

Cambridge Waste Water Treatment Plant Relocation Project
Anglian Water Services Limited

Appendix 19.10: Outline Operational Logistics Traffic Plan

Application Document Reference: 5.4.19.10
PINS Project Reference: WW010003
APFP Regulation No. 5(2)a

Revision No. 01
September 2023

Document Control

Document title	Outline Operational Logistics Traffic Plan
Version No.	01
Date Approved	29.09.23
Date 1st Issued	29.09.23

Version History

Version	Date	Author	Description of change
01	29.09.23	-	Procedural Decision 01

This document is issued for the party which commissioned it and for specific purposes connected with the above-captioned project only. It should not be relied upon by any other party or used for any other purpose.

We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

This document contains confidential information and proprietary intellectual property. It should not be shown to other parties without consent from us and from the party which commissioned it.

Contents

1	Introduction	1
1.1	Anglian Water Services Limited	1
1.2	Introduction to the relocation project	1
1.3	The relocation site	2
1.4	Purpose of the Proposed Development	2
1.5	Outline description of the Proposed Development	2
1.6	Environmental mitigation	6
1.7	Additional project benefits	6
1.8	Outline plan need	6
2	Plan Overview	8
2.1	Overview	8
2.2	Primary objectives	8
2.3	Structure	9
2.4	Plan requirements	9
2.5	Trip targets	10
3	Local Policy Overview	12
3.1	Introduction	12
3.2	Regional Policy	12
3.3	Local policy	13
4	Operational Site Usage	16
4.1	Access arrangements and layout	16
4.2	Working hours and delivery patterns	23
4.3	Frequency and size of vehicles accessing the Proposed WWTP	23
5	Objectives and Control Measures	25
5.1	Overview	25
5.2	OLTP objectives	25
5.3	Control measures	25
5.4	Responsibilities	28
6	Trip Rates, Monitoring and Data Collection	29
6.1	Predicted trip types	29
6.2	Operational vehicle movements	29

6.3	Maintenance activities	30
7	Plan Update.....	31
8	Monitoring and Reporting	32
8.1	Survey.....	32
8.2	ANPR data.....	32
8.3	Monitoring.....	32
9	Action Plan	34
	References	36
	Appendices	37
	Appendix A – Swept Path Drawings (Operational)	38

Tables

Table 2-1: Structure of outline OLTP	9
Table 4-1: Operation access points.....	22
Table 4-2: Assumed typical hourly profile for operational vehicle operational vehicles movements	23
Table 5-1: Secondary measures relating to traffic and transport impacts during the operational phases of the Proposed Development.....	26
Table 6-1: Operational staff movements	29
Table 6-2: Estimated future operational HGV movements (two way) at the proposed WWTP vs operational HGV movements (two way) at the existing Cambridge WWTP	30
Table 7-1: OLTP update trigger and milestone.....	31
Table 9-1: Action plan.....	35

Figures

Figure 4.1: Overview of proposed development.....	17
Figure 4.2: Proposed Waste Water Treatment Plant Layout Plan	18
Figure 4.3: Permanent access arrangements. arrangements	20

Summary

The Proposed Development is located 2km to the east of the existing Cambridge WWTP. The area is a rural environment to the edge of Cambridge with key strategic and local roads such as the A14 and the B1047 Horningsea Road.

This outline Operational Logistics Traffic Plan (OLTP) accompanies the application for development consent and sets the framework for the detailed plan OLTP to be prepared for the Proposed Development. The OTLP may be found as the 'Operational Logistics Transport Plan' elsewhere in the ES.

The implementation of a OLTP is to minimise impacts that the delivery and servicing of the Proposed Development will have on the surrounding transport network. This includes a reducing operational vehicle movements at peak times on the local road network, reducing emissions from vehicles, and operating in a way that maintains good relations with neighbours of the proposed WWTP.

The detailed OLTP will contain measures and techniques to reduce the impact of operation of the proposed WWTP on the road network and meet the outlined objectives. This will include setting out proposed targets, measures, and monitoring strategy for deliveries to and servicing of the proposed WWTP.

The detailed OTLP will be prepared prior to the start of operation and updated once the proposed WWTP is occupied, and initial baseline travel surveys have been conducted, which is expected to be within six months of operation.

1 Introduction

1.1 Anglian Water Services Limited

- 1.1.1 Anglian Water Services Limited (the 'Applicant') is the largest regulated water and water recycling company in England and Wales by geographic area, supplying water and water recycling services to almost seven million people in the East of England and Hartlepool.
- 1.1.2 The Applicant is committed to bringing environmental and social prosperity to the region they serve, through their commitment to Love Every Drop. As a purpose-led business, The Applicant seeks to contribute to the environmental and social wellbeing of the communities within which they operate. As one of the largest energy users in the East of England, they are also committed to reaching net zero carbon emissions by 2030.

1.2 Introduction to the relocation project

- 1.2.1 Anglian Water's Cambridge Waste Water Treatment Plant Relocation project (CWWTPRP) ("the Proposed Development") is funded by Homes England, the Government's housing accelerator which seeks to improve neighbourhoods and grow communities by releasing land for development.
- 1.2.2 The Proposed Development involves the relocation of the existing Cambridge Waste Water Treatment Plant (WWTP) currently operating at Cowley Road, Cambridge, to a new site between Horningsea, Fen Ditton and Stow cum Quy, adjacent to the A14 in Cambridgeshire.
- 1.2.3 The relocation would make the site of the existing WWTP available to form part of the development of a new low-carbon city district, known as North East Cambridge. The site at Cowley Road, is Cambridge's last major brownfield site, and the wider North East Cambridge district proposals envisage creating around 8,350 homes and 15,000 jobs over the next 20 years.
- 1.2.4 North East Cambridge is a highly sustainable location for housing. In addition to the Homes England funding, the area has benefitted from Transport Infrastructure Fund (TIF) funding for Park & Ride, the completion of Cambridge Guided Bus public transport infrastructure, the delivery of the Cambridge North rail station and the Chisholm Trail.
- 1.2.5 North East Cambridge is one of three key strategic sites which will form "*central building blocks of any future strategy for development*" in the proposed Greater Cambridge Local Plan being jointly prepared by Cambridge City Council and South Cambridgeshire District Council that will be subject to public consultation in Autumn 2023. The North East Cambridge Area Action Plan (AAP), currently in "Proposed Submission" form, will be the planning policy framework which ultimately guides the development of North East Cambridge city district.
- 1.2.6 The importance of the Proposed Development, both regionally and nationally, was recognised by the Secretary of State for Environment, Food and Rural Affairs (DEFRA)

in January 2021, who directed that the Proposed Development is nationally significant and is to be treated as a development for which a Development Consent Order (DCO) is required (see Appendix 1-3 of the Planning Statement, App Doc Ref 7.5).

- 1.2.7 The policy context of the Proposed Development is described in more detail in the Planning Statement (Application Document Reference 7.5)

1.3 The relocation site

- 1.3.1 The relocation site was selected following comprehensive study and public consultation. The site selection process and consideration of alternatives is described in more detail in Chapter 3: Alternatives of the Environmental Statement (App Doc Ref 5.2.3).
- 1.3.2 The current environmental conditions at the existing Cambridge WWTP site and at the relocation site are described in Chapter 2: Project Description of the Environmental Statement (App Doc Ref 5.2.2). The site is located to the north-east of Cambridge and 2km to the east of the existing Cambridge WWTP, as shown on the Works Plans (App Doc Ref 4.3.1). It is situated on arable farmland immediately north of the A14 and east of the B1047 Horningsea Road in the green belt between the villages of Horningsea to the north, Stow cum Quy to the east and Fen Ditton to the south west. Two overhead lines of pylons cross the northern and eastern edges of the main development site and come together with a third line at the north eastern corner of the site. The topography is fairly flat with an approximately 4m fall across the site south west to north east.

1.4 Purpose of the Proposed Development

- 1.4.1 The Proposed Development for which the DCO is being sought will deliver all the functions of the existing Cambridge WWTP at Cowley Road, treating all waste water from the Cambridge catchment and wet sludge from the wider region.
- 1.4.2 In addition, it will have an increased capacity, being intended to treat the waste water from the Waterbeach catchment and anticipated housing growth in the combined Cambridge and Waterbeach catchment area.
- 1.4.3 The infrastructure provided as part of the main works will have a design life to at least 2090, and the supporting infrastructure (i.e., the transfer tunnel, pipelines and outfall) will have a designed capacity sufficient to meet population growth projections plus an allowance for climate change into the 2080s. Furthermore, there is capability for expansion in space that has been provided within the earth bank and by modification, enhancement and optimisation of the design to accommodate anticipated flows into the early 2100s.

1.5 Outline description of the Proposed Development

- 1.5.1 The DCO application is seeking approval for the following main elements of the Proposed Development:
- an integrated waste water and sludge treatment plant.

- a shaft to intercept waste water at the existing Cambridge WWTP on Cowley Road and a tunnel/ pipeline to transfer it to the proposed WWTP and terminal pumping station. Temporary intermediate shafts to launch and recover the micro-tunnel boring machine.
- a gravity pipeline transferring treated waste water from the proposed WWTP to a discharge point on the River Cam and a pipeline for storm water overflows.
- a twin pipeline transferring waste water from Waterbeach to the existing Cambridge WWTP, with the option of a connection direct in to the proposed WWTP when the existing works is decommissioned.
- on-site buildings, including - a Gateway Building with incorporated Discovery Centre, substation building, workshop, vehicle parking including electrical vehicle charging points, fencing and lighting.
- environmental mitigation and enhancements including substantial biodiversity net gain, improved habitats for wildlife, extensive landscaping, a landscaped earth bank enclosing the proposed WWTP, climate resilient drainage system and improved recreational access and connectivity.
- renewable energy generation via anaerobic digestion which is part of the sludge treatment process that produces biogas designed to be able to feed directly into the local gas network to heat homes, or as an alternative potential future option burnt in combined heat and power engines.
- renewable energy generation via solar photovoltaic and associated battery energy storage system.
- other ancillary development such as internal site access, utilities, including gas, electricity and communications and connection to the site drainage system.
- a new vehicle access from Horningsea Road including for Heavy Goods Vehicles (HGV's) bringing sludge onto the site for treatment and other site traffic.
- Temporary construction works including compounds, temporary highway controls, accesses and signage, fencing and gates, security and safety measures, lighting, welfare facilities, communication control and telemetry infrastructure.
- Decommissioning works to the existing Cambridge WWTP to cease its existing operational function and to facilitate the surrender of its operational permits including removal of pumps, isolation of plant, electrical connections and pipework, filling and capping of pipework, cleaning of tanks, pipes, screens and other structures, plant and machinery, works to decommission the potable water supply and works to restrict access to walkways, plant and machinery.

- 1.5.2 Additional elements, together with more information on the above features are provided in Chapter 2: Project Description of the Environmental Statement (App Doc Ref 5.2.2). Principles of Good Design have been used to inform the development of the project, which has been guided by the National Infrastructure Commission's Design Principles, advice from the Design Council and review by the Cambridgeshire Quality Panel, as described in the Design and Access Statement (App Doc Ref 7.6).
- 1.5.3 Construction activities, likely to take 3-4 years, will include the creation of a shaft to intercept waste water at the existing Cambridge WWTP and temporary intermediate shafts between the existing Cambridge WWTP and the proposed WWTP to launch and recover a micro-tunnel boring machine. The sequence and location of construction activities are also detailed in Chapter 2: Project Description of the Environmental Statement (App Doc Ref 5.2.2).
- 1.5.4 Towards the end of the construction period, commissioning of the Proposed Development will commence, lasting for between 6 months and 1 year.
- 1.5.5 The Proposed Development will also involve the decommissioning of the existing Cambridge WWTP at Cowley Road. This is secured by the Development Consent Order and the Outline Decommissioning Plan (Appendix 2.3, App Doc Ref 5.4.2.3) and involves activities necessary to take the existing plant out of operational use and to surrender its current operational permits.
- 1.5.6 Following decommissioning, the site of the existing plant will be made available in accordance with agreements already in place with Homes England and with the master developer appointed to deliver the redevelopment of North East Cambridge
- 1.5.7 Consent is not sought under the Development Consent Order for the subsequent demolition or redevelopment of the Cowley Road site, which, as described in Chapter 2: Project Description of the Environmental Statement (App Doc Ref 5.2.2) will be consented under a separate and future planning permission, by master developers, U+I and TOWN, appointed under the agreements described above.
- 1.5.8 The relationship between the Proposed Development, the scope of the proposed DCO and the future demolition and redevelopment of the site at Cowley Road is set out in Figure 1.1, below.

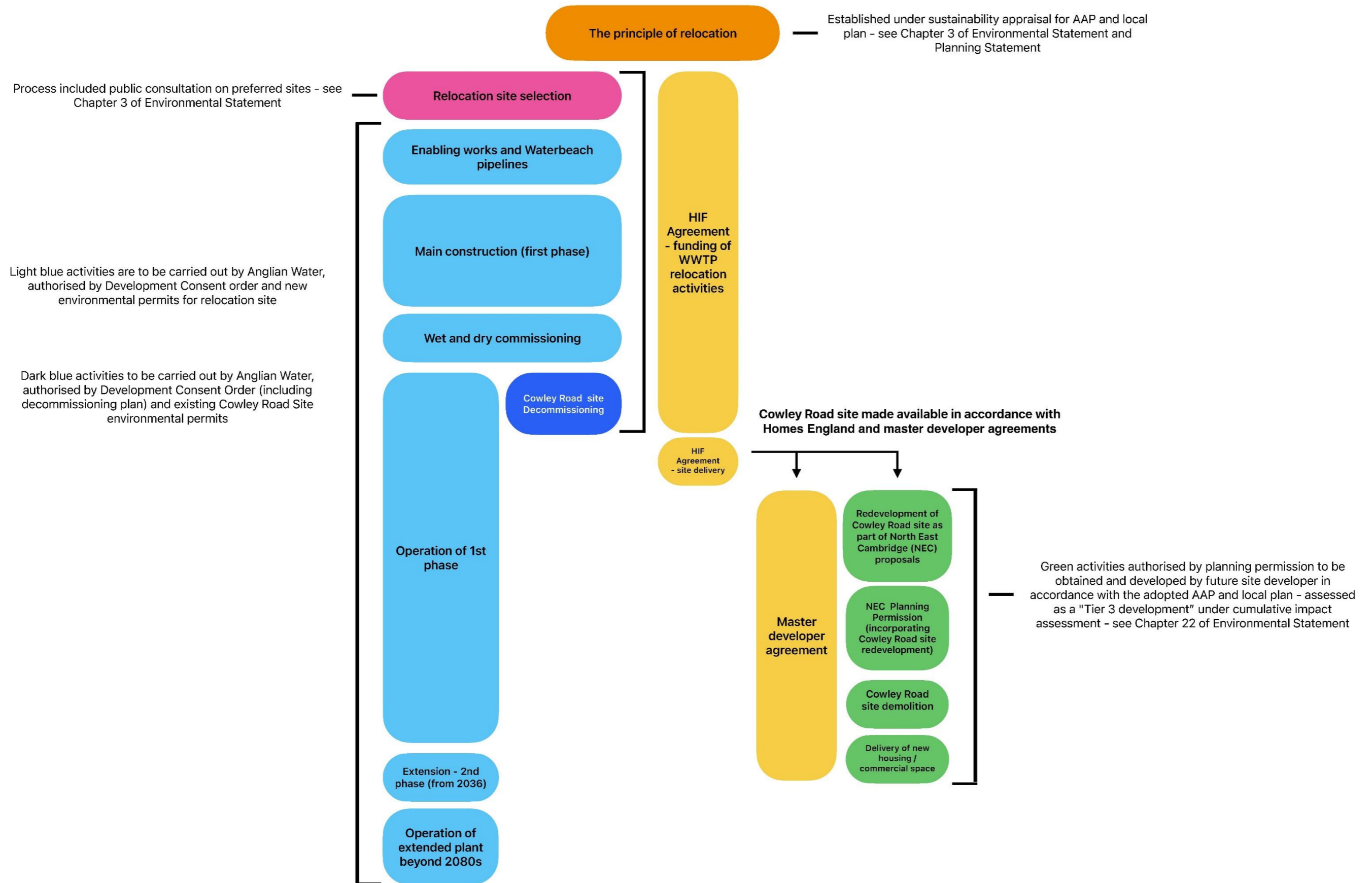


Figure 1.1: Scope of the draft DCO and the future demolition and redevelopment of the site at Cowley Road

1.6 Environmental mitigation

- 1.6.1 Through the environmental impact assessment process and community and technical stakeholder engagement the Proposed Development has incorporated comprehensive environmental mitigation, secured through the Development Consent Order.
- 1.6.2 This mitigation includes a Landscape, Ecological and Recreational Management Plan ("LERMP", Appendix 8.14, App Doc Ref 5.4.8.14) has been developed to complement regional and local initiatives, including the Wicken Fen Vision and the Cambridge Nature Network. The 22-hectare footprint of the plant is encircled by a landscaped and planted earth bank situated within the broader LERMP area of around 70-hectares.

1.7 Additional project benefits

- 1.7.1 In addition to enabling housing growth and future economic development of the Greater Cambridge area the project will also give rise to a number of additional benefits including:
- significantly reduced carbon emissions compared to the existing Cambridge WWTP, being operationally net zero and energy neutral, contributing to Anglian Water's ambition of being operationally net zero as a business by 2030;
 - greater resilience and improved storm management, meaning storm overflows and Combined Sewer Overflows (CSOs) are far less likely to occur. This means that, as Greater Cambridge continues to grow, the facility will be able to treat a greater volume of storm flows to a higher standard than would be the case at today's facility; and
 - The proposed WWTP is being designed to reduce concentration in final treated effluent discharges of phosphorus, ammonia, total suspended solids and biological oxygen demand (BOD), compared to the existing Cambridge WWTP. This means that when the new facility starts to operate, water quality in the River Cam will improve.

1.8 Outline plan need

- 1.8.1 This document has been prepared to provide detail in relation to the mitigation measures proposed to limit the operational impact of delay to users of the local road network as a result of operational vehicle movements associated with the proposed WWTP.
- 1.8.2 The ES Chapter 19: Traffic and Transport (App Doc Ref 5.2.19) specifies measures are needed in relation to eliminating a major significant effect on driver delay as a result of operational traffic movements.
- 1.8.3 The assessment of operational movements considered a number of assumptions:

- The model only considers the AM and PM peak hours (08:00-09:00 and 17:00-18:00);
 - Operation Logistics Traffic Plan (OLTP) mitigation measures would be produced setting out restrictions on operational HGV movements through Horningsea and Fen Ditton and the management of HGV arrivals and departures during peak hours;
 - Operational traffic would primarily make use of the Strategic Road Network and primary road network, such as the A14 and A10;
 - On the A14, it has been assumed that 50% of operational traffic would originate from the west and 50% from the east when travelling to work sites, this is based on operational HGV vehicle movements related to the existing Cambridge WWTP;
 - Overnight deliveries would account for 30% of the HGV traffic entering and exiting the site, this is based on the operational vehicle movement pattern experienced at the existing Cambridge WWTP; and
 - To account for operational deliveries, worker movements and worker mobilisation, a standard 8-hour working day has been calculated which includes the peak hour restrictions that would be set out by the OLTP. An 8-hour working day is what remains once worker mobilisation and OLTP restrictions have been accounted for.
- 1.8.4 The monitoring as part of the OLTP will therefore be used to verify the outcomes of the assessment and the assumptions made.
- 1.8.5 The outline plan will be developed into a detailed plan prior to the start of operation. It will take into account approved detailed design in particular in relation to the main site access and internal road layouts as well as any refinement in relation to the timing and types of servicing and delivery patterns expected at the proposed WWTP. The plan will set out details of HGV delivery times and HGV routing and monitoring proposals and the detailed plan must be submitted to and approved in writing by the relevant planning authority.

2 Plan Overview

2.1 Overview

- 2.1.1 The Operational Transport Logistics Plan (OLTP) is a tool to be used to minimise the operational impacts of vehicle movements associated with the operation of the Proposed Development. This plan considers the use of the local transport networks for the purpose of deliveries and servicing in association with the operation of the proposed WWTP.
- 2.1.2 An OLTP is to be used to manage the operational vehicle movements to and from a site including deliveries and servicing made to the site to avoid and reduce impacts to local road users. The OLTP also provide the local highway authority (LHA) the surety that the operational vehicular requirements of the site will not compromise the safe and efficient use of the local transport networks.
- 2.1.3 The following document is an outline OLTP with the detailed plan to be prepared prior to operation. This outline OLTP will identify the principles for a reasonable and safe approach to managing the delivery and servicing impacts of the Proposed Development during the operational phase and will be followed where necessary by staff, those undertaking deliveries to the proposed WWTP, and appointed contractors working periodically at the Proposed Development.
- 2.1.4 This outline OLTP will detail measures and techniques to reduce the impact of site operations on the road network. This will include timing site deliveries to outside of peak hours and promoting the use of promoting the use of low or zero emission vehicles to reduce vehicle emissions.
- 2.1.5 This document and the information within it will form the basis of a final and detailed OLTP to be developed following the completion of detailed design for the Proposed Development. The Applicant will plan delivery, servicing, and maintenance activities to comply with the requirements as set out in this document.

2.2 Primary objectives

- 2.2.1 The primary objectives which are of most relevance during the operational phase of the Proposed Development are:
- to minimise the impacts of delivery and servicing movements at the proposed WWTP;
 - a reduction of local traffic levels/congestion on the local road network around the proposed WWTP, including at the proposed permanent access junction on Horningsea Road;
 - reduce emissions by promoting the use of low or zero emission vehicles for delivery and servicing, in line with Anglian Water's net zero strategy to 2030 (Anglian Water, 2020); and
 - maintain good relations with neighbours of the proposed WWTP.

