



SILVERTOWN TUNNEL

DOCUMENT TITLE:

**Worksite Specific Construction Traffic Management Plan
SGN Pressure Reduction System (PRS) access splay**

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Acronyms and Abbreviations

- “**CJV**” – Construction Joint Venture
- “**CoCP**” – Code of Construction Practice
- “**DCO**” – Development Consent Order
- “**DML**” – Deemed Marine Licence
- “**HGV**” – Heavy Goods Vehicle
- “**PPE**” – Personal Protective Equipment
- “**PLA**” – Port of London Authority
- “**CMMP**” – Materials management plan
- “**SFTF**” – Sustainable Freight Transport Framework
- “**SFTP**” – Sustainable Freight Transport Plans
- “**TBM**” – Tunnel Boring Machine
- “**TfL**” – Transport for London
- “**CSRS**” – Construction Site River Strategy
- “**WSCTMP**” - Worksite Specific Construction Traffic Management Plan
- “**TMS**” – Traffic Management Scheme
- “**RSA**” – Road Safety Audit
- “**LHA**” – Local Highway Authority
- “**PRS**” – Pressure Reduction Station
- “**SGN**” – Southern Gas Network
- “**TTM**” – Temporary Traffic Management
- “**VBMS**” – Vehicle Booking Management System

1. Introduction

The Silvertown Tunnel scheme (STT) will link South and North London from the North Greenwich area to the Royal Victoria Dock area. This river tunnel will reduce congestion at the Blackwall Tunnel, supporting environmental improvement and economic growth for east London. STT involves construction of a twin-bore road tunnel c. 1.4km long, suitable for accommodating large vehicles including double-deck buses. The design and construction of this tunnel will be undertaken by Riverlinx Construction Joint Venture (Riverlinx CJV).

Riverlinx CJV have entered into legal agreements with the landowners/occupiers in order to progress specific alteration works to mitigate impact upon their interests; these works are referred to as 'Supplementary Works'. Each impacted location has a Detailed Design approved by the Stakeholder and landowner/occupier.

The Scheme's permanent highway design will redirect the A102 (Northbound) toward the new Silvertown Tunnel. In doing so the existing Southern Gas Network (SGN) Pressure Reduction Station (PRS) will need to be relocated by SGN in order to facilitate the new highways design. In order for SGN to relocate the existing PRS, a new access will be constructed by Riverlinx CJV on behalf of SGN to connect directly to the northbound carriageway of Millennium Way.

This plan describes Riverlinx CJV's approach to safe and efficient management of the construction road traffic that will be utilised in supporting the construction phases for the PRS and SGN Works. This includes safe management of vehicles in transit or accessing and egressing of Riverlinx CJV worksites.

This plan is administered within the Riverlinx CJV logistics team and the Riverlinx CJV Traffic Manager is responsible for the execution of the plan.

It is noted that the construction works which are subject to this traffic management plan are of a particularly short duration and small scale. They precede other more significant works undertaken pursuant to the construction of the Silvertown tunnel by several months, and therefore it is felt appropriate that they are subject to an individual plan specific to the nature of these access works. These works require only approximately 15 two way HGV movements to execute. This plan therefore seeks to govern only those HGV movements.

2. Requirements

This Worksite Specific Construction Traffic Management Plan (WSCTMP) details how Riverlinx CJV proposes to discharge logistics and traffic management responsibilities associated with the worksite to construct the Gas Pressure Reduction station and the highways access off Millennium Way in its vicinity, thereby ensuring compliance with legal and contractual requirements (general and specific) associated with highways and traffic including the relevant requirements of the Code of Construction Practice (CoCP) and the Development Consent Order (DCO).

The table below summarises the associated requirements as per the DCO and CoCP and how Riverlinx CJV achieve these:

| DCO Schedule/CoCP Requirement | Progress |
|---|---|
| <p>CoCP, Table1-1, Summary of subsidiary environmental management plans The CTMP will include:</p> <ul style="list-style-type: none"> • details of how logistics will be managed, e.g. lorry routes, diversions, main access/egress points; • traffic incidents plan dealing with incidents or severe congestion on agreed construction routes; and • Construction Workers Travel Plan, developed to encourage the use of sustainable modes of transport (including river transport) to and from the worksite by those working on the project | <ul style="list-style-type: none"> • This WSCTMP includes proposed vehicle routes into the Greenwich Peninsular and the Work sites specific to this Plan. • Traffic Incidents Plan • A CWTP has been developed for Greenwich and is included as an Appendix to this plan |
| <p>CoCP, 3.1.2 Construction Transportation, The management of construction logistics will be established in a Construction Traffic Management Plan (CTMP) to be prepared by the Contractor before construction commences. The plan will embed contractual requirements, the outcome of consultation with the relevant local authorities, and comprehensive logistics planning.</p> | <ul style="list-style-type: none"> • This WSCTMP has been prepared through consultation with the relevant planning authorities and TfL. |
| <p>CoCP, 3.1.3 Construction Transportation, A CTMP will be produced by the Contractor for each worksite for approval by the relevant planning authority in consultation with the relevant highway authority, prior to commencing the relevant part of the authorised development.</p> | <ul style="list-style-type: none"> • Any changes and future submissions of this document will be approved by the relevant planning authority in consultation with the relevant highways authority prior to commencement. |

| | |
|--|---|
| <p>CoCP, 3.1.4 Construction Transportation, The CTMP for each worksite will be developed in accordance with relevant best practice including for example TfL's guidance on Construction Logistics Plans (or equivalent).</p> <p>• Site information This section will include details of the construction site locations and main access/egress points for vehicles and pedestrians.</p> | <ul style="list-style-type: none"> • This WSCTMP has been prepared in accordance with the relevant best practice including TfL's guidance on Construction Logistics Plans where applicable. • This WSCTMP includes plans showing construction site locations and access/egress points for vehicles and pedestrians. |
| <p>CoCP, 3.1.4 Construction Transportation, cont. Construction details This section will set out the works programme, with indicative dates for stages of construction, and information on the level of deliveries required. Detailed construction and delivery traffic routes will be specified and agreed by the relevant planning authority in consultation with the relevant highway authority, with local roads only to be used for immediate access to the worksites or local businesses (including wharves). Constraints and restrictions on road vehicle movements to be included in the CTMP are likely to include:</p> <ul style="list-style-type: none"> • days of the week and times of the day when road vehicle movements are not permitted; • maximum number of vehicle movements permitted at defined periods of the day, e.g. between 08:00 and 09:00, or restrictions on the use of the Blackwall Tunnel by construction lorries at peak times; and • procedures for abnormal loads. | <ul style="list-style-type: none"> • Current sketches of relevant Traffic Management Drawings have been included as Appendix to this plan. Further, more detailed drawings will be included when available. • Anticipated vehicle movements have been set out within the WSCTMP. It is likely that these will be developed and detailed further as the design develops. |
| <p>CoCP, 3.1.4 Construction Transportation, cont. Traffic management This section of the CTMP will detail how non-construction traffic will be managed at each stage of construction, including temporary and permanent road closures and diversions and pedestrian and cycle facilities (pursuant to Article 10 of the DCO). Details of any changes that are required to signage and parking arrangements in the vicinity of the worksites will be set out in this section. Information on the process that will be followed by the Contractor in dealing with traffic incidents or severe congestion on agreed construction and delivery routes will also be set out.</p> | <ul style="list-style-type: none"> • Traffic Management Drawings have been included within this document. It is likely that these will be developed and detailed further as the design develops. • Details of changes to signage in the vicinity of the work sites will be provided for approval in consultation with the Highways Authority once developed. |
| <p>CoCP, 3.1.4 Construction Transportation, cont. Policies and procedures The CTMP will incorporate the outcome of communications undertaken in accordance with the CEP. The CTMP must include a Construction Workers Travel Plan (CWTP) developed to encourage the use of sustainable modes of transport (including river transport) to and from the worksite by those working on the project.</p> | <ul style="list-style-type: none"> • The CWTP (appended to the WSCTMP) has been developed to inform the work force of the appropriate means of travel, including near by public transport links etc. |
| <p>CoCP, 3.1.4 Construction Transportation, cont. Monitoring, compliance and reporting The CTMP will also detail how, when and by whom it will be monitored, including, but not limited to, the ongoing review of the following:</p> <ul style="list-style-type: none"> • Freight Operator Recognition Scheme (membership); • collision reporting; • driver licence checks; | <ul style="list-style-type: none"> • As part of our compliance with the CoCP we have specified to our supply chain the requirement for the highest current standards in construction vehicle safety, including by not limited to FORS Gold. |

