



Havant Thicket Reservoir – Main Pipeline Works
Construction Traffic Management Plan – Shaft 1 RMA
HTR-WAB-PI-W1-PL-W-0001

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Suitable for construction approval

Issue and Revision Record

Havant Thicket Reservoir – Main Pipeline Works

Construction Traffic Management Plan – Shaft 1 RMA

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Client: Portsmouth Water Limited

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1 Abbreviations and Definitions

Client	=	Portsmouth Water Limited
Contractor	=	Ward and Burke Construction Limited
CTMP	=	Construction Traffic Management Plan
HGV	=	Heavy Goods Vehicle
HTR MPOR	=	Havant Thicket Reservoir Main Pipeline Works
HTR MRW	=	Havant Thicket Reservoir Main Reservoir Works
POR	=	Portsmouth Water Limited
RAMS	=	Risk Assessment / Method Statement
TPC	=	Travel Plan Coordinator
UTX	=	Under Track Crossing
WAB	=	Ward and Burke Construction Limited

2 Introduction and Aims

The Construction Traffic Management Plan (CTMP) has been prepared by Ward and Burke (WAB) for the works involved in the construction of the Havant Thicket Reservoir, Main Pipeline Works (HTR MPW).

A Reserved Matters application is being submitted under the outline planning permission for the pipeline (Ref. APP/20/00991), to allow installation of shaft 1 only (no pipelines) prior to any potential future development of this land (which is now owned by Bellway Homes). If the Reserved Matters application is successful, the shaft will be installed in Summer 2024. Once installed, the shaft will not be visible apart from a manhole cover. This will be the only phase that will be discharged under the approved outline permission (see Appendix A for approved Outline Pipeline Route). The pipeline scheme will be the subject of a new revised pipeline application which will be accompanied by a new, scheme-specific CTMP.

This CTMP is submitted, alongside the Construction Worker Travel Plan (CWTP), to discharge Planning Conditions 7 and 8 of the approved pipeline permission. It details how WAB will manage construction traffic and site operations, considering hours of operation, traffic routing, safe flow of traffic on site and how the construction traffic will impact the surrounding neighbourhood and highways. It will remain a live document until works are complete and will be updated by WAB where necessary. The CTMP is aligned to the approved Framework Construction Traffic Management Plan dated 31/03/2021.

It has been agreed with Havant Borough Council and Hampshire County Council (Local Highway Authority) that a partial discharge of Condition 7 is appropriate provided all of the relevant details related to this phase are provided and approved prior to commencement of the phase being commenced.

This document is required to discharge Condition 7 and 8 of the planning permissions.

Condition 7 - Construction Traffic Management Plan (CTMP), Traffic Management and Construction Measures	
A) <i>No development shall take place until a CTMP has been submitted to, and approved in writing by, the Local Planning Authority (in consultation with Hampshire County Council as local highways authority).</i> B) <i>No phase of the development approved under Condition 4 shall commence until a phase specific CTMP for that parcel has been approved in writing by the local planning authority. The CTMP shall include all commitments set out in the framework CTMP, dated 31/03/2021, submitted with the planning applications and will include a Construction Traffic Management Strategy and Construction Worker Travel Plan. The CTMP shall include the following:</i>	
Detail	Where addressed in this CTMP
Vehicle routing plans	Appendix B
Proposed programme and duration	Section 9
Number of construction personnel including travel arrangements and mitigation	Section 10
Alteration to the highway, including temporary and/or permanent, to enable construction	Section 7
Traffic management details	Section 6

Compound and laydown area details	Section 13
Highway condition survey	Section 7
Methods for managing the site to prevent mud onto the highway	Section 5
Details of on-site contractor parking	Section 13

Condition 8 - Construction Traffic Management Plan (CTMP), Traffic Management and Construction Measures	
<i>No phase of the development approved under condition 4 shall commence until a phase specific traffic management and construction measures for that parcel has been submitted to, and approved in writing by, the Local Planning Authority. This shall include the following:</i>	
Detail	Where addressed
Vehicle, pedestrian, and cyclist diversion plans	Section 8
Details of type of traffic management	Section 8
Details of highway reinstatement	Section 6
Construction methodology and details	Section 5
Material and spoil storage	Section 7

3 Site Wide Framework Construction Traffic Management Plan

The following commitments are included in the approved Framework CTMP in relation to construction along the entire pipeline route.

Commitment	Explanation
Prepare an overarching CTMP for approval by the Highway Authority prior to commencement of any phase or works area.	To manage the impact of HGV traffic on the highway, the reservoir and pipeline contractor (s) will prepare one overarching CTMP for approval. CTMP addendums will then be approved prior to commencement of each phase of work if appropriate.
The southern access will only be used for construction of the top third of the pipeline and to connect utilities on Swanmore Road to the south.	Construction traffic for the lower two thirds of the pipeline will access the pipeline corridor directly from junction 5 of the A3 (M). As part of the site set up there will be a need to connect to utilities on Swanmore Road which will require some minimal construction traffic movements through the southern access.
The number of site workers along the pipeline route will be restricted to 125. Staff travel will be restricted to off-peak periods.	The environmental and transport assessments were based on 250 site workers travelling in peak hour (125 for reservoir and 125 for pipeline), this showed no significant impact. In order to minimise impacts, Portsmouth Water commits to restricting pipeline workers on site to 125. Any requirements for an increase in numbers will require approval from the Local Highway Authority.

Restrict HGV movements to up to 6 per hour with no more than 30 per day. With a day being defined as a 6-hour interpeak period. On Saturdays, HGV movements will be restricted to 6 per hour between 9am and 1pm.	For assessment purposed, it has been assumed that the pipeline construction would be undertaken concurrently with the embankment section of the reservoir, which is expected to generate up to 30 HGV movements per day. The commitment is to spread these movements across a 6-hour day. Any requirement for an increase in numbers will require approval.
Contractor parking area will be provided within the Construction Support Site.	Parking for all contractor staff will be provided within the Construction Support Site in the north west corner of the reservoir to ensure no parking on local residential streets.
A minibus will shuttle staff to and from the CSS welfare facilities.	To minimise the impact of staff, travel on the local highway network.
Develop alternative routing strategy for PRowS.	There will be a need to temporarily divert footpaths and public rights of way. Diversions should not add a material distance onto the footpath and timeframes for diversions to be kept to a minimum.
The contractor will review construction sequencing to reduce impact of closures.	Proposed full, partial, and night-time only road closures are identified in the 2020 Environmental Statement Chapter 13 (p30). Further development of the construction sequencing may allow partial lane closures within a section of road removing the need for a full closure. Traffic management measures identified in Table 13-11 will provide a framework for anticipated road closures.
Routing through Leigh Park for HGVs will be minimised unless necessary to reach a section of pipeline within this area and is to be agreed with the Highway Authority.	To ensure the principal road network is used where possible in the interest of road safety and to reduce the time period an impact may be experienced by the local population.
School term times will be avoided where the pipeline route runs close to schools. Where HGV routing passes a school site, the contractor will include measures within the CTMP to mitigate impact of HGV traffic on school drop off and pick up movements. This will include appropriate supervision in these areas and works will be stopped if appropriate.	Where school term times along the pipeline route cannot be accommodated, there will be appropriate supervision in these areas and works will be stopped if appropriate. The full CTMP must include plans identifying all schools along HGV and pipeline route.

The above table takes into consideration the traffic management parameters that must be considered when undertaking the works within the pipeline construction. This document considers Phase 1 of construction, which will be the only phase discharged under this planning permission. All remaining phases will be incorporated into a new full planning application.

4 Phase 1 Construction Management Traffic Plan

Site Details

Shaft 1 is located in Havant, adjacent to Bedhampton Train Station. The site is accessed via Meyrick Road. All pedestrians and traffic will enter the site via Meyrick Road, with drawings representing this in Construction Traffic Management Plan and Planning Submission.

To construct the pipeline, construction traffic vehicles will leave the reservoir site via the Northern Access Route and the A3(M). The construction route approved in the outline planning permission has been replaced with a route suggested by the Local Highway Authority (LHA). A similar route will be utilised by any “off-site” delivery vehicles.

- Construction Route: The route leaves the A3(M) at junction 5, travelling to site via the A27, Harts Farm Way, Brockhampton Road, West Street and Meyrick Road. This is indicated in *Figure 1*. No construction vehicles will route via the Bedhampton level crossing.

Appendix B includes a technical note which summarises a sensitivity test of the construction route. Following the assessment methodology used within the approved Environmental Statement, this technical note demonstrates that the proposed route suggested by the LHA provides a suitable construction route, with no significant effects being identified. It is proposed, therefore, that this route is adopted for the construction of Shaft 1. A TTRO will be obtained on Meyrick Road and West Street, suspending 10 parking spaces and implementing a 10mph speed limit on Meyrick Road before commencing works on-site. Construction works will not commence until this TTRO has been obtained.