2.3 Structure

2.3.1 The outline OLTP is structure is indicated in **Table 2-1**: as follows:

Table 2-1: Structure of outline OLTP

Section	Content
1 Introduction	Background to the Proposed Development
2 Plan Overview	Overview of the OLTP objectives, plan requirements and SMART (Specific, Measurable, Agreed, Realistic, Timely) trip targets
3 Local Policy Overview	Overview of relevant national, regional, and local transport policy relevant to the OLTP
4 Operational Site Usage	Overview of the Proposed Development access and egress points, vehicle parking, and other access points relating to the operation of relevant WWTP infrastructure
5 Objectives and Control Measures	Outline of the OLTP’s objectives SMART control measures for reducing the impacts of delivery and servicing of the Proposed Development on the local transport network
6 Trip Rates, Monitoring and Data Collection	Data on expected trip rates for delivery and servicing of the proposed WWTP
7 Plan Update	Outline of how the OLTP will be updated to mitigate expected operational impacts, including any identified during the project’s construction
8 Monitoring and Reporting	An overview of how the OLTP will be managed and monitored
9 Action Plan	An action plan providing a high level overview of the outline OLTP measures and monitoring frequency

2.3.2 This outline OLTP has been developed using the Cambridgeshire County Council Heavy Goods Vehicle Policy (Cambridgeshire County Council, 2022) and Transport for London’s Delivery and Servicing Plan Guidance (Transport for London, 2020) document.

2.4 Plan requirements

2.4.1 The requirements for the OLTP are to set out measures as to how impacts of the delivery and servicing movements that are required for operation of the proposed WWTP are minimised.

2.4.2 The OLTP covers the Proposed Development in its entirety. However, the majority of delivery and servicing activities will take place at the proposed WWTP. A low number of vehicles would be required for ad hoc maintenance along the treated effluent tunnel, outfall, and transfer tunnel as and when required and would consist of 1 or 2 LGVs to carry out the tasks required. The type and frequency of maintenance

activities along the pipeline is expected to be low with only occasional visits required.

2.5 Trip targets

- 2.5.1 The measures put forward within this OLTP aim to be SMART and easily interpreted, implemented, and monitored.
- 2.5.2 As the Proposed Development will be critical infrastructure and operate continuously, it may not be possible to reduce the total number of delivery and servicing trips to the proposed WWTP during its operational phase. However, the OLTP will look at managing that total number of vehicles to minimise the impact on the local area.
- 2.5.3 All the delivery and servicing activities will take place within a main internal site which is located away from the public highway. This will minimise the direct impact that delivery and servicing activities will have on the surrounding highway network.
- 2.5.4 Based on the existing trip rates, the proposed OLTP measures, and Anglian Water's net zero strategy to 2030 (Anglian Water, 2020), the following targets have been developed to support the objectives of the OLTP:
- by 2030 (2 years following the commencement of operations at the Proposed Development), 90% of all the Light Goods Vehicles (LGV) servicing the site will be EVs, in line with AW's net zero strategy to 2030;
 - by 2030 (2 years following the commencement of operations at the Proposed Development) 55% of the HGV fleet servicing the site will be liquified natural gas (LNG) fuelled, in line with AW's net zero strategy to 2030; and
 - by 2033 (5 years following the commencement of operations at the Proposed Development) the number of EV charging points will be increased by 30% in line with Operational Workers Travel Plan requirements (App Doc Ref 5.4.19.8).

Mitigation measures summary

- 2.5.5 A detailed description of the mitigation measures included as part of the OLTP is provided in Section 5. A summary of these measures is provided below:
- Out of peak delivery periods (minimal deliveries during 08:00-09:00 and 17:00-18:00);
 - Restricting HGV travel through Horningsea and Fen Ditton;
 - Best practice for vehicle drivers, including assuring that AW staff, those undertaking deliveries to the Proposed Development, and appointed contractors working periodically at the Proposed Development are signed up to the Cambridgeshire County Council HGV Covenant.

- Best practice for vehicle drivers, including assuring that AW staff, those undertaking deliveries to the Proposed Development, and appointed contractors working periodically at the Proposed Development are signed up to the Cambridgeshire County Council HGV Covenant;
- A shift to low and zero emission vehicle fleets supported in part by an increase EV parking provision within the proposed WWTP;
- An Operational Workers Travel Plan (OWTP) (App Doc Ref 5.4.19.8).; and
- Continued engagement in the local community and with the Emergency Services

3 Local Policy Overview

3.1 Introduction

- 3.1.1 The outline OLTP has been informed by a review of relevant local policy documents, which is summarised in this section of the document.
- 3.1.2 An update to the policy review should be completed at the time the detailed OLTP is prepared and for subsequent updates.

3.2 Regional Policy

Cambridgeshire and Peterborough Minerals and Waste Local Plan

- 3.2.1 The Cambridgeshire and Peterborough Minerals and Waste Local Plan (Cambridgeshire County Council, 2021) was adopted by Cambridgeshire and Peterborough Council on 28 July 2021. It sets out policies to guide mineral and waste management developments.
- 3.2.2 The objectives of the Minerals and Waste Local Plan are:
- ensure a steady supply of minerals (construction materials) to supply the growth that is planned for the area; and
 - enable to have new modern waste management facilities, to manage waste in a better way.
- 3.2.3 New mineral and waste management developments must:
- provide appropriate opportunities to promote sustainable transport modes can be, or have been, taken up, to the degree reasonably available given the type of development and its location. If, at the point of application, commercially available electric Heavy Commercial Vehicles (HCVs) are reasonably available, then development which would increase HCV movements should provide appropriate electric vehicle charging infrastructure for HCVs;
 - provide safe and suitable access to the site can be achieved for all users of the subsequent development;
 - mitigate any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety; and
 - develop binding agreements covering lorry routing arrangements and/or HCV signage for mineral and waste traffic. If any such agreements are necessary and reasonable to make a development acceptable.
- 3.2.4 All new development proposals must demonstrate how the latest identified HCV Route Network is, and where reasonable and practical to develop it.

- 3.2.5 During all phases of development, including construction, operation and restoration, proposals must take provision for suitable and appropriate diversions to affect PRow.

Cambridgeshire Local Transport Plan (2011-2031) (Cambridgeshire County Council, 2015)

- 3.2.6 The Cambridgeshire Local Transport Plan (LTP) (Cambridgeshire County Council, 2020) was published in January 2020 and replaced the Interim Local Travel Plans. The Plan describes how transport interventions can be used to address current and future challenges and opportunities for Cambridgeshire and Peterborough. The document requires “healthy streets” and quality public realms that puts people first and promotes active lifestyles.
- 3.2.7 The Cambridgeshire LTP addresses Cambridgeshire County Council’s overarching priorities. These include:
- Supporting and protecting people when they need it most;
 - Helping people to live independent and healthy lives in their communities; and
 - Developing the local economy for the benefit of all.

3.3 Local policy

The Cambridge Local Plan (Cambridge City Council, 2022)

- 3.3.1 The Cambridge Local Plan replaced the Cambridge Local Plan 2006 and sets out policies and proposals for future development and spatial planning requirements to 2031.
- 3.3.2 A Travel Plan should provide opportunities taken to mitigate negative transport impact of a development. It includes financial contributions towards schemes approved by the City and County Councils for any necessary improvements required as a result of development. The existing conditions on the wider transport network and any increase in demand over and above the existing use levels need to be considered.
- 3.3.3 Mitigation measures are to be secured through planning obligations where essential site-specific measures are required. The infrastructure resulting from these contributions should be provided in a timely manner, to meet the first occupation of the site in order to influence travel behavior from the earlier opportunity.
- 3.3.4 Any development should include a comprehensive transport strategy for the site, incorporating a sustainable transport plan to minimise reliance on private cars.
- 3.3.5 Existing footpaths that cross the site should be retained where possible. To offer more sustainable travel choices, cycling and walking infrastructure improvements should be adopted.

- 3.3.6 The Council strongly supports contributions to and provision for car clubs at new developments to help reduce the need for private parking.

Cambridge Draft Local Transport and Connectivity Plan (Cambridgeshire & Peterborough Combined Authority, 2022)

- 3.3.7 This strategy sets out a vision and a framework to deliver a modern, integrated and digitally connected transport system for the people and businesses of Cambridgeshire and Peterborough. The document is an update to the first Local Transport Plan (LTP) for Cambridgeshire and Peterborough published in 2020. This Local Transport and Connectivity Plan (LTCP) helps to shape the overarching direction of travel for transport, the associated schemes and also ensures that when projects are brought forward these strongly align with our key objectives and thus help us to achieve our vision, aims and aspirations.

- 3.3.8 The draft LTCP's key objectives are:

- Truly reflecting Cambridgeshire and Peterborough's Sustainable Growth Ambition Statement. This LTCP identifies how they are driven by our ambitions for capital development under each of the themes, and include outcome indicators to show how they will deliver against those themes;
- In conjunction with Cambridgeshire and Peterborough's Assurance Framework, providing a rigorous process for transport scheme prioritisation and development, which will ensure that investment is directed to those areas where it can contribute most to the wellbeing of the area; and
- Setting the framework for a Delivery Plan to be adhered to and monitored that sets out Cambridgeshire and Peterborough's spending programme, based on the resources available. The Delivery Plans will be reviewed annually through the Medium - Term Financial Planning process.

- 3.3.9 The draft LTCP's objectives will be realised through achieving the following ambitions:

- Doubling the size of the local economy over 25 years;
- Accelerating house building rates to meet the local and UK need;
- Delivering outstanding and much needed connectivity in terms of transport and digital links;
- Transforming public service delivery to be much more seamless and responsive to local need;
- Growing international recognition for our knowledge-based economy;
- Improving quality of life by tackling areas suffering from deprivation; and
- Providing the UK's most technical skilled workforce.

- 3.3.10 The LTCP's vision guides the overall direction of this strategy:

- Productivity: giving both employers and people the means to achieve more of their potential, making them more efficient and more innovative to create more prosperity;
- Connectivity: people and communities are brought closer together, giving more opportunity for work, education, leisure, and pleasure;
- Climate: successfully and fairly reducing emissions to net zero by 2050;
- Environment: protecting and improving Cambridgeshire and Peterborough's green spaces and improving nature with a well-planned and good quality transport network;
- Health: improved health and wellbeing enabled through better connectivity, greater access to healthier journeys and lifestyles and delivering stronger, fairer, more resilient communities.

4 Operational Site Usage

4.1 Access arrangements and layout

Plans

4.1.1 Figure 4.1 shows the location and extent of the Proposed Development. Figure 4.2 shows the proposed WWTP layout in more detail, illustrating where the HGV parking within the site is allocated. The Detailed Design – Highways (Application Doc Ref 4.11) provide details on the proposed access and visitor car parking:

- Horningsea Road and proposed WWTP Access Layout Plan – Sheet 1 (Application Doc Ref 4.11.1);
- Horningsea Road Works Cross Sections – Sheet 3 (Application Doc Ref 4.11.3); and
- Proposed WWTP Entrance and Visitor Car Park Layout Plan – Sheet 5 (Application Doc Ref 4.11.5).

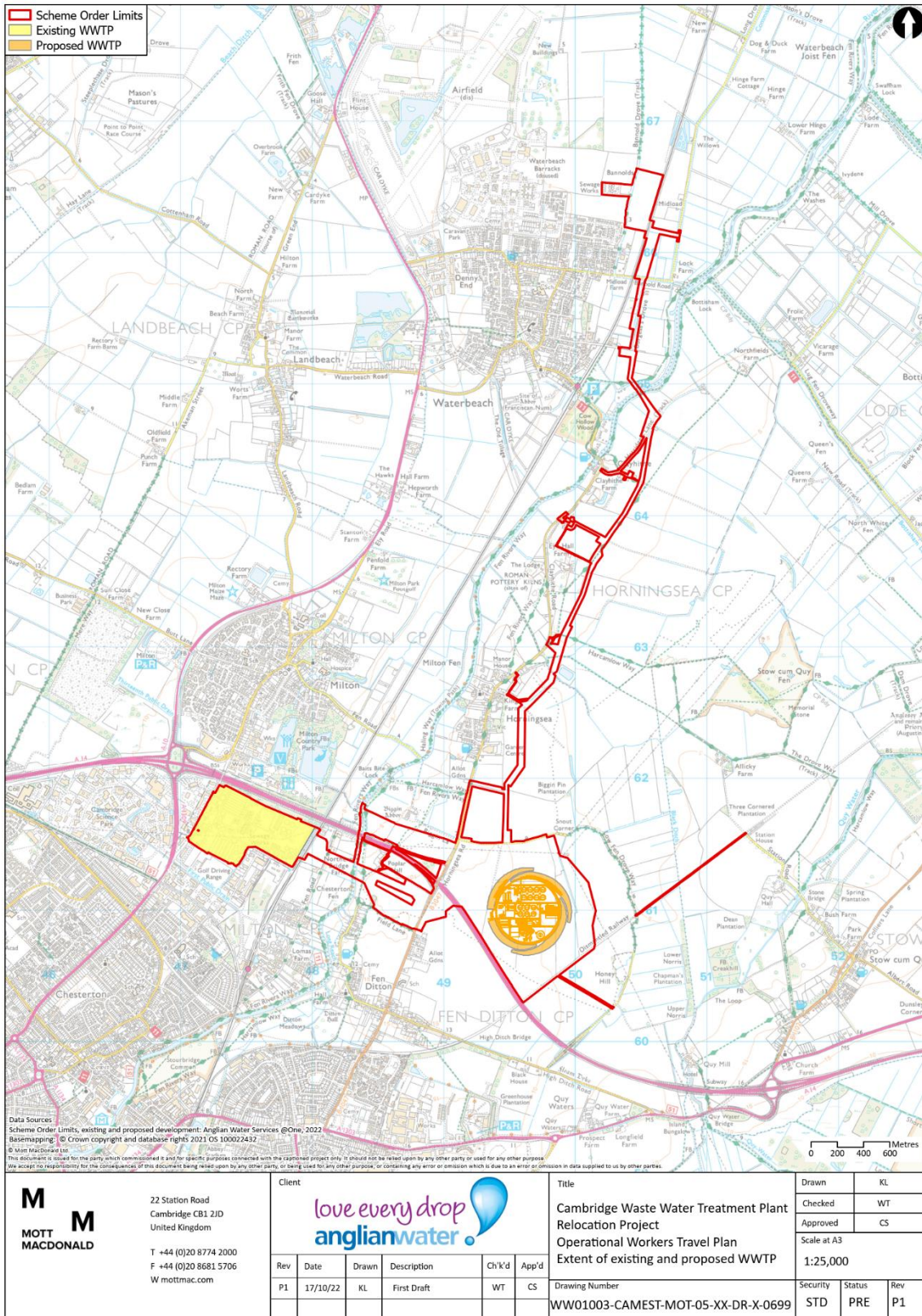


Figure 4.1: Overview of proposed development

Cambridge Waste Water Treatment Plant Relocation Project
Outline Operational Logistics Traffic Plan

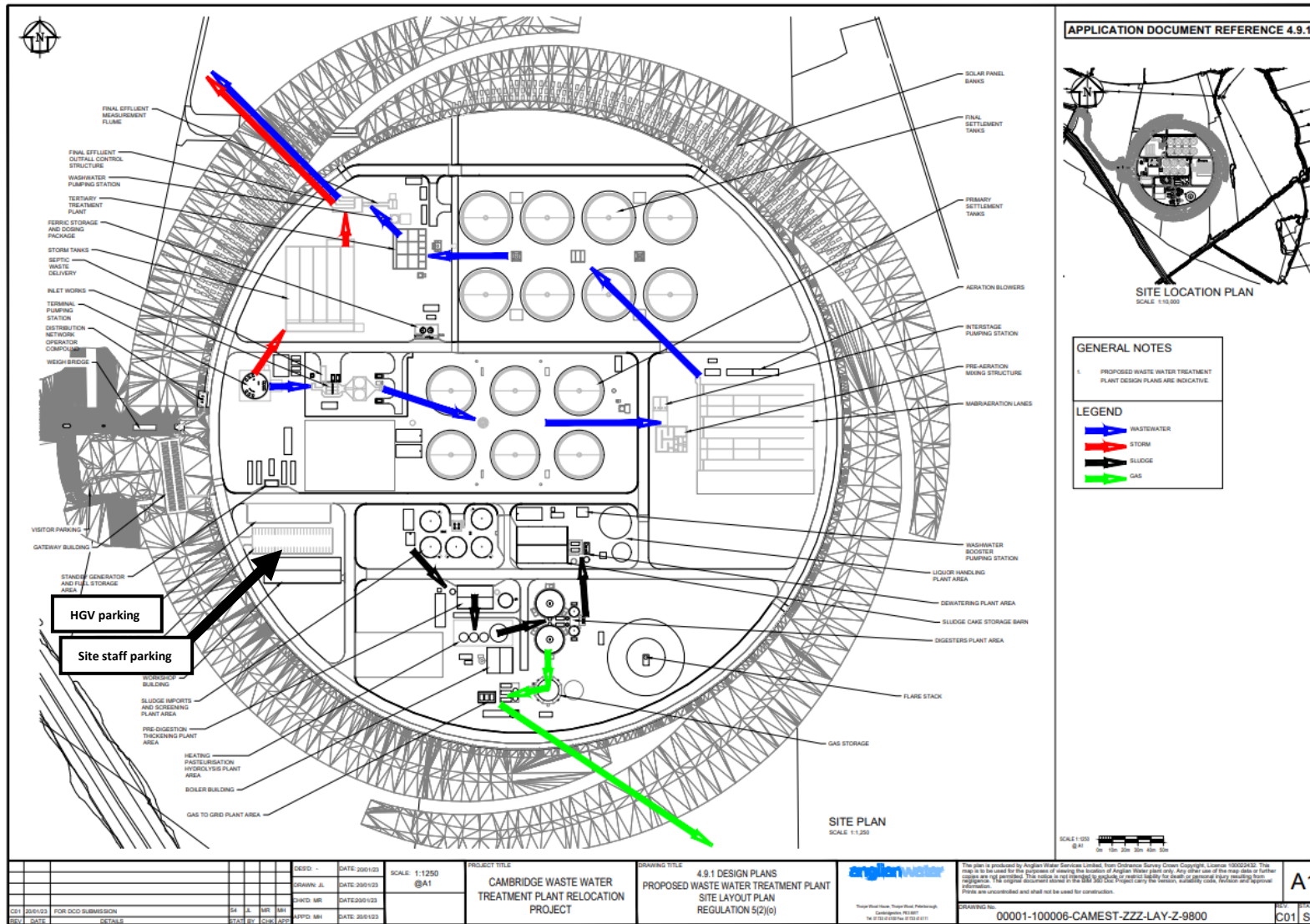


Figure 4.2: Proposed Waste Water Treatment Plant Layout Plan

Access and egress

- 4.1.2 Access to the proposed WWTP will be via the proposed access road from Horningsea Road, which leads to the Gateway Building car park and the Main Site Entrance. The permanent access arrangements, including the proposed four-arm signalised junction is indicated in Figure 4.3.
- 4.1.3 At the proposed four-arm signalised junction on Horningsea Road forming the new access to the Proposed Development, the physical layout (kerbs / traffic islands etc) has been designed to deter the following turning movements:
- Right turn for northbound traffic on Horningsea Road into site;
 - Left turn for southbound traffic on Horningsea Road into site; and
 - Right turn for operational traffic exiting the Proposed Development onto Horningsea Road.
- 4.1.4 The principal reason for the restrictions designed into the four-arm junction on Horningsea Road is to avoid additional HGV movements to and from Horningsea and Fen Ditton and encouraging adherence to operational access routes.