| | |
|---|---|
| <ul style="list-style-type: none"> • vehicle safety equipment audits; • number of vehicle movements to site; • vehicle mileage; • level of vehicle fill; • CO2 emissions; • delivery accuracy; • breaches and complaints; and • construction workers' travel behaviour to inform the on going monitoring of the CWTP. | |
| <p>CoCP, 3.1.5 Construction Transportation The CTMP will ensure that safety measures are implemented to minimize road-related risks. The Contractor will specify the highest current standards in construction vehicle safety, including visibility. This includes but is not limited to FORS Gold (Fleet Operator Recognition Scheme), CLOCS (Construction Logistics and Cycle Safety), SLS (Safety Lorry Scheme) and WRRR (Work Related Road Risk) scheme. Signs identifying the Silvertown Tunnel project and Contractor contact numbers will be displayed in a prominent position on all construction vehicles. All vehicles working in the construction of the Silvertown Tunnel will be compliant with the Mayor's Direct Vision Standard.</p> | <ul style="list-style-type: none"> • As part of our compliance with the CoCP we have specified to our supply chain the requirement for the highest current standards in construction vehicle safety, including by not limited to FORS Gold. |
| <p>CoCP, 3.1.7 Construction Transportation The CTMP will specify the routes to be used by construction heavy goods vehicles (HGVs) to and from the worksites. Construction HGVs would be routed on the TLRN and principal roads as far as possible, with local roads only used to directly access the worksites, local businesses, and wharves used for the import and/or export of material by river. The principal routes to and from the worksites will be the A12, the A13, the A2 and the A102 with access between these routes and the worksite via Lower Lea Crossing, Blackwall Lane and Millennium Way. Any deviations from this approach would need to be agreed in advance in the CTMP with the local planning authorities.</p> | <ul style="list-style-type: none"> • With limited options for HGV movements in and out of Greenwich this WSCTMP highlights the necessary routes utilising the TLRN and principle roads such as the A102. |
| <p>CoCP, 2.3.3, General Site Operations A Construction Traffic Management Plan (CTMP) will be put in place and will include mechanisms to review the changes in traffic management operations and measures to minimise any impacts on the local residents of each borough.</p> | <ul style="list-style-type: none"> • This WSCTMP will be updated as necessary within any proposed optimisation of TTM measures. All updated information will be issued to the relevant planning authorities in consultation with the highways authority. |

This Worksite Specific Construction Traffic Management Plan outlines the logistics and traffic management strategy for:

- The Specific Work sites associated with the Third-Party Works in Greenwich listed below:
 - PRS Access
- Public highways used to deliver the works

3. Project Area

| Site | Usage |
|-------|---|
| North | London Borough of Newham – Launch Chamber, Approach Structures, Highway Realignments and Tie-in |
| South | Royal Borough of Greenwich – Rotation Chamber, Approach Structures, Highways Realignment and Tie-in |



Figure 1. General Scheme Layout

4. Site information

The PRS works will all take place on the Greenwich Peninsula surrounding the location of the previous SGN Gas holder. For a Works Location Plan, see Appendix A.

5. Construction details

The number of vehicle movements seen in the below tables for each are itemised into each separate purpose of delivery/vehicle movement to and from the site for each sequence of works.

Due to the size and scope of the works, large numbers of construction vehicles are not anticipated. In any case to reduce the impact of the construction works on the A102 and Blackwall Tunnel, when possible, deliveries will be scheduled outside of Blackwall Tunnel Peak traffic times e.g. between 08:00 and 09:00 &

As per the CoCP 2.3.3, Some minor activities. Such as changes in traffic management operations, may be required out of core working hours on a more frequent basis, but this would not be expected to have a significant impact in the context of the existing movements of traffic.

The table below is extracted from the Construction Works Programme highlighting the specific works covered by this WSCTMP.

| Activity | Start Date | Finish Date |
|--|-------------------|--------------------|
| Mobilise and construct new permanent access for PRS | July 2020 | August 2020 |
| SGN – PRS construction & commissioning | August 2020 | November 2020 |
| Completion of PRS Access (Tarmac & road marking works) | November 2020 | December 2020 |

6. Approximate vehicle movements associated with the works

The table below provides details of the approximate material movement

| Month | Total 2 way HGV movements | Indicative Peak (2 way) HGV movements per day | Works associated |
|----------------|---------------------------|---|------------------|
| July 2020 | 15 | 3 | PRS access |
| August 2020 | 6 | 2 | PRS access |
| September 2020 | 4 | 2 | SGN - PRS Works |
| October 2020 | 2 | 2 | SGN - PRS Works |
| November 2020 | 2 | 2 | SGN - PRS Works |
| December 2020 | 5 | 2 | PRS access |

7. Key Activities Sequence (PRS)

Key sequence of activities for the PRS works are as follows:

1. Mobilisation on site and site compound set up
2. Temporary Traffic Management Set up
 - a. Including land closure
3. Site Clearance
 - a. Removal of vegetation
 - b. Removal of existing hard landscaping (Kerbs, fencing, Vehicle Barrier System (VBS))
 - c. Relocation of existing signage
4. Excavation
 - a. Topsoil strip
 - b. Excavation of existing made ground
5. Utility Protection
6. Backfill to formation level
7. Drainage works
8. Handover to SGN for PRS movement
9. Hand back to Riverlinx CJV
10. Reinstating lighting columns
11. Reinstating permanent perimeter fencing
12. Kerb installation
13. Pavement construction
14. Road marking
15. Permanent gate installation
16. Reinstatement of area

8. Construction Traffic Routes

See Appendix B for temporary Traffic Management Scheme.

9. Greenwich Specific Key Stakeholders

Riverlinx CJV will engage the stakeholders listed below (and others where relevant) to ensure traffic and highways issues are dealt with as effectively as possible:

- Transport for London (TfL)
- The Royal Borough of Greenwich;
- Knight Dragon;
- O2 Arena;
- Local Highway Authorities (LHAs);
- Utility Statutory Bodies (Electricity, Water, Gas, Telecom, Communications) and
- Police

Key stakeholders will be kept informed on the progress primarily through scheduled meetings, including:

- Community Liaison Group (CLG);
- Consents management/progress meetings with LHAs, TfL and the PLA and
- Technical logistics meetings/workshops with individual stakeholders or groups of stakeholders as required.