Figure 1: Site Vehicle Routing plan

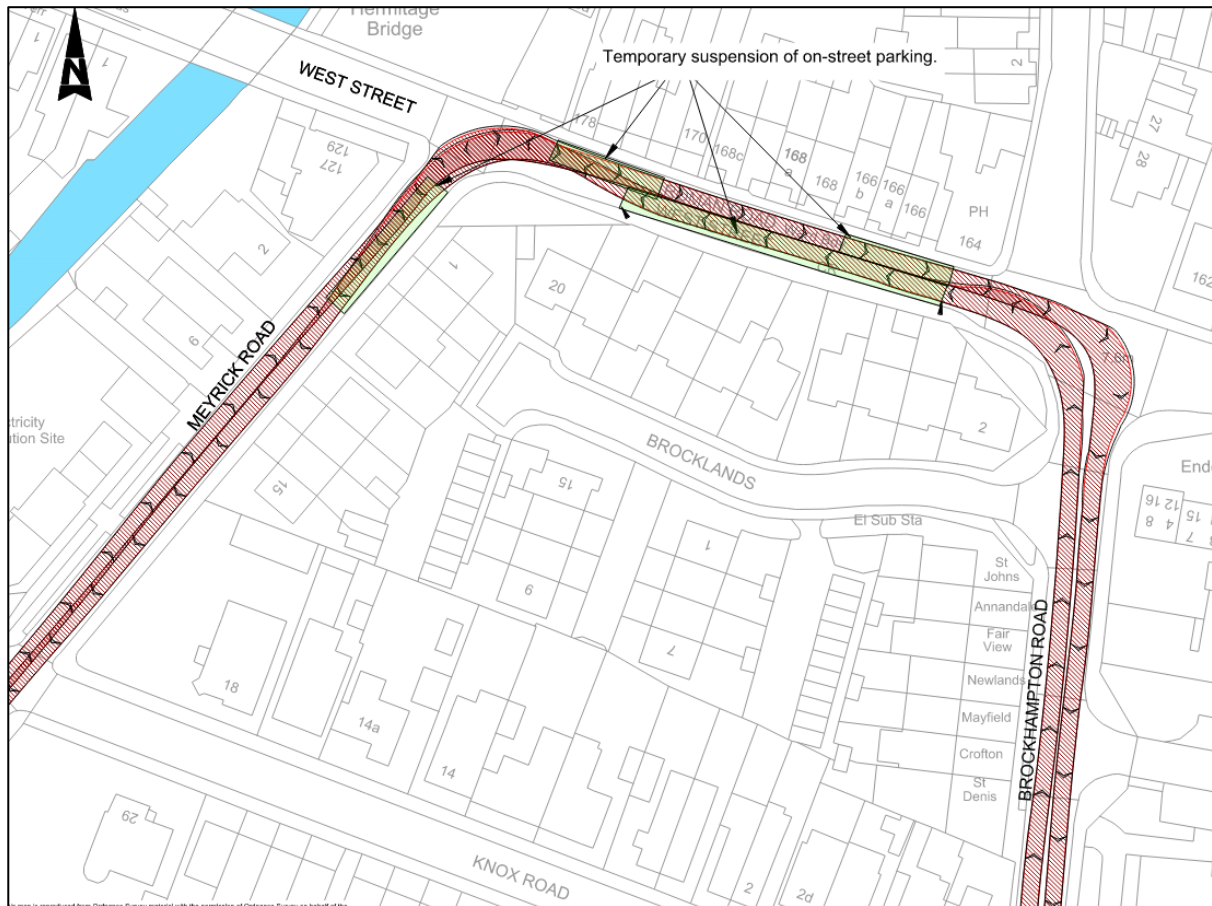


Figure 2 shows the swept path for Shaft W1 access for an articulated vehicle routing down Brockhampton Road, West Street and Meyrick Road. . When articulated vehicles are accessing Meyrick Road, the junction will be managed by a banksman. The banksman will also briefly close the footpath using signage and barriers, whilst the articulated vehicle makes the movement.

The What3Words Location to quote for the main site entrance gate is: [///shirt.game.stars](https://www.what3words.com/#!/shirt.game.stars)

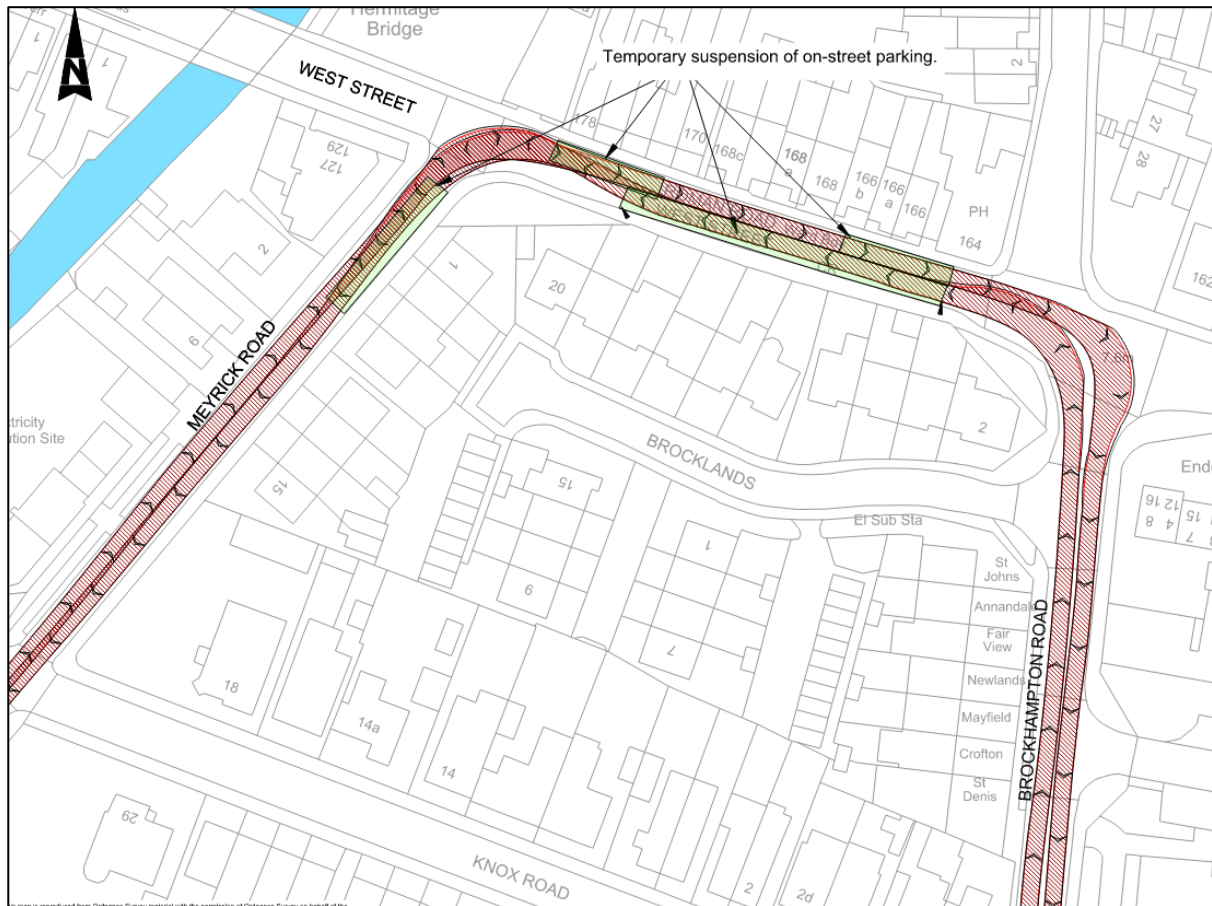


Figure 2: Shaft 1 Site Access Swept Path Analysis for Articulated Vehicle

5 Scope of Construction Activities

The scope of works to be undertaken during the shaft 1 construction is as follows:

- Compound set-up
- Excavation works
- Installation of cutting shoe
- Concrete pours to form caisson
- Sinking of caisson
- Concrete base pour

6 Proposed Works Area Access Point

Throughout the construction of shaft 1, construction traffic will access and egress the site using the main entrance on Meyrick Road. At this entrance, a gate person will tend to all traffic on and off site, ensuring that any deliveries have been pre-booked and ensuring that all vehicles leaving site have made use of the wheel washing facilities available to avoid debris getting onto the main highways from site traffic. Wheel washing facilities will be provided, as required, so wheels can be washed before exiting (see Figure 3 for location). A road sweeper will be made available for the duration of

the construction works should debris not get washed completely off vehicles on site and ends up on the public highway.

