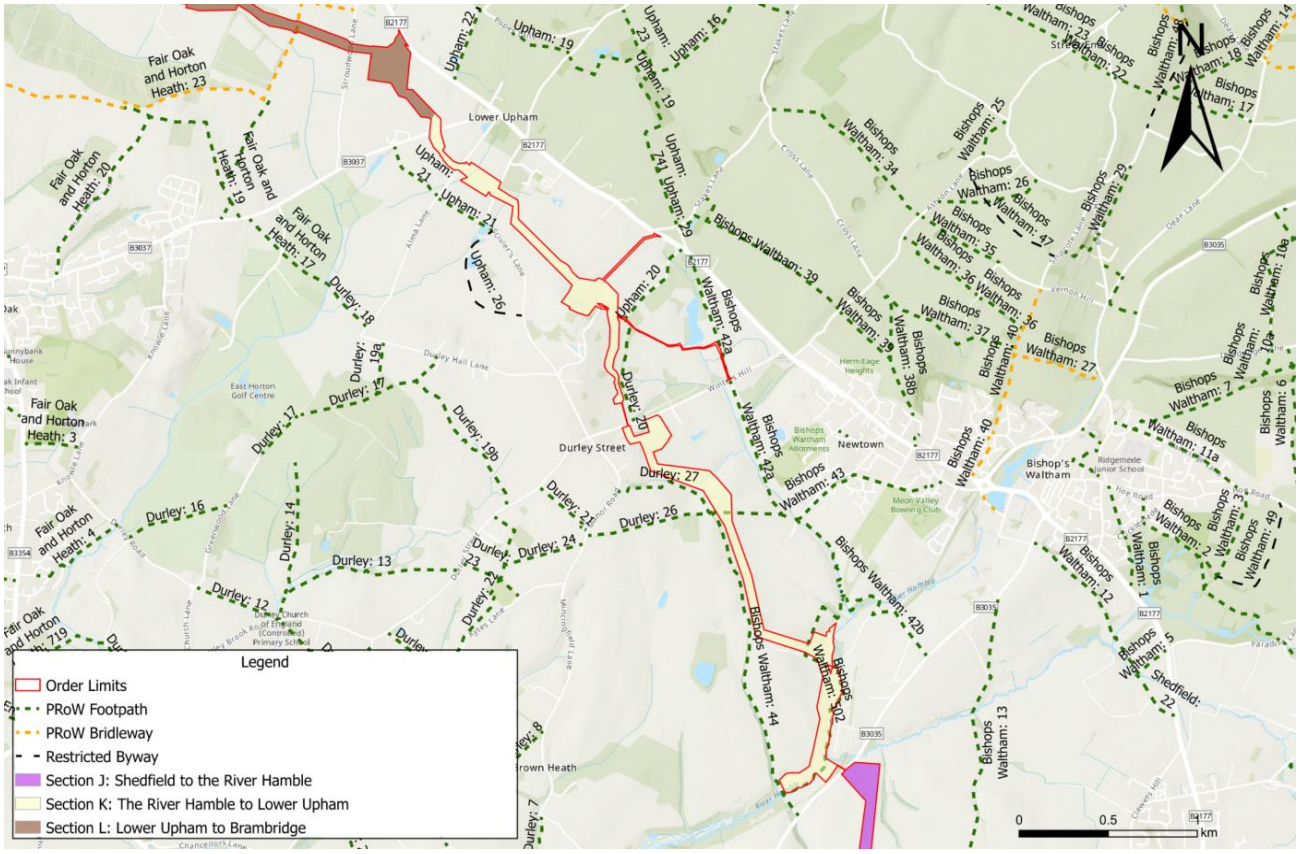
5.2.52 There is no dedicated cycling infrastructure within the vicinity of Section J. In the absence of any dedicated infrastructure, it is considered that some parts of local roads with lower speed limits (approximately. 30-40mph) and traffic volumes, including Sandy Lane and Curdridge Lane, are suitable for cyclists of most abilities. However, given that Section J covers a generally rural area, many rural roads have high speed limits. Despite many of these roads being lowly trafficked, cyclists with less experience may not want to mix with motor vehicle on these routes and/or have road safety concerns.

5.2.53 Arterial links within the vicinity of Section J, such as the B3035 Botley Road and the B2177 Winchester Road are subject to high traffic volumes and speeds. There are also some rural roads within Section J that are subject to the national speed limit. Instead, it is assumed that these routes are only suitable for more experienced cyclists in line with LTN 1/20 guidance.

Section K: The River Hamble to Lower Upham

5.2.54 Section K of the Pipeline, alongside nearby PRoW and NCN routes are illustrated in Graphic 5-18 below.

Graphic 5-18 National Cycle Network and Public Rights of Way - Section K



Walking

5.2.55 There are four roads in the immediate vicinity of Section K; Winters Hill, Scivier's Lane, Alma Lane and the B3037 Mortimers Lane, with the latter described within Section M in paragraph 5.2.67.

5.2.56 Overall, there is limited pedestrian infrastructure near Section K of the Pipeline, with pedestrians generally expected to mix with traffic on quieter roads including Winters Hill, Alma Lane and Scivier's Lane (Graphic 5-19).

Graphic 5-19 Scivier's Lane

Source: Google

Public Rights of Way network

5.2.57 Table 5-6 provides an overview of the PRoW network within the vicinity of Section K of the Pipeline.

Table 5-6 Public Rights of Way – Section K

Public Rights of Way	Overview
Upham 20/1	Link route running parallel to a wooded hedgerow, before emerging onto a paved side road between fields, connecting PRoW Durley 20/1 to B2177 Winchester Road.
Durley 20/1	Link route running parallel to a wooded hedgerow between fields, connecting Winters Hill to PRoW Upham: 20/1.
Bishop's Waltham 42a/1	Link route that runs along Stakes Lane, a single track country lane, that continues on through a section of woodland, connecting Winters Hill in the south to Winchester Road to the north.
Bishop's Waltham 42a/2	Link route through grassy fields that is a direct continuation south of PRoW Bishop's Waltham 42a/1, connecting Winters Hill to Tangier View Farm (see Graphic 5-20 for PRoW access).
Bishop's Waltham 43/2	Link route that intersects various grassy fields, connecting Tangier View Farm to the east with various other PRoWs to the west.

Graphic 5-20 Access to Public Right of Way Bishop's Waltham 42a/2

Cycling

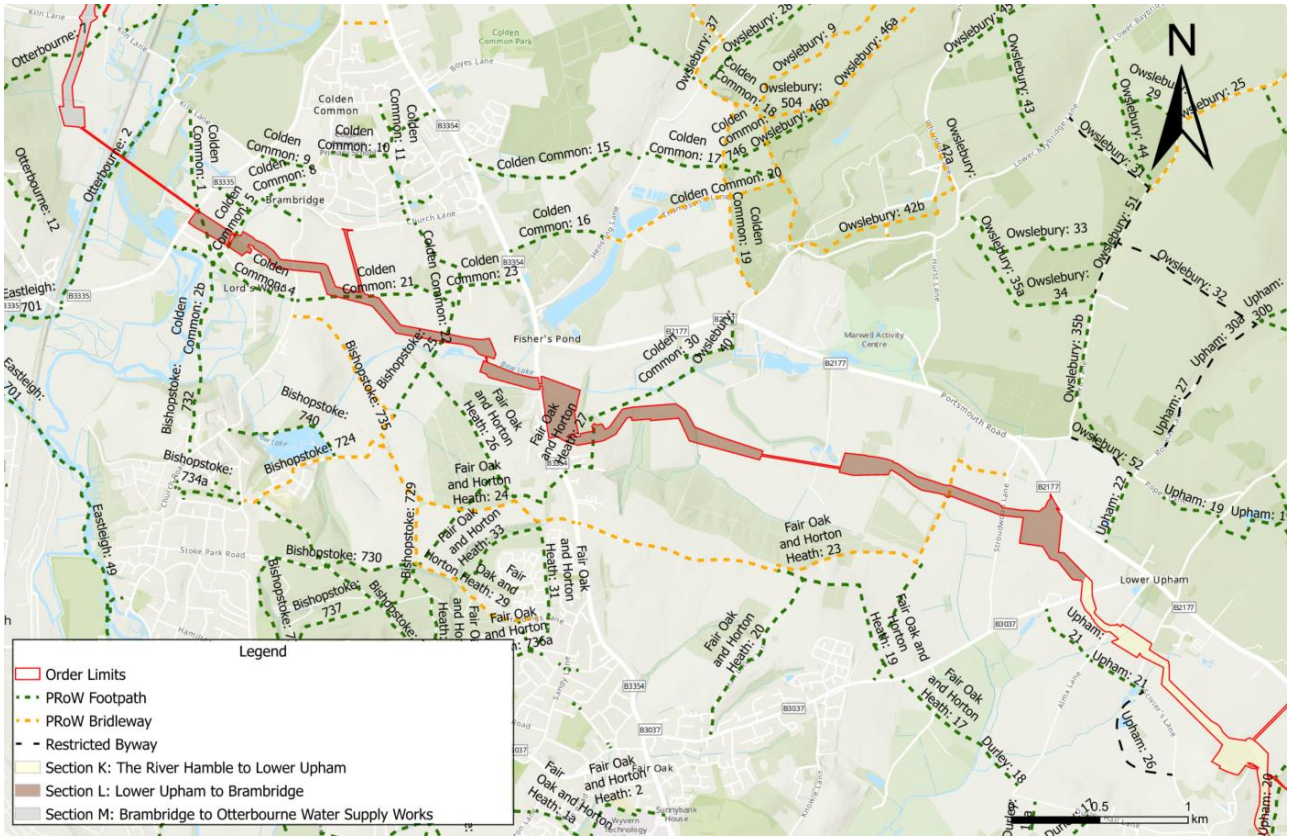
5.2.58 There is little by way of existing cycle infrastructure within Section K of the Pipeline. Local lanes including Winters Hill, Scivier's Lane and Alma Lane are rural roads which generally accommodate low volumes of traffic. Many of these roads within Section K also have lower speed limits of 30mph, and as such it is considered appropriate for most cyclists to mix with traffic within these roads in line with LTN 1/20 guidance.

5.2.59 For other roads, which are subject to high traffic volumes and higher speed limits, including the B3037 Mortimers Road, B2177 Winchester Road and B3035 Botley Road, these links would deter inexperienced cyclists as per LTN 1/20 guidance.

Section L: Lower Upham to Brambridge

5.2.60 Section L of the Pipeline between the WRP site and Otterbourne WSW includes Colden Common, Fair Oak and Lower Upham. The nearby PRoW and NCN routes are illustrated in Graphic 5-21.

Graphic 5-21 National Cycle Network and Public Rights of Way - Section L



Walking

5.2.61 There is a footway on the west side of the B3354 Winchester Road, approximately 2m in width. At the junction with the B2177 Portsmouth Road junction at Fisher's Pond, there is a signal-controlled pedestrian crossing on Winchester Road, as shown in Graphic 5-22. The crossing links footways on either side of the B3354 Winchester Road, one of which provides access to a garden centre and other amenities along the corridor. There is no pedestrian crossing provision at the B2177 Portsmouth Road arm despite the presence of footway at this location.

Graphic 5-22 Signal controlled crossing on the B3354 Winchester Road

Source: Google

5.2.62 The B3037 Mortimers Lane is a primary vehicular route to/from Lower Upham. There is no dedicated pedestrian infrastructure on this link and given this coupled with the high volume and speeds of vehicles on this link, pedestrians are unlikely to frequently utilise this link.

5.2.63 The B2177 Portsmouth Road also has little by way of pedestrian facilities, with sparse intermittent provision throughout. Pedestrian facilities on the B335 Highbridge Road are described in paragraph 5.2.70.

5.2.64 Bishopstoke Lane, which is located to the north of Section L in the vicinity of Brambridge, is a rural country lane with no pedestrian provision.

Public Rights of Way network

5.2.65 Table 5-7 provides an overview of the PRoW links that are located near Section L of the Pipeline.

Table 5-7 Public Rights of Way – Section L

Public Rights of Way	Overview
Colden Common 2a/1	Link route through a grassy field connecting B3335 Highbridge Road to PRoW Colden Common 5/1 and 5/2, via a short section of Wardle Road.
Colden Common 6/1	Link route along a dirt single lane track between fields, connecting B3335 Highbridge Road to PRoWs Colden Common 5/1 and 5/2.
Colden Common 7/1	Link route through a grassy field connecting Church Lane to Bishopstoke Lane.
Colden Common 8/1//8/4	Link route through grassy fields connecting Church Lane to Upper Moors Road.

Public Rights of Way	Overview
Colden Common 9/1	Link route running parallel to a wooded hedgerow between grassy fields, connecting B3335 Highbridge Road to Upper Moors Road.
Colden Common 5/2	Link route through a series of grassy fields with wooded sections, connecting Lordswood to Church Lane.
Colden Common 21/1	Link route through a series of grassy fields connecting Bishopstoke Lane to the west with Leylands Farm to the east.
Colden Common 22/1	Link route that runs along the extent of the single dirt track lane Nobs Crook between Church Lane to the north and Fisher's Pond to the south (see Graphic 5-23).
Colden Common 23/2	Link route that runs through a grassy field before continuing along the single dirt track lane Nobs Crook, connecting PRoW Colden Common 21/1 to the west with B3354 Main Road to the east.
Colden Common 22/3	Link route running parallel to a hedgerow through a grassy field, connecting Leylands Farm to PRoW Bishopstoke 25.
Fair Oak and Horton Heath 27/1	Link route that runs along a paved side road, before diverting through a series of fields, running parallel to sections of wooded hedgerow, connecting B3354 Winchester Road to PRoW Colden Common 30.
Colden Common 30/1	Link route that runs parallel to a wooded hedgerow, connecting PRoW Fair Oak and Horton Heath: 27/1 to PRoW Owlesbury 40.
Fair Oak and Horton Heath 23/1	Bridleway link that runs through a series of fields on intermittent sections of paved track, connecting B3354 Winchester Road to the west with Stroudwood Lane to the east.

Graphic 5-23 Public Right of Way Colden Common 22/1

Cycling

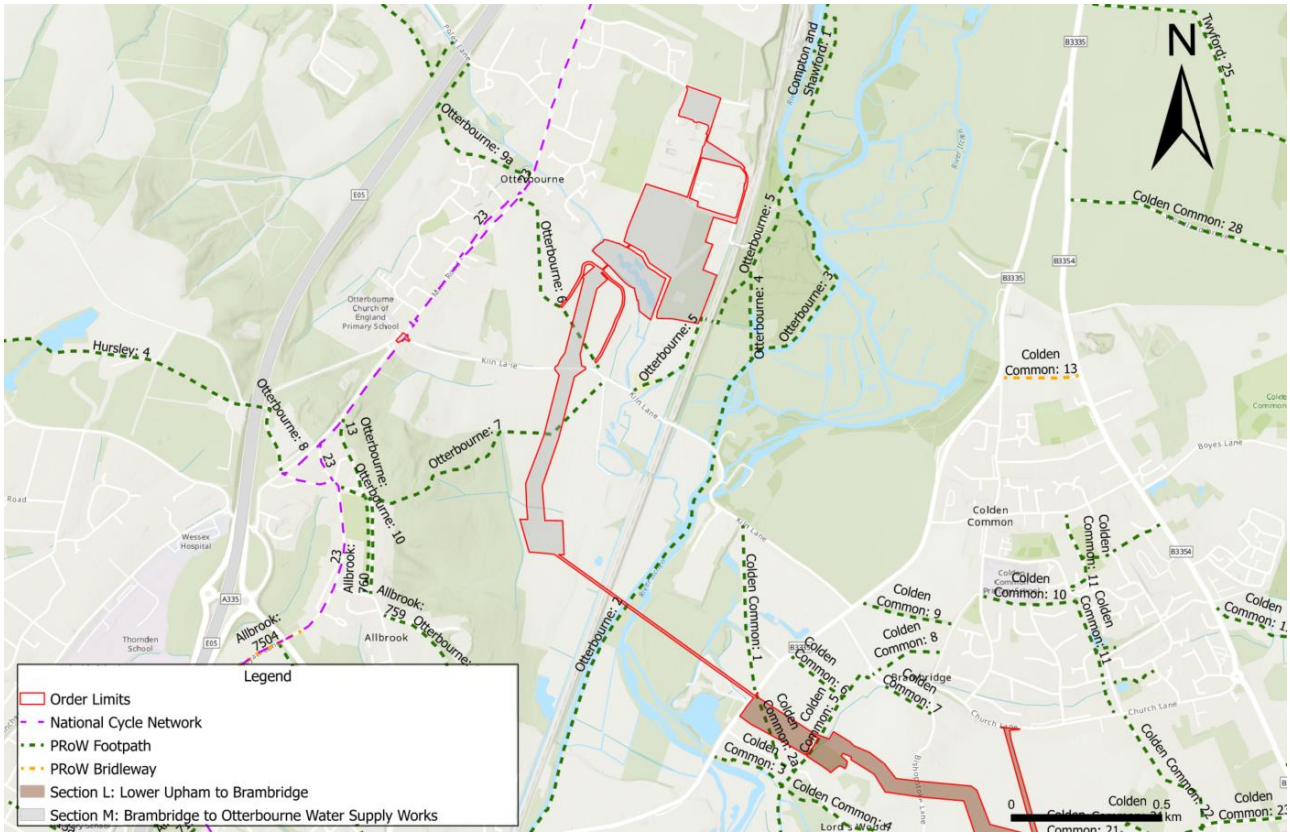
5.2.66 Though there are no NCN links in the vicinity of Lower Upham, advisory on-road cycle lanes are provided intermittently on the B2177 Portsmouth Road as well as the B3354 Winchester Road to the north of the junction with B2177 Portsmouth Road (Graphic 5-24). Given that provision of these advisory cycle lanes is sporadic, less experienced cyclists are unlikely to choose to cycle on the B2177 and B3354 as they would have to routinely mix with other traffic on what can be described as busy roads.

Graphic 5-24 On-road advisory cycle lane on B3354 Winchester Road

Section M: Brambridge to Otterbourne Water Supply Works

5.2.67 Section M of the Pipeline, alongside nearby PRoW and NCN routes are illustrated in Graphic 5-25 below.

Graphic 5-25 National Cycle Network and Public Rights of Way - Section M



Walking

5.2.68 Within the vicinity of the Pipeline, pedestrian footways permeate the southern side of Church Lane and Brambridge, whilst formal pedestrian crossing facilities are provided intermittently along Church Lane/Brambridge. The footway provision along these links is shown at Graphic 5-26, with crossing provision pictured at Graphic 5-27.

Graphic 5-26 Footway provision on Church Lane

Source: Google

5.2.69 The Otterbourne Main Road bisects Otterbourne in a north/south alignment. The Main Road has pedestrian footway on either side of the carriageway and features uncontrolled pedestrian crossing points at junctions with local roads (including Kiln Lane).

5.2.70 The B3335 Highbridge Road provides a connection between Brambridge/Colden Common and north Eastleigh. It has an approximately 1.8m wide pedestrian footway on the southern side of the carriageway to accommodate pedestrian movements.

Graphic 5-27 Footway provision on Brambridge

Source: Google

5.2.71 In general, the areas of Otterbourne and Colden Common contain a network of footpaths and intermittent formal crossing provision that provides walking connectivity within each respective village.

5.2.72 These pedestrian networks are limited to just that however, with a lack of external/inter-village connectivity beyond the confines of Otterbourne and Colden Common respectively. This is evidenced by Kiln Lane, a key route in and out of Otterbourne, which as Graphic 5-28 shows, does not contain any pedestrian facilities.

Graphic 5-28 Kiln Lane near Otterbourne

Source: Google

Public Rights of Way network

5.2.73 Table 5-8 provides an overview of the PRoW links that are located near Section M of the Pipeline.

Table 5-8 Public Rights of Way – Section M

Public Rights of Way	Overview
Otterbourne 6/1	Link route through grassy fields and public house car park, connecting Main Road to the north-west with Kiln Lane to the south-east (see Graphic 5-29).
Otterbourne 7/1	Link route through grassy fields and Otterbourne Park Wood connecting Park Lane to Kiln Lane.
Otterbourne 5/4	Link route that runs through grassy fields and along intermittent paved sections, connecting Kiln Lane over the South Western Main Line towards Twyford.
Otterbourne 2/1	Link route along the gravel paved Itchen Way that runs parallel to the River Itchen, connecting Kiln Lane in the north with B3335 Highbridge Road to the south
Otterbourne 3/1	Link route along a gravel paved path that runs parallel to the River Itchen, before diverting north-west toward an area of dense woodland – connects PRoW Otterbourne 2/1 to PRoW Otterbourne 5.
Colden Common 1/1	Link route through grassy fields connecting Kiln Lane to B3335 Highbridge Road.
Colden Common 2a/1	Link route through grassy fields with intermittent wooded sections, connecting Wardle Road to B3335 Highbridge Road.

5.2.74 In addition to these PRoW, there is a well-used permissive footpath that links Otterbourne Village and the River Itchen, providing means of crossing over the South Western Main Line via a level crossing. This route passes to the south of Oakwood Park Recreation Ground where it intersects with the northern section of M.

Graphic 5-29 Public Right of Way Otterbourne 6/1

Cycling

5.2.75 Route 23 of the NCN runs through Otterbourne in a north/south alignment along Main Road. In the vicinity of Otterbourne, the route is predominantly on-road. Some sections however, including Otterbourne Hill, are off-road, traffic free links characterised by the provision of a segregated shared use footway/cycleway (see Graphic 5-30).

Graphic 5-30 Segregated shared use cycle path on Otterbourne Hill

Source: Google

5.2.76 Locally, Route 23 NCN provides a link between Eastleigh and Winchester which passes through Otterbourne and other local settlements. Regionally, it provides a connection between Southampton and Reading.

5.2.77 Aside from Route 23 of the NCN, local roads within Otterbourne and Colden Common are generally lightly trafficked and suitable for experienced cyclists to mix with traffic based on LTN 1/20 guidance. Within the villages of Otterbourne and Colden Common, where both traffic flows and speed limits are low, roads are suitable for cyclists of all abilities.

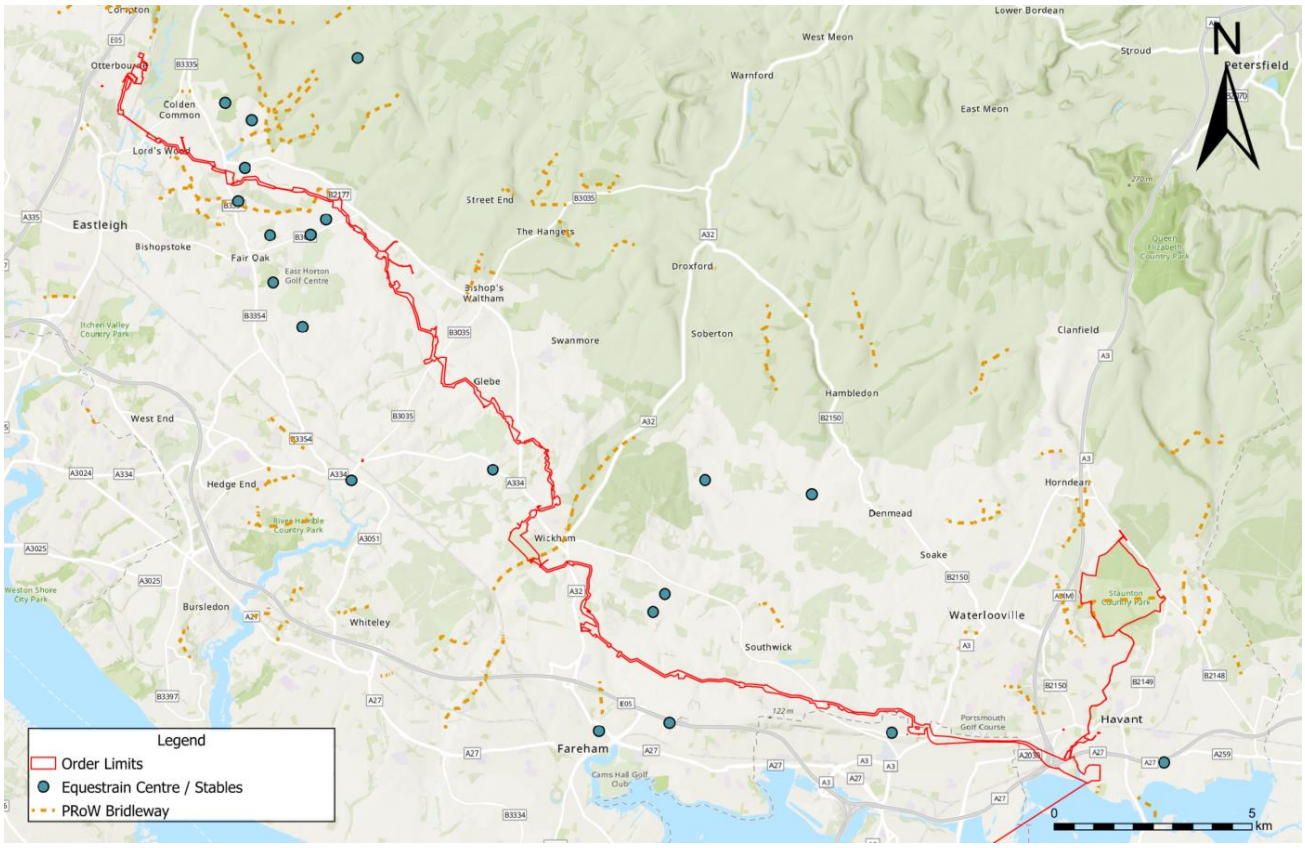
5.3 Horse riding

5.3.1 A range of equestrian facilities are located within or near to the Pipeline between the WRP site and Otterbourne WSW, with a number of stables/riding centres generating horse riding trips that might pass through areas in the vicinity of the sections of the Pipeline between the WRP site and Otterbourne WSW. Similarly, there are a number of bridleways within the vicinity of the sections of the Pipelines that accommodate equestrian trips.

5.3.2 The notable stable/equestrian centre facilities within the vicinity of the sections of the Pipelines are identified at Graphic 5-31.

Bridleways are a thoroughfare used by horse riders. Though these trails, which were originally created for use by horses, often now serve a wider range of users, they are routes that can be legally used by horse riders. As such, it is important to consider the geography of these routes in the context of the Pipeline, as illustrated at Graphic 5-31.

Graphic 5-31 Stables/equestrian centres in the vicinity of the sections of the Pipeline between the Water Recycling Plant site and Otterbourne Water Supply Works



5.3.3 As shown in Graphic 5-31, there are a series of bridleways that both bisect the sections of the Pipeline between the WRP site and Otterbourne WSW and link horse riding and equestrian facilities to other areas in the vicinity of the sections of the Pipeline.

5.4 Bus

5.4.1 As shown at Graphic 5-32, a range of bus routes serve the various settlements near the Proposed Development. These bus services vary in frequency and are run by Stagecoach, First and other independent operators.

5.4.2 Key bus routes that pass in proximity to the Proposed Development include the 1, 61, 69 and 49, with a number of other services passing through Havant to the north of the Proposed Development. These services utilise a series of key routes within the study area, including the B3335 Highbridge Road, B3354 Winchester Road, B2177 Portsmouth Road, B3035 Botley Road, A334 Winchester Road and the A3 Hoad's Hill as shown at ES Figure 18.4 Bus routes within the vicinity of the Order Limits, Volume III (Document reference 6.3, DCO Volume 6).

5.4.3 Graphic 5-32, which is an extract from HCCs Travel Guide (2023) [21], provides an overview of bus routes within the Hampshire area.

Graphic 5-32 Hampshire Council bus routes (extract from HCC Travel Guide 2023 [21])

5.4.4 Table 5-9 provides a summary of the services that operate either within the Pipeline route, or within the immediate vicinity.

Table 5-9 Summary of bus services

Service	Operator	Route	Weekday and Saturday frequency	Weekday and Saturday evening frequency	Sunday frequency
1	Bluestar	Southampton – Chandlers Ford – Otterbourne – Compton - Winchester	20 mins	Hourly	30 mins
61	Stagecoach in Hampshire	Eastleigh – Twyford and Colden Common – Stanmore - Winchester	Hourly	-	-
69	Stagecoach in Hampshire	Winchester – Colden Common – Fair Oak – Bishop's Waltham – Swanmore – Wickham - Fareham	Hourly	Fri/Sat – 2 journeys	Irregular
ZOO	Bluestar	Eastleigh – Fair Oak – Marwell Zoo (operates April to September only)	Hourly	-	Hourly
49	Stagecoach in Hampshire	Bishop's Waltham – Swanmore – Botley – Hedge End	Irregular	-	-
96	HCC	Swanmore, Shirrell Heath, Shedfield and Wickham to Broadcut and Fareham	Monday – Friday, one to two return journeys	-	-
20	Stagecoach in Portsmouth	Havant – Leigh Park – Crookhorn – QA Hospital – Portsmouth City Centre - Gunwharf	30 mins	-	-

Service	Operator	Route	Weekday and Saturday frequency	Weekday and Saturday evening frequency	Sunday frequency
MV1	Meon Valley Community Bus	West Meon – Soberton - Fareham	Mondays and the second and fifth Friday of the month	-	-
700	Stagecoach in Portsmouth	The Hard – Commercial Road – North End – Hillsea – A27 – Havant – Emsworth – Southbourne - Chichester	30 mins	Hourly	30 mins
23	Stagecoach in Portsmouth	Leigh Park – Havant – Cosham – North End – Commercial Road – Gunwharf - Southsea	10 mins	30 mins	15 mins
20	First Solent	Fareham – Funtley – Knowle – Wickham	Irregular	-	-
27	First Solent	Rowlands Castle – Leigh Park – Havant - Emsworth	Irregular	-	-
37/37X	Stagecoach in Portsmouth	Havant – Leigh Park – Crookhorn – Stakes Hill – Waterlooville – Cowplain – Horndean - Petersfield	Hourly	-	-
39	Stagecoach in Portsmouth	Wecock Farm – Waterlooville – Crookhorn – Leigh Park - Havant	Hourly	-	-
18	Stagecoach in Hants and Surrey	Aldershot - Whitehill	Hourly	Irregular	2-hourly
SD4	First Portsmouth, Fareham	St Goerge's in the Square – Fareham/Havant	AM outward service, PM return	N/A	N/A

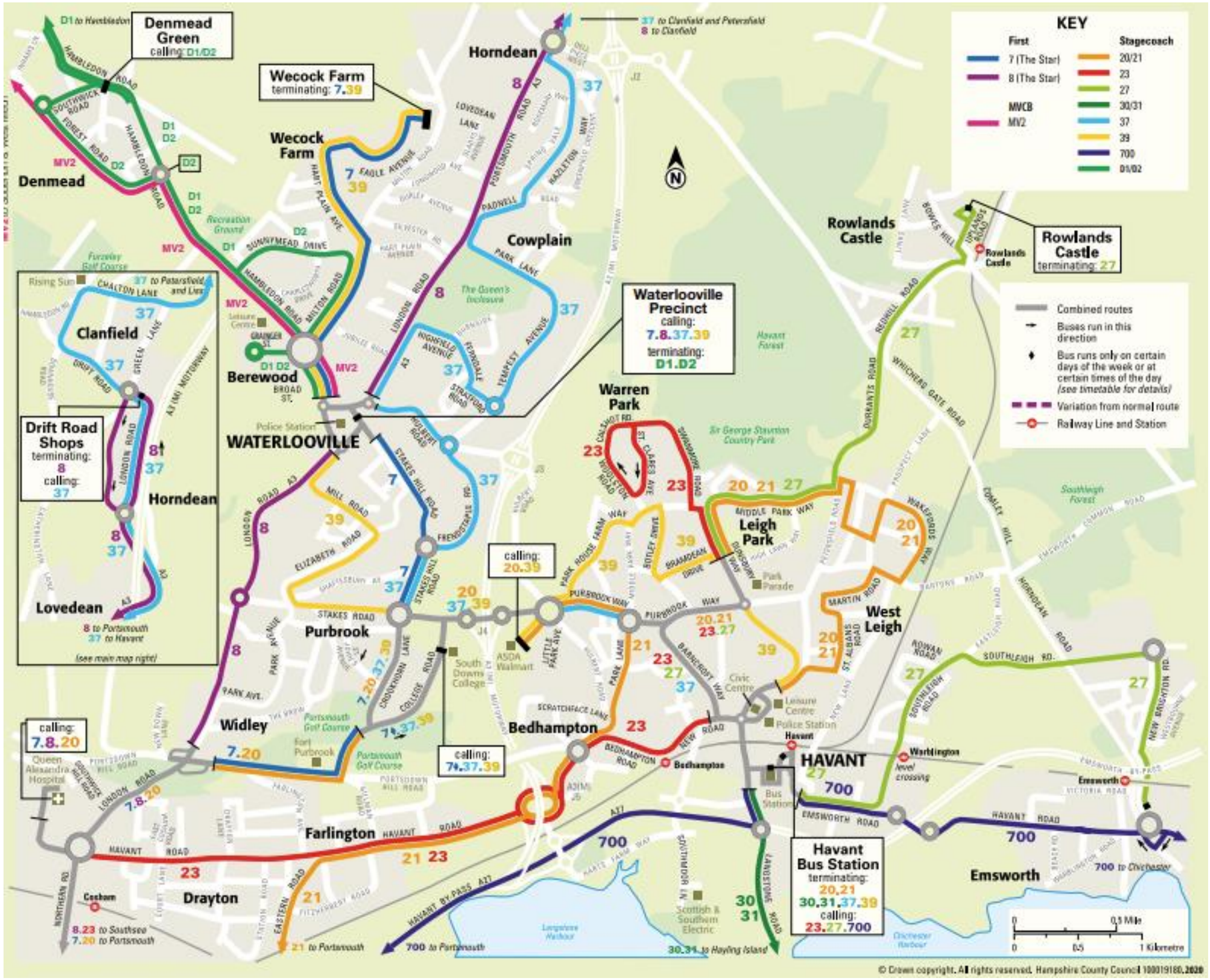
Service	Operator	Route	Weekday and Saturday frequency	Weekday and Saturday evening frequency	Sunday frequency
	and Gosport				
SD5	First Portsmouth, Fareham and Gosport	Gosport - Havant	AM outward service, PM return	N/A	N/A
606	Bluestar	Corhampton - Barton Peveril College	AM outward service, PM return	N/A	N/A
607	Bluestar	Knowle – Barton Peveril College	AM outward service, PM return	N/A	N/A
623	Bluestar	Twyford - Barton Peveril College	AM outward service, PM return	N/A	N/A
649	Stagecoach South	Swanmore - Curdridge	Irregular	N/A	N/A
30	Stagecoach South	Havant - Purbrook	30 mins	30 mins	Hourly
31	Stagecoach South	Purbrook - Havant	30 mins	40 mins	Hourly
PC1	First Portsmouth, Fareham and Gosport	Highlands – City of Portsmouth College	Two services per day	N/A	N/A
38	Hampshire Community Transport	Cosham - Wickham	Four services per day	N/A	N/A
19	Stagecoach South	City Centre – Leigh Park	Hourly	Hourly	N/A

5.4.5 The services outlined in Table 5-9 comprise various routes along the Pipeline route and in the immediate vicinity. The following text provides an overview of the roads used by these bus services, including bus stops and waiting facilities.

Bus stops within Havant

5.4.6 There are a number of different bus links within Havant, including the 23, 27, 37/37X and 39 services. Graphic 5-33 is an extract from the Havant and Petersfield Public Transport Guide (2024) [22] which shows the various bus routes and services within Havant.

Graphic 5-33 Bus services and routes within Havant (Havant and Petersfield Public Transport Guide [22])



5.4.7 Bus stops in Havant are generally high quality, with dedicated lay-bys/on-road bus cages, raised platforms, flagpoles and bus shelters (as shown at Graphic 5-34).

Graphic 5-34 Bus stop facilities in Havant

Source: Google

A3 London Road

5.4.8 Being a key traffic corridor to the west of Widley, the A3 London Road serves the '8 the Star' service which runs between Clanfield and Portsmouth. The A3 London Road accommodates this service with dedicated bus lanes which are provided intermittently in both directions. In addition to this, bus stop facilities are high quality, with dedicated lay-bys, shelters, benches, bins, flagpoles and raised platforms as shown in Graphic 5-35.

Graphic 5-35 Bus stop facilities on A3 London Road

Source: Google

A32 Hoad's Hill/Wickham Road

5.4.9 The 20 and 69 services route along the A32 Hoad's Hill/Wickham Road. The bus stop facilities on these routes vary between simple flagpole stops to stops that have a dedicated lay-by, shelter and waiting facilities (Graphic 5-36).

Graphic 5-36 Bus stop facilities on the A32 Hoad's Hill/Wickham Road

Source: Google

A334 Winchester Road

5.4.10 The A334 is also frequented by the 69 bus service, with stops to the south of Wickham also served by the 20 service. There are no dedicated bus lanes, and stops along the A334 Winchester Road vary from simple flagpole stops to stops that have a dedicated bus lay-by (Graphic 5-37). Call only stops are also present along the A334 Winchester Road.

Graphic 5-37 Bus stop facilities on A334 Winchester Road

Source: Google

B2177 Winchester Road

5.4.11 The B2177 Winchester Road is utilised by the 69 bus service. There are no dedicated bus lanes on the B2177 Winchester Road, and buses are expected to mix with traffic. However, bus stops are equipped with waiting facilities to varying degrees. These facilities range from simple flagpole provision to stops that are

complete with flagpoles, shelters, benches and a dedicated bus lay-by, as shown in Graphic 5-38 below.

Graphic 5-38 Bus stop facilities on B2177 Winchester Road

Source: Google

Curdridge Lane

5.4.12 The 49 bus service utilises Curdridge Lane through Waltham Chase. Stops along this link also vary in terms of facilities provided, with some comprising solely of flagpoles whilst other stops are supported by pedestrian crossings, shelters and waiting facilities as shown in Graphic 5-39.

Graphic 5-39 Bus stop facilities on Curdridge Lane

Source: Google

B3035 Botley Road

5.4.13 The B3035 Botley Road is served by the 49 bus route. Stops on the road are 'call only' stops, meaning that they don't have any waiting facilities and buses do not stop unless they are flagged down by pedestrians.

Winters Hill

5.4.14 The 49 service travels along Winters Hill as it connects towards Botley and Hedge End. Winters Hill is a narrow route, measuring approximately 4.8m in width. As

such, there is no specific provision for buses, with stops demarked solely by flagpoles and equipped with raised boarding platforms as shown at Graphic 5-40.

Graphic 5-40 Bus stop facilities on Winters Hill

Source: Google

B3037 Mortimers Lane

5.4.15 B3037 Mortimers Lane accommodates the 69 bus service, providing a link between Fair Oak and Lower Upham. Bus stop facilities along the route vary, with some stops containing dedicated on-carriageway bus cages and others comprising of dedicated bus lay-bys. All stops have flagpoles and raised off-road platforms for passengers to wait on as shown at Graphic 5-41.

Graphic 5-41 Bus Facilities on B3037 Mortimers Lane (Stroudwood Lane stops)

Source: Google

B2177 Portsmouth Road

5.4.16 The 69 and ZOO services frequent the Fisher's Pond Garage stops on the B2177 Portsmouth Road. There is minimal provision for buses along this route, and buses are expected to mix with traffic both in transit and when they stop. The stops at Fisher's Pond Garage comprise solely of flagpoles.

B3354 Winchester Road

5.4.17 The B3354 Winchester Road accommodates the 69 and ZOO bus services, though the latter runs during summer months only. There are no dedicated bus lanes on this route, though bus stops in the vicinity of the Portsmouth Road junction contain dedicated infrastructure including lay-bys and flagpoles (Graphic 5-42). To the south however, bus stops comprise solely of flagpoles, with no other dedicated infrastructure.

Graphic 5-42 Bus facilities on B3354 Winchester Road in vicinity of Portsmouth Road

Source: Google

B3335 Highbridge Road

5.4.18 Buses mix with traffic on the B3335 Highbridge Road, and there are no dedicated lay-by facilities at bus stops. Bus stop facilities are minimal, mostly comprising solely of a flagpole though in some cases a raised platform is provided to assist passengers (Graphic 5-43). The B3335 Highbridge Road accommodates the 61 bus route.

Graphic 5-43 Bus facilities on Otterbourne Road

Source: Google

Otterbourne Road/Main Road/Otterbourne Hill

5.4.19 Otterbourne Road/Main Road/Otterbourne Hill is a key route for bus services that run between the settlements south of Winchester.

5.4.20 Bus stops are located at multiple, regular points along Otterbourne Road, Main Road and Otterbourne Hill, and is served solely by the 1 service. Bus stop provision varies, from minimal provision comprising of a flagpole to stops with dedicated bus lay-bys and stops that have shelter facilities. Graphic 5-44 provides an example of the types of bus stops that are provided on Otterbourne Road.

Graphic 5-44 Bus facilities on Otterbourne Road

Source: Google

5.5 Rail

Local railway station context

5.5.1 Bedhampton railway station is served by South Western Railway and Southern services. The former provides services between London Waterloo and Portsmouth

Harbour, whilst the latter operates between Portsmouth and Littlehampton. Both operators provide hourly services in each direction from Bedhampton.

5.5.2 Given that a proportion of construction workers working on the Proposed Development would be working at the WRP site, it is reasonable to suggest that a significant number of workers would be travelling to and from site by public transport, including rail.

5.5.3 Bedhampton Station is accessible on foot from the WRP site. From temporary construction compound B1-3, workers would need to exit the temporary construction compound on Meyrick Road, before heading north-west on West Street, where both platforms are accessible at entrances adjacent to the level crossing. The walking time from the temporary construction compound to the station using this route is approximately eight minutes. The Havant 34/1 and 34/5 PRoW provide a pedestrian link between the WRP site and Meyrick Road. Pedestrian footways are present on Meyrick Road north of the Knox Road junction.

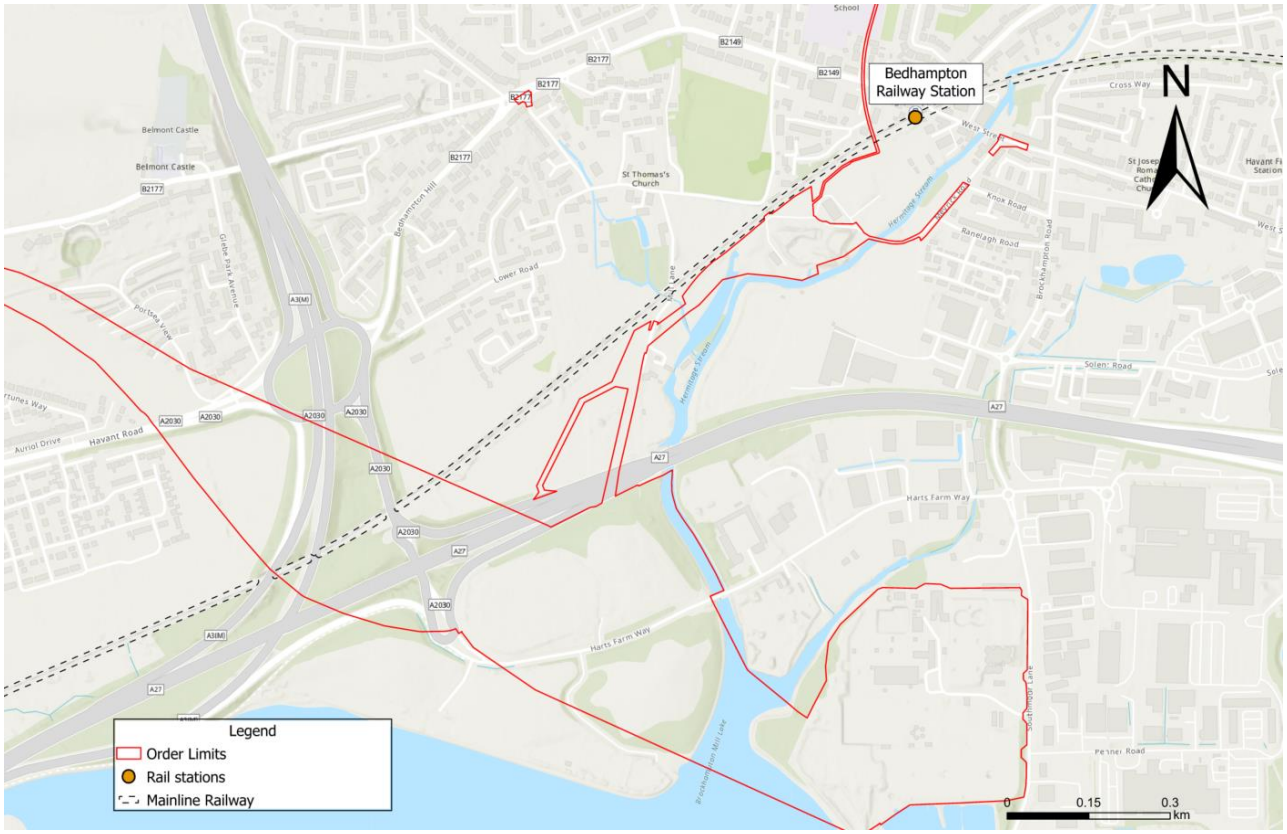
5.5.4 Detailed timetable information for services to and from Bedhampton Station are shown in Table 5-10.

Table 5-10 Summary of relevant rail services to Bedhampton Station

Service	Operator	Frequency (Mon-Sat) (per hour)	Frequency (Sun) (per hour)	First service	Last service
Fareham - Portsmouth	South Western Railway	Hourly	2	04:43	21:30
Portsmouth Harbour - London Waterloo	South Western Railway	Hourly	Hourly	04:43	01:08
Portsmouth to Littlehampton and London	Southern	Irregular	Irregular	05:45	23:32

5.5.5 The railway lines and stations to the south of Havant are presented in Graphic 5-45 below.

Graphic 5-45 Local railway context to the south-east of the Proposed Development



5.5.6 The South Western Mainline bisects the north-western portion of Section M of the Pipeline between the WRP site and Otterbourne WSW, running in a north/south alignment immediately east of Otterbourne.