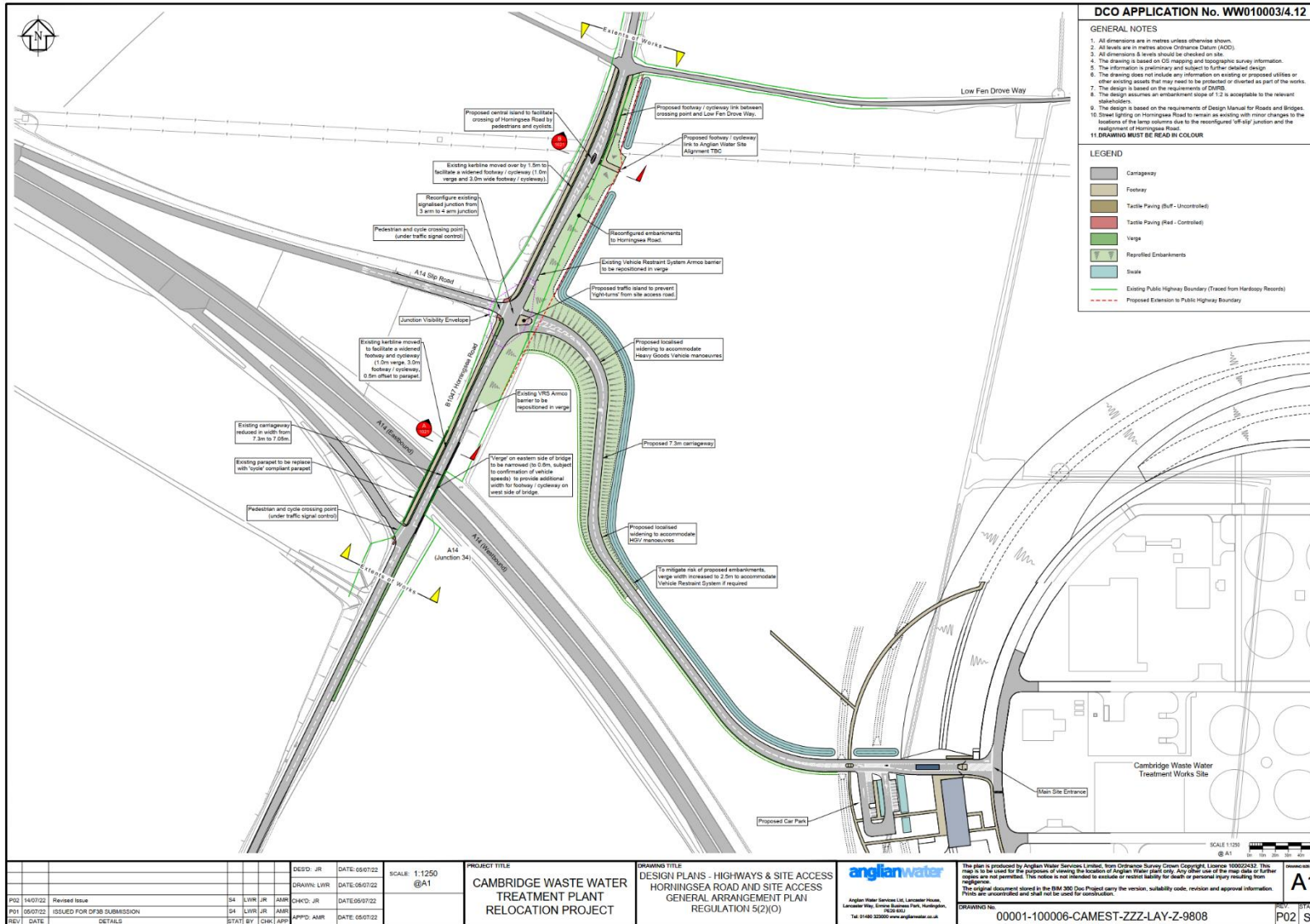


Figure 4.3: Permanent access arrangements. arrangements

Internal road network

- 4.1.5 Within the proposed WWTP, a perimeter road is proposed which will run along the internal boundary of the site within the raised embankments. This will provide access to other internal roads, allowing for vehicular access to different areas of the plant for operational purposes. A plan of the internal road layout, including HGV and staff parking areas can be seen in Figure 4.2.
- 4.1.6 The design of the internal road network has taken account of all operational requirements and provide suitable vehicular access including appropriate turning areas and hard standing areas for a properly functioning and safe site.
- 4.1.7 Roads (including turning areas) with heavy vehicle movements will be of a concrete construction. Roads where vehicle movements are deemed to be lighter and do not require containment are likely to be of a permeable material construction (block paving or similar). Car parking areas are likely to be constructed either with a heavy-duty permeable block paving or a grass reinforcement system base.
- 4.1.8 The full layout of the internal road network will be finalised at the detailed design stage.

Site parking and delivery and servicing facilities

- 4.1.9 Within the proposed WWTP, ancillary work offices, a substation building, and vehicle parking will be provided. The number of vehicle parking spaces provided for the site are outlined as follows:
- 10 spaces for cars to be used by Anglian Water Services (AWS) staff and for visitor parking;
 - 10 spaces for AWS vans;
 - 51 spaces for cars to be used by Recycling Environmental Services (RES) staff, including electric vehicle (EV) charging points; and
 - 20 visitor centre car parking spaces, including one coach parking space.
- 4.1.10 Parking spaces relating to the operational requirements of the proposed WWTP will be provided as follows:
- 10 spaces for AWS vans;
 - seven spaces for articulated lorries; and,
 - three spaces for trailers.
- 4.1.11 The proposed WWTP site will have provision of 23 spaces with EV chargers. Passive provision for a further 30% at each location will be provided, as per the policy, and will be developed as part of the Travel Plan requirements.

Other operational access points

- 4.1.12 Alongside the proposed WWTP access from Horningsea Road shown in Access and Traffic Regulation Order Plans (App Doc Ref 4.7). The Proposed Development will also include operational access points serving the treated effluent tunnel and outfall, and the transfer tunnel.
- 4.1.13 These operational access points are required for ad hoc maintenance as and when required and consist of 1 or 2 LGVs to carry out the tasks required. The type and frequency of maintenance activities along the pipeline is expected to be low with only occasional visits required.
- 4.1.14 The access points are summarised in Table 4-1. Further detail can be found in the Access and Traffic Regulation Order Plans (App Doc Ref 4.7).

Table 4-1: Operation access points

Access point reference	Location
COA1	Cowley Road access point
OA1	Fen Road west side
OA2	B1047 Horningsea Road eastern side
COA2	1047 Horningsea Road, west side, existing track
COA3	Low Fen Drove Way (LFDW), at junction of Horningsea Road
COA4	LFDW south side
COA5	LFDW north side
OA3	Track from Gayton Farm
OA4	Clayhithe Road, by Gayton House, existing access track
COA6	Horningsea Road (opposite cemetery)
COA7	Access track east of OA3
OA5	Layby on Clayhithe Road
COA8	Track across from Grange Farm
COA9	Grange Farm Access
OA6	Track access around Grange Farm
COA10	Track access near COA8
OA7	Hatridge's Lane (near farm access)
COA11	Hatridge's Lane
COA12	Burgess Drove (southern end by level crossing)
COA13	Burgess Drove (eastern side)
COA14	Bannold Road
COA15	Bannold Drove, near railway lane
COA16	Bannold Drove (west side)
COA17	Bannold Drove (east side)
COA18	Waterbeach WRC

Source: Transport Assessment (Application Document Reference 5.4.19.3)

Swept paths

4.1.15 Swept path drawings for each access point location are provided in Appendix A. These demonstrate that safe entry and egress manoeuvres can be undertaken by vehicles involved in operational and maintenance activities.

4.2 Working hours and delivery patterns

- 4.2.1 The Proposed Development will be critical infrastructure and operate continuously. The operational vehicle movements will be similar to the existing Cambridge WWTP with the majority of vehicle movements occurring during the daytime.
- 4.2.2 To account for operational deliveries, worker movements and worker mobilisation, a standard 8-hour working day has been calculated which includes the peak hour restrictions set out by Chapter 5 of this document. An 8-hour working day is what remains once worker mobilisation and OLTP restrictions have been accounted for.
- 4.2.3 The working hours for the office located within the site will be standard working hours for office-based staff, which is 09:00 to 18:00.
- 4.2.4 Overnight deliveries account for 30% of the HGV traffic entering and exiting the site, this is based on the current operational vehicle movement pattern at the existing Cambridge WWTP.
- 4.2.5 On the A14, 50% of operational traffic has been assumed to originate from the west and 50% from the east when travelling to work sites, this is based on operational HGV vehicle movements related to the existing Cambridge WWTP.

4.3 Frequency and size of vehicles accessing the proposed WWTP

4.3.1 Operational traffic to and from the Proposed Development will consist of cars, LGVs, and HGVs. The average daily and peak hour movements are summarised in Table 4-2.

Table 4-2: Assumed typical hourly profile for operational vehicle operational vehicles movements

Hours	HGV	Daily deliveries / supervisor movements (cars and LGV)	office workers (cars and LGV)
Out of hours (overnight)	48	0	0
7-8am	12	4	0
8-9am (peak AM no operational traffic)	0	0	30
9-10am	12	4	0
10-11am	12	4	0
11am - 12pm	12	4	0
12 - 1pm	12	4	0
1 -2pm	12	4	0
2 -3pm	12	4	0

Hours	HGV	Daily deliveries / supervisor movements (cars and LGV)	office workers (cars and LGV)
3 - 4pm (school peak no operational traffic)	0	0	0
4 - 5pm	12	4	0
5 - 6pm (PM peak no operational traffic)	0	0	30
Total	146	32	60

Source: Chapter 2: Project Description (Application Document Reference 5.2.2)

- 4.3.2 Car and LGV movements will include site technicians, managers for treatment processes, maintenance activities, other technical support, and office staff.
- 4.3.3 HGV movements will include liquid sludge imports, biosolids exports, non-routing tanker movements and septic waste movements.

5 Objectives and Control Measures

5.1 Overview

- 5.1.1 This section sets out management strategies to be implemented during the operational phase of the Proposed Development to reduce the impact of deliveries and servicing on the surrounding highway network. These strategies will be reviewed and updated by the Applicant to ensure their appropriateness for the Proposed Development at this site. Additional strategies will be added to this OLTP where necessary to ensure the impact of the scheme are managed appropriately. These will assist in reducing the environmental impact of the Proposed Development, alongside improving safety, and reducing the impact on the transport network.
- 5.1.2 The measures put forward here aim to be SMART and easily interpreted, implemented, and monitored.
- 5.1.3 The measures provided in this outline OLTP will be monitored following the commencement of operations at the Proposed Development, and adjustments to its policies and targets will be made where required.

5.2 OLTP objectives

- 5.2.1 As outlined in section 2, the primary objectives of the OLTP are to:
- to minimise the impacts of delivery and servicing movements at the Proposed Development core site and associated work sites;
 - a reduction of local traffic levels/congestion on the local road network around the Proposed Development, including at the proposed access junction at Junction 34 of the A14;
 - reduce CO₂ and air pollutant emissions by promoting the use of low or zero emission vehicles for delivery and servicing, in line with AW's net zero strategy to 2030 (Anglian Water, 2020); and
 - maintain good relations with neighbours of the Proposed Development core site (proposed WWTP) and associated work sites.

5.3 Control measures

- 5.3.1 To achieve the above OLTP objectives, a series of control measures have been developed. These measures are set out in detail Table 5-1.

Table 5-1: Secondary measures relating to traffic and transport impacts during the operational phases of the Proposed Development

Mitigation measures	Applied to	Justification
<p>Application of a peak delivery period restriction of operational vehicles accessing and egressing the proposed WWTP (08:00-09:00 and 17:00-18:00).</p> <p>Application of a peak delivery period restriction of operational vehicles accessing and egressing the proposed WWTP (08:00-09:00 and 17:00-18:00).</p>	Site operations	<p>This measure will reduce impacts on Junction 34 of the A34. Junction modelling outputs for the proposed permanent access from Junction 34 of the A34 can be found within Chapter 9 (section 9.2) of the Transport Assessment (Application Document Reference 5.4.19.3). This demonstrated that Junction 34 would operate over capacity in the AM peak in both the 2038 future baseline and 2038 future baseline with operational traffic added. Separate modelling was undertaken for Junction 34 in the hour before the AM and PM peak (07:00-08:00 and 16:00-17:00) and demonstrated that the proposed access junction would operate within capacity with the expected number of delivery and servicing trips included.</p>
<p>Restriction of HGV travel through Horningsea and Fen Ditton</p>	<p>Horningsea Road High Street (Horningsea) Clayhithe Road</p>	<p>Assumptions have been made within the traffic model that restrictions on HGV traffic through Horningsea and Fen Ditton will be in place during the operational phases of the Proposed Development to ensure the safety and wellbeing of residents. Operational traffic will primarily make use of the Strategic Road Network and primary road network.</p>
<p>The Applicant will carry out operations in accordance with the CCC Voluntary Code of Conduct for Commercial Vehicle Operators</p>	Site operations	<p>It will be ensured that all HGV drivers hold the appropriate licenses for the vehicle they intend to use.</p> <p>HGV drivers associated with deliveries to the site will be informed that they are to consider vulnerable road users, including pedestrians, to help reduce the number of road collisions.</p> <p>HGV vehicles should also be provided with additional mirrors to reduce blind spots.</p> <p>Preference for use of contractors signed up to the Cambridgeshire County Council HGV Covenant. Contractors should be signed up to the HGV Covenant, which is a</p>

Mitigation measures	Applied to	Justification
A shift to low and zero emission vehicle fleets	Site operations	<p>Cambridgeshire County Council supported agreement between local communities and Commercial Vehicle Operators to reduce noise, pollution and increase safety.</p>
Measures within the Operational Workers Travel Plan (OWTP)	Site operations	<p>Anglian Water’s net zero strategy to 2030 (Anglian Water, 2020) sets out that by 2030, 90% of all the small vehicle fleet will be replaced by EVs, and 55% of the HGV fleet will be liquified natural gas (LNG) fueled. This will be supported by on-site EV charging facilities, allowing access to Anglian Water LNG refuelling stations for HGVs, and implementing biomethane mixing with LNG in Anglian Water fuelling stations.</p> <p>The Proposed Development will have provision of 23 spaces with EV chargers. Passive provision for a further 30% at each location will be provided and will be developed as part of the Operational Workers Travel Plan requirements.</p> <p>The OWTP (Application Document Reference 5.4.19.8) details operation work and programme, site access requirements for staff, staff travel patterns and expected workforce locations. This will include measures to encourage operational staff to travel to the site using sustainable transport modes.</p>
Community engagement	Site operations	<p>Engaging with the local community will assist in managing the impact of delivery and servicing for the Proposed Development and associated infrastructure and developing the OLTP .</p> <p>Contractors should be signed up to the HGV Covenant, which is a Cambridgeshire County Council supported agreement between local communities and Commercial Vehicle Operators to reduce noise, pollution and increase safety.</p>

5.4 Responsibilities

- 5.4.1 Following the commencement of the operational phase of the Proposed Development, the Applicant will be responsible for the implementation of the OLTP. The Applicant will agree to meet these requirements by employing appropriate systems to manage these. The specific roles responsible for the OLTP will be provided within the detailed plan.
- 5.4.2 The Applicant will then be responsible for monitoring the impact of the operational phases of the Proposed Development. The Applicant will collect appropriate data to demonstrate that the requirements of the OLTP are met. This survey requirements are set out in Chapter 6.
- 5.4.3 Monitoring activities that could be undertaken will consider the number of vehicle movements, breaches or complaints, and safety issues.

6 Trip Rates, Monitoring and Data Collection

6.1 Predicted trip types

6.1.1 The proposed WWTP staffing level is as outlined in Table 6-1. All the staff or visitors will use either a car or small van.

Table 6-1: Operational staff movements

Role / visitor type	Vehicle movements per day (two way)	Frequency
Sludge technicians	4	Daily
Operations team	4	Daily
Maintenance technician	2	Mon-Friday
CHP technician	2	Mon-Friday
Office workers using the facility	60	Daily
Operational visitors to the WWTP	4	Daily
Waste water and sludge, consumables	4	Daily
Cars	12	Daily
Total estimated small vehicles and van visits to site	92	Daily

Source: Chapter 2: Project Description (Application Document Reference 5.2.2)

6.1.2 The expected daily trip generation for the Discovery Centre is expected to be 13 trips to and from the site. This trip generation was sourced from the Trip Rate Information Computer System (TRICS) (TRICS Consortium Limited, n.d.) and outputs have been presented within Chapter 9 (section 9.2) of the Transport Assessment (Appendix 5.4.19.3).

6.2 Operational vehicle movements

6.2.1 The proposed WWTP will be critical infrastructure and operate continuously. The operational vehicle movements will be similar to the existing Cambridge WWTP with the majority of vehicle movements occurring during the daytime.

6.2.2 Once the existing Cambridge WWTP ceases to operate this will result in a reassignment of all operational vehicles across the strategic and local road network. Vehicle trips, including the 129 two-way operational HGV trips that currently travel to and from the existing Cambridge WWTP will reassign on the highway network to routes to and from the proposed WWTP.

6.2.3 Once the proposed WWTP is operational, the existing 129 two-way HGV trips would increase to a total of 146 two-way operational HGV trips daily. This is based on the proposed maximum operational capacity and predicted increase in flows from developments in the area. These movements are summarised in Table 6-2.

Table 6-2: Estimated future operational HGV movements (two way) at the proposed WWTP vs operational HGV movements (two way) at the existing Cambridge WWTP

Type	Average daily vehicle movements (two way)	
	Existing Cambridge WWTP	Proposed WWTP
Liquid sludge imports	57	62
Biosolids exports	10	10
Non-routine tanker movements	12	14
Septic waste movements	50	60
Total HGV movements	129	146

Source: Chapter 2: Project Description (Application Document Reference 5.2.2)

6.3 Maintenance activities

- 6.3.1 The Proposed Development is expected to need regular maintenance activities. These activities require one or two LGVs and all vehicles will use the permanent site access from Horningsea Road/A14 junction to access the proposed WWTP.
- 6.3.2 The maintenance staff will work shift patterns that will cover a 24-hour period. HGV deliveries will typically arrive in standard working hours (09:00-18:00), however there will also be overnight deliveries that will account for around 30% of the total vehicle movements.
- 6.3.3 There is expected to be some longer-term maintenance activities such as replacement of carbon for the odour control units. These activities are typically undertaken on a 5–10-year cycle.
- 6.3.4 The type and frequency of maintenance activities along the pipeline is expected to be low with only occasional visits required. The type of vehicles needing access is one to two LGVs utilising the permanent site access from Horningsea Road/A14 junction to access the proposed WWTP.

7 Plan Update

- 7.1.1 Notwithstanding the application of the initial measures proposed within the OLTP, the Applicant should consider appropriate mitigation measures should a severe traffic and transport impact result from delivery and servicing operations at the proposed WWTP. Mitigation measures should then be employed to ensure the targets of the OLTP can be attained.
- 7.1.2 The following document is an outline OLTP with the detailed plan to be prepared prior to operation. Prior to operations commencing the OLTP will be updated to mitigate expected operational impacts, including any identified during the project’s construction. Any significant changes will be agreed upon with the relevant authorities.
- 7.1.3 Table 7-1 below sets out the milestone and update triggers for the outline OLTP and detailed OLTP.

Table 7-1: OLTP update trigger and milestone

Version	Update trigger	Milestone
Outline plan	Outline plan to set out plan content and indicate Applicants intent in relation to the OLTP	Prepared prior to construction to provide outline upon which detailed plan can be developed
Detailed plan	DCO Schedule 2 Requirement 19	Update outline plan prior to operation to account for the approved detailed design and to comply with Requirement 19
Year 1 Review	End of year one of operation to refine plan	Update with baseline survey data
Year 2 Review	End of year two of operation to refine plan	Update with baseline survey data
Year 3 Review	End of year three of operation to refine plan	Update with baseline survey data
Year 4 Review	End of year four of operation to refine plan	Update with baseline survey data
Year 5 Review	End of year five of operation	Update with baseline survey data. Applicant to set out future monitoring approach with CCC.

8 Monitoring and Reporting

8.1 Survey

Frequency

- 8.1.1 Within the first 6 months of operations commencing at the Proposed Development, a baseline traffic survey will be undertaken to assess delivery and servicing vehicle activity generated by the site.
- 8.1.2 Monitoring must be undertaken to ensure the site achieves the OLTP targets and objectives agreed within the planning permission. Surveys will take place annually throughout the 5-year life span of the OLTP. These will be undertaken by the Applicant.
- 8.1.3 After 5 years the applicant will review the OLTP with CCC the need for updates to the document and an appropriate future monitoring and reporting regime.
- 8.1.4 The outcome of the surveys will be used to update successive versions of the OLTP.

Survey content

- 8.1.5 The survey will record the following information:
 - The number of deliveries to the site;
 - The vehicle classification;
 - The arrival time;
 - The length of stay;
 - The set down area from which the delivery/collection is made;
 - The purpose of the trip including item description; and
 - Whether the supply company is a member of any best practice scheme, such as FORS.

8.2 ANPR data

- 8.2.1 Permanent ANPR cameras will be installed at the site access on Horningsea Road once the proposed WWTP access is operational (subject to approval by Cambridgeshire County Council as the Local Highways Authority and any other relevant stakeholders).
- 8.2.2 As part of the OLTP measures, these will be monitored by the Applicant and used to inform survey content.

8.3 Monitoring

- 8.3.1 The Applicant will be responsible for monitoring the impact of the Proposed Development's operation. The Applicant be responsible for collecting appropriate

data and monitoring breaches and complaints to demonstrate that the requirements of the OLTP have are met.

8.3.2 Monitoring activities should consider all breaches, complaints, and safety incidents both in and on routes surrounding the site and its associated infrastructure. These monitoring activities should include:

- Community concerns about delivery and servicing activities
- Vehicle routing, particularly along routes where HGVs are not permitted (e.g., through Horningsea and Fen Ditton);
- Unacceptable queuing and parking;
- Compliance with safety and environmental standards and programmes;
- Anti-idling;
- Logistics-related incidents;
- Record of associated fatalities and serious injuries; and
- Instances where vehicles and operators are not meeting safety requirements, including when danger is caused to non-motorised users.

9 Action Plan

- 9.1.1 The detailed OLTP will confirm the roles and responsibilities and include any amendments to those indicated in Table 9-1.

Table 9-1: Action plan

Revision trigger	Timing	Details of mitigation measure	Interim updates / monitoring
Operation	Prior to the start of and during operation of the proposed WWTP	<ul style="list-style-type: none"> AM and PM peak hour restriction of operational vehicles accessing and egressing the proposed WWTP. Deliveries to be limited to out of peak hours. 	Delivery and access records to be monitored by the appointed site and operations manager. Reviewed every 6-12 months.
Operation	Prior to the start of and during operation of the proposed WWTP	<ul style="list-style-type: none"> Restriction of travel through Horningsea and Fen Ditton 	ANPR records and complaint monitoring to be monitored by the appointed site and operations manager. Reviewed every 6-12 months.
Operation	Prior to the start of and during operation of the proposed WWTP	<ul style="list-style-type: none"> Driver best practices 	Driver details, accident and near miss reports, numbers of suppliers signed to HGV covenant to be monitored by the appointed site and operations manager. Reviewed every 6-12 months.
Operation	During the operation of the proposed WWTP	<ul style="list-style-type: none"> Shift to low and zero emissions vehicle fleets 	Use of and numbers of EVs using proposed WWTP to be monitored by fleet manager. Reviewed every 6-12 months.