Havant Thicket Reservoir Project - Main Pipeline Works: Main Site Compound

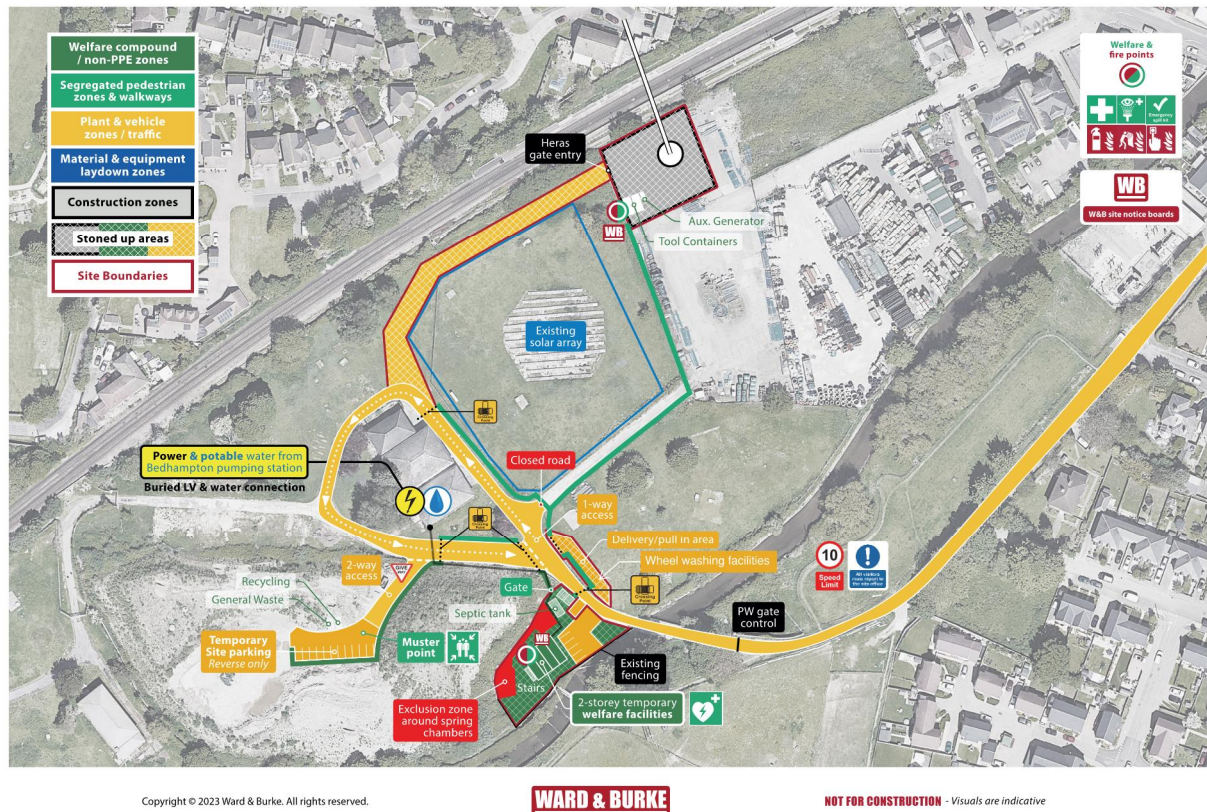


Figure 3: Shaft 1 site access, egress and layout

Deliveries to site will be scheduled and monitored by a member of Ward and Burke staff to ensure there is no congestion on the highway and a blockage on the road is not created by vehicles awaiting entry to site. Delivery drivers will be made aware of the potential of pedestrians entering the carriageway from footpath 34 in the delivery instructions. Signage will be installed on the footpath to make footpath users aware of the interface with the site entrance.

7 Management of Vehicle Movements

Prior to arriving on site, all deliveries will be pre-booked onto a management system by Ward and Burke. Upon booking, the delivery company will be provided with delivery instruction on the measures to be implemented to provide a safe and un-disruptive arrival. Delivery instructions will be issued to all supplier and contractors upon placement of any order.

The delivery instructions will include information relating to timings, routes to and from site and any health and safety considerations that must be adhered to by all drivers. A logistics manager will control vehicle movements on and off site and provide a morning timetable to their team of vehicle marshals, as well as the on-site operatives in charge of loading/unloading all materials. On site, there

will be an area to allow the safe turning of delivery vehicles within the delivery compound to avoid any reversing onto public highway, see *Figure 4*.

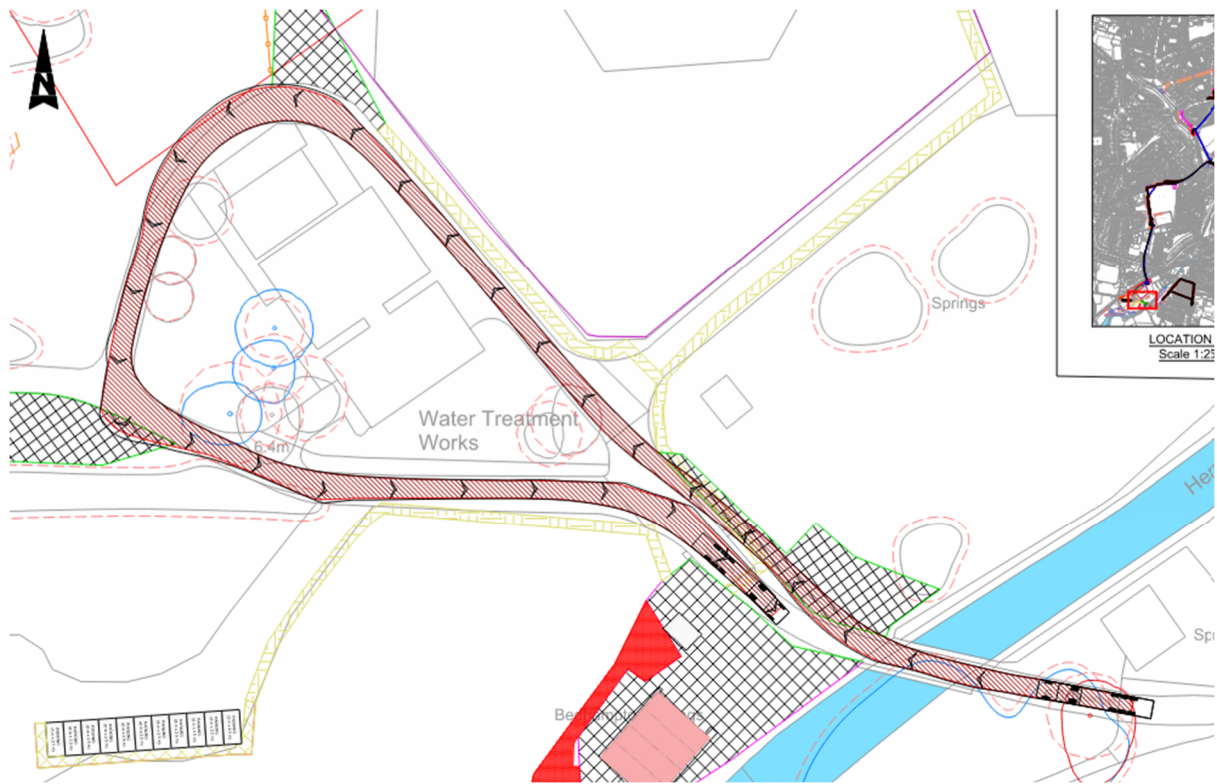


Figure 4: Swept path for an articulated lorry turning within Bedhampton Pumping Station

Footpath closure:

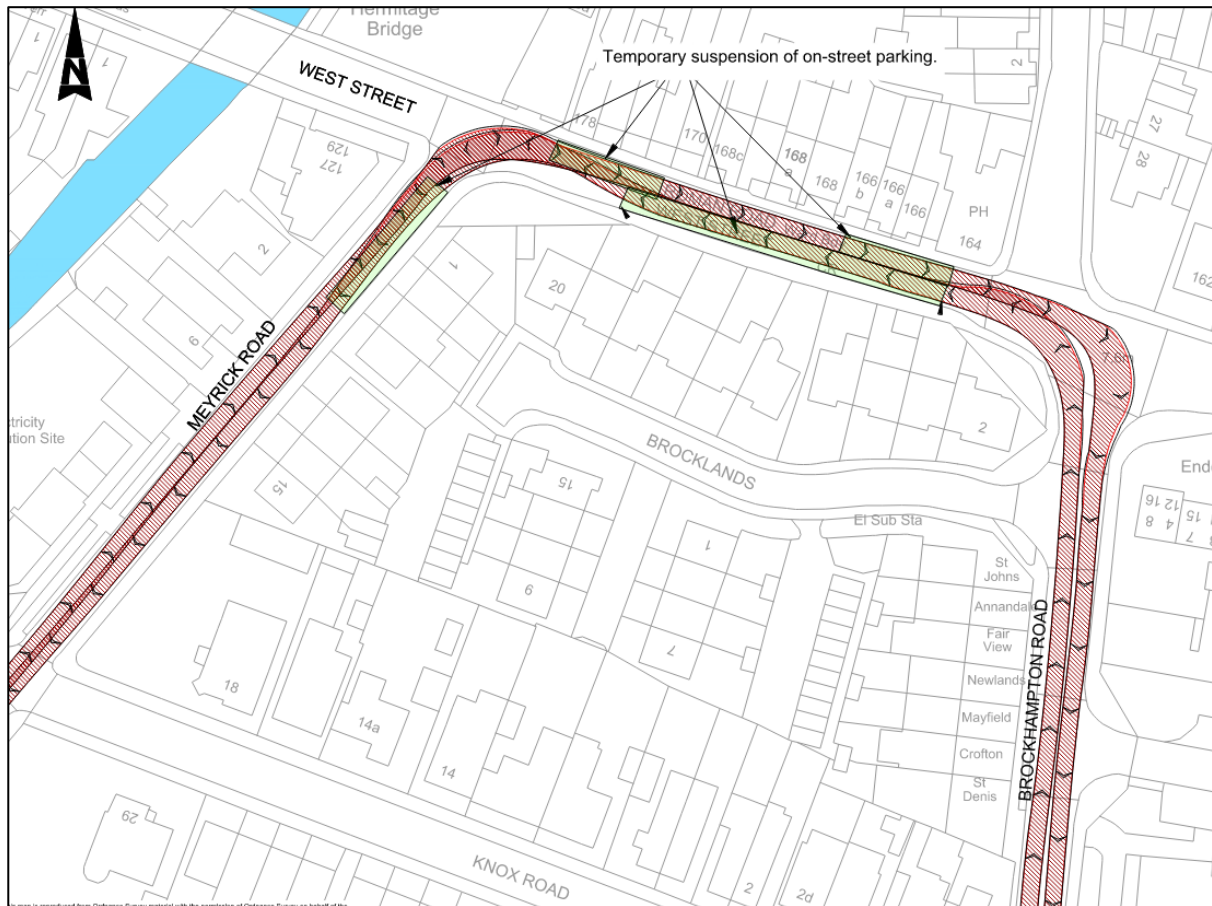


Figure 2 shows articulated vehicles entering Meyrick Road overrun the low-level kerb. The largest vehicle to enter site will be a HGV, no longer than 16.50m, transporting the crawler crane. A footpath closure and diversion on the south side of West Street will be implemented, with appropriate opportunities to access the footway on the northern side. This temporary closure and diversion will be secured through a road space booking to close the public footpath to ensure safe pedestrian movement along West Street during Shaft 1 construction.