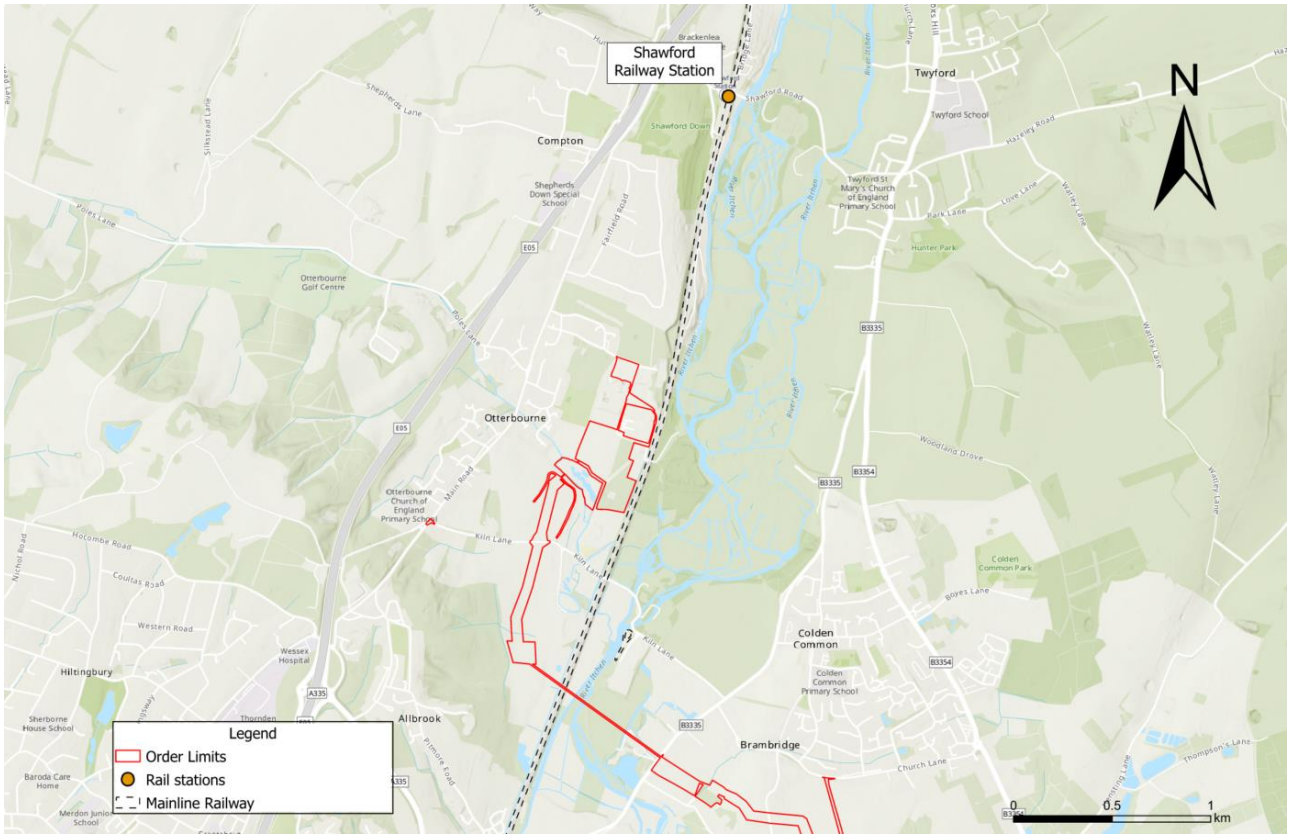
5.5.7 The nearest station to this section of the railway line is Shawford railway station which is located approximately 1.7km north of Otterbourne. This station offers regular services to destinations including Southampton, Portsmouth, Basingstoke and London Waterloo. Detailed timetable information on this service is shown in Table 5-11.

Table 5-11 Summary of the rail services at Shawford rail station

Service	Operator	Frequency (Mon-Sat) (per hour)	Frequency (Sun) (per hour)	First service	Last service
Southampton - Basingstoke and London Waterloo	South Western Railway	Hourly	Hourly	05:13	23:18
Portsmouth - Basingstoke and London Waterloo	South Western Railway	Hourly	Hourly	05:51	23:18

5.5.8 The location of the station and the South-Western Mainline in the context of the Proposed Development is shown in Graphic 5-46.

Graphic 5-46 Local railway context to the north-west of the Proposed Development

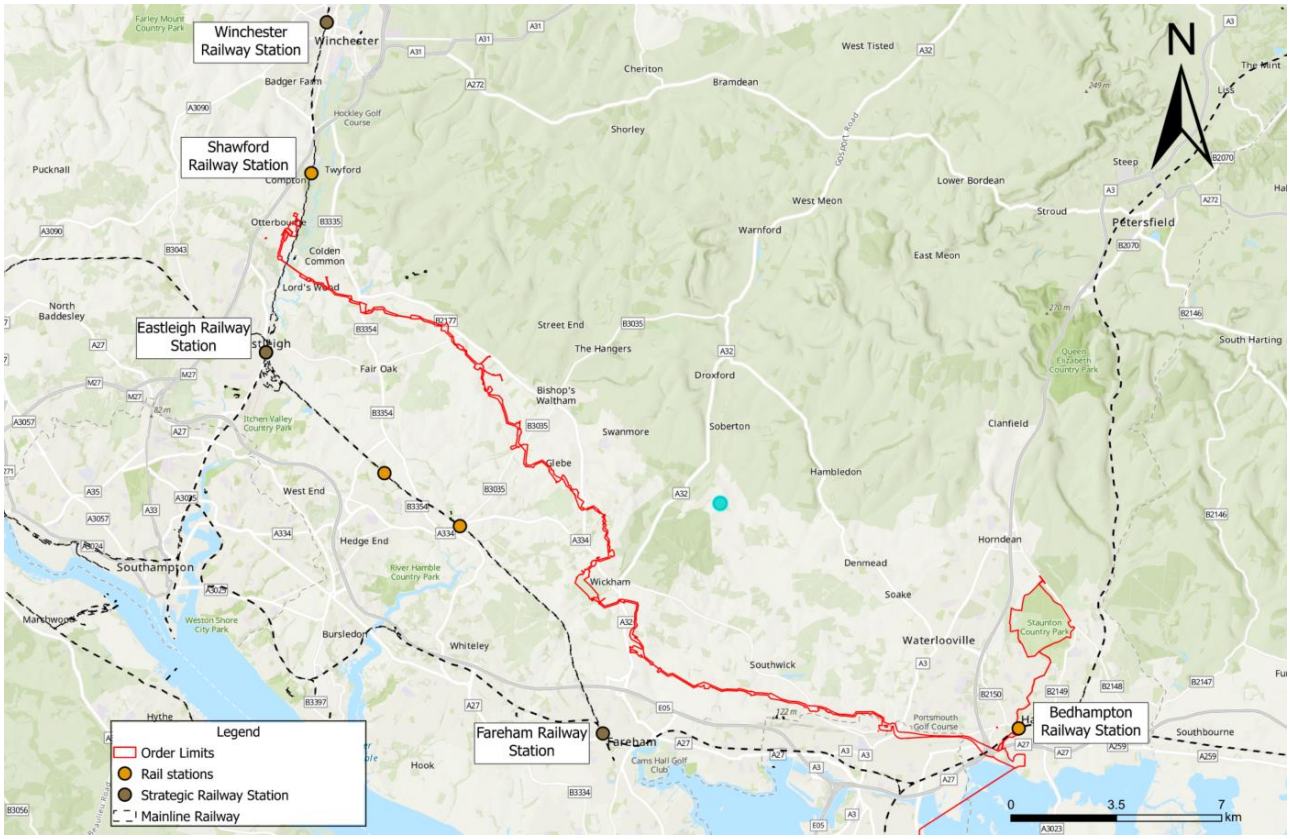


Strategic rail context

5.5.9 The strategic stations of Eastleigh, Fareham and Winchester are all located in the wider vicinity of the Order Limits of the Proposed Development. Eastleigh and Winchester Railway Stations are both located on the South West Main Line, while Fareham Station sits on the West Coastway Line.

5.5.10 The railway lines and strategic stations in the wider vicinity of the Order Limits are presented in Graphic 5-47 below.

Graphic 5-47 Strategic and local rail context for the Proposed Development



6 Development proposals – construction

6.1 Introduction

6.1.1 This section provides an overview of the transport-related works that are proposed to facilitate the construction of the Proposed Development. Detail pertaining to these proposals can be found within the relevant management plans:

1. Framework CTMP (Document reference 7.2, DCO Volume 7).
2. Framework CWTP, appended to the Framework CTMP (Document reference 7.2, DCO Volume 7).
3. Framework RoWMP, appended to the Framework CTMP (Document reference 7.2, DCO Volume 7).

6.1.2 In addition, a TMS (Document reference 7.3, DCO Volume 7) has been prepared and submitted as part of the DCO application documents.

6.1.3 The remainder of this section provides an overview of the following for each component/section of the Proposed Development:

1. Proposed temporary construction compounds, the temporary/permanent accesses and associated management measures that would facilitate safe access
2. Traffic management that would facilitate construction activities
3. Temporary PRoW management, including temporary diversions and closures

Parameters and Limits of Deviation

6.1.4 Within the Order Limits, Limits of Deviation (LoD) have been defined. These LoD define the extent of the area within which elements of the Proposed Development may be constructed. This provides the required level of flexibility necessary to ensure deliverability and allow for unknowns that would not arise until post-consent.

6.1.5 The Works plans (Document reference 2.3, DCO Volume 2) detail the location of the principal components of the Proposed Development within the Order Limits. Additional information on these other works so far as they are relevant to this assessment is set out in section 7.2.

Proposed Development design process

6.1.6 The DCO application is based on a indicative design with the detailed design delivered by the Contractor post-consent – noting the need for appropriate flexibility as outlined above.

6.1.7 The final design, delivered by the Contractor, would be in accordance with controls secured through the DCO, which include the extents of the Order Limits, the requirements contained with the draft DCO (Document reference 3.1, DCO Volume 3), the Works plans (Document reference 2.3, DCO Volume 2), DCO Volume II, Design Principles Document (Document reference 5.11, DCO Volume 5), and a suite of documents submitted as part of the DCO which capture the design and environmental commitments of the Proposed Development.

Visibility Splays

6.1.8 To facilitate access to the various temporary construction compounds, visibility splays have been considered in line with the relevant guidance.

6.1.9 At each temporary construction compound access location, Automatic Traffic Count (ATC) survey data (if available) or the posted speed limit has been used to calculate an appropriate visibility requirement based on HCC Technical Guidance Note 3 *"Stopping Sight Distances* (SSD) *and Visibility Splays"*. It is assumed that PCC will also accept the use of SSDs calculated based on this guidance given it uses the same inputs as DMRB.

6.1.10 Where the visibility splays shown for the temporary accesses require vegetation trimming/clearance to be achieved, the Contactor should make sure this requirement is being met upon completion of the construction of the respective temporary accesses.

6.1.11 For permanent accesses that require vegetation trimming/clearance to be achieved, the Contactor should also make sure this requirement is being met upon completion of the construction of the respective permanent accesses. After which, vegetation clearance for the direct connections to the highway network will be maintained by the relevant Highway Authority or private landowner as required in the existing state.

6.1.12 The achievable visibility splays for each temporary and permanent access is provided alongside recorded speed data at **Error! Reference source not found.**.

6.2 Water Recycling Plant site

Temporary construction compound accesses

6.2.1 The WRP site would be located immediately south-east of the A3(M)/A27/A2030 Broadmarsh junction (Junction 5). Access to the WRP site would be provided from Harts Farm Way with a permanent access, as detailed in section 7.2.

6.2.2 The permanent access to the WRP site would be manned by a traffic marshal during the construction phase. This traffic marshal will prevent queuing outside the site and reduce any disruption on the local highway network. A temporary signal-controlled crossing is also proposed on Harts Farm Way to provide a safe crossing between the site access and the existing footway on the southside of Harts Farm Way, as detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7). The relevant access drawings, as referenced in the following sections, should be consulted to understand recorded road speeds and the resulting visibility splay requirements.

6.2.3 Space would be provided internally within the site for HGVs to manoeuvre and egress in a forward gear.

6.2.4 For construction workers travelling by foot or cycle, a signal controlled crossing is proposed on Harts Farm Way, directly east of the permanent access to provide access into the site from the existing shared footway/cycleway on the southside of Harts Farm Way. A permanent shared footway/cycleway is proposed into the WRP site from the proposed crossing.

6.2.5 The signal controlled crossing is committed for the construction period. Post-construction, the signals could be retained or the crossing could be replaced with a dropped kerb uncontrolled crossing. This would be agreed with HCC as the local highway authority post-DCO.

Temporary traffic management

6.2.6 To construct the permanent access described in paragraph 6.2.2, a temporary lane closure with go/no-go signs would be required. Both permanent accesses would be constructed during this single lane closure.

6.2.7 Given that Harts Farm Way is a traffic sensitive route, it is proposed that any works would be carried out during night-time where practicable. Should night-time working not be practicable, working would be carried out in the off-peak periods. The traffic management approach at Harts Farm Way would be confirmed within the detailed TMS to be prepared by the Contractor post-consent.

6.2.8 A summary of the proposed traffic management measures on Harts Farm Way is set out in Table 6-1 below.

Table 6-1 Harts Farm Way traffic management requirements

Proposed traffic management	Duration	Sustainable mode provision
Lane Closure with go/no-go signs (off-peak or night-time)	Up to 14 days with an allowance of up to 28 days	No existing footway/cycleway provision to north of Harts Farm Way. The footway/cycleway on the south side of Harts Farm Way would not be affected by the proposals.

6.2.9 Full calendar and programme restrictions are set out in the TMS (Document reference 7.3, DCO Volume 7).

Temporary Public Right of Way management

6.2.10 The Havant 30 PRoW routes from Mill Lane to the north, crossing the A27 via an elevated footbridge, before bisecting the WRP site in a north to south alignment and routing south-west along the bank of the Brockhampton Mill Lake.

6.2.11 A short-term closure is proposed for this section of Havant 30. While it is proposed to mostly keep this section open, a short-term closure would be required for a maximum of four weeks. This short-term closure would be required to construct the pipeline used to facilitate the run to waste from the WRP site.

6.2.12 Havant 30 would also be affected by the Pipelines between the WRP site and Bedhampton Springs, as described in section 6.4.

6.3 Pipelines between Budds Farm Wastewater Treatment Works and the Water Recycling Plant site

Temporary construction compound accesses

6.3.1 Temporary construction compounds at the Budds Farm WTW would be accessed via an existing operational access. Given this existing access would be subject to a relatively low number of additional construction traffic trips, no additional

management measures are proposed to manage movements in the vicinity of this access.

Temporary traffic management

6.3.2 As detailed above, no new accesses are required for this component of the Proposed Development. As such, there would be no traffic management required.

Temporary Public Right of Way management

6.3.3 As detailed in the Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7), there are no temporary diversions or closures to the PRoW network in this location.

6.4 Pipelines between the Water Recycling Plant site and Bedhampton Springs

Temporary construction compound accesses

6.4.1 The Pipelines between the WRP site and Bedhampton Springs would be constructed via temporary construction compounds B1-1, B1-2 and B1-3.

6.4.2 Temporary construction compound B1-1 would primarily be accessed from Mill Lane. HGV use of this access would be limited to evening hours (18:00-20:00) (following the PM network peak) to reduce the potential for conflict with pedestrians travelling along Mill Lane and the Havant 30 PRoW. Furthermore, given that Mill Lane is not wide enough to accommodate two-way HGV movements, deliveries to B1-1 would be scheduled to avoid coinciding. Additionally, as detailed Framework CTMP (Document reference 7.2, DCO Volume 7), HGVs would be escorted by a traffic marshal from Brookside Road along Bidbury Lane and Mill Lane to mitigate the potential for conflict with other road users.

6.4.3 A very small number of controlled, articulated HGV movements could access temporary construction compound B1-1 via the A27(t) eastbound on-slip. These movements would be controlled via a series of management measures, as detailed within the Framework CTMP (Document reference 7.2, DCO Volume 7).

6.4.4 Potential off-site works could be required at the Brookside Road junction with Bedhampton Road to facilitate HGV access to temporary construction compound B1-1 via Mill Lane. This would be subject to the maximum vehicle size required to access the compound via Mill Lane, and as detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7), efforts should be made by the contactor to avoid these physical works if practicable.

6.4.5 Most LGV movements associated with temporary construction compound B1-1 would instead route to/from the WRP site, where operatives would park prior to walking to the temporary construction compounds to the north and/or using a dedicated mini-bus service. The general arrangement drawing for the compound access with Mill Lane can be found in Framework CTMP (Document reference 7.2, DCO Volume 7).

6.4.6 Temporary construction compounds B1-2 and B1-3 would be accessed via Meyrick Road. The access route to the temporary construction compound has

been assessed using vehicle tracking software with an articulated lorry as shown in Framework CTMP (Document reference 7.2, DCO Volume 7). This demonstrates some on-street parking would need to be temporarily suspended along the access route to the temporary construction compounds.

Temporary traffic management

6.4.7 As noted above, temporary construction compound B1-1 would be located to the west of Mill Lane. It is proposed that access to this compound would be taken from Mill Lane which provides access to a few dwellings as well as the Havant 30 PRoW. It is understood to be a popular route for pedestrians and may be promoted as a route for cycles by HCC in the future.

6.4.8 To construct the access to this temporary construction compound, a temporary road closure would be required for the period of the construction works. A temporary road closure would also be required to remove the temporary construction compound access once it is no longer required. Access to properties would be maintained throughout these temporary road closures through a traffic marshal's supervision.

6.4.9 A summary of the proposed traffic management measures on Mill Lane is provided at Table 6-2.

Table 6-2 Pipelines between the Water Recycling Plant site and Bedhampton Springs traffic management requirements

Location	Proposed traffic management	Duration	Sustainable mode provision
B2177 Bedhampton Road/Brookside Road staggered priority junction	Night-time lane closure (B2177) Lane or road closure (Brookside Road)	Two closures: Island works – up to 14 days with an allowance for up to 28 days Reinstatement - up to 14 days with an allowance for up to 28 days	Adequate space and formal segregation to be provided where practicable for pedestrians and cyclists to pass the construction works. Night-time works to largely avoid coinciding with the operation of the Brookside Road bus stop, though the bus stop may need to be temporarily suspended.
Mill Lane (Havant)	Road closure	Two closures Creation - up to seven days with an allowance for up to 21 days Removal – up to seven days with an allowance for up to 21 days	Construction operatives to be made aware of active travel users. Potential closures of the PRoW Havant 30 to be confirmed in the detailed RoWMP prepared by the Contractor post-consent and co-ordinated with these works. Segregated route to be provided adjacent to works if practicable. Full measures to manage interaction between PRoW users and construction vehicles are identified in the Framework CTMP (Document reference 7.2, DCO Volume 7).

6.4.10 Full calendar and programme restrictions are outlined in the TMS (Document reference 7.3, DCO Volume 7).

Temporary Public Right of Way management

Havant 30

6.4.11 Havant 30 is also part of Wayfarer's Walk as the PRoW routes north-south along the eastern boundary of temporary construction compound B1-1.

6.4.12 This section of the PRoW would be subject to two short-term closures of up to three weeks during construction to accommodate the construction and removal of the temporary access to B1-1. There would be no impact from the tunnelled section of the Pipelines. Safety measures would be put in place to manage the interactions between PRoW users, existing residents and construction vehicle movements to and from the temporary construction compound and along Mill Lane as detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7).

Havant 34

6.4.13 Havant 34 PRoW is located to the east of Havant 30 and runs along the northern boundary of temporary construction compound B1-2. Havant 34 is also part of the Wayfarer's Walk, which runs parallel to the West Coastway Line before heading south-east toward a footbridge at Hermitage Stream and on to Meyrick Road.

6.4.14 As part of Portsmouth Water's separate consented application for a new pipeline to transfer water from Bedhampton Springs to Havant Thicket Reservoir (reference: APP/20/00991) it is proposed to permanently divert the Havant 34 PRoW. The proposed Portsmouth Water permanent diversion route is expected to intersect the temporary construction compound B1-2 at its north-eastern extent.

6.4.15 Therefore, based on Portsmouth Water's diversion being implemented prior to or during the construction of the Proposed Development, it is proposed to temporarily close and divert Portsmouth Water's proposed permanent diversion route around the southern extent of the temporary construction compound B1-2 before re-joining the Portsmouth Water permanent diversion route immediately prior to the proposed footbridge across the Hermitage Stream.

6.5 Pipeline between the Water Recycling Plant site and Otterbourne Water Supply Works

Section D: The Water Recycling Plant site to Portsdown Hill

Temporary construction compound accesses

6.5.1 One temporary construction compound is required to facilitate the construction of an intermediate tunnel shaft (temporary construction compound D-1). A general arrangement drawing showing the proposed access with Gillman Road can be found in the Framework CTMP (Document reference 7.2, DCO Volume 7). Vehicle tracking has also been undertaken to demonstrate an HGV could access the compound via Crookhorn Lane to the north and this is provided at Appendix C of the Framework CTMP (Document reference 7.2, DCO Volume 7).

6.5.2 A traffic marshal would therefore be positioned at the access to manage potential conflicts between HGVs and pedestrians and cyclists. Site operatives would also be made aware of the potential for pedestrians and cyclists to be using Gillman Road and to drive with caution.

6.5.3 Given the restricted width of Gillman Road, HGV arrivals and departures would need to be co-ordinated appropriately to avoid arrivals and departures at the same time.

6.5.4 As detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7), there is an emerging junction improvement scheme at the Crookhorn Lane/B2177 Portsdown Hill Road/Gillman Road junction including traffic signals associated with the College Road, Campdown development proposals. Should works associated with this junction arrangement commence or be completed in advance of the works at temporary construction compound D-1, the detailed CTMP to be prepared by the Contractor post-consent would set out how this junction would be managed.

Temporary traffic management

6.5.5 As detailed above, a temporary access would be required from Gillman Road. Gillman Road has a Traffic Prohibition Order and is a designated NCN route.

6.5.6 To construct the access to this temporary construction compound, a temporary road closure on Gillman Road would be required. A temporary road closure would also be required to remove the temporary construction compound access once it is no longer required.

6.5.7 Each road closure (minor temporary access creation and removal) is expected to be in place for up to seven days and is not expected to be in place for any longer than 21 days.

6.5.8 The temporary construction compound access would be located to the north of the existing barrier which currently prohibits vehicular movements on Gillman Road. As such it is not anticipated that any traffic would be affected by this planned closure, however this route is open for pedestrians and cycles. Therefore, traffic management has been considered at this location for any potential pedestrians and cycles using Gillman Road.

6.5.9 Subject to the construction programme for the Proposed Development, there may also be a potential need to co-ordinate with the emerging proposals for signals at this junction as part of the Campdown development, subject to when these works come forward. The potential need to coordinate works with these emerging proposals is acknowledged within the TMS (Document reference 7.3, DCO Volume 7) and would be addressed in advance of these works commencing in accordance with the requirements of the draft DCO (Document reference 3.1, DCO Volume 3).

6.5.10 A summary of the proposed traffic management measures on Gillman Road is provided at Table 6-3.

Table 6-3 Gillman Road traffic management requirements

Proposed Traffic Management	Duration	Sustainable mode provision
Road Closure	Two closures	No existing footway provision.

Proposed Traffic Management	Duration	Sustainable mode provision
	Creation - up to seven days with an allowance for up to 21 days Removal – up to seven days with an allowance for up to 21 days	Construction of the temporary access: Adequate space and formal segregation to be provided where practicable for pedestrians and cyclists to pass the construction works. Operation of temporary access: Traffic marshal to manage pedestrian and cycle movements in the vicinity of the access, as detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7).

6.5.11 Full calendar and programme restrictions are outlined in the TMS (Document reference 7.3, DCO Volume 7).

Temporary Public Right of Way management

6.5.12 Southwick and Widley 36/Wayfarer's Walk runs in a north-south alignment parallel to the west of Geoffrey Avenue and Meadow Edge, before continuing south onto Portsdown Hill Road and east along this road. The section of Pipeline between the WRP site and Otterbourne WSW adjacent to this section of this link would be tunnelled. Consequently, Southwick and Widley 36/Wayfarer's Walk would be kept open as they would not be affected by the Proposed Development.

Section E: Portsdown Hill to Boarhunt

Temporary construction compound accesses

6.5.13 There are eight temporary construction compounds proposed along Section E of the Pipeline between the WRP site and Otterbourne WSW; E-1, E-2, E-3, E-4a, E-4b, E-5, E-6a and E-6b. In addition to this, Section E of the Pipeline contains two AGPs, located adjacent to temporary construction compound E-1.

Temporary construction compounds E-1 and E-2, Break Pressure Tank and Intermediate Pumping Station E, accessed from New Down Lane

6.5.14 Access to temporary construction compounds E-1 and E-2 as well as IPS-E and BPT-E would be taken from New Down Lane. A permanent access would also be installed to the east of New Down Lane to provide access to IPS-E and BPT-E at this location, as detailed in section 7.2. A drawing showing the outline design of the temporary accesses can be found in the Framework CTMP (Document reference 7.2, DCO Volume 7).

6.5.15 Given the width of New Down Lane is not sufficient to accommodate two-way HGV movements, arrivals and departures would be scheduled and co-ordinated appropriately to ensure vehicles would not need to wait on Portsdown Hill Road. The width of New Down Lane is also not sufficient to safely accommodate pedestrians walking toward PRoW Southwick and Widley 28. As detailed in Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7), a temporary closure is proposed on Southwick and Widley 28 and an alternative safe route has been identified via Widley Walk.

Temporary construction compounds E-3, E-4a and E-4b accessed from Southwick Road

6.5.16 Temporary construction compounds E-3, E-4a and E-4b would be accessed via temporary site accesses with the B2177 Southwick Road. Accesses at this location would be provided with adequate visibility based on a recorded speed of 50mph, with accesses on either side of the B2177 likely to be staggered. Access on the eastern side of the road would provide access to E-4a and E-3 via haul road, whilst the access on the western side of the road would provide access to E-4b and haul road. The proposed temporary access general arrangement drawing is included in the Framework CTMP (Document reference 7.2, DCO Volume 7).

6.5.17 Given there would be slow moving vehicles turning in and out of the temporary site accesses on a high-speed road, appropriate warning signage would be provided, the details of which would be agreed as part of the detailed CTMP.

6.5.18 Traffic marshals would manage vehicle movements in and out of the temporary site accesses on the B2177 Southwick Road. They would also manage potential conflict between vehicles accessing the compounds and cycle movements on the B2177. Site operatives would also be made aware of the cycleways on the B2177 and would be advised to drive with caution.

Temporary construction compounds E-5, E-6a, E-6b and F-1 accessed from Boarhunt Road

6.5.19 Access to E-5, E-6a, E-6b and F-1 would be provided via a temporary access on the western side of Boarhunt Road. The temporary access would provide direct access to E-6b. A haul road crossing on Boarhunt Road would provide a connection to E-6a and E-5 to the east, whilst the haul road to the west would provide a link between E-6b and F-1.

6.5.20 The temporary junction arrangement can be found in the Framework CTMP (Document reference 7.2, DCO Volume 7). This drawing shows that achievable Y-distance visibility (visibility along the edge of the road) is limited to 75m to the north-east (below the required 131m). As such, this temporary access would require active traffic management during its operation, with traffic marshals or temporary signals proposed to manage vehicle movements in and out of the compound as detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7). Traffic management would also be required at the temporary haul road crossing over Boarhunt Road between temporary construction compounds E-6a and E-6b. It is likely that temporary traffic signals would be required to manage this temporary haul road crossing.

Temporary traffic management

6.5.21 Temporary traffic management would be required at several locations along Section E associated with the construction of the Pipeline between the WRP site and Otterbourne WSW and the creation and removal of temporary accesses for temporary construction compounds and the temporary haul road. These are summarised in Table 6-4 below.

Table 6-4 Section E traffic management requirements

Location	Proposed traffic management	Duration	Sustainable mode provision
New Down Lane	Road closure	Four closures Permanent access creation – 14 days with an allowance for up to 28 days Pipeline crossing – up to seven days with an allowance for up to 21 days Temporary access creation – up to seven days with an allowance for up to 21 days Temporary access removal – up to seven days with an allowance for up to 21 days	PRoW diversion would be implemented (details in Framework RoWMP, appended to the Framework CTMP, Document reference 7.2, DCO Volume 7). No existing cycleway provision.
Widley Walk	Road closure	Three closures: Pipeline crossing – up to seven days with an allowance for up to 21 days Temporary haul road access creation – up to seven days with an allowance for up to 21 days Temporary haul road access removal – up to seven days with an allowance for up to 21 days	No existing footway/cycleway provision.
Mill Lane (Portsdown)	Road closure	Three closures: Pipeline crossing – up to seven days with an allowance for up to 21 days Temporary haul road access creation – up to seven days with an allowance for up to 21 days Temporary haul road access removal – up to seven days with an allowance for up to 21 days	No existing footway/cycleway provision.
Pigeon House Lane	Road closure	Three closures: Pipeline crossing – up to seven days with an allowance for up to 21 days Temporary haul road access creation – up to seven days with an allowance for up to 21 days Temporary haul road access removal – up to seven days with an allowance for up to 21 days	No existing footway/cycleway provision. Works to avoid any events that are likely to utilise the Pilgrims' Way route as detailed within the Framework RoWMP. (appended to the Framework CTMP, Document reference 7.2,

Location	Proposed traffic management	Duration	Sustainable mode provision
			DCO Volume 7) and the TMS (Document reference 7.3, DCO Volume 7).
B2177 Southwick Road	Night-time lane closure with shuttle-working signals for access creation and removal. Day and night-time lane closure with shuttle-working signals for Pipeline crossing.	Five closures Pipeline crossing – up to seven days with an allowance for up to 21 days Temporary access creation – up to seven days with an allowance for up to 21 days Temporary access removal – up to seven days with an allowance for up to 21 days Temporary haul road access creation – up to seven days with an allowance for up to 21 days Temporary haul road access removal – up to seven days with an allowance for up to 21 days	No existing footway provision. Construction of the temporary accesses: Cycles to join general traffic, with appropriate lane width and accompanying signage to provide awareness that cycles should not be passed by vehicles. Operation of temporary accesses: Traffic marshal to manage cycle movements in the vicinity of the access, as detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7).
Crooked Walk Lane	Road closure	Three closures: Pipeline crossing – up to seven days with an allowance for up to 21 days Temporary haul road access creation – up to seven days with an allowance for up to 21 days Temporary haul road access removal – up to seven days with an allowance for up to 21 days	No existing footway/cycleway provision.
Portchester Lane	Road closure	Three closures Pipeline crossing – up to seven days with an allowance for up to 21 days Temporary haul road access creation – up to seven days with an allowance for up to 21 days Temporary haul road access removal – up to seven days with an allowance for up to 21 days	No existing footway/cycleway provision.
Monument Lane	Road closure	Three closures	No existing footway/cycleway provision.

Location	Proposed traffic management	Duration	Sustainable mode provision
		Pipeline crossing – up to seven days with an allowance for up to 21 days Temporary haul road access creation – up to seven days with an allowance for up to 21 days Temporary haul road access removal – up to seven days with an allowance for up to 21 days	
Boarhunt Road	Road closure	Single closures Pipeline crossing – up to seven days with an allowance for up to 21 days	PRoW diversion to be implemented (detail in Framework RoWMP, appended to the Framework CTMP, Document reference 7.2, DCO Volume 7). No existing cycleway provision.
	Lane closure with signal controlled junction traffic management	Up to Four closures Temporary haul road access creation – up to seven days with an allowance for up to 21 days Temporary haul road access removal – up to seven days with an allowance for up to 21 days Temporary access creation – up to seven days with an allowance for up to 21 days Temporary access removal – up to seven days with an allowance for up to 21 days	

6.5.22 Full calendar and programme restrictions are set out in the TMS (Document reference 7.3, DCO Volume 7).

Temporary Public Right of Way management

6.5.23 There are three PRoW footpaths and one national trail that would be impacted by the Proposed Development. Table 6-5 below provides an overview of the proposed management measures, with details outlined in the Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7).

Table 6-5 Section E Public Right of Way management measures

Public Right of Way name	Public Right of Way description	Management measure	Management summary
Southwick and Widley 28	Provides north-south link between Widley Walk and New Down Lane.	Temporary closure.	Temporary closure of up to 24 months. Alternative route proposed via Widley Walk with a waiting area for pedestrians proposed at the Widley Walk/B2177 Portsdown Hill Road junction.

Public Right of Way name	Public Right of Way description	Management measure	Management summary
Pilgrims' Way National Trail	Provides north-south link between Sawyer's Wood and Portsdown Hill Road.	Short-term closure (open-cut).	Short-term closure, as detailed in the TMS (Document reference 7.3, DCO Volume 7). National trail predominantly kept open except for short-period of time (maximum of four weeks) when Pipeline crossing of route is managed. The alternative route during this short-term closure would utilise either Mill Lane or Widley Walk. Works would be scheduled to avoid coinciding with any major events that utilise the Pilgrims' Way.
Southwick and Widley 3	Routes north-west-south-east between the High Street/B2177 Southwick Road roundabout and Drove Road farm, with no obvious onward connection.	Temporary closure.	Temporary closure of up to six months proposed.
Boarhunt 19	Routes north-east-south-west from Ashley Down Lane to Boarhunt Road.	Temporary closure.	Temporary closure of up to six months. Alternative route proposed via Ashley Down Lane or Monument Lane. Pedestrian mitigation on Monument Lane in the form of signage to warn vehicles of the presence of pedestrians.

Section F: Boarhunt to Crockerhill

Temporary construction compound accesses

6.5.24 Section F would require three temporary construction compounds to facilitate construction along this stretch of the Proposed Development, including F-1 which would be accessed via Boarhunt Road. One AGP (IPS-F) is proposed in Section F adjacent to temporary construction compound F-3.

Temporary construction compounds F-2, F-3 and Intermediate Pumping Station F accessed from Chalk Lane

6.5.25 Access to IPS-F and temporary construction compound F-3 would be taken from Chalk Lane. A temporary access is proposed via Chalk Lane and the temporary haul road. Temporary construction compound F-2 would also be accessed from Chalk Lane via the haul road.

6.5.26 The temporary construction access is proposed from Chalk Lane via a major/minor priority junction. The junction arrangement can be found in the Framework CTMP

(Document reference 7.2, DCO Volume 7). Visibility splays of 2.4m x 90m are shown, suitable for a design speed of 30mph. In the absence of a posted speed limit or speed survey data for this road, and given that Chalk Lane is a no-through road which does not provide through access, visibility splays in line with a 30mph design speed are considered to be robust. The temporary site access with Chalk Lane would also be managed by a traffic marshal.

6.5.27 Additional management measures associated with the PRoW which intersects the IPS-F site are proposed, including temporary and permanent diversions, as detailed within the Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7).

Temporary traffic management

6.5.28 Temporary traffic management would be required at several locations along Section F associated with the construction of the Pipeline and the creation and removal of temporary accesses for temporary construction compounds and the temporary haul road. These are summarised in Table 6-6 below.

Table 6-6 Section F Traffic management requirements

Location	Proposed traffic management	Duration	Sustainable mode provision
Whitedell Lane	Road closure	Three closures: Pipeline crossing – up to seven days with an allowance for up to 21 days Temporary haul road access creation – up to seven days with an allowance for up to 21 days Temporary haul road access removal – up to seven days with an allowance for up to 21 days	No existing footway/cycleway provision.
Chalk Lane	Lane closure with 'GIVE/TAKE' system	Two closures Temporary access creation – up to seven days with an allowance for up to 21 days Temporary access removal – up to seven days with an allowance for up to 21 days	No existing footway/cycleway provision.
Forest Lane	Road closure	Three closures: Pipeline crossing – up to seven days with an allowance for up to 21 days Temporary haul road access creation – up to seven days with an allowance for up to 21 days	No existing footway/cycleway provision.

Location	Proposed traffic management	Duration	Sustainable mode provision
		Temporary haul road access removal – up to seven days with an allowance for up to 21 days	

6.5.29 Full calendar and programme restrictions are outlined in the TMS (Document reference 7.3, DCO Volume 7).

Temporary Public Right of Way management

6.5.30 There are two PRoW footpaths that would be impacted by the Proposed Development whilst another would be kept open. Table 6-7 below provides an overview of the proposed management measures, with details outlined in the Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7).

Table 6-7 Section F Public Right of Way management measures

Public Right of Way name	Public Right of Way description	Management measure	Management summary
Fareham 107	Provides east-west link between White Dell Lane and Boarhunt Road.	Temporary diversion.	Temporary diversion along the northern extent of the Order Limits.
Fareham 106	Provides north-south link between Bere Farm Lane and Spurlings Farm and Cottages.	Keep open (trenchless crossing).	PRoW would remain open and would not be affected by construction activities.
Fareham 103	Provides north-south link between Wickham 9 PRoW and Fareham 102 PRoW.	Temporary closure (up to two years) with temporary diversion during construction phase. Permanent diversion to the south of the PRoW during operational phase.	Temporary closure with temporary diversion for up to two years required to enable the construction of the Pipeline and AGP. Permanent closure and diversion to the south required prior to the operational phase given that existing PRoW intersects AGP site.

Section G: Crockerhill to Wickham

Temporary construction compound accesses

6.5.31 A total of eight temporary construction compounds are proposed to facilitate construction of Section G. Additionally, the IPS-G is proposed to be located to the south of Titchfield Lane in the immediate vicinity of temporary construction compounds G-6, G-7 and G-8.

Temporary construction compounds G-1, G-2 and G-3 accessed from A32 Hoads Hill

6.5.32 Temporary construction compounds G-1 and G-2 would be accessed directly via temporary accesses located on the east and west side of the A32 Hoads Hill. G-3 would then be accessed via haul road to the west of G-2. The temporary accesses on the A32 Hoads Hill are proposed to be left-in/left-out, with vehicles turning at the A32/A334/School Road roundabout. The temporary access general arrangement drawing is included in the Framework CTMP (Document reference 7.2, DCO Volume 7) along with vehicle tracking of the A32/A334/School Road roundabout with a 16.5m articulated lorry.

6.5.33 A traffic marshal would be stationed at each of these accesses onto the A32 Hoads Hill to manage with HGV movements to and from the temporary construction compounds. Adequate turning space would also be provided within the temporary construction compounds to facilitate HGV manoeuvres and ensure that all vehicles can ingress and egress in a forward gear.

6.5.34 Major works are planned along the A32 as part of the consented Welborne Garden Village development, including the removal of the centre lane and the construction of a footway and cycleway. As part of the detailed CTMPs to be prepared by the Contractor post-consent, consideration of these works would be needed in order to reduce disruption for the public as much as practicable.

Temporary construction compounds G-4, G-5, G-6, G-7 and Intermediate Pumping Station G access from Titchfield Lane

6.5.35 A temporary site access is proposed on Titchfield Lane that would provide access to temporary construction compounds G-4, G-5, G-6 and G-7 as well as temporary access to IPS-G during the construction phase. The temporary site access is shown in the Framework CTMP (Document reference 7.2, DCO Volume 7).

6.5.36 HGV movements to these temporary construction compounds and the AGP would be restricted to avoid the AM and PM peak periods.

6.5.37 Achievable visibility to the south-west of the temporary construction compound access is approximately 63m. The desirable visibility at this location is 127m based on the 85th percentile speed of 41.2mph as captured by an ATC survey. As such, it is proposed to reduce the speed limit to 30mph in the vicinity of the access, as detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7).

Temporary traffic management

Temporary traffic management would be required at several locations along Section G associated with the construction of the Pipeline and the creation and removal of temporary accesses for temporary construction compounds and the temporary haul road. These are summarised in Table 6-8 below.

Table 6-8 Section G traffic management requirements

Location	Proposed traffic management	Duration	Sustainable mode provision
A32 Hoads Hill	Lane closure (night-time where practicable)	Four closures: Two temporary access creation – up to seven days with an allowance of up to 21 days Two temporary access removal – up to seven days with an allowance of up to 21 days	Construction of the temporary access: Adequate space and formal segregation to be provided where practicable for pedestrians and cyclists to pass the construction works. Operation of temporary access: Traffic marshal to manage pedestrian and cycle movements in the vicinity of the access, as detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7).
Tanfield Lane	Road closure	Pipeline crossing – up to seven days with an allowance for up to 21 days Temporary haul road access creation – up to seven days with an allowance for up to 21 days Temporary haul road access removal – up to seven days with an allowance for up to 21 days	Short-term PRoW closure with diversion via Meon Valley Trail (detail in Framework RoWMP, appended to the Framework CTMP, Document reference 7.2, DCO Volume 7). No existing cycleway provision.
Titchfield Lane	Lane closure with signal controlled junction traffic management	14 days with an allowance of up to 28 days	PRoW diversion would be implemented (details in Framework RoWMP, appended to the Framework CTMP, Document reference 7.2, DCO Volume 7). No existing cycleway provision.

6.5.38 Full calendar and programme restrictions are outlined in the TMS (Document reference 7.3, DCO Volume 7).

Temporary Public Right of Way management

6.5.39 Along Section G of the Pipeline between the WRP site and Otterbourne WSW there are four PRoW footpaths that would be impacted by the Proposed Development including the Meon Valley Trail. Table 6-9 below provides an overview of the proposed management measures, with details outlined in the Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7).

Table 6-9 Section G Public Right of Way management measures

Public Right of Way name	Public Right of Way description	Management measure	Management summary
Wickham 10	Provides north-west to south-east link along private Castle Farm Lane.	Short-term closure (open-cut).	Short-term closure. PRoW predominantly kept open except for a short-period of time (maximum of four weeks) to enable the construction of the Pipeline across the PRoW. Alternative route via Wickham 11 and the footways on the B2177 Southwick Road and A32 Hoads Hill.
Wickham 5	Wickham 5 routes from Tanfield Lane in the north-east to Titchfield Lane in the north-west.	Temporary closure and diversion.	Temporary closure and diversion. PRoW to be predominantly kept open, with the exception of a short-term closure (up to four weeks) necessary to manage the Pipeline crossing. During this time, a diversion within the Order Limits would be provided. Wickham 501 to be kept open during temporary closure and would be designated as an alternative route.
Wickham 501 (Meon Valley Trail)	PRoW runs to the south of Wickham 5 in an east/west alignment.	Short-term closure (open-cut).	Temporary closure and diversion. PRoW to be predominantly kept open, with the exception of a short-term closure (up to four weeks) necessary to manage the Pipeline crossing. During this time, a diversion within the Order Limits would be provided. Wickham 5 to be kept open during temporary closure and would be designated as an alternative route.
Wickham 1	Provides north-west - south-east link between Titchfield Lane and Winchester Road (A334).	Temporary closure (open-cut) and temporary diversion.	Temporary closure and diversion. PRoW to be predominantly kept open, with the exception of a short-term closure (up to two weeks) necessary to manage the Pipeline crossing. During this time, a temporary diversion within the extent of the Order Limits would be provided.

Section H: Wickham to Shedfield

Temporary construction compound accesses

6.5.40 There would be five temporary construction compounds to facilitate construction of Section H of the Proposed Development.

Temporary construction compounds H-1, H-2 and H-3 accessed via Blind Lane

6.5.41 A temporary site access is proposed on Blind Lane to provide access to temporary construction compounds H-1, H-2 and H-3. The access general arrangement drawing is shown in the Framework CTMP (Document reference 7.2, DCO Volume 7). A traffic marshal would manage HGVs accessing the site from Blind Lane.

6.5.42 Vehicle tracking with a 16.5m HGV has also been undertaken for the site access and the junction with Titchfield Lane and the A334. The results of the vehicle tracking exercise indicate a HGV would not be able to turn either right or left onto Blind Lane from the A334 Winchester Road without an incursion into the entry-arm carriageway.

6.5.43 Off-site works are therefore proposed at the A334/Titchfield Lane/Blind Lane signal-controlled junction. Two options for these off-site works have been discussed with HCC, and these are presented within the Framework CTMP (Document reference 7.2, DCO Volume 7).

Temporary construction compounds H-4 and H-5 accessed via Shirrel Heath High Street

6.5.44 Temporary construction compounds H-4 and H-5 would be accessed via a temporary access on Shirrell Heath High Street. A haul road would provide access between temporary construction compounds H-4 and H-5. The temporary access general arrangement drawing on Shirell Heath High Street is included in the Framework CTMP (Document reference 7.2, DCO Volume 7).

6.5.45 Sufficient turning space would be provided within the temporary construction compound to enable HGVs to ingress and egress in a forward gear. HGV movements would also be prohibited during the network peak hours.

6.5.46 A traffic marshal would manage HGV movements to and from the site to reduce the potential conflict with pedestrians and cyclists on Shirrell Heath High Street. Site operatives would also be made aware of the constrained nature of Shirrell Heath High Street and would be advised to drive with appropriate caution.

6.5.47 Communication with local residents would take place to ensure that they are aware of dates and hours of when HGV movements would utilise Shirrell Heath High Street. Communication would be undertaken by the Contractor, as set out within the communication strategy contained within the Framework CTMP (Document reference 7.2, DCO Volume 7).

Temporary traffic management

6.5.48 Temporary traffic management would be required at several locations along Section H associated with the construction of the Pipeline between the WRP site and Otterbourne WSW and the creation and removal of temporary accesses for

temporary construction compounds and the temporary haul road. These are summarised in Table 6-10.

Table 6-10 Section H traffic management requirements

Location	Proposed traffic management	Duration	Sustainable mode provision
A334 Winchester Road/Blind Lane/Titchfield Lane signalised junction	Two options presented in the Framework CTMP (Document reference 7.2, DCO Volume 7).		
Blind Lane	Road closure	Five closures Pipeline crossing – up to seven days with an allowance for up to 21 days Temporary haul road access creation – up to seven days with an allowance for up to 21 days Temporary haul road access removal – up to seven days with an allowance for up to 21 days Temporary access creation – up to seven days with an allowance for up to 21 days Temporary access removal – up to seven days with an allowance for up to 21 days	No existing footway/cycleway provision.
Pricketts Hill	Road closure	Pipeline crossing – up to seven days with an allowance for up to 21 days Temporary haul road access creation – up to seven days with an allowance for up to 21 days Temporary haul road access removal – up to seven days with an allowance for up to 21 days	No existing footway/cycleway provision.
Shirrell Heath High Street	Lane closure with shuttle working signals	Two closures Temporary access creation – up to seven days with an allowance for up to 21 days	Construction of the temporary access: Adequate space and formal segregation to be provided where practicable for pedestrians and cyclists to pass the construction works.

Location	Proposed traffic management	Duration	Sustainable mode provision
		Temporary access removal – up to seven days with an allowance for up to 21 days	Operation of temporary access: Traffic marshal to manage pedestrian and cycle movements in the vicinity of the access, as detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7).

6.5.49 Full calendar and programme restrictions are outlined in the TMS (Document reference 7.3, DCO Volume 7).

Temporary Public Right of Way management

6.5.50 Along Section H of the Pipeline between the WRP site and Otterbourne WSW there are two PRoW footpaths that would be impacted by the Proposed Development. Table 6-11 below provides an overview of the proposed management measures, with details outlined in the Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7).

Table 6-11 Section H Public Rights of Way management measures

Public Right of Way name	Public Right of Way description	Management measure	Management summary
Shedfield 12	Provides link between Shirrell Heath High Street to the west and the Shedfield 17 PRoW to the east.	Keep open (trenchless crossing).	PRoW would remain open and would not be affected by construction.
Shedfield 12	Shedfield 12 routes between Shedfield 17 and Pricketts Hill.	Temporary diversion.	Temporary diversion within extent of Order Limits to be provided.
Shedfield 13	Provides east-west link between Shirrell Heath High Street and Winchester Road.	Temporary diversion.	Temporary diversion within extent of Order Limits to be provided.

Section J: Shedfield to the River Hamble

Temporary construction compound accesses

6.5.51 Three temporary construction compounds have been planned to complete construction work along Section J.

Temporary construction compound J-1 accessed via St Annes Lane

6.5.52 The J-1 temporary construction compound would have a vehicular access from St Annes Lane. The general arrangement drawing can be found in the Framework CTMP (Document reference 7.2, DCO Volume 7). Due to constraints at the Blind

Lane/Winchester Road junction, HGVs would need to access temporary construction compound J-1 via the haul road and the access with Curdridge Lane, as described in the following section.