10. Project Helpline

A project helpline is operated by Riverlinx CJV 24 hours a day, seven days a week and will act as a first point of contact for information or queries raised by the public. All calls and emails will be actioned as efficiently as possible and will be logged, including any action that was taken. Complaints will be recorded within a central complaints log.

The helpline number will be advertised on hoardings (including all Considerate Constructors Scheme notices), project information sheets, advertisements and community information bulletins.

Riverlinx CJV will also set up and maintain a website which will inform the public of the construction programme, main construction activities, and any relevant project updates. There will also be a project email address, which will enable stakeholders to contact the construction team directly with any queries or concerns.

11. Key Personnel

Should there be an issue with the project helpline, the following contact details can be used for the same purpose as helpline details described above in Project Helpline section.

| Contact Title | Contact Number | Contact Email |
|--|----------------|----------------------------|
| Community Construction Liaison Manager | 07557816007 | sbrowne@riverlinxcjv.co.uk |

12. Vehicle Safety Standards

Riverlinx CJV will:

- ensure all vehicles and drivers transporting Equipment, Plant and Materials and people comply with the relevant vehicle safety standards;
- refuse entry to the Worksite, Working Area or holding area to any non-compliant vehicle or driver unless dispensation has been sought;
- ensure that the:
 - vehicle and cycle safety requirements are communicated effectively to all Subcontractors, Suppliers and the supply chain;
 - safe driving and the safe delivery of Equipment, Plant and Materials and people are the overriding priorities for all vehicle movements;
 - freight operators directors or, if applicable, owner drivers will declare any traffic enforcement notice received in the last five years;
- carry out the assessment and selection of all haulage firms and freight operators engaged on the contract, including owner drivers to ensure that they:
 - adopt the Employer's environmental, health and safety, sustainability and community relations policies, principles and values;
- display signs in the vehicle window of all construction vehicles on public roads which are working on the Project. These signs will:
 - uniquely identify the vehicle to the Project;
 - be removed as soon as the vehicle is no longer used for the Project;
 - Identify the contractors contact number
- Riverlinx CJV will:
 - provide evidence on request that the freight operators, hauliers and other goods vehicle operators are in possession of an up to date operating licence and
 - inform the Project Manager of any changes to the operating licences, or the driving licences of any drivers, including Subcontractor's and Supplier's drivers, that impact on their ability to safety and legally operate and drive vehicles as part of the works.

13. Specifying FORS membership

In accordance with the CoCP, Riverlinx CJV will 'specify the highest current standards in construction vehicle safety, including visibility. This includes but is not limited to FORS Gold (Fleet Operator Recognition Scheme), CLOCS (Construction Logistics and Cycle Safety), SLS (Safety Lorry Scheme) and WRRR (Work Related Road Risk) scheme.'

14. Driver Training

Riverlinx CJV will ensure that all drivers engaged on the contract, including Subcontractors, Suppliers and the supply chain:

- undertake, or have undertaken within the last five years, the Safe Urban Driving Course (details of which are provided at www.fors-online.com) or VanSmart for under 3.5T vehicles prior to delivering freight to and from any Worksite or Working Area;
- complete the FORS e-learning 'Work Related Road Safety' module (or an approved equivalent safety module) at least every 12 months; and
- undertake additional training to raise awareness of all road users, including pedestrians and cyclists.

Riverlinx CJV will:

- validate drivers licences through the induction process;
- use competency management software to record training records for approved drivers;
- ensure that all drivers have undertaken occupational health assessments;
- ensure drivers operating across the Project who make more than three round trips in any 12-month period to any of the Worksites have completed all the required training relevant to the work being undertaken;
- ensure that all drivers:
 - make their drivers licence available at all times for inspection by the Project Manager;
- audit their own drivers, Subcontractors, Suppliers and the supply chain to ensure compliance with these training requirements;
- note that the driver training course does not replace any other induction training required by the contract;
- note that there will be no vehicle driver training concessions for the drivers listed above regarding the training requirements and vehicles driven by drivers without the required training will not be allowed to enter the Worksite, Working Areas or any lorry holding area until the driver has completed the required driver training;
- submit to TfL for acceptance any proposed alternative arrangements for driver training courses or certifications, including:
 - demonstration that the alternative course covers the content of the Safe Urban Driving Course;
 - course accreditation and
 - competence of tutors.

15. Driver Training Concessions

Given the small scale and the nature of the PRS access works, that will be undertaken under this WSCTMP it is proposed that whilst Riverlinx CJV will specify the highest current standards in construction vehicle safety, including but not limited to FORS Gold (Fleet Operator Recognition Scheme) some minor concessions may be required for infrequent deliveries and suppliers. Concessions will ensure that these minor but programme-critical PRS works are not delayed, whilst not compromising safety.

Concessions will be approved by Riverlinx CJV Project Management. Where concessions are granted, Riverlinx CJV will provide safety information packs in advance of the driver arriving at the site. As well as worksite specific delivery requirements and procedures. Concessions will only be granted for those drivers of vehicles supplying or removing Equipment, Plant and Materials, or people from the project. who make less than three round trips in any 12-month period to any Worksite(s)

Where Riverlinx CJV agreed a concession from the vehicle driver training, Riverlinx CJV will ensure that the drivers are issued and acknowledge receipt in advance of a:

- driver safety information pack and

- Worksite specific delivery requirements and risks.

16. Driving Licence Checks

Riverlinx CJV will:

- Ensure that all vehicle operators and drivers who work on the Contract, have a driving license check with the Driver and Vehicle Licensing Agency (DVLA) before commencing work on the Contract and
- Undertake driving license checks in line with an appropriate risk scale. Such a risk scale could be based on points incurred on a driving license within 12 months of any check:
 - 0 – 5 points – Six monthly checks
 - 6 – 8 points – Quarterly checks
 - 9 or more points – Monthly checks

17. General Objectives and Principles of Logistics Management & Monitoring

Riverlinx CJV are responsible for the logistics and traffic management of all activities relating to delivery of the STT contract including those of subcontractors and suppliers, including:

- All logistics activities to deliver the works
- All logistics activities within the site
- The movement of all equipment, plant and materials and people to and from the working areas
- The removal and where required testing and treatment of all waste and excavated material
- The coordination of all logistics activities with others.
- Developing, planning and implementing logistics solutions to deliver the works

The Logistics Manager as well as the construction site teams will ensure that the safe delivery of all Equipment, Plant, Materials and people (including ensuring the safety of other vulnerable road users, river users and pedestrians) is the overriding priority in all vehicle movements.

Riverlinx CJV's aims to:

- Minimise the social and environmental effects of the works by all forms of transport;
- Optimise the loads carried on all types of transport;
- Minimise the impact on the public road network approaching and adjacent to the project by road-based construction traffic. This will be achieved by identifying clear controls on routes, vehicle types, vehicle frequency, vehicle quality and hours of site operation;
- Establish main principals for vehicle and pedestrian movement within the site boundary maintaining positive segregation between personnel and plant and vehicles.
 - The co-ordination of all logistics activities with "others", including key stakeholders, will be correctly managed, monitored and audited.