References

Anglian Water. (2020). *Our net zero strategy to 2030*.

Cambridge City Council. (2022).

Cambridgeshire & Peterborough Combined Authority. (2022). *The Cambridgeshire & Peterborough Local Transport & Connectivity Plan*.

Cambridgeshire County Council. (2015). *Cambridgeshire Local Transport Plan 2011-2031*.

Cambridgeshire County Council. (2020). *Cambridgeshire Local Transport Plan*.

Cambridgeshire County Council. (2021). *Cambridgeshire and Peterborough Minerals and Waste Local Plan*.

Cambridgeshire County Council. (2022). *Heavy Goods Vehicle (HGV) Policy*. Retrieved from Cambridgeshire County Council: <https://www.cambridgeshire.gov.uk/residents/travel-roads-and-parking/roads-and-pathways/heavy-or-abnormal-loads-on-the-highway/heavy-goods-vehicle-hgv-policy>

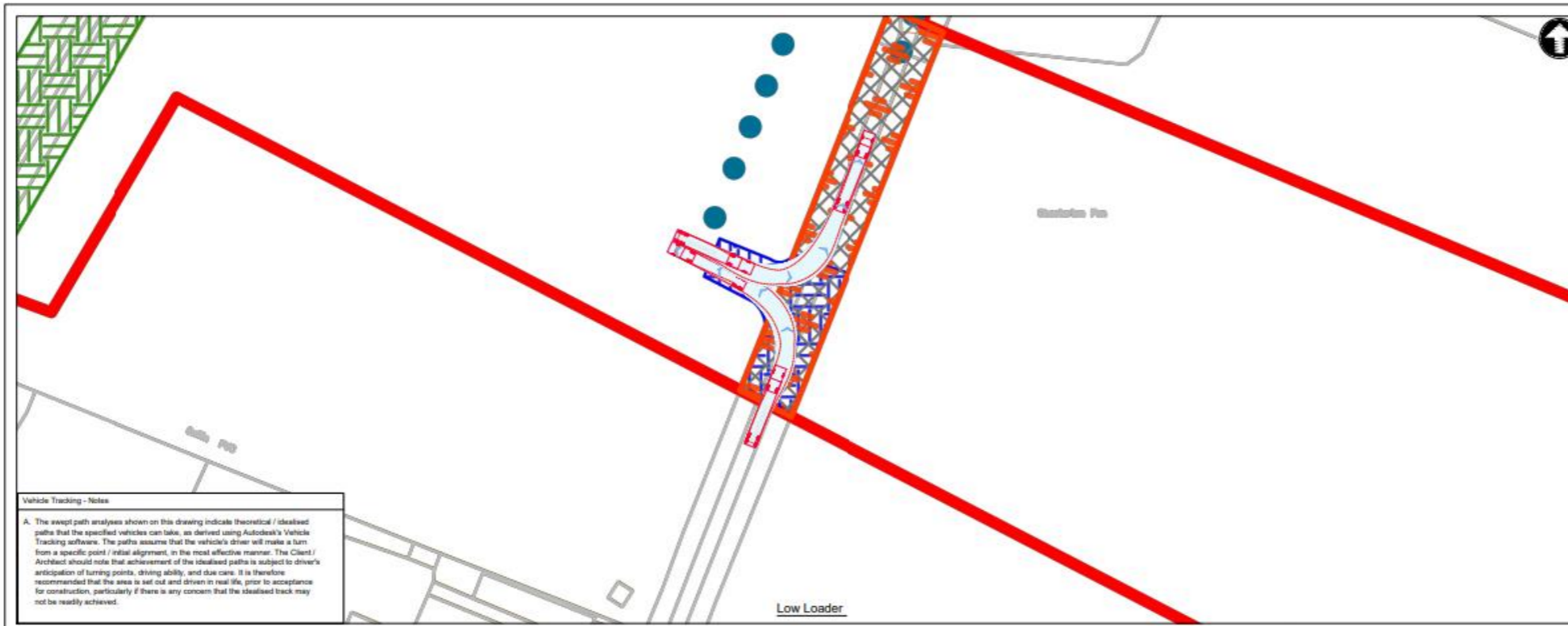
Council, C. C. (2021). *Cambridgeshire and Peterborough Minerals and Waste Local Plan*.

Transport for London. (2020). *Delivery and Servicing Plan Guidance*.

TRICS Consortium Limited. (n.d.). *The TRICS database*. Retrieved from TRICS.

Appendices

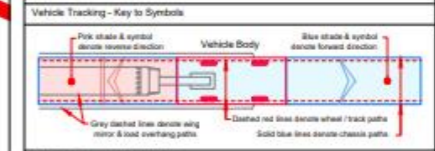
Appendix A – Swept Path Drawings (Operational)



Vehicle Tracking - Note

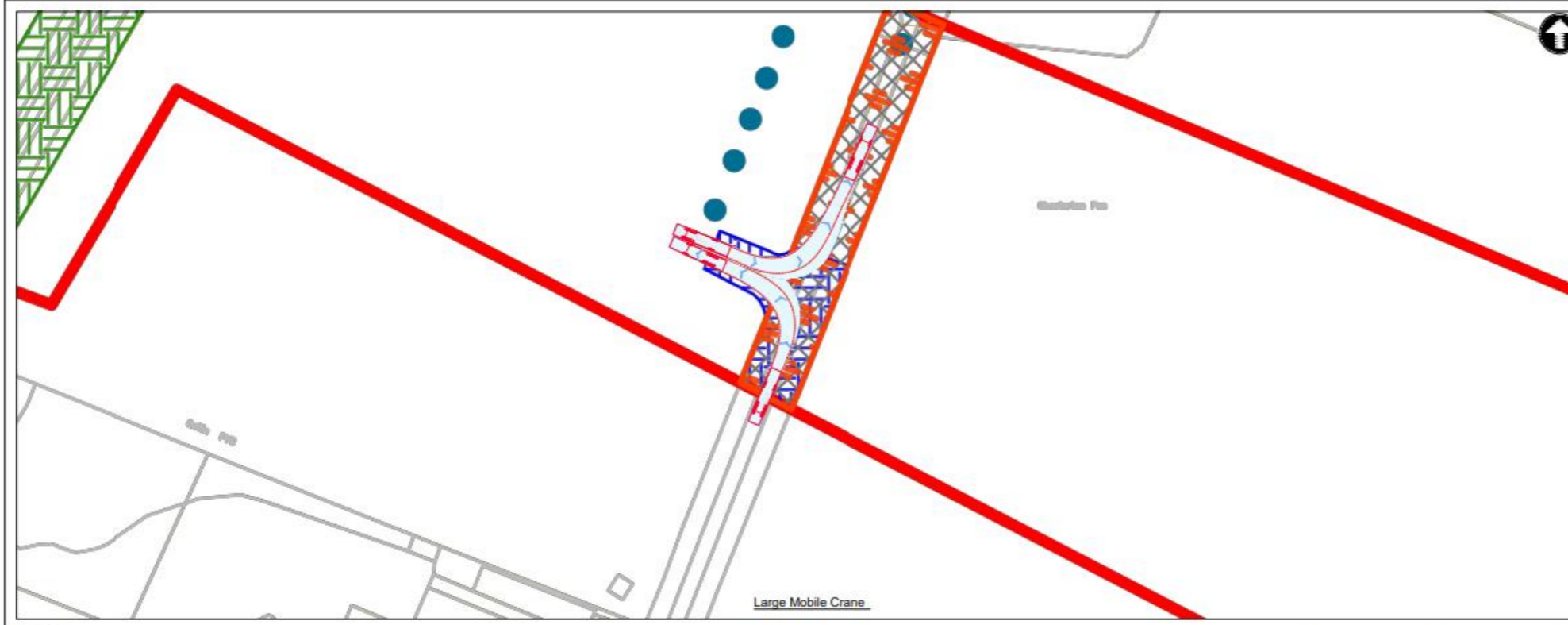
A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.

- Notes**
- Do not scale from this drawing.
 - All dimensions are in metres unless otherwise shown. All levels are in metres above Ordnance Datum (AOD). All dimensions & levels should be checked on site.
 - Any drawing errors or discrepancies should be brought to the attention of Matt MacDonnell at the address shown in the title block.
 - This drawing has been prepared for the initial high level optimisation study for the CWRTW project.
 - The drawing is based on OS mapping information and LIDAR data.
 - The information is preliminary and subject to further detailed design.
 - The design has not been submitted to the Highway Authority or Highways England for their technical review.
 - The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
 - The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
 - The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
 - The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
 - The design is based on the requirements of CDMBS. Manual for Streets has been adapted for some extents of the proposed access roads.
 - The proposed requires third party land to be constructed. The extent of the land take is to be determined during future stages of the design development of this option.
 - This drawing should be read in conjunction with the Technical Memo, Cambridge Waste Water Treatment Works Relocation Early assessment and affixing of proposed site access options.
 - DRAWING MUST BE READ IN COLOUR**



Vehicle Tracking - Vehicle Details

Vehicle Type	Overall Length	Overall Width	Min Body Overall Clearance	Min Track Width	Wing to Wheel Turning Radius
Overseas Low Loader with Trailer (steering) (18.0m)	17.81m	2.80m	0.32m	2.52m	8.25m
Large Mobile Crane	12.20m	2.80m	0.32m	2.52m	10.00m
Large Trailer	12.20m	2.80m	0.32m	2.52m	10.00m
Standard Design Vehicle (SDV)	4.80m	2.00m	0.32m	1.70m	6.00m



- Vehicle Tracking - Risks & Compliance**
- Risks**
- Kerb overrun
 - Narrow road width

Rev	Date	Drawn	Description	Drawn	Appr
P1			Draft for Discussion / Review		



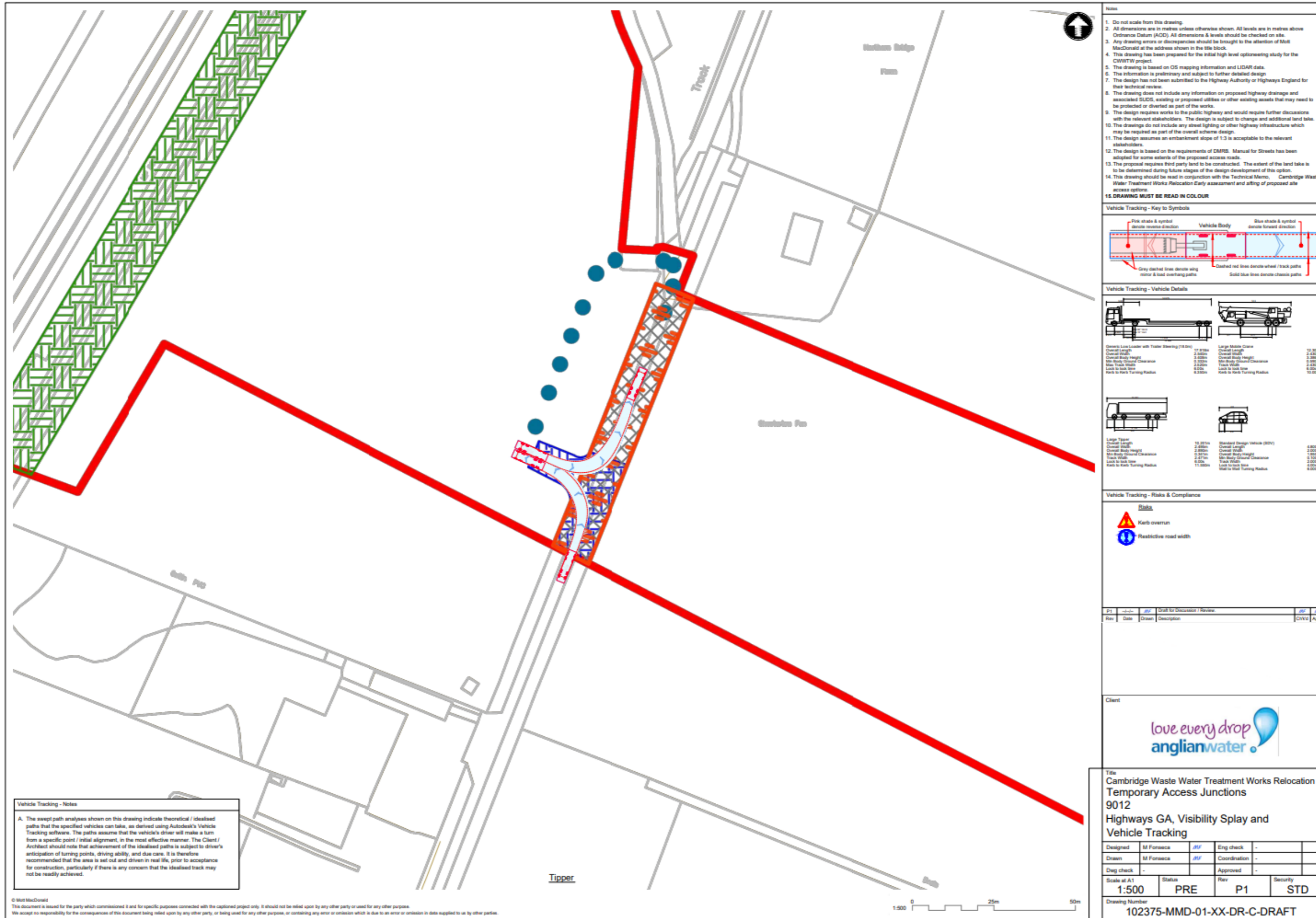
Title
Cambridge Waste Water Treatment Works Relocation
9012
Highways GA, Visibility Splay and Vehicle Tracking

Designed	M Fonseca	JH	Eng check	-
Drawn	M Fonseca	JH	Coordination	-
Day check	-		Approved	-

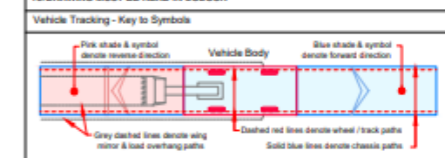
Scale at A1: 1:500
Status: PRE
Rev: P1
Security: STD

Drawing Number: 102375-MMD-01-XX-DR-C-DRAFT

© Matt MacDonnell
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose. We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.
C:\Users\CEB1567\OneDrive - Matt MacDonnell\Documents\Projects\Vehicle Tracking\01_CWRTW\9012_2016\102375-MMD-01-XX-MD-C-DRAFT Operational 2.dwg Jul 13, 2022 - 5:01PM DCE10216

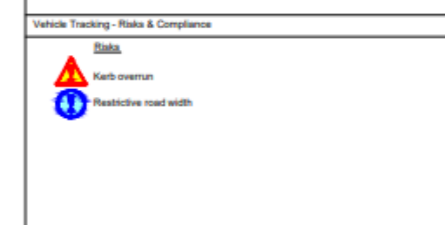


- Notes**
1. Do not scale from this drawing.
 2. All dimensions are in metres unless otherwise shown. All levels are in metres above Ordnance Datum (AOD). All dimensions & levels should be checked on site.
 3. Any drawing errors or discrepancies should be brought to the attention of Matt MacDonald at the address shown in the title block.
 4. This drawing has been prepared for the initial high level optioning study for the CWWTW project.
 5. The drawing is based on OS mapping information and LiDAR data.
 6. The information is preliminary and subject to further detailed design.
 7. The design has not been submitted to the Highway Authority or Highways England for their technical review.
 8. The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
 9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
 10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
 11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
 12. The design is based on the requirements of DMRS, Manual for Streets has been adopted for some extents of the proposed access roads.
 13. The proposal requires third party land to be constructed. The extent of the land take is to be determined during future stages of the design development of this option.
 14. This drawing should be read in conjunction with the Technical Memo, Cambridge Waste Water Treatment Works Relocation Early assessment and siting of proposed site access options.
 15. DRAWING MUST BE READ IN COLOUR



Vehicle Tracking - Vehicle Details

Vehicle Type	Overall Length	Overall Width	Overall Height	Min Body Ground Clearance	Max Track Width	Load to Axle	Wheel to Wheel	Wheel to Wheel	Wheel to Wheel
Overhead Line Loader with Trailer Steering (14.0m)	17.00m	2.50m	3.00m	0.20m	2.50m	0.20m	1.00m	1.00m	1.00m
Large Mobile Crane	12.00m	2.50m	3.00m	0.20m	2.50m	0.20m	1.00m	1.00m	1.00m
Large Tipper	10.00m	2.50m	3.00m	0.20m	2.50m	0.20m	1.00m	1.00m	1.00m
Standard Design Vehicle (SDV)	4.00m	1.80m	1.80m	0.10m	1.80m	0.10m	0.70m	0.70m	0.70m



Rev	Date	Drawn	Description	Drawn	Appr
P1		JVF	Sheet for Discussion / Review	JVF	JVF



Title
Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
9012
Highways GA, Visibility Splay and
Vehicle Tracking

Designed	M Forawca	JVF	Eng check	-
Drawn	M Forawca	JVF	Coordination	-
Design check	-	-	Approved	-

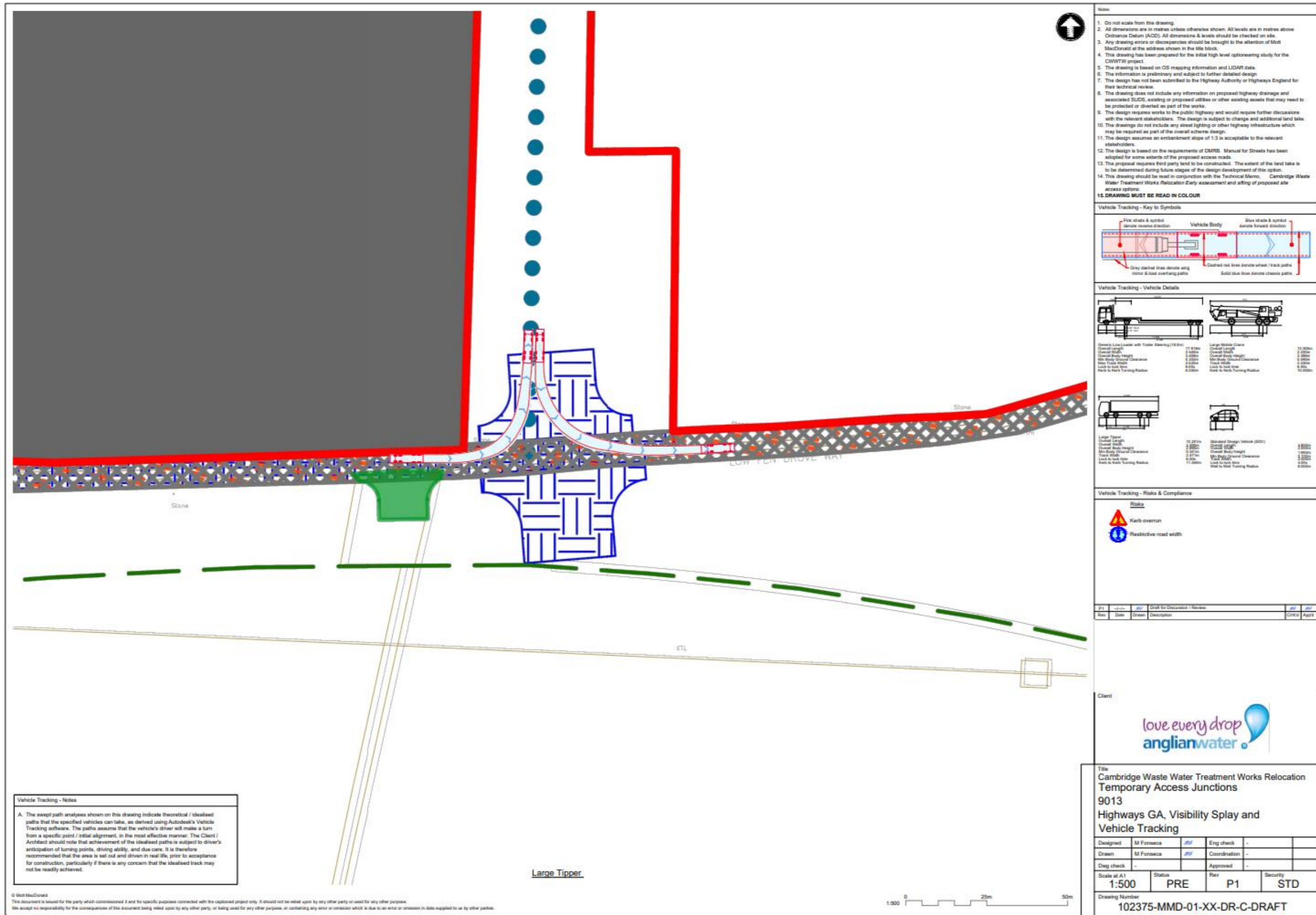
Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number
102375-MMD-01-XX-DR-C-DRAFT

Vehicle Tracking - Notes

A. The except path analysis shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.

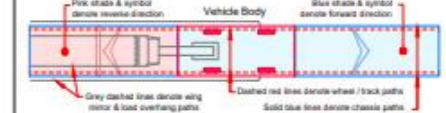
© Matt MacDonald
This document is issued for the party which commissioned it and for specific purposes connected with the captured project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.
C:\Users\102375\OneDrive - Matt MacDonald\Documents\Projects\Vehicle Tracking\CWWTW\9012_01_XX-DR-C-DRAFT Operational 2.dwg Jul 13, 2022 - 6:44PM DSB10076



- Notes
- Do not scale from this drawing.
 - All dimensions are in metres unless otherwise shown. All levels are in metres above Ordnance Datum (AOD). All dimensions & levels should be checked on site.
 - Any drawing errors or discrepancies should be brought to the attention of Matt MacDonnell at the address shown in the title block.
 - This drawing has been prepared for the initial high level optimising study for the CWWTW project.
 - The drawing is based on OS mapping information and LIDAR data.
 - The information is preliminary and subject to further detailed design.
 - The design has not been submitted to the Highway Authority or Highways England for their technical review.
 - The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
 - The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
 - The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
 - The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
 - The design is based on the requirements of DMRB. Manual for Streets has been adopted for some aspects of the proposed access roads.
 - The proposal requires third party land to be constructed. The extent of the land take is to be determined during future stages of the design development of this option.
 - This drawing should be read in conjunction with the Technical Memo, Cambridge Waste Water Treatment Works Relocation Early assessment and siting of proposed site access options.