6.5.53 The temporary site access with St Annes Lane would therefore only be used by LGVs. In addition, there would be just one HGV trip to this compound via St Annes Lane to deliver the plant associated with the trenchless crossing. This HGV movement would route to/from the north on Winchester Road and via Waltham Chase.

Temporary construction compounds J-1 and J-2 access via Curdridge Lane

6.5.54 A temporary access would provide access to J-2 from Curdridge Lane. The haul road would also provide access for HGVs to temporary construction compound J-1. The temporary access general arrangement drawing can be found in the Framework CTMP (Document reference 7.2, DCO Volume 7). The access would be designed to accommodate right-in and left-out movements for HGVs.

6.5.55 A traffic marshal would manage HGV movements in and out of this access. Curdridge Lane is also used by school bus services and a traffic marshal would endeavour to ensure construction activities do not impact journey times for these services.

6.5.56 A traffic marshal would manage HGV movements at the haul road crossing points, including at Sandy Lane. Additional management measures would be implemented at the Shedfield 3 and 4 PRoWs to the south, as detailed within the Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7).

Temporary construction compound J-3 access via B3035 Botley Road

6.5.57 Temporary construction compound J-3 would be accessed from a temporary access on the south side of the B3035 Botley Road. The temporary access general arrangement drawing can be found in the Framework CTMP (Document reference 7.2, DCO Volume 7).

6.5.58 The achievable visibility for this access to the north-east is approximately 130m, with a desirable Y-distance of 215m unachievable at this location. The access would be designed to accommodate right-in and left-out movements for HGVs, with a traffic marshal stationed at this location to manage movements turning out of the access.

Temporary traffic management

6.5.59 Temporary traffic management would be required at several locations along Section J associated with the construction of the Pipeline between the WRP site and Otterbourne WSW and the creation and removal of temporary accesses for temporary construction compounds and the temporary haul road. These are summarised in Table 6-12 below.

Table 6-12 Section J traffic management requirements

Location	Proposed traffic management	Duration	Sustainable mode provision
St Annes Lane	Road closure	Two closures Temporary access creation – up to seven days with an allowance for up to 21 days Temporary access removal – up to seven days with an allowance for up to 21 days	No existing footway/cycleway provision.
Sandy Lane	Road closure	Pipeline crossing – up to seven days with an allowance for up to 21 days Temporary haul road access creation – up to seven days with an allowance for up to 21 days Temporary haul road access removal – up to seven days with an allowance for up to 21 days	No existing footway/cycleway provision.
Curdridge Lane	Lane closure with shuttle working signals	Five closures Pipeline crossing – up to seven days with an allowance for up to 21 days Temporary haul road access creation – up to seven days with an allowance for up to 21 days Temporary haul road access removal – up to seven days with an allowance for up to 21 days Temporary access creation – up to seven days with an allowance for up to 21 days Temporary access removal – up to seven days with an allowance for up to 21 days	No existing footway/cycleway provision.
B3035 Botley Road	Night-time lane closure with shuttle working signals	Two lane closures Temporary access creation – seven days with an allowance for up to 21 days Temporary access removal – seven days with an allowance for up to 21 days	No existing footway/cycleway provision

6.5.60 Full calendar and programme restrictions are outlined in the TMS (Document reference 7.3, DCO Volume 7).

Temporary Public Right of Way management

6.5.61 Along Section J of the Pipeline between the WRP site and Otterbourne WSW there are four PRoW footpaths that would be impacted by the Proposed Development. Table 6-13 below provides an overview of the proposed management measures, with details outlined in the Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7).

Table 6-13 Section J Public Rights of Way management measures

Public Right of Way name	Public Right of Way description	Management measure	Management summary
Shedfield 3	Provides east-west connectivity between Winchester Road (A334) and Sandy Lane.	Temporary closure and diversion.	Temporary closure and diversion. PRoW subject to a temporary closure of up to six months with a diversion within the extent of the Order Limits provided.
Shedfield 4 (south section)	This section of Shedfield 4 provides east-west connectivity between Winchester Road (A334) and Sandy Lane.	Temporary closure.	PRoW subject to temporary closures of up to six months. An alternative route is proposed via Shedfield 2 to the north
Shedfield 4 (north section)	This section of Shedfield 4 provides a north-south link between Little Bull Lane and an intersection of PRoW to the south.	Temporary closure and diversion.	Subject to a temporary closure and temporary diversion. PRoW would be predominantly kept open during the construction phase except for a short-term closure of up to four weeks to manage the Pipeline crossing. A diversion route between Shedfield 4 and 2 would be in place during this period. Shedfield 2 and 4 would not be closed simultaneously. Shedfield 2 would be an alternative route for users whilst Shedfield 4 is closed.
Shedfield 2	Shedfield 2 provides an east-west link between Winchester Road and Shedfield 4.	Temporary closure and diversion.	Subject to a temporary closure and temporary diversion connecting Shedfield 2 and 4 within the extent of the Order Limits. Shedfield 2 and 4 would not be closed simultaneously.
Curdridge 4	Provides north-south connectivity between Botley Road and Curdridge Lane.	Keep open (with potential for temporary diversion should this be required).	Curdridge 4 will be kept open with the potential for a minor temporary diversion during construction if required.

Section K: The River Hamble to Lower Upham

Temporary construction compound accesses

6.5.62 A total of six temporary construction compounds are proposed to facilitate construction across Section K.

Temporary construction compounds K-1, K-2, K-3 and K-4 accessed via Winters Hill

6.5.63 A single temporary access is proposed on Winters Hill to provide access to temporary construction compound K-3. From this access, temporary construction compounds K-1, K-2 and K-4 would be accessed via the haul road. The temporary access general arrangement drawing is provided in the Framework CTMP (Document reference 7.2, DCO Volume 7). The access would be designed to accommodate left-in and right-out movements for HGVs. Site operatives would also be made aware of the constrained nature of the road to the west of the site and be required to access from the east via Winchester Road. This would be reinforced with signage at the site access.

6.5.64 As detailed in the Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7), measures would be implemented to manage the interaction between the haul road and the PRoW within the local area. This would include the use of a traffic marshal at the haul road intersections with PRoW to reduce the potential for conflict between construction vehicles and pedestrians.

6.5.65 Restrictions would also be implemented for construction worker trips to/from the site, with only half of construction workers permitted to travel directly to these temporary construction compounds given they would be accessed via the haul road. These workers would instead be required to travel to the proposed construction workers hub where a staff shuttle would take them to the temporary construction compounds.

Temporary construction compounds K-5, K-6 and Break Pressure Tank K accessed via Winchester Road

6.5.66 A temporary site access proposed with the B2177 Winchester Road, in the vicinity of the Winchester Road/Stakes Lane junction, to provide access to the temporary construction compounds K-5 and K-6, as well as BPT-K. This temporary access general arrangement drawing is shown in the Framework CTMP (Document reference 7.2, DCO Volume 7). From this access, a haul road would provide a route to compound K-6.

6.5.67 Restrictions on LGV movements to temporary construction compounds K-5 and K-6 would be implemented given that access to these temporary construction compounds would be via the haul road. All construction workers associated with activities at K-5 and K-6 would be required to travel to the proposed construction workers hub instead, where they would be provided with onward shuttle transport to the temporary construction compounds.

Temporary traffic management

6.5.68 Temporary traffic management would be required at several locations along Section K associated with the construction of the Pipeline between the WRP site and Otterbourne WSW and the creation and removal of temporary accesses for temporary construction compounds and the temporary haul road. These are summarised in Table 6-14 below.

Table 6-14 Section K traffic management requirements

Location	Proposed traffic management	Duration	Sustainable mode provision
Winters Hill	Lane closure with shuttle working signals	Two closures Temporary access creation – seven days with an allowance for up to 21 days Temporary access removal – seven days with an allowance for up to 21 days	No existing footway/cycleway provision.
B2177 Winchester Road	Night-time lane closure with shuttle working signals	Two closures Temporary access creation – up to seven days with an allowance for up to 21 days Temporary access removal – up to seven days with an allowance for up to 21 days	No existing footway/cycleway provision.
Scivier's Lane	Road closure	Four closures Pipeline crossing – seven days with an allowance of up to 21 days Temporary haul road access creation – up to seven days with an allowance for up to 21 days Temporary haul road access removal – up to seven days with an allowance for up to 21 days	No existing footway/cycleway provision.
Alma Lane	Road closure	Pipeline crossing – up to seven days with an allowance for up to 21 days Temporary haul road access creation – up to seven days with an allowance for up to 21 days Temporary haul road access removal – up to seven days with an allowance for up to 21 days	No existing footway/cycleway provision.

Location	Proposed traffic management	Duration	Sustainable mode provision
B3037 Mortimers Lane	Night-time lane closure with shuttle-working signals for access creation and removal. Day and night-time lane closure with manual control (go/no-go signs) for Pipeline crossing.	Five closures Pipeline crossing – Seven days with an allowance of up to 21 days 2x temporary haul road access creation – Seven days with an allowance of up to 21 days 2x temporary haul road access removal – Seven days with an allowance of up to 21 days	No existing footway/cycleway provision.

6.5.69 Full calendar and programme restrictions are outlined in the TMS (Document reference 7.3, DCO Volume 7).

Temporary Public Right of Way management

6.5.70 Along Section K of the Pipeline between the WRP site and Otterbourne WSW there are two PRoW footpaths that would be impacted by the Proposed Development. Table 6-15 below provides an overview of the proposed management measures, with details outlined in the Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7).

Table 6-15 Section K Public Rights of Way Management Measures

Public Right of Way name	Public Right of Way description	Management measure	Management summary
Bishop's Waltham 502	Provides a link between Bishop Waltham PRoW 42b and 44.	Temporary diversion.	Bishop's Waltham 502 will be kept open with a minor temporary diversion around the northern/eastern perimeter of the temporary construction compound.
Bishop's Waltham 43	Provides east-west link between Bishop's Waltham and Manor Road.	Temporary diversion.	Bishop's Waltham 43 will be kept open with a minor temporary diversion during construction.

Section L: Lower Upham to Brambridge

Temporary construction compound accesses

6.5.71 There would be a total of ten temporary construction compounds across Section L of the Proposed Development to facilitate construction work.

Temporary construction compounds L-1 and L-2 accessed via B2177 Portsmouth Road

6.5.72 Temporary construction compounds L-1 and L-2 would be accessed from the B2177 Portsmouth Road, south-east of the junction with Stroudwood Lane. The temporary access general arrangement drawing can be found in the Framework CTMP (Document reference 7.2, DCO Volume 7).

6.5.73 A traffic marshal would manage HGV movements at this temporary access, as well as at the haul road's intersection with PRoW Fair Oak and Horton Heath 23 (see Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7) for details). HGV movements to this access would also only be permitted outside of the road network peak periods to reduce disruption on the B2177.

Temporary construction compounds L-3, L-4, L-5, L-6 and L-7 accessed via the B3354 Winchester Road

6.5.74 A temporary access would be provided to the east of the B3354 Winchester Road to provide access to temporary construction compounds L-3, L-4 and L-5. A second temporary access would be provided to the west of the B3354 Winchester Road to provide access to temporary construction compounds L-6 and L-7. The locations of these accesses would be staggered within the extent of the Order Limits. These temporary accesses would have the required visibility in line with a 40mph design speed. The proposed temporary access general arrangement drawing is shown in the Framework CTMP (Document reference 7.2, DCO Volume 7).

6.5.75 Haul road connections would provide a link between L-3 and L-4, L-4 and L-5, and L-6 and L-7 respectively.

6.5.76 A traffic marshal would be positioned at each of the proposed temporary accesses to manage HGV movements. These traffic marshals would also be able to assist any haul road crossings required at this location. HGV movements to these temporary construction compounds would also only be permitted in the inter-peak periods to reduce disruption on the local highway network.

Temporary construction compounds L-8 and L-9 accessed via Church Lane

6.5.77 A temporary access is proposed with Church Lane to provide access to temporary construction compounds L-8 and L-9. The general arrangement drawing for this temporary access on Church Lane is provided in the Framework CTMP (Document reference 7.2, DCO Volume 7).

6.5.78 As detailed in the Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7), measures are proposed to manage the locations where the haul road crosses the various PRoW.

6.5.79 Given access to these temporary construction compounds would be via the haul road, the Contractor would be required to park at Otterbourne WSW and transported to this location via a dedicated shuttle bus service.

Temporary construction compound L-10 accessed via the B3335 Highbridge Road

6.5.80 The temporary site access to temporary construction compound L-10 is proposed from the B3335 Highbridge Road. The proposed access general arrangement drawing is provided in the Framework CTMP (Document reference 7.2, DCO Volume 7).

6.5.81 A traffic marshal would manage construction vehicles accessing this temporary construction compound. The traffic marshal and site operatives would also be made aware of the footway and bus stop on the eastern side of Highbridge Road.

Temporary traffic management

6.5.82 Temporary traffic management would be required at several locations along Section L associated with the construction of the Pipeline between the WRP site and Otterbourne WSW and the creation and removal of temporary accesses for temporary construction compounds and the temporary haul road. These are summarised in Table 6-16 below.

Table 6-16 Section L traffic management requirements

Location	Proposed traffic management	Duration	Sustainable mode provision
B2177 Portsmouth Road	Night-time lane closure with shuttle working signals	Two closures Temporary access creation – up to seven days with an allowance for up to 21 days Temporary access removal – up to seven days with an allowance for up to 21 days	No existing footway/cycleway provision.
Stroudwood Lane	Road closure	Three closures: Pipeline crossing – up to seven days with an allowance for up to 21 days Temporary haul road access creation – up to seven days with an allowance for up to 21 days Temporary haul road access removal – up to seven days with an allowance for up to 21 days	No existing footway/cycleway provision. As set out in the Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7) there is potential for an elevated level of equestrian movements to be considered by the Contractor post-consent.
B3354 Winchester Road	Night-time lane closure	Two closures Temporary access creation – Seven days with an allowance of up to 21 days	Construction of the temporary access: Adequate space and formal segregation to be provided where practicable for pedestrians and cyclists to pass the construction works.

Location	Proposed traffic management	Duration	Sustainable mode provision
		Temporary access removal – Seven days with an allowance of up to 21 days	Operation of temporary access: Traffic marshal to manage pedestrian and cycle movements in the vicinity of the access, as detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7).
Church Lane	Lane closure with shuttle working signals	Two closures Temporary access creation – seven days with an allowance for up to 21 days Temporary access removal – seven days with an allowance for up to 21 days	Construction of the temporary access: Adequate space and formal segregation to be provided where practicable for pedestrians and cyclists to pass the construction works. Operation of temporary access: Traffic marshal to manage pedestrian and cycle movements in the vicinity of the access, as detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7).
Bishopstoke Lane	Road closure	Pipeline crossing – up to seven days with an allowance for up to 21 days Temporary haul road access creation – up to seven days with an allowance for up to 21 days Temporary haul road access removal – up to seven days with an allowance for up to 21 days	No existing footway/cycleway provision.
B3335 Highbridge Road	Lane closure with shuttle-working signals	Two closures Temporary access creation – up to seven days with an allowance for up to 21 days Temporary access removal – up to seven days with an allowance for up to 21 days	Construction of the temporary access: Adequate space and formal segregation to be provided where practicable for pedestrians and cyclists to pass the construction works. Temporary bus stop closure and relocation proposed. Operation of temporary access: Traffic marshal to manage pedestrian and cycle movements in the vicinity of the access, as detailed in the

Location	Proposed traffic management	Duration	Sustainable mode provision
			Framework CTMP (Document reference 7.2, DCO Volume 7).

6.5.83 Full calendar and programme restrictions are outlined in the TMS (Document reference 7.3, DCO Volume 7).

Temporary Public Right of Way management

6.5.84 Along Section L of the Pipeline between the WRP site and Otterbourne WSW there are five PRoW that would be impacted by the Proposed Development, including four footpaths and one bridleway. Table 6-17 below provides an overview of the proposed management measures, with details outlined in the Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7).

Table 6-17 Section L Public Rights of Way management measures

Public Right of Way name	Public Right of Way description	Management measure	Management summary
Fair Oak and Horton Heath 23	Bridleway providing a link between Stroudwood Lane to the north-east and Winchester Road (B3354) to the south-west.	Temporary diversion	PRoW to be temporarily diverted along the southern boundary of the Order Limits to Stroudwood Lane.
Fair Oak and Horton Heath 27	PRoW that provides north-east - south-west connectivity between Portsmouth Road (B2177) and Winchester Road (B3354).	Temporary diversion	Temporary diversion proposed within the Order Limits.
Colden Common 21	Colden Common 21 provides east-west link between Nobs Crook and Lord's Wood.	Temporary diversion	PRoW kept open with a minor temporary diversion within the Order Limits.
Colden Common 22	Colden Common 22 provides north-south connectivity between Leylands Farm and two other PRoW.	Temporary diversion	PRoW kept open with a minor temporary diversion within the Order Limits.
Colden Common 2a	Provides a north-west-south - east link between Highbridge	Temporary closure	Temporary closure of up to 24 months.

Public Right of Way name	Public Right of Way description	Management measure	Management summary
	Road and Colden Common 5.		Alternative route via Colden Common 5 and 6 (north) or Colden Common 3 (south).

Section M: Brambridge to Otterbourne Water Supply Works

Temporary construction compound accesses

6.5.85 Three temporary construction compounds are proposed to facilitate the construction of Section M.

Temporary construction compounds M-1 and M-2 accessed via Kiln Lane

6.5.86 Access to temporary construction compounds M-1 and M-2 would be provided via two temporary accesses directly north and south of Kiln Lane. The accesses on either side of the road would provide connections to the haul road, which would go on to connect to M-1 to the south and M-2 to the north. The proposed access general arrangement drawing is provided in the Framework CTMP (Document reference 7.2, DCO Volume 7). The accesses have been designed to prohibit HGVs routing east on Kiln Lane given the constrained nature of this route.

6.5.87 A traffic marshal would manage HGV arrivals and departures at these accesses. As detailed in the Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7), a traffic marshal would also manage locations where the haul road intersects the PRoW.

6.5.88 Adequate turning space would also be provided within the temporary construction compounds for vehicles to ingress and egress in a forward gear.

6.5.89 As detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7), widening works are required at the Kiln Lane mini-roundabout junction with Otterbourne Main Road to enable HGV access. These works have been discussed with HCC, and optionality remains as to whether they would be temporary or permanent. Kiln Lane is also not wide enough to accommodate two-way HGV movements and therefore arrivals and departures would need to be appropriately scheduled, and this would be set out in the detailed CTMP to be prepared by the Contractor post-consent.

Temporary construction compound M-3 accessed via Otterbourne Water Supply Works facility

6.5.90 Temporary construction compound M-3 is proposed to be accessed via the existing Otterbourne WSW facility. The Otterbourne WSW has an existing access provided from the local highway network, and it is proposed to utilise this in its existing condition to facilitate movements to/from M-3. As the existing access already suitably accommodates LGV and HGV movements, no modifications to this access are proposed. Access to the temporary construction compound would then be provided within the existing Otterbourne WSW site.

6.5.91 Temporary construction compound M-3/Otterbourne WSW would also accommodate a number of construction worker trips associated with temporary construction compounds within Section L where restrictions are imposed. These workers would park within M-3 and Otterbourne WSW before being transported by shuttle bus to the restricted temporary construction compound.

6.5.92 Construction works for Invasive Non-Native Species (INNS) Treatment would be also undertaken utilising temporary construction compound M-3 which would be accessed from Waterworks Road. Construction would start August 2030, following the completion of the other construction activities associated with Section M outlined above. This would avoid any combined traffic impacts with other nearby construction activities associated with the Proposed Development

Temporary traffic management

6.5.93 Temporary traffic management would be required on Kiln Lane associated with the construction of the Pipeline between the WRP site and Otterbourne WSW and the creation and removal of temporary accesses for the temporary haul road. These are summarised in Table 6-18 below.

Table 6-18 Kiln Lane traffic management requirements

Location	Proposed traffic management	Duration	Sustainable mode provision
Otterbourne Road/Kiln Lane/Otterbourne Hill mini-roundabout	Optionality presented in Framework CTMP (Document reference 7.2, DCO Volume 7).		
Kiln Lane	Road closure	Pipeline crossing – up to seven days with an allowance for up to 21 days Temporary haul road access creation – up to seven days with an allowance for up to 21 days Temporary haul road access removal – up to seven days with an allowance for up to 21 days	No existing footway/cycleway provision.

6.5.94 Full calendar and programme restrictions are outlined in the TMS (Document reference 7.3, DCO Volume 7).

Temporary Public Right of Way Management

6.5.95 Along Section M of the Pipeline between the WRP site and Otterbourne WSW there are two PRoW that would be impacted by the Proposed Development. Table 6-19 below provides an overview of the proposed management measures, with

details outlined in the Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7).

Table 6-19 Section M Public Rights of Way management measures

Public Right of Way name	Public Right of Way description	Management measure	Management summary
Otterbourne 7	PRoW provides north-east - south-west link between Kiln Lane and Park Lane (Otterbourne).	Temporary closure and diversion	Temporary closure and diversion. PRoW would be kept open, except for a short-term temporary closure of up to four weeks to manage the Pipeline crossing when a diversion would be in place within the Order Limits.
Otterbourne 6	Provides a south-east to north-west link between Kiln Lane and Otterbourne Main Road.	Temporary closure and diversion	Temporary closure and diversion within extent of Order Limits using permissive path around field to the north of Kiln Lane and demarked by the Order Limits.

6.6 Proposed off-site physical highways mitigation works

6.6.1 As detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7), vehicle tracking with a 16.5m articulated lorry has been undertaken to identify locations along the access routes where off-site physical highway mitigation works would be required to facilitate access. These vehicle tracking drawings can be found in the Framework CTMP (Document reference 7.2, DCO Volume 7).

6.6.2 Following this initial exercise, off-site highway works may be required at the following locations:

1. Bedhampton Road/Brookside Road junction
2. Blind Lane/Titchfield Lane/A334 Winchester Road junction
3. A334/Botley Road junction
4. Otterbourne Main Road/Kiln Lane junction

6.6.3 Commentary on each of these proposed works are outlined below and drawings can be found in the Framework CTMP (Document reference 7.2, DCO Volume 7).

Bedhampton Road/Brookside Road junction

6.6.4 Off-site temporary works could potentially be required at the Bedhampton Road/Brookside Road junction to enable access to temporary construction compound B1-1. These works would be subject to the maximum size of the construction vehicles required to access the compound via Mill Lane. If required, this includes minor works to the central refuge on Brookside Road at the junction with Bedhampton Road. This would be agreed with the relevant stakeholders as part of the detailed CTMP.

6.6.5 Should these works be required, it is proposed for this refuge island to be reinstated following the completion of construction activities at temporary construction compound B1-1.

Blind Lane/Titchfield Lane/A334 Winchester Road junction

6.6.6 Vehicle tracking of the Blind Lane/Titchfield Lane/A334 Winchester Road junction indicates that physical works would be required to prevent articulated lorries from overrunning onto the opposite side of the carriageway when entering Blind Lane (near the stop line).

6.6.7 Two potential options have been included in the Framework CTMP (Document reference 7.2, DCO Volume 7), including either setting back the stop line on Blind Lane or widening Blind Lane at the junction. The preferred solution will be agreed with HCC and confirmed in the detailed CTMP to be prepared by the Contractor post-consent.

A334/Botley Road junction

6.6.8 Widening works at the A334/Botley Road junction may be required to enable HGVs to turn right out of the junction. Without these widening works, the largest HGVs associated with construction would need to use the opposing traffic lane on Botley Road when approaching the junction with the A334.

6.6.9 These potential works have been discussed with HCC and video surveys were presented confirming that some large HGVs use this junction presently. It was also noted that there may only be a small number of large (16.5m) HGVs using this junction for construction. It was therefore agreed with HCC that if the Contractor confirms a small number of 16.5m HGVs use this junction (two or less movements per week), there is potential that these temporary works may not be required. This would be agreed with the relevant stakeholders as part of the detailed CTMP.

Otterbourne Main Road/Kiln Lane junction

6.6.10 Vehicle tracking of the Otterbourne Main Road/Kiln Lane mini-roundabout indicates that works would be required at this junction to facilitate HGV access to temporary construction compounds M-1 and M-2. This would likely require physical works to widen the entry/exit lanes to the roundabout from Kiln Lane. Additional traffic management would also be required to facilitate the small number of 16.5m articulated lorry movements in and out of Kiln Lane. This temporary traffic management would be undertaken by the Contractor and would only be required in the inter-peak period, and is therefore not anticipated to have a perceptible impact on journey times in the network peak hours.

6.7 Construction workers hub

6.7.1 A construction workers hub would be temporarily required during the construction phase to act as a main project hub. It would provide an office building accommodating approximately 60 employees during construction working hours, with welfare, parking and security facilities. The purpose of the construction workers hub would be a central point for construction workers to assemble prior to transportation to the temporary construction compounds. The construction workers hub would not be used to store materials, plant or other equipment.

6.7.2 The area required for the construction workers hub would be up to 15,000m^2 and it would be located within 10km of the Pipelines between the WRP site and Bedhampton Springs. It would be located in close proximity to the SRN to ensure

adequate access. The construction workers hub would also require connection to utilities including power, water and sewerage. Due to uncertainty over timing and availability of potential construction workers hub sites, the construction workers hub would be identified by the Contractor, during the construction phase, and it is assumed that it would use an existing suitably consented site for the activities to be undertaken there. The construction workers hub is therefore not included in the DCO Order Limits.

6.7.3 A traffic impact assessment of the potential construction workers hub is detailed in section 10.6.

6.8 Washouts and overflows

6.8.1 As detailed in section 7.3, pipeline washouts and BPT washouts and overflows would be used as part of the maintenance strategy for the Proposed Development. In the construction phase, these washouts would also be for commissioning the Proposed Development, as detailed in this section. The transport impacts of the washouts in the construction stage are detailed in section 10.7.

Pipeline washouts

6.8.2 The washouts may be used, although not strictly necessarily so, as part of the commissioning process to fill and drain the pipeline for pressure testing. Potable water would be used for commissioning, it is passed along each section of pipeline under test; using tankers, temporary pumps and lagoons, to avoid wastage and remove any requirement to release of water to the environment. Once the volume of water is no longer needed, e.g. no more pipeline sections to test, it can be disposed by tankering to a cess reception site (e.g. Budds Farm WTW).

Break Pressure Tank washouts

6.8.3 A BPT washout is primarily used to drain down a residual volume of water still within the tank during a process to empty it.

6.8.4 BPT washouts are tested at the commissioning phase as part of testing the BPT. This testing water is either potable water or uses the pipeline testing water (originally potable sourced). The resultant volume is removed from the collection chamber for tankering away for disposal as foul sewage via road to a cess reception site (e.g. Budds Farm WTW).

Break Pressure Tank Overflows

6.8.5 BPT overflows have the two key functions of backflow prevention and over-topping prevention.

6.8.6 Overflows are tested at the commissioning phase as part of testing the BPT up to Top Water Level. This testing water is either potable water or uses the pipeline testing water (originally potable sourced) the resultant volume would be tankered away for disposal as foul sewage via road to a cess reception site (e.g. Budds Farm WTW).

6.9 Invasive Non-Native Species Treatment at Otterbourne Water Supply Works

6.9.1 To prevent the spread of INNS, a physical exclusion approach is proposed where fine screens of 25µm are proposed. All wastewater leaving the Otterbourne WSW will pass through these fine screens. The treated (potable) water from Otterbourne WSW will be similarly treated as part of the water treatment process, and any INNS will be separated out into the wastewater.

6.9.2 Construction works for INNS Treatment would be undertaken utilising temporary construction compound M-3 which would be accessed from Waterworks Road. Construction would likely start August 2030, following the completion of the other construction activities associated with Section M (as shown in Graphic 3-2 Indicative construction programme ES Chapter 3 Description of the Proposed Development, Volume I (Document reference 6.1, DCO Volume 6)). This would avoid any combined traffic impacts with other nearby construction activities associated with the Proposed Development.

7 Development proposals – operation

7.1 Introduction

7.1.1 This section provides an overview of the Proposed Development including a description of its principal components and an outline of the operation and maintenance activities.

7.1.2 This section provides traffic and transport-focused context on the Proposed Development relevant to this document. For a detailed description of the Proposed Development, please refer to ES Chapter 3 Description of the Proposed Development, Volume I (Document reference 6.1, DCO Volume 6).

Parameters and Limits of Deviation

7.1.3 Within the Order Limits, Limits of Deviation (LoD) have been defined. These LoD define the extent of the area within which elements of the Proposed Development may operate.

7.1.4 The Works Plans (Document reference 2.3, DCO Volume 2) detail the location of the principal components of the Proposed Development within the Order Limits. Additional information on these other works so far as they are relevant to this assessment is set out in section 7.2.

Proposed Development design process

7.1.5 The DCO application is based on a indicative/typical designs with the detailed designs to be delivered by the Contractor post-consent, as detailed in paragraphs (6.1.6 - 6.1.7).

7.2 Overview and principle components of the Proposed Development

Water Recycling Plant site

7.2.1 The WRP site would be located at a site approximately 300m north-west of Budds Farm WTW, south of the A27 and west of the Hermitage Stream. The site would consist of a main process building where the water recycling process would be located and undertaken, kiosks for control equipment, administration buildings and parking facilities. Access to the WRP site would be provided from Harts Farm Way to the south.

7.2.2 Parking for the site would be contained within Development Zone 1 at the WRP site, as secured within the Design Principles Document (Document reference 5.11, DCO Volume 5).

7.2.3 The WRP site would be accessed via a priority-controlled major/minor junction with Harts Farm Way. A 3m wide shared footway/cycleway would be provided as part of the site access, leading to a crossing on Harts Farm Way. Whilst a signal-controlled crossing is secured for the construction period, post-construction, this crossing could be controlled or uncontrolled, subject to agreement with HCC post-DCO.

7.2.4 The site would accommodate 30 car parking spaces. Up to eight of the spaces would be reserved for staff whilst the remainder would be for visitors. Two accessible parking spaces and two permanent cycle parking spaces would also be provided at the site.

Pipelines between Budds Farm Wastewater Treatment Works and the Water Recycling Plant site

7.2.5 Pipelines between Budds Farm WTW and the WRP site and a pumping station at Budds Farm WTW would both support the transfer of water from Budds Farm WTW to the WRP site. The pipelines would be installed on the same route under the Hermitage Stream and Harts Farm Way and would be approximately 700m in length.

7.2.6 There is flexibility in the final location of the Pipelines within the Order Limits as the exact location that the Pipelines would connect at the WRP site and Budds Farm WTW would be determined post-consent.

7.2.7 Treated wastewater would be pumped to the WRP site by a new pumping station at Budds Farm WTW. The pumping station includes a kiosk which is the only above-ground structure. The remaining elements of the pumping station would be located below-ground and would include a wet well pumping station. A permanent access road would also be required to connect to the existing internal access roads within Budds Farm WTW.

7.2.8 No permanent accesses would be created as part of this component of the Proposed Development.

Pipelines between the Water Recycling Plant site and Bedhampton Springs

7.2.9 Pipelines would enable the transfer of recycled water between the WRP site and Bedhampton Springs, and the transfer of source water between Havant Thicket Reservoir and the WRP site. The transfer would be split into two separate sections, one part from the WRP site to Bedhampton Springs and one part from Bedhampton Springs to Havant Thicket Reservoir (utilising Portsmouth Water's pipelines which have been granted separate planning consent). Details can be found in ES Chapter 3 Description of the Proposed Development, Volume I (Document reference 6.1, DCO Volume 6).

Pipeline between the Water Recycling Plant site and Otterbourne Water Supply Works

7.2.10 A pipeline would be needed to transfer source water from the WRP site to Otterbourne WSW. Due to the length of the pipeline, which would measure approximately 35km in length, it has been divided into sections (Sections D to M).

Above Ground Plant and existing infrastructure

7.2.11 An AGP, comprising two IPSs, one BPT and one combined IPS and BPT would be located along the Pipeline between the WRP site and Otterbourne WSW. These are required to accommodate changes in the topography of land.

Break Pressure Tank and Intermediate Pumping Station E

7.2.12 BPT-E and IPS-E comprises a combined BPT with an IPS, and would be located north of Portsdown Hill Road and east of New Down Lane within Section E of the Pipeline. A new priority controlled major/minor permanent access is proposed directly from New Down Lane which is a private road. From this proposed access, vehicles would travel south to the existing junction with the B2177 Portsdown Hill Road which is adopted highway. Works are proposed to widen the New Down Lane junction with the B2177 to improve access for construction vehicles, as detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7). With these proposed widening works, all operational vehicles associated with BPT-E and IPS-E could access New Down Lane. .

Intermediate Pumping Station F

7.2.13 IPS-F would be located east of Albany Farm within Section F of the pipeline. A new permanent access road would be developed from Chalk Lane to IPS-F. There is flexibility in the Order Limits to allow for the final location of this permanent access road from Chalk Lane to be determined at the post-consent. This flexibility is required due to uncertainty around detailed design associated with the Welborne Garden Village development.

Intermediate Pumping Station G

7.2.14 IPS-G would be located south of Titchfield Lane within Section G of the Pipeline. A new permanent access point from an existing access track would provide access to IPS-G. This access track is located to the east of Wickham Park Golf Club and is used to access a small number of properties.

7.2.15 Vehicle tracking with a 10m rigid lorry indicates the vehicle would overrun the centre line when turning left into and left out of the access with Titchfield Lane. Following engagement with HCC, it is expected that a 10m rigid vehicle using the access overrunning the opposing traffic lane would be acceptable, given both the very low frequency of this manoeuvre and the fact that it wouldn't be a departure from the existing use of the junction. This manoeuvre would be completable in a safe manner by the driver using low speeds and edging out slowly on the rare occurrence a 10m rigid needs to access the site. It is known that manoeuvres associated with the motor home repairs unit (also accessed from the private lane) already occur using vehicles of comparable size to the 10m rigid without any notable incidents having taken place (as detailed in section 4.5). Based on this, an extremely minor intensification in this type of movement at the junction is considered to be acceptable from a road safety perspective.

Break Pressure Tank K

Design development

7.2.16 At the Summer 2024 Consultation, BPT-K was shown to be accessed via Scivier's Lane, as it is the only public highway with direct access to the site. However, an outline design revealed several feasibility issues:

1. Poor visibility at the existing field access raised safety concerns.

2. No other suitable access points along Scivier's Lane.
3. On-site access road proposal lacked a viable outfall for new impermeable surfaces.
4. Parked vehicles on Scivier's Lane could obstruct access for maintenance vehicles.

7.2.17 Given these challenges, the BPT-K access has been relocated to the east via Winters Hill and a private track. Some key considerations for this revised access strategy are:

1. The existing access bellmouth on Winters Hill may need repairs but is geometrically sufficient for the design vehicle.
2. Visibility for this existing access is superior to Sciver's Lane and is compliant assuming vegetation is trimmed back appropriately.
3. The route to this access includes features requiring assessment, such as a culvert, a PRoW, and informal parking near commercial properties.
4. Winchester Road is better suited for construction traffic than Scivier's Lane making it preferable for BPT-Ks construction access.

Updated access strategy

7.2.18 As noted above, BPT-K would be located north of Winters Hill Hall, within Section K of the Pipeline. An existing access track from Winters Hill would be used to provide access BPT-K during the operational phase.

7.2.19 Vehicle tracking with a 10m rigid lorry indicates the vehicle would overrun the centre line when turning left out of the access and on to Winters Hill. It is expected from engagement with HCC that they would accept a 10m rigid vehicle using the access overrunning the opposing traffic lane. This manoeuvre would be completable in a safe manner by the driver using low speeds and edging out slowly on the rare occurrence a 10m rigid needs to access the site. It is likely that such manoeuvres are already happening using vehicles with comparable size to the design vehicle associated with the agricultural activities. As detailed in section 4.5, there have not been any road traffic collisions at this location despite this.

7.2.20 The access arrangement for BPT-K includes a length of track which is a Public Right of Way for around 130m, from the bell mouth on Winters Hill to the first building at the entrance to the farm. There are currently several businesses that appear to use this track for vehicular access. The track is roughly 3m wide on average with approximately 1m of grass verge on either side, depending on the how far the hedges are trimmed back. It is assumed that pedestrians currently using the PRoW stand on the verges while vehicles are passing them. There are also 3 field accesses on the track which pedestrians can use to distance themselves when they see larger vehicles coming towards them. Due to the very low amount of traffic generated by BPT-K as discussed in Section 12.3, the impact on this PRoW from the Proposed Development is expected to be negligible.

7.3 Operational maintenance - washouts and overflows

7.3.1 This section outlines the proposed approach to maintenance with regards to pipeline washouts and BPT washouts and overflows. This relates to the operation

phase of the Proposed Development. Additional information on washouts in the construction and commissioning stages can be found in section 6.8 of this report.

7.3.2 As detailed in this section, it is proposed for water that is discharged from the pipeline to be transported by road to an appropriately licensed cess reception site (e.g. Budds Farm WTW). This section therefore provides an overview of these activities, with the potential traffic impacts outlined in section 12.4.

Pipeline washouts

7.3.3 Pipeline washouts are provided to drain down sections of the transfer pipeline. These pipeline sections are several hundred meters long. Washout valves would be located at topographical low points along the Pipelines to facilitate commissioning and emptying a section of pipe for repair and maintenance

7.3.4 There is no requirement to drain down the entire pipeline during the operational life of the pipeline.

7.3.5 Except for the testing of the washout valves, there is no need to discharge any water from the washouts during normal operation. Pumps at IPSs have been designed to be removed without the need to discharge any flows and therefore don't require release of water via washouts. Testing of the washout valves is proposed to be undertaken every six months using road-going tankers to capture the washout flows, so that no flows are released to the environment. The tankers would then discharge flows at an appropriately licensed cess reception site (e.g. Budds Farm WTW).

Break Pressure Tank washouts

7.3.6 A BPT washout is primarily used to drain down a residual volume of water still within the tank during a process to empty it.

7.3.7 The BPTs in this Proposed Development are designed with two cells, each with its own washout valve, this enables one cell to be taken offline, leaving the other cell in service to continue operation of the transfer pipeline. BPT cells may be individually taken offline for routine inspection, cleaning and maintenance, typically in the order of years.

7.3.8 Draining down of the washouts is to be undertaken under controlled conditions so as to not overflow into the environment. Each BPT cell would be taken offline individually and so there are no time demands to drain down flows quickly, flows would be controlled for tankering away off-site. The tankers would then discharge flows at an appropriately licensed cess reception site (e.g. Budds Farm WTW).

Break Pressure Tank overflows

7.3.9 BPT overflows have the two key functions of backflow prevention and over-topping prevention.

7.3.10 BPT overflows are provided as last-resort emergency devices; by design BPT overflows should never occur. Normal system control would manage the levels within the BPT to maintain a level between design Top Water Level and Bottom Water Level. Sensors would detect an operationally exceptional increase in BPT level and automatically command the system to reduce or cease pumping, or

throttle or close valves as programmed. It would also send an alarm to the control room to monitor the situation or to elicit manual intervention.

7.3.11 The overflow would be designed to accommodate the maximum design flow for the BPT.

7.3.12 A situation leading to an overflow would require the simultaneous failure of all of the following multiple system elements:

1. Unexpected downstream cessation or throttling of flows.
2. Failure of normal automated control systems to maintain normal BPT levels.
3. Undetected operationally exceptional rise in BPT levels, failure of automatic emergency response or unresponsive manual intervention from the control room upon reaction to an alarm.

7.3.13 The failure of each element alone is extremely unlikely, and an event that sees all elements fail simultaneously is vanishingly improbable. If the overflow volume is less than the effective volume of the collection chamber, i.e. the overflow stops before reaching the outlet to discharge, no flows would be released to the environment, and this volume would be removed by suction tanker for tankering away off-site to an appropriately licensed cess reception site (e.g. Budds Farm WTW).

7.4 Invasive Non-Native Species Treatment at Otterbourne Water Supply Works

7.4.1 The INNS Treatment is not forecast to generate any new vehicle trips during the operation phase. The sludge from the two stages of filtering is returned to the Wastewater Balancing Tank for recycling whilst the INNS free effluent will be discharged directly into the foul sewer network. There would be no material increase in maintenance trips beyond those generated by the wider Otterbourne WSW site.

8 Existing and future baseline

8.1 Introduction

8.1.1 This section presents the traffic data that has been collected to define baseline conditions. Baseline traffic surveys were conducted in summer 2023, autumn 2024 and spring 2025. The broad locations of these surveys were informed by a preliminary traffic impact assessment and were discussed with HCC during a workshop in September 2024.

8.1.2 The future baseline has then been defined based on a bespoke approach to background traffic growth agreed with HCC through the submission of a Technical Note (dated October 2024) following their comments on the previous approach set out within the Transport Assessment Scoping Report (TASR) (see **Error! Reference source not found.**).

8.1.3 The cumulative developments (long and short-lists) ES Appendix 20.1 List of 'other developments' - longlist and shortlist, Volume II (Document reference 6.2, DCO Volume 6), were then subsequently discussed in spring 2025 and informed the future baseline.

8.2 Baseline traffic data

Summer 2023 traffic surveys

8.2.1 During June and July 2023, 53 ATC surveys were conducted across a range of locations within the study area (the study area is set out in detail in section 4.2). These surveys were conducted outside of the school holidays, however some may have taken place during a period where seasonality may have impacted traffic flows and as such were validated against subsequent survey data described below. The locations of these ATC surveys were identified based on preliminary temporary construction compound locations and potential access routes identified early in the Proposed Development design process.

Autumn-Winter 2024 traffic surveys

8.2.2 During October and November 2024 (outside of school holidays), 35 traffic surveys were conducted across a range of locations within the study area. Of these, 29 ATCs were conducted alongside six Junction Turning Counts (JTCs) complete with queue length surveys. The locations of these surveys were identified following the refinement of the Proposed Development, a preliminary traffic impact analysis and a workshop with HCC in September 2024.

8.2.3 This included the identification of some identical sites to the 2023 surveys for validation purposes given that the 2023 surveys took place during a period where seasonality may have influenced traffic flows.

Spring 2025 traffic surveys

8.2.4 Following this, an additional set of nine traffic surveys, comprising three ATCs and six JTCs, were conducted across a range of locations within the study area during May 2025.

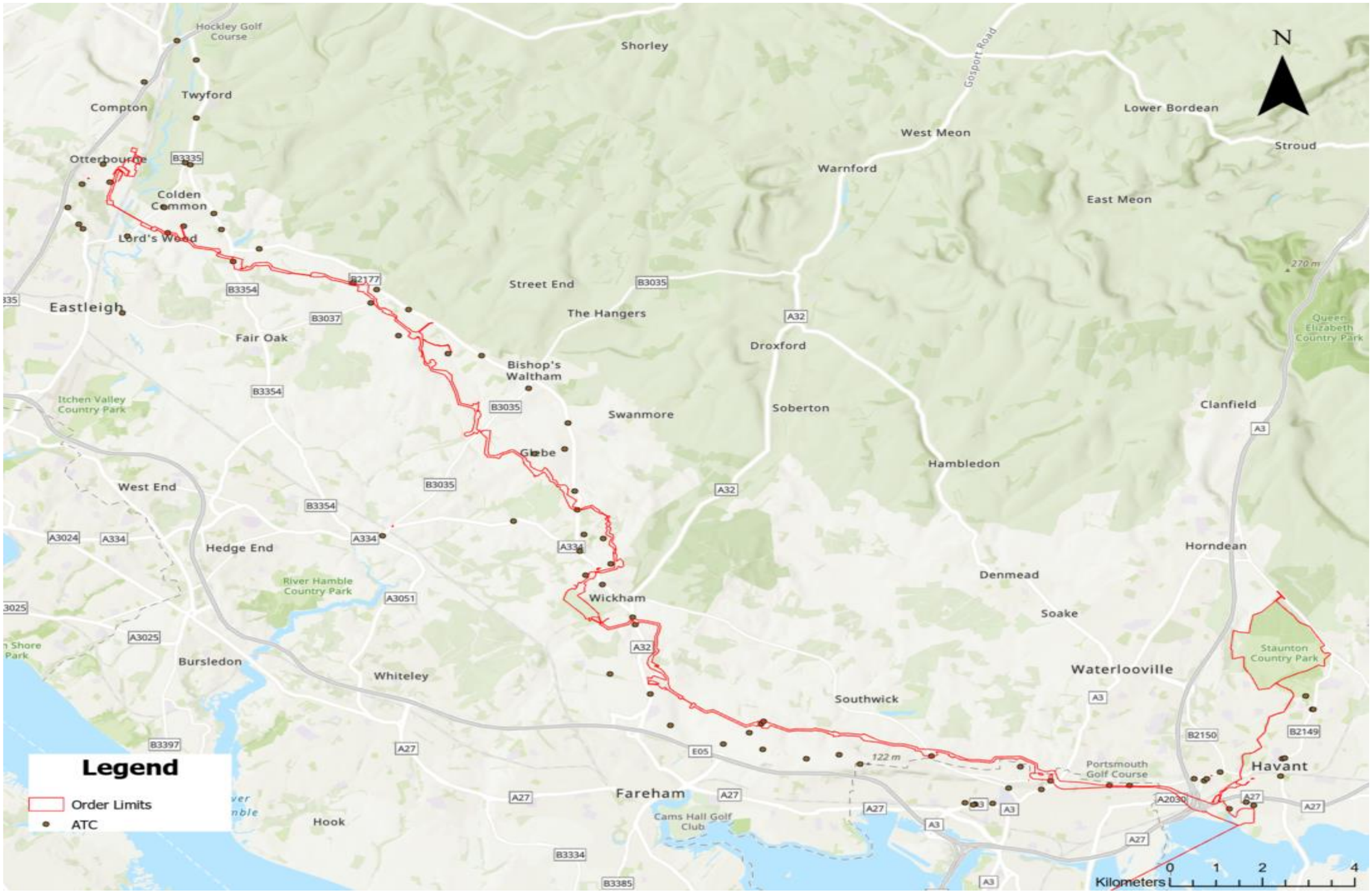
8.2.5 The location of these ATC surveys was informed by requirements for additional air quality validation data, including additional speed data for Boarhunt Road. The location of the JTCs was informed by the preliminary traffic impact assessment, which identified the potential for significant construction traffic impacts at six junctions. The baseline data captured at these junctions has been used to inform the percentage traffic impact assessment at these junctions as set out in section 10.5.

8.2.6 The locations of all of these ATC traffic surveys are shown in the context of the Order Limits and HGV access routes at Graphic 8-1.

8.2.7 The locations of the JTC traffic surveys are summarised as follows:

1. Crookhorn Lane/B2177 Portsdown Hill Road/Gillman Road priority junction (2024).
2. A32 Hoads Hill/Knowle Road/Chalk Lane roundabout (2024).
3. A32 School Road/Grindall Field/A32 Hoads Hill/A334 Fareham Road roundabout (2024).
4. A334 Winchester Road/Blind Lane/Titchfield Lane signalised junction (2024 and 2025).
5. B3354 Main Road/B2177 Portsmouth Road/B3354 Winchester Road signalised junction (2024).
6. B3354 Main Road/Wessex Way/Church Lane roundabout (2024).
7. Tear Drop junction (A27/A3(M)/Harts Farm Way) (2025).
8. Rusty Cutter junction (A3(M)/B2177 Bedhampton Hill/A27/A2030) (2025).
9. B2177 Bedhampton Road/Brookside Road/B2177 Bedhampton Hill/B2177 Portsdown Hill Road/Maylands Road roundabout junction (2025).
10. B3035 Botley Road/A334 priority junction (2025).
11. Otterbourne Main Road/Kiln Lane/Otterbourne School Access mini-roundabout junction (2025).