18. Monitoring and Compliance

The following data will be gathered by the logistics team as part of the supplier set up regular reporting procedures:

- Freight Operator Recognition Scheme (membership details);
- Operator Licence details;
- Driver licence checks;
- Summary vehicle movements
- CO2 emissions
- Non-compliant deliveries
- Actual vs planned deliveries
- Any breaches and complaints
- Accident/collision reporting
- Vehicle mileage
- Level of vehicle fill
- Construction workers' travel behaviour to inform the ongoing monitoring of the CWTP

Further information specific to each delivery will be captured by Traffic Marshalls/Gate staff and/or Site Security and held within our Vehicle Booking Management System (VBMS).

- Vehicle safety compliance checks;
- Driver check
- Check on vehicles working in the construction of the Silvertown Tunnel are compliant with the Mayor's Direct Vision Standard
- Contact details of key personnel are reviewed and updated as necessary
- Signs identifying the Silvertown Tunnel project and Riverlinx CJV contact numbers will be displayed in a prominent position on all construction vehicles

The monitoring and auditing of vehicle protection measures will be carried out both prior to arrival and upon arrival of vehicles coming onto sites.

Prior to arrival, through the procurement phase all sub-contractors and suppliers will be given information on acceptance criteria of vehicles associated with the project. Upon arrival to site Riverlinx CJV personnel will perform vehicle safety checks, capturing these on the VBMS, to ensure that the procedures/requirements have been adhered to. Records will be kept of all non-conformances. Vehicle compliance training will be given to gate staff and will be supported by site supervisors and engineers. Vehicles found not to comply with vehicle standards will be refused entry to the site. Traditional hand-annotated check sheets will be used to record vehicle checks upon arrival during the early works and site establishment phase whilst an integrated IT solution is developed within the chosen VBMS system.

19. Outline highway works Programme

Some of the highway works will require design approval with the relevant authorities. The design process will be subject to various design standards and an approval process that involves the production of specific detailed drawings.

The programme for the implementation of the highway works schemes at each site will be identified and the authorities will be notified of the date of the start of the works and the period for which the mitigation will be in place. At the end of the construction period, the mitigation will be removed, and the highway will be returned to its original state, unless otherwise agreed with the Local Authorities.

20. Construction drawings

Construction drawings produced for the works outlined in this WSCTMP can be found in Appendix D

21. Managing Worksite Highways and Traffic Issues

Riverlinx CJV will implement the traffic management and control as set out in the CoCP and the Transport Assessments, with acknowledgement of the items listed in Schedule 11 of the DCO (Traffic Regulation Measures, etc.).

All Worksite highways and traffic management issues will be managed by our Traffic Manager. The Traffic Manager will be responsible for developing, implementing, managing and reviewing Worksite Specific Construction Traffic Management Plan (WSCTMP) and Traffic Management Schemes (TMSs). Riverlinx CJV will submit for approval each WSCTMP to the relevant planning authority in consultation with the relevant highway authority, prior to commencing the relevant part of the works. Revisions may be made to the WSCTMPs throughout the course of the project. Likewise, all future revisions will be submitted for approval prior to commencement of the works..

On handover of the worksites it will be necessary to immediately occupy the areas of land and highway as Riverlinx CJV take on the responsibilities of the Principal Contractor for the respective areas at this time. Riverlinx CJV will establish temporary boundaries in advance of the permanent site hoardings, prior to implementation of final approved Road Schemes.

Highways works are carried out within traffic management. The temporary traffic management designed and installed for the works described in this WSCTMP are in accordance with the Roads and Streets Act by persons competent to do so. Guidance is also sought from the ACoP Safety at Street Works and Road Works. As well as Chapter 8 (parts 1 & 2) of the Traffic Signs Manual and only by persons competent to do so.

The senior manager present at the time of the incident acts as the incident co-ordinator. They are responsible for control and co-ordination of Riverlinx's response to the incident. Their duties are to:

- Assume full charge of the response to the situation
- Confirm that the emergency services have been called and that an appropriate site rendezvous point has been specified to them
- Without further endangering life, arrange for injured personnel to be rescued as soon as possible
- Obtain a full briefing on the situation (from persons at the scene etc.)
- Inform their senior manager, the PR department and the area health and safety advisor of the incident as soon as practicable
- Arrange for a full written incident log to be maintained throughout the incident period
- Ensure that staff involved in the emergency response are kept aware of developments
- Ensure that evidence is preserved and/or recorded
- Prepare a full report when the incident has been resolved

22. Strategic Principles

Riverlinx CJV will use best endeavours to:

- Ensure that the work will be carried out in such a way as to maintain, as far as is reasonably practicable, existing public access and rights of way and to limit the inconvenience to the public;
- Consider the access and servicing requirements of affected residential and commercial properties;
- Regularly communicate with parties affected by the works;
- Obtain the necessary consents required for the transport work, including, as appropriate:
 - Highway permits;

- Highways approvals under the DCO;
- Assess overall traffic impact from the project and ensure that where required, traffic management is coordinated between the worksites and contractors;
- Ensure effective lorry management and control;
- Limit the need for diversions of public rights of way, cycle routes or National Trails (including the Thames Path);
- Limit the length of any necessary diversions of the above;
- Limit the length of time diversions are in place;
- Place controls to ensure the safety of pedestrians and cyclists if they need to cross a haul route;
- Provide clear signage for any diversions, and advance notice of any closures/diversions;
- Ensure any diversions are fully accessible and in line with Disability Discrimination Act requirements, as far as practicable and in the context of the route that is being closed temporarily;
- Provide signs relating to traffic management in accordance with:
 - Safety at Street Works and Road Works (Red Book) Code of Practice;
 - Chapter 8 Traffic Signs Manual Part 1;
 - Chapter 8 Traffic Signs Manual Part 2 and
 - Project Helpline to be displayed.

23. Interface with Public Highway

All of the STT surface worksites will be enclosed and secured at the boundary by a hoarding as defined in the Code of Construction Practice (CoCP). Highways works will be secured using appropriate levels of removable hoarding following guidance from TfL's "Temporary Traffic Management handbook". Access and egress to the site will be by means of vehicle gates and pedestrian gates as detailed in the relevant CoCP. The site boundaries in all cases separate the project works from the public domain by either:

- Directly bordering pedestrian footpaths of the highway or
- Directly bordering cycle ways, bus lanes and carriageways of the highway.

Principally HSG 144 Safe use of Vehicles on Construction Sites will be adhered to with special consideration to:

- Site Speed Limits;
- Physical Segregation of pedestrian, from plant and vehicles;
- Dedicated crossing points on general use site roads (zebra crossings);
- Road width to cater for two-way traffic;
- Emergency Services;
- Complying with vehicle management and control requirements including:
 - Specifying FORS membership;
 - Monitoring and auditing vehicle protection measures;
 - Driver training; and

- Driving license checks.

All reasonable measures will be put in place to limit site runoff of water or mud onto the highway.

Construction worksites and proposed lorry routes (as below) have been developed in consultation with local authorities to minimise the impacts of construction traffic on the road network and local communities. Temporary Traffic management will be in place for construction vehicle access as shown in Appendix B.