15. DRAWING MUST BE READ IN COLOUR

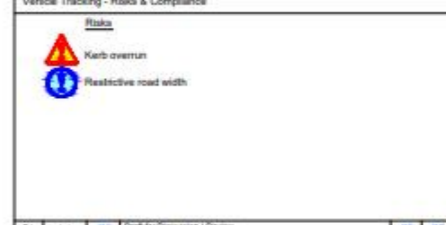
Vehicle Tracking - Key to Symbols



Vehicle Tracking - Vehicle Details

Vehicle Type	Overall Length	Overall Width	Overall Height	Max Body Ground Clearance	Max Tyre Ground Clearance	Max Tyre Overlap	Max Tyre Rise	Max to Kerb Turning Radius
Driver's Side Loader with Trailer (11.5m)	11.50m	2.30m	2.30m	2.00m	2.00m	2.00m	4.00m	6.00m
Large Mobile Crane	12.00m	2.30m	2.30m	2.00m	2.00m	2.00m	4.00m	10.00m
Large Tipper	10.20m	2.30m	2.30m	2.00m	2.00m	2.00m	4.00m	11.00m
Standard Design Vehicle (SDV)	10.00m	2.30m	2.30m	2.00m	2.00m	2.00m	4.00m	6.00m

Vehicle Tracking - Works & Compliance



Rev	Date	Drawn	Description	DRW	APP
P1			Drawn for Submission / Review		

Client:

Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.

© Matt MacDonnell
This document is issued for the party which commissioned it and for specific purposes connected with the captured project only. It should not be relied upon by any other party or used for any other purpose. We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

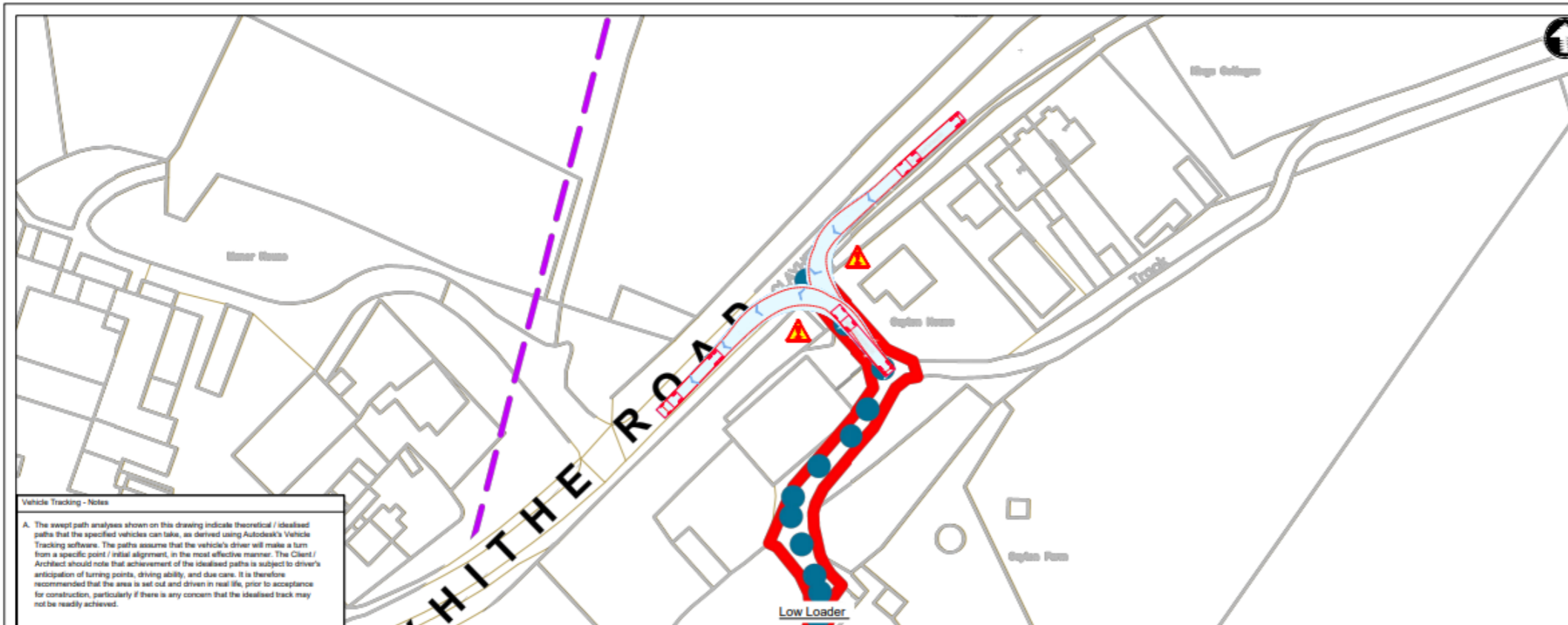


Title
Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
9013
Highways GA, Visibility Splay and
Vehicle Tracking

Designed	M Forreca	JRF	Eng check	-
Drawn	M Forreca	JRF	Coordination	-
Design check	-	-	Approved	-

Scale at A1: 1:500
Status: PRE
Rev: P1
Security: STD

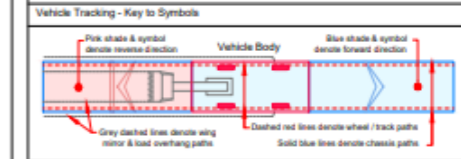
Drawing Number:
102375-MMD-01-XX-DR-C-DRAFT



Vehicle Tracking - Notes

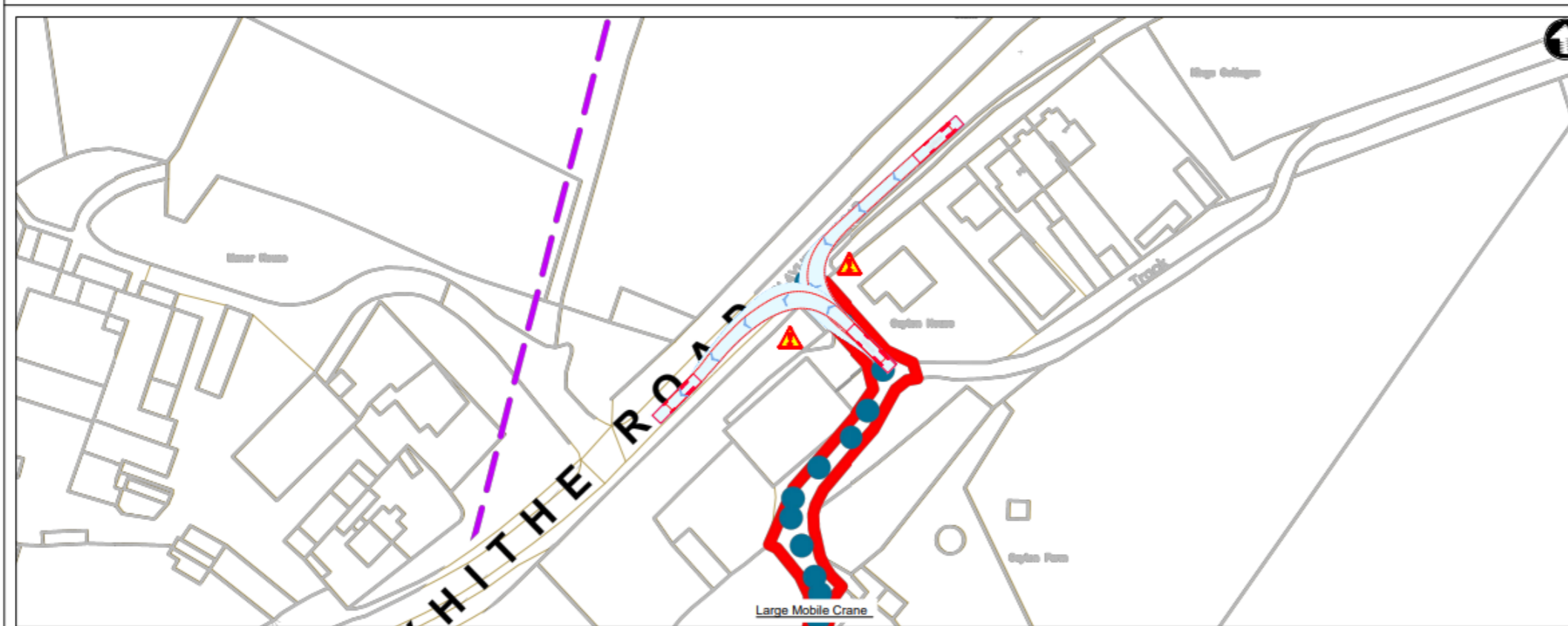
A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.

- Notes**
- Do not scale from this drawing.
 - All dimensions are in metres unless otherwise shown. All levels are in metres above Ordnance Datum (AOD). All dimensions & levels should be checked on site.
 - Any drawing errors or discrepancies should be brought to the attention of Matt MacDonald at the address shown in the title block.
 - This drawing has been prepared for the initial high level optioning study for the CWWTW project.
 - The drawing is based on OS mapping information and LIDAR data.
 - The information is preliminary and subject to further detailed design.
 - The design has not been submitted to the Highway Authority or Highways England for their technical review.
 - The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
 - The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
 - The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
 - The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
 - The design is based on the requirements of DMBS. Manual for Streets has been adopted for some extents of the proposed access roads.
 - The proposal requires third party land to be constructed. The extent of the land take is to be determined during future stages of the design development of this option.
 - This drawing should be read in conjunction with the Technical Memo, Cambridge Waste Water Treatment Works Relocation Early assessment and siting of proposed site access options.
- 15. DRAWING MUST BE READ IN COLOUR**



Vehicle Tracking - Vehicle Details

Vehicle Type	Overall Length	Overall Width	Overall Height	Min Body Ground Clearance	Max Track Width	Wing to Back Size	Wing to Back Turning Radius
Overseas Low Loader with Trailer Steering (18.0m)	17.800m	2.500m	3.000m	0.300m	2.200m	6.00m	11.000m
Large Mobile Crane	12.000m	2.500m	3.000m	0.300m	2.200m	6.00m	11.000m
Large Tipper	10.200m	2.500m	3.000m	0.300m	2.200m	6.00m	11.000m
Standard Design Vehicle (SDV)	5.000m	2.000m	2.000m	0.300m	1.800m	4.00m	8.000m



- Vehicle Tracking - Risks & Compliance**
- Kerb overrun
 - Restrictive road width

Rev	Date	Drawn	Description	Checked	Appr'd
P1		JWF	Draw for Discussion / Review	JWF	JWF



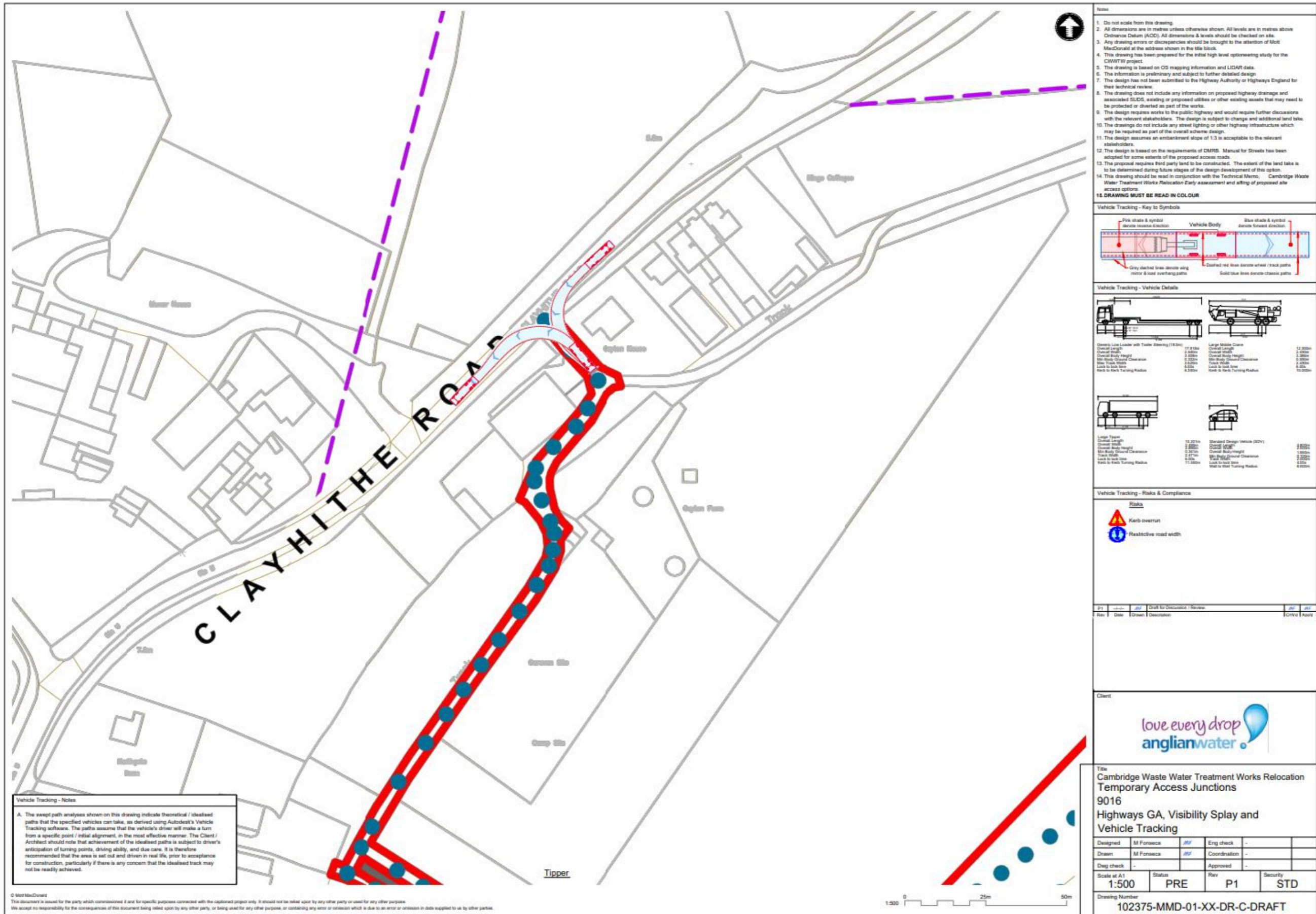
Title
Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
9016
Highways GA, Visibility Splay and
Vehicle Tracking

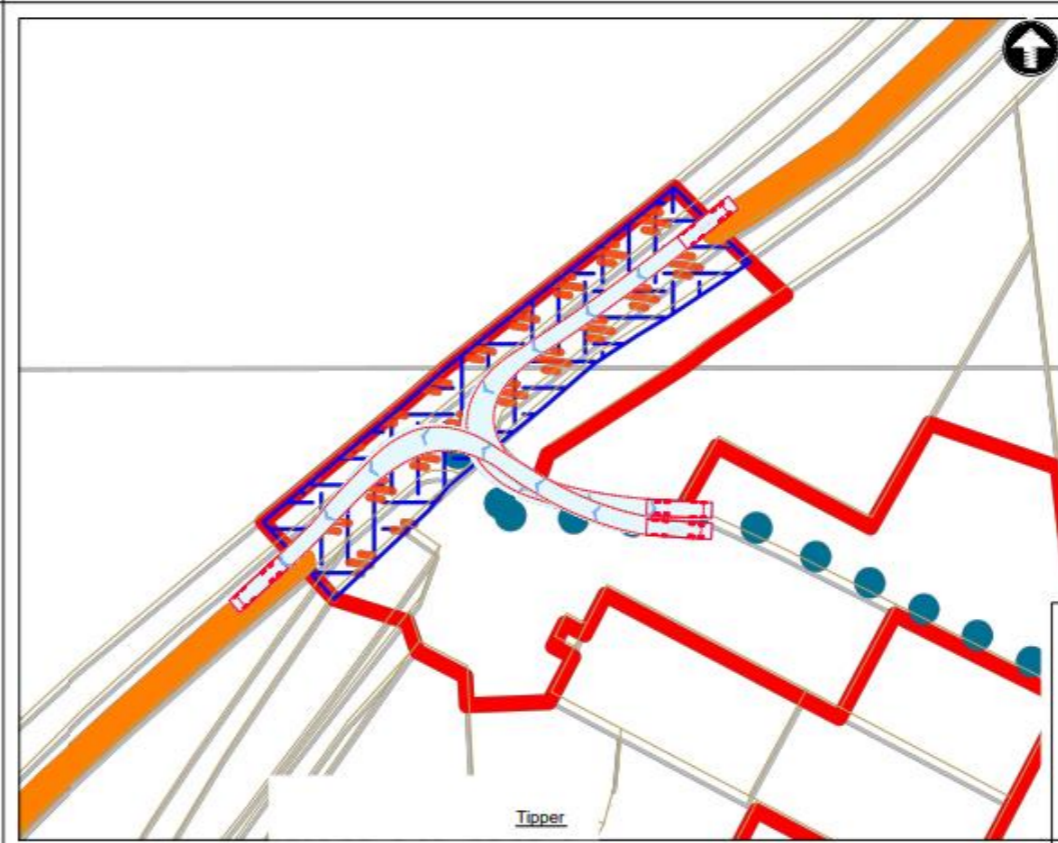
Designed	M Forreca	JWF	Eng check	-
Drawn	M Forreca	JWF	Coordination	-
Dwg check	-	-	Approved	-

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number
102375-MMD-01-XX-DR-C-DRAFT

© Matt MacDonald
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.
C:\Users\ED10567\OneDrive - Matt MacDonald\Documents\Projects\Vehicle Tracking\0 - CWWTW\04_22M\102375-MMD-01-XX-DR-C-DRAFT\Operational 2.dwg 14 Jul 2022 4:38PM DSD 102375





Notes

- Do not scale from this drawing.
- All dimensions are in metres unless otherwise shown. All levels are in metres above Ordnance Datum (AOD). All dimensions & levels should be checked on site.
- Any drawing errors or discrepancies should be brought to the attention of Matt MacDonell at the address shown in the title block.
- This drawing has been prepared for the initial high level optioneering study for the CWWTW project.
- The drawing is based on OS mapping information and LIDAR data.
- The information is preliminary and subject to further detailed design.
- The design has not been submitted to the Highway Authority or Highways England for their technical review.
- The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
- The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take to be determined during future stages of the design development of this option.
- The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
- The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
- The design is based on the requirements of DMRB, Manual for Streets has been adopted for some aspects of the proposed access roads.
- This proposal requires third party land to be constructed. The extent of the land take is to be determined during future stages of the design development of this option.
- This drawing should be read in conjunction with the Technical Memo, Cambridge Waste Water Treatment Works Relocation Early assessment and siting of proposed site access options.