Graphic 8-1 Location of Automatic Traffic Count surveys in relation to the Order Limits



8.2.8 The survey data can be found in **Error! Reference source not found.**.

8.3 Network peak period analysis

8.3.1 As set out in section 8.2, a series of initial ATC surveys were conducted in June and July 2023, followed by a second set of ATC surveys in October and November 2024. The second round of surveys have been validated against the survey data collected in 2023.

8.3.2 Using these two sets of survey data, a peak period analysis has been undertaken to identify when the existing AM and PM network peak periods occur on the local highway network.

8.3.3 Given that the 2024 surveys were undertaken during a neutral month (i.e. outside of holiday season), this has been used as the primary dataset to identify road network peak periods, with the 2023 dataset used where necessary to supplement this data.

8.3.4 As the length of the Pipeline between the WRP site and Otterbourne WSW is approximately 35km, a robust approach to network peak period identification was undertaken to account for local variations in traffic volumes. This approach involved identifying link-specific network peak periods rather than an average network peak period that covered the entirety of the pipeline, or even sub-sections.

8.3.5 This peak period analysis provides an assessment of links based 15-minute segments, with AM peak periods identified between 06:00-10:00 and PM peak periods identified between 15:00-19:00.

8.3.6 The outputs of this peak period analysis are provided at **Error! Reference source not found.**.

8.3.7 Peak period analysis has also been conducted for six junctions that were surveyed using JTCs in 2025. The outputs of the peak period analysis for these six junctions has informed the impact assessment outlined in section 10, and is contained in detail at **Error! Reference source not found.**.

8.4 Background traffic growth factors

Methodology

8.4.1 The transport-planning industry has seen a recent paradigm shift away from the traditional ‘Predict and Provide’ approach to a more holistic ‘Vision and Validate’ approach, which seeks to prioritise and encourage sustainable modes of travel going forward rather than inducing demand for vehicle trips by extrapolating past trends of car supremacy.

8.4.2 In line with the Vision and Validate approach, transport practitioners are encouraged to forecast future growth by using a combination of the Department for Transport’s (DfT) Uncertainty Toolkit and the TAG Unit M4 document.

8.4.3 For major schemes, the DfT advises that uncertainty analysis is undertaken using their ‘off-the-shelf’ common analytical scenarios. The DfT states that these common analytical scenarios should be used for ‘high impact’ schemes, whilst the alternative TAG Unit M4 High and Low Growth scenarios should be used for ‘certain smaller schemes’.

8.4.4 Given that the Proposed Development would not have a material traffic impact during its operational phase and would only have a minor temporary impact during the construction phase, it is not considered to have a 'high-impact'.

8.4.5 Therefore, the alternative High and Low Growth scenario growth factors were presented to HCC alongside the 'Core' growth scenario for comment on how they would like the Applicant to proceed.

8.4.6 HCC requested that the Applicant use the Core growth scenario. The Core growth scenario is defined as follows:

1. Core Growth Scenario – National Trip End Model (NTEM) growth in demand, at a suitable spatial area, which includes sources of local uncertainty that are more likely to occur than not as well as appropriate modelling assumptions.

8.4.7 Separate growth factors have been calculated for 'car' trips and HGV trips.

8.4.8 Car trip growth factors have been calculated using the National Road Traffic Projections 2022 (NRTP22) dataset within TEMPro v.8.1. These have been calculated at the Hampshire region level to provide a growth factor at an appropriate level of granularity.

8.4.9 The TEMPro v.8.1 software does not provide functionality to calculate HGV growth factors and therefore these factors have been calculated using the NRTP22 raw dataset. The NRTP22 raw data has been published at a higher level of geographic granularity and therefore these HGV growth factors are based on forecast growth within the wider south-east region rather than specifically focusing on Hampshire.

8.4.10 Both the car and HGV growth factors have been calculated for minor roads, A-roads, motorways and trunk roads.

8.4.11 Growth factors have been calculated using the proposed year of application, as the base year and the proposed year of the completion of the main construction works, 2031, as the future year. Whilst construction is proposed to extend beyond 2031, the remaining activities would generate a very low volume of traffic movements and therefore would not be relevant to the quantitative assessment of the peak construction traffic impacts that is detailed in the subsequent chapters. As such, 2031 has been used as the forecast future year for this assessment.

8.4.12 The following section presents the growth factors associated with the core scenario for the forecast final year of construction.

8.4.13 It should be noted alternative assumptions have not been applied in the TEMPro model to account for the cumulative developments trips that have been added to the future baseline separately. As detailed in the ES Appendix 20.1 List of 'other developments' - longlist and shortlist, Volume II (Document reference 6.2, DCO Volume 6), many cumulative developments have not been specifically modelled as the associated traffic demand would be captured by TEMPro growth factors.

Growth factors

8.4.14 Using the above approach, TEMPro v.8.1 and the NRTP22 have been used to calculate the growth factors associated with each of the forecast scenarios.

8.4.15 Growth factors have been calculated for the average weekday. The resultant outputs for the core scenario are presented below:

Table 8-1 Core Scenario Growth Factors 2025 to 2031

Road Type	Car (Hampshire)	HGV (South-East)
Minor Road	1.051	1.007
A-Road	1.052	1.010
Motorway	1.090	1.052
Trunk	1.068	1.032

8.4.16 Given that baseline traffic data has been collected in 2023 and 2024 in advance of the proposed application year, growth factors are also required to growth baseline traffic from the year that it was collected to the year of the application.

8.4.17 Growth factors for baseline traffic data have also been obtained from TEMPro and are presented for the core growth scenario in Table 8-2.

Table 8-2 Core Scenario Growth Factors 2023/2024 to 2025

Road Type	Car (Hampshire)		HGV (South-East)	
	2023	2024	2023	2024
Minor Road	1.008	1.004	1.003	1.001
A-Road	1.007	1.004	1.005	1.003
Motorway	1.013	1.006	1.013	1.007
Trunk	1.015	1.008	1.011	1.005

8.5 Committed development methodology

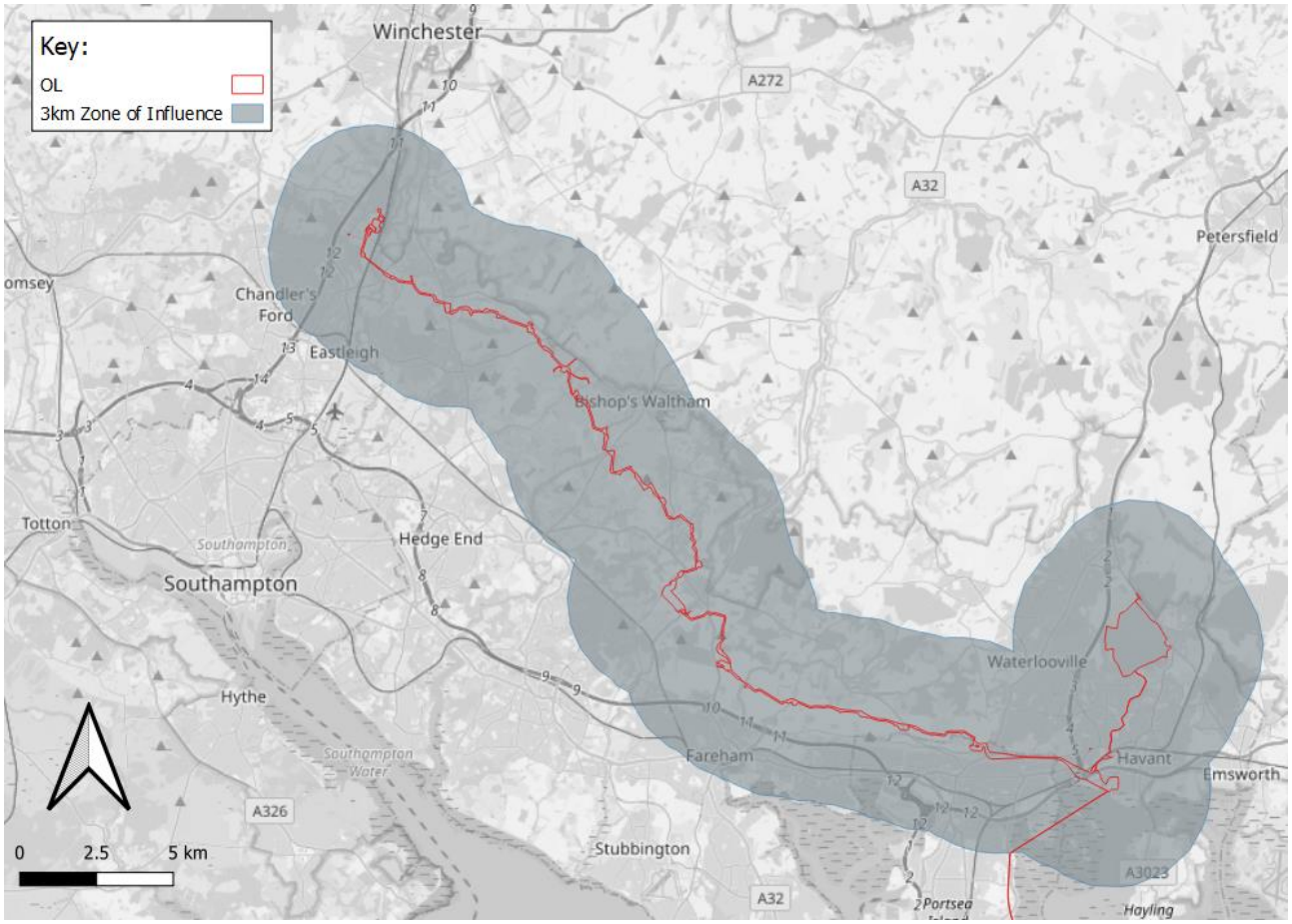
8.5.1 Significant committed development sites have also been considered as part of the traffic impact assessment in addition to future baseline traffic growth. The scope of committed development site inclusion has been agreed with HCC following extensive engagement. The methodology for agreeing these sites is set out as follows.

Site inclusion

8.5.2 Committed development of a significant scale within reasonable proximity to the Proposed Development has been considered.

8.5.3 To identify these sites, a 3km Zone of Influence (ZoI) around the Order Limits (excluding the Eastney LSO given that there will be no transport impacts relating to this) was established. This is shown at Graphic 8-2.

Graphic 8-2 3km Zone of Influence



8.5.4 Following the establishment of this ZoI, an initial sifting process was undertaken to identify sites for inclusion within the traffic model. This initial sifting process involved the following filters:

1. Sites that had a proposed quantum of 50 or more dwellings or equivalent employment quantum (20,000 sqm or more for office/industrial, 40,000 sqm or more for warehousing).
2. Sites that have been subject to a live planning application (of any kind) within the last five years (based on TAG Unit M4 Guidance).
3. Sites that had already been built out were excluded, and a discount rate was established for those that were partially built-out as of Summer 2023 (period of initial traffic surveys).

8.5.5 A list of allocated sites, emerging allocations, Town and Country Planning Act application sites and DCOs which were scoped in or out of the assessment broadly based on the above filters was then submitted to HCC and PCC for comment.

8.5.6 HCC provided comment on this long-list. The project team then responded to these comments, and agreed to include a number of additional sites that did not meet the initial sifting criteria within the model for specific reasons. The long-list and short-list was agreed through collaborative discussions with HCC and PCC and is shown in the ES Appendix 20.1 List of 'other developments' - longlist and shortlist, Volume II (Document reference 6.2, DCO Volume 6).

Trip generation

8.5.7 Trip generation associated with each of the individual committed developments was extracted from the relevant Transport Assessment or Transport Statement.

8.5.8 For the 'Land West of Downend Road' site, for which neither a Transport Assessment nor a Transport Statement had been submitted as of April 2025, the trip rates associated with the adjacent 'Downend Road East' site were used and applied to the Proposed Development quantum to calculate indicative trip generation figures.

8.5.9 Where relevant, net trip generation figures were extracted from the relevant documentation. For some sites, such as Langstone Park, this resulted in negative net trip generation totals.

8.5.10 As some TAs/TSs did not include daily trip generation figures (these only provided AM and PM figures), growth factors were used to calculate daily totals based on ATC data set out in section 8.2.

8.5.11 **Error! Reference source not found.**details the trip generation associated with each of the committed development sites included within the assessment.

Trip distribution and assignment

8.5.12 A bespoke approach was used to distribute these trips across the local highway network. This approach involved categorising sites into three categories as follows:

1. Major sites – Sites with 500 or more dwellings, or discrete areas with multiple sites which have a cumulative total of 500 or more dwellings.
2. Minor residential sites – Sites with fewer than 500 dwellings proposed.
3. Employment sites – Sites with proposed employment use only.
4. Miscellaneous sites – Sites of a unique nature that did not fall into either of the above categories.

8.5.13 The following sections provide a summary of the approach taken which should be read alongside **Error! Reference source not found.**, with detailed outputs provided at **Error! Reference source not found.**.

Major sites

8.5.14 For major sites, trips were distributed onto the relevant links within the Proposed Development study area as referenced within each respective Transport Assessment. This approach was taken for the following sites:

1. Land West of Horton Heath, Eastleigh (including One Horton Heath Phase 1, Fir Tree Farm and Land West of Burnetts Lane)
2. Boorley Gardens (including Boorley Gardens and Maddoxford Lane)
3. Land East of Horndean
4. The Downend Road sites (East and West)
5. Land East of College Road, Camp Down
6. Berewood – West of Waterlooville
7. North Whiteley Urban Extension

8. Welborne Garden Village

8.5.15 A bespoke approach was also used to distribute trips associated with the 'South Downs College Car Park' site, with this distribution mirroring that of the 'Land East of College Road, Camp Down' site given the proximity of the two sites.

8.5.16 The major residential sites and their locations in relation to the Order Limits are shown in Graphic 8-3.

Graphic 8-3 Major residential committed development sites

Minor residential sites

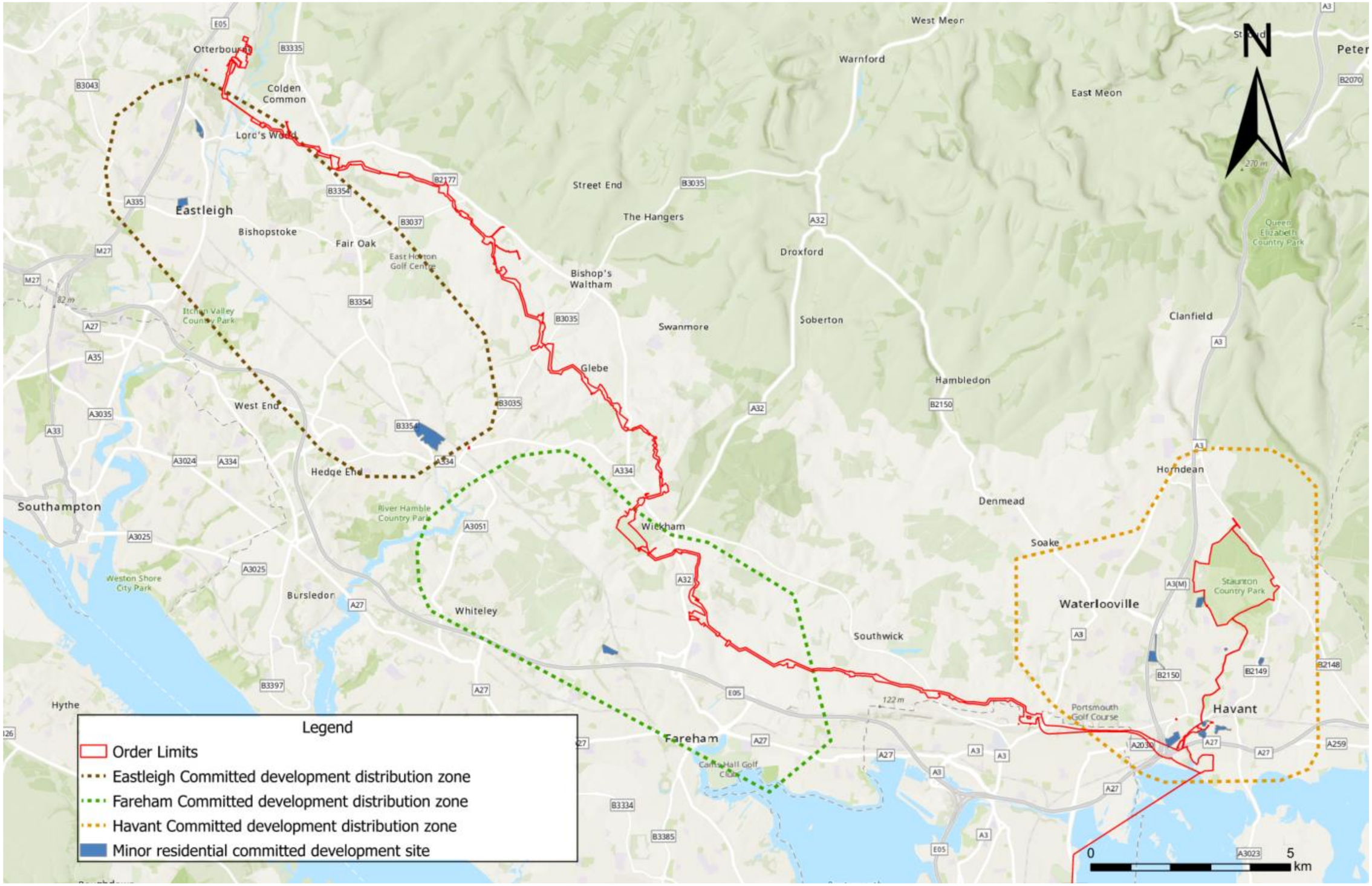
8.5.17 The following sites were categorised as minor residential sites, given that they have a development quantum of less than 500 dwellings:

1. Land North-east of Winchester Street, Botley
2. Land West of Allbrook Way
3. Land at Toynbee Road, Eastleigh
4. Funtley Road South
5. Land at Palk Road
6. Kingscroft Farm
7. Cabbagefield Row
8. Dubsbury Way
9. Land South of Lower Road
10. Land West of Hulbert Road, Havant

8.5.18 For these minor residential sites, trips were distributed onto relevant links within the Proposed Development study area using the 2021 Census dataset 'Origin and destination of usual residents aged 16 years and over in employment'. This dataset provides the latest publicly available information on residential origin-destinations.

8.5.19 The minor residential committed development sites were grouped into three discrete areas – Committed Development Distribution Zones (CDDZs) - based on their location in the context of the Pipeline. The three discrete areas centred around Havant to the south-east of the Pipeline, Fareham just south of the central part of the Pipeline and Eastleigh to the north-west of the Pipeline. These three discrete areas are shown in the context of the Order Limits and the committed development sites at Graphic 8-4.

Graphic 8-4 Minor residential committed development sites



8.5.20 For the residential sites located within the Havant area, Havant was selected as the usual resident location within the 2021 Census dataset. This approach was repeated for the sites within the Fareham and Eastleigh areas respectively. Trips were proportionally distributed from this usual resident location to the following nearby workplace areas:

1. Portsmouth
2. Southampton
3. East Hampshire
4. Eastleigh
5. Fareham
6. Gosport
7. Havant
8. New Forest
9. Test Valley
10. Winchester
11. Chichester

8.5.21 Trips from each of the minor residential committed developments were assigned a route to each of the above destinations using Google Maps online routing tool, coupled with professional judgement.

8.5.22 Based on this routing exercise, trips from each of the minor residential sites were assigned to links within the study area proportionally in line with the 2021 Census data.

Employment sites

8.5.23 The following committed development sites were categorised as employment sites given that their proposed use consisted either primarily or solely of employment:

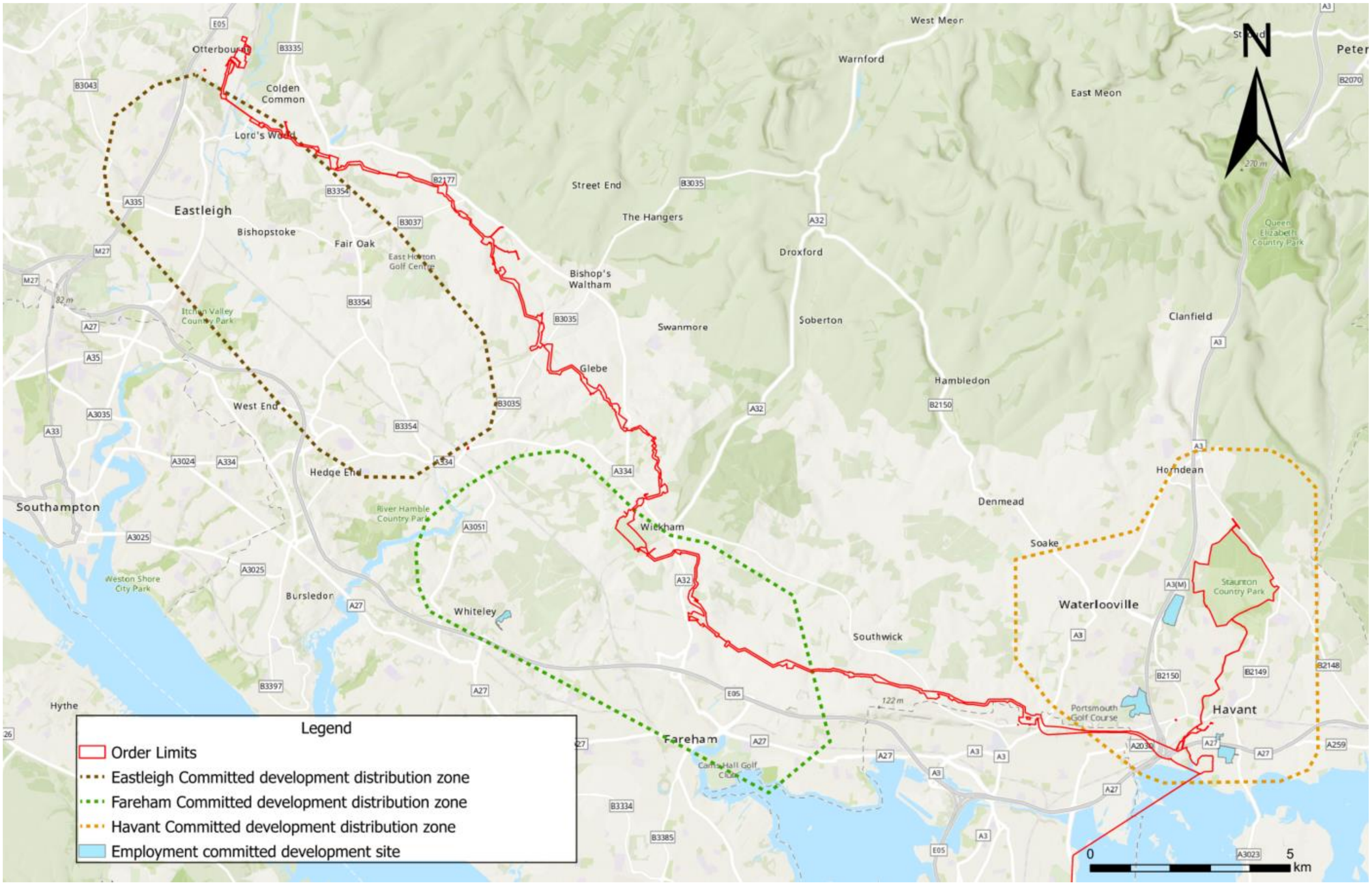
1. Solent Road North
2. Langstone Park
3. Dunsbury Hill Farm Phase 2
4. Solent 1 Employment Allocation

8.5.24 As with the minor residential sites, trips were distributed onto relevant links within the Proposed Development study area using the 2021 Census dataset 'Origin and destination of usual residents aged 16 years and over in employment'. This dataset also provides the latest publicly available information on workplace origin-destinations.

8.5.25 These four employment sites were also grouped into the same three discrete areas used to distribute the minor residential sites. No employment sites were located to the north-west of the Pipeline, and as such only data for the south-eastern (Havant) and south-central (Fareham) workplace areas was used.

8.5.26 The areas in the context of the pipeline and the employment committed development sites are shown at Graphic 8-5.

Graphic 8-5 Employment committed development sites



8.5.27 Depending on their location, either Havant or Fareham was selected as the usual workplace area, with the following nearby areas selected as the usual residents area:

1. Portsmouth
2. Southampton
3. East Hampshire
4. Eastleigh
5. Fareham
6. Gosport
7. Havant
8. New Forest
9. Test Valley
10. Winchester
11. Chichester

8.5.28 As above, trips were then routed proportionately between the committed development sites and the usual residents area. Google Maps routing was used to ascertain which destinations would involve trips on links within the study area.

AQUIND Interconnector and Havant Thicket Reservoir

8.5.29 Given the unique nature of the AQUIND Interconnector and the Havant Thicket Reservoir committed developments, figures were extracted from their respective relevant transport planning documents and entered directly into the committed development trip distribution model.

8.5.30 Construction traffic data was extracted from the transport planning documents for AQUIND given the development would not generate a material number of operation vehicle trips.

8.5.31 Operational traffic data has been extracted from the Havant Thicket Reservoir transport planning documents given the construction programmes may not overlap. Should there be programme delays associated with the construction of Havant Thickett Reservoir, there wouldn't be any cumulative impacts associated with the construction of both developments. This is because construction traffic associated with Havant Thicket Reservoir is restricted to route northwest on the B2149 to Junction 2 of the A3(M) and would therefore not have an impact on the study area for the Proposed Development. Therefore, as noted above, operational traffic associated with the Havant Thickett Reservoir has been included in the future baseline traffic model.

Committed development output

8.5.32 Cumulative committed development traffic generation was calculated for each of the links within the study area based on the above approach. **Error! Reference source not found.**provides detail of AM, PM and Daily trip generation on the study area links and also provides a summary of AM, PM and Daily trip generation on each of these links.

8.5.33 The committed development traffic generation has been used to inform future year scenarios in section 10, and has been added to these future years in addition to the TEMPro growth factors detailed in section 8.4.

9 Construction traffic demand

9.1 Introduction

9.1.1 This section of the report presents the assessment methodology and construction traffic demand forecasts. The construction trip generation forecast figures are based on a series of informed assumptions, which this section details in addition to the methodology which has been adopted for distributing trips across the study area.

9.2 Management Plan measures

9.2.1 Various measures which would affect the travel behaviours of construction workers have been developed and are included within the management plans, specifically the Framework CTMP (Document reference 7.2, DCO Volume 7) and the Framework CWTP included in Appendix A of the Framework CTMP (Document reference 7.2, DCO Volume 7). These measures provide a form of embedded mitigation to manage the impacts of construction worker trips.

9.2.2 These management plans, and by virtue, these measures, are secured as part of the DCO application. These measures include:

Minibuses

9.2.3 Some temporary construction compounds would be solely accessed by the construction haul road and would only be able to accommodate a limited amount of construction vehicle parking. As such, it is proposed for a proportion of operatives working at these temporary construction compounds to travel to either the WRP site, the construction workers hub or Otterbourne WSW to park prior to onward transportation to the temporary construction compound by minibus.

9.2.4 Similarly, following engagement with HCC, some areas that would be subject to construction traffic associated with the Proposed Development that are currently constrained in terms of their network capacity were identified. In order to mitigate the impact of the Proposed Development, it was agreed that a proportion of construction workers travelling to these temporary construction compounds would instead route to either the WRP site, the construction workers hub or Otterbourne WSW prior to onward travel to the temporary construction compound by minibus.

9.2.5 The temporary construction compounds that these mitigation measures apply to include:

1. B1-1 (80% of workers), accessed from Mill Lane
2. G-4 (50% of workers), accessed from Titchfield Lane
3. G-5 (50% of workers), accessed from Titchfield Lane
4. K-1 (50% of workers), accessed from Winters Hill
5. K-2 (50% of workers), accessed from Winters Hill
6. K-3 (50% of workers), accessed from Winters Hill
7. K-4 (50% of workers), accessed from Winters Hill

8. K-5 (100% of workers), accessed from B2177 Winchester Road
9. L-7 (100% of workers), accessed from B3354 Winchester Road
10. L-8 (100% of workers), accessed from Church Lane
11. L-9 (100% of workers), accessed from Church Lane

9.2.6 Detail on these arrangements is provided within the Framework CTMP (Document reference 7.2, DCO Volume 7).

9.2.7 For the purposes of this assessment, minibuses have been classed as a Passenger Carrying Vehicle (PCV), and are separated from LGV and HGV trip generation figures. This is because a minibus that carries 15 people (such as those that would be used within the Proposed Development) can be classed as either a LGV or HGV. To avoid confusion, the PCV unit has been used. To inform a worst case scenario, mini-buses have been assumed to be HGVs in the traffic data that has informed the ES.

Temporal restrictions

9.2.8 As some temporary construction compounds would be located in the vicinity of junctions that are considered to be traffic-sensitive, as identified during engagement with HCC, it is necessary to mitigate the impacts of the Proposed Development on these junctions.

9.2.9 As explained in detail in sections 10.2, the AM development peak period associated with the Proposed Development would take place some time prior to the AM network peak period in most locations, during a time period where baseline flows on the local highway network would typically be much lower than the network peak period. As such, it is not considered necessary to mitigate the Proposed Development's impact during the AM development peak.

9.2.10 Instead, temporal restrictions have been developed that focus on reducing the Proposed Development's impact during the PM peak period (network and development).

9.2.11 These temporal restrictions involve preventing departures from certain temporary construction compounds and AGP between the hours of 16:00 and 18:00.

9.2.12 These temporal restrictions would be implemented for the following temporary construction compounds and AGP:

1. IPS-G
2. H-1
3. H-2
4. H-3
5. J-2
6. J-3
7. K-6/BPT-K
8. L-1
9. L-2
10. L-3
11. L-4

12. L-5
13. L-6

9.2.13 These restrictions would not be necessary for all months each year given that departures would take place at later times during summer months due to summer working hours regardless of these restrictions.

9.2.14 Details pertaining to these measures are provided within the Framework CTMP (Document reference 7.2, DCO Volume 7).

Mode share

9.2.15 During engagement with HCC, it was requested that a 100% 'Car Driver' mode share is considered within the traffic impact assessment. Though HCC acknowledged that this mode share is unlikely to materialise in practice, they requested this amendment to the methodology to ensure that the assessment is robust.

9.2.16 A Framework CWTP included in Appendix A of the Framework CTMP (Document reference 7.2, DCO Volume 7) has been produced which outlines a series of measures intended to reduce the proportion of single occupancy vehicle trips associated with the Proposed Development. The Framework CTMP (Document reference 7.2, DCO Volume 7) includes a target for single occupancy vehicle trips associated with the Proposed Development which the Applicant is committed to achieving. It is expected that the overall target would be met through different localised targets throughout the Proposed Development study area. Detail of how these targets would be achieved across the study area would follow within the detailed CWTP document(s) to be prepared by the Contractor post-consent.

9.2.17 Within the ES Chapter 18 Traffic and Transport, Volume I (Document reference 6.1, DCO Volume 6), at the request of HCC, 100% of construction workers driving by car or van has been considered. These flows have been provided within this Transport Assessment alongside flows that consider the impacts of the targets of the Framework CWTP included in Appendix A of the Framework CTMP (Document reference 7.2, DCO Volume 7).

9.2.18 The consideration of all trips being undertaken by single occupancy vehicles within this assessment does not detract from the aims and goals of the Framework CWTP included in Appendix A of the Framework CTMP (Document reference 7.2, DCO Volume 7), which would be secured as part of the DCO.

9.3 Assumptions

9.3.1 Several key assumptions were made to forecast the impacts of construction traffic on the local transport network. These assumptions include the following:

Construction activities

9.3.2 To estimate traffic demand associated with construction activities, a series of assumptions around labour requirements of specific activities were developed in consultation with the Applicant's in-house construction specialist. These assumptions were developed based on working knowledge, information supplied

by the Applicant and information set out within other DCO applications that have a focus on construction.

9.3.3 Details of these assumptions are provided in section 4 of the Framework CTMP (Document reference 7.2, DCO Volume 7) document, which provides a summary of forecast trip generation by activity.

9.3.4 Detail regarding construction activities has been supplied to HCC during the engagement process, and this information is provided at **Error! Reference source not found.**.

Construction workers hub

9.3.5 As part of the Proposed Development, a construction workers hub may be required. This construction workers hub would essentially serve as a main project hub. It would provide an office building accommodating approximately 60 employees during construction working hours, with welfare, parking and security facilities. The construction workers hub would also provide a central point for construction workers to assemble prior to transportation to the temporary construction compounds. The construction workers hub would not be used to store materials, plant or other equipment. Details relating to the construction workers hub are provided at ES Chapter 3 Description of the Proposed Development, Volume I (Document reference 6.1, DCO Volume 6).

9.3.6 Though it would be located in proximity to the SRN, the precise location of the construction workers hub would be identified post-consent. Therefore, it is not possible to assess the impact of these trips on the local highway network.

9.3.7 However, the construction workers hub would be an existing suitably consented site and the use of the construction workers hub for worker travel will comply with the conditions of the relevant planning permission in respect of traffic volumes.

9.3.8 As detailed in ES Chapter 3 Description of the Proposed Development, Volume I (Document reference 6.1, DCO Volume 6), to estimate the worst case vehicle trip generation for the construction workers hub, the following assumptions have been made:

1. 60no. construction office workers would be based at the hub, all of which would arrive by car.
2. Between 15 (average) and 60 (peak) no. construction workers would travel to the hub by car and be transported to temporary construction compounds whereby primary access is provided by haul road, by minibus.
3. The construction workers would be transported to these compounds by one to four minibuses.
4. Up to 40 additional vehicle movements throughout the day, including lunch and visitor trips.

9.3.9 A traffic impact assessment of the construction, in comparison to the typical traffic demand of a similarly sized office development, is set out in section 10.6. This assessment provides evidence that the construction workers hub is likely to lead to a net reduction in trips compared to the consented site use based on the proposed activities that would take place there.

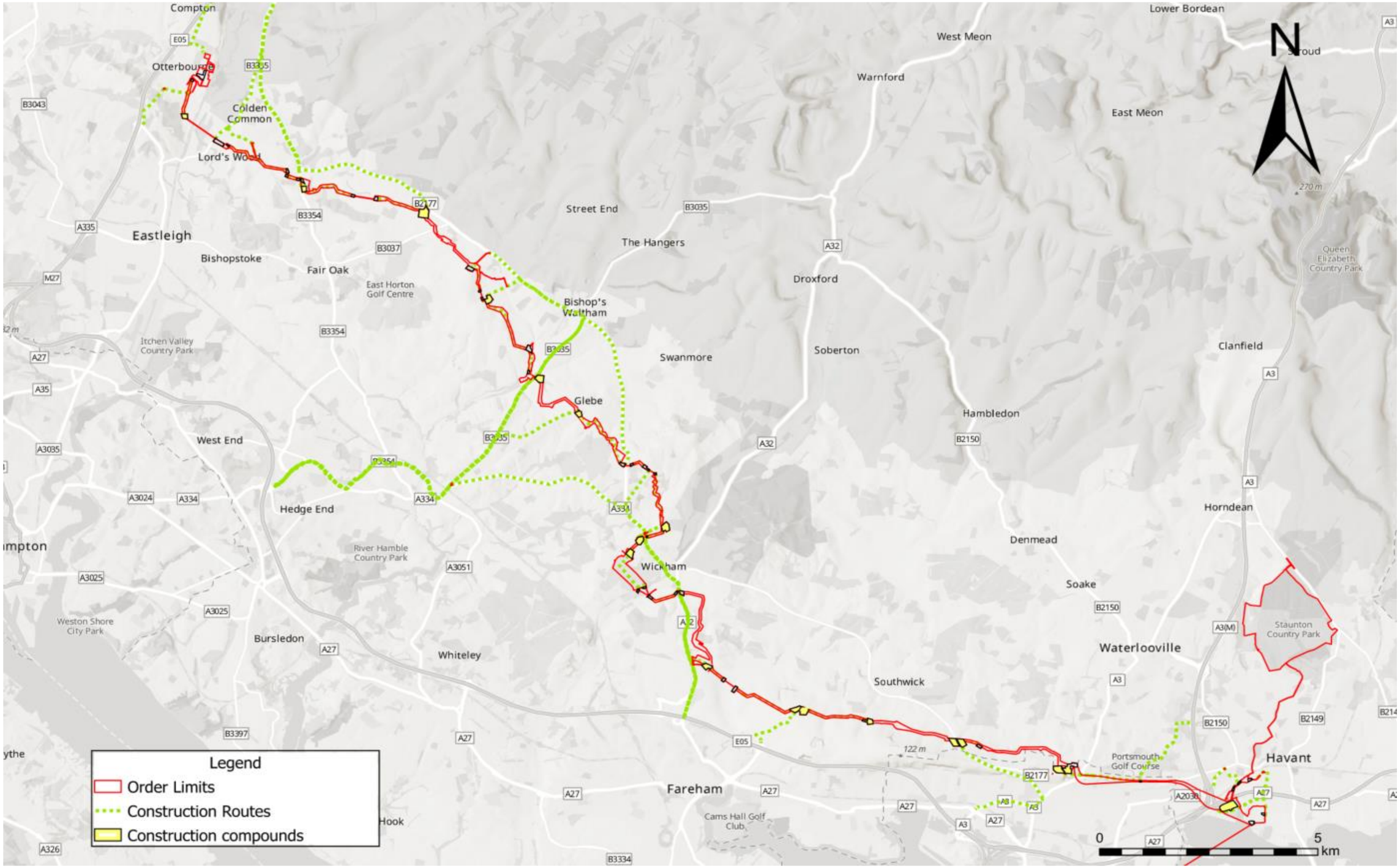
9.3.10 It should be noted that the reasonable worst case outlined above considers that fewer construction workers would route to/from the construction worker hub. Instead, construction workers would route directly between their origin and their respective destination temporary construction compound via single occupancy vehicle, resulting in higher numbers of vehicles on the local highway network in the vicinity of the Pipeline.

9.3.11 The size of the car park may need to allow for additional construction workers to travel to the construction worker hub by car, park and be transported to other temporary construction compounds by minibus. This includes temporary construction compounds that would be affected by the temporal restrictions, as set out in detail in section 10.3 and would contribute towards reducing the transport effects associated with the Proposed Development.

Temporary construction compound locations

9.3.12 Temporary construction compound locations have been refined since the issue of the TASR. The locations for the temporary construction compounds are presented at Graphic 9-1.

Graphic 9-1 Temporary construction compound locations



9.3.13 There is still some optionality in relation to temporary construction compounds E-4a/E-4b and E-6a/E-6b respectively. Only one E-4 option and one E-6 option would likely be progressed by the Contractor post-consent. For purposes of robustness, construction traffic associated with both E-4 options and both E-6 options has been assessed within this construction traffic impact assessment.

9.4 Construction peak period analysis

9.4.1 The development peak periods have been defined by examining when construction worker movements to and from the temporary construction compounds are likely to take place.

9.4.2 The typical AM and PM arrival/departure profiles for construction workers have been developed in consultation with the Applicant's in-house construction specialist. These profiles were developed based on working knowledge, information supplied by the Applicant and information set out within other DCO applications that have a focus on construction.

9.4.3 These arrival/departure profiles are also based on the proposed construction working hours as set out within the Framework CTMP (Document reference 7.2, DCO Volume 7). These working hours are as follows:

1. **Monday to Friday:** 07:00 to 19:00 in summer and 07:00 to 17:30 in winter
2. **Saturday**: 07:00 to 17:00

9.4.4 The typical construction worker arrival/departure profile representative to working during winter months is shown at Table 9-1. Later finish times are proposed during the summer months (May-August).

Table 9-1 Typical construction worker arrival/departure profile (non-summer months)

AM time period	% Construction worker arrivals	PM time period	% Construction worker departures
06:15 - 06:30	5%	17:00 – 17:15	15%
06:30 - 06:45	20%	17:15 – 17:30	15%
06:45 - 07:00	45%	17:30 – 17:45	40%
07:00 - 07:15	10%	17:45 – 18:00	15%
07:15 - 07:30	10%	18:00 – 18:15	10%
07:30 – 07:45	10%	18:15 – 18:30	5%

9.4.5 The working hours allow some flexibility for work outside of this typical arrival/departure profile, including a later finish in the summer months. Given the network peak typically commences prior to summer working departure hours (as detailed in section 8.3), this assessment is based on the development peak periods that would occur during winter working hours. In the summer, with construction workers leaving later, the impacts would be reduced.

9.4.6 Works outside these typical working hours or overnight (including Sundays and bank holidays) may be required for construction of some aspects of the Proposed Development including, but not restricted to, trenchless construction works and tunnelling, construction works within or near highways and railways, and abnormal

load deliveries. Examples include ground conditions that require continuous working or for works within highways to reduce traffic disruption. Detail on this is provided within the Framework CTMP (Document reference 7.2, DCO Volume 7).

9.4.7 It is also noted that some temporary construction compounds may have site-specific requirements which may affect the construction worker arrival/departure profile. However, it is considered that Table 9-1 is reflective of a typical arrival/departure profile.

9.4.8 Two locations where there would be notable exceptions to this typical arrival/departure profile are at the WRP site and temporary construction compound L-10, which will accommodate shift working associated with the tunnelling activities. As detailed within the Framework CTMP (Document reference 7.2, DCO Volume 7), two 12-hour shifts will take place to facilitate tunnelling between the WRP site and temporary construction compound E-1 and between temporary construction compound L-10 and M-1 respectively.

9.4.9 Tunnelling shifts are expected to commence and finish at 07:00 and 19:00. The arrival/departure profile for shift workers at these two locations is shown at Table 9-2.

Table 9-2 Tunnelling construction shift worker arrival/departure profile

AM time period	% Construction shift worker arrivals	% Construction shift worker departures	PM time period	% Construction shift worker arrivals	% Construction shift worker departures
06:15 - 06:30	10%	0%	18:15 – 18:30	10%	0%
06:30 - 06:45	50%	0%	18:30 – 18:45	50%	0%
06:45 - 07:00	40%	0%	18:45 – 19:00	40%	0%
07:00 - 07:15	0%	25%	19:00 – 19:15	0%	25%
07:15 - 07:30	0%	55%	19:15 – 19:30	0%	55%
07:30 – 07:45	0%	20%	19:30 – 19:45	0%	20%

9.4.10 Based on the arrival/departure profile set out at Table 9-1, the AM and PM development peak hour periods are shown at Table 9-3.

Table 9-3 Typical development peak periods

AM Peak	PM Peak
06:30-07:30	17:00-18:00

9.4.11 The AM shift worker arrival/departure profile aligns with the AM development peak hour, whilst the PM shift worker profile indicates that trips would take place after the PM development peak.

9.4.12 In contrast to the network peak period analysis set out in section 8.3, which contains different network peak periods unique to each link, the development peak period has been assumed to be constant across all links. This is because the size of the study area ensures that limited time delay will occur from the

commencement of vehicle departures to vehicles travelling on each link, including those furthest from origin temporary construction compounds.

9.4.13 As detailed in section 10.3, additional temporal restrictions will apply to departures from some temporary construction compounds between 16:00-18:00. As such, construction workers may depart temporary construction compounds prior to this time period or following this time period. This will result in the creation of a new development peak period on links that are subject to relatively large volumes of traffic associated with these restricted temporary construction compounds, with details of these links and impacts on them provided in section 10.4.

9.4.14 Given that baseline traffic volumes are typically higher during the 18:00-19:00 period than 15:00-16:00 (with the exception of roads in the vicinity of schools), this time period has been assessed as the development peak for links that are subject to relatively large volumes of construction worker traffic associated with restricted temporary construction compounds within the peak period analysis appended at **Error! Reference source not found.**.

9.4.15 Given that HGV movements would occur outside of the traditional road network peak periods (07:00-09:00 and 16:00-18:00), a measure which is secured through the Framework CTMP (Document reference 7.2, DCO Volume 7), these movements have not been considered within this analysis of the construction traffic impacts in the AM and PM development peak periods.

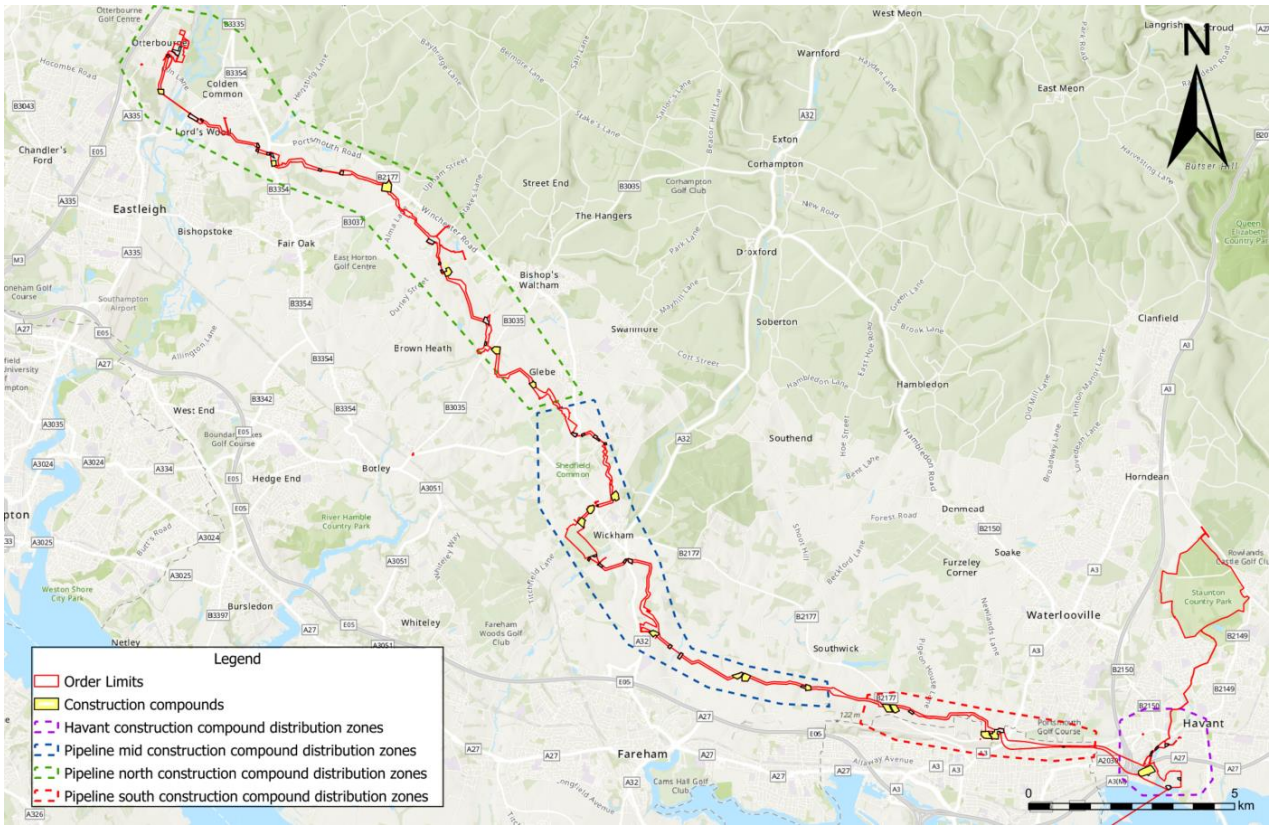
9.5 Construction worker Light Goods Vehicle trip distribution

9.5.1 The temporary construction compounds located along the Pipeline, as illustrated in Graphic 9-1, have been split into four discrete zones for the purposes of the construction worker distribution calculations. These distribution zones comprise of the following temporary construction compounds:

1. Pipeline north – Temporary construction compounds J-1 to M-3
2. Pipeline mid - Temporary construction compounds E-5 to J-1
3. Pipeline south - Temporary construction compounds D-1 to E-5
4. Havant – WRP site and B1-1 to B1-3

9.5.2 These construction worker distribution zones are shown at Graphic 9-2.

Graphic 9-2 Temporary construction compound distribution zones in relation to the Order Limits



9.5.3 Construction worker trips to each of these sections has been determined with reference to the 2011 origin/destination census data from the WU03EW Location of usual residence and place of work by method of travel to work [23] census category.