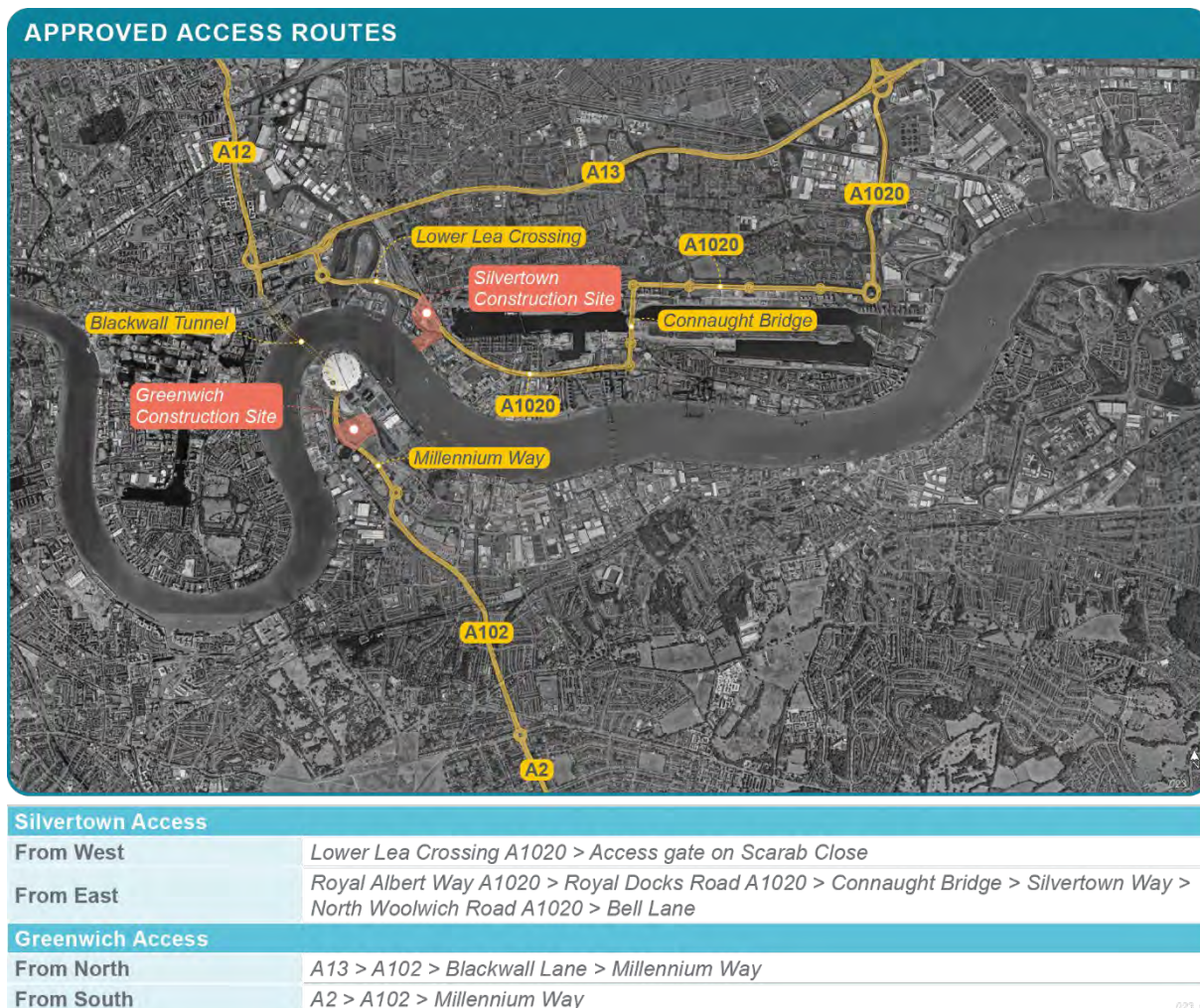


Figure 3. Approved Access Routes

[Riverlinx CJV acknowledge the Code of Construction Practice clause 3.1.4 “This section of the CTMP will detail how non-construction traffic will be managed at each stage of construction, including temporary and permanent road closures and diversions and pedestrian and cycle facilities.(pursuant to Article 10 of the DCO). Details of any changes that are required to signage, way finding and parking arrangements in the vicinity of the worksites will be set out in this section. Riverlinx CJV are committed to the process of developing the plans referenced in clause 3.1.4 of the CoCP. Once the relevant sections have been produced further information will be submitted to TfL and the relevant authorities. DCO application for approval for provision of signage will be made as relevant under DCO articles 6, 8, 9 & 10.]

24. Traffic Management Schemes (TMSs)

Traffic Management Schemes (TMSs) for the PRS access works in Greenwich can be found in Appendix B. It has been produced to allow the works to be completed in accordance with the Accepted Programme and include the planning and timely execution of:

- Notices under the LoPS requirements for Traffic Regulation Orders (TROs) and Temporary Traffic Regulation Order (TTROs);
- Traffic signals works and applications;
- Additional traffic assessments and/or modelling where required and
- Other works which require consideration by London Highways Authority (LHA) and/or TFL;

The TMS will take account of the Transport Assessment and will be fully designed and submitted for stakeholder assessment and subsequent approval before implementation. Each scheme will be prepared recognising;

- Traffic flow;
- Pedestrian Movement;
- Cycle Frequency;
- Advance Signing and Lighting;
- Removal of existing street furniture;
- Alteration to road markings;
- Work Related Road Risk and
- Any maintenance/ cleaning plans.

Riverlinx CJV and the appointed Traffic Safety Control Officer (TSCO) team shall consult with the LHA and/or TfL to identify, prepare and submit any traffic management notifications required for the works and will submit TMS for technical approval to the LHA or TFL in accordance with the DCO as required.

Riverlinx CJV will liaise with the relevant stakeholders as necessary to ensure that all nearby works that may affect the TMS are accounted for within the design of the TMS and that any measures required to minimise impacts are implemented.

Riverlinx CJV shall:

- Undertake regular inspections of the TMS;
- Keep a log of all inspections;
- Identify:
 - faults;
 - damaged Equipment;
 - deficiencies;
 - timescales to rectify findings.
- Record and monitor all required actions resulting from the inspections;
- Routinely monitor the condition of the route to and from the Worksite, the TLRN and SRN;

- Undertake arrangements and repair any damage that has been caused by the traffic management works, as soon as is practicable.

25. Highway Works Notifications and Permits

All appropriate highways permits will be sought for works within the highway, including via the Highways Authorities' own permit system, and those bespoke highways approvals required under the DCO.

Approval to carry out highway works on the TLRN or SRN will be sought through the Traffic Management Act Notification (TMAN) process.

Work Notifications where applicable will be posted on "LondonWorks".

26. Signage

Road traffic signage will be provided between all worksites and the TLRN/SRN along the prescribed routes. The prominent location and design of the signage will be agreed with TFL and the LHA. The signs will include the project name and worksite name and contact numbers and will be designed in accordance with the Traffic Signs Regulations and General Directions and will be submitted to the Department for Transport for approval.