Construction will not commence until this footpath closure has been obtained and agreed.

Temporary Traffic Regulation Order:

There will be an element of parking bay suspensions along Meyrick Road and West Street to allow the smooth access and egress of vehicles for a period of up to 3 months. On Meyrick Road, Ward and Burke will have a TTRO in place to suspend 3 parking spaces closest to the West Street-Meyrick Road junction. This permit also suspends 7 parking spaces on West Street. An area considered available for parking was deemed a 6m length of kerb where there was no signage or line markings to suggest parking restrictions, and no dropped kerbs. Areas of suspension are shown in



Figure 5: Indicative parking suspensions along Meyrick Road and West Street roads

These parking suspensions ensure that the swing radius will not be obstructed when turning into Meyrick Road, indicatively shown in [Error! Reference source not found.](#) Parking surveys within 200 metres of suspension demonstrated capacity within the study area (see



Figure 6) before suspension is 83 spaces. Results from initial surveys on Meyrick Road and the West Street (West of Meyrick Road) indicated that these were 100% occupied at times and were discounted as areas that can be used to offset the suspended bays. This reduced the total number of available spaces to 66 on Ranelagh Road, Brockhampton Road between West Street and Ranelagh Road, Knox Road and West Street east of Meyrick Road. The average occupancy on these remaining survey areas was 45 (68%) with an availability of 21 (32%) equating to an occupancy of 55 (83%) and availability of 11 (17%) during peak occupancy demand whilst the 10 bays are suspended. The highest

occupancy recorded on these remaining survey areas was 54 (82%) with an availability of 12 (18%) on the 15th April 2024 at 17:00. This would equate to an occupancy of 64 (97%) and availability of 2 (3%) during peak occupancy demand whilst the 10 bays are suspended. This maximum occupancy level is deemed to be acceptable. See Appendix D for parking survey results.

Following discussions with the Local Highways Authority, additional surveys have been undertaken and supplemented by site photographs, which are all included within Appendix D for reference.



Figure 6: Parking survey study area

Highway Condition Survey:

A pre-construction and post-construction 'Highway Condition Survey' will be undertaken on Meyrick Road, West Street (between the junctions with Meyrick Road and Brockhampton Road) and Brockhampton Road to the Solent Road/Marples Way roundabout. This will allow identification of any deterioration or damage that's occurred to the highway throughout the construction period. Any deterioration or damage attributed to any construction movements associated with these works will be repaired to return the highway to the condition it was in prior to the start of construction at the applicant's expense.

9 Stakeholder Management and Communications

Portsmouth Water and Ward and Burke's stakeholder and communications managers will work together to ensure advance notice of our works is published to all stakeholders associated with the works.

Site management will deal with any issues that arise on a day-to-day basis and a dedicated person will be a point of contact on site. Any traffic marshals or gate person will be the first point of contact with any member of the public raising concern and will subsequently report to site management

with any issues. Any concerns reported to Ward and Burke site management will be dealt with urgently and, where necessary, reported to Portsmouth Water and recorded in meetings with any stakeholders.

10 Programme and Sequence of Works

Works to shaft 1 will begin in autumn 2024 and will take approximately 4 months to construct. Upon completion of these works, the shaft will be backfilled, and landscaping will be complete.

11 Vehicle Types and Numbers

The two-way vehicle movements to and from the Shaft 1 site for each vehicle type are out lined in Table 1 below as well as the combined maximum reservoir and pipeline HGV movements from the approved Framework Construction Traffic Management Plan (FCTMP) in Table 2.

Table 1: Vehicle Types and Number of Movements (two-way)

Vehicle Category	Vehicle Type	Usage	Typical per Day (Two-way)	Peak for each vehicle type (Not on the same day) (Two-way)	Nr. using Northern Access Route
Car / Van	Car / Van	Commuting	12	16	0
	Vans under 7.5t	Materials delivery	2	6	0
Heavy Goods Vehicle (HGV)	Rigid lorry (8-wheeler HGV)	Materials delivery	12	30	1
	Tankers (8-wheeler HGV)	Fuel, water, waste disposal			
	Tippers (8-wheeler HGV)	Deliver aggregate / remove spoil			
	Rigid HGV (8-wheeler HGV)	Materials & plant delivery			
	Articulated HGV	Materials & plant delivery	2	6	1
	Crawler Crane	Site specific works	0	1	0

Table 2: Combined Maximum Reservoir and Pipeline Vehicle Movements

Work Area	HGV Movements Cap	Hourly Peak
Main Reservoir Works	200	32

Main Pipeline Works (Shaft W1)	30 (30)	6 (1)
Total	230 (230)	38 (33)

An initial high-level assessment to inform the Transport Assessment for the outline Pipeline scheme assumed 30 HGV round trip journeys throughout the day, of both vehicles moving to and from the reservoir compound. The approved Framework Construction Traffic Management Plan (FCTMP) provides a commitment to 30 as a maximum number of HGV movements (15 arrivals, 15 departures) spread across the day.

To construct Shaft 1 will typically require 16 HGV movements (8 arrivals and 8 departures) per day as indicated in the third last column *“Typical per Day (Two-way)”* of Table 1 above. This is expected to take 16 weeks. There will also typically be 2 HGV movements (1 arrival and 1 departure) per day with a maximum of 6 per day (3 arrivals and 3 departures) for approximately two week during mobilisation and similarly during demobilisation at the end of the works.

The second last column, *“Peak for each vehicle type on a given day (Two-way)”*, indicates the maximum number of movements for that vehicle type on a given day. The maximum number of two-way articulated HGV movements on a given day, which will require banksman control at the Meyrick Road/West Street junction, is 6. It should be noted that there will be maximum of 30 8-wheeler HGV movements (15 arrivals and 15 departures) for 1 day only to allow completion of a large concrete pour. The work activities will be sequenced and arrangements to ensure that peak movements do not occur on the same day and exceed the movements in Table 2.

Given that the majority of deliveries are full loads, and by their nature cannot be broken down into smaller loads (e.g. concrete deliveries), on average just one of these daily HGV movements will be routed to/from the northern access of the Reservoir, down the A3(M), A27, Harts Farm Way, Brockhampton Road, West Street, entering the site via Meyrick Road. In line with discussions with the LHA, efforts have been made to minimise HGV trips directly to the worksite where reasonably practicable. Where partial loads are being delivered on HGV's these will be directed to the construction support compound at the reservoir. Here they will be combined with other partial deliveries and delivered by HGV to the worksite or transferred to a smaller HGV/LGV and likewise delivered. The remainder of the HGV movements, *within the 30 daily HGV total*, will access the site via the agreed construction route between the Principal Road Network and Shaft 1.

12 Construction Workers Travel

It is anticipated that up to 20 staff will be on-site during the works at any given time, with an average of 12. Car parking will be provided on site for 8 vehicles within the Shaft 1 site car park, adequate for the number of staff anticipated on site. This provides parking for site staff and visitors attending the works site at shaft 1, shown in Figure 3.

Car movements will be limited to a maximum of 16 per day (8 in and 8 out). These numbers have been reviewed and rationalised following discussions with the LHA to ensure the number of vehicle movements are minimised. The measures outlined in the approved Construction Worker Travel Plan (HTR-MrW-CWTP-v3) will be applicable to staff involved in the construction of Shaft 1. Specific measures relevant to this development to limit car movements will also include:

- Utilise the reservoir site as a hub for car sharing to the Shaft 1 work site where car sharing is not practical from the starting point of the commuting journey.
- Provide suitable welfare facilities at the Shaft 1 site removing the need for numerous trips during the working day.
- Encourage and incentivise active travel and the use of public transport, noting that Bedhampton train station is a five minute walk from the Shaft 1 work site.

The approved Construction Worker Travel Plan contains further details of the measures used to incentivise more sustainable travel as well as outlining the targets to be achieved and the monitoring to ensure the plan is suitable implemented.

13 Vehicle Timings

No construction on the pipeline site shall take place outside the hours of 08:30 - 18:00 Monday to Friday, 09:00-13:00 on Saturday and no Sunday working. No works shall take place on Bank or Public Holidays.

Staff will arrive to site between 7:30 and 8:30, to allow for pre-start briefings, and leave site from 18:00 to 19:00. This will ensure staff vehicle movements will not occur at the same time as deliveries.

All deliveries will be restricted within the hours of 0900-1700hrs to avoid network peak periods of 0800-0900hrs and 1700-1800hrs. Deliveries will also avoid the Saturday peak period of 1200-1300hrs. All deliveries to Shaft 1 will be instructed to approach the site access point from the south via junction 5 of the A3(M). This routing will avoid interfacing with peak traffic flows in the built-up areas of Havant.

In the event of a change in vehicle timings, due to unforeseen circumstances, Ward and Burke will liaise with the Local Highways Authority to plan the works.

14 Communication and Monitoring of the Plan

The contents of the traffic management plan will be briefed to all personnel on site as part of the site induction and will be refreshed over the period of the works in the pre-start daily activity briefings. The traffic management plan will also be included in sub-contracts to allow subcontractors comfort in the process.

Vehicle numbers and frequencies will be monitored to ensure that volume, frequency, and timing of arrivals coincide with the stated numbers and times. Regular auditing of deliveries will be undertaken to ensure compliance with the CTMP.

Any accidents or incidents involving vehicles entering or leaving the site will be recorded and investigated. If necessary, these will be reported to relevant authorities.

The Traffic Management Plan will be overseen and monitored by both the Logistics Manager and Travel Plan Coordinator, while implementing Ward and Burke's 'Plant and People Campaign' (Appendix C).