9.5.4 In order to interrogate the data to determine the distribution of construction worker trips to the compounds, place of work was set to the Middle Super Output Areas (MSOA) for Havant and Eastleigh. Trips to usual residences in other MSOAs in Hampshire and Portsmouth were identified, along with other LAs in South East and South West England.

9.5.5 Following engagement with HCC, it was requested that internal trips (i.e. construction worker trips that would originate from within the study area, such as Havant and Eastleigh) were removed from the calculations. Trips to the other locations outside the study area were factored up by a corresponding growth factor to account for the removal of these internal trips.

9.5.6 Due to the specialised nature of some of the construction activities associated with the Proposed Development, it is anticipated that some specialist contractors would travel from elsewhere across the country. It is anticipated that these workers would stay in accommodation to the south of Havant (near the WRP site) for the duration of their employment. To account for this, it has been assumed within the distribution calculations that 33% of the workforce would stay in accommodation to the south of Havant. As such, the proportion of workers travelling to/from temporary construction compounds in the direction of south Havant/the WRP site has been factored up based on this assumption. For the Pipeline north distribution

zone, this has involved factoring up the number of trips travelling west given that the most appropriate route to Havant/the WRP site involves vehicles travelling on the SRN.

9.5.7 This approach has resulted in weighted directional distribution percentage figures for each of the distribution zones as set out at Table 9-4.

Table 9-4 Construction worker distribution zones

Distribution zone	Direction of travel			
	West	North	East	South
Pipeline north	43%	9%	29%	20%
Pipeline mid	21%	9%	29%	42%
Pipeline south	52%	3%	36%	9%
Havant	52%	3%	3%	42%

9.5.8 Trips have been distributed across relevant links within the study area to the most appropriate SRN junction based on the above proportions.

9.5.9 For the WRP site, it is assumed that all trips would route along Harts Farm Way to the Tear Drop SRN junction given that 'internal' trips have been removed from the distribution calculations (as explained at 9.5.5).

9.5.10 As set out in section 9.2, trips to some temporary construction compounds would route to either the WRP site, the construction workers hub or Otterbourne WSW. This has been factored into the distribution calculations.

9.5.11 A copy of the full LGV trip distribution outputs is provided at **Error! Reference source not found.**.

9.6 Peak period Light Goods Vehicle construction trip generation

9.6.1 Based on the assumptions set out in section 9.2, the network peak periods set out at 8.3 the development peak periods set out in section 9.4 and the approach to construction worker distribution set out in section 9.5, the Proposed Development's network peak and development peak construction trip generation associated with each link within the study area is set out at **Error! Reference source not found.**.

9.6.2 It is important to note that the figures presented at **Error! Reference source not found.**are temporary peak trip generation figures, and are likely to impact road links for a limited period of time.

9.6.3 The daily construction trip generation associated with each individual temporary construction compound is set out within the section 5.5 of the Framework CTMP (Document reference 7.2, DCO Volume 7).

9.7 Construction Heavy Goods Vehicle distribution and assignment

9.7.1 HGV routes have been developed following engagement with HCC. These routes are set out in section 5.5 of the Framework CTMP (Document reference 7.2, DCO Volume 7).

9.8 Construction Heavy Goods Vehicle trip generation

9.8.1 As set out within the Framework CTMP (Document reference 7.2, DCO Volume 7), a measure would be secured through the Plan that HGV movements (excluding mini-buses) would not take place during the traditional road network peak periods (07:00-09:00 and 16:00-18:00) and would instead be limited to inter-peak periods (09:00-16:00), with additional restrictions on movements within areas where there are sensitive receptors (e.g. schools). Therefore, HGV movements would take place during periods where there are relatively lower volumes of traffic on the local highway network, minimising their temporary trip generation impact.

9.8.2 Peak daily HGV trip generation figures are provided for each of the links within the study area at **Error! Reference source not found.**. As previously noted in relation to construction LGV trip generation in section 9.6, the peak HGV trip generation figures set out at **Error! Reference source not found.**would impact the local highway network for a temporary period, and thus these impacts would be limited in duration.

9.8.3 Daily HGV trip generation has been calculated on a compound by compound basis, and is provided in section 5.5 of the Framework CTMP (Document reference 7.2, DCO Volume 7).

9.9 Construction Average Annual Daily Traffic

9.9.1 The Average Annual Daily Traffic (AADT) and Annual Average Weekday Traffic (AAWT) generated by Proposed Development during the peak 12-month period on each respective link has been calculated and is provided in **Error! Reference source not found.**.

9.9.2 **Error! Reference source not found.**also sets out the percentage increase in AADT and AAWT as a result of the Proposed Development, as well as the percentage change in HGVs.

9.9.3 This AADT data was also prepared for inclusion within the Air Quality assessment, provided at ES Chapter 6 Air quality and odour (Document reference 6.1, DCO Volume 6). The AADT flows include the impacts of the temporary road and lane closures that will be implemented as part of the TMS (Document reference 7.3, DCO Volume 7). Therefore, the AADT values for some links that are subject to temporary road closures would result in a reduction in the annual traffic flows forecast. As a result, it should be noted that there is a net traffic reduction at some links as a result of the Proposed Development given that AADT is calculated over a period of 12 months. These road closures were not reflected in the AAWT data as closures were predicted to be for under 1-month and therefore not material for the traffic noise assessment.

9.10 Traffic demand outputs

9.10.1 The LGV and HGV construction traffic generation figures have been used to inform two inputs into the ES Chapter 18 Traffic and transport (Document reference 6.1, DCO Volume 6).

9.10.2 Construction traffic flows have been converted into AAWT and used in conjunction with the collision data set out in section 4.5 to inform the accidents and safety calculations used within the ES Chapter 18 Traffic and transport (Document reference 6.1, DCO Volume 6). The calculations are provided in full at **Error! Reference source not found.**

9.10.3 AAWT construction traffic flows have also been used within the amenity, fear and intimidation assessment within the ES Chapter 18 Traffic and transport, Volume I (Document reference 6.1, Volume 6). This assessment also utilises speed data captured by surveys set out in section 8.2. This assessment is contained in full at **Error! Reference source not found.**.

10 Construction traffic impact assessment

10.1 Introduction

10.1.1 In order to forecast the likely impact of construction traffic on the local highway network in the development and network peak hours, an impact assessment has been undertaken using the traffic surveys set out in section 8.2, future travel flows as set out in section 8.5 and construction traffic generation as set out in section 9.

10.1.2 This impact assessment provides a comparison of turning movements on the network with the Proposed Development with the future baseline during the future year 2031.

10.2 Construction traffic impact (without interventions)

10.2.1 To assess the impact associated with the Proposed Development, the 2031 Do Minimum baseline, which comprises of baseline flows, background traffic growth and cumulative development, has been established.

10.2.2 This 2031 Do Minimum baseline has been compared with the scenario which includes construction traffic flows in addition to this 2031 Do Minimum baseline. Initially, this has been done without any consideration for additional interventions beyond the provision of minibus transportation for construction workers that would work at select temporary construction compounds which are accessed via haul roads (as set out in paragraphs 9.2.3 to 9.2.7.

2031 Do Minimum

10.2.3 In order to identify the network peak periods at each of the respective links, a network peak analysis was carried out. This analysis used 15-minute segment totals to identify the network peak. The peak hour for each individual link has been identified and assessed in this section. The construction worker traffic flows, including arrival and departure times, as set out in section 9.4, have been used to inform the development peak periods.

10.2.4 Future baseline flows were calculated by applying growth factors to the baseline flows. These growth factors are outlined in section 8.4.

10.2.5 Committed development flows were also used to inform the future baseline. The methodology used to capture committed development sites is set out in section 8.5. As explained in section 8.5, in most cases, trip generation associated with each of the respective committed development sites has been extracted from the relevant Transport Assessment. These traffic flows typically represent trip generation during the network peak periods.

10.2.6 As this impact assessment also analyses the development peak period, committed development traffic flows are required for both the network and development peak hours. These have been calculated by using the vehicle trip generation rates for the traditional network peak hours and factored based on the proportion of network peak flows that occur during the development peak period at each respective link.

2031 Cumulative Development and Construction Traffic (without interventions)

10.2.7 LGV construction flows, as set out on a link-by-link basis are detailed in **Error! Reference source not found.**and outlined in section 9.6, have been combined with the '2031 Do Minimum' flows to inform the '2031 Cumulative Development and Construction Traffic (without interventions)' scenario. The traffic flows for this scenario can be found in **Error! Reference source not found.**.

10.2.8 To identify potential locations where the Proposed Development could result in a significant impact on journey times, the following has been reviewed and assessed, as set out in Table 10-2 overleaf:

1. A comparison on the total traffic flow in 2031 Do Minimum network peak hour with the total traffic flow in 2031 Cumulative Development and Construction Traffic development peak hour. This identifies locations where a new peak would be created
2. A comparison of the network and development peak periods to understand whether there would be an extension to the current network peak hour
3. A review of google traffic mapping to identify locations where there is existing congestion on the network that could be exacerbated by construction traffic

10.2.9 As noted above, Google Traffic Speed data has been used to understand whether there is congestion experienced in the peak periods. Google Traffic Speed data provides evidence of baseline traffic on local routes at typical times using data collected from Google Maps [24] users who have enabled location tracking in the Google Maps mobile phone application.

10.2.10 Google Maps [24] presents this Google Traffic Speed data in map format using four colours based on how fast or slow traffic is at that location compared with non-congested conditions. The speed of the traffic broadly reflects how busy each link is and characterises its typical traffic volumes. The four speed category colours are shown at Table 10-1.

Table 10-1 Google Traffic speed categories

Fast			Slow

10.2.11 Google Traffic data has been reviewed for the period in which traffic is recorded as slowest in the AM and PM periods to provide a review of the worst case period at each link.

10.2.12 Each link included within the quantitative study (Table 4-1) has been reviewed, examined and categorised into one of the four speed categories shown at Table 10-1. This has been done based on the predominant colour that is shown on that link during its peak as illustrated by the Google Traffic data. For links where one or more colour is present, the colour with the largest share has been presented at Table 10-2, with any other colours shown noted as green, orange, red and crimson (from fast to slow as shown at Table 10-1) in the 'Additional observations' column.

10.2.13 For reference, ES Figure 18.3 Study area links, Volume III (Document reference 6.3, DCO Volume 6) shows the location of each link that has been quantitatively assessed within the study area, including those shown at Table 10-2.

10.2.14 Information from the review was presented to HCC on the 21 August 2025. This presentation is provided at **Error! Reference source not found.**.

Table 10-2 Construction traffic peak period impact assessment (without interventions)

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic without interventions (vehicles)	2031 Cumulative Development and Construction Traffic without interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
6	B2149 (S)	AM network peak	09:00-10:00	1751	0	1751	0%		Southbound on Park Road N is amber (on approach to Elm Lane).	Limited construction traffic impact would not have a perceptible impact on journey times.
		AM development peak	06:30-07:30	707	1	709	0%			
		PM network peak	16:00-17:00	2002	0	2002	0%		NB and SB are red on approach to Elm Lane.	Limited construction traffic impact would not have a perceptible impact on journey times.
		PM development peak	17:00-18:00	1867	1	1869	0%			
8	B2177 (1)	AM network peak	08:00-09:00	1033	0	1033	0%			AM network peak commences 30 minutes after development peak. Development peak traffic demand significantly lower than the Do Minimum network peak. Potential impact on journey times would not be significant.
		AM development peak	06:30-07:30	636	97	733	15%			
		PM network peak	15:15-16:15	1152	0	1152	0%		Amber on NEB approach to B2177 roundabout.	PM development peak hour commences 45 minutes after the network peak hour (no peak spreading). Development peak traffic similar to the than the Do Minimum network peak hour. Potential impact on journey times would not be significant.
		PM development peak	17:00-18:00	1079	97	1176	9%			
12	Brookside Road	AM network peak	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		0	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		Minor road, Google Traffic Speed data not available		Limited construction traffic impact would not have a perceptible impact on journey times.
		AM development peak			4					
		PM network peak			0					Limited construction traffic impact would not have a perceptible impact on journey times.
		PM development peak			4					
13	Bidbury Lane	AM network peak	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		0	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		Minor road, Google Traffic Speed data not available		Limited construction traffic impact would not have a perceptible impact on journey times.
		AM development peak			4					
		PM network peak			0					Limited construction traffic impact would not have a perceptible impact on journey times.
		PM development peak			4					
14	Mill Lane	AM network peak	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		0	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		Minor road, Google Traffic Speed data not available		Limited construction traffic impact would not have a perceptible impact on journey times.
		AM development peak			4					
		PM network peak			0					

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic without interventions (vehicles)	2031 Cumulative Development and Construction Traffic without interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
		PM development peak			4					Limited construction traffic impact would not have a perceptible impact on journey times
15	West Street	AM network peak	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		0	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.			Red at the approach to the railway level crossing.	A review of Google Traffic data shows that existing delays are associated with the railway level crossing to the west. The limited construction traffic movements would predominately route east to Bedhampton Road, rather than west towards the crossing. Potential impact on journey times therefore not anticipated to be significant.
		AM development peak			52					
		PM network peak			0					A review of Google Traffic data shows that existing delays are associated with the railway level crossing to the west. The limited construction traffic movements would predominately route east to Bedhampton Road, rather than west towards the crossing. Potential impact on journey times therefore not anticipated to be significant.
		PM development peak			52					
16	Meyrick Road	AM network peak	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		0	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		Minor road, Google Traffic Speed data not available		Limited change in traffic (less than one vehicle per minute) on this minor road would not have a perceptible impact on journey times.
		AM development peak			52					
		PM network peak			0					Limited change in traffic (less than one vehicle per minute) on this minor road would not have a perceptible impact on journey times.
		PM development peak			52					
17	Harts Farm Way (1)	AM network peak	07:45-08:45	811	0	811	0%			AM network peak hour commences 15 minutes after the network peak hour (limited potential for peak spreading). Total traffic demand in the development peak hour is broadly similar to the network peak hour when Google Traffic data suggests journey times are not impacted by congestion. Potential impact on journey times would not be significant.
		AM development peak	06:30-07:30	501	323	824	65%			
		PM network peak	15:00-16:00	829	0	829	0%		Eastbound on Harts Farm Way is green.	PM development peak hour commences 60 minutes after the network peak hour. Total traffic demand in the development peak hour is notably higher than the network peak hour. Potential for significant impacts to journey times.
		PM development peak	17:00-18:00	611	323	934	53%			

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic without interventions (vehicles)	2031 Cumulative Development and Construction Traffic without interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
18	Gillman Road	AM network peak	N/A – Motor vehicles prohibited on Gillman Road so traffic survey data was not collected.		0	N/A – Motor vehicles are not permitted on Gillman Road so traffic survey data was not collected.		Minor link – no traffic data available		Motor vehicles are prohibited on Gillman Road so no potential for impact on journey times.
		AM development peak			5					
		PM network peak			0			Minor link – no traffic data available		Motor vehicles are prohibited on Gillman Road so no potential for impact on journey times.
		PM development peak			5					
19	B2177 (2)	AM network peak	08:00-09:00	1335	0	1335	0%			AM network peak hour commences 30 minutes after the development peak hour (no peak spreading). Total traffic demand in the development peak hour is significantly lower than the network peak hour. Potential impact on journey times would not be significant.
		AM development peak	06:30-07:30	755	177	932	23%			
		PM network peak	16:00-17:00	1,525	0	1,525	0%			PM development peak commences straight after network peak (potential for peak spreading). Total traffic demand in the development peak hour is broadly similar to the network peak hour. Google Traffic Speed data indicates there isn't congestion on this link. Potential impact on journey times would not be significant.
		PM development peak	17:00-18:00	1,390	177	1,566	13%			
20	A3 (S)	AM network peak	08:15-09:15	1,835	0	1,835	0%			AM network peak hour commences 45 minutes after development peak hour (no peak spreading). Total traffic demand in the development peak hour is significantly lower than the network peak hour. Potential impact on journey times would not be significant.
		AM development peak	06:30-07:30	590	126	716	21%			
		PM network peak	17:00-18:00	1,973	126	2,099	6%		Sections of Southampton Road amber (both direction).	PM development and network peak hours fully coincide. Minor traffic impacts of 6% could result in some potential impacts to journey times, particularly on sections of the A3 that are shown as amber on the Google Traffic maps.
		PM development peak	17:00-18:00	1,973	126	2,099	6%			
21	A27	AM network peak	07:45-08:45	3,178	0	3,178	0%		Section of amber immediately after slip-road off M27 (NEB).	AM network peak hour commences 15 minutes after the development peak hour (limited peak spreading). Traffic demand in the development peak hour is substantially lower than in the network peak hour so there is limited potential for significant impacts on journey times.
		AM development peak	06:30-07:30	2,134	126	2,260	6%			
		PM network peak	16:30-17:30	3,388	44	3,433	1%			

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic without interventions (vehicles)	2031 Cumulative Development and Construction Traffic without interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
		PM development peak	17:00-18:00	3,196	126	3,322	4%			PM development peak hour commences 30 minutes after network peak hour starts so potential for some peak spreading to occur. Total traffic demand in the development peak hour is broadly similar to the network peak hour. Google Traffic Speed data indicates there isn't congestion on this link. Potential impact on journey times would not be significant.
22	Crookhorn Lane	AM network peak	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		0	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.			Amber on approach to junction with Portsdown Hill Road.	Limited construction traffic impact would not have a perceptible impact on journey times.
		AM development peak			7					
		PM network peak			0				Amber on approach to junction with Portsdown Hill Road.	Limited construction traffic impact would not have a perceptible impact on journey times.
		PM development peak			7					
23	College Road	AM network peak	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		0	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.			Amber on approach to junction with Purbrook Way.	Limited construction traffic impact would not have a perceptible impact on journey times.
		AM development peak			7					
		PM network peak			0				Amber on approach to junction with Purbrook Way.	Limited construction traffic impact would not have a perceptible impact on journey times.
		PM development peak			7					
24	Purbrook Way (2)	AM network peak	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		0	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.				Limited construction traffic impact would not have a perceptible impact on journey times.
		AM development peak			7					
		PM network peak			0					Limited construction traffic impact would not have a perceptible impact on journey times.
		PM development peak			7					
26	B2177 (3)	AM network peak	08:15-09:15	798	0	798	0%			AM network peak hour commences 45 minutes after the development peak hour (no peak spreading). Total traffic demand in the development peak hour is significantly lower than the network peak hour. Potential impact on journey times would not be significant.
		AM development peak	06:30-07:30	420	73	493	17%			
		PM network peak	16:15-17:15	1,181	13	1,193	1%			

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic without interventions (vehicles)	2031 Cumulative Development and Construction Traffic without interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
		PM development peak	17:00-18:00	1,060	73	1,133	7%			PM development peak hour commences 45 minutes after the network peak starts. Some peak spreading would occur at this link. Traffic demand in the development peak hour is lower than the network peak hour so there is limited potential for a material impact on journey times.
29	New Down Lane	AM network peak	06:30-07:30	18	158	176	878%	Minor link – no traffic data available		Given there are limited existing vehicle trips on New Down Lane, any potential impacts on journey times would be associated with traffic management rather than changes in traffic demand.
		AM development peak	06:30-07:30	18	158	176	878%			
		PM network peak	15:45-16:45	15	0	15	0%	Minor link – no traffic data available		Given there are limited existing vehicle trips on New Down Lane, any potential impacts on journey times would be associated with traffic management rather than changes in traffic demand.
		PM development peak	17:00-18:00	4	158	162	3950%			
31	B2177 (4)	AM network peak	08:00-09:00	798	0	798	0%			AM network peak hour commences 30 minutes after the development peak hour (no peak spreading). Traffic demand in the development peak hour is substantially lower than the network peak hour so limited potential for impact on journey times.
		AM development peak	06:30-07:30	212	63	275	30%			
		PM network peak	17:00-18:00	872	63	935	7%		Amber approaching the roundabout halfway along the route, in both directions.	PM development and network peaks overlap. Traffic impact of approximately one vehicle per minute unlikely to have a significant impact on journey times.
		PM development peak	17:00-18:00	872	63	935	7%			
32	Boarhunt Road	AM network peak	08:00-09:00	382	0	382	0%		Sections of amber and red on SB approach to M27 roundabout flyover.	AM development peak commences 90 minutes prior to network peak (no peak spreading). Traffic demand in the development peak hour is substantially lower than the network peak hour so limited potential for impact on journey times.
		AM development peak	06:30-07:30	117	85	201	72%			
		PM network peak	16:30-17:30	446	30	476	7%		Red and dark red on approach to M27 roundabout flyover, amber on southern section of Boarhunt Road.	PM development peak hour commences 30 minutes after network peak hour starts resulting in potential peak spreading. Given existing congestion at the M27 roundabout, there is potential for some temporary material impacts to journey times, but not significant.
		PM development peak	17:00-18:00	425	85	510	20%			

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic without interventions (vehicles)	2031 Cumulative Development and Construction Traffic without interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
33	A32 Hoads Hill (S)	AM network peak	07:45-08:45	986	0	986	0%		Existing congestion as a result of long-term traffic management associated with the M27 Junction 10 improvement scheme. Limited congestion is expected once work is completed (expected Winter 2026).	AM network peak hour commences 15 minutes after the development peak hour (limited potential for peak spreading). Traffic demand in the development peak is lower than the network peak hour so there is limited potential for significant impacts to journey times.
		AM development peak	06:30-07:30	646	232	878	36%			
		PM network peak	16:30-17:30	894	82	976	9%		Existing congestion as a result of long-term traffic management associated with the M27 Junction 10 improvement scheme. Limited congestion is expected once work is completed (expected Winter 2026).	PM development peak hour commences 30 minutes after network peak hour starts. Peak spreading would occur with a new temporary peak hour. Potential for some impacts to journey times on this link, but not likely to be significant.
		PM development peak	17:00-18:00	856	232	1,088	27%			
34	A32 Hoads Hill (C)	AM network peak	07:45-08:45	675	0	675	0%		Section of amber on approach to roundabout at southern end of route.	AM network peak hour commences 15 minutes after the development peak hour (limited potential for peak spreading). Traffic demand in the development peak is lower than the network peak hour so limited potential for a material impact on journey times.
		AM development peak	06:30-07:30	461	157	618	34%			
		PM network peak	16:15-17:15	1,215	28	1,242	2%		Section of amber on approach to roundabout at southern end of route.	PM development peak hour commences 45 minutes after network peak hour starts. Peak spreading would occur with a new temporary peak hour. Potential for some impact on journey times.
		PM development peak	17:00-18:00	1,157	157	1,314	14%			
35	A334 (E)	AM network peak	08:30-09:30	964	0	964	0%		Sections of amber in both directions either side of junction with Titchfield Lane.	AM network peak hour commences 60 minutes after the development peak hour (no peak spreading). Traffic demand in the development peak hour is lower than the network peak hour so limited potential for a material impact on journey times.
		AM development peak	06:30-07:30	711	151	862	21%			

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic without interventions (vehicles)	2031 Cumulative Development and Construction Traffic without interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
		PM network peak	15:45-16:45	1,189	0	1,189	0%		Sections of red adjacent to Titchfield Lane junction and Redhill Nursery.	PM development peak hour commences 15 minutes after network peak hour. Peak spreading would occur with a new temporary peak hour. Potential for some significant impacts on journey times on this link, particularly at the junction with Titchfield Lane
		PM development peak	17:00-18:00	1,066	151	1,217	14%			
36	A334 (C)	AM network peak	07:30-08:30	760	6	766	1%		Amber and red on EB approach to Winchester Road.	AM network peak hour commences immediately after development peak hour. Traffic demand significantly lower in the development peak hour so peak spreading would not occur and there is limited potential for impact on journey times.
		AM development peak	06:30-07:30	501	53	554	11%			
		PM network peak	15:45-16:45	688	0	688	0%		Section of red on EB approach to Winchester Road.	PM development peak hour commences 15 minutes after the network peak hour. Peak spreading would occur with a new temporary peak hour. Potential for some impacts on journey times on this link, particularly at the junction with Winchester Road.
		PM development peak	17:00-18:00	646	53	699	8%			
37	Titchfield Lane	AM network peak	07:15-08:15	513	18	531	4%		Approach to A334 is red whilst SWB carriageway is green.	AM network peak hour commences 45 minutes after the development peak hour. Traffic demand would be significantly lower in the development peak hour so peak spreading would not occur. Additional traffic would be routing west and therefore there is limited potential for any material impacts to journey times.
		AM development peak	06:30-07:30	279	77	356	28%			
		PM network peak	16:30-17:30	565	27	592	5%		Red on approach to A334, amber SWB heading away from Winchester Road.	PM development peak hour commences 30 minutes after the start of the network peak hour. Peak spreading would occur with a new temporary peak hour created. Potential for a significant impact on journey times on this link, particularly at the junction with the A334.
		PM development peak	17:00-18:00	530	77	606	14%			
38	Blind Lane	AM network peak	09:00-10:00	115	0	115	0%			AM network peak hour commences 90 minutes after the development peak hour (no peak spreading). Limited existing and future traffic demand so impacts on journey times unlikely to be perceptible.
		AM development peak	06:30-07:30	22	52	74	236%			
		PM network peak	17:15-18:15	121	49	170	40%			

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic without interventions (vehicles)	2031 Cumulative Development and Construction Traffic without interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
		PM development peak	17:00-18:00	118	52	170	44%			PM network peak hour commences 15 minutes after the development peak hour starts. Peak spreading would occur with a new temporary peak hour. Potential for some impacts on journey times on this link, particularly at the junction with the A334. Impacts on journey times are not likely to be significant given overall low traffic demand.
39	B2177 (5)	AM network peak	07:30-08:30	762	8	770	1%			AM network peak hour occurs immediately after the development peak hour. Traffic demand would be significantly lower in the development peak hour so no peak spreading would occur and there would be limited potential for significant impacts on journey times.
		AM development peak	06:30-07:30	502	71	573	14			
		PM network peak	16:30-17:30	830	25	855	3%			PM development peak hour commences 30 minutes after the start of the network peak hour. Peak spreading would occur with a new temporary peak hour. Traffic impacts are not significant (approximately. 1 car per minute) and therefore potential impacts on journey times would not be significant.
		PM development peak	17:00-18:00	816	71	886	9%			
40	Shirell Heath High Street	AM network peak	08:30-09:30	209	0	209	0%			AM network peak hour commences 60 minutes after the development peak hour (no peak spreading). Traffic demand would be significantly lower in the development peak hour so there is limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	59	38	98	66%			
		PM network peak	15:00-16:00	225	0	225	0%			PM development peak hour commences 60 minutes after the network peak hour. New temporary peak hour, however overall traffic demand would be low so impacts on journey times are unlikely to be perceptible.
		PM development peak	17:00-18:00	218	38	256	17%			
41		AM network peak	07:30-08:30	567	12	580	2%			

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic without interventions (vehicles)	2031 Cumulative Development and Construction Traffic without interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
	B3035 Botley Road	AM development peak	06:30-07:30	348	106	454	30%		Amber section NEB heading away from Station Hill junction.	AM network peak hour commences immediately after the development peak hour. Traffic demand would be lower in the development peak hour so peak spreading would not occur. Additional traffic would be routing east and therefore there is limited potential for any impact on journey times (see section 10.5).
		PM network peak	16:45-17:45	661	87	748	13%		Red section NEB heading away from Station Hill junction.	PM development peak hour commences 15 minutes after the start of the network peak hour. New temporary peak would be created with some peak spreading. Potential for a significant impact with regards to journey times at the junction with the A334, as detailed in section 10.5.
		PM development peak	17:00-18:00	643	106	749	16%			
42	Curdridge Lane	AM network peak	08:15-09:15	286	0	286	0%			AM network peak hour commences 45 minutes after the development peak hour (no peak spreading). Traffic demand would be significantly lower in the development peak hour so there is limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	79	33	112	42%			
		PM network peak	17:15-18:15	293	31	324	11%			PM network peak hour commences 15 minutes after the start of the development peak hour. Peak spreading would occur, however overall traffic demand is low so limited potential for any perceptible impact on journey times
		PM development peak	17:00-18:00	284	33	317	12%			
43	B3037 (W)	AM network peak	09:00-10:00	1,756	0	1,756	0%		Section of red heading WB at western end of the link.	AM network peak hour commences 90 minutes after development peak hour (no peak spreading). Traffic demand would be significantly lower in the development peak hour so there is limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	1,200	91	1,291	8%			
		PM network peak	15:45-16:45	2,102	0	2,102	0%		Sections of amber at either end of the link.	PM development peak hour commences 15 minutes after network peak hour. Peak spreading would occur with similar traffic demand in the network and development peak hours. Minor delays in the network peak hour would continue in the development peak hour, but overall impacts on journey times are likely to be perceptible but not significant.
		PM development peak	17:00-18:00	2,017	91	2,108	5%			

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic without interventions (vehicles)	2031 Cumulative Development and Construction Traffic without interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
44	B3354 (S)	AM network peak	09:00-10:00	908	0	908	0%		Sections of amber and red on approach to Fisher's Pond junction.	AM network peak hour commences 90 minutes after the development peak hour (no peak spreading). Traffic demand would be significantly lower in the development peak hour so there is limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	548	128	686	25%			
		PM network peak	17:00-18:00	1,116	138	1,254	12%		Sections of amber in the vicinity of the Fisher's Pond junction.	PM development and network peak hours fully coincide. Traffic impact of 12% could result in significant impacts to journey times, particularly at the Fisher's Pond junction.
		PM development peak	17:00-18:00	1,116	138	1,254	12%			
45	B3037	AM network peak	07:45-08:45	899	0	899	0%			AM network peak hour commences 15 minutes after the development peak hour. Traffic demand would be significantly lower in the development peak hour so there would be no peak spreading and limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	486	97	583	20%			
		PM network peak	16:30-17:30	1,041	34	1,075	3%			PM development peak hour commences 30 minutes after network peak hour starts. Peak spreading would occur with a new temporary peak hour. Minor traffic impacts (approximately 1 car per minute) could result in some perceptible impacts on journey times, but not likely to be significant.
		PM development peak	17:00-18:00	1,003	97	1,100	10%			
46	B2177 (6)	AM network peak	08:00-09:00	819	0	819	0%			AM network peak hour commences 30 minutes after the development peak hour (no peak spreading). Traffic demand would be significantly lower in the development peak hour so there is limited potential for any perceptible impacts on journey times.
		AM development peak	06:30-07:30	329	93	423	29%			
		PM network peak	16:45-17:45	909	77	986	8%			PM development peak hour commences 15 minutes after the start of network peak hour. Minor peak spreading would occur with a new temporary peak hour. Traffic impacts could result in some impacts to journey times.
		PM development peak	17:00-18:00	903	93	996	10%			
47	Winters Hill	AM network peak	08:15-09:15	320	0	320	0%			

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic without interventions (vehicles)	2031 Cumulative Development and Construction Traffic without interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
		AM development peak	06:30-07:30	89	35	124	39%		Section of amber in EB direction on approach to B2177.	AM network peak hour commences 45 minutes after the development peak hour (no peak spreading). Traffic demand would be significantly lower in the development peak so there would be no peak spreading and limited potential for any perceptible impact on journey times.
		PM network peak	17:15-18:15	391	33	424	8%		Section of amber in EB direction on approach to B2177.	PM network peak hour commences 15 minutes after the start of development peak hour. Minor peak spreading would occur with potential for some impacts to journey times.
		PM development peak	17:00-18:00	390	35	425	9%			
48	B3335 (N)	AM network peak	08:30-09:30	1289	0	1289	0%		Sections of amber in both NB and SB directions.	AM network peak hour commences 60 minutes after the development peak hour (no peak spreading). Traffic demand would be significantly lower in the development peak so there would be no peak spreading and limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	637	78	715	12%			
		PM network peak	17:15-18:15	1429	73	1503	5%		Section of amber and red on SB carriageway either side of New Barn Farm junction.	PM network peak hour commences 15 minutes after the start of the development peak hour. Minor peak spreading would occur but impacts on journey times not likely to be significant.
		PM development peak	17:00-18:00	1412	78	1491	6%			
49	B3354 (N)	AM network peak	07:45-08:45	1695	0	1695	0%			AM network peak hour commences 15 minutes after the start of the development peak hour. Traffic demand would be significantly lower in the development peak so there would be no peak spreading and limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	1229	48	1277	4%			
		PM network peak	17:00-18:00	1522	48	1570	3%		Section of amber in SB direction between Colden Common and the Fisher's Pond junction.	PM development and network peaks overlap. Minor increase in traffic would be northbound and therefore unlikely to have a significant impact on journey times.
		PM development peak	17:00-18:00	1522	48	1570	3%			
50	B2177 (7)	AM network peak	08:00-09:00	586	0	586	0%		Sections of amber in WB direction on approach to the Fisher's Pond junction.	AM network peak hour commences 30 minutes after the development peak hour. Traffic demand would be significantly lower in the development peak so there would be no peak spreading and limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	232	49	281	21%			

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic without interventions (vehicles)	2031 Cumulative Development and Construction Traffic without interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
		PM network peak	17:00-18:00	622	49	671	8%		Sections of amber in WB direction toward western end on approach to the Fisher's Pond junction.	PM development and network peaks overlap. Fisher's Pond junction at capacity and therefore sensitive to an increase in traffic demand. Potential for significant impacts on journey times.
		PM development peak	17:00-18:00	622	49	671	8%			
51	B2177 (9)	AM network peak	07:45-08:45	1287	0	1287	0%			AM network peak hour commences 15 minutes after the development peak hour. Traffic demand would be significantly lower in the development peak so there would be no peak spreading and limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	780	53	833	7%			
		PM network peak	16:30-17:30	1421	19	1440	1%			PM development peak hour commences 30 minutes after the network peak hour starts. Minor peak spreading would occur but impacts on journey times not likely to be significant.
		PM development peak	17:00-18:00	1355	53	1408	4%			
52	Otterbourne Hill (N)	AM network peak	09:00-10:00	886	0	886	0%		Section of amber in NB direction.	AM network peak hour commences 90 minutes after the development peak hour. Traffic demand would be significantly lower in the development peak so there would be limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	266	45	311	17%			
		PM network peak	16:00-17:00	1033	0	1033	0%			PM development peak hour occurs immediately after the network peak hour. Peak spreading would occur with a new temporary peak hour, however traffic impacts would be minor and therefore there is a limited potential to result in a significant impact on journey times.
		PM development peak	17:00-18:00	1029	45	1074	4%			
53	Kiln Lane	AM network peak	08:00-09:00	289	0	289	0%			AM network peak hour commences 30 minutes after the development peak hour (no peak spreading). Traffic demand would be significantly lower in the development peak so there would be limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	55	71	126	129%			
		PM network peak	17:15-18:15	311	67	378	22%			PM network peak hour commences 15 minutes after the development peak hour starts. Peak spreading would occur, however overall traffic demand is low and therefore potential impacts on journey times unlikely to be significant.
		PM development peak	17:00-18:00	305	71	376	23%			

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic without interventions (vehicles)	2031 Cumulative Development and Construction Traffic without interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
54	Church Lane	AM network peak	08:15-09:15	667	0	667	0%		Amber in both directions at western end of the link.	AM network peak hour commences 45 minutes after the development peak hour (no peak spreading). Limited construction traffic impact would not have a perceptible impact on journey times.
		AM development peak	06:30-07:30	405	10	405	2%			
		PM network peak	16:00-17:00	848	0	848	0%			PM development peak occurs immediately after network peak. Minor increase in traffic demand would result in limited potential for any perceptible impact on journey times.
		PM development peak	17:00-18:00	799	10	799	1%			
56	B3335 (S)	AM network peak	08:00-09:00	770	0	770	0%		Sections of amber in both directions toward northern end of link.	AM network peak hour commences 30 minutes after the development peak hour (no peak spreading). Traffic demand would be significantly lower in the development peak so there would be limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	360	111	471	31%			
		PM network peak	15:45-16:45	847	0	847	0%		Sections of amber in both directions toward northern end of link.	PM development peak hour commences 15 minutes after the network peak hour. Peak spreading would occur with similar traffic demand in the network and development peak hours. Minor delays in the network peak hour would continue in the development peak hour, but overall impacts on journey times are likely to be perceptible but not significant.
		PM development peak	17:00-18:00	728	111	838	15%			
57	A335	AM network peak	08:15-09:15	1451	0	1451	0%		Most of NWB carriageway is amber, with smaller section of red.	AM network peak hour commences 45 minutes after the development peak hour (no peak spreading). Traffic demand would be significantly lower in the development peak so there would be limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	923	116	1039	13%			
		PM network peak	16:15-17:15	1674	20	1694	1%		Section of amber in NWB direction toward northern end of the link.	PM development and network peak periods overlap. Peak spreading would occur. Minor delays in the network peak hour would continue in the development peak hour, but overall impacts on journey times are likely to be perceptible but not material.
		PM development peak	17:00-18:00	1631	116	1746	7%			
58	Waterworks Road	AM network peak	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		0	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		Minor link – no traffic data available		Limited change in traffic (approximately one vehicle per minute) on this minor road is not likely to have a material impact on journey times.
		AM development peak			73					

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic without interventions (vehicles)	2031 Cumulative Development and Construction Traffic without interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
		PM network peak			0			Minor link – no traffic data available		Limited change in traffic (approximately one vehicle per minute) on this minor road is not likely to have a material impact on journey times.
		PM development peak			73					
59	Sparrowgrove	AM network peak	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		0	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		Minor link – no traffic data available		Limited change in traffic (approximately one vehicle per minute) on this minor road is not likely to have a material impact on journey times.
		AM development peak			73					
		PM network peak			0			Minor link – no traffic data available		Limited change in traffic (approximately one vehicle per minute) on this minor road is not likely to have a material impact on journey times.
		PM development peak			73					
62	Brockhampton Road	AM network peak	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		0	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.				No change in traffic demand forecast in the network and development peak hours.
		AM development peak			0					
		PM network peak			0					No change in traffic demand forecast in the network and development peak hours.
		PM development peak			0					
63	Harts Farm Way (2)	AM network peak	07:45-08:45	733	0	733	0%			AM development peak hour commences 15 minutes after the network peak hour. Traffic demand would be significantly lower in the development peak so there would be no peak spreading and limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	440	19	459	4%			
		PM network peak	15:15-16:15	777	0	777	0%			AM development peak hour commences 45 minutes after the network peak hour. Traffic demand would be lower in the development peak hour so there would be no peak spreading and limited potential for any material impacts on journey times.
		PM development peak	17:00-18:00	632	19	651	3%			
64	Otterbourne Road	AM network peak	08:00-09:00	648	0	648	0%			AM network peak hour commences 30 minutes after the development peak hour. Traffic demand would be significantly lower in the development peak so there would be no peak spreading and limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	301	27	328	9%			
		PM network peak	16:15-17:15	772	5	777	1%			

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic without interventions (vehicles)	2031 Cumulative Development and Construction Traffic without interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
		PM development peak	17:00-18:00	710	27	737	4%			PM development peak hour commences 45 minutes after the network peak hour starts. Peak spreading would occur, although impacts on journey times are not likely to be material.
65	Hockley Link	AM network peak	07:45-08:45	1176	0	1176	0%		Amber congestion on WB approach to Hockley Link roundabout.	AM network peak hour commences 45 minutes after the development peak hour. Traffic demand would be significantly lower in the development peak hour so there would be no peak spreading and limited potential for any material impacts on journey times.
		AM development peak	06:30-07:30	641	27	668	4%			
		PM network peak	16:00-17:00	1354	0	1354	0%		Amber and red congestion on WB approach to Hockley Link roundabout.	PM development peak hour commences directly after the network peak hour. Peak spreading would occur however traffic demand would be lower in the development peak hour. Potential for a material impact on journey time, but not significant.
		PM development peak	17:00-18:00	1237	27	1264	2%			
66	Southmoor Lane	AM network peak	07:15-08:15	373	5	377	1%	Minor link – no traffic data available		AM network peak hour commences 45 minutes after the development peak hour starts. Limited change in traffic on this minor road is not likely to have a perceptible impact on journey times.
		AM development peak	06:30-07:30	264	19	283	7%			
		PM network peak	16:45-17:45	264	19	283	7%	Minor link – no traffic data available		PM development peak hour commences 15 minutes after the network peak hour starts. Limited change in traffic on this minor road is not likely to have a perceptible impact on journey times.
		PM development peak	17:00-18:00	204	19	224	10%			
67	Otterbourne Hill (S)	AM network peak	08:30-09:30	780	0	780	0%		Amber section in SWB direction toward southern end of link.	AM network peak hour commences 60 minutes after the development peak hour. Traffic demand would be significantly lower in the development peak so there would be no peak spreading and limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	436	112	548	26%			
		PM network peak	16:00-17:00	902	0	902	0%		Amber section in SWB direction toward southern end of link.	PM development peak commences directly after network peak. Peak spreading would occur with a new temporary peak hour created. Traffic impact (approximately one vehicle per minute) on could have a material impact on journey times, but not likely to be significant.
		PM development peak	17:00-18:00	840	112	952	13%			

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic without interventions (vehicles)	2031 Cumulative Development and Construction Traffic without interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
68	B2177 (8)	AM network peak	08:30-09:30	797	0	797	0%			AM network peak hour commences 60 minutes after the development peak hour. Traffic demand would be significantly lower in the development peak so there would be no peak spreading and limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	216	73	289	34%			
		PM network peak	16:45-17:45	912	60	973	7%		Amber section in EB direction on approach to roundabout at eastern end of the link.	PM development peak hour commences 15 minutes after the network peak hour starts. Peak spreading would occur with a new temporary peak hour created. Traffic impact (approximately one vehicle per minute) on could have a material impact on journey times, but not likely to be significant.
		PM development peak	17:00-18:00	904	73	978	8%			
69	A334 (W)	AM network peak	07:30-08:30	1354	17	1371	1%			AM network peak hour commences directly after the development peak hour. Some peak spreading would occur, however traffic demand would be lower in the development peak so there would be no peak spreading and limited potential for any material impact on journey times.
		AM development peak	06:30-07:30	952	148	1099	15%			
		PM network peak	15:45-16:45	1365	0	1365	0%			PM development peak hour commences 15 minutes after network peak hour. New temporary peak would be created with some peak spreading. Potential for traffic impacts to have a significant impact on journey times.
		PM development peak	17:00-18:00	1305	148	1453	11%			
70	Winchester Road Link	AM network peak	08:00-09:00	1764	0	1764	0%			AM network peak hour commences 30 minutes after the development peak hour. Traffic demand would be significantly lower in the development peak so there would be no peak spreading and limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	951	112	1063	12%			
		PM network peak	16:45-17:45	1843	92	1936	5%			PM development peak hour commences 15 minutes after the network peak hour starts. Peak spreading would occur with a new temporary peak hour created. Traffic impact (approximately one vehicle per minute) on could have a material impact on journey times, but not likely to be significant.
		PM development peak	17:00-18:00	1804	112	1916	6%			

10.2.15 The analysis set out in Table 10-2 above concludes that without intervention, there could be significant impacts to journey times on the following links within the study area as a result of changes in traffic demand:

1. Link 17 – Harts Farm Way (PM development peak period)
2. Link 33 – A33 Hoads Hill (S) (PM network and development peak periods)
3. Link 35 – A334 (E) (PM development peak period)
4. Link 36 – A334 (C) (PM development peak period)
5. Link 37 – Titchfield Lane (PM network and development peak periods)
6. Link 41 – Botley Road (PM network and development peak periods)
7. Link 44 – B3354 (S) (PM network and development peak periods)
8. Link 50 – B2177 (7) (PM network and development peak periods)
9. Link 69 – A334 (W) (PM development peak period)

10.2.16 Interventions have therefore been explored to mitigate the forecast construction traffic impacts on journey times, as detailed in the following section. This includes travel behaviour change that would secured through the Framework CWTP (included as Appendix A to the Framework CTMP (Document reference 7.2, DCO Volume 7). In addition, restrictions to construction worker movements in the traditional PM network peak period (16:00-18:00) have been secured through the Framework CTMP (Document reference 7.2, DCO Volume 7).

10.3 Interventions

Framework Construction Worker Travel Plan

10.3.1 As noted in section 1.3, a Framework CWTP has been prepared and is included as Appendix A to the Framework CTMP (Document reference 7.2, DCO Volume 7). This Framework CWTP included in Appendix A of the Framework CTMP (Document reference 7.2, DCO Volume 7) contains a series of targets for construction worker travel which are underpinned by core and additional measures.

10.3.2 The Framework CWTP included in Appendix A of the Framework CTMP (Document reference 7.2, DCO Volume 7) acknowledges that ambitious mode share targets are more likely to be achievable in areas that are well-connected and accessible by multiple modes of transport. This is in contrast to the more remote, rural areas where travel by sustainable modes is less likely to materialise in practice due to poor sustainable transport links. These geographical variations are reflected within the overall mode share target that is secured through the Framework CWTP included in Appendix A of the Framework CTMP (Document reference 7.2, DCO Volume 7). The likely variations that feed into this overall target presented for each temporary construction compound in Table 10-3 below. These targets are indicative at this stage and it will be for the Contractor to agree how the overall mode share target for construction workers would be achieved as part of the detailed CWTP that would be prepared post-consent.