15. DRAWING MUST BE READ IN COLOUR

Vehicle Tracking - Key to Symbols

Vehicle Tracking - Vehicle Details

Special Low Loader with Trailer (18.0m)	Overall Length	27.00m	Overall Length	12.00m
	Overall Width	2.40m	Overall Width	2.40m
	Overall Body Height	2.40m	Overall Body Height	2.40m
	Min Body Ground Clearance	0.10m	Min Body Ground Clearance	0.10m
	Max Tank Width	2.20m	Max Tank Width	2.20m
	Load to Tank Top	6.00m	Load to Tank Top	6.00m
	Kerb to Kerb Turning Radius	8.00m	Kerb to Kerb Turning Radius	10.00m

Large Mobile Crane	Overall Length	12.00m	Overall Length	12.00m
	Overall Width	2.40m	Overall Width	2.40m
	Overall Body Height	2.40m	Overall Body Height	2.40m
	Min Body Ground Clearance	0.10m	Min Body Ground Clearance	0.10m
	Max Tank Width	2.20m	Max Tank Width	2.20m
	Load to Tank Top	6.00m	Load to Tank Top	6.00m
	Kerb to Kerb Turning Radius	8.00m	Kerb to Kerb Turning Radius	10.00m

Large Tipper	Overall Length	10.00m	Overall Length	10.00m
	Overall Width	2.40m	Overall Width	2.40m
	Overall Body Height	2.40m	Overall Body Height	2.40m
	Min Body Ground Clearance	0.10m	Min Body Ground Clearance	0.10m
	Max Tank Width	2.20m	Max Tank Width	2.20m
	Load to Tank Top	6.00m	Load to Tank Top	6.00m
	Kerb to Kerb Turning Radius	11.00m	Kerb to Kerb Turning Radius	8.00m

Vehicle Tracking - Risks & Compliance

Risks

- Kerb overrun
- Restrictive road width

Rev	Date	Drawn	Description	Checked	Appr'd
P1		MF	100% for Discussion / Review	MF	MF

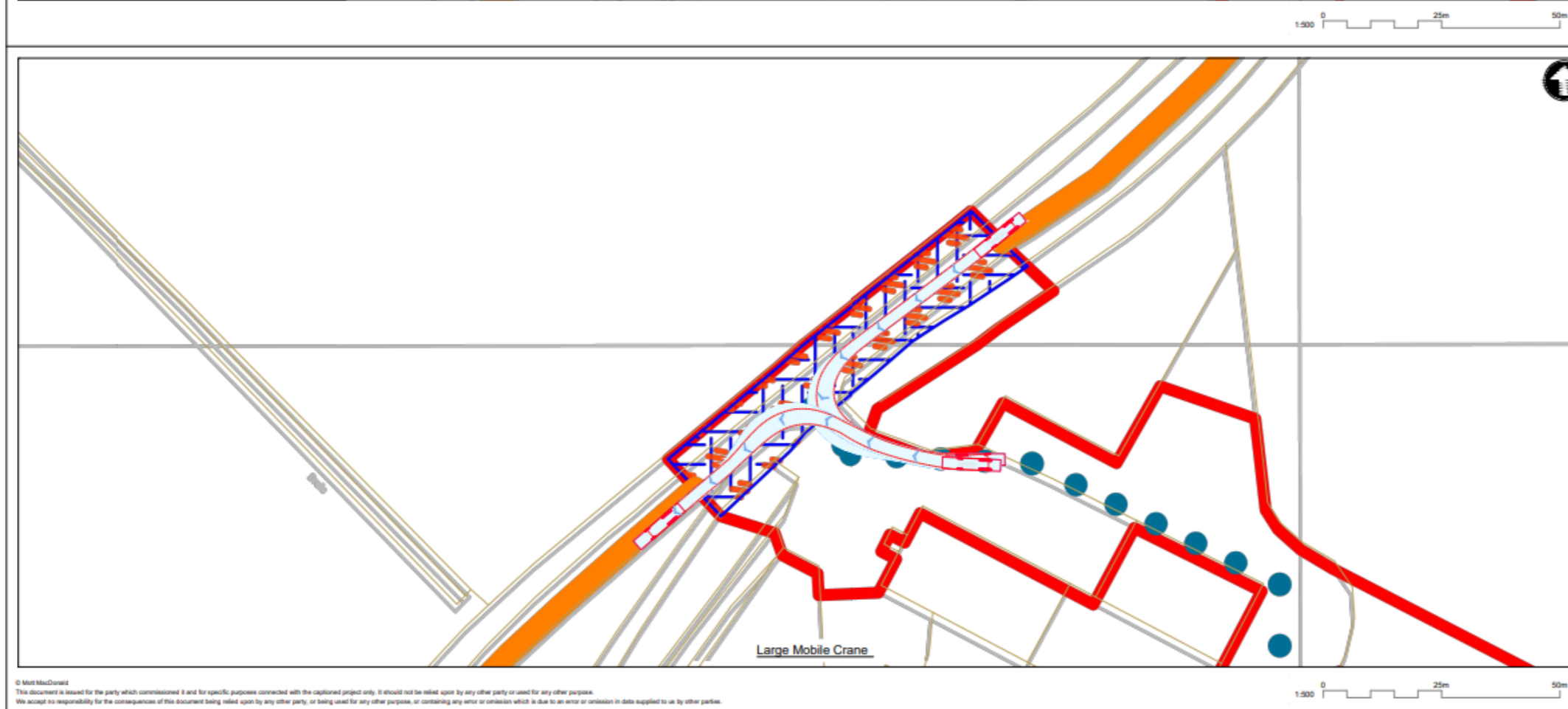
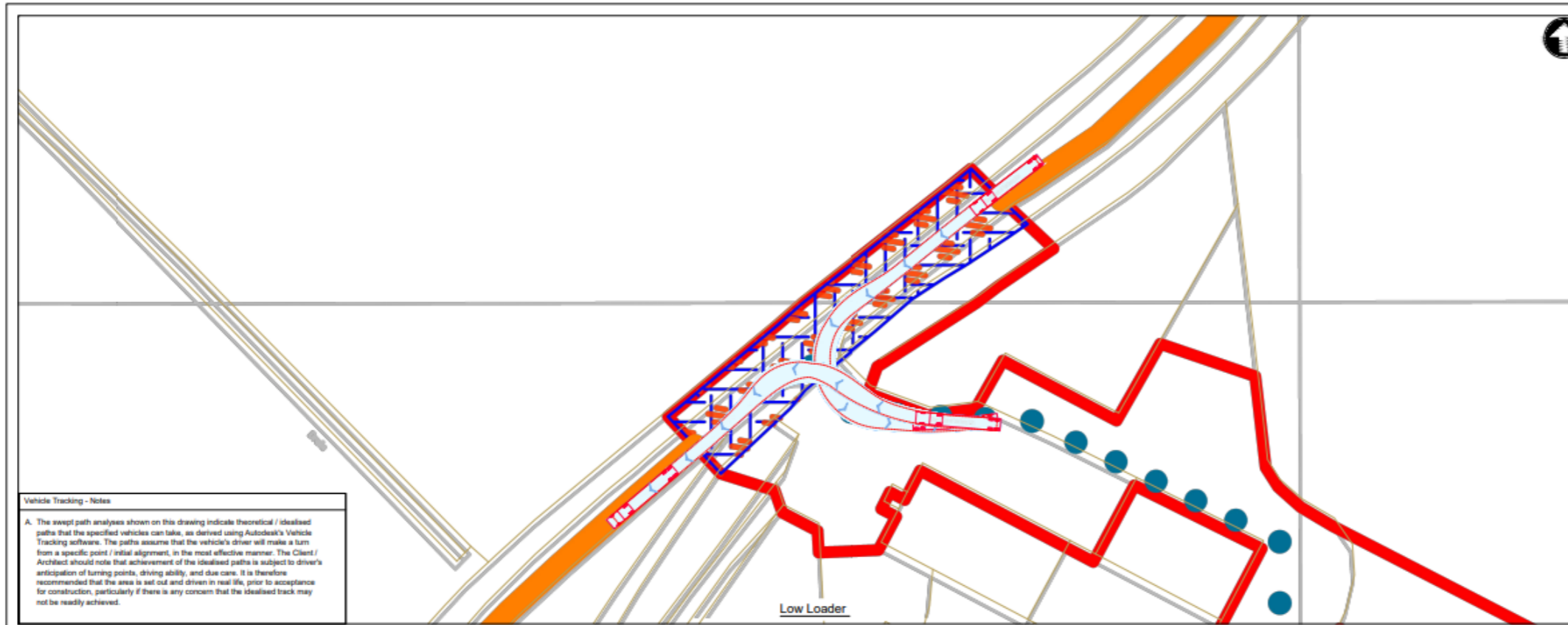
Client

Title
Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
9017
Highways GA, Visibility Splay and
Vehicle Tracking

Designed	M Forswa	MF	Eng check	-
Drawn	M Forswa	MF	Coordination	-
Dep check	-	-	Approved	-

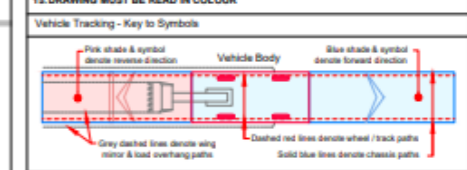
Scale at A1: PRE P1 STD
Status: PRE P1 STD
Drawing Number: 102375-MMD-01-XX-DR-C-DRAFT

© Matt MacDonell
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.
C:\Users\102375\OneDrive - Matt MacDonell\Documents\Projects\Vehicle Tracking\DWG\9017\9017_01_01.dwg
Model:102375-MMD-01-XX-00-C-DRAFT Operational 3.dwg Jul 13, 2022 - 3:34PM DCR10276



© Matt MacDonald
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.
C:\Users\DEB10070\OneDrive - Matt MacDonald\Documents\Projects\Vehicle Tracking\DWG\TR02_06_22.dwg
Model:102375-MMD-01-XX-MD-C-DRAFT Operational 2.dwg Jul 13, 2022 - 3:58PM DEB10070

- Notes**
- Do not scale from this drawing.
 - All dimensions are in metres unless otherwise shown. All levels are in metres above Ordnance Datum (AOD). All dimensions & levels should be checked on site.
 - Any drawing errors or discrepancies should be brought to the attention of Matt MacDonald at the address shown in the title block.
 - This drawing has been prepared for the initial high level optimising study for the CWWTW project.
 - The drawing is based on OS mapping information and LIDAR data.
 - The information is preliminary and subject to further detailed design.
 - The design has not been submitted to the Highway Authority or Highways England for their technical review.
 - The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
 - The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
 - The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
 - The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
 - The design is based on the requirements of DMBS. Manual for Streets has been adopted for some aspects of the proposed access roads.
 - The proposal requires third party land to be constructed. The extent of the land take to be determined during future stages of the design development of this option.
 - This drawing should be read in conjunction with the Technical Memorandum, Cambridge Waste Water Treatment Works Relocation Early assessment and siting of proposed site access options.
- 15. DRAWING MUST BE READ IN COLOUR**



Vehicle Tracking - Vehicle Details

Overall Length	12.800m	12.800m	12.800m
Overall Width	2.400m	2.400m	2.400m
Overall Height	3.000m	3.000m	3.000m
Min. Body Ground Clearance	0.200m	0.200m	0.200m
Max. Track Width	2.200m	2.200m	2.200m
Load to back axle	6.00t	6.00t	6.00t
Roll to back Turning Radius	8.00m	8.00m	8.00m

Vehicle Tracking - Risks & Compliance

Risks

- Kerb overrun
- Restrictive road width

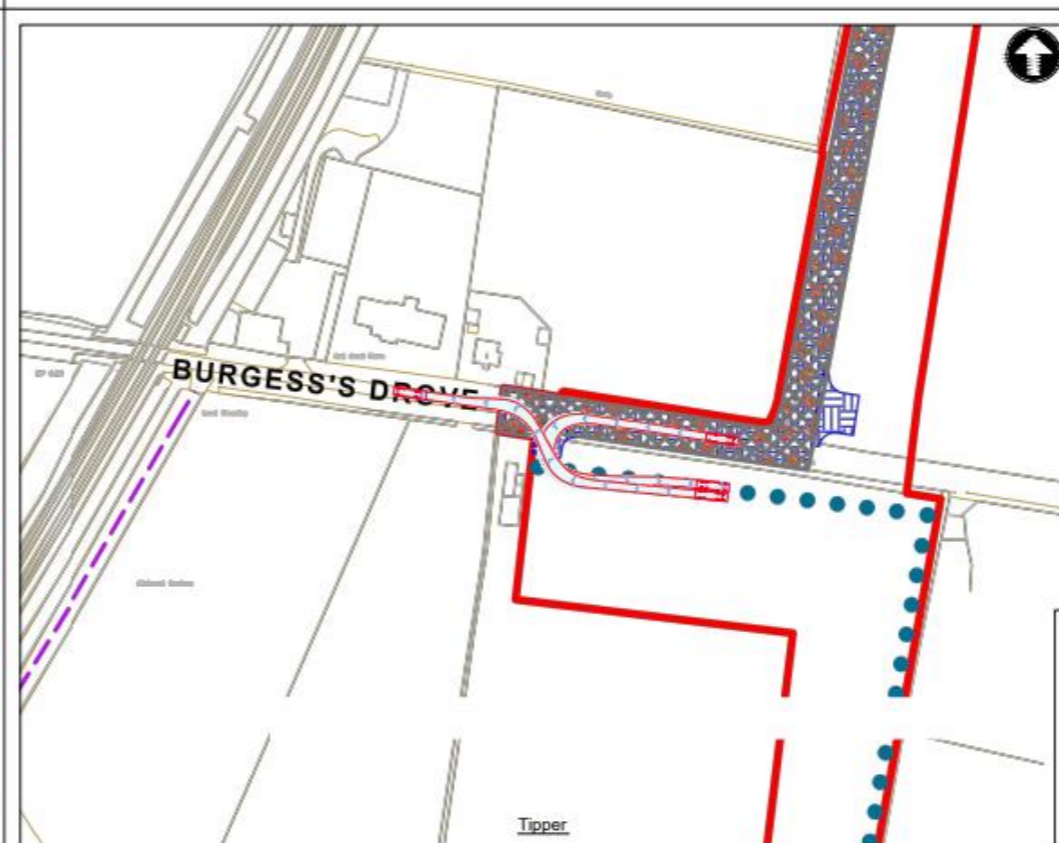
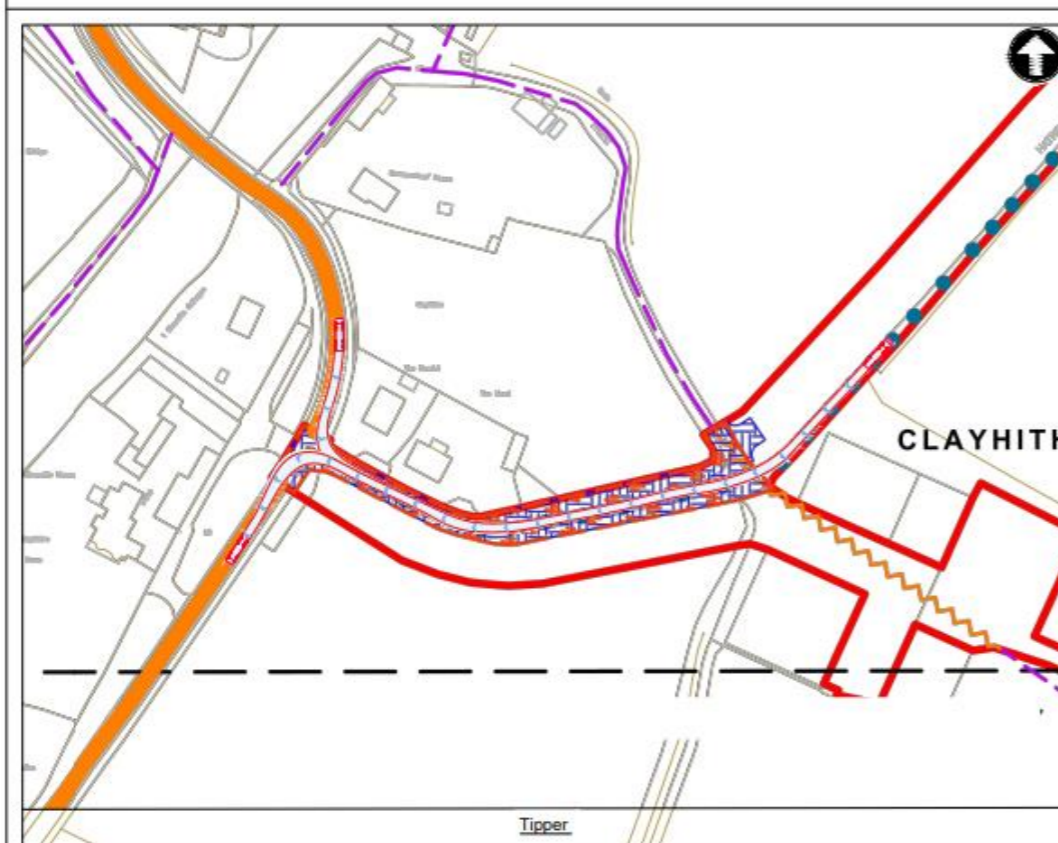
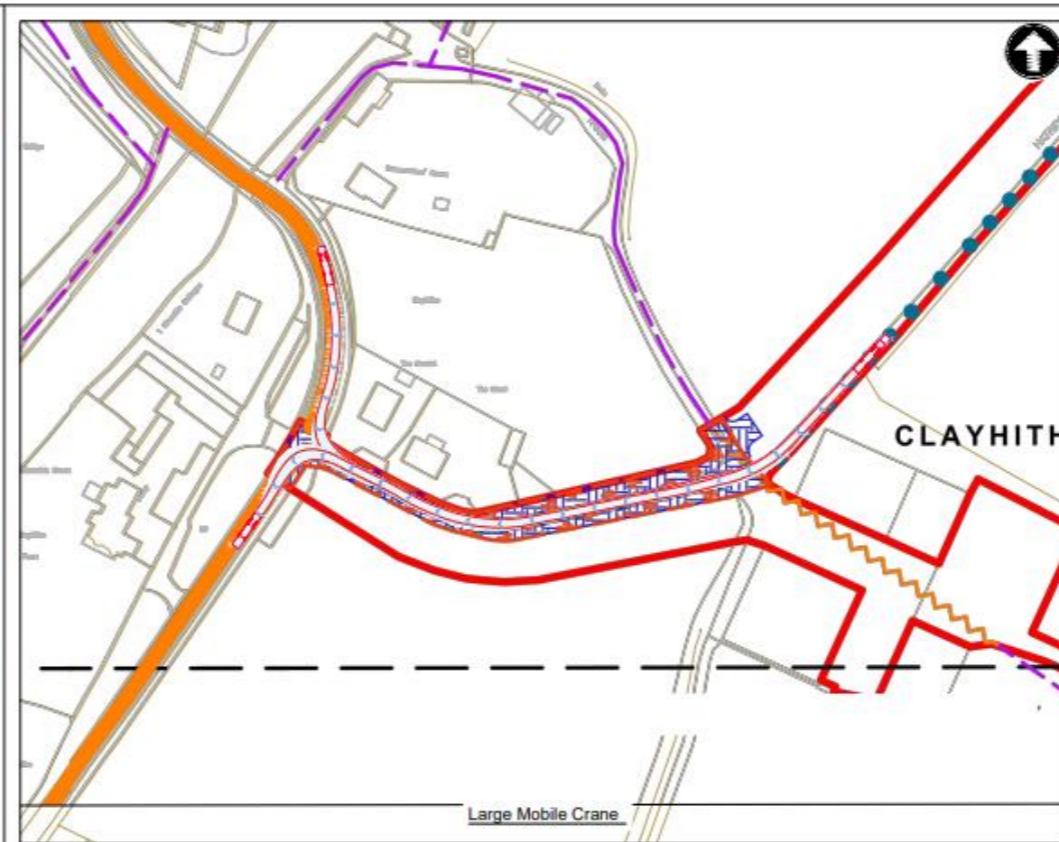
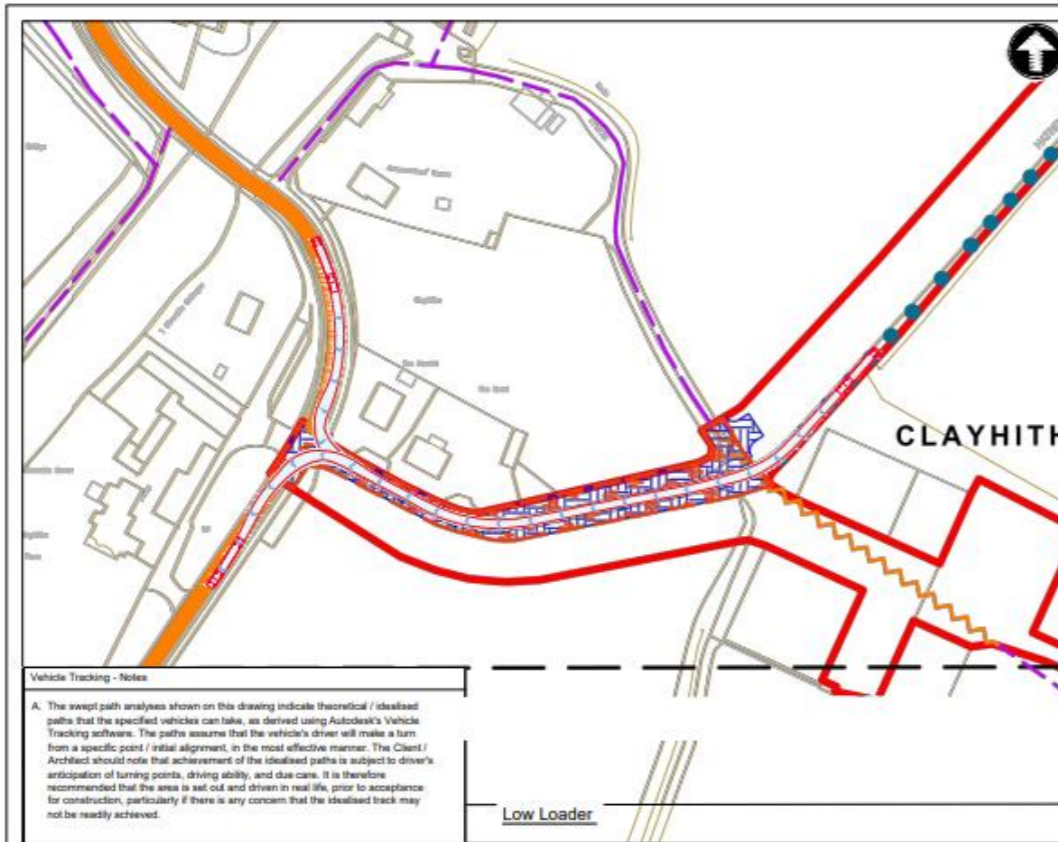
Rev	Date	Drawn	Description	Checked	Approved
P1		JVF	Draft for Discussion / Review	JVF	JVF

Client

Title
Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
9017
Highways GA, Visibility Splay and
Vehicle Tracking

Designed	M Forreca	JVF	Eng check	-
Drawn	M Forreca	JVF	Coordination	-
Design check	-	-	Approved	-
Scale at A1	Status	Rev	Security	
1:500	PRE	P1	STD	

Drawing Number
102375-MMD-01-XX-DR-C-DRAFT



Notes

- Do not scale from this drawing.
- All dimensions are in metres unless otherwise shown. All levels are in metres above Ordnance Datum (AOD). All dimensions & levels should be checked on site.
- Any drawing errors or discrepancies should be brought to the attention of Mott MacDonald at the address shown in the title block.
- This drawing has been prepared for the initial high level optioneering study for the CWWTW project.
- The drawing is based on OS mapping information and LIDAR data.
- The information is preliminary and subject to further detailed design.
- The design has not been submitted to the Highway Authority or Highways England for their technical review.
- The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
- The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
- The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
- The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
- The design is based on the requirements of DMRB, Manual for Streets has been adopted for some extent of the proposed access roads.
- The proposal requires third party land to be constructed. The extent of the land take is to be determined during future stages of the design development of this option.
- This drawing should be read in conjunction with the Technical Memo, Cambridge Waste Water Treatment Works Relocation Early assessment and siting of proposed site access options.