In the event of any changes to the document, this will be done by the relevant management and communicated to Portsmouth Water and Local Highways Authority, outlining any changes.

15 Site Arrangements

Access onto site for vehicles will be via Meyrick Road access gate, which is currently Portsmouth Water access gate, and requires permission to acquire entry. This gate will have constant presence to allow deliveries and visitors onto site.

Hard standing surface will be provided within the compound to assist with keeping vehicles clean and negate the need for wheel washing. Where vehicles must leave the hard standing surface, wheel washing facilities will be provided to ensure that mud and debris do not get transferred onto the public highway. The public highway will be maintained daily if debris leave site or HGV cause damage to the public highway.

16 Risk Assessment

RISK RATING Likelihood (L) x Severity (S)		HAZARD SEVERITY (S)				
		1	2	3	4	5
		Negligible Negligible injury, no absence from work	Slight Minor injury requiring first aid treatment	Moderate Injury leading to a lost time accident	High Involving a single person's serious injury/death	Very High Multiple serious injuries/death
1	Very Unlikely: A freak combination of factors would be required for an incident/accident to result	LOW	LOW	LOW	LOW	LOW
2	Unlikely: A rare combination of factors would be required for an incident/accident to result	LOW	LOW	LOW	MEDIUM	MEDIUM
3	Possible: Could happen when accidental factors are present but otherwise unlikely	LOW	LOW	MEDIUM	HIGH	HIGH
4	Likely: Not certain to happen but an additional factor may result in an incident/accident	LOW	MEDIUM	HIGH	HIGH	HIGH
5	Very Likely: Almost inevitable that an incident/accident would result	LOW	MEDIUM	HIGH	HIGH	HIGH
LOW RISK (Score 1 – 6)		May be acceptable, however, review task to see if risk can be reduced further.				
MEDIUM RISK (Score 8 – 10)		Task should only proceed with appropriate consultation with specialist personnel and SHEQ team. Where possible the task should be refined to take account of the hazards involved or the risks should be reduced further prior to task commencement.				
HIGH RISK (Score 12 – 25)		Task must not proceed. It should be refined, and further control measures put in place to reduce risk. The controls should be re-assessed for adequacy prior to work commencement				

Likelihood: How often could the hazard occur? Consider the task, frequency, duration, method of work, employees involved.

Severity: How serious would the hazard's effects are if realised? Consider the type of hazard: Biological, ergonomic, physical, and chemical.

Risk = Likelihood x Severity

Risk Assessment				
Hazard	Risk	Risk Rating	Control Measure in addition to this in the Framework CTMP	Resultant Risk Rating
Delivery truck movements and vehicle movements on site	- Public - Operatives - Parked cars - Moving cars - Site Visitors	3 x 4 = 12	- Strict Speed Limit of 10 mph on site. - Plant & people movement to be segregated - All deliveries to drive with care and vigilance - Site gates to remain closed	1 x 4 = 4
Interface with public vehicles	- Public - Operatives - Parked cars - Moving cars	3 x 4 = 12	- Schedule and plan deliveries during off-peak times - Implement a call-before-arrival approach, so that the site team can ensure that access routes are clear - Deliveries to be pre-booked to avoid rush hour times - Place orders in bulk to avoid separate, small deliveries - Request that smaller deliveries are delivered on smaller vehicles - Vehicles to follow signposted routes from principal road network	1 x 4 = 4
Interface with pedestrians	Injury or harm to any pedestrian walking along the same route as site access route	4 x 3 = 12	- Warning signage to be erected and maintained along access route for clear warning to pedestrians - Segregated walkways to be established and maintained within the compound and works areas - Signed crossing points for pedestrians where required	1 x 4 = 4
Use of existing public highways	- Mud and debris carried off site to existing highway - Damage to existing highways by HGVs	4 x 3 = 12	- Wheel washing facilities to be provided on a hard surface on site for delivery drivers to take advantage of - Gate person to ensure all vehicles leave site clean and refuse exit if substantial amounts of muck is still present on any vehicle - Monitor and maintain any damage that may become present to public highway	1 x 3 = 3
Machinery on site	Death or injury due to machinery movement causing crushing.	4 x 3 = 12	All machines to have necessary reversing camera and or convex mirror	1 x 3 = 3

			- Machine movements to be segregated from pedestrian - All personnel to keep to pedestrian walkways - Do not enter areas during earthmoving operations, especially controlled zones, unless machine operators in the area are aware of your presence, make operators aware of your presence - Wear high visibility clothing. - Use pedestrian walkways where available; do not walk along haul routes. - Gain operatives' eye-contact when approaching - Maintain hearing and only use mobiles in safe locations away from moving vehicles. - Personnel will be disciplined if they are found not to follow the rules and guidance of the site	
Crane	- Overtuning - Loads overhead collapse - Crushing or impact from load - Wind load to formwork panels	$2 \times 4 = 8$	- Only to be set up and used with an approved crane pad TW design - Set up crane to avoid over-sailing - Appoint banksman - Exclusion zones to be in place - No lifting in wind above 13m/s, or as manufacturers recommendations - A crane lift plan is to be completed by an appointed person - Tag lines to be used - A whistle is to be blown by the banksman to alert of a lift when there are personnel in the vicinity of the lift	$1 \times 4 = 4$
Site Traffic	Congestion, vehicles have a collision as they reach required zone.	$3 \times 3 = 9$	Ensure that a banksman is always in place to direct trucks moving in and out of site	$1 \times 3 = 3$
RISK ASSESSMENT HOLD POINT Review likely hazards Review all mitigations in place and ensure the control measures are suitable and sufficient.				

Appendix B – Alternative Route Sensitivity Test

TECHNICAL NOTE

Havant Thicket Reservoir - Dual Pipeline

SUBJECT Alternative construction route sensitivity test	PROJECT NO.	DATE August 2024
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Document history

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
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2.0	Update to draft for Shaft 1 RM	MD	CW	SL	JF	August 2024
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Client signoff

Client		
Project	Havant Thicket Reservoir - Dual Pipeline	Project No.
Client signature / date		

TECHNICAL NOTE

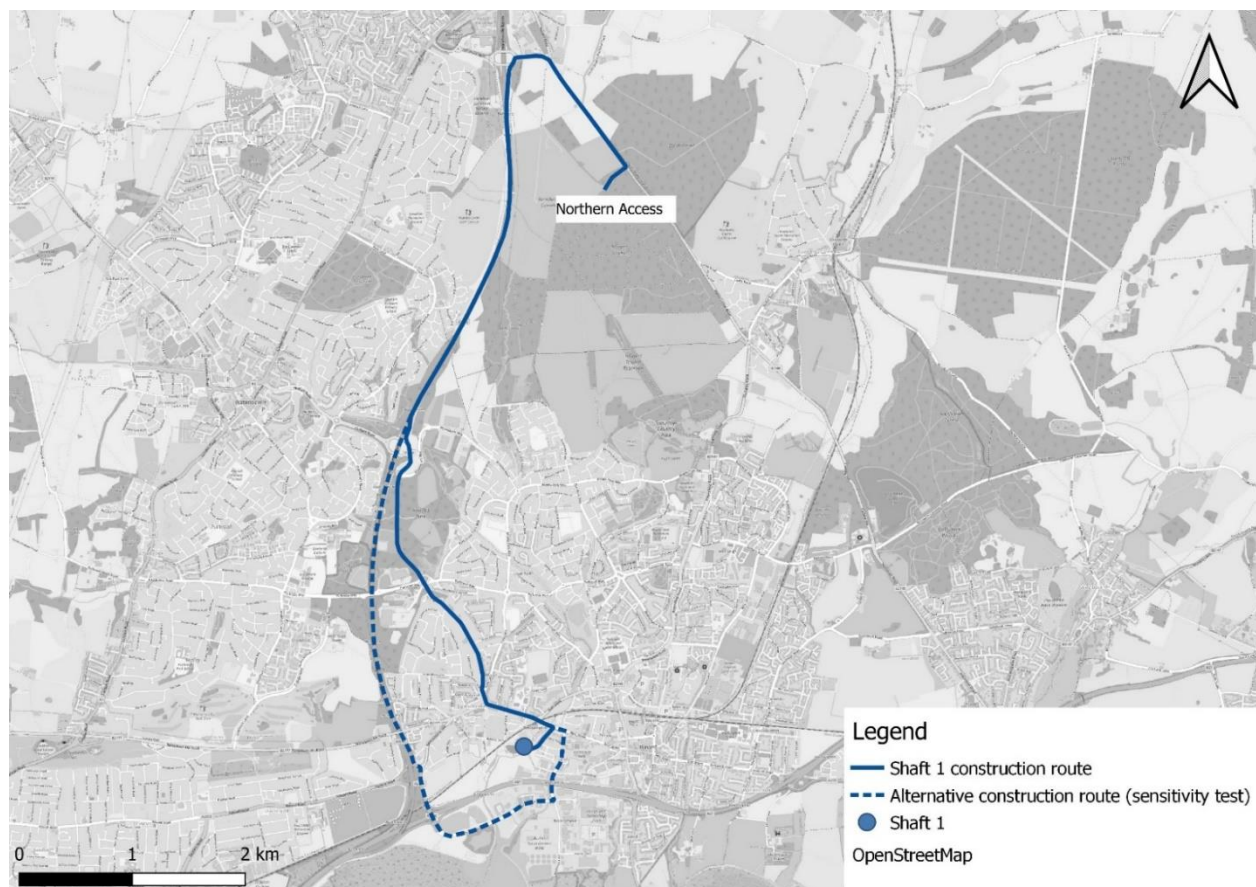
1. Introduction

1.1 Background and Purpose

This Technical note relates to potential construction routes associated with the construction of the Havant Thicket Reservoir Pipeline, and addresses pre-application and post submission comments provided by Hampshire County Council, the Local Highway Authority (LHA). The LHA suggested that an alternative construction route may be available to that currently proposed through the Bedhampton area of Havant, to service Shaft 1. This is during construction of Shaft 1 (the subject of the reserved matters application ref APP/24/00204 approved 28/6/24) and the construction of the pipeline itself (the subject of a revised planning application ref APP/24/00405 submitted at the end of May 2024. This note provides a sensitivity test to review whether the alternative route is suitable in terms of the impact of construction traffic, when compared to the route currently proposed.