Table 10-3 Construction worker single occupancy vehicle mode share targets (Framework Construction Worker Travel Plan)

Temporary construction compound	Component/Section	Accessed via:	Temporary construction compound single occupancy vehicle mode share target
B1-1	Pipelines between the WRP site and Bedhampton Springs	Mill Lane/WRP site	70%
B1-2/B1-3	Pipelines between the WRP site and Bedhampton Springs	Meyrick Road	70%
WRP site	WRP site	Harts Farm Way	70%
D-1	Section D: The Water Recycling Plant site to Portsdown Hill	Gillman Road	90%
E-1	Section E: Portsdown Hill to Boarhunt	New Down Lane	90%
E-2	Section E: Portsdown Hill to Boarhunt	New Down Lane	90%
E-3	Section E: Portsdown Hill to Boarhunt	Haul road via Southwick Road (B2177)	90%
E-4a	Section E: Portsdown Hill to Boarhunt	Southwick Road (B2177)	90%
E-4b	Section E: Portsdown Hill to Boarhunt	Southwick Road (B2177)	90%
E-5	Section E: Portsdown Hill to Boarhunt	Haul road via Southwick Road (B2177) or Boarhunt Road	90%
E-6a	Section E: Portsdown Hill to Boarhunt	Boarhunt Road (via haul road crossing)	90%
E-6b	Section E: Portsdown Hill to Boarhunt	Boarhunt Road	90%
F-1	Section F: Boarhunt to Crockerhill	Haul road via Boarhunt Road	90%
F-2	Section F: Boarhunt to Crockerhill	Haul road via Chalk Lane	90%
F-3	Section F: Boarhunt to Crockerhill	Chalk Lane	90%
G-1	Section G: Crockerhill to Wickham	Hoad's Hill (A32)	90%
G-2	Section G: Crockerhill to Wickham	Hoad's Hill (A32)	90%

Temporary construction compound	Component/Section	Accessed via:	Temporary construction compound single occupancy vehicle mode share target
G-3	Section G: Crockerhill to Wickham	Haul road via Hoads Hill (A32)	90%
G-4	Section G: Crockerhill to Wickham	Haul road via Titchfield Lane	90%
G-5	Section G: Crockerhill to Wickham	Haul road via Titchfield Lane	90%
G-6	Section G: Crockerhill to Wickham	Haul road via Titchfield Lane	90%
G-7	Section G: Crockerhill to Wickham	Titchfield Lane	90%
H-1	Section H: Wickham to Shedfield	Haul road via Blind Lane	90%
H-2	Section H: Wickham to Shedfield	Blind Lane	90%
H-3	Section H: Wickham to Shedfield	Haul road via Blind Lane	90%
H-4	Section H: Wickham to Shedfield	Shirrell Heath High Street	90%
H-5	Section H: Wickham to Shedfield	Haul road via Shirrell Heath High Street	90%
J-1	Section J: Shedfield to the River Hamble	Haul road via Curdridge Lane (HGVs) and St Annes Lane (LGVs)	90%
J-2	Section J: Shedfield to the River Hamble	Curdridge Lane	90%
J-3	Section J: Shedfield to the River Hamble	B3035 Botley Road	90%
K-1	Section K: The River Hamble to Lower Upham	Haul road via Winters Hill	90%
K-2	Section K: The River Hamble to Lower Upham	Haul road via Winters Hill	90%
K-3	Section K: The River Hamble to Lower Upham	Winters Hill	90%
K-4	Section K: The River Hamble to Lower Upham	Haul road via Winters Hill	90%

Temporary construction compound	Component/Section	Accessed via:	Temporary construction compound single occupancy vehicle mode share target
K-5	Section K: The River Hamble to Lower Upham	Haul Road via B2177 Winchester Road	90%
K-6/BPT-K	Section K: The River Hamble to Lower Upham	Haul Road via B2177 Winchester Road	85%
L-1	Section L: Lower Upham to Brambridge	Portsmouth Road (B2177)	90%
L-2	Section L: Lower Upham to Brambridge	Haul road via B2177 Portsmouth Road	90%
L-3	Section L: Lower Upham to Brambridge	Haul road via Winchester Road (B3354)	90%
L-4	Section L: Lower Upham to Brambridge	Haul road via Winchester Road (B3354)	90%
L-5	Section L: Lower Upham to Brambridge	Winchester Road (B3354)	90%
L-6	Section L: Lower Upham to Brambridge	Winchester Road (B3354)	90%
L-7	Section L: Lower Upham to Brambridge	Haul road via Winchester Road (B3354)	90%
L-8	Section L: Lower Upham to Brambridge	Haul road via Church Lane	90%
L-9	Section L: Lower Upham to Brambridge	Haul road via Church Lane	90%
L-10	Section L: Lower Upham to Brambridge	Highbridge Road (B3335)	90%
M-1	Section M: Brambridge to Otterbourne Water Supply Works	Haul road via Kiln Lane	90%
M-2	Section M: Brambridge to Otterbourne Water Supply Works	Haul road via Kiln Lane	90%
M-3	Section M: Brambridge to Otterbourne Water Supply Works	Otterbourne WSW	70%

Temporary construction compound	Component/Section	Accessed via:	Temporary construction compound single occupancy vehicle mode share target
IPS-E	Section E: Portsdown Hill to Boarhunt	New Down Lane	85%
IPS-F	Section F: Boarhunt to Crockerhill	Chalk Lane	85%
IPS-G	Section G: Crockerhill to Wickham	Titchfield Lane	85%
BPT-E	Section E: Portsdown Hill to Boarhunt	New Down Lane	85%
Budds Farm WTW	Pipelines between Budds Farm Wastewater Treatment Works and the Water Recycling Plant site	Southmoor Lane	70%

10.3.3 The Framework CWTP will be secured via the Framework CTMP (Document reference 7.2, DCO Volume 7), and thus the measures contained within the Framework CWTP, and the associated overall target for single occupancy travel will be a form of mitigation embedded within the Proposed Development.

10.3.4 The Contractor, who will be responsible for preparing and delivering detailed CWTP(s) that adhere to this Framework, will retain flexibility as to how this overall target is achieved and are not committed to achieving those targets set out at Table 10-3. Instead, the targets at Table 10-3 represent a realistic way in which the overall target could be realised within the geographical constraints of the study area.

10.3.5 It is anticipated that these targets contained within the Framework CWTP included in Appendix A of the Framework CTMP (Document reference 7.2, DCO Volume 7) will reduce the number of single occupancy construction worker vehicles on the local highway network below the baseline of 100% that informed the assessment section 10.2. The updated construction traffic impacts, reflecting these mode share targets, can be found in **Error! Reference source not found.**.

Temporal restrictions

10.3.6 In addition to the measures contained within the Framework CWTP included in Appendix A of the Framework CTMP (Document reference 7.2, DCO Volume 7), additional restrictions have been identified within the Framework CTMP (Document reference 7.2, DCO Volume 7) to mitigate the traffic impacts of construction workers and minimise the potential for any likely significant impacts to journey times.

10.3.7 As summarised in section 10.2, changes in traffic demand could have a significant impact to journey times at the following locations:

1. Link 9 – Harts Farm Way (PM development peak period)

2. Link 33 – A33 Hoads Hill (S) (PM development and network peak periods)
3. Link 35 – A334 (E) (PM development peak period)
4. Link 36 – A334 (C) (PM development peak period)
5. Link 37 – Titchfield Lane (PM network and development peak periods)
6. Link 41 – Botley Road (PM network and development peak periods)
7. Link 44 – B3354 (S) (PM network and development peak periods)
8. Link 50 – B2177 (7) (PM network and development peak periods)
9. Link 69 – A334 (W) (PM development peak period).

10.3.8 To mitigate the traffic impacts at these locations, in addition to the travel behaviour measures secured through the Framework CWTP included in Appendix A of the Framework CTMP (Document reference 7.2, DCO Volume 7), temporal restrictions are proposed that would restrict the majority of construction worker movements during the traditional PM peak period (16:00-18:00). This includes the following:

1. IPS-G
2. H-1
3. H-2
4. H-3
5. J-2
6. J-3
7. K-6/BPT-K
8. L-1
9. L-2
10. L-3
11. L-4
12. L-5
13. L-6

10.3.9 It would also enable the Contractor to have flexibility as to how these temporal restrictions are fulfilled, with the potential for construction workers to finish after 18:00 in accordance with summer working hours. Alternatively, the Contractor could put on additional minibus transport to and from the construction workers hub as explored in detail in section 10.6.

10.3.10 No potential significant impacts to journey times were identified in the AM network and development peak hours, as detailed in Table 10-2. As such, temporal restrictions would be not be required during the AM peak period.

10.3.11 The temporal restrictions for the 16:00-18:00 period have been applied to temporary construction compounds identified above and included in the assessment summarised in the following section and Table 10-4.

10.4 Construction traffic impact (with interventions)

10.4.1 This section presents the revised construction traffic impact assessment, reflecting the interventions contained within the Framework CWTP and the Framework

CTMP (Document reference 7.2, DCO Volume 7). Given these interventions have been secured through the relevant management plans, the findings of this traffic impact assessment can be considered as the reasonable worst case scenario.

10.4.2 A supplementary assessment has also been included at **Error! Reference source not found.**which provides an assessment of a potential new development peak of 18:00-19:00 for those links impacted by the temporal restrictions. This assumption is considered to inform a more robust assessment than the alternatives such as additional minibuses to/from the construction workers hub (which is discussed in detail in section 10.6).

10.4.3 The revised construction traffic impact assessment in the peak periods, with the additional secured interventions, is set out in Table 10-4 overleaf.

Table 10-4 Construction traffic peak period impact assessment (with interventions)

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic with interventions (vehicles)	2031 Cumulative Development and Construction Traffic with interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
6	B2149 (S)	AM network peak	09:00-10:00	1751	0	1751	0%		Southbound on Park Road N is amber (on approach to Elm Lane).	Limited construction traffic impact would not have a perceptible impact on journey times.
		AM development peak	06:30-07:30	707	1	708	0%			
		PM network peak	16:00-17:00	2002	0	2002	0%		NB and SB are red on approach to Elm Lane.	Limited construction traffic impact would not have a perceptible impact on journey times.
		PM development peak	17:00-18:00	1867	1	1868	0%			
8	B2177 (1)	AM network peak	08:00-09:00	1033	0	1033	0%			AM network peak commences 30 minutes after development peak. Development peak traffic demand significantly lower than the Do Minimum network peak. Potential impact on journey times would not be significant.
		AM development peak	06:30-07:30	636	75	711	12%			
		PM network peak	15:15-16:15	1152	0	1152	0%		Amber on NEB approach to B2177 roundabout.	PM development peak hour commences 45 minutes after the network peak hour (no peak spreading). Development peak traffic similar to the than the Do Minimum network peak hour. Potential impact on journey times would not be significant.
		PM development peak	17:00-18:00	1079	75	1154	7%			
12	Brookside Road	AM network peak	N/A – surveys were not necessary on this link given low traffic demand.		0	N/A – surveys were not necessary on this link given low traffic demand.			Minor link – no traffic data available.	Limited construction traffic impact would not have a perceptible impact on journey times.
		AM development peak			3					
		PM network peak			0				Minor link – no traffic data available.	Limited construction traffic impact would not have a perceptible impact on journey times.
		PM development peak			3					
13	Bidbury Lane	AM network peak	N/A – surveys were not necessary on this link given low traffic demand.		0	N/A – surveys were not necessary on this link given low traffic demand.			Minor link – no traffic data available.	Limited construction traffic impact would not have a perceptible impact on journey times.
		AM development peak			3					

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic with interventions (vehicles)	2031 Cumulative Development and Construction Traffic with interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
		PM network peak			0				Minor link – no traffic data available.	Limited construction traffic impact would not have a perceptible impact on journey times.
		PM development peak			3					
14	Mill Lane	AM network peak	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		0	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.			Minor link – no traffic data available.	Limited construction traffic impact would not have a perceptible impact on journey times.
		AM development peak			3					
		PM network peak			0				Minor link – no traffic data available.	Limited construction traffic impact would not have a perceptible impact on journey times
		PM development peak			3					
15	West Street	AM network peak	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		0	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.			Red in both directions at Bedhampton Road/New Road junction.	A review of Google Traffic data shows that existing delays are associated with the railway level crossing to the west. The limited construction traffic movements would predominately route east to Bedhampton Road, rather than west towards the crossing. Potential impact on journey times therefore not anticipated to be significant.
		AM development peak			36					
		PM network peak			0				Only section of green between Staunton Road/Brockhampton Road and Boundary Way junctions.	A review of Google Traffic data shows that existing delays are associated with the railway level crossing to the west. The limited construction traffic movements would predominately route east to Bedhampton Road, rather than west towards the crossing. Potential impact on journey times therefore not anticipated to be significant.
		PM development peak			36					
16	Meyrick Road	AM network peak	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		0	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		Minor road, Google Traffic Speed data not available	Minor link – no traffic data available.	Limited change in traffic (less than one vehicle per minute) on this minor road would not have a perceptible impact on journey times.
		AM development peak			36					
		PM network peak			0				Minor link – no traffic data available.	Limited change in traffic (less than one vehicle per minute) on this

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic with interventions (vehicles)	2031 Cumulative Development and Construction Traffic with interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
		PM development peak			36					minor road would not have a perceptible impact on journey times.
17	Harts Farm Way (1)	AM network peak	07:45-08:45	811	0	811	0%			AM network peak hour commences 15 minutes after the network peak hour (limited potential for peak spreading). Total traffic demand in the development peak hour is lower than the network peak hour. Potential impact on journey times therefore not likely to be material.
		AM development peak	06:30-07:30	501	226	727	45%			
		PM network peak	15:00-16:00	829	0	829	0%		Eastbound on Harts Farm Way is green.	PM development peak hour commences 60 minutes after the network peak hour. Total traffic demand in the development peak hour is broadly similar to the network peak hour. Potential impact on journey times therefore not likely to be material.
		PM development peak	17:00-18:00	611	226	837	37%			
18	Gillman Road	AM network peak	N/A – Motor vehicles prohibited on Gillman Road so traffic survey data was not collected.		0	N/A – Motor vehicles prohibited on Gillman Road so traffic survey data was not collected.			Minor link – no traffic data available.	Motor vehicles are prohibited on Gillman Road so no potential for impact on journey times.
		AM development peak			5					
		PM network peak			0				Minor link – no traffic data available.	Motor vehicles are prohibited on Gillman Road so no potential for impact on journey times.
		PM development peak			5					
19	B2177 (2)	AM network peak	08:00-09:00	1335	0	1335	0%			AM network peak hour commences 30 minutes after the development peak hour (no peak spreading). Total traffic demand in the development peak hour is significantly lower than the network peak hour. Potential impact on journey times would not be significant.
		AM development peak	06:30-07:30	755	152	907	20%			
		PM network peak	16:00-17:00	1,525	0	1525	0%			PM development peak commences straight after network peak (potential for peak spreading). Total traffic demand in the development peak hour is broadly similar to the network peak hour. Google Traffic Speed data
		PM development peak	17:00-18:00	1,390	152	1541	11%			

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic with interventions (vehicles)	2031 Cumulative Development and Construction Traffic with interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
										indicates there isn't congestion on this link. Potential impact on journey times would not be significant.
20	A3 (S)	AM network peak	08:15-09:15	1835	0	1835	0%			AM network peak hour commences 45 minutes after development peak hour (no peak spreading). Total traffic demand in the development peak hour is significantly lower than the network peak hour. Potential impact on journey times would not be significant.
		AM development peak	06:30-07:30	590	108	698	18%			
		PM network peak	17:00-18:00	1973	108	2082	5%		Sections of Southampton Road amber (both direction).	PM development and network peak hours fully coincide. Minor traffic impacts of 5% could result in some material impact to journey times, but not likely to be significant.
		PM development peak	17:00-18:00	1973	108	2082	5%			
21	A27	AM network peak	07:45-08:45	3178	0	3178	0%		Section of amber immediately after slip-road off M27 (NEB).	AM network peak hour commences 15 minutes after the development peak hour (limited peak spreading). Traffic demand in the development peak hour is substantially lower than in the network peak hour so there is limited potential for significant impacts on journey times.
		AM development peak	06:30-07:30	2134	109	2242	5%			
		PM network peak	16:30-17:30	3388	38	3427	1%			PM development peak hour commences 30 minutes after network peak hour starts so potential for some peak spreading to occur. Total traffic demand in the development peak hour is lower than the network peak so impact to journey times not likely to be significant.
		PM development peak	17:00-18:00	3196	109	3305	3%			
22	Crookhorn Lane	AM network peak	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		0	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.				Limited construction traffic impact would not have a perceptible impact on journey times.
		AM development peak			6					
		PM network peak			0					Limited construction traffic impact would not have a perceptible impact on journey times.
		PM development peak			6					

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic with interventions (vehicles)	2031 Cumulative Development and Construction Traffic with interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
23	College Road	AM network peak	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		0	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.				Limited construction traffic impact would not have a perceptible impact on journey times.
		AM development peak			6					
		PM network peak			0					Limited construction traffic impact would not have a perceptible impact on journey times.
		PM development peak			6					
24	Purbrook Way (2)	AM network peak	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		0	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.				Limited construction traffic impact would not have a perceptible impact on journey times.
		AM development peak			6					
		PM network peak			0					Limited construction traffic impact would not have a perceptible impact on journey times.
		PM development peak			6					
26	B2177 (3)	AM network peak	08:15-09:15	798	0	798	0%			AM network peak hour commences 45 minutes after the development peak hour (no peak spreading). Total traffic demand in the development peak hour is significantly lower than the network peak hour. Potential impact on journey times would not be significant.
		AM development peak	06:30-07:30	420	63	483	15%			
		PM network peak	16:15-17:15	1,181	11	1192	1%			PM development peak hour commences 45 minutes after the network peak starts. Some peak spreading would occur at this link. Traffic demand in the development peak is lower than the network peak hour so there is limited potential for a significant impact on journey times.
		PM development peak	17:00-18:00	1,060	63	1123	6%			
29	New Down Lane	AM network peak	06:30-07:30	18	135	153	850%	Minor link – no traffic data available		Given there are limited existing vehicle trips on New Down Lane, any potential impacts on journey times would be associated with traffic management rather than changes in traffic demand.
		AM development peak	06:30-07:30	18	135	153	850%			

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic with interventions (vehicles)	2031 Cumulative Development and Construction Traffic with interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
		PM network peak	15:45-16:45	15	0	15	0%	Minor link – no traffic data available		Given are limited existing vehicle trips on New Down Lane, any potential impacts on journey times would be associated with traffic management rather than changes in traffic demand.
		PM development peak	17:00-18:00	4	135	139	3500%			
31	B2177 (4)	AM network peak	08:00-09:00	798	0	798	0%			AM network peak hour commences 30 minutes after the development peak hour (no peak spreading). Traffic demand in the development peak is substantially lower than the network peak hour so there is limited potential for impact to journey times.
		AM development peak	06:30-07:30	212	57	269	27%			
		PM network peak	17:00-18:00	872	57	929	7%		Amber approaching the roundabout halfway along the route, in both directions.	PM development and network peaks overlap. Traffic impact of less than one vehicle per minute unlikely to have a significant impact on journey times.
		PM development peak	17:00-18:00	872	57	929	7%			
32	Boarhunt Road	AM network peak	08:00-09:00	382	0	382	0%		Sections of amber and red on SB approach to M27 roundabout flyover.	AM development peak commences 90 minutes prior to network peak (no peak spreading). Traffic demand in the development peak is substantially lower than the network peak hour so limited potential for impact on journey times.
		AM development peak	06:30-07:30	117	76	193	65%			
		PM network peak	16:30-17:30	446	27	473	6%		Red and dark red on approach to M27 roundabout flyover, amber on southern section of Boarhunt Road.	PM development peak hour commences 30 minutes after network peak hour starts resulting in potential peak spreading. Given existing congestion at the M27 roundabout, there is potential for some temporary material impacts to journey times.
		PM development peak	17:00-18:00	425	76	502	18%			
33	A32 Hoads Hill (S)	AM network peak	07:45-08:45	986	0	986	0%		Existing congestion as a result of long-term traffic management associated with the M27 Junction 10 improvement scheme. Limited congestion is expected once work is completed (expected Winter 2026).	AM network peak hour commences 15 minutes after the development peak hour (limited potential for peak spreading). Traffic demand in the development peak is lower than the network peak hour so there is limited potential for significant impacts to journey times.
		AM development peak	06:30-07:30	646	206	852	32%			

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic with interventions (vehicles)	2031 Cumulative Development and Construction Traffic with interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
		PM network peak	16:30-17:30	894	63	956	7%		Existing congestion as a result of long-term traffic management associated with the M27 Junction 10 improvement scheme. Limited congestion is expected once work is completed (expected Winter 2026).	PM development peak hour commences 30 minutes after network peak hour starts. Peak spreading would occur with a new temporary peak hour. Potential for material impacts to journey times, but not likely to be significant.
		PM development peak	17:00-18:00	856	177	1033	21%			
34	A32 Hoads Hill (C)	AM network peak	07:45-08:45	675	0	675	0%		Section of amber on approach to roundabout at southern end of route.	AM network peak hour commences 15 minutes after the development peak hour (limited potential for peak spreading). Traffic demand in the development peak is lower than the network peak hour so limited potential for impact on journey times.
		AM development peak	06:30-07:30	461	140	602	31%			
		PM network peak	16:15-17:15	1215	19	1234	2%		Section of amber on approach to roundabout at southern end of route.	PM development peak hour commences 45 minutes after network peak hour starts. Peak spreading would occur with a new temporary peak hour. Potential for a perceptible impact to journey times, but not significant.
		PM development peak	17:00-18:00	1157	109	1266	9%			
35	A334 (E)	AM network peak	08:30-09:30	964	0	964	0%		Sections of amber in both direction either side of Titchfield Lane junction.	AM network peak hour commences 60 minutes after the development peak hour (no peak spreading). Traffic demand in the development peak hour is lower than the network peak hour so limited potential for a material impact on journey times.
		AM development peak	06:30-07:30	711	136	847	19%			
		PM network peak	15:45-16:45	1189	0	1189	0%		Sections of red adjacent to Titchfield Lane junction and Redhill Nursery.	PM development peak hour commences 15 minutes after network peak hour. Peak spreading would occur, although traffic demand slightly lower in the development peak hour. Potential for some significant impacts on journey times on this link, particularly at the junction with Titchfield Lane.
		PM development peak	17:00-18:00	1066	89	1155	8%			
36	A334 (C)	AM network peak	07:30-08:30	760	0	760	0%			AM network peak hour commences immediately after development

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic with interventions (vehicles)	2031 Cumulative Development and Construction Traffic with interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
		AM development peak	06:30-07:30	501	48	549	10%		Amber and red on EB approach to Winchester Road.	peak hour. Traffic demand significantly lower in the development peak hour so peak spreading would not occur and there is limited potential for impact on journey times.
		PM network peak	15:45-16:45	688	0	688	0%		Section of red on EB approach to Winchester Road.	PM development peak hour commences 15 minutes after the network peak hour. Peak spreading would occur, although traffic demand slightly lower in the development peak hour. Potential for some material impacts to journey time, but not significant.
		PM development peak	17:00-18:00	646	34	680	5%			
37	Titchfield Lane	AM network peak	07:15-08:15	513	15	528	3%		Entire NEB approach to Winchester Road is red, entire SWB carriageway is green.	AM network peak hour commences 45 minutes after the development peak hour. Traffic demand would be significantly lower in the development peak hour so peak spreading would not occur. Additional traffic would be routing south-west and therefore there is limited potential for any impact on journey times.
		AM development peak	06:30-07:30	279	65	344	23%			
		PM network peak	16:30-17:30	565	19	584	3%		Red on NEB approach to Winchester Road, amber SWB heading away from Winchester Road.	PM development peak hour commences 30 minutes after the start of the network peak hour. Peak spreading would occur. Traffic impact of less than one vehicle per minute unlikely to have a significant impact to journey times (see section 10.5).
		PM development peak	17:00-18:00	530	54	584	10%			
38	Blind Lane	AM network peak	09:00-10:00	115	0	115	0%			AM network peak hour commences 90 minutes after the development peak hour (no peak spreading). Limited existing and future traffic demand so impacts on journey times unlikely to be perceptible.
		AM development peak	06:30-07:30	22	47	69	313%			
		PM network peak	17:15-18:15	121	0	121	0%			No material impacts forecast in the PM peak hour with the secured temporal restrictions.
		PM development peak	17:00-18:00	118	0	118	0%			
39	B2177 (5)	AM network peak	07:30-08:30	762	7	769	1%			AM network peak hour occurs immediately after the development

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic with interventions (vehicles)	2031 Cumulative Development and Construction Traffic with interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
		AM development peak	06:30-07:30	502	63	566	13%			peak hour. Traffic demand would be significantly lower in the development peak hour so no peak spreading would occur and there would be limited potential for significant impacts on journey times.
		PM network peak	16:30-17:30	830	22	853	3%			PM development peak hour commences 30 minutes after the start of the network peak hour. Peak spreading would occur with a new temporary peak hour. Traffic impacts are not significant (approximately. 1 car per minute) and therefore potential impacts on journey times would not be significant.
		PM development peak	17:00-18:00	816	63	879	8%			
40	Shirell Heath High Street	AM network peak	08:30-09:30	209	0	209	0%			AM network peak hour commences 60 minutes after the development peak hour (no peak spreading). Traffic demand would be significantly lower in the development peak hour so there is limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	59	34	94	59%			
		PM network peak	15:00-16:00	225	0	225	0%			PM development peak hour commences 60 minutes after the network peak hour. New temporary peak hour, however overall traffic demand would be low so impacts on journey times are unlikely to be perceptible.
		PM development peak	17:00-18:00	218	34	253	16%			
41	B3035	AM network peak	07:30-08:30	567	11	578	2%		Amber section NEB heading away from Station Hill junction.	AM network peak hour commences immediately after the development peak hour. Traffic demand would be lower in the development peak hour so peak spreading would not occur. Additional traffic would be routing east and therefore there is limited potential for any impact on journey times (see section 10.5).
		AM development peak	06:30-07:30	348	94	442	27%			
		PM network peak	16:45-17:45	661	13	674	2%		Red section NEB heading away from Station Hill junction.	PM development peak hour commences 15 minutes after the start of the network peak hour. Some peak spreading would occur, although traffic demand in the development peak hour would be
		PM development peak	17:00-18:00	643	15	659	2%			

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic with interventions (vehicles)	2031 Cumulative Development and Construction Traffic with interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
										lower. Given limited traffic impacts (1 car per four minutes), there is unlikely to be a perceptible impact on journey times.
42	Curdridge Lane	AM network peak	08:15-09:15	286	0	286	0%			AM network peak hour commences 45 minutes after the development peak hour (no peak spreading). Traffic demand would be significantly lower in the development peak hour so there is limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	79	29	109	38%			
		PM network peak	17:15-18:15	293	0	293	0%			No material impacts forecast in the PM peak hour with the secured temporal restrictions.
		PM development peak	17:00-18:00	284	0	284	0%			
43	B3037 (W)	AM network peak	09:00-10:00	1756	0	1756	0%		Section of red heading WB at western end of the link.	AM network peak hour commences 90 minutes after development peak hour (no peak spreading). Traffic demand would be significantly lower in the development peak hour so there is limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	1200	80	1280	7%			
		PM network peak	15:45-16:45	2102	0	2102	0%		Sections of amber at either end of the link.	PM development peak hour commences 15 minutes after network peak hour. Minor peak spreading would occur, although lower traffic demand in the development peak hour. Given limited traffic impacts (1 car per four minutes), there is unlikely to be a perceptible impact on journey times.
		PM development peak	17:00-18:00	2017	14	2031	1%			
44	B3354 (S)	AM network peak	09:00-10:00	908	0	908	0%		Sections of amber and red at northern end of the link in NB direction.	AM network peak hour commences 90 minutes after the development peak hour (no peak spreading). Traffic demand would be significantly lower in the development peak hour so there is limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	548	122	671	22%			
		PM network peak	17:00-18:00	1116	14	1129	1%			PM development and network peak hours fully coincide. Traffic impact

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic with interventions (vehicles)	2031 Cumulative Development and Construction Traffic with interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
		PM development peak	17:00-18:00	1116	14	1129	1%		Sections of amber at northern end of the link in SB direction.	of 1%, equating to 1 car per four minutes, is unlikely to be a perceptible impact on journey times.
45	B3037	AM network peak	07:45-08:45	899	0	899	0%			AM network peak hour commences 15 minutes after the development peak hour. Traffic demand would be significantly lower in the development peak hour so there would be no peak spreading and limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	486	86	571	17%			
		PM network peak	16:30-17:30	1041	5	1046	0%			PM development peak hour commences 30 minutes after network peak hour starts. Peak spreading would occur, although lower traffic demand in the development peak hour. Given limited traffic impacts (1 car per four minutes), there is unlikely to be a perceptible impact on journey times.
		PM development peak	17:00-18:00	1003	14	1017	1%			
46	B2177 (6)	AM network peak	08:00-09:00	819	0	819	0%			AM network peak hour commences 30 minutes after the development peak hour (no peak spreading). Traffic demand would be significantly lower in the development peak hour so there is limited potential for any perceptible impacts on journey times.
		AM development peak	06:30-07:30	329	80	409	24%			
		PM network peak	16:45-17:45	909	13	923	2%			Peak spreading would occur, although lower traffic demand in the development peak hour. Given limited traffic impacts (1 car per four minutes), there is unlikely to be a perceptible impact on journey times.
		PM development peak	17:00-18:00	903	16	919	2%			
47	Winters Hill	AM network peak	08:15-09:15	320	0	320	0%		Section of amber in EB direction on approach to B2177.	AM network peak hour commences 45 minutes after the development peak hour (no peak spreading). Traffic demand would be significantly lower in the development peak so there would be no peak spreading and limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	89	32	121	36%			

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic with interventions (vehicles)	2031 Cumulative Development and Construction Traffic with interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
		PM network peak	17:15-18:15	391	30	421	8%		Section of amber in EB direction on approach to B2177.	PM network peak hour commences 15 minutes after the start of development peak hour. Minor peak spreading would occur with potential for some perceptible impacts to journey times.
		PM development peak	17:00-18:00	390	32	422	8%			
48	B3335 (N)	AM network peak	08:30-09:30	1289	0	1289	0%		Sections of amber in both NB and SB directions.	AM network peak hour commences 60 minutes after the development peak hour (no peak spreading). Traffic demand would be significantly lower in the development peak so there would be no peak spreading and limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	637	64	707	11%			
		PM network peak	17:15-18:15	1429	36	1465	3%		Section of amber and red on SB carriageway either side of New Barn Farm junction.	PM network peak hour commences 15 minutes after the start of the development peak hour. Minor peak spreading would occur but impacts on journey times not likely to be material.
		PM development peak	17:00-18:00	1412	38	1450	3%			
49	B3354 (N)	AM network peak	07:45-08:45	1695	0	1695	0%			AM network peak hour commences 15 minutes after the start of the development peak hour. Traffic demand would be significantly lower in the development peak so there would be no peak spreading and limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	1229	43	1272	3%			
		PM network peak	17:00-18:00	1522	0	1684	0%		Section of amber in SB direction between Colden Common and Portsmouth Road.	PM development and network peaks overlap. Increase in traffic demand of three vehicles would not be perceptible.
		PM development peak	17:00-18:00	1522	3	1525	0%			
50	B2177 (7)	AM network peak	08:00-09:00	586	0	586	0%		Sections of amber in WB direction toward western end of the route.	AM network peak hour commences 30 minutes after the development peak hour. Traffic demand would be significantly lower in the development peak so there would be no peak spreading and limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	232	44	276	19%			
		PM network peak	17:00-18:00	622	3	625	0%		Sections of amber in WB direction toward	PM development and network peaks overlap. Increase in traffic

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic with interventions (vehicles)	2031 Cumulative Development and Construction Traffic with interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
		PM development peak	17:00-18:00	622	3	625	0%		western end of the route and passing Thompson's Lane junction.	demand of three vehicles would not be perceptible.
51	B2177 (9)	AM network peak	07:45-08:45	1287	0	1287	0%			AM network peak hour commences 15 minutes after the development peak hour. Traffic demand would be significantly lower in the development peak so there would be no peak spreading and limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	780	46	826	6%			
		PM network peak	16:30-17:30	1421	5	1427	0%			PM development peak hour commences 30 minutes after the network peak hour starts. Minor peak spreading would occur, but increase in traffic demand of 1 vehicle per four minutes on journey times not likely to be material.
		PM development peak	17:00-18:00	1355	15	1370	1%			
52	Otterbourne Hill (N)	AM network peak	09:00-10:00	886	0	886	0%		Section of amber in NB direction adjacent to BP garage.	AM network peak hour commences 90 minutes after the development peak hour. Traffic demand would be significantly lower in the development peak so there would be limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	266	40	306	15%			
		PM network peak	16:00-17:00	1033	0	1033	0%			PM development peak hour occurs immediately after the network peak hour. Peak spreading would occur with a new temporary peak hour, however traffic impacts would be minor and therefore there is a limited potential to result in a significant impact on journey times.
		PM development peak	17:00-18:00	1029	40	1069	4%			
53	Kiln Lane	AM network peak	08:00-09:00	289	0	289	0%			AM network peak hour commences 30 minutes after the development peak hour (no peak spreading). Traffic demand would be significantly lower in the development peak so there would be limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	55	64	119	216%			
		PM network peak	17:15-18:15	311	60	372	20%			PM network peak hour commences 15 minutes after the development

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic with interventions (vehicles)	2031 Cumulative Development and Construction Traffic with interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
		PM development peak	17:00-18:00	305	64	369	21%			peak hour starts. Minor peak spreading would occur, however overall traffic demand is low and therefore potential impacts on journey times unlikely to be significant.
54	Church Lane	AM network peak	08:15-09:15	667	0	667	0%		Amber in both directions at western end of the link.	AM network peak hour commences 45 minutes after the development peak hour (no peak spreading). Limited construction traffic impact would not have a perceptible impact on journey times.
		AM development peak	06:30-07:30	405	10	405	2%			
		PM network peak	16:00-17:00	848	0	848	0%			PM development peak occurs immediately after network peak. Minor increase in traffic demand would result in limited potential for any perceptible impact on journey times.
		PM development peak	17:00-18:00	799	10	799	1%			
56	B3335 (S)	AM network peak	08:00-09:00	770	0	770	0%		Sections of amber in both directions toward northern end of link.	AM network peak hour commences 30 minutes after the development peak hour (no peak spreading). Traffic demand would be significantly lower in the development peak so there would be limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	360	99	460	28%			
		PM network peak	15:45-16:45	847	0	847	0%		Sections of amber in both directions toward northern end of link.	PM development peak hour commences 15 minutes after the network peak hour. Peak spreading would occur with similar traffic demand in the network and development peak hours. Minor delays in the network peak hour would continue in the development peak hour, but overall impacts on journey times are likely to be perceptible but not material.
		PM development peak	17:00-18:00	728	99	827	14%			
57	A335	AM network peak	08:15-09:15	1451	0	1451	0%		Most of NWB carriageway is amber, with smaller section of red.	AM network peak hour commences 45 minutes after the development peak hour (no peak spreading). Traffic demand would be significantly lower in the development peak so there would be limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	923	103	1026	11%			

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic with interventions (vehicles)	2031 Cumulative Development and Construction Traffic with interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
		PM network peak	16:15-17:15	1674	12	1685	1%		Section of amber in NWB direction toward northern end of the link.	PM development and network peak periods overlap. Peak spreading would occur. Minor delays in the network peak hour would continue in the development peak hour, but overall impacts on journey times are likely to be perceptible but not material.
		PM development peak	17:00-18:00	1631	66	1696	4%			
58	Waterworks Road	AM network peak	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		0	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		Minor link – no traffic data available		Limited change in traffic (approximately one vehicle per minute) on this minor road is not likely to have a material impact on journey times.
		AM development peak			64					
		PM network peak			0			Minor link – no traffic data available		Limited change in traffic (approximately one vehicle per minute) on this minor road is not likely to have a material impact on journey times.
		PM development peak			64					
59	Sparrowgrove	AM network peak	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		0	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		Minor link – no traffic data available		Limited change in traffic (approximately one vehicle per minute) on this minor road is not likely to have a material impact on journey times.
		AM development peak			64					
		PM network peak			0			Minor link – no traffic data available		Limited change in traffic (approximately one vehicle per minute) on this minor road is not likely to have a material impact on journey times.
		PM development peak			64					
62	Brockhampton Road	AM network peak	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.		0	N/A – Agreed with HCC during engagement that surveys were not necessary on this link.				No change in traffic demand forecast in the network and development peak hours.
		AM development peak			0					
		PM network peak			0					No change in traffic demand forecast in the network and development peak hours.
		PM development peak			0					
63	Harts Farm Way (2)	AM network peak	07:45-08:45	733	0	733	0%			AM development peak hour commences 15 minutes after the

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic with interventions (vehicles)	2031 Cumulative Development and Construction Traffic with interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
		AM development peak	06:30-07:30	440	13	453	3%			network peak hour. Traffic demand would be significantly lower in the development peak so there would be no peak spreading and limited potential for any perceptible impact on journey times.
		PM network peak	15:15-16:15	777	0	777	0%			AM development peak hour commences 45 minutes after the network peak hour. Traffic demand would be lower in the development peak hour so there would be no peak spreading and limited potential for any material impacts on journey times .
		PM development peak	17:00-18:00	632	13	645	2%			
64	Otterbourne Road	AM network peak	08:00-09:00	648	0	648	0%			AM network peak hour commences 30 minutes after the development peak hour. Traffic demand would be significantly lower in the development peak so there would be no peak spreading and limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	301	24	325	8%			
		PM network peak	16:15-17:15	772	4	777	1%			PM development peak hour commences 45 minutes after the network peak hour starts. Minor peak spreading would occur, although impacts on journey times not likely to be material.
		PM development peak	17:00-18:00	710	24	734	3%			
65	Hockley Link	AM network peak	07:45-08:45	1176	0	1176	0%		Amber congestion on WB approach to Hockley Link roundabout.	AM network peak hour commences 45 minutes after the development peak hour. Traffic demand would be significantly lower in the development peak hour so there would be no peak spreading and limited potential for any material impacts on journey times.
		AM development peak	06:30-07:30	641	24	665	4%			
		PM network peak	16:00-17:00	1354	0	1354	0%		Amber and red congestion on WB approach to Hockley Link roundabout.	PM development peak hour commences directly after the network peak hour. Peak spreading would occur however traffic demand would be lower in the development peak hour. Potential for a material impact on journey time, but not significant.
		PM development peak	17:00-18:00	1237	24	1261	2%			
66	Southmoor Lane	AM network peak	07:15-08:15	373	3	376	1%			AM network peak hour commences 45 minutes after the development

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic with interventions (vehicles)	2031 Cumulative Development and Construction Traffic with interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
		AM development peak	06:30-07:30	264	13	277	5%	Minor link – no traffic data available		peak hour starts. Limited change in traffic on this minor road is not likely to have a perceptible impact on journey times.
		PM network peak	16:45-17:45	264	0	298	0%	Minor link – no traffic data available		PM development peak hour commences 15 minutes after the network peak hour starts. Limited change in traffic on this minor road is not likely to have a perceptible impact on journey times.
		PM development peak	17:00-18:00	204	13	218	7%			
67	Otterbourne Hill (S)	AM network peak	08:30-09:30	780	0	780	0%		Amber section in SWB direction toward southern end of link.	AM network peak hour commences 60 minutes after the development peak hour. Traffic demand would be significantly lower in the development peak so there would be no peak spreading and limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	436	101	537	23%			
		PM network peak	16:00-17:00	902	0	902	0%		Amber section in SWB direction toward southern end of link.	PM development peak commences directly after network peak. Peak spreading would occur with a new temporary peak hour created. Traffic impact (approximately one vehicle per minute) on could have a material impact on journey times, but not likely to be significant.
		PM development peak	17:00-18:00	840	101	941	12%			
68	B2177 (8)	AM network peak	08:30-09:30	797	0	797	0%			AM network peak hour commences 60 minutes after the development peak hour. Traffic demand would be significantly lower in the development peak so there would be no peak spreading and limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	216	63	279	29%			
		PM network peak	16:45-17:45	912	52	964	6%		Amber section in EB direction on approach to roundabout at eastern end of the link.	PM development peak hour commences 15 minutes after the network peak hour starts. Peak spreading would occur with a new temporary peak hour created. Traffic impact (approximately one vehicle per minute) on could have a material impact on journey times, but not likely to be significant.
		PM development peak	17:00-18:00	904	63	968	7%			
69	A334 (W)	AM network peak	07:30-08:30	1354	16	1370	1%			AM network peak hour commences directly after the development peak

Link ref	Link name	Period	Time	2031 Do Minimum (vehicles)	Construction traffic with interventions (vehicles)	2031 Cumulative Development and Construction Traffic with interventions (vehicles)	Percentage impact	Google Traffic Speed data	Additional observations	Assessment conclusions
		AM development peak	06:30-07:30	952	132	1083	14%			hour. Some peak spreading would occur, however
		PM network peak	15:45-16:45	1365	0	1365	0%			PM development peak hour commences 15 minutes after network peak hour. Some peak spreading would occur, although traffic demand would be lower in the development peak hour. Potential for traffic impacts to have a perceptible impact on journey times.
		PM development peak	17:00-18:00	1305	37	1342	3%			
70	Winchester Road Link	AM network peak	08:00-09:00	1764	0	1764	0%			AM network peak hour commences 30 minutes after the development peak hour. Traffic demand would be significantly lower in the development peak so there would be no peak spreading and limited potential for any perceptible impact on journey times.
		AM development peak	06:30-07:30	951	101	1051	11%			
		PM network peak	16:45-17:45	1843	83	1926	5%			PM development peak hour commences 15 minutes after the network peak hour starts. Peak spreading would occur, although traffic demand would be lower in the development peak hour. Traffic impact (approximately one vehicle per minute) on could have a material impact on journey times, but not likely to be significant.
		PM development peak	17:00-18:00	1804	101	1905	6%			

10.4.4 As detailed in the Table 10-4, with the additional secured interventions, there are no locations where there are likely to be significant impacts to journey times in the peak periods.

18:00-19:00 development peak analysis

10.4.5 As mentioned in section 9.4, temporal restrictions at various temporary construction compounds may lead to the creation of a new development peak at some links. This is dependent upon the strategy that the Contractor uses to comply with these temporal restrictions, given that they could opt to utilise additional minibuses, thereby preventing all construction worker movements to and from the affected temporary construction compounds.

10.4.6 However, to provide an assessment of the worst case scenario, a supplementary development peak period analysis has been conducted which looks at the 18:00-19:00 specifically for links that will be impacted by the proposed temporal restrictions.

10.4.7 The 18:00-19:00 period has been examined given that this period is typically subject to higher traffic volumes than the 15:00-16:00 period prior to the window where temporal restrictions would apply.

10.4.8 The results of this assessment are presented at Table 10-5 with the assessment provided in full at **Error! Reference source not found.**.

Table 10-5 Supplementary development peak impact assessment

Link ref	Link name	2031 Do Minimum (18:00-19:00)	Construction traffic (with interventions) (18:00-19:00)	2031 Cumulative development and construction traffic (with interventions) (18:00-19:00)	% impact	2031 Do Minimum PM network peak
33	A32 (S)	555	61	616	11%	894
34	A32 (C)	851	51	902	6%	1215
36	A334 (C)	486	20	506	4%	688
37	Titchfield Lane	307	65	372	21%	565
38	Blind Lane	93	47	140	51%	121
41	B3035	436	92	528	21%	661
42	Curdridge Lane	253	29	282	11%	293
43	B3037 (W)	2006	71	2077	4%	2102
44	B3354 (S)	1020	113	1133	11%	1116
45	B3037	867	77	944	9%	1041
46	B2177 (6)	774	71	845	9%	909

Link ref	Link name	2031 Do Minimum (18:00-19:00)	Construction traffic (with interventions) (18:00-19:00)	2031 Cumulative development and construction traffic (with interventions) (18:00-19:00)	% impact	2031 Do Minimum PM network peak
48	B3335 (N)	1321	43	1364	3%	1429
49	B3354 (N)	1371	41	1412	3%	1684
50	B2177 (7)	517	42	559	8%	622
51	B2177 (9)	1023	36	1059	4%	1421
57	A335	1259	75	1334	6%	1674
69	A334 (W)	1061	109	1170	10%	1365

10.4.9 The supplementary 18:00-19:00 development peak analysis shows that, even with the addition of construction traffic flows associated with the temporary construction compounds subject to temporal restrictions, the 18:00-19:00 'Cumulative development and construction traffic (with interventions)' flows will be some way below that of the '2031 Do Minimum' PM network peak on the vast majority of links.

10.4.10 This is with the exception of Blind Lane which is a minor road subject to low volumes of baseline traffic and is therefore sensitive to construction traffic flows.

10.4.11 The other exception to this is the B3354 (S), for which the 18:00-19:00 '2031 Cumulative development and construction traffic (with interventions)' flows would be greater than the existing '2031 Do Minimum' PM network peak, which would occur between 17:00-18:00. This new network PM peak would accommodate 17 vehicles more than the baseline 17:00-18:00 network period. This mitigation would therefore extend the network peak hour, but this is preferable to these impacts being concentrated within the original network peak hour as shown at Table 10-2.

10.4.12 On the whole, impacts during the 18:00-19:00 would be notable, but would occur during a period where baseline road traffic volumes are much lower. As such, it is considered that the temporal restrictions are beneficial in mitigating the impact of the Proposed Development on the local highway network.

10.5 Junction assessment

10.5.1 This section provides additional assessment of six junctions which have been flagged during engagement with HCC undertaken to date. The junctions that have been subject to additional assessment and an overview of the reason for their inclusion are set out in Table 10-6.

Table 10-6 Junctions assessed in additional detail

Junction	Reason for inclusion
Otterbourne Hill/Kiln Lane/Otterbourne Road mini-roundabout junction	Used to access Otterbourne WSW and tunnel shaft at temporary construction compound M-1. The mini-roundabout also provides access to Otterbourne School and is located on the diversion route by NH when there are congestion issues on the SRN.
A334 Station Hill/Winchester Road/B3035 Botley Road priority junction	Utilised by a significant proportion of construction traffic associated with various temporary construction compounds to the east.
A334 Winchester Road/Titchfield Lane/Blind Lane signal-controlled junction	Several temporary construction compounds accessed in all four directions through this junction, which already experiences congestion and delay.
B2177 Bedhampton Road/Portsdown Hill Road/Maylands Road/Brookside Road mini-roundabout junction	Several temporary construction compounds accessed via this junction, which also provides one of Havant's primary connections to the SRN.
Rusty Cutter junction	HCC expressed concerns with these junctions during engagement undertaken to date. They would be used by traffic routing to/from the WRP site, which accounts for a significant proportion of the Proposed Development traffic.
Tear Drop junction	

10.5.2 The impact at these additional junctions has been considered both with and without interventions.

10.5.3 The assessment involves a net impact assessment of these six junctions providing an assessment of the net impact of the without and with interventions scenarios when compared to the '2031 Do Minimum' baseline.

10.5.4 Various links that feed into each of the junctions would be subject to their respective peak periods at different points of the indicative programme (contained at **Error! Reference source not found.**As such, for this junction-specific assessment, the peak construction traffic demand associated with each temporary construction compound that routes through each respective junction has been used, rather than the link peak demand figures. This approach is considered to be robust, offering a worst case scenario of the peak volume of traffic that could route through each junction.