15. DRAWING MUST BE READ IN COLOUR

Vehicle Tracking - Key to Symbols

Vehicle Tracking - Vehicle Details

Vehicle Type	Overall Length	Overall Width	Overall Height	Min Body Ground Clearance	Track Width	Wheel to Wheel	Wheel to Wheel Turning Radius
Standard Low Loader with Trailer (17.5m)	17.50m	2.50m	2.50m	0.20m	2.20m	2.20m	12.00m
Large Mobile Crane	12.00m	2.50m	2.50m	0.20m	2.20m	2.20m	12.00m
Large Tipper	13.20m	2.50m	2.50m	0.20m	2.20m	2.20m	12.00m
Standard Design Vehicle (SDV)	4.00m	2.00m	1.50m	0.10m	1.80m	1.80m	6.00m

Vehicle Tracking - Risks & Compliance

Risks

- ▲ Kerb overrun
- ⚠ Restrictive road width

Rev	Date	Drawn	Description	Drawn	Appr
01			Issue for Discussion / Review	DF	DF
02				DF	DF

Client

Title

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
9018
Highways GA, Visibility Splay and
Vehicle Tracking

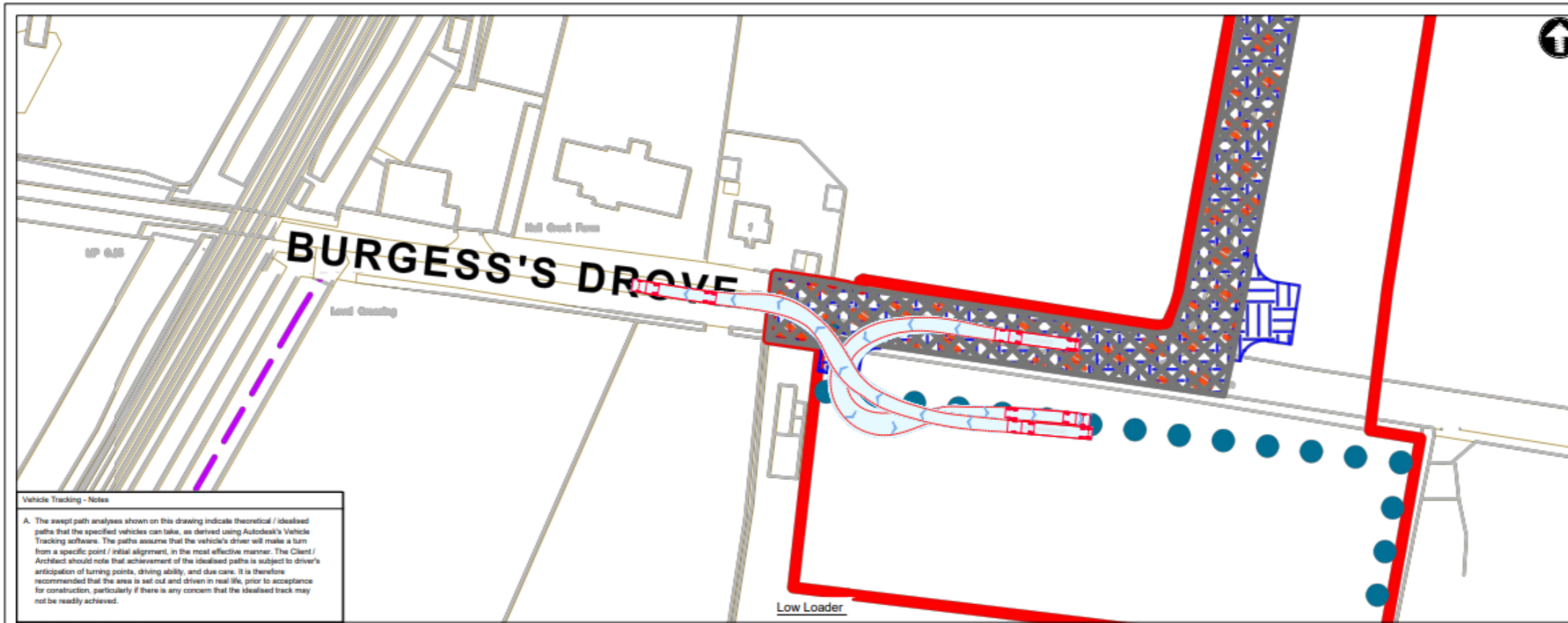
Designed	M Foreuca	DF	Eng check	-
Drawn	M Foreuca	DF	Coordination	-
Design check	-	DF	Approved	-

Scale at A1: 1:1000

Status	Rev	Security
PRE	P1	STD

Drawing Number: 102375-MMD-01-XX-DR-C-DRAFT

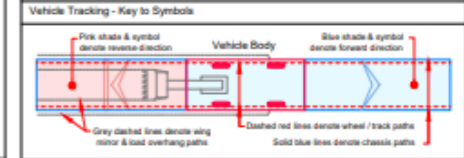
© Mott MacDonald
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.
C:\Users\GEM130079\OneDrive - Mott MacDonald\Documents\Projects\Vehicle Tracking\CWWTWGA_04_2216
Mott MacDonald\102375-MMD-01-XX-DR-C-DRAFT_Operations_3.dwg Jun 13, 2023 10:56PM DSG108676



Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.

- Notes**
1. Do not scale from this drawing.
 2. All dimensions are in metres unless otherwise shown. All levels are in metres above Ordnance Datum (AOD). All dimensions & levels should be checked on site.
 3. Any drawing errors or discrepancies should be brought to the attention of Mott MacDonald at the address shown in the title block.
 4. This drawing has been prepared for the initial high level optioneering study for the CWWTW project.
 5. The drawing is based on OS mapping information and LIDAR data.
 6. The information is preliminary and subject to further detailed design.
 7. The design has not been submitted to the Highway Authority or Highways England for their technical review.
 8. The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
 9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
 10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
 11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
 12. The design is based on the requirements of DMRB, Manual for Streets has been adopted for some elements of the proposed access roads.
 13. The proposal requires third party land to be constructed. The extent of the land take is to be determined during future stages of the design development of this option.
 14. This drawing should be read in conjunction with the Technical Memo, Cambridge Waste Water Treatment Works Relocation Early assessment and siting of proposed site access options.
- 15. DRAWING MUST BE READ IN COLOUR**



Vehicle Tracking - Vehicle Details

Generic Low Loader with Trailer Steering (18.00m)	Large Mobile Crane	
Overall Length: 17.00m	Overall Length: 12.00m	
Overall Width: 2.00m	Overall Width: 2.00m	
Overall Body Height: 2.00m	Overall Body Height: 2.00m	
Min Body Ground Clearance: 0.20m	Min Body Ground Clearance: 0.20m	
Track Width: 0.20m	Track Width: 0.20m	
Lock to Lock Wheel: 0.00m	Lock to Lock Wheel: 0.00m	
Hub to Hub Turning Radius: 9.00m	Hub to Hub Turning Radius: 10.00m	

Large Trailer	Standard Design Vehicle (SDV)	
Overall Length: 12.00m	Overall Length: 4.00m	
Overall Width: 2.00m	Overall Width: 2.00m	
Overall Body Height: 2.00m	Overall Body Height: 2.00m	
Min Body Ground Clearance: 0.20m	Min Body Ground Clearance: 0.20m	
Track Width: 0.20m	Track Width: 0.20m	
Lock to Lock Wheel: 0.00m	Lock to Lock Wheel: 0.00m	
Hub to Hub Turning Radius: 11.00m	Hub to Hub Turning Radius: 6.00m	

- Vehicle Tracking - Risks & Compliance**
- Risks**
- Kerb overrun
 - Restrictive road width

P1	JVF	Draw for Discussion / Review	JVF	JVF
Rev	Date	Drawn	Description	Checked / Approved

Client

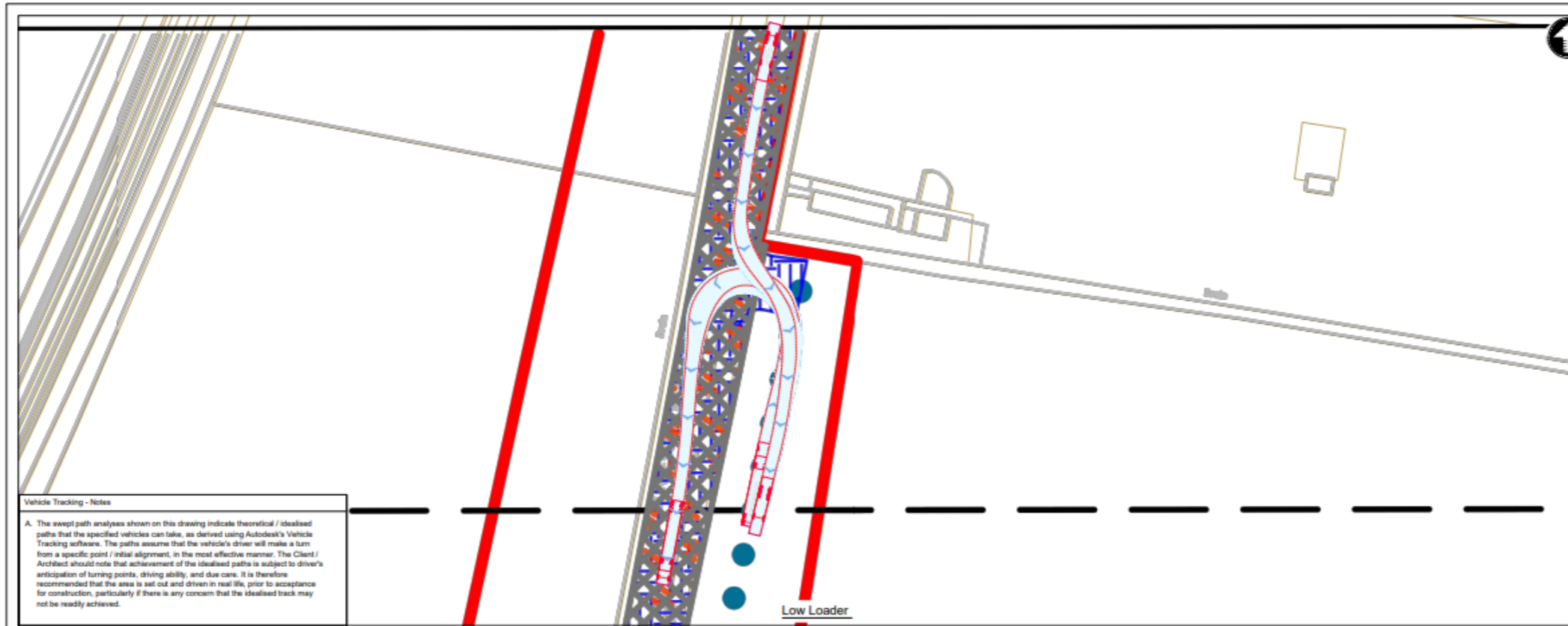
Title

Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
9018
Highways GA, Visibility Splay and
Vehicle Tracking

Designed	M Fonseca	JVF	Eng check	-
Drawn	M Fonseca	JVF	Coordination	-
Design check	-	-	Approved	-

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD
Drawing Number			
102375-MMD-01-XX-DR-C-DRAFT			

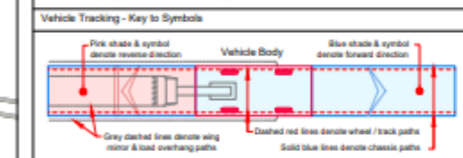
© Mott MacDonald
This document is issued for the party which commissioned it and for specific purposes connected with the captured project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.
C:\Users\102375\Documents - Mott MacDonald\Documents\Projects\Vehicle Tracking\01_CWWTWTR20_01_2316
Model\102375-MMD-01-XX-MD-C-DRAFT Operational 2.dwg Jul 13, 2022 - 2:55PM DGB/102375



Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.

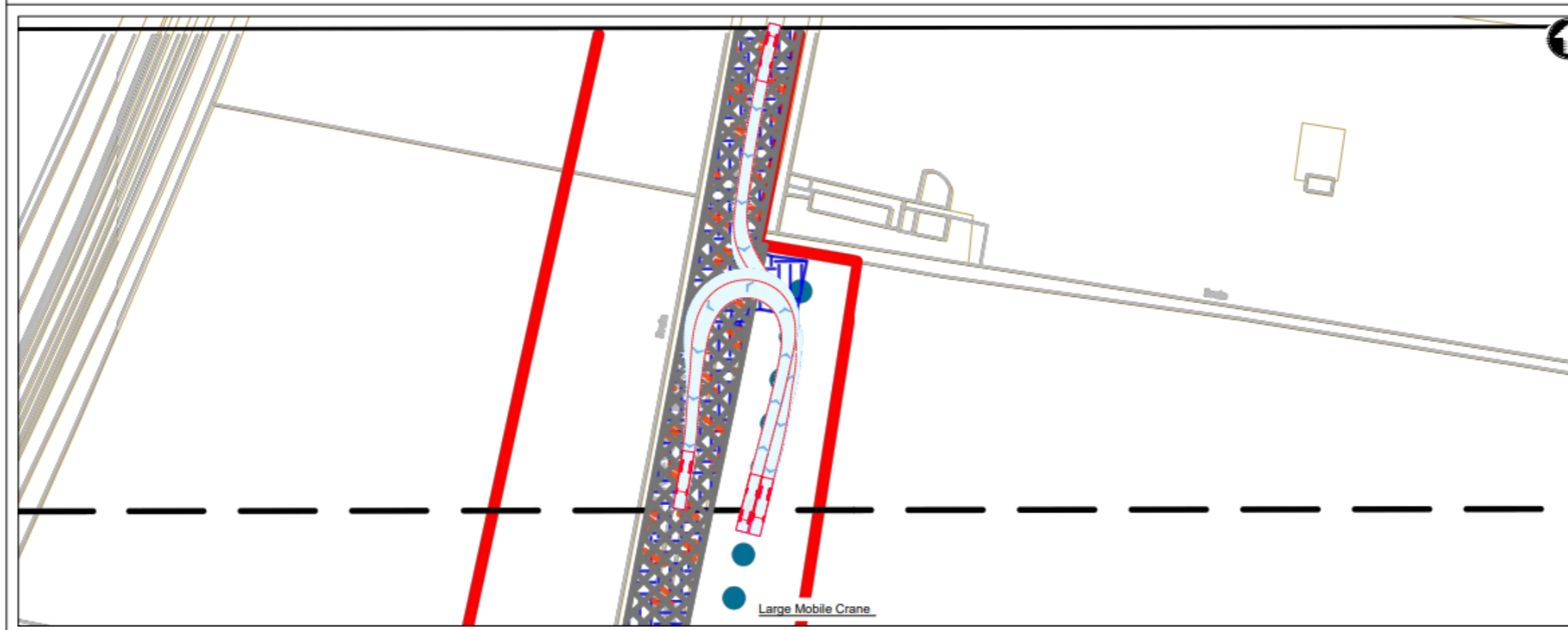
- Notes**
1. Do not scale from this drawing.
 2. All dimensions are in metres unless otherwise shown. All levels are in metres above Ordnance Datum (AOD). All dimensions & levels should be checked on site.
 3. Any drawing errors or discrepancies should be brought to the attention of Matt MacDonald at the address shown in the title block.
 4. This drawing has been prepared for the initial high level optimising study for the CWWTW project.
 5. The drawing is based on OS mapping information and LiDAR data.
 6. The information is preliminary and subject to further detailed design.
 7. The design has not been submitted to the Highway Authority or Highways England for their technical review.
 8. The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
 9. The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional tend take.
 10. The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
 11. The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
 12. The design is based on the requirements of DMRB. Manual for Streets has been adopted for some elements of the proposed access roads.
 13. The proposal requires third party land to be constructed. The extent of the land take is to be determined during future stages of the design development of this option.
 14. This drawing should be read in conjunction with the Technical Memo, Cambridge Waste Water Treatment Works Relocation Early assessment and siting of proposed site access options.
 15. DRAWING MUST BE READ IN COLOUR



Vehicle Tracking - Vehicle Details

Overall Length	17.80m	Overall Length	12.30m
Overall Width	2.30m	Overall Width	2.00m
Overall Body Height	3.00m	Overall Body Height	3.00m
Min Body Ground Clearance	0.20m	Min Body Ground Clearance	0.20m
Max Trail Width	2.00m	Trail Width	2.00m
Lock to lock Size	6.00m	Lock to lock Size	6.00m
Kerb to Kerb Turning Radius	9.00m	Kerb to Kerb Turning Radius	10.00m

Large Trailer	14.00m	Standard Design Vehicle (SDV)	4.80m
Overall Length	14.00m	Overall Length	2.00m
Overall Width	2.00m	Overall Width	1.80m
Min Body Ground Clearance	0.20m	Min Body Ground Clearance	0.20m
Max Trail Width	0.80m	Trail Width	0.80m
Lock to lock Size	6.00m	Lock to lock Size	6.00m
Kerb to Kerb Turning Radius	11.00m	Kerb to Kerb Turning Radius	8.00m



- Vehicle Tracking - Risks & Compliance**
- Kerb overrun
 - Restrictive road width

P1	11/23	DR	Draft for Discussion / Review	DR	DR
Rev	Date	Drawn	Description	DR/CA	Asst

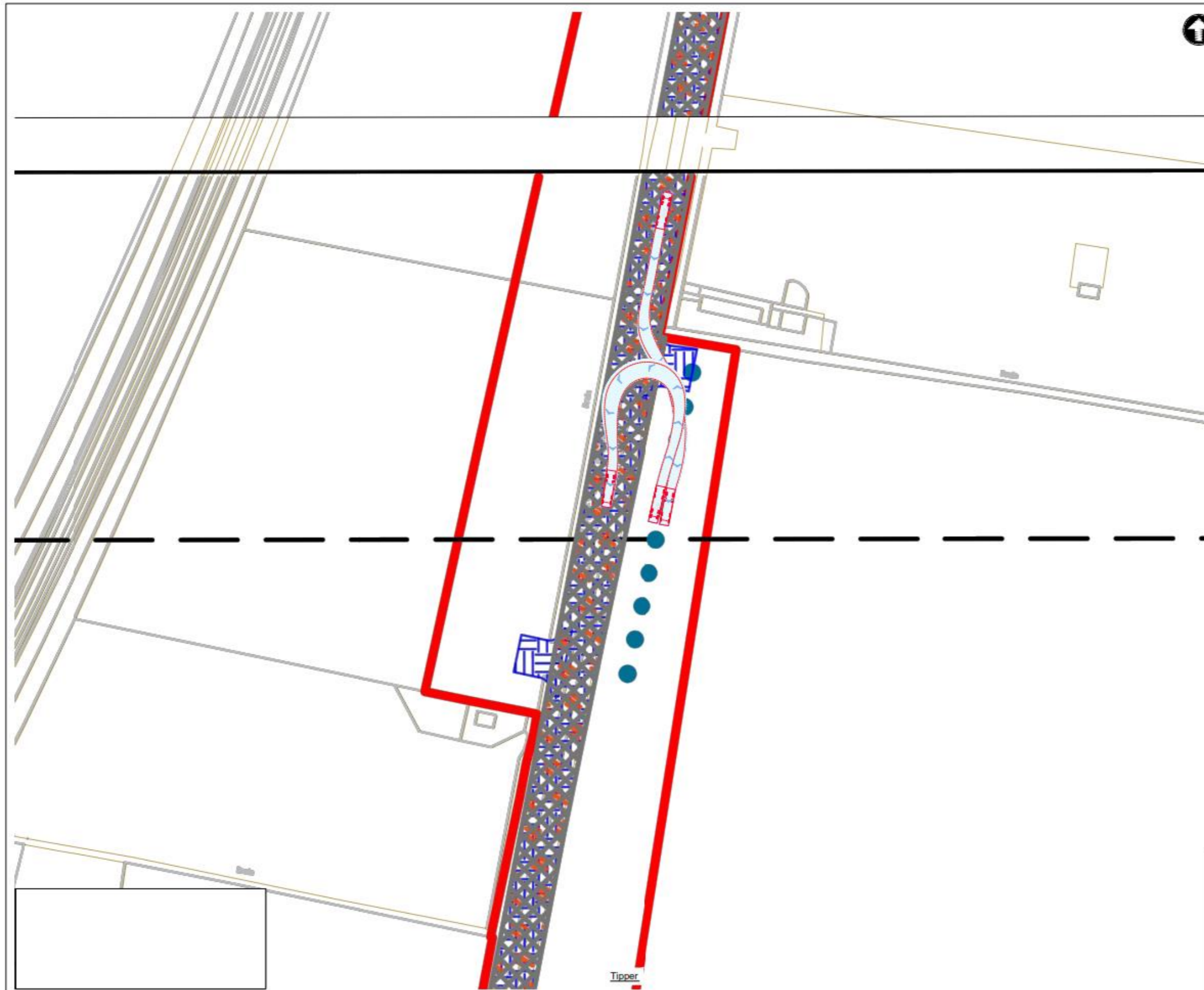
Client

Title
Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
9018
Highways GA, Visibility Splay and
Vehicle Tracking

Designed	M Fonseca	DR	Eng check	-
Drawn	M Fonseca	DR	Coordination	-
Design check	-	-	Approved	-

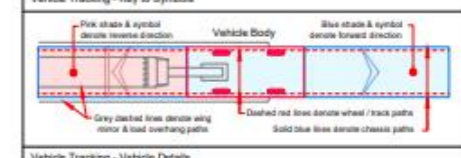
Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD
Drawing Number		102375-MMD-01-XX-DR-C-DRAFT	

© Matt MacDonald
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.
C:\Users\DKR19007\OneDrive - Matt MacDonald\Documents\Projects\Vehicle Tracking\C-WWTW\9018_04_22M
Model:102375-MMD-01-XX-DR-C-DRAFT Operations 2.dwg - Jul 13, 2022 - 2:43PM - DCR102375



- Notes
- Do not scale from this drawing.
 - All dimensions are in metres unless otherwise shown. All levels are in metres above Ordnance Datum (AOD). All dimensions & levels should be checked on site.
 - Any drawing errors or discrepancies should be brought to the attention of Mott MacDonald at the address shown in the title block.
 - This drawing has been prepared for the initial high level optioneering study for the CWWTW project.
 - The drawing is based on OS mapping information and LIDAR data.
 - The information is preliminary and subject to further detailed design.
 - The design has not been submitted to the Highway Authority or Highways England for their technical review.
 - The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
 - The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
 - The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
 - The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
 - The design is based on the requirements of DMRB Manual for Streets has been adopted for some extents of the proposed access roads.
 - The proposal requires third party land to be constructed. The extent of the land take is to be determined during future stages of the design development of this option.
 - This drawing should be read in conjunction with the Technical Memo, Cambridge Waste Water Treatment Works Relocation Early assessment and siting of proposed site access options.