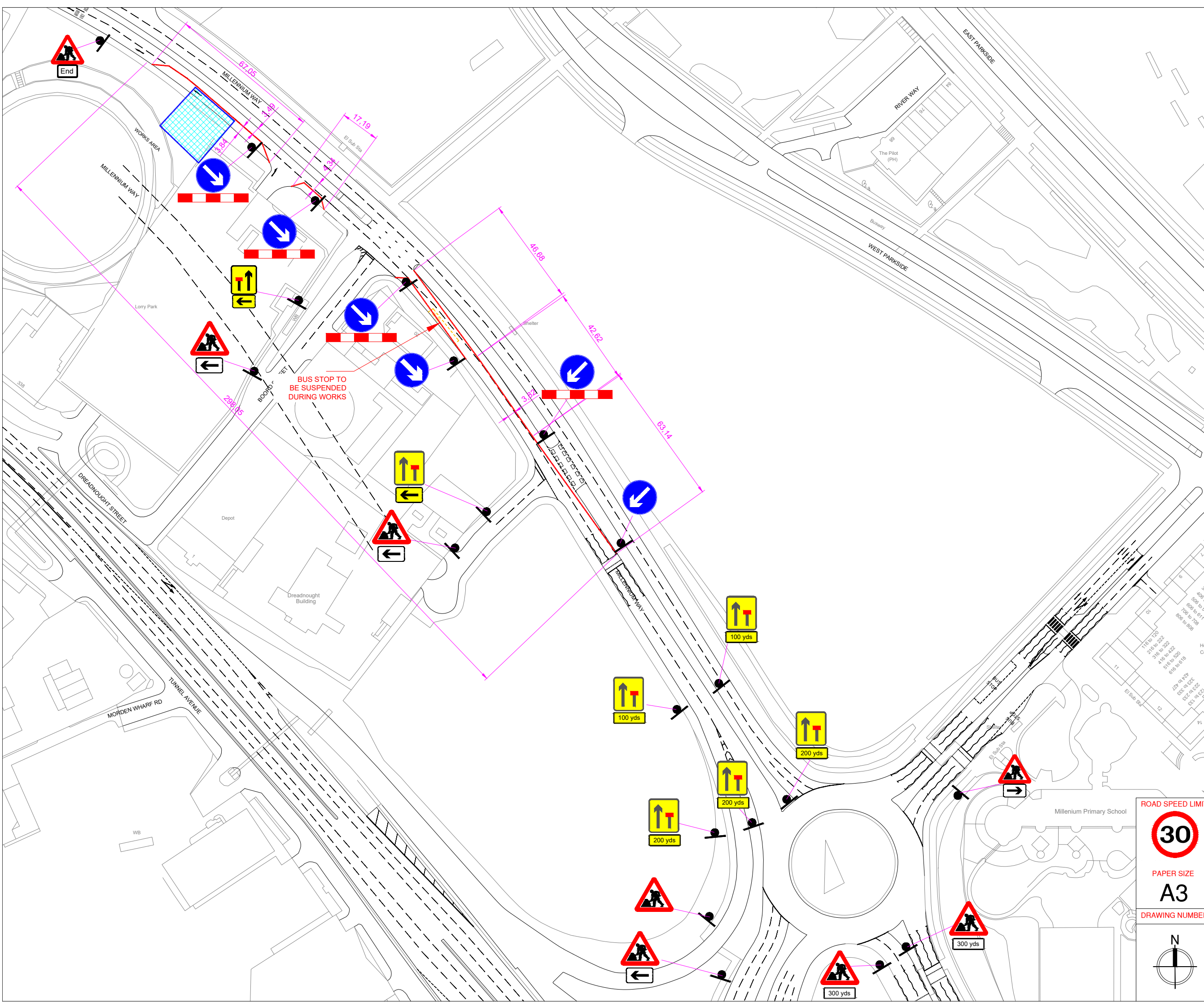
Due to the small scale of the planned works described within this WSCTMP, there is little modification to the existing road vehicle signage currently in place on the surrounding TLRN/SRN. The traffic management and signage design in place for the lane closure on Millennium Way will be designed in accordance with all relevant guidance and legislation including Traffic Signs Manual Chapter 8 and the Traffic Signs Regulations and General Directions (TSRGD).

Appendix A

Silvertown Tunnel Supplementary Works Location Plan

Appendix B

Traffic Management Scheme



DO NOT SCALE FROM THIS DRAWING
All dimensions to be verified on site

- NOTES**
1. All signs as per chapter 8. Distances between cones on a 30mph carriageway to be 5m minimum 9m maximum unless otherwise noted.
 2. All works / traffic management shall be in accordance with the traffic signs manual chapter 8, Safety at street works and road works a code of practice 2013, Traffic Signs Regulations and General Directions.
 3. Minimum no. hazard lamps: 9 per 6m hazard width.
 4. Distances between signs NOT to scale for purpose of clarity.
 5. Minimum sign size 750mm.
 6. Absolute Minimum 3.0m running lane width to be maintained.

LEGEND

| | | | |
|--|---------------|--|-----------------------|
| | WORKS AREA | | ASPECT OF SIGN VISION |
| | TRAFFIC CONES | | BARRIER |
| | X 2 | | X 3 |
| | 300 yds | | |
| | X 3 | | X 1 |
| | 200 yds | | X 1 |
| | X 2 | | |
| | 100 yds | | X 1 |
| | X 2 | | X 1 |
| | 300 yds | | X 1 |
| | X 1 | | |
| | 100 yds | | X 1 |
| | X 1 | | 300 yds |
| | X 1 | | X 1 |

ROAD SPEED LIMIT

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| | |
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| REVISION No. - | REVISION DATE - |
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Appendix C

Construction Workers Travel Plan



SILVERTOWN TUNNEL

DOCUMENT TITLE:

Construction Workers Travel Plan

DOCUMENT NUMBER:

ST150030-RLC-MAC-XX-ZX-PLN-CL-0002

Asite Task ID: STT-DCO-0ZZ.12.1.34

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1. Contact Details

Silvertown Tunnel scheme (STT),

Full address of the site:

[To be confirmed once site offices are established]

2. Acronyms and Abbreviations

“**CJV**” – Construction Joint Venture

“**CoCP**” – Code of Construction Practice

“**DCO**” – development consent order

“**TPA**” – Travel Plan Coordinator

“**TfL**” – Transport for London

3. Introduction

3.1. Purpose

This document sets out the worksite specific Construction Workers Travel Plan (CWTP) for The Scheme based on Appendix J of the DCO (Framework Construction Site Travel Plan). The contractor delivering the contract on behalf of TfL is a joint venture of Ferrovial, Bam Nuttall, and SK known as Riverlinx CJV.

The purpose of this CWTP is proactively to manage and influence staff travel to and from the worksite to limit traffic movement and reduce disruption in the vicinity of the site. It has been prepared in accordance with the requirements and guidance set out in the Code of Construction Practice (CoCP), a stand-alone document, which accompanies the Development Consent Order (DCO) for the Project.

A review of the regional, local and project policies has been undertaken to inform the development of the CWTP. This is contained at Appendix A.

3.2. Contractor's Policy

The Sustainability Policy base for The Scheme provides a foundation from which to promote environmentally conscious travel for the worksite: encouraging staff to consider the impact of travel on the environment; and guiding the Contractor to facilitate opportunities to travel by environmentally sensitive modes by designing appropriate working patterns and providing facilities to allow safe and sustainable travel.

3.3. Approach

This CWTP is to respond and adapt to changing conditions over the duration of the construction phase at the worksite, including:

- Variation in the levels of construction activity over the duration of the construction programme.
- New or amended transport services in the vicinity of each site.
- Transport network operations as a result of changing background travel demand over time.
- Initiatives employed through the travel plan drawing on experience of its implementation.

This CWTP complies with established policy and guidance including that from the Department for Transport (DfT) and Transport for London (TfL) and guidance from the London Borough of Newham.

The following are other relevant travel and transport related documents for the worksite:

- Construction Traffic Management Plan – ST150030-RLC-MAC-XX-ZX-PLN-CL-0001

4. Construction Site Detail

Location plans of both sites are provided in Figures 2 & 3.