A334 Winchester Road/Blind Lane/Titchfield Lane signalised junction

10.5.5 The A334 Winchester Road/Blind Lane/Titchfield Lane junction is a signal-controlled junction located to the north-west of Wickham. Several temporary construction compounds would be accessed via Titchfield Lane and Blind Lane to the west and east of the junction respectively, whilst various other temporary construction compounds are accessed via the A334 to the north and south of this junction.

10.5.6 Initial link assessments indicated that the A334 Winchester Road would be subject to a notable number of construction trips, with a proportion of these trips turning onto Titchfield Lane and Blind Lane to access temporary construction compounds. This was discussed with HCC during the Construction Impacts workshop in March

2025. During this workshop, HCC expressed concerns and stated that the junction had existing capacity issues.

10.5.7 Accessed via the minor arms of this junction, temporary construction compounds H-1, H-2, H-3 and IPS-G would be subject to the temporal restrictions outlined in section 10.3.

10.5.8 An overview of the results of the construction traffic impact assessment is provided at Table 10-7. Full results are also presented in turning matrix format at **Error! Reference source not found.**.

Table 10-7 Construction traffic impact overview: A334 Winchester Road/Blind Lane/Titchfield Lane signalised junction

Peak period	Time	2031 Do Minimum flows through junction	% Increase in flows through junction	
			2031 Cumulative Development and Construction Traffic (without interventions)	2031 Cumulative Development and Construction Traffic (with interventions)
AM Development Peak	06:30 – 07:30	1978	20%	18%
AM Network Peak	07:15 - 08:15	1450	3%	3%
PM Network Peak	17:00 – 18:00	1823	16%	7%
PM Development Peak	17:00 – 18:00	1823	16%	7%

10.5.9 The results of the percentage impact assessment indicates that there would be a temporary traffic impact at this junction in all peak hour scenarios. This impact is significantly reduced once accounting for the proposed interventions, with a maximum impact of 7% additional flows through the junction during the PM network and development peak.

10.5.10 The largest temporary impact proportion (18%) would occur during the AM development peak, though these movements would occur against the backdrop of relatively low baseline traffic volumes during this period prior to the AM network peak when impacts would be limited to 3%.

10.5.11 Furthermore, the proposed interventions significantly reduce the number of turning movements at this junction, which is likely to reduce delay and improve the overall performance of the junction.

10.5.12 **Error! Reference source not found.**provides evidence of this, showing that the number of construction traffic movements between the minor and major arms during the PM (network and development) peak would reduce from 234 to 73. This includes a reduction in the number of right-turn movements from Titchfield Lane to the A334 from 111 (without interventions) to 52 (without interventions) as well as a reduction in the number of right-turn movements from Blind Lane to the A334 from 23 to 0.

B2177 Bedhampton Road/Brookside Road/B2177 Portsdown Hill Road/Maylands Road staggered priority junction

10.5.13 The B2177 Bedhampton Road/Brookside Road/B2177 Portsdown Hill Road/Maylands Road junction is a staggered priority junction which comprises of a mini roundabout with four arms. Brookside Road feeds into the B2177 Bedhampton Road (East) entry arm immediately east of the mini-roundabout entry. The B2177 Bedhampton Road (West) arm provides a connection to the SRN via the Rusty Cutter and Tear Drop junctions to the west. Brookside Road provides a direct link to Mill Lane, which provides access to temporary construction compound B1-1. Temporary construction compounds B1-2 and B1-3 can be accessed to the east of the junction, whilst several temporary construction compounds across Sections D and E, as well as two AGP that can be accessed to the west of the junction.

10.5.14 Given its proximity to the SRN, this junction is forecast to accommodate notable volumes of construction traffic. As such, following consultation with HCC, it has been included within this construction traffic impact assessment.

10.5.15 No temporary construction compounds would be subject to temporal restrictions in the vicinity of this junction.

10.5.16 An overview of the results of the construction traffic impact assessment is provided at Table 10-8, with full results provided at **Error! Reference source not found.**.

Table 10-8 Construction traffic impact overview: B2177 Bedhampton Road/Brookside Road/B2177 Portsdown HIll Road/Maylands Road staggered priority junction

Peak period	Time	2031 Do Minimum flows through junction	% Increase in flows through junction	
			2031 Cumulative Development and Construction Traffic (without interventions)	2031 Cumulative Development and Construction Traffic (with interventions)
AM Development Peak	06:30 - 07:30	1259	12%	10%
AM Network Peak	08:00 – 09:00	2136	0%	0%
PM Network Peak	16:15 – 17:15	2358	1%	1%
PM Development Peak	17:00 – 18:00	2335	7%	5%

10.5.17 The results of the construction traffic impact assessment indicate that the Proposed Development would have minimal impact during the network peak periods at this junction, with no impact during the AM network peak and a 1% temporary increase in flows during the PM network peak.

10.5.18 During the development peak periods, the proposed interventions would reduce the impact of the Proposed Development from 12% to 10% (AM development peak) and 7% to 5% (PM development peak).

10.5.19 The largest temporary impact at this junction would arise during the AM development peak, with an additional 10% flows forecast under the 'with interventions' scenario. However, this temporary impact would commence an hour and a half before the AM network peak during a period in which baseline traffic volumes on the local highway network would be lower. Similarly, there would be a 5% temporary increase in flows at this junction during the PM development peak in the 'with interventions' scenario, though this period would commence 45 minutes after the PM network peak period commences.

10.5.20 During these development peak periods, there would be a notable temporary impact on turning movements between the B2177 Bedhampton Road eastern and western arms. The largest temporary impact would be on movements between the B2177 Bedhampton Road (West) and B2177 Portsdown Hill Road arms with an additional 86 movements forecast between these arms during the AM and PM development peak periods respectively during the 'with interventions' scenario.

10.5.21 The baseline traffic flows at this junction would be significantly lower during the AM development peak than the AM network peak, with AM development peak baseline flows forecast to be 41% lower than AM network peak flows.

10.5.22 PM network peak and development peak baseline flows are more comparable, however temporary impacts at the junction would be limited to a 5% increase in flows during the PM development peak period in the 'with interventions' scenario.

10.5.23 On the whole, there will be some temporary impacts at this junction during the AM and PM development peak periods. However, the temporary impacts during the AM development peak would occur during a period where baseline traffic flows would be 41% lower than they would be during the AM network peak. PM development peak impacts would also be limited to a 5% increase in flows through the junction. There would be minimal impact during the AM and PM network peak periods.

Rusty Cutter gyratory (A3(M) Junction 5)

10.5.24 The Rusty Cutter junction is a partially signalised gyratory which provides access to and from the A3 (M). To the south, it also provides access to the A27 (T) via the Tear Drop junction. It also provides access to the A2030 Havant Road to the west and to the B2177 Bedhampton Road to the east. Signals are located prior to the A3(M) southbound and northbound exit slips respectively.

10.5.25 This junction is expected to accommodate a large proportion of development movements associated with the WRP site and other temporary construction compounds in its vicinity. This includes tunnelling shift workers at the WRP site, who are expected to arrive and depart in accordance with the shift worker arrival/departure profile at Table 9-2.

10.5.26 HCC also expressed their preference for this junction to be considered within an impact assessment during engagement undertaken to date, and as such it has been considered here.

10.5.27 No temporary construction compounds would be subject to temporal restrictions in the vicinity of this junction.

10.5.28 An overview of the results of the construction traffic impact assessment is provided at Table 10-9, with detailed outputs provided at **Error! Reference source not found.**.

Table 10-9 Construction traffic impact overview: Rusty Cutter gyratory

Peak period	Time	2031 Do Minimum flows through junction	% Increase in flows through junction	
			2031 Cumulative Development and Construction Traffic (without interventions)	2031 Cumulative Development and Construction Traffic (with interventions)
AM Development Peak	06:30 - 07:30	3506	11%	8%
AM Network Peak	07:30 – 08:30	4747	1%	1%
PM Network Peak	16:30 – 17:30	4744	1%	1%
PM Development Peak	17:00 – 18:00	4186	4%	3%

10.5.29 Table 10-9 shows that the Proposed Development would be limited during the network peak periods, as well as during the PM development peak period.

10.5.30 There would be a notable impact during the AM development peak period, with a temporary 11% increase in flows through the junction, though this would reduce to 8% following the implementation of the interventions. The turning movements that would contribute to this impact include a large temporary increase in vehicles turning from the A27 to the B2177 Bedhampton Hill and from the A3 (M) off slip to the A27.

10.5.31 These movements would take place from one hour prior to the Rusty Cutter's AM network peak, during a period in which baseline flows at the junction would be 26% lower than they would be during the AM network peak.

10.5.32 Overall, temporary impacts at the Rusty Cutter junction are limited during all peak periods with the exception of the AM development peak. During the AM development peak, a 8% temporary increase in flows (with interventions) through the junction is forecast which is primarily driven by an increase in two turning movements. These impacts are however confined to a period prior to the AM network peak, when baseline flows at the junction are some way lower than the junction's peak.

10.5.33 Despite the impacts of the Proposed Development being limited at this junction, during engagement with HCC it was requested that the Rusty Cutter is modelled using a base model supplied by HCC.

10.5.34 The base model was provided in LinSig file format and has been used to provide additional assessment of the operation of the junction. The cycle times and other junction settings were kept in the same arrangement as HCCs model when received.

10.5.35 Outputs from LinSig include Practical Reserve Capacity (PRC) forecasts. PRC is a measure of how much additional traffic could pass through a junction and is calculated from the maximum Degree of Saturation on each lane. Degree of Saturation is a measure of the volume of traffic making a turning movement at the junction divided by the capacity of that movement, ascertained from the geometric measurements of the junction and, where appropriate, using signal timings. The generally agreed operational capacity of a junction is at a ratio of 90% for traffic signals.

10.5.36 These parameters have been used to summarise the operational effectiveness of individual junctions in accordance with the pre-determined thresholds shown in Table 10-10.

Table 10-10 Practical Reserve Capacity performance ratings

Within Practical Capacity - junctions with a PRC above 0% have been deemed to operate within practical capacity.	
Over Practical Capacity, Approaching Theoretical Capacity - junctions with a PRC of between -10% and 0%.	
Over Theoretical Capacity - junctions with a PRC below -10% have been deemed to operate over theoretical capacity with substantial queuing delays.	

10.5.37 Results for arms of all junctions are presented in terms of Degree of Saturation (%), Mean Max Queues (MMQ) (expressed in Passenger Car Units (PCUs)), and average delay per PCU. The overall performance of each junction is then presented in terms of PRC.

10.5.38 MMQ represents the maximum queue within a typical cycle averaged over all the cycles within the modelled period. In effect, MMQ can be expressed as the average queue that a driver would experience at the junction during the modelled period. A PCU is a unit of measurement where vehicles are defined by size in relation to a car with a car being one PCU and a bus, for example, generally being defined as two PCUs.

10.5.39 The outputs of the LinSig assessment are presented at Table 10-11, with full outputs contained at **Error! Reference source not found.**.

Table 10-11 Rusty Cutter junction capacity assessment

Scenario	Arm	Lane	AM development peak			AM network peak			PM network peak			PM development peak		
			Deg Sat (%)	MMQ	Delay (s)	Deg Sat (%)	MMQ	Delay (s)	Deg Sat (%)	MMQ	Delay (s)	Deg Sat (%)	MMQ	Delay (s)
2031 Do Minimum	A3 NB Off-Slip Left	1/1	4.9%	0.4	20.9	5.7%	0.5	20.9	16.3%	1.5	17.0	26.3%	1.7	27.6
	A3 NB Off-Slip Ahead	1/2	55.9%	6.2	27.8	78.0%	10.1	36.2	85.5%	12.6	35.7	64.9%	5.1	36.2
	A2030 Havant Road Ahead Left	2/2+2/1	22.7 : 20.7%	0.5	1.5	35.7 : 33.1%	1.1	1.9	33.0 : 33.0%	0.6	2.0	27.0 : 25.1%	0.4	1.5
	A2030 Havant Road Ahead	2/3	29.7%	0.9	3.6	53.4%	2.5	6.1	48.6%	1.7	5.9	39.0%	1.1	4.1
	A3 SB Off-Slip Ahead Left	3/2+3/1	56.9 : 56.9%	5.7	11.9	82.3 : 82.3%	10.7	17.0	89.0 : 89.0%	12.7	28.8	68.3 : 68.3%	7.1	12.0
	A3 SB Off-Slip Ahead	3/3	13.9%	1.5	9.7	19.7%	2.2	10.1	36.2%	3.7	17.6	22.6%	2.4	9.1
	Bedhampton Hill Left Ahead	4/2+4/1	36.5 : 36.5%	1.3	2.3	68.1 : 68.1%	4.8	7.6	32.1 : 33.1%	2.1	4.3	31.0 : 32.7%	1.4	2.8
	A27 Left	5/1	11.7%	0.1	1.8	21.5%	0.1	2.1	23.4%	0.2	2.2	21.6%	0.1	2.1
	A27 Left	5/2+5/3	41.8 : 41.8%	0.4	1.6	43.3 : 43.3%	0.4	1.6	53.2 : 53.3%	0.6	2.0	49.6 : 49.6%	0.5	1.8
	Circulatory South Ahead	6/1	26.7%	3.3	12.7	42.1%	5.5	13.9	56.9%	8.0	21.3	38.4%	4.7	9.7
	Circulatory South Right Ahead	6/2	56.9%	8.4	16.1	63.2%	9.7	17.1	89.3%	17.0	36.3	61.6%	9.0	12.4
	Circulatory South Right	6/3	42.9%	5.7	13.5	43.9%	5.9	13.6	61.0%	8.0	18.3	43.1%	5.1	9.3
	Circulatory West Ahead	7/1	22.7%	0.1	1.2	23.3%	0.2	1.2	27.7%	0.2	1.3	26.3%	0.2	1.3
	Circulatory West Right Ahead	7/2	39.6%	0.3	1.5	46.9%	0.4	1.7	58.4%	0.7	2.2	39.4%	0.3	1.5
	Circulatory North Ahead	8/1	49.1%	3.9	20.0	82.0%	9.5	33.8	85.7%	8.9	20.9	64.2%	3.9	23.4
	Circulatory North Right	8/2	39.5%	2.7	17.9	58.7%	4.8	22.9	24.2%	1.9	12.0	39.0%	2.6	22.4
	Circulatory North Right	8/3	39.3%	2.7	17.9	58.7%	4.8	22.9	24.2%	1.9	12.0	38.8%	2.6	22.4
	Circulatory East Ahead	9/1	31.0%	0.2	1.3	43.6%	0.4	1.6	33.9%	0.3	1.4	35.0%	0.3	1.4
	Circulatory East Ahead	9/2	33.7%	0.3	1.4	49.3%	0.5	1.8	40.0%	0.3	1.5	38.4%	0.3	1.5
	Circulatory East Right	9/3	7.7%	0.0	1.0	10.9%	0.1	1.0	14.2%	0.1	1.1	12.7%	0.1	1.1
	Circulatory SE Ahead	14/1	7.3%	0.0	1.0	10.0%	0.1	1.0	12.8%	0.1	1.1	11.2%	0.1	1.0
	Circulatory SE Ahead	14/2	10.8%	0.1	1.0	13.2%	0.1	1.1	14.9%	0.1	1.1	14.2%	0.1	1.1
	PRC		**58.2% @ 72 seconds**			**9.4% @ 72 seconds**			**0.8% @ 64 seconds**			**31.8% @ 64 seconds**		
2031 Cumulative Development and Construction Traffic (without interventions)	A3 NB Off-Slip Left	1/1	3.7%	0.4	15.5	5.5%	0.5	20.1	17.0%	1.5	17.9	26.3%	1.7	27.6
	A3 NB Off-Slip Ahead	1/2	75.5%	11.6	27.7	78.7%	10.6	35.5	89.4%	13.8	42.7	64.9%	5.1	36.2
	A2030 Havant Road Ahead Left	2/2+2/1	25.8 : 25.8%	0.9	2.0	36.3 : 34.4%	1.2	2.0	33.0 : 33.0%	0.6	2.0	27.1 : 25.2%	0.4	1.5

Scenario	Arm	Lane	AM development peak			AM network peak			PM network peak			PM development peak		
			Deg Sat (%)	MMQ	Delay (s)	Deg Sat (%)	MMQ	Delay (s)	Deg Sat (%)	MMQ	Delay (s)	Deg Sat (%)	MMQ	Delay (s)
	A2030 Havant Road Ahead	2/3	35.5%	1.4	5.4	54.4%	2.6	6.4	48.7%	1.6	5.9	39.1%	1.1	4.1
	A3 SB Off-Slip Ahead Left	3/2+3/1	64.3 : 64.3%	7.1	16.6	83.9 : 83.9%	11.3	18.4	89.0 : 89.0%	12.7	28.8	68.3 : 68.3%	7.1	12.0
	A3 SB Off-Slip Ahead	3/3	16.4%	1.8	13.2	20.2%	2.3	10.6	36.2%	3.7	17.6	22.6%	2.4	9.1
	Bedhampton Hill Left Ahead	4/2+4/1	40.3 : 40.3%	1.6	2.9	68.9 : 68.9%	5.0	7.9	35.0 : 39.3%	2.4	4.6	49.8 : 49.8%	2.8	4.1
	A27 Left	5/1	11.7%	0.1	1.8	21.5%	0.1	2.1	23.4%	0.2	2.2	21.6%	0.1	2.1
	A27 Left	5/2+5/3	47.6 : 47.6%	0.5	1.8	43.9 : 43.9%	0.4	1.6	53.3 : 53.5%	0.6	2.0	50.0 : 50.0%	0.5	1.8
	Circulatory South Ahead	6/1	32.8%	3.9	19.1	43.2%	5.7	14.9	55.0%	7.8	20.2	38.4%	4.7	9.7
	Circulatory South Right Ahead	6/2	76.5%	12.1	27.3	65.4%	10.2	18.4	86.5%	15.9	31.7	62.0%	9.1	12.4
	Circulatory South Right	6/3	59.2%	8.3	20.9	45.8%	6.2	14.4	59.2%	7.8	17.2	43.5%	5.3	9.3
	Circulatory West Ahead	7/1	25.6%	0.2	1.2	23.6%	0.2	1.2	27.8%	0.2	1.3	26.5%	0.2	1.3
	Circulatory West Right Ahead	7/2	55.8%	0.6	2.1	48.6%	0.5	1.8	58.5%	0.7	2.2	39.7%	0.3	1.5
	Circulatory North Ahead	8/1	59.1%	6.4	22.0	80.9%	9.7	32.0	85.7%	8.9	20.8	64.2%	3.9	23.4
	Circulatory North Right	8/2	46.0%	2.8	13.9	57.8%	4.8	21.4	24.2%	1.9	12.0	39.0%	2.6	22.4
	Circulatory North Right	8/3	45.9%	2.8	13.9	57.7%	4.8	21.4	24.2%	1.9	12.0	38.8%	2.6	22.3
	Circulatory East Ahead	9/1	36.7%	0.3	1.5	44.2%	0.4	1.7	33.9%	0.3	1.4	35.0%	0.3	1.4
	Circulatory East Ahead	9/2	39.7%	0.3	1.5	49.9%	0.5	1.8	40.0%	0.3	1.5	38.4%	0.3	1.5
	Circulatory East Right	9/3	7.7%	0.0	1.0	10.9%	0.1	1.0	14.2%	0.1	1.1	12.7%	0.1	1.1
	Circulatory SE Ahead	14/1	7.3%	0.0	1.0	10.0%	0.1	1.0	12.8%	0.1	1.1	11.2%	0.1	1.0
	Circulatory SE Ahead	14/2	10.8%	0.1	1.0	13.2%	0.1	1.1	15.0%	0.1	1.1	14.3%	0.1	1.1
	PRC		**36.9% @ 72 seconds**			**7.3% @ 72 seconds**			**1.1% @ 64 seconds**			**31.8% @ 64 seconds**		
2031 Cumulative Development and Construction Traffic (with interventions)	A3 NB Off-Slip Left	1/1	4.0%	0.4	16.9	5.7%	0.5	20.9	17.0%	1.5	17.9	26.3%	1.7	27.6
	A3 NB Off-Slip Ahead	1/2	70.4%	9.9	27.3	81.1%	10.9	38.5	89.4%	13.8	42.7	64.9%	5.1	36.2
	A2030 Havant Road Ahead Left	2/2+2/1	24.9 : 24.1%	0.8	1.8	36.2 : 34.2%	1.2	2.0	33.0 : 33.0%	0.6	2.0	27.0 : 25.2%	0.4	1.5
	A2030 Havant Road Ahead	2/3	33.8%	1.3	4.9	54.2%	2.5	6.3	48.7%	1.6	5.9	39.1%	1.1	4.1
	A3 SB Off-Slip Ahead Left	3/2+3/1	62.8 : 62.8%	6.8	15.7	83.9 : 83.9%	11.3	18.4	89.0 : 89.0%	12.7	28.8	68.3 : 68.3%	7.1	12.0
	A3 SB Off-Slip Ahead	3/3	15.9%	1.8	12.6	20.2%	2.3	10.6	36.2%	3.7	17.6	22.6%	2.4	9.1

Scenario	Arm	Lane	AM development peak			AM network peak			PM network peak			PM development peak		
			Deg Sat (%)	MMQ	Delay (s)	Deg Sat (%)	MMQ	Delay (s)	Deg Sat (%)	MMQ	Delay (s)	Deg Sat (%)	MMQ	Delay (s)
	Bedhampton Hill Left Ahead	4/2+4/1	39.1 : 39.1%	1.5	2.7	68.7 : 68.7%	5.0	7.9	32.6 : 38.1%	2.3	4.4	46.7 : 46.7%	2.5	3.8
	A27 Left	5/1	11.7%	0.1	1.8	21.5%	0.1	2.1	23.4%	0.2	2.2	21.6%	0.1	2.1
	A27 Left	5/2+5/3	46.7 : 46.7%	0.4	1.7	43.9 : 43.9%	0.4	1.6	53.3 : 53.4%	0.6	2.0	49.9 : 49.9%	0.5	1.8
	Circulatory South Ahead	6/1	30.8%	3.6	16.5	42.1%	5.6	14.1	55.0%	7.8	20.2	38.4%	4.7	9.7
	Circulatory South Right Ahead	6/2	70.9%	11.0	23.0	63.6%	9.8	17.3	86.4%	15.8	31.6	61.9%	9.0	12.4
	Circulatory South Right	6/3	54.6%	7.7	18.5	44.5%	6.0	13.6	59.2%	7.8	17.2	43.4%	5.3	9.3
	Circulatory West Ahead	7/1	25.2%	0.2	1.2	23.6%	0.2	1.2	27.7%	0.2	1.3	26.4%	0.2	1.3
	Circulatory West Right Ahead	7/2	51.4%	0.5	1.9	48.2%	0.5	1.8	58.5%	0.7	2.2	39.6%	0.3	1.5
	Circulatory North Ahead	8/1	57.3%	5.8	22.0	80.5%	9.6	31.4	85.7%	8.9	20.8	64.2%	3.9	23.4
	Circulatory North Right	8/2	43.0%	2.6	14.5	57.3%	4.7	21.2	24.2%	1.9	12.0	39.0%	2.6	22.4
	Circulatory North Right	8/3	42.8%	2.6	14.5	57.1%	4.7	21.2	24.2%	1.9	12.0	38.8%	2.6	22.4
	Circulatory East Ahead	9/1	35.0%	0.3	1.4	44.0%	0.4	1.6	33.9%	0.3	1.4	35.0%	0.3	1.4
	Circulatory East Ahead	9/2	37.9%	0.3	1.5	49.7%	0.5	1.8	40.0%	0.3	1.5	38.4%	0.3	1.5
	Circulatory East Right	9/3	7.7%	0.0	1.0	10.9%	0.1	1.0	14.2%	0.1	1.1	12.7%	0.1	1.1
	Circulatory SE Ahead	14/1	7.3%	0.0	1.0	10.0%	0.1	1.0	12.8%	0.1	1.1	11.2%	0.1	1.0
	Circulatory SE Ahead	14/2	10.8%	0.1	1.0	13.2%	0.1	1.1	14.9%	0.1	1.1	14.3%	0.1	1.1
	PRC		**43.3% @ 72 seconds**			**7.3 @ 72 seconds**			**1.1% @ 64 seconds**			**31.8% @ 64 seconds**		

10.5.40 The results of the junction capacity assessment at Table 10-9 indicate that the junction would continue to operate with spare capacity in all future year peak hour scenarios.

10.5.41 The Proposed Development would have minimal impact on the junction during the PM network and development peak periods. During the AM development peak, the temporary addition of construction traffic would temporarily worsen the performance of the junction, but there would still be ample spare capacity. During the AM network peak, the addition of new flows would improve the performance of the junction. This is likely due to better stage utilisation, which would reduce delays and increase junction capacity.

10.5.42 The junction capacity assessment also shows that the proposed interventions would reduce the temporary impact of the Proposed Development at the junction.

Tear Drop gyratory

10.5.43 The Tear Drop junction is a five-arm gyratory which connects the Rusty Cutter to the north to the A27 (T) to the south. It also provides an on-slip connection to the A3 (M) to the west. To the south, the junction provides access to Harts Farm Way which is where construction access to the WRP site will be taken from. Harts Farm Way also provides access to Southmoor Lane, where Budds Farm is situated, to the east.

10.5.44 As with the Rusty Cutter gyratory, the Tear Drop gyratory is anticipated to be utilised by large volumes of construction vehicles associated with the Proposed Development given that it provides access to both the WRP site (and Budds Farm) and the SRN. HCC have also expressed that they would like to see this junction included within the construction impact assessment during engagement undertaken to date.

10.5.45 No temporary construction compounds would be subject to temporal restrictions in the vicinity of this junction.

10.5.46 An overview of the results of the construction traffic impact assessment is provided at Table 10-12. Full results are provided at **Error! Reference source not found.**.

Table 10-12 Construction traffic impact overview: Tear Drop gyratory

Peak period	Time	2031 Do Minimum flows through junction	% Increase in flows through junction	
			2031 Cumulative Development and Construction Traffic (without interventions)	2031 Cumulative Development and Construction Traffic (with interventions)
AM Development Peak	06:30 – 07:30	2768	16%	12%
AM Network Peak	07:30 – 08:30	3726	1%	1%
PM Network Peak	16:00 – 17:00	3619	0%	0%
PM Development Peak	17:00 – 18:00	3306	10%	8%

10.5.47 The results of the construction traffic impact assessment for the Tear Drop gyratory indicate that there would be a notable impact during the AM and PM development peak periods. These impacts would reduce from 16% and 10% to 12% and 8% during the AM and PM development peak periods respectively once the proposed interventions are accounted for. Minimal impacts during each of the network peak periods are forecast.

10.5.48 During the AM development peak, the largest temporary impact in actual flows would occur on turning movements between the A27 link and Harts Farm Way, and the A27 off slip and the A27 link. As a proportion of '2031 Do Minimum' movements, with interventions, the latter would only constitute an 11% temporary increase in flows, though the former would comprise of a 32% increase in turning movements. Furthermore, movements from the A27 off-slip to Harts Farm Way would increase by 51 actual movements, representing an 141% increase in this turning movement in percentage terms.

10.5.49 However, these AM development peak movements would take place prior to the junction's AM network peak during a period in which baseline flows would be 26% lower than the network peak.

10.5.50 During the PM development peak, the actual temporary increase in flows would be highest on movements between Harts Farm Way and the A3 on slip, with a 38% increase in these movements forecast, with interventions. There would also be an increase in movements between the A27 link and the A27 on slip, though in percentage terms this increase would comprise of a 8% temporary increase.

10.5.51 The development peak would commence one hour following the network peak when flows would be 9% lower than the during network peak.

10.5.52 Overall, temporary impacts occur at this junction during the development peak periods. In the AM, these impacts are anticipated to have less of an effect given that they occur during a period where flows at the junction are much lower than the network peak. During the PM development peak, impacts are limited to a 9% increase in flows through the junction, albeit there is less of a time lag and volume drop off between baseline flows during the PM network and development peak periods. However, the dominant movement associated with construction traffic during this period would involve a relatively simple westbound movement from the Harts Farm Way arm to the following arm of the junction, the A3 (M) on slip, where it would join the SRN. Impacts during both the AM and PM network peak periods at this junction are very limited.

A334/B3035 Botley Road priority junction

10.5.53 The A334/B3035 Botley Road junction is a priority junction located to the east of Botley and Hedge End. The A334 comprises the two major arms of the junction, and the B3035 Botley Road is the minor arm. The junction is anticipated to be used by construction vehicles routing between SRN junctions to the west and various temporary construction compounds and AGP to the east.

10.5.54 Given that this junction would be used to route between a number of temporary construction compounds and the SRN, the initial link assessment and Google Traffic review indicated that impacts would be likely at this junction. HCC also raised concerns regarding existing capacity issues at the junction during

engagement, and therefore it has been included within the scope of this construction traffic impact assessment.

10.5.55 It is proposed that several temporary construction compounds that would be accessed via this junction would be subject to temporal restrictions.

10.5.56 An overview of the percentage impact at this junction during the various peak periods is provided at Table 10-13, with detailed outputs including turning movements provided at **Error! Reference source not found.**.

Table 10-13 Construction traffic impact overview: A334/B3035 Botley Road priority junction

Peak period	Time	2031 Do Minimum flows through junction	% Increase in flows through junction	
			2031 Cumulative Development and Construction Traffic (without interventions)	2031 Cumulative Development and Construction Traffic (with interventions)
AM Development Peak	06:30 – 07:30	883	29%	26%
AM Network Peak	07:30 – 08:30	1342	2%	2%
PM Network Peak	16:00 – 17:00	1331	0%	0%
PM Development Peak	17:00 – 18:00	1228	21%	6%

10.5.57 The construction traffic impact assessment indicates that there would be a notable temporary traffic impact at this junction during the AM and PM development peak periods respectively under the '2031 Cumulative Development and Construction Traffic (without interventions)' scenario. This impact is largely confined to the development peak periods, with limited impact at the junction during both the AM and PM network peak periods.

10.5.58 Under the '2031 Cumulative Development and Construction Traffic (with interventions)', impacts during the PM development peak are largely mitigated, with a 6% residual impact following the implementation of these measures. This includes a significant reduction in the number of minor/major right-turn movements from 149 (without interventions) to 25 (with interventions).

10.5.59 The largest temporary impact under the '2031 Cumulative Development and Construction Traffic (with interventions)' AM development peak scenario would occur on movements between the A334 and the B3035 Botley Road. During the AM development peak, this would involve left-turn movements from the A334 (W) to the B3035 Botley Road. This movement would not have to give-way, and as such it is considered that the increase in this movement would give rise to limited delay.

10.5.60 Furthermore, during the AM development peak, baseline flows at this junction are forecast to be 34% lower than the AM network peak baseline.

10.5.61 Overall, the construction traffic impact assessment forecasts notable impacts at this junction under the '2031 Cumulative Development and Construction Traffic

(without interventions)' scenario, especially during the PM development peak, which has a similar level of baseline traffic to the PM network peak. During the AM development peak, this impact is set against the backdrop of lower baseline flows at the junction. Based on the additional management measures proposed as part of the Framework CTMP (Document reference 7.2, DCO Volume 7) and included within the '2031 Cumulative Development and Construction Traffic (with interventions)' scenario, the impact during both the AM and PM development peak periods is reduced significantly, especially in relation to right-turn movements between the minor and major arms at the junction.

Otterbourne Main Road/Kiln Lane/Otterbourne Hill/Otterbourne School Access priority junction

10.5.62 The Otterbourne Main Road/Kiln Lane/Otterbourne Hill/Otterbourne School Access junction is a four-arm mini-roundabout junction located to the south of Otterbourne and to the north of the M3 Junction 12. Kiln Lane provides access to two temporary construction compounds, whilst the Otterbourne WSW can be accessed via Otterbourne Hill to the north of the junction.

10.5.63 Temporary off-site works are proposed at this junction as part of the Proposed Development. As such, considering the junction would also accommodate construction traffic associated with the aforementioned temporary construction compounds, it is considered necessary to include this junction within the scope of the construction traffic impact assessment.

10.5.64 An overview of the results of the construction traffic impact assessment are provided at Table 10-14, with detailed outputs provided at **Error! Reference source not found.**.

Table 10-14 Construction traffic impact overview: Otterbourne Main Road/Kiln Lane/Otterbourne Hill/Otterbourne School Access priority junction

Peak period	Time	2031 Do Minimum flows through junction	% Increase in flows through junction	
			2031 Cumulative Development and Construction Traffic (without interventions)	2031 Cumulative Development and Construction Traffic (with interventions)
AM Development Peak	06:30 - 07:30	741	20%	18%
AM Network Peak	08:00 - 09:00	1553	0%	0%
PM Network Peak	16:30 – 17:30	1515	3%	3%
PM Development Peak	17:00 -18:00	1403	10%	9%

10.5.65 The results of the construction traffic impact assessment indicate that the Proposed Development is forecast to have an impact on the junction during the AM and PM development peak periods. Impacts at this junction during the network peak periods are forecast to be limited.

10.5.66 Delving deeper into the AM and PM development peak impacts, the dominant turning movement that would be utilised by construction traffic associated with the

Proposed Development would be between the Otterbourne Hill and Kiln Lane arms. There would also be a temporary increase in the number of movements between the Otterbourne Main Road and Kiln Lane arms.

10.5.67 The largest proportional impact at the junction would occur during the AM development peak, during which period baseline flows at the junction are less than half of the AM network peak volume (with the development peak period commencing 90 minutes prior to the AM network peak).

10.5.68 Baseline flows during the PM network peak are more comparable to the PM development peak, during which flows at the junction are 7% lower. However, the proportional impact at the junction during the PM development peak (9%) is lower than the corresponding impact during the AM development peak (18%).

10.5.69 Furthermore, both development peak periods avoid coinciding with school pick-up/drop-off times associated with the Otterbourne C of E Primary School to the west of the junction.

10.5.70 Overall, the construction impact assessment indicates that there will be some impacts at the Otterbourne Main Road/Kiln Lane/Otterbourne Hill/Otterbourne School Access priority junction during the AM and PM development peak periods. However, these AM development peak impacts would occur during a period in which baseline flows at the junction are relatively low. The proportional temporary impact during the PM development peak is also limited to 9%.

B3354 Main Road/B2177 Portsmouth Road/B3354 Winchester Road signalised junction

10.5.71 During engagement, HCC emphasised concerns associated with existing capacity constraints at the B3354 Main Road/B2177 Portsmouth Road/B3354 Winchester Road signalised junction in Fisher's Pond. This junction would be utilised by several temporary construction compounds and AGP within the local area.

10.5.72 As such, PM peak departure restrictions were identified for a series of temporary construction compounds (as set out in section 10.3) in the local area at an early stage in the scheme development process.

10.5.73 Due to these measures, there would be no construction traffic utilising this junction during the PM peak (network and development).

10.5.74 As shown at Table 10-2, the AM network peak period for links that feed into this junction is forecast to take place after the AM development peak.

10.5.75 Given that construction traffic impacts at this junction would be minimal for the reasons outlined above, it has not been included within the scope of this construction traffic impact assessment.

Summary

10.5.76 In summary, the Proposed Development is expected to have temporary impacts at the six junctions assessed within this impact assessment. These temporary impacts would largely be confined to the development peak periods, with limited impacts at all six junctions during the AM network peak.

10.5.77 At all junctions, the AM development peak period occurs prior to the network peak during a period in which baseline flows at each of the six junctions is relatively low.

As such, the development is not anticipated to have a 'severe' impact during either the AM development peak or the AM network peak.

10.5.78 Under the '2031 Cumulative Development and Construction Traffic (with interventions)' scenario, the impacts associated with the Proposed Development are expected to be mitigated sufficiently at all of the junctions assessed by the interventions set out in section 10.3.

10.5.79 Following the implementation of these measures, the Proposed Development's impact during the PM network and development peak periods is forecast to be limited and would not constitute a 'severe' impact.

10.5.80 It is also stressed that impacts associated with the construction phase of the Proposed Development would be temporary.

10.6 Construction workers hub impact assessment

Introduction

10.6.1 As detailed in ES Chapter 3 Description of the Proposed Development, Volume I (Document reference 6.1, DCO Volume 6), the location of the construction workers hub would be identified by the Contractor. The construction workers hub is therefore not included within the Order Limits of the DCO to retain flexibility for the Contractor and its use for these purposes would be subject to conventional planning requirements under the Town and Country Planning Act 1990.

10.6.2 As set out in paragraph 9.3.5, the construction workers hub would predominantly be used for offices and staff welfare. Additionally, the construction workers hub would be used as a base to transport some construction workers to various temporary construction compounds by minibus, as outlined in section 9.2.

10.6.3 ES Chapter 3 Description of the Proposed Development, Volume I (Document reference 6.1, DCO Volume 6), outlines the parameters of the construction workers hub, including:

1. Site area of 15,000 sqm, inclusive of car parking.
2. Located within 10km of the Pipeline between the WRP site and Otterbourne WSW.
3. Located in close proximity to the SRN.
4. Accommodate 60 full-time office construction office workers during construction hours.

10.6.4 The working assumptions for the operation of the construction workers hub during the construction phase, as detailed in ES Chapter 3 Description of the Proposed Development, Volume I (Document reference 6.1, DCO Volume 6) and in section 9.3, are as follows:

1. 60no. construction office workers would be based at the hub, most of which would arrive by car based on the mode share of a typical office development.
2. Between 15 (average) and 60 (peak) no. construction workers would travel to the hub by car and be transported to temporary construction compounds whereby primary access is provided by haul road, by minibus.

3. The construction workers would be transported to the various compounds by one to four. minibuses.
4. Up to 40 vehicle movements would occur throughout the day, including lunch and visitor trips.

10.6.5 It should be noted that the reasonable worst case outlined above considers that fewer construction workers would route to/from the construction worker hub. Instead, construction workers would route directly between their origin and their respective destination temporary construction compound via single occupancy vehicle, resulting in higher numbers of vehicles on the local highway network in the vicinity of the Pipeline.

10.6.6 Allowance would however be made for additional construction workers to travel to the construction worker hub by car, park and be transported to other temporary construction compounds by minibus. This includes temporary construction compounds that would be affected by the temporal restrictions, as set out in detail in section 10.3 and would contribute towards reducing the transport effects associated with the Proposed Development.

10.6.7 It is anticipated that approximately 150 car parking spaces for construction workers would be provided, with potential requirements of up to 200 spaces depending on the Contractor's preference.

10.6.8 This section of the report presents the forecast net traffic impacts of the construction workers hub in comparison to an existing office development, assuming 150 car parking spaces would be required. A sensitivity test has also been provided later in this section, detailing the net traffic impacts if a larger site was required with 200 car parking spaces.

Existing office development

10.6.9 The TRICS (v.7.11.4) database has been interrogated to identify similar office sites to understand typical travel demand.

10.6.10 The search criteria used to find office sites that share similar characteristics to those set out in paragraph 10.6.3 are as follows:

1. Location – All UK regions excluding London and Ireland.
2. Location types – Suburban area, Edge of town.
3. Population within 1 mile – Up to 25,000.
4. Population within 5 miles – Up to 250,000.

10.6.11 This search criteria returned a selection of office sites, which were then refined to ensure that all sites selected were within 5km of an SRN junction and have a parking ratio of between 0.75 and 1.25 spaces per employee. The result of the refined search is set out in Table 10-15.

Table 10-15 List of similar office sites (TRICS)

Site ref:	Location:	Location type	GFA (m^2)	No. of employees	No. of parking spaces
BG-02-A-01	Bridgend	Suburban area	300	25	31
HF-02-A-05	Hertfordshire	Edge of town	3,378	170	128

Site ref:	Location:	Location type	GFA (m^2)	No. of employees	No. of parking spaces
PB-02-A-04	Peterborough	Edge of town	4,040	400	343

10.6.12 Given sites have been identified with an employee/parking ratio of 0.75-1.25, to estimate the traffic demand of an office with 150 parking spaces, it has been assumed that the site would accommodate approximately 150 employees.

10.6.13 The resulting traffic demand estimated to be associated with an existing office development with 150 car parking spaces is set out in Table 10-16.

Table 10-16 Estimated office traffic demand (150 employees)

Period	Arrivals		Departures		Two-way	
	Trip rates	Trips	Trip rates	Trips	Trip rates	Trips
07:00-08:00	0.161	24	0.022	3	0.183	27
08:00-09:00	0.371	56	0.045	7	0.416	62
09:00-10:00	0.178	27	0.03	5	0.208	31
16:00-17:00	0.039	6	0.175	26	0.214	32
17:00-18:00	0.035	5	0.39	59	0.425	64
18:00-19:00	0.027	4	0.094	14	0.121	18
Weekday	1.179	177	1.219	183	2.398	360

10.6.14 As set out above, an existing office development of a similar size to the construction workers hub would generate 120 vehicle trips in the morning peak period (07:00-10:00), 114 vehicle trips in the evening peak period (16:00-19:00) and 360 vehicle trips across the weekday.

Construction workers hub travel demand

10.6.15 This section presents the traffic demand forecast for the construction workers hub. As detailed below, there are four key activities that will generate traffic demand, as follows:

1. Construction office workers arriving and departing at the beginning and end of the day.
2. Construction workers parking at the site and being transported by mini-buses.
3. Mini-bus trips.
4. Visitor trips through the day.

Construction office worker travel demand

10.6.16 The traffic demand associated with the 60 office workers has been estimated using the TRICS outputs set out above. The resulting traffic demand is set out in Table 10-17.

Table 10-17 Estimated office traffic demand (60 employees)

Period	Arrivals		Departures		Two-way	
	Trip rates	Trips	Trip rates	Trips	Trip rates	Trips
07:00-08:00	0.161	10	0.022	1	0.183	11
08:00-09:00	0.371	22	0.045	3	0.416	25
09:00-10:00	0.178	11	0.03	2	0.208	12
16:00-17:00	0.039	2	0.175	11	0.214	13
17:00-18:00	0.035	2	0.39	23	0.425	26
18:00-19:00	0.027	2	0.094	6	0.121	7

10.6.17 As detailed in the Table 10-17, the 60 office workers associated with the construction workers hub would generate 48 vehicle trips in the morning peak period (07:00-10:00), 46 vehicle trips in the evening peak period (16:00-19:00) and 360 vehicle trips across the weekday.

Construction worker travel demand

10.6.18 As set out within the Framework CTMP (Document reference 7.2, DCO Volume 7), the construction workers hub would be used as a central location for construction workers to travel to prior to onward transport to certain temporary construction compounds with restricted car parking by minibus.

10.6.19 The temporary construction compounds with restricted car parking, for which construction workers will be told to park at the construction workers hub instead, are set out below. It should be noted that parking restrictions vary between fully restricted temporary construction compounds which workers will not be permitted to travel to, and partially restricted temporary construction compounds, for which some construction workers (50%) will be permitted to travel to, as follows:

1. G-4 Partial
2. G-5 Partial
3. K-1 Partial
4. K-2 Partial
5. K-3 Partial
6. K-4 Partial
7. K-5 Full

10.6.20 The above temporary construction compounds are subject to these car parking restrictions because they can only be accessed via haul road.

10.6.21 The peak travel demand associated with each of these temporary construction compounds, including the methodology used to calculate these figures, is set out in detail within the Framework CTMP (Document reference 7.2, DCO Volume 7).

10.6.22 The average and peak construction workers hub travel demand associated with restricted temporary construction compounds is set out at Table 10-18.

Table 10-18 Light Goods Vehicle travel demand associated with temporary construction compound parking restrictions

	Arrivals		Departures		Two-way	
	Average	Peak	Average	Peak	Average	Peak
06:00-07:00	11	53	0	0	11	53
18:00-19:00	0	0	11	53	11	53
Weekday	11	53	11	53	22	106

10.6.23 As Table 10-18 shows, travel associated with the parking restrictions at temporary construction compounds would take place prior to the AM network peak period. This is because construction workers would be expected to arrive at the construction workers hub between 06:00-07:00 prior to departing by minibus to access the respective temporary construction compounds by 07:30 in line with the proposed working hours. Similarly, PM movements from the construction workers hub would be expected to take place between 18:00-19:00, following minibus travel back to the construction workers hub upon the end of the winter working day (17:30). Trips during the summer months would take place later in the evening to reflect the longer summer working hours.

Construction worker minibus travel demand

10.6.24 Once construction workers have arrived at the construction workers hub, they would then travel to temporary construction compounds by minibus. It has been assumed that each minibus would have a capacity of 15 people.

10.6.25 Minibuses of this capacity can vary between LGV and HGV classification, and therefore within this traffic impact assessment they have been considered as PCVs to avoid confusion.

10.6.26 It is assumed that these minibuses would be hired from elsewhere, and would not be kept on-site at the construction workers hub. This worst case scenario is reflected within the minibus travel demand calculations set out at Table 10-19.

10.6.27 The temporary construction compounds with parking restrictions associated with the construction workers hub are located in geographical proximity to one another, and therefore it is also assumed that minibuses will be able to pick-up/drop-off at multiple temporary construction compounds, maximising their capacity.

10.6.28 The average and peak minibus travel demand associated with the construction workers hub is set out in Table 10-19.

Table 10-19 Restricted temporary construction compounds: Construction workers hub Passenger Carrying Vehicle (minibus) travel demand

Period	Arrivals		Departures		Two-way	
	Average	Peak	Average	Peak	Average	Peak
06:00-07:00	1	4	0	0	1	4
07:00-08:00	0	0	1	4	1	4
17:00-18:00	1	4	0	0	1	4

Period	Arrivals		Departures		Two-way	
	Average	Peak	Average	Peak	Average	Peak
18:00-19:00	0	0	1	4	1	4
Weekday	2	8	2	8	4	16

Construction workers hub visitor trips

10.6.29 As detailed in ES Chapter 3 Description of the Proposed Development, Volume I (Document reference 6.1, DCO Volume 6), up to 40 vehicle movements would occur throughout the day, including lunch and visitor trips.

Construction workers hub travel demand summary

10.6.30 Table 10-20 below presents the total traffic forecast to be generated by the construction workers hub in total vehicle format.

Table 10-20 Construction workers hub total vehicle travel demand summary (total vehicles)

	Arrivals		Departures		Two-way	
	Average	Peak	Average	Peak	Average	Peak
06:00-07:00	12	57	0	0	12	57
07:00-08:00	6	6	1	4	7	10
08:00-09:00	15	15	0	0	15	15
09:00-10:00	10	10	0	0	10	10
Inter-peak (10:00-16:00)	20	20	20	20	40	40
16:00-17:00	0	0	8	8	8	8
17:00-18:00	0	0	17	17	17	17
18:00-19:00	1	4	18	63	19	67
Weekday	64	112	64	112	128	224

10.6.31 The construction workers hub would be expected to generate 15 two-way trips during the typical AM road network peak (08:00-09:00) under both the average and peak trip generation scenarios. During the typical PM road network peak (17:00-18:00) it would generate 17 two-way trips. During an average day, the construction workers hub would be expected to generate 128 two-way trips, with a peak of 224 two-way trips.

10.6.32 In the AM the peak associated with the construction workers hub would occur between 06:00-07:00, prior to the typical road network peak period of 08:00-09:00. Similarly, the PM peak for the construction workers hub would take place between 18:00-19:00. The majority of traffic impacts associated with the construction workers hub therefore fall outside of the busier periods on the local highway network, reducing the impact of the Proposed Development.