The alignment of the alternative construction route, compared to the route currently proposed is presented in Figure 1.

Figure 1 - Alternative construction route



2. Assessment criteria

2.1 Overview

To assess the suitability of the route a consistent methodology to the main Environmental Statement (ES) has been used, which considers the sensitivity of a road link and the magnitude of change (increase / decrease in traffic flow).

The magnitude of change assessment has considered the change in flows comparing the construction traffic against the 2023 Baseline scenario, using relevant available data.

2.2 Road link sensitivity

The framework for determining the sensitivity of a receptor, in the case of this technical note, is presented in Table 1.

Table 1 - Definition of sensitivity

Sensitivity	Typical receptors
High	Schools, colleges and other educational institutions
	Retirement / care homes
	Roads with no footway that may contain notable pedestrian demand
	Collision clusters
Medium	Hospitals, surgeries and clinics
	Parks and recreation areas
	Shopping area with roadside frontage
	Residential areas
	Roads with narrow footway that may contain notable pedestrian demand
Low	Open spaces
	Tourist / visitor attractions
	Historic buildings
	Churches and other places of worship
Negligible	Receptors with low sensitivity to traffic flows and those sufficiently distant from affected roads and junction

2.3 Magnitude of change

The Institute of Environmental Management and Assessment (IEMA) guidelines recommend two rules to be considered when assessing the magnitude of change of development traffic on a highway link, as follows:

- Consider highway links where daily traffic flows would increase by more than 30%, or the number of HGVs would increase by more than 30%; and
- Consider any specifically sensitive areas where daily traffic flows would increase by more than 10%.

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In line with the principles of the IEMA guidelines and the approved outline ES, the following thresholds have been used to derive the magnitude of change on non-sensitive road links:

- High: >90% change in flow of either HGVs or all vehicles;
- Medium: 60-90% change in flow of either HGVs or all vehicles;
- Low: 30-60% change in flow of either HGVs or all vehicles; and
- Negligible: <30% change in flow of either HGVs or all vehicles.

In line with the principles of the IEMA guidelines, the following thresholds have been used to obtain the magnitude of change on sensitive road links:

- High: >70% change in flow of either HGVs or all vehicles;
- Medium: 40-70% change in flow of either HGVs or all vehicles;
- Low: 10-40% change in flow of either HGVs or all vehicles; and
- Negligible: <10% change in flow of either HGVs or all vehicles.

2.4 Impact criteria

The significance of impacts can be considered as either beneficial or negative and are derived from a combination of the sensitivity of receptors (road links) and magnitude of change. The effects can be either temporary or permanent.

With reference to the sensitivity of the road links and the magnitude of change, impact levels have been applied to the potential environmental effects in accordance with IEMA guidelines, as set out in Table 2.

Table 2 - Significance of impact assessment matrix

Sensitivity	Magnitude of impact			
	High	Medium	Low	Negligible
High	Major	Major	Moderate	Negligible
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Minor	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

In traffic and transport terms, the significance of impacts are considered as follows:

- Major: large beneficial or adverse impacts that are considered to be material considerations in the decision-making process;
- Moderate: relatively significant beneficial or adverse impacts that may be important, but are not considered as determining factors in the decision-making process;
- Minor: slight beneficial or adverse impacts that are primarily local in nature. 'Minor' effects are not considered significant or critical factors in the decision-making process; however, they should be considered to enhance the subsequent design of a project; and
- Negligible: no beneficial or adverse impacts, or those that are beneath levels of perception.

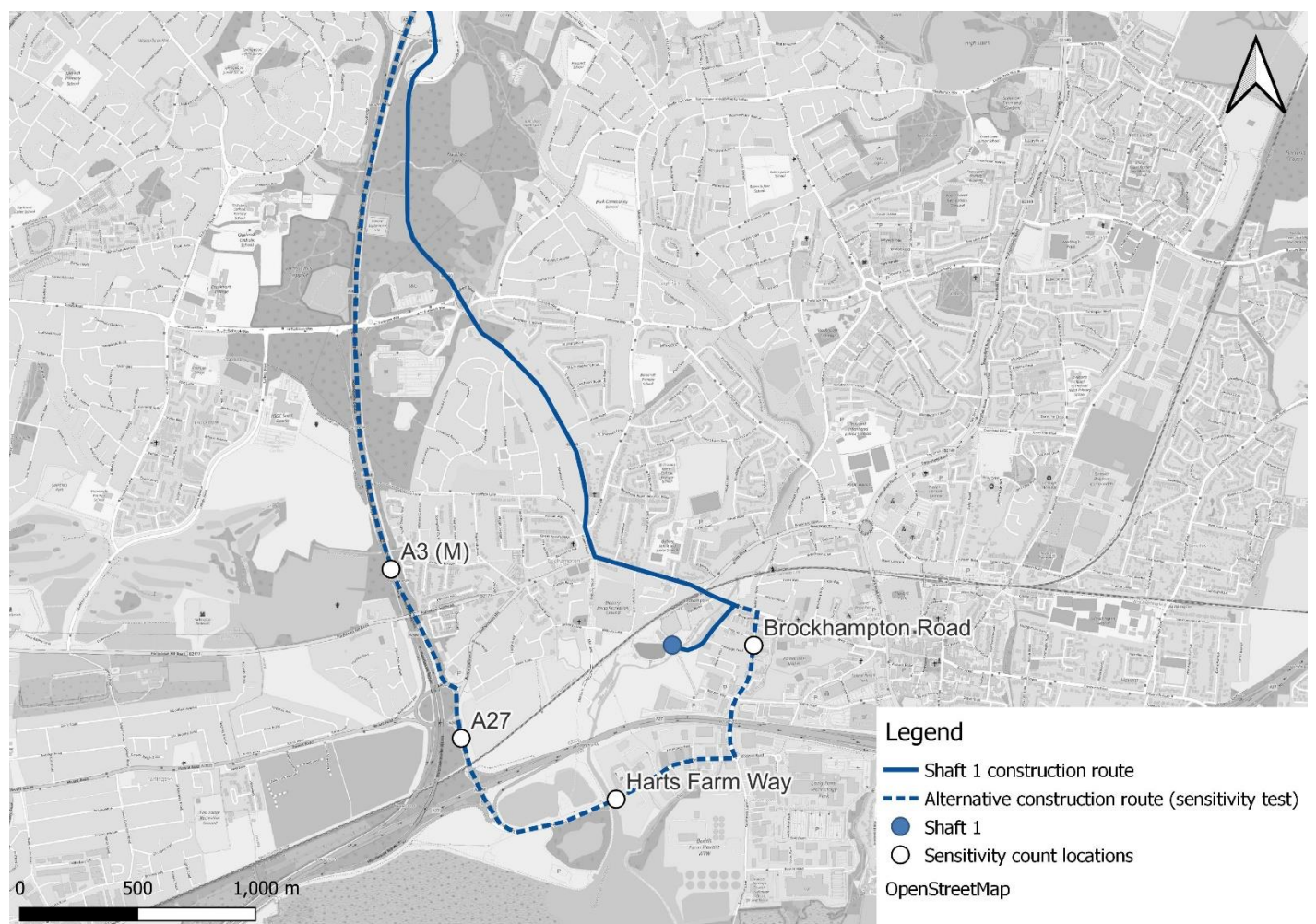
A moderate impact or greater is considered to be a significant effect in ES terms, however for the purpose of this assessment, if there is an impact of minor or above recorded, further consideration will be given to whether there is a significant residual effect on the receptor.

3. Impact assessment

3.1 Baseline

A review of the study area has been undertaken to establish the sensitivities of the receptors in relation to traffic and transport. This informs the sensitivity assessment of the road links which is presented in Table 3. Figure 2 shows the locations of traffic count data points located on the alternative construction route. The traffic count data was extracted in order to determine the magnitude of change in 'All Traffic' and 'HGVs'.

Figure 2 - Shaft 1 alternative construction route with sensitivity count locations



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Table 3 - Sensitivity of road links

Road Link Extent	Sensitivity	Justification
Brockhampton Road	Medium	Residential distributor road, with residential accesses and some on-street parking.
Harts Farm Way	Negligible	Commercial distributor road, with no frontage activity.
A27	Negligible	Connection to motorway.
A3 (M)	Negligible	Connection to motorway.

The baseline traffic data for the road links assessed as part of the sensitivity test is summarised in Table 4.

Table 4 - Baseline traffic data (AADT 2023)

Road Link Extent	AADT 2023 (two-way)	HGV%
A3 (M)	98873	3.1%
A27	37852	2.8%
Harts Farm Way	9653	3.5%
Brockhampton Road	3669	0.8%

There is expected to be an element of fluctuation across the construction programme, with day-to-day variations being dependent on several factors and as such the anticipated trip generation for each of the routes is presented with the average, 85th percentile and maximum trips in Table 5.