4.1. Construction Programme

Possession of the site by Riverlinx CJV will take place on the 19/11/2020 and will be handed back by PTU + 60 working days.

The construction is programmed following these main activities:

| Activity | Approximate Dates |
|---|-------------------|
| Contaminated Land Surveys (Silvertown) | 02/20 – 11/20 |
| Surveys incl. UXO in River | 02/20 - 11/20 |
| Utilities Diversions Silvertown Area | 02/20 – 11/21 |
| Coach Car Park | 10/20 – 02/21 |
| Decked Car Park | 02/21 – 06/21 |
| Car Park 1 | 06/21 – 11/21 |
| Car Park 4 | 11/21 – 05/22 |
| SGN Access works | 07/20 – 02/21 |
| Birch Site Access | 02/21 – 04/21 |
| Remediation | 11/20 – 02/21 |
| Site Set Up | 11/20 – 11/21 |
| Launch Chamber, Cut & Cover Tunnel, Ret. Walls | 02/21 – 10/23 |
| Highway Works | 03/21 – 09/24 |
| Building Works | 11/22 – 03/24 |
| Tunnelling Support Works | 05/21 – 08/23 |
| M&E, Testing and Commissioning | 05/23 - 11/24 |
| PTU | 01/25 |

Figure 1 - Silvertown Programme Summary

4.2. Site Access Arrangements

The worksite access and egress arrangements will be developed throughout this pre-construction phase. Revisions to this document will be completed as necessary to capture the latest information at that time.

Access for pedestrians and cyclists will be adjacent to but segregated from the vehicular access.

Figure 2 & 3 shows the site access layout of The Scheme.