Net traffic impact

10.6.33 Table 10-21 provides a comparison between the estimated traffic demand of a typical office with the forecast average total vehicle traffic demand of the construction workers hub.

Table 10-21 Construction workers hub (average) vs typical office total vehicle comparison

Period	Arrivals	Departures	Two-way
06:00-07:00	12	0	12
07:00-08:00	-18	-2	-20
08:00-09:00	-12	-7	-47
09:00-10:00	2	-5	-21
Inter-peak (10:00-16:00)	-35	-49	-85
16:00-17:00	-6	-18	-24
17:00-18:00	-5	-42	-47
18:00-19:00	-3	4	1
Weekday	-113	-119	-232

10.6.34 Table 10-21 indicates the average traffic demand associated with the construction workers hub would generate would be less than the traffic demand associated with a typical office. Though the construction workers hub would be expected to generate additional trips during the 06:00-07:00 and 18:00-19:00 periods, these trips would take place prior to the AM and after the PM traditional network peak periods (07:00-09:00 and 16:00-18:00) when there is typically less traffic on the highway network. During the traditional AM and PM network peak periods (07:00-09:00 and 16:00-18:00), the construction workers hub would have a reduced impact compared to a typical office. This would also be the case during the inter-peak.

10.6.35 Table 10-22 provides a comparison between the estimated traffic demand of a typical office with the forecast peak total vehicle traffic demand of the construction workers hub.

Table 10-22 Construction workers hub (peak) vs typical office total vehicle comparison

Period	Arrivals	Departures	Two-way
06:00-07:00	57	0	57
07:00-08:00	-18	1	-17
08:00-09:00	-12	-7	-47
09:00-10:00	2	-5	-21
Inter-peak (10:00-16:00)	-35	-49	-85
16:00-17:00	-6	-18	-24

Period	Arrivals	Departures	Two-way
17:00-18:00	-5	-42	-47
18:00-19:00	0	49	49
Weekday	-65	-71	-136

10.6.36 As outlined above, with the peak traffic demand associated with the construction workers hub, a reduction in two-way traffic is still forecast between 07:00 and 18:00. Whilst the construction workers hub would be expected to generate additional trips during the 06:00-07:00 and 18:00-19:00 periods, these trips would take outside typical network peaks when there is typically less traffic on the highway network.

Sensitivity Test

10.6.37 As noted, an allowance may need to be made at the construction workers hub to accommodate additional car parking for construction workers. This would enable the Contractor to utilise the construction workers hub, and minibus trips, to bypass the temporal restrictions that would be implemented during the 16:00-18:00 period at a number of temporary construction compounds. This is one of the options available to the Contractor, and they may alternatively opt to finish work earlier or later than this period to bypass the temporal restriction.

10.6.38 However, given that use of the construction workers hub is an option that could be used by the Contractor to comply with these temporal restrictions, it is necessary to test the impact of additional use of the hub by construction workers.

10.6.39 When considering construction worker trips associated with temporary construction compounds that would be subject to temporal restrictions, it is anticipated that demand for parking spaces would increase up to 200 spaces.

10.6.40 As such, Table 10-23 provides an assessment of a typical office site based on 200 employees using the same methodology set out previously.

Table 10-23 Estimated office traffic demand (200 employees)

Period	Arrivals		Departures		Two-way	
	Trip rates	Trips	Trip rates	Trips	Trip rates	Trips
07:00-08:00	0.161	32	0.022	4	0.183	37
08:00-09:00	0.371	74	0.045	9	0.416	83
09:00-10:00	0.178	36	0.03	6	0.208	42
16:00-17:00	0.039	8	0.175	35	0.214	43
17:00-18:00	0.035	7	0.39	78	0.425	85
18:00-19:00	0.027	5	0.094	19	0.121	24
Weekday	1.179	236	1.219	244	2.398	480

10.6.41 With an increased car park capacity of 200, it is anticipated that a typical office site would generate 162 vehicle trips during the morning peak period (07:00-10:00),

152 vehicle trips during the evening peak period (16:00-19:00) and 480 vehicle trips across the weekday.

10.6.42 It is anticipated that, during the busiest period of construction, an average of 130 construction workers could park at the construction workers hub based on the worst case scenario wherein all temporary construction compounds with temporal restrictions utilise the hub. This is in addition to the 60 construction office workers who would work at the hub, taking total parking demand up to approximately 180 parking spaces under this sensitivity test scenario.

10.6.43 The trip generation profile associated with this elevated level of construction workers hub use is presented at Table 10-24.

Table 10-24 Construction workers hub total vehicle travel demand summary (sensitivity test)

Period	Arrivals	Departures	Total
06:00-07:00	139	0	139
07:00-08:00	10	10	20
08:00-09:00	22	3	25
09:00-10:00	11	2	13
Inter-peak (10:00-16:00)	20	20	40
16:00-17:00	2	11	13
17:00-18:00	11	23	34
18:00-19:00	2	145	147
Weekday	217	214	431

10.6.44 Based on this elevated level of use, the construction workers hub would be expected to generate 25 two-way trips during the typical AM road network peak (08:00-09:00) and 34 two-way trips during the typical PM road network peak (17:00-18:00). During an average weekday, the construction workers hub would be expected to generate 431 two-way trips under this elevated level of usage.

10.6.45 The AM peak associated with the construction workers hub (06:00-07:00) would occur prior to the typical road network peak period (08:00-09:00), with the PM construction workers hub peak (18:00-19:00) occurring after the typical PM road network peak (17:00-18:00).

10.6.46 Table 10-25 provides a net comparison between the trip generation associated with an office site with 200 car parking spaces, and the construction workers hub based on an elevated level of usage of the hub.

Table 10-25 Construction workers hub vs typical office trip generation comparison (sensitivity test) (total vehicles)

Period	Arrivals	Departures	Two-way
06:00-07:00	139	0	139
07:00-08:00	-22	6	-16
08:00-09:00	-52	-6	-58

Period	Arrivals	Departures	Two-way
09:00-10:00	-25	-4	-29
Inter-peak (10:00-16:00)	-35	-49	-85
16:00-17:00	-6	-24	-30
17:00-18:00	4	-55	-51
18:00-19:00	-3	126	123
Weekday	-19	-30	-49

10.6.47 Table 10-25 shows that the construction workers hub would continue to offer a net reduction on trips compared to a consented office site should its parameters be increased to accommodate additional car parking. Furthermore, the construction workers hub's primary impacts would occur outside of the typical road network peak period, with a significant reduction in trips between 07:00-18:00 in comparison to a consented office site.

10.6.48 This would result in more workers using minibuses, resulting in less traffic generated in the vicinity of the temporary construction compounds below the levels assessed in this Transport Assessment. This would also contribute towards achieving the targets and goals of the Framework CWTP included in Appendix A of the Framework CTMP (Document reference 7.2, DCO Volume 7).

10.7 Washouts and overflows

10.7.1 As detailed in section 6.8, during the commissioning stage, washouts would be used along the pipeline and at the BPT sites. This section provides and overview of the traffic impacts associated with the use of these washouts in the commissioning stage, including the tankering away of discharged flows to an appropriately licensed cess reception site (e.g. Budds Farm WTW).

10.7.2 After the pipeline has been installed, it must be cleaned and pressure tested before operation. The disposal of water used for commissioning activities would include either the disposal of water to foul or combined sewer (where feasible), typically at low points, or via tankers that would transport water by road to appropriately licensed cess reception site.

10.7.3 A temporary connection to a local foul sewer network can be as simple as routing a temporary discharge pipe into an open manhole – this usually requires a temporary pump to be set up at the point where water is being drawn from.

10.7.4 Disposal by tanker may be considered if there are no suitable foul sewer networks in the vicinity. The quantum of tankers required for the commissioning of the pipeline would be subject to the diameter of the pipeline, which would be confirmed post-consent. As such, the quantum of 18m^3 tankers required per flushing cycle for 1km of pipeline would be between 28 and 63 tankers.

10.7.5 As noted above, tankering would only be considered when there are no suitable foul sewer networks in the vicinity of the pipeline. Whilst this would not be confirmed until post-consent, the traffic impacts of the commissioning phase are not anticipated to exceed those associated with the construction of the pipeline, which has been assessed in detail in section 10.

11 Impacts on sustainable modes during construction

11.1 Introduction

11.1.1 This section of the Transport Assessment presents out a qualitative assessment of the Proposed Development on sustainable modes of transportation, covering walking, cycling, horse riding and bus services. This section builds upon the baseline conditions as set out in section 5 of the Transport Assessment.

11.1.2 Due to the nature of the construction works associated with the Proposed Development, the impact on sustainable modes, in most instances, will be temporary. The duration of any temporary impact will depend on the anticipated duration of the construction works at any given site.

11.2 Walking, cycling and horse riding

Introduction

11.2.1 This section of the report presents an assessment of the Proposed Development on walking, cycling and horse riding in the construction stage of the Proposed Development.

11.2.2 The forecast changes in Average Annual Daily Traffic (AADT) flow (detailed in section 9.9) have been used to inform this section of the report, and these are set out in full at **Error! Reference source not found.**. The forecast changes in the AADT flows are below 10% on all links in the study area aside from New Down Lane. Given New Down Lane would be closed to pedestrians, as detailed in the Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7), the forecast increase in traffic demand would not impact pedestrians on New Down Lane. The change in traffic demand is therefore not forecast to have a significant impact on pedestrians, cyclists and horse-riders and therefore this section predominately considers the impacts of the Proposed Development on the relevant infrastructure.

Water Recycling Plant site

11.2.3 The permanent accesses into the WRP site from Harts Farm Way would be used for construction access. There are no footways on the north side of the road and therefore the creation and/or use of the accesses would not impact pedestrians. There is a footway/cycleway on the southside of Hart Farm Way but this would not be impacted by the creation of the new accesses.

11.2.4 As detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7), a temporary signal-controlled pedestrian crossing is proposed on Harts Farm Way to provide a safe crossing into the site from the existing footway/cycleway on the south side of the carriageway. This would be retained as either a controlled or uncontrolled crossing in during the operational phase.

11.2.5 A short-term temporary closure (under four weeks) of Havant 30 is proposed to facilitate construction. Whilst this closure would reduce pedestrian access between

Havant and the Broadmarsh, it would be for a very short period of time. As detailed in the Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7), this closure would also be communicated with the local community so journeys can be planned accordingly.

Pipelines between Budds Farm Wastewater Treatment Works and the Water Recycling Plant site

11.2.6 There are no new accesses proposed to be created as part of the Pipelines between Budds Farm WTW and the WRP site. The forecast increase in daily traffic of 7.36% on the western extent of Harts Farm Way (Harts Farm Way (1)), 0.38% on the eastern extent (Harts Farm Way (2)) and 1.11% on Southmoor Lane is also not expected to impact pedestrians. As such, there are no material impacts on pedestrians associated with this component of the Proposed Development.

Pipelines between the Water Recycling Plant site and Bedhampton Springs

Temporary construction compound B1-1

11.2.7 A temporary access would be constructed from Mill Lane to facilitate access into temporary construction compound B1-1. As detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7), this would be used by an average of one HGV a day. The access route to this compound would be via Brookside Road, Bidbury Lane and Mill Lane. Limited car parking would be permitted at temporary construction compound B1-1, with construction workers predominately arriving by foot or mini-bus, via the WRP site.

11.2.8 Brookside Road, Bidbury Lane and Mill Lane can be characterised as residential streets/lanes and are narrow in places, particularly along Mill Lane where there is no footway. As detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7), to manage potential conflict between construction vehicles (HGVs) and pedestrians along this route, HGV arrivals and departures will be scheduled outside of daytime hours (08:00-18:00). In addition, all HGVs would be escorted from the existing layby Brookside Road, along Bidbury Lane and Mill Lane to/from temporary construction compound B1-1. With these measures, the impacts would be suitably managed.

11.2.9 Potential works may be required at the Bedhampton Road/Brookside Road junction as shown in the Framework CTMP (Document reference 7.2, DCO Volume 7). The requirement for these potential works would be subject to the maximum size of the vehicle that would need to access temporary construction compound B1-1 via Mill Lane. This would be confirmed in the detailed CTMP by the Contractor, however these works should be avoided if practicable.

11.2.10 Separate to the above, there is potential for a small number of articulated lorries, including the TBM delivery vehicle, to be transported to/from the temporary construction compound B1-1 via the existing agricultural access from the A27 on-slip. It is likely that overnight working would be required to accommodate these movements. This access arrangement is subject to additional discussions with National Highways. The use of this existing access from the A27 slip road for the largest HGV movements would remove the need for physical works at the Bedhampton Road/Brookside Road junction. This would only relate to a small

number of movements that would need temporary traffic management to enable safe movements in and out of the access

11.2.11 Havant 30 and 34 would also be temporarily closed for a short period of time. These temporary closures would be communicated to the local community as detailed in the Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7).

Temporary construction compounds B1-2 and B1-3

11.2.12 Temporary construction compounds B1-2 and B1-3 would be accessed via Brockhampton Road, West Street and Meyrick Road. No new access would be required to access these compounds. As detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7), these temporary construction compounds combined would generate on average one HGV a day, with a peak of four HGV movements forecast (two arrivals and two departures). These HGV movements would not be permitted during the network peak hours as detailed within the Framework CTMP (Document reference 7.2, DCO Volume 7). Given the low traffic demand, no material impacts on pedestrians and cycles are forecast on Brookhampton Road, West Street and Meyrick Road.

Pipeline between the Water Recycling Plant site and Otterbourne Water Supply Works

Section D: The Water Recycling Plant site to Portsdown Hill

11.2.13 Temporary construction compound D-1 would be accessed directly from Gillman Road. Motor vehicles are prohibited on Gillman Road and it is identified as Route 22 of the NCN. This access would generate an average 12 LGV trips and three HGV trips, as detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7).

11.2.14 The TMS (Document reference 7.3, DCO Volume 7) and Framework CTMP (Document reference 7.2, DCO Volume 7) includes measures to manage the potential conflict between construction traffic and pedestrians/cycles on Gillman Road, including a traffic marshal and a communication strategy to inform HGV drivers of potential pedestrians/cycles on Gillman Road. With these measures, the potential for conflict is considered to be suitably managed at the existing junction.

11.2.15 There is an emerging junction improvement scheme at the Crookhorn Lane/B2177 Portsdown Hill Road/Gillman Road junction, including traffic signals associated with the College Road, Campdown development proposals. As detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7), should these works commence or be completed in advance of the works associated with the Proposed Development at temporary construction compound D-1, the detailed CTMP would set out how this junction would be managed.

Section E: Portsdown Hill to Boarhunt

Temporary construction compounds E-1, E-2, Break Pressure Tank and Intermediate Pumping Station E accessed from New Down Lane

11.2.16 Access to temporary construction compounds E-1 and E-2 as well as IPS-E and BPT-E would be taken from New Down Lane. As detailed in the Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7), PROW Southwick and Widley 28 would be temporarily closed for the duration of the construction works (approximately 18 months) on New Down Lane, removing the potential for any conflict with pedestrians.

11.2.17 With the closure of the of PROW Southwick and Widley 28, no pedestrians or horse-riders are expected to use New Down Lane and this would be re-enforced through management measures detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7). Similarly, all vehicles on New Down Lane (including cycles) would be managed by the Contractor given the road width does not allow for two vehicles to pass.

11.2.18 The diversion route for Southwick and Widley 28 would be via Widley Walk. Pedestrians would need to cross Portsdown Hill Road from Widley Walk. To improve safety for pedestrians, it is proposed to provide a flat waiting area within the verge, directly west of the Widley Walk/Portsdown Hill Road junction. With this improvement, there is no net impact on pedestrians as a result of Proposed Development during construction.

Temporary construction compounds E-3, E-4a and E-4b accessed from Southwick Road

11.2.19 Temporary construction compounds E-3, E-4a and E-4b would be accessed via temporary site accesses with the B2177 Southwick Road. There are advisory cycle lanes on both side of the B2177 Southwick Road, but no footways. As detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7), traffic marshals are proposed at the temporary compound accesses to manage any potential conflict between cycles and construction vehicles accessing the temporary construction compounds.

Section F: Boarhunt to Crockerhill

Temporary construction compounds F-2, F-3 and Intermediate Pumping Station F accessed from Chalk Lane

11.2.20 Access to IPS-F and temporary construction compound F-3 would be taken from Chalk Lane during the construction phase. There are not anticipated to be many pedestrians, cycles or horse-riders on Chalk Lane for construction traffic to impact given there are very few properties on Chalk Lane and alternative more direct routes to key facilities predominately located in Wickham.

11.2.21 There are two PRoW footpaths that would be impacted by the Proposed Development, including PRoW Fareham 103 and 107. Temporary diversions have been identified for both routes, limiting the impact of the works.

Section G: Crockerhill to Wickham

Temporary construction compounds G-1, G-2 and G-3 accessed from A32 Hoads Hill

11.2.22 Temporary construction compounds G-1 and G-2 would be accessed directly via temporary accesses located on the east and west side of the A32 Hoads Hill. A footway/cycleway is proposed on the A32 as part of the Welborne Garden Village development. As detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7), traffic marshals would be stationed at each of these accesses to manage HGV movements and the potential conflict with pedestrians and cycles.

Temporary construction compounds G-4, G-5, G-6, G-7 and Intermediate Pumping Station G access from Titchfield Lane

11.2.23 A temporary site access is proposed on Titchfield Lane that would provide access to temporary construction compounds G-4, G-5, G-6 and G-7 as well as IPS-G. The temporary construction access is located to the east of the crossing between Wickham 1 and 14. Construction traffic would therefore have no impact on this crossing.

11.2.24 PRoW Wickham 1, 5 and 501, would all be temporarily closed and diverted during construction. These diversions would be relatively short in length (approximately 50m) and therefore the impact on pedestrians (and cycles and horse-riders on the Wickham 501) would be limited.

Section H: Wickham to Shedfield

Temporary construction compounds H-1, H-2 and H-3 accessed via Blind Lane

11.2.25 A temporary site access is proposed on Blind Lane to provide access to temporary construction compounds H-1, H-2 and H-3. There are not anticipated to be many pedestrians, cycles or horse-riders on Blind Lane for construction traffic to impact given there are very few properties along this route and no designated infrastructure (e.g. footways). As such, there are not anticipated to be any significant impacts on pedestrians, cycles or horse-riders.

Temporary construction compounds H-4 and H-5 accessed via Shirrel Heath High Street

11.2.26 Temporary construction compounds H-4 and H-5 would be accessed via a temporary access on Shirrell Heath High Street. A traffic marshal would manage HGV movements to and from the site to reduce the potential conflict with pedestrians and cyclists on Shirrell Heath High Street.

11.2.27 PRoW Shedfield 12 and 13 would be temporarily diverted during construction, however these diversions would be relatively short in length (approximately 100m) and therefore the impact on pedestrians would be limited.

Section J: Shedfield to the River Hamble

11.2.28 Vehicle accesses are proposed on St Annes Lane, Curdridge Lane and Botley Road. There are not anticipated to be many pedestrians, cycles or horse-riders

travelling along these roads to be impacted by construction traffic given there are limited houses/facilities, footways or cycleways along these roads, and alternative routes ae available via the PRoW network.

11.2.29 There are three PRoW footpaths that would be impacted by the Proposed Development, including PRoW Shedfield 2, 3 and 4. These diversions would be relatively short in length (approximately 90m) and therefore the impact on pedestrians would be limited.

Section K: The River Hamble to Lower Upham

11.2.30 Vehicle accesses are proposed on Winters Hill and the B2177 Winchester Road. There are not anticipated to be many pedestrians, cycles or horse-riders travelling along these roads to be impacted by construction traffic given there are limited houses/facilities, footways or cycleways along these roads, and alternative routes ae available via the PRoW network.

11.2.31 PRoW Bishop's Waltham 502 and 43 would be diverted temporarily closed and diverted during construction. These diversions would be relatively short in length (less than 25m) and therefore the impact on pedestrians using these routes would be limited.

Section L: Lower Upham to Brambridge

Temporary construction compounds L-1 and L-2 accessed via B2177 Portsmouth Road

11.2.32 Temporary construction compounds L-1 and L-2 would be accessed from the B2177 Portsmouth Road. There are not anticipated to be many pedestrians, cycles or horse-riders travelling along this road that would be impacted by construction traffic.

Temporary construction compounds L-3, L-4, L-5, L-6 and L-7 accessed via the B3354 Winchester Road

11.2.33 A temporary access would be provided to the east of the B3354 Winchester Road to provide access to temporary construction compounds L-3, L-4 and L-5. A second temporary access would be provided to the west of the B3354 Winchester Road to provide access to temporary construction compounds L-6 and L-7.

11.2.34 There is a footway on the eastern side of Winchester Road. As detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7), a traffic marshal would manage any potential conflict between construction vehicles and pedestrians at this access.

Temporary construction compounds L-10 accessed via the B3335 Highbridge Road

11.2.35 The temporary site access to temporary construction compound L-10 is proposed from the B3335 Highbridge Road which would cross an existing footway. As detailed in the Framework CTMP (Document reference 7.2, DCO Volume 7), a traffic marshal would manage any potential conflict between construction vehicles and pedestrians at this access.

Public Rights of Way

11.2.36 Along Section L of the Pipeline there are five PRoW that would be impacted by the Proposed Development, including four footpaths and one bridleway. These diversions would be relatively short in length (comparable to the original route) and therefore the impact on pedestrians (and cyclists and horse-riders on Fair Oak and Horton Heath 23) would be limited.

11.2.37 Construction traffic generated by Section L would route through Twyford which is located within the SDNPA. Concerns have been raised regarding the increase in traffic on the B3335 through Twyford (Link 48) on the associated PRoW crossings.

11.2.38 The assessment of construction traffic impacts included in Section 10.4 notes there would no impact on traffic in the AM network peak hour and a 3% increase in traffic in the PM network and development peak hours. This minor change in traffic would not have a perceptible impact on the operation of the pedestrian crossings.

11.2.39 **Error! Reference source not found.**sets out the forecast change in daily traffic as a result of construction traffic. This sets out there is forecast to be less than a 1% increase in daily traffic on the B3335. This minor change in traffic would not have a perceptible impact on the operation of the pedestrian crossings.

Section M: Brambridge to Otterbourne Water Supply Works

Access to temporary construction compounds M-1 and M-2 would be provided via two temporary accesses directly north and south of Kiln Lane. There are not anticipated to be many pedestrians, cycles or horse-riders travelling along these roads to be impacted by construction traffic.

11.2.40 Potential off-site works are also proposed at the Kiln Lane access to the mini-roundabout with Otterbourne Hill, including likely adjustments to the kerb to facilitate access for HGVs to Kiln Lane. This may increase the length of the uncontrolled crossing on Kiln Lane, however the impact is not likely to be material.

11.3 Buses

11.3.1 It is anticipated that the Proposed Development would impact on a number of bus services that route on links affected by an increase in construction traffic flows.

11.3.2 Similarly, some bus services would also be affected by temporary traffic management on various routes within the vicinity of the Proposed Development. An overview of temporary traffic management is provided in section 6.5, with detail provided within the TMS (Document reference 7.3, DCO Volume 7).

11.3.3 This section provides an overview of the Proposed Development's forecast temporary impact on bus services.

Increase in construction traffic flows

11.3.4 The results of the construction traffic impact assessment set out in sections 10.2 and 10.4 and provided in full at **Error! Reference source not found.**indicate that the Proposed Development would impact several links within the study area, primarily in the PM peak, under the '2031 Cumulative Development and Construction Traffic (without interventions)' scenario. When considering mitigation

under the '2031 Cumulative Development and Construction Traffic (with interventions)' and '2031 Cumulative Development and Construction Traffic (with interventions)' scenarios, these impacts would be significantly reduced.

11.3.5 However, it is considered that there would still be construction traffic impacts on a number of links within the study area. This includes impacts on links that are subject to bus usage as part of a designated bus route. An overview of all bus routes within the vicinity of the Proposed Development is provided in section 5.4.

11.3.6 Table 11-1 provides an overview of bus routes that would be impacted by a network peak hour temporary increase in traffic flows of 5% or greater under the '2031 Cumulative Development and Construction Traffic (with interventions)' scenario given that this scenario contains embedded mitigation that would be delivered as part of the Proposed Development. In most cases, the peak traffic impact would occur during the PM peak period (between 16:00-18:00).

11.3.7 In addition to peak hour impacts, daily impacts have also been quantified at Table 11-1, and are provided in full at **Error! Reference source not found.**. Peak hour impacts are detailed in **Error! Reference source not found.**

Table 11-1 Bus routes affected by additional construction traffic flows

Link Ref	Link Name	Pipeline Section	Affected service(s)	Frequency (weekday)	Largest peak hour % impact (2031 Cumulative Development and Construction Traffic (with interventions))	AADT % impact (2031 Cumulative Development and Construction Traffic (with interventions))
20	A3 (S)	Section E	18 – Aldershot to Whitehill	Hourly	6%	0.6%
			SD4 – St George's in the Square – Fareham/Havant	College		
			SD5 – Gosport - Havant	College		
			PC1 – Portsmouth College	College		
33	A32 (S)	Section F	SD4 – St George's in the Square – Fareham/Havant	College	6%	2.7%
			20 – Havant – Gunwharf	Irregular		
			69 – Winchester - Fareham	Hourly		
			607 – Knowle – Barton Peveril College	College		
40	Shirrell Heath High Street	Section H	606 – Corhampton – Barton Peveril College	College	10%	3.7%
41	B3035	Section J	49 – Bishop's Waltham – Hedge End	Irregular	10%	2.1%

Link Ref	Link Name	Pipeline Section	Affected service(s)	Frequency (weekday)	Largest peak hour % impact (2031 Cumulative Development and Construction Traffic (with interventions))	AADT % impact (2031 Cumulative Development and Construction Traffic (with interventions))
42	Curdridge Lane	Section J	49 – Bishop's Waltham – Hedge End	Irregular	8%	1.1%
44	B3354 (S)	Section L	69 – Winchester - Fareham	Hourly	12%	1.5%
			606 – Corhampton – Barton Peveril College	College		
45	B3037	Section L	649 – Swanmore – Curdridge	Irregular	6%	1.1%
			69 – Winchester - Fareham	Hourly		
			607 – Knowle – Barton Peveril College	College		
46	B2177 (6)	Section K	649 – Swanmore – Curdridge	Irregular	7%	0.8%
			69 – Winchester - Fareham	Hourly		
			607 – Knowle – Barton Peveril College	College		
47	Winters Hill	Section K	49 – Bishop's Waltham – Hedge End	Irregular	6%	0.8%
			606 – Corhampton – Barton Peveril College	College		

Link Ref	Link Name	Pipeline Section	Affected service(s)	Frequency (weekday)	Largest peak hour % impact (2031 Cumulative Development and Construction Traffic (with interventions))	AADT % impact (2031 Cumulative Development and Construction Traffic (with interventions))
48	B3335 (N)	Section L	61 – Eastleigh - Winchester	Hourly	5%	0.8%
			69 – Winchester – Fareham	Hourly		
			623 – Twyford to Barton Peveril College	College		
68	B2177 (8)	Section D	30 – Havant - Purbrook	30 mins	6%	0.9%
			31 – Purbrook - Havant	30 mins		

11.3.8 Table 11-1 shows that a number of bus services would be affected by a temporary increase in construction vehicles on the local highway network as a result of the Proposed Development.

11.3.9 The 69, 606, 607, SD4 and SD5 would be impacted by increases in construction traffic on multiple links within their designated route.

11.3.10 However, across all links, Table 11-1 peak impacts would generally not be perceptible under the '2031 Cumulative Development and Construction Traffic (with interventions)' scenario, with minor temporary increases in construction traffic forecast during the PM peak hour. When analysing these increases across the day, the impact is much less perceptible.

11.3.11 These additional flows could contribute towards some additional delay for the bus services outlined at Table 11-1, though this is likely to be minimal in the context of wider journey times. These impacts will be temporary during the construction of the Proposed Development.

11.3.12 The sensitivity of bus journey times to an increase in construction traffic demand would be highest in the network peak periods when baseline traffic flows are highest and some junctions are likely to be operating close to and/or over capacity. As detailed in Section 10.4, appropriate mitigation has been implemented to avoid any significant impacts on motor vehicle journey times within the study area.

Temporary traffic management

11.3.13 Temporary traffic management would be implemented at a number of locations within the vicinity of the Proposed Development, as set out in section 6.5. Traffic management would vary from lane closures with various supporting measures to road closures. At some locations, traffic management would be implemented during night-time to limit any potential impacts.

11.3.14 This section provides a section-by-section analysis of locations where bus services would be impacted by traffic management.

Water Recycling Plant site

11.3.15 No bus services would be affected by the proposed traffic management adjacent to the WRP site.

Pipelines between the Budds Farm Wastewater Treatment Works and the Water Recycling Plant site

11.3.16 No bus services would be affected by the proposed traffic management in the immediate vicinity of the Pipelines between the Budds Farm WTW and the WRP site given that they would utilise trenchless construction techniques.

Pipelines between the Water Recycling Plant site and Bedhampton Springs

11.3.17 Proposed temporary off-site works at the B2177 Bedhampton Road/B2177 Portsdown Hill/Brookside Road/Maylands Road priority junction would likely require a lane closure on the B2177 Bedhampton Road. This would affect the 19, 23, 30 and 31 bus services which route along the B2177 Bedhampton Road.

11.3.18 However, the proposed lane closure on the B2177 Bedhampton Road would take place during night-time working hours, and as such only a small number of late evening bus services would be affected.

11.3.19 The proposed night-time lane closure of the B2177 Bedhampton Road would be in place for up to three weeks, with detail concerning the lane closure provided within the Framework CTMP (Document reference 7.2, DCO Volume 7).

11.3.20 The 19, 23, 30 and 31 services are frequent services that run at regular intervals. This lane closure would be expected to have a minor impact on bus service delay for the 19, 23, 30 and 31 bus services, though any impact would be limited to a small number of late evening services, would be temporary and would be limited to a maximum of three weeks.

Pipeline between the Water Recycling Plant site and Otterbourne Water Supply Works

Section D: The Water Recycling Plant site to Portsdown Hill

11.3.21 No bus services would be affected by the proposed traffic management in the immediate vicinity of Section D of the Pipeline.

Section E: Portsdown Hill to Boarhunt

11.3.22 Proposed temporary traffic management on the B2177 Southwick Road would comprise of lane closures with shuttle working signals to facilitate the pipeline construction works. This would affect the 38 bus service which routes along the B2177 Southwick Road.

11.3.23 It is anticipated that the lane closures associated with the pipeline construction works at this location would take place for up to three weeks. As detailed in the TMS (Document reference 7.3, DCO Volume 7), lane closures on this route associated with the creation and removal of temporary accesses would take place during the night, and so the 38 bus service would not be affected by these night-time lane closures. It would only be affected by the lane closure associated with the Pipeline crossing of the B2177 Southwick Road.

11.3.24 The 38 bus service is an infrequent service which only runs four services per day. This lane closure would be expected to have a minor impact on bus service delay for the 38 bus service.

Section F: Boarhunt to Crockerhill

11.3.25 No bus services would be affected by the proposed traffic management in the immediate vicinity of Section F of the Pipeline.

Section G: Crockerhill to Wickham

11.3.26 Proposed temporary traffic management on the A32 Hoads Hill would take place at night-time and as such there would be no impact on bus services that utilise this route.

11.3.27 No bus services would be affected by traffic management anywhere else within Section G.

Section H: Wickham to Shedfield

11.3.28 Proposed traffic management at the A334 Winchester Road/Blind Lane/Titchfield Lane junction would impact the 69 bus service. However, given that any lane closure of the A334 Winchester Road would take place at night (as detailed in the TMS (Document reference 7.3, DCO Volume 7), impacts on the 69 bus service would be limited to evening services only.

11.3.29 Proposed traffic management on Shirrell Heath High Street would involve lane closures with shuttle working signals to facilitate the creation and removal of temporary construction compound access. This would affect the 606 and 96 bus services.

11.3.30 It is anticipated that the lane closures associated with the temporary construction compound temporary access would take place for up to three weeks. Two separate lane closures would be required for access creation and removal, meaning that the total amount of time that the lane closures would be in place for could be up to six weeks.

11.3.31 The 606 service is a college bus service which runs a single outward and a single return journey each day. The 96 service runs just one to two return journeys each day. The lane closures would be expected to have a minor impact on bus service delay for the 606 and 96 bus service.

Section J: Shedfield to the River Hamble

11.3.32 Proposed traffic management on Curdridge Lane would involve lane closures with shuttle working signals to facilitate both the pipeline construction works and the creation and removal of temporary construction compound and haul road accesses. This would affect the 49 and 606 bus services.

11.3.33 It is anticipated that five lane closures would be required on Curdridge Lane, with each lane closure in place for up to three weeks. Therefore, lane closures would be in place for a total of 15 weeks on this route.

11.3.34 The 606 service is a college bus service which runs a single outward and a single return journey each day. The 49 service is a Stagecoach-operated service which runs at irregular intervals. The lane closures would be expected to have a minor impact on bus service delay for the 606 and 49 bus service.

11.3.35 Proposed temporary traffic management on the B3035 Botley Road would take place at night-time and as such there would be no impact on bus services that utilise this route.

Section K: The River Hamble to Lower Upham

11.3.36 Proposed traffic management on Winters Hill and the B3037 Mortimers Lane would involve lane closures with shuttle working signals and manual control respectively to facilitate the creation and removal of temporary access (Winters Hill) and the pipeline construction works (B3037 Mortimers Lane). This would affect the 49 and 606-bus services on Winters Hill, and the 69, 649 and 607-bus services on the B3037 Mortimers Lane.

11.3.37 It is anticipated that two lane closures would be required on Winters Hill, with each taking up to three weeks to complete (six weeks of total lane closures). It is

anticipated that one day-time lane closure of up to three weeks would be required on the B3037 Mortimers Lane.

11.3.38 The 606 and 607 services are college bus services which run a single outward and a single return journey each day. The 649 and 49 services are operated by Stagecoach and run at irregular intervals. The 69 service is operated by Stagecoach and operates at an hourly frequency. The lane closures would be expected to have a minor impact on bus service delay for the 69, 649, 607, 606 and 49-bus services.

11.3.39 Additional lane closures on the B3037 Mortimers Lane to facilitate the construction and removal of temporary accesses would take place during night-time hours to avoid additional impacts on this route.

Section L: Lower Upham to Brambridge

11.3.40 Proposed traffic management on the B3335 Highbridge Road would involve lane closures with shuttle working signals on the B3335 Highbridge Road to facilitate the creation and removal of temporary accesses. This would affect the 606 bus service.

11.3.41 It is anticipated that two lane closures would be required on the B3335 Highbridge Road, with each taking up to three weeks to complete (six weeks of total lane closures).

11.3.42 The 606 service is a college bus service which runs a single outward and a single return journey each day. The lane closures would be expected to have a minor impact on bus service delay for the 606 bus service.

11.3.43 Lane closures on the B2177 Portsmouth Road and the B3354 Winchester Road within this section would take place during night-time working hours to minimise potential traffic disruption on these routes.

Section M: Brambridge to Otterbourne Water Supply Works

11.3.44 Proposed temporary off-site works at the Otterbourne Main Road/Kiln Lane/Otterbourne Road/Otterbourne School priority access would likely comprise of lane closures on Kiln Lane. As detailed in the TMS (Document reference 7.3, DCO Volume 7), it is anticipated that any works on Otterbourne Main Road would take place at night to limit traffic impacts. The impacts on the local bus services, including the 623 and 1 bus services, that route on Otterbourne Main Road/Otterbourne Hill would therefore not be material.

Summary of impacts on public bus services

11.3.45 Overall, the analysis carried out within this section indicates that there would be some minor impacts on bus services, though these impacts are unlikely to result in material impact on bus delay in most instances.

11.3.46 Limited delay would occur as a result of additional construction traffic flows on the local highway network. Section 10 provides an analysis of temporary construction traffic impacts on the local highway network, and concludes that impacts associated with construction traffic would not be ‘severe’, As such, peak hour delay resulting from the temporary increase in construction traffic flows is unlikely to be

perceptible on most affected bus routes given that the temporary increase in traffic on these routes is limited. During the day, only HGV trips associated with the Proposed Development will take place, and therefore impact on bus delay associated with construction traffic is anticipated to be negligible.

11.3.47 Delay associated with works in the public highway would impact bus routes that run infrequently in most cases. However, the 49 bus route, which is more frequent, will be impacted by temporary traffic management associated with road and lane closures on Winters Hill. Winters Hill is subject to relatively low traffic volumes, as evidenced by **Error! Reference source not found.**, which provides evidence of day-time traffic volumes, as well as **Error! Reference source not found.**, which shows peak hour flows.

11.3.48 Furthermore, it is unlikely that road and lane closures would take place concurrently on multiple links within the locality of one another due to the construction methodology that will be adopted, which is detailed within the Framework CTMP (Document reference 7.2, DCO Volume 7), as well as the methodology for traffic management that will be adopted which is secured through the TMS (Document reference 7.3, DCO Volume 7).

11.3.49 Measures contained within the TMS (Document reference 7.3, DCO Volume 7) provided a mechanism for communicating traffic management to local stakeholders, including bus operators affected by these works. It is anticipated these measures will help to mitigate the minor impacts on bus delay associated with the Proposed Development.

School and college bus services

11.3.50 In addition to the public bus services outlined above, there are several school and college bus services that would be impacted by traffic management associated with works in the public highway. The location of the proposed traffic management are detailed in the TMS (Document reference 7.3, DCO Volume 7).

11.3.51 The potential impact on these services could likely be fully managed through an appropriate communication strategy that would keep HCC and the bus service provide fully aware of the planned works so they can plan alternative routes appropriately. In some cases, it may also be appropriate for traffic management to be planned outside of school/college exam periods, and this would be confirmed by the Contactor post-consent and agreed with the LHA post-consent.

12 Operation transport impacts

12.1 Introduction

12.1.1 This section of the Transport Assessment sets out the operational impacts of the Proposed Development. As detailed in section 2.2, it has been agreed with the highway authorities that the operational impacts are unlikely to be significant, but the impacts should be set out in the Transport Assessment.

12.1.2 The remainder of this section sets out the operational traffic impacts of the Proposed Development associated with the key components of the Proposed Development, including the following:

1. WRP site
2. IPS and BPT
3. Washouts and overflows

12.1.3 It also sets out the Proposed Development's operational impact on sustainable modes.

12.2 Water Recycling Plant site operational traffic demand

Trip generation

12.2.1 There are limited operational trips forecast to be generated by the WRP site, as follows:

1. The WRP site would be manned 24/7 and would generate 16 two-way LGV trips per day for staff (five day shift and three night shift workers).
2. Between 20 and 80 HGV trips to the WRP site per month, equating to 40 to 160 two-way movements per month, or two to six daily two-way movements.

12.2.2 In addition to this, provision has been made to accommodate a single coach parking space at the WRP site during the operational phase. It is anticipated that this would facilitate infrequent educational trips at the WRP site.

12.2.3 As summarised above, the WRP site would generate a maximum of 22 two-way vehicle trips a day, of which six (27%) would be HGVs.

Traffic impact assessment

12.2.4 As detailed in the previous section, the WRP site is forecast to generate a limited number of vehicle trips per day. To demonstrate the impacts would not be perceptible in the context of the local highway network, namely Harts Farm Way, a percentage traffic impact assessment has been undertaken. This is based on the following worst case scenario:

1. Staff shift changes would take place in the AM and PM network peak hours.
2. All staff would travel to site by car.
3. The maximum forecast number of HGVs (80 per month) has been assumed.

12.2.5 The percentage traffic impact assessment for the WRP site can be found in Table 12-1.

Table 12-1 Water Recycling Plant site percentage traffic impact assessment

Period	2034 Do Minimum vehicle trips	WRP forecast vehicle trips	Percentage traffic impact
AM peak hour	824	9	1.1%
PM peak hour	842	9	1.1%
Daily	10,358	22	0.2%

12.2.6 As summarised in the percentage traffic impact assessment above, the impacts on the WRP site on traffic flows on Harts Farm Way would not be perceptible.

12.3 Intermediate Pumping Station and Break Pressure Tank operational traffic demand

12.3.1 The AGP sites would not require operatives on-site 24 hours a day and operation would be based on weekly tasks. In summary, on a typical week there would be:

1. One LGV visit per week for approximately four hours.
2. A second LGV visit per week for scheduled inspection and maintenance purposes.

12.3.2 The above weekly trips would likely occur on the same day, but be made at different times, and therefore by different vehicles.

12.3.3 In addition to the above, there would be one annual trip by a tanker (3.5-7.5t) to empty the site cess tank at an appropriately licensed cess reception site (e.g. Budds Farm WTW). This vehicle is under 7.5t and therefore would not be classed as an HGV.

12.3.4 In summary, the traffic impacts of the four IPS and BPT sites would not be perceptible on the local highway. This excludes movement associated with the washouts and overflows, which are described below.

12.4 Washouts and overflows operational traffic demand

Pipeline washouts

12.4.1 As detailed in section 7.3, washout valves are the valves which control the release of water through a washout. Depending on the operational and maintenance regime, the washout valves would be subject to periodic maintenance (every six months) to prevent accumulation of debris that may prevent proper sealing on valve closure and seizure of the mechanical valve components.

12.4.2 The pipeline behind the washout valve would need to remain pressurised to prevent ingress of contaminants while the washout valve is exercised. Due to this, the servicing operation shall be a minor, low impact activity, and so a relatively small volume of water would be discharged through the washout.

12.4.3 The flows and volumes of water anticipated to be discharged are well within the capacity of a small road-going tanker, therefore if there is a requirement for release

of flows during routine maintenance, tankering shall be provided unless disposal via a foul water sewer discharge connection is available due to this relatively small volume and flow rate.

12.4.4 In addition, a temporary holding tank is required between the washout and tanker to prevent the potential backflow of contaminants. Such a temporary holding tank is portable, delivered to site in a van or lorry and deployed by hand.

12.4.5 In summary, there would be a minimal traffic impact associated with pipeline washouts in the operation phase of the Proposed Development.

Break Pressure Tank washouts and overflows

12.4.6 A BPT washout is primarily used to drain down a residual volume of water still within the tank during a process to empty it. BPT cells may be individually taken offline for routine inspection, cleaning and maintenance, typically in the order of years.

12.4.7 The routine drain down of a BPT cell for inspection, cleaning or maintenance is a task planned in advanced due to the significant degree of logistics and requirement for safe control of operation (SCO) involved.

12.4.8 The estimated volume of 115m³ of water per cell to be drained down is feasible using approximately 7no. 4,000 gallon, 18 m³ tankers, each tanker taking approximately an hour to connect, take flows, disconnect and leave.

12.4.9 As set out above, a small number of tankers would be required to transport the discharged water off-site which would not have a perceptible impact on the operation of the local transport network.

12.5 Impacts on sustainable modes during operation

Introduction

12.5.1 It is not anticipated that the Proposed Development would have a notable impact on any sustainable modes during its operational phase. Nonetheless, to provide a comprehensive assessment, the operational impacts of the Proposed Development on walking, cycling, horse riding and buses has been assessed.

Walking, cycling and horse riding

12.5.2 The only notable impact on travel by walking, cycling or horse riding would involve the proposed permanent diversion to Fareham 103. This proposal, which involves the diversion of Fareham 103 around IPS-F, would add a minimal distance onto journeys (less than 50m). The impact on pedestrian trips would therefore be minimal.

12.5.3 It is likely that this permanent diversion would also impact cyclists and horse riders, given that Fareham 103 will be upgraded to bridleway status as part of the proposed Welborne development.

12.5.4 Details regarding this permanent PRoW diversion are provided in the Framework RoWMP (appended to the Framework CTMP, Document reference 7.2, DCO Volume 7).

12.5.5 Additional impacts of walking, cycling and horse riding are limited to additional severance and the creation of crossing points caused by providing operational access to the other AGP. This will take place at the following locations:

1. New Down Lane
2. Titchfield Lane
3. Winters Hill

12.5.6 However, none of these routes have existing footway facilities at the point in which an access will be created and as such impacts on walking, cycling and horse riding are anticipated to be minimal.

12.5.7 Similarly, access creation associated with the WRP site would not impact the footway and cycleway facilities on Harts Farm Way.

Buses

12.5.8 The Proposed Development would not have any operational impact on any bus services.

13 Summary and conclusions

13.1.1 This Transport Assessment has been prepared in support of the Proposed Development. In May 2022, under Section 35 of the Planning Act 2008, the SoS directed that the Proposed Development be treated as a project of national significance, for which development consent is required.

13.1.2 This Transport Assessment has been informed by significant engagement with the relevant highway authorities, including HCC, PCC and NH. This includes the submission of a Transport Assessment Scoping Report for comment, numerous workshops, and the Summer 2024 Consultation and Spring 2025 Consultation.

13.1.3 Several permanent accesses would be created to access the WRP site and AGP. This includes a simple priority junction with Harts Farm Way for the WRP site. The AGP sites would be accessed via private roads and existing junctions with the public highway.

13.1.4 In the operational phase, traffic demand would be minimal, with the WRP site forecast to generate up to 22 daily vehicle movements, whilst the AGP would generate an average of four vehicle movements per week. The operational impacts of the Proposed Development are therefore concluded to not have a perceptible impact on the local transport network.

13.1.5 To manage the transport impacts of the Proposed Development during construction, four management plans have been prepared, including a Framework CTMP (Document reference 7.2, DCO Volume 7), Framework CWTP and Framework RoWMP included as appendices of the Framework CTMP (Document reference 7.2, DCO Volume 7) and a TMS (Document reference 7.3, DCO Volume 7). The management plans have been informed by substantial engagement with HCC, PCC and NH as the relevant local and strategic highway authorises.

13.1.6 The Framework CTMP (Document reference 7.2, DCO Volume 7) and appended Framework CWTP included in Appendix A of the Framework CTMP (Document reference 7.2, DCO Volume 7) include a number of measures to reduce the impacts of construction traffic on the local transport network. This includes restrictions on HGV movements in the peak hours and measures to reduce traffic demand associated with construction workers in the network peak hours. With these measures, the construction traffic impacts of the Proposed Development on the transport network would not be significant.

13.1.7 The Framework RoWMP (appended to the Framework CTMP (Document reference 7.2, DCO Volume 7)) identifies all locations where the construction of the Proposed Development would interact with the PRoW network and identify where temporary closures and/or diversion would be required. Appropriate and safe diversion routes have been identified for all PRoW that would require a temporary closure, minimising the impacts on the users of these routes.

13.1.8 In addition to the above, a TMS (Document reference 7.3, DCO Volume 7) has been prepared to detail how works in the public highway would be managed. This includes the construction (and removal) of temporary/permanent site accesses and street works needed to facilitate the construction of the Proposed Development. Such measures include night-time working restriction and the scheduling of works to avoid major events. With this strategy, it is considered that the transport impacts

of the proposed works in the public highway have been mitigated as far as practicable.

13.1.9 As summarised above, the operational impacts of the Proposed Development would not be perceptible on the local highway network. In addition, the transport impacts associated with construction have been mitigated through the development of four management plans that are secured through the DCO. These proposals are therefore compliant with the National Networks National Policy Statement and the NPSWRI from a traffic and transport perspective.

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