3.2 Construction impact

To consider the impact of the activities associated with the construction of Shaft 1 (the subject of the Reserved Matters application), the anticipated trip generation assessed during the original ES (2020 ES) has been used, which assumed 30 two-way HGV trips and 20 two-way LGV trips along the construction route.

This is consistent with the trip generation outlined within the Shaft1 Construction Traffic Management Plan (CTMP) which states:

To construct Shaft 1 will typically require a minimum of 16 HGV movements (8 arrivals and 8 departures) per day and a maximum of 30 HGV movements (15 arrivals and 15 departures). It should be noted that this peak would be for 1 day only to allow completion of a large concrete pour. The maximum number of HGV movements outside of this 1 day peak will be 20 movements (10 arrivals and 10 departures).

In addition to the HGV trip generation Shaft 1 requires staff to be located at the Bedhampton site, with up to 30 staff being located on site. It has been assumed that there could be up to 40 two-way staff trips to and from the site access the day, which is above the 20 LGV trips initially assessed. The uplift of LGV trips have also been incorporated into the sensitivity assessment.

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For the main pipeline works, the HGV trip generation is set-out within Table 5, which has been used to review the potential construction impact on the sensitivity route for the remainder of the pipeline works (one Shaft 1 is complete).

Table 5 - Construction trip generation

Trips generated	Average (two-way)	85 th percentile (two-way)	Maximum (two-way)
All Traffic	42	42	48
HGVs	2	2	8

Figure 3 - Sensitivity traffic count locations

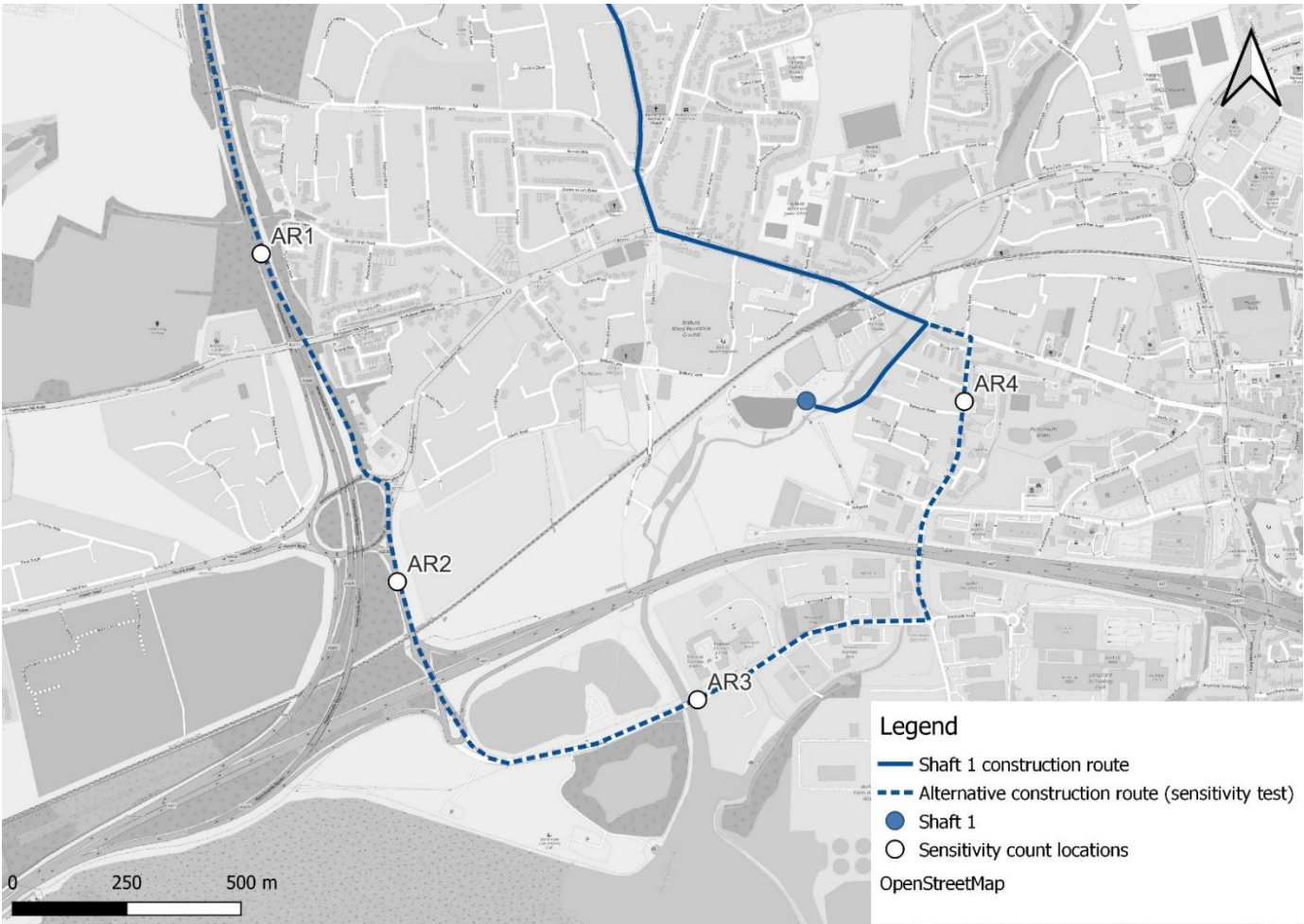


Table 6 - Pipeline construction - Impact on affected roads - All traffic

Link number	Road name	Sensitivity	% impact all traffic	% impact all traffic – average	% impact all traffic – 85 th percentile	% impact all traffic – maximum
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TECHNICAL NOTE

			– RM Shaft 1			
AR1	A3 (M)	Negligible	0.1%	0.0%	0.0%	0.0%
AR2	A27	Negligible	0.2%	0.1%	0.1%	0.1%
AR3	Harts Farm Way	Negligible	0.7%	0.4%	0.4%	0.5%
AR4	Brockhampton Road	Medium	1.9%	1.1%	1.1%	1.3%

The assessment presented in Table 6 illustrates that the impact on overall traffic on the alternative construction route is not expected to result in any significant effects, with increases in 'All Traffic' being below 1%. However, it is acknowledged that the composition of traffic is an important consideration when reviewing the potential impact, with the majority of construction traffic being made up of HGVs. Therefore, further consideration has been given to the impact of the HGV trip generation. The assessment presented in Table 7 gives consideration of the change in HGVs on roads affected.

Table 7 - Pipeline construction - Impact on affected roads - HGVs

Link number	Road name	Sensitivity	% impact HGV – RM Shaft 1	% impact HGV – average	% impact HGV – 85 th percentile	% impact HGV – maximum
AR1	A3 (M)	Negligible	1.0%	0.1%	0.1%	0.3%
AR2	A27	Negligible	2.8%	0.2%	0.2%	0.7%
AR3	Harts Farm Way	Negligible	9.0%	0.6%	0.6%	2.4%
AR4	Brockhampton Road	Medium	100.0%	6.7%	6.7%	26.7%

The assessment illustrates that across the majority of the network, the impact of the construction of the pipeline could be considered negligible in ES terms, with the impact of the average trip generation being less than 4%. In considering the 85th percentile trip generation, links change by less than 7%; it is therefore considered that there are no significant effects on these links.

With regards to the RM Shaft 1 construction traffic, there is a higher impact, though for the majority of links this is still below 10%. The impact on Brockhampton Road however would experience an increase in HGVs of 100%, though it should be noted that this would be for a single day only, and it is suggested that the higher percentage change at the peak is due to the low baseline number of HGVs. The HGV trip generation for the RM Shaft 1 construction is within the numbers assessed within the approved 2020 ES.

As all percentage impacts are below 30% for the main pipeline works, all magnitudes of change for any combination along the routes are negligible, as shown in Table 8.

Table 8 - Magnitude of change assessment in relation to construction vehicles for the main pipeline works (2023 AADT)

Link number	Road name	Sensitivity	Magnitude of change (worst case)	Significance of impact
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AR1	A3 (M)	Negligible	Negligible	Negligible
AR2	A27	Negligible	Negligible	Negligible
AR3	Harts Farm Way	Negligible	Negligible	Negligible
AR4	Brockhampton Road	Medium	Negligible	Negligible

3.3 Swept path analysis

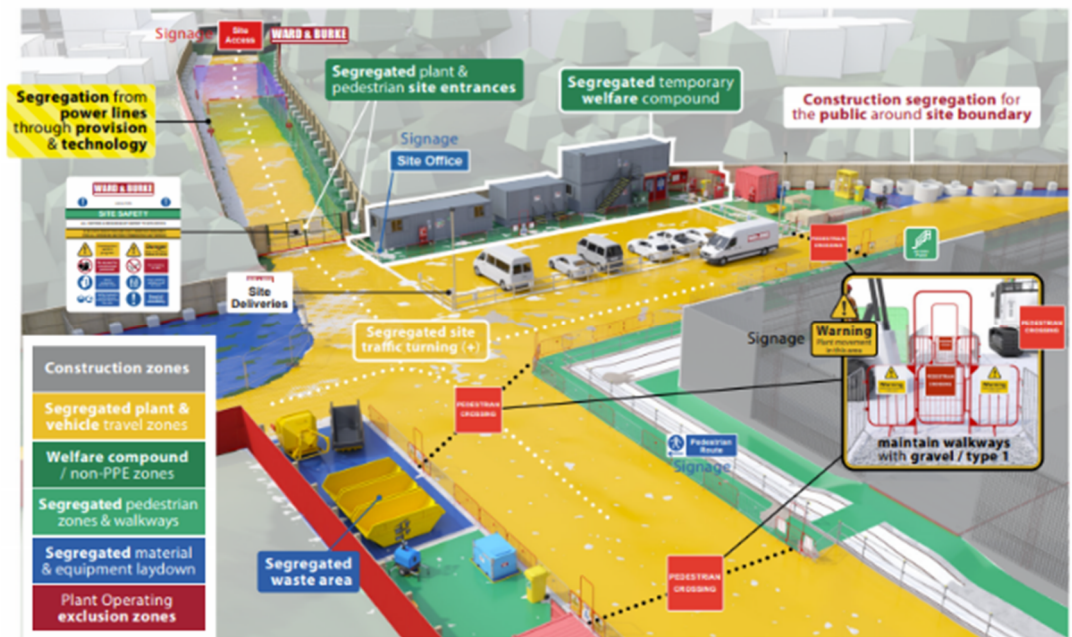
Swept path analysis has been conducted on the revised construction route shown in Appendix A, which accesses the compound via Meyrick Road. This demonstrates that an HGV can negotiate the manoeuvres required, though there will be a need for parking suspensions and footway closures at some locations, with appropriate signage and replacement pedestrian routes to be agreed through the TTRO process.