15. DRAWING MUST BE READ IN COLOUR



Vehicle Tracking - Vehicle Details

	Small Lorry with Trailer (Steering 1:1.0m)	Overall Length	17.830m	Overall Width	2.430m	Overall Height	3.280m	Min Body Ground Clearance	2.320m	Min Body Ground Clearance	2.320m	Track Width	2.020m	Lock to Lock Spine	6.20m	Lock to Lock Turning Radius	8.330m	Lock to Lock Turning Radius	10.550m
	Large Lorry	Overall Length	2.800m	Overall Width	2.430m	Overall Height	3.280m	Min Body Ground Clearance	2.320m	Min Body Ground Clearance	2.320m	Track Width	2.020m	Lock to Lock Spine	6.20m	Lock to Lock Turning Radius	8.330m	Lock to Lock Turning Radius	10.550m

Vehicle Tracking - Risks & Compliance

	Kerb overrun	4.000m
	Restrictive road width	2.000m

Rev	Date	Drawn	Description	CHKD	APPR
P1		JF	Draft for Discussion / Review	JF	JF



Client

love every drop anglia water

Title
Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
9018
Highways GA, Visibility Splay and
Vehicle Tracking

Designed	M Foresea	JF	Eng check	-
Drawn	M Foresea	JF	Coordination	-
Deep check	-	-	Approved	-

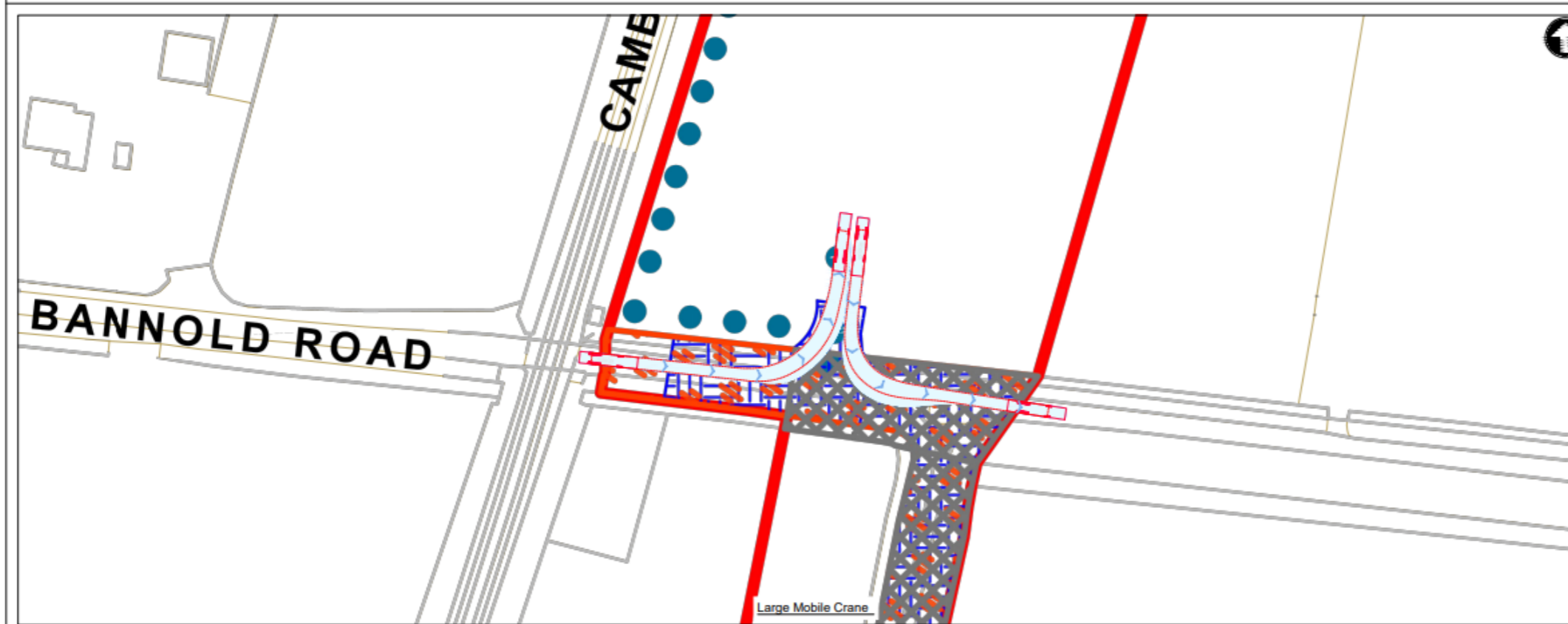
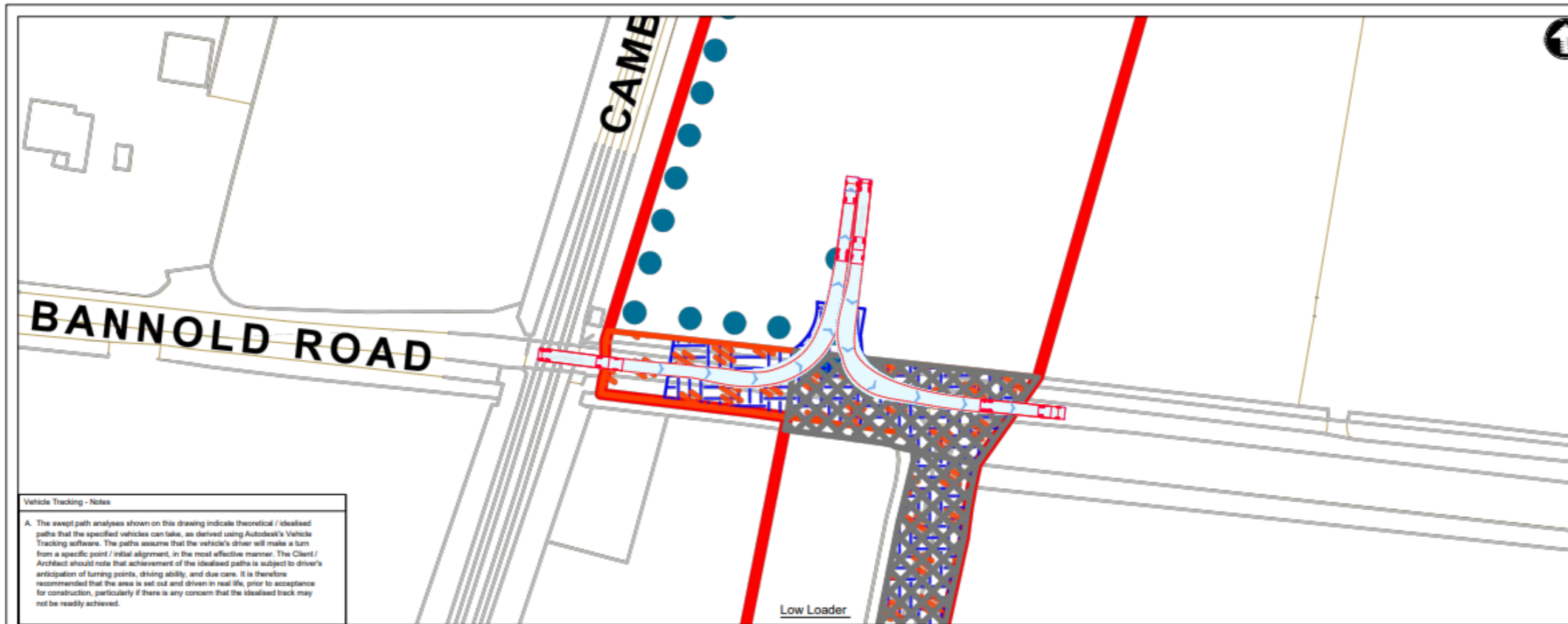
Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

Drawing Number
102375-MMD-01-XX-DR-C-DRAFT

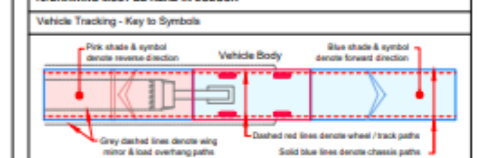
© Mott MacDonald
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.



C:\Users\G81506\OneDrive - Mott MacDonald\Documents\Projects\Vehicle Tracking\CWWTW\04_2216-MMD-102375-MMD-01-XX-DR-C-DRAFT_Operational_3.dwg Jun 13, 2022 - 2:45PM DSR116676



- Notes
- Do not scale from this drawing.
 - All dimensions are in metres unless otherwise shown. All levels are in metres above Ordnance Datum (AOD). All dimensions & levels should be checked on site.
 - Any drawing errors or discrepancies should be brought to the attention of Matt MacDonald at the address shown in the title block.
 - This drawing has been prepared for the initial high level optimising study for the CWWTW project.
 - The drawing is based on OS mapping information and LIDAR data.
 - The information is preliminary and subject to further detailed design.
 - The design has not been submitted to the Highway Authority or Highways England for their technical review.
 - The drawing does not include any information on proposed existing drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
 - The design requires works to the public highway and would require further discussions with the relevant stakeholders. The design is subject to change and additional land take.
 - The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
 - The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
 - The design is based on the requirements of DMBS. Manual for Streets has been adopted for some extents of the proposed access roads.
 - The proposal requires third party land to be constructed. The extent of the land take is to be determined during future stages of the design development of this option.
 - This drawing should be read in conjunction with the Technical Memo - Cambridge Waste Water Treatment Works Relocation Early assessment and siting of proposed site access options.
 - DRAWING MUST BE READ IN COLOUR**



Vehicle Tracking - Vehicle Details

 Overall Length: 11.870m Overall Width: 2.400m Overall Body Height: 2.800m Min Body Ground Clearance: 0.300m Max Track Width: 2.500m Load to Back: 6.500m Kerb to Kerb Turning Radius: 9.500m	 Overall Length: 12.300m Overall Width: 2.400m Overall Body Height: 2.800m Min Body Ground Clearance: 0.300m Max Track Width: 2.500m Load to Back: 6.500m Kerb to Kerb Turning Radius: 10.000m
--	---

 Overall Length: 13.200m Overall Width: 2.400m Overall Body Height: 2.800m Min Body Ground Clearance: 0.300m Max Track Width: 2.500m Load to Back: 6.500m Kerb to Kerb Turning Radius: 11.000m	 Overall Length: 6.800m Overall Width: 2.000m Overall Body Height: 1.800m Min Body Ground Clearance: 0.300m Max Track Width: 2.000m Load to Back: 4.00m Kerb to Kerb Turning Radius: 6.000m
---	--

- Vehicle Tracking - Risks & Compliance
- Risks
- Kerb overrun
 - Restrictive road width

Rev	Date	Drawn	Description	Drawn / Review	Drawn / Review	Checked / Approved
-----	------	-------	-------------	----------------	----------------	--------------------

Client	love every drop anglia water
--------	------------------------------

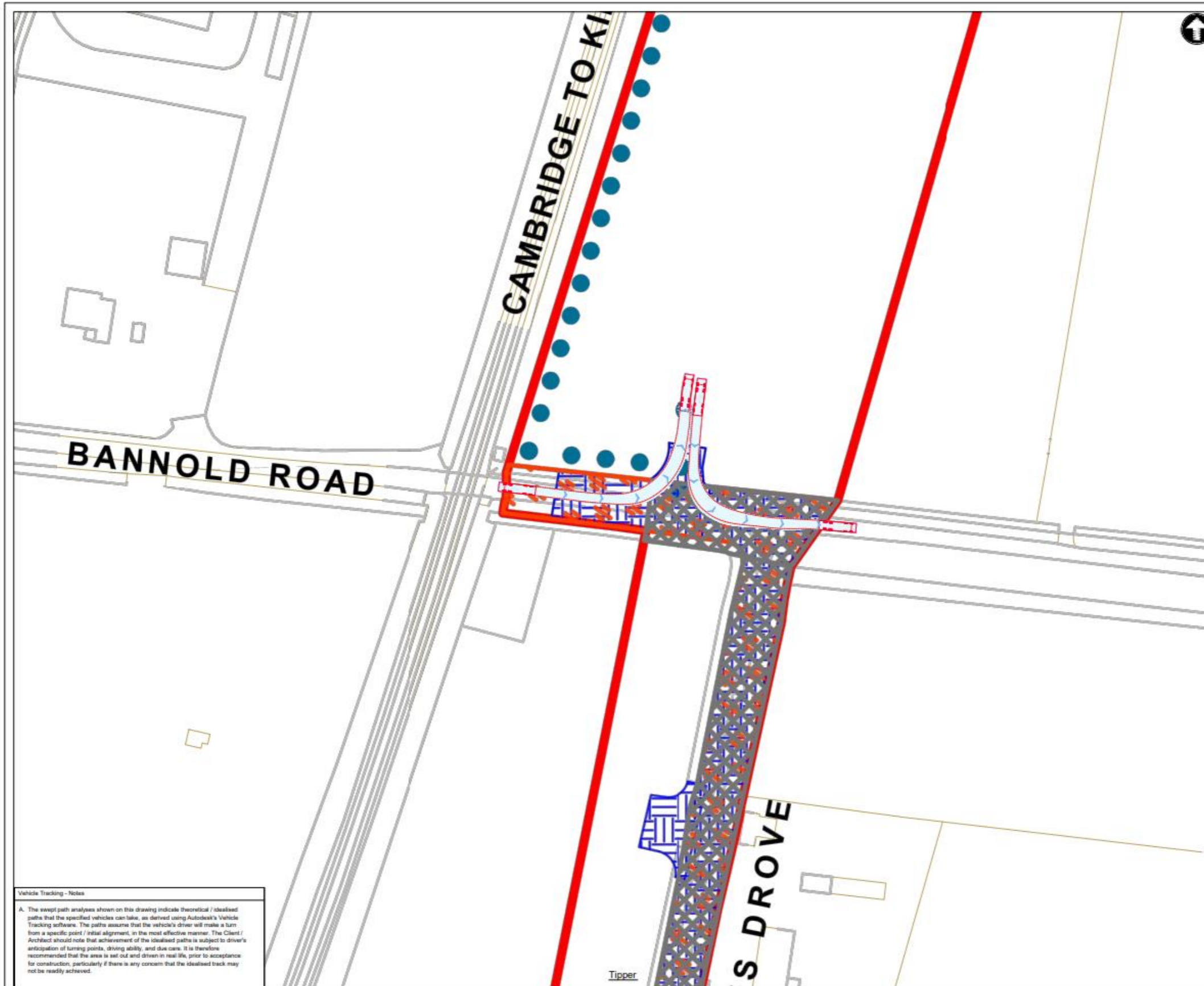
Title
Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
9019
Highways GA, Visibility Splay and
Vehicle Tracking

Designed	M Forreca	/MF	Eng check	-
Drawn	M Forreca	/MF	Coordination	-
Design check	-	-	Approved	-

Scale at A1	Status	Rev	Security
1:500	PRE	P1	STD

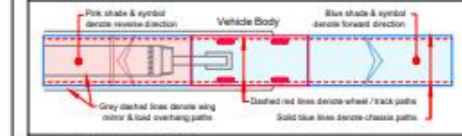
Drawing Number
102375-MMD-01-XX-DR-C-DRAFT

© Matt MacDonald
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.
C:\Users\DE110076\OneDrive - Matt MacDonald\Documents\Projects\Vehicle Tracking\C-WWTTR2019_08_22M-Model102375-MMD-01-XX-DR-C-DRAFT Operational 2.dwg Jul 13, 2022 - 2:24PM DGB110276



- Notes**
- Do not scale from this drawing.
 - All dimensions are in metres unless otherwise shown. All levels are in metres above Ordnance Datum (AOD). All dimensions & levels should be checked on site.
 - Any drawing errors or discrepancies should be brought to the attention of Matt MacDonald at the address shown in the title block.
 - This drawing has been prepared for the initial high level optioning study for the CWWTW project.
 - The drawing is based on OS mapping information and LIDAR data.
 - The information is preliminary and subject to further detailed design.
 - This design has not been submitted to the Highway Authority or Highways England for their technical review.
 - The drawing does not include any information on proposed highway drainage and associated SUDS, existing or proposed utilities or other existing assets that may need to be protected or diverted as part of the works.
 - The design requires works to the public highway and would require further discussion with the relevant stakeholders. The design is subject to change and additional land take.
 - The drawings do not include any street lighting or other highway infrastructure which may be required as part of the overall scheme design.
 - The design assumes an embankment slope of 1:3 is acceptable to the relevant stakeholders.
 - The design is based on the requirements of DMRB. Manual for Streets has been adopted for some aspects of the proposed access roads.
 - This proposal requires third party land to be constructed. The extent of the land take is to be determined during future stages of the design development of this option.
 - This drawing should be read in conjunction with the Technical Memo, Cambridge Waste Water Treatment Works Relocation Early assessment and siting of proposed site access options.

15. DRAWING MUST BE READ IN COLOUR



Vehicle Tracking - Vehicle Details

Vehicle Type	Overall Length	Overall Width	Overall Body Height	Overall Wheel Height	Wheelbase	Wheelbase to Rear Clearance	Wheelbase to Front Clearance	Wheel to Kerb	Wheel to Wheel Turning Radius
Demers Low Loader with Trailer Steering (18.5m)	17.810m	2.500m	2.500m	2.500m	4.500m	1.500m	1.500m	1.500m	10.000m
Large Mobile Crane	12.000m	2.500m	2.500m	2.500m	4.500m	1.500m	1.500m	1.500m	10.000m
Light Trailer	12.000m	2.500m	2.500m	2.500m	4.500m	1.500m	1.500m	1.500m	10.000m
Standard Design Vehicle (SDV)	4.000m	2.000m	2.000m	2.000m	2.000m	0.500m	0.500m	0.500m	6.000m



Rev	Date	Drawn	Description	Checked	Appr'd
P1		JMF	Start for Discussion / Review	JMF	JMF

Client

Title
Cambridge Waste Water Treatment Works Relocation
Temporary Access Junctions
9019
Highways GA, Visibility Splay and
Vehicle Tracking

Designed	M Forreca	JMF	Eng check	-
Drawn	M Forreca	JMF	Coordination	-
Eng check	-	-	Approved	-

Scale at A1: 1:500
Status: PRE
Rev: P1
Security: STD

Drawing Number: 102375-MMD-01-XX-DR-C-DRAFT

Vehicle Tracking - Notes

A. The swept path analyses shown on this drawing indicate theoretical / idealised paths that the specified vehicles can take, as derived using Autodesk's Vehicle Tracking software. The paths assume that the vehicle's driver will make a turn from a specific point / initial alignment, in the most effective manner. The Client / Architect should note that achievement of the idealised paths is subject to driver's anticipation of turning points, driving ability, and due care. It is therefore recommended that the area is set out and driven in real life, prior to acceptance for construction, particularly if there is any concern that the idealised track may not be readily achieved.

© Matt MacDonald
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.
C:\Users\DEB190276\OneDrive - Matt MacDonald\Documents\Projects\Vehicle Tracking\CWWTW\019019_06_2024\102375-MMD-01-XX-040-C-DRAFT Operational 2.dwg Jul 13, 2022 - 2:18PM D32153876

Get in touch

You can contact us by:



Emailing at info@cwwtpr.com



Calling our Freephone information line on **0808 196 1661**



Writing to us at **Freepost: CWWTPR**

You can view all our DCO application documents and updates on the application on The Planning Inspectorate website:

<https://infrastructure.planninginspectorate.gov.uk/projects/eastern/cambridge-waste-water-treatment-plant-relocation/>