4. Summary

This technical note summarises a sensitivity test which considers an alternative construction route for use to construct the pipeline associated with Havant Thicket reservoir. Following the assessment methodology used within the approved ES, this technical note demonstrates that the alternative route suggested by the LHA provides a suitable alternative to the existing proposed route, with no significant effects being identified for the main pipeline works. There is a notable increase in the percentage of HGVs expected along a single link (Brockhampton Road) during the construction of Shaft 1 (the subject of the approved Reserved Matters application), though this is for a single day only and the actual numbers of HGVs will be within the approved 2020 ES numbers. It is considered that this route still provides a suitable alternative to that previously assessed.

Appendix C – Plant and People Campaign

PLANT & PEOPLE - Avoid Unnecessary Human & Plant Interface



✓ PLANT, DELIVERY & PEDESTRIAN ROUTES ✓ BANKSMEN ✓ FENCING ✓ ACCESS ✓ SIGNAGE



✓ YOU MUST MAINTAIN, RE-ASSESS, & ADAPT SEGREGATED ROUTES & ZONES CONTINUALLY



WARD & BURKE

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Plant & People

Appendix D – Parking Survey

Parking Survey	Capacity (Nr. of 6m long parking spaces)	Survey Results																	Other observations
		Mon 15/04/2024			Tue 16/04/2024			Wed 17/04/2024			Thurs 18/04/2024			Fri 19/04/2025			Tue 30/04/2024	Wed 01/05/2024	
		09:00	13:00	17:00	09:00	13:00	17:00	09:00	13:00	17:00	09:00	13:00	17:00	09:00	13:00	17:00	05:00	05:00	
Ranelagh Road																			
Occupancy (Nr)	10	6	5	7	7	6	7	6	5	8	5	7	9	6	7	9	8	8	
Occupancy (%)		60%	50%	70%	70%	60%	70%	60%	50%	80%	50%	70%	90%	60%	70%	90%	80%	80%	
Availability (Nr)		4	5	3	3	4	3	4	5	2	5	3	1	4	3	1	2	2	
Availability (%)		40%	50%	30%	30%	40%	30%	40%	50%	20%	50%	30%	10%	40%	30%	10%	20%	20%	
Brockhampton Road																			
Occupancy (Nr)	20	15	14	15	12	10	12	13	14	14	10	10	13	15	15	11	7	8	
Occupancy (%)		75%	70%	75%	60%	50%	60%	65%	70%	70%	50%	50%	65%	75%	75%	55%	35%	40%	
Availability (Nr)		5	6	5	8	10	8	7	6	6	10	10	7	5	5	9	13	12	
Availability (%)		25%	30%	25%	40%	50%	40%	35%	30%	30%	50%	50%	35%	25%	25%	45%	65%	60%	
Knox Road																			
Occupancy (Nr)	26	13	13	22	14	14	25	17	17	22	9	11	20	18	20	22	28	25	
Occupancy (%)		50%	50%	85%	54%	54%	96%	65%	65%	85%	35%	42%	77%	69%	77%	85%	108%	96%	
Availability (Nr)		13	13	4	12	12	1	9	9	4	17	15	6	8	6	4	-2	1	
Availability (%)		50%	50%	15%	46%	46%	4%	35%	35%	15%	65%	58%	23%	31%	23%	15%	-8%	4%	
West Street (East of Meyrick Road)																			
Occupancy (Nr)	12	6	6	10	7	7	9	7	6	8	7	7	7	5	7	9	11	9	
Occupancy (%)		50%	50%	83%	58%	58%	75%	58%	50%	67%	58%	58%	58%	42%	58%	75%	92%	75%	
Availability (Nr)		6	6	2	5	5	3	5	6	4	5	5	5	7	5	3	1	3	
Availability (%)		50%	50%	17%	42%	42%	25%	42%	50%	33%	42%	42%	42%	58%	42%	25%	8%	25%	
Totals																			
Total Occupancy (Nr)	68	40	38	54	40	37	53	43	42	52	31	35	49	44	49	51	54	50	
Total Occupancy (%)		59%	56%	79%	59%	54%	78%	63%	62%	76%	46%	51%	72%	65%	72%	75%	79%	74%	
Total Availability (Nr)		28	30	14	28	31	15	25	26	16	37	33	19	24	19	17	14	18	
Total Availability (%)		41%	44%	21%	41%	46%	22%	37%	38%	24%	54%	49%	28%	35%	28%	25%	21%	26%	
Availability post Reallocation of 10 bays (Nr)		18	20	4	18	21	5	15	16	6	27	23	9	14	9	7	4	8	
Availability post Reallocation of 10 bays (%)		26%	29%	6%	26%	31%	7%	22%	24%	9%	40%	34%	13%	21%	13%	10%	6%	12%	

Conservatively assumes Meyrick Rd and West St (west of Meyrick Rd) is currently full at night, with all 17 existing spaces occupied.

Assumes no further car displacement from roads which are currently over 100%+ occupied.

Average Occupancy (%)	65.92%
Average Occupancy (Nr)	45
Average Availability (%)	34.08%
Average Availability (Nr)	23

Parking Survey	Capacity (Nr. Of 6m long parking spaces)	Results												Other observations
		26/09/2024			27/09/2024			30/09/2024			01/10/2024			
		09:00	13:00	17:00	09:00	13:00	17:00	09:00	13:00	17:00	09:00	13:00	17:00	
Meyrick Road														
Occupancy (Nr)	11	8	8	8	9	9	8	10	10	10	9	8	7	
Occupancy (%)		73%	73%	73%	82%	82%	73%	91%	91%	91%	82%	73%	64%	
Availability (Nr)		3	3	3	2	2	3	1	1	1	2	3	4	
Availability (%)		27%	27%	27%	18%	18%	27%	9%	9%	9%	18%	27%	36%	
West Street Access, (West of Meyrick Road)														
Occupancy (Nr)	12	8	6	9	9	7	9	10	9	10	9	9	7	
Occupancy (%)		80%	60%	90%	90%	70%	90%	100%	90%	100%	90%	90%	70%	
Availability (Nr)		4	6	3	3	5	3	2	3	2	3	3	5	
Availability (%)		20%	40%	10%	10%	30%	10%	0%	10%	0%	10%	10%	30%	
Ranelagh Road														
Occupancy (Nr)	10	6	8	11	4	5	15	8	9	14	6	5	11	
Occupancy (%)		60%	80%	110%	40%	50%	150%	80%	90%	140%	60%	50%	110%	
Availability (Nr)		4	2	-1	6	5	-5	2	1	-4	4	5	-1	
Availability (%)		40%	20%	-10%	60%	50%	-50%	20%	10%	-40%	40%	50%	-10%	
Brockhampton Road														
Occupancy (Nr)	20	13	13	13	12	12	15	16	16	14	15	19	16	
Occupancy (%)		65%	65%	65%	60%	60%	75%	80%	80%	70%	75%	95%	80%	
Availability (Nr)		7	7	7	8	8	5	4	4	6	5	1	4	
Availability (%)		35%	35%	35%	40%	40%	25%	20%	20%	30%	25%	5%	20%	
Knox Road														
Occupancy (Nr)	26	19	18	18	25	26	30	16	17	27	20	23	28	
Occupancy (%)		73%	69%	69%	96%	100%	115%	62%	65%	104%	77%	88%	108%	
Availability (Nr)		7	8	8	1	0	-4	10	9	-1	6	3	-2	
Availability (%)		27%	31%	31%	4%	0%	-15%	38%	35%	-4%	23%	12%	-8%	
West Street NWR (East of Meyrick Road)														
Occupancy (Nr)	6	6	6	5	5	5	3	7	5	5	6	7	5	
Occupancy (%)		100%	100%	83%	83%	83%	50%	117%	83%	83%	100%	117%	83%	
Availability (Nr)		0	0	1	1	1	3	-1	1	1	0	-1	1	
Availability (%)		0%	0%	17%	17%	17%	50%	-17%	17%	17%	0%	-17%	17%	
Totals														
Total Occupancy (Nr)	85	60	59	64	64	64	80	67	66	80	65	71	74	
Total Occupancy (%)		71%	69%	75%	75%	75%	94%	79%	78%	94%	76%	84%	87%	
Total Availability (Nr)		25	26	22	21	21	14	19	19	10	20	15	14	
Total Availability (%)		29%	31%	26%	25%	25%	16%	22%	22%	12%	24%	18%	16%	
Availability post Reallocation of 10 bays (Nr)		15	16	12	11	11	4	9	9	0	10	5	4	
Availability post Reallocation of 10 bays (%)		18%	27%	20%	17%	17%	6%	11%	13%	0%	13%	8%	6%	