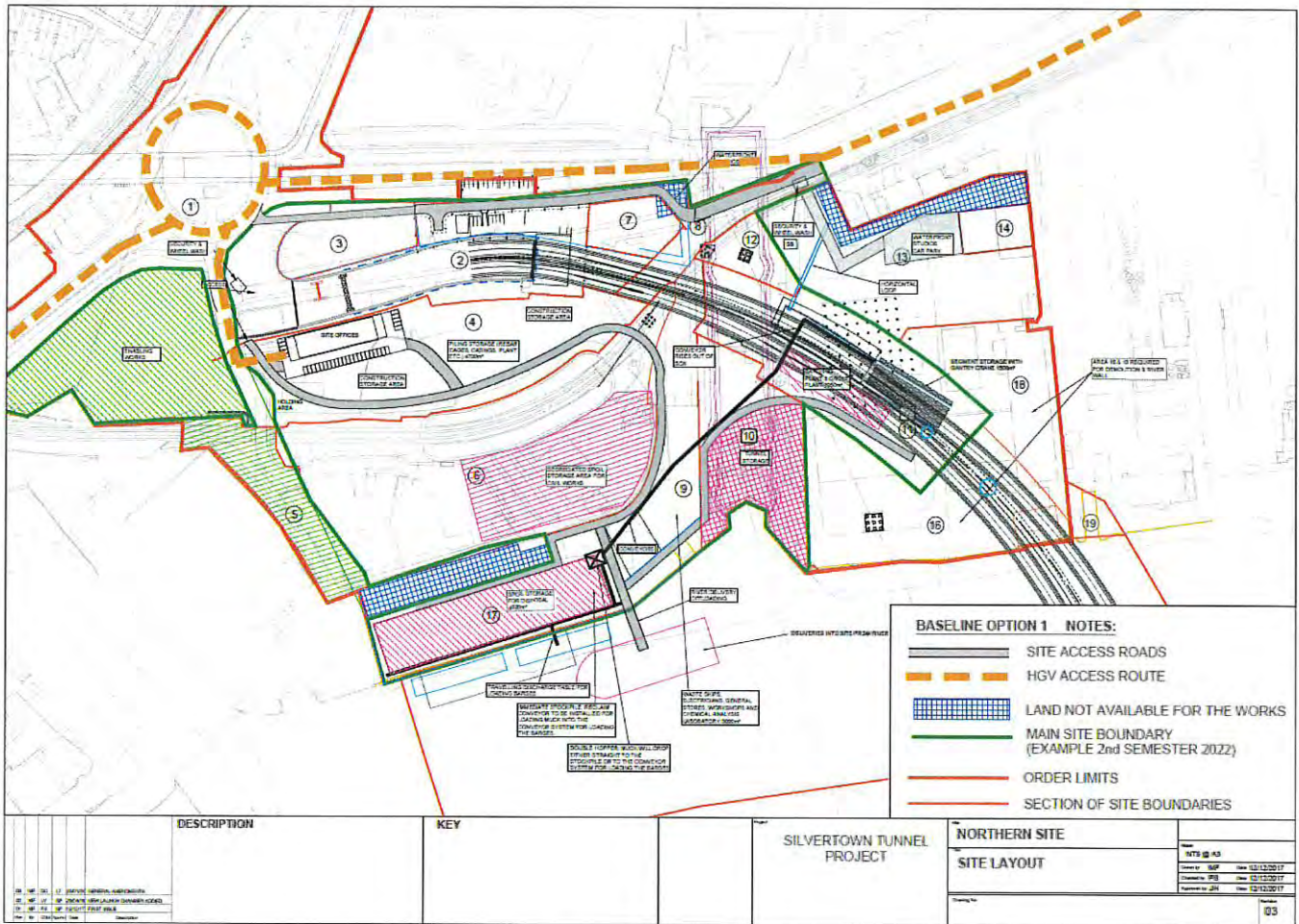


Figure 2 – Silvertown Site layout

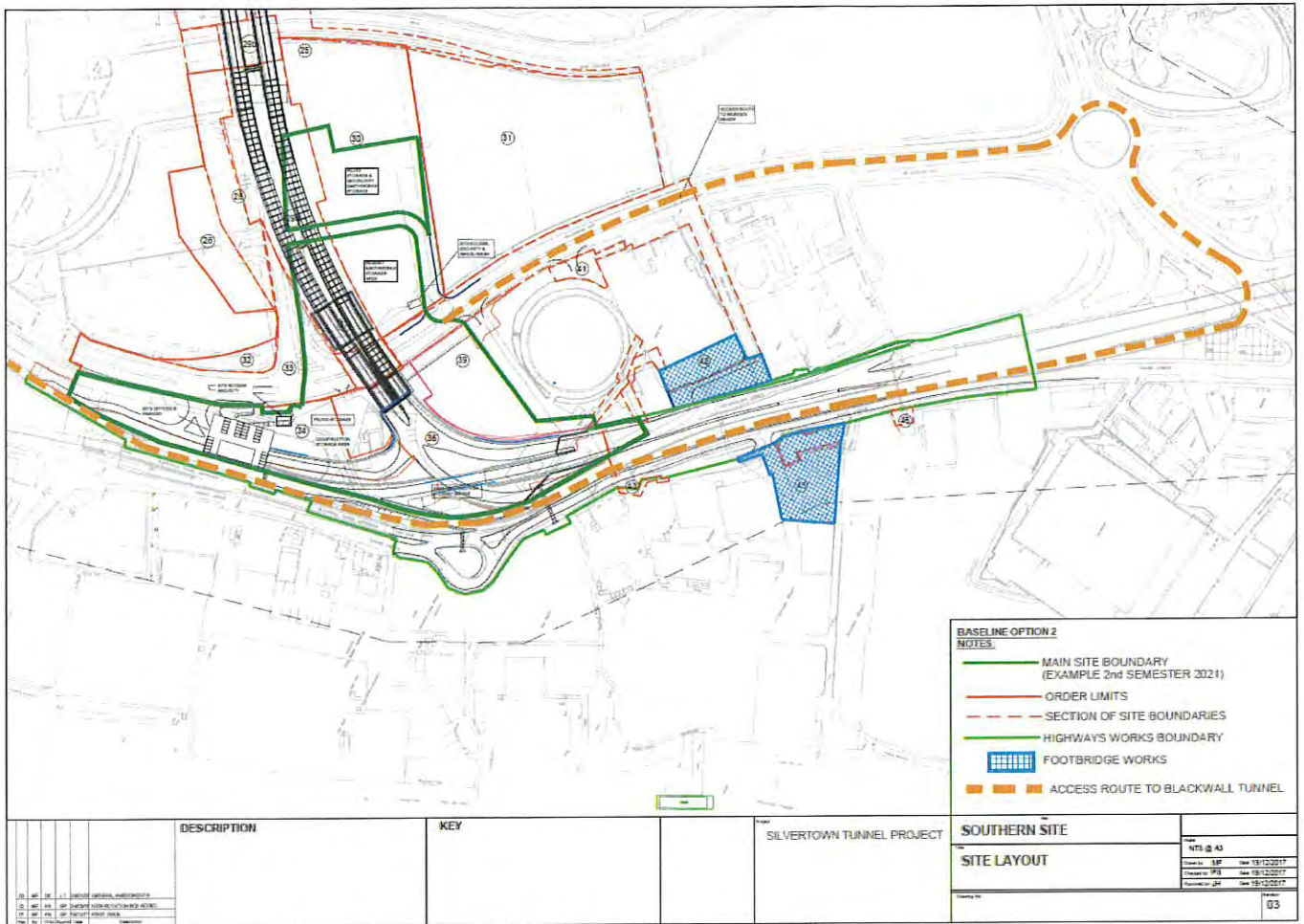


Figure 3 – Greenwich Site Layout

4.3. Workforce numbers

Construction workers would be made up of staff and labour, employed by the Riverlinx CJV, their subcontractors and designers. During the construction period, the number of employees on the worksites will fluctuate according to programme and workload.

4.4. Working Hours

This site will adhere to the working hours presented in Figure 4, as described in the Code of Construction Practice (CoCP), Section 2.3.

| Classification | Description |
|---|--|
| Standard working hours | 8:00 to 18:00 Weekdays 08:00 to 13:00 Saturday Plus, up to one hour before and after for mobilisation, i.e.: 07:00 to 19:00 Weekdays, 07:00 to 14:00 Saturdays |
| Non-Standard working hours (subject to s61 Applications) | Subject to agreement with the relevant local Environmental Health Officers |
| Continuous working hours | Tunnelling and associated supporting activities both above and below ground 24 hrs per day 7 days per week |

Figure 4. Working Hours

5. Worker Travel to Site

5.1. Private Cars

There is no provision for private cars on site including any long-term parking. It is not anticipated that any of the project team will drive to the site on a daily basis, and driving to site will be actively discouraged. It is expected that travel to work by personnel on STT will primarily be using the following means shown in Section 4.2 Public Transport.

5.2. Public Transport

PTAL is a measure of connectivity by public transport, which has been used in various planning processes in London for many years. For any selected place, PTAL suggests how well the place is connected to public transport services. It does not cover trips by car.

PTAL values are simple. They range from zero to six, where the highest value represents the best connectivity. TfL's online PTAL calculation tool (WebCAT) has been used to calculate the PTAL of the worksite, which is rated as 2 in the base year of 2011.

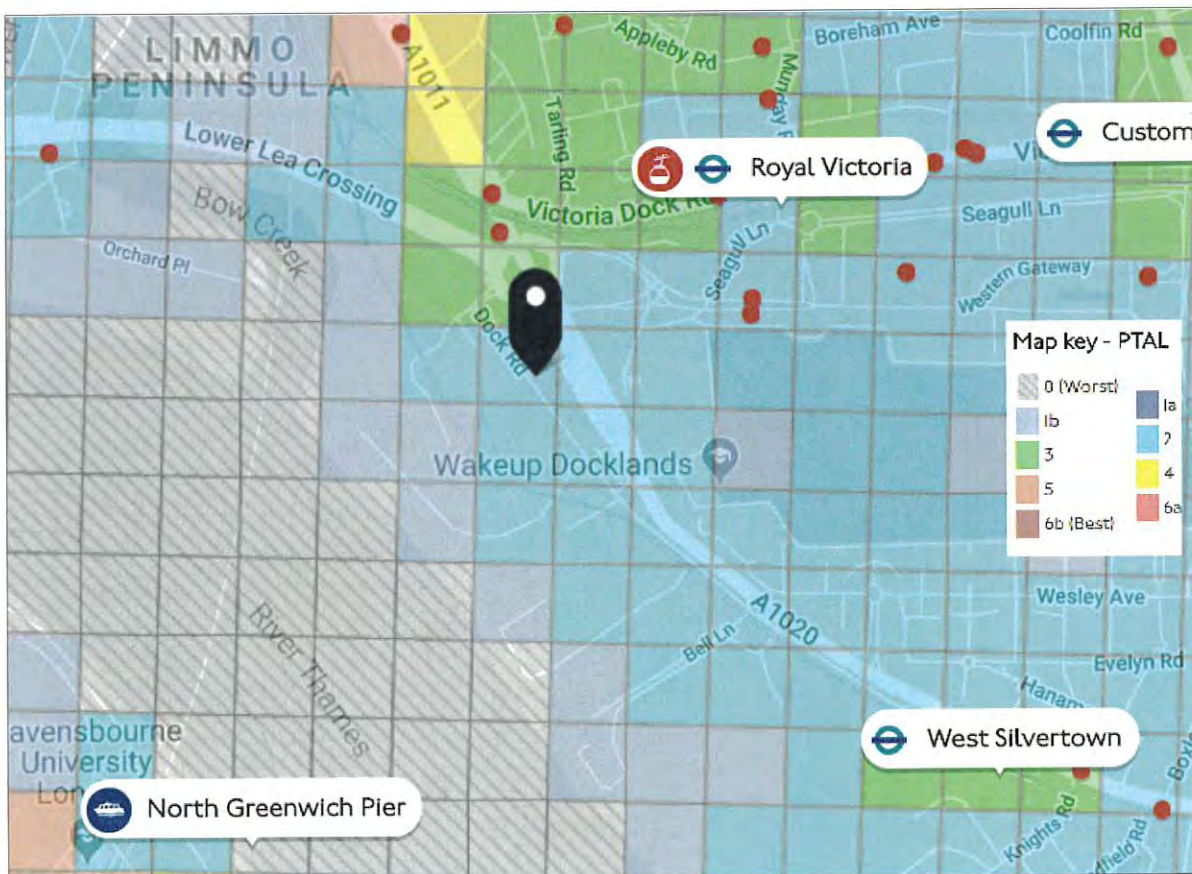


Figure 5. PTAL Calculation for Silvertown Worksite

5.2.1 Rail

Rail will provide a key mode of transport to and from site for project personnel. LUL and DLR stations are close by with the addition of the Emirates Airline to North Greenwich. Of these services only Canning Town Station is currently part of the night train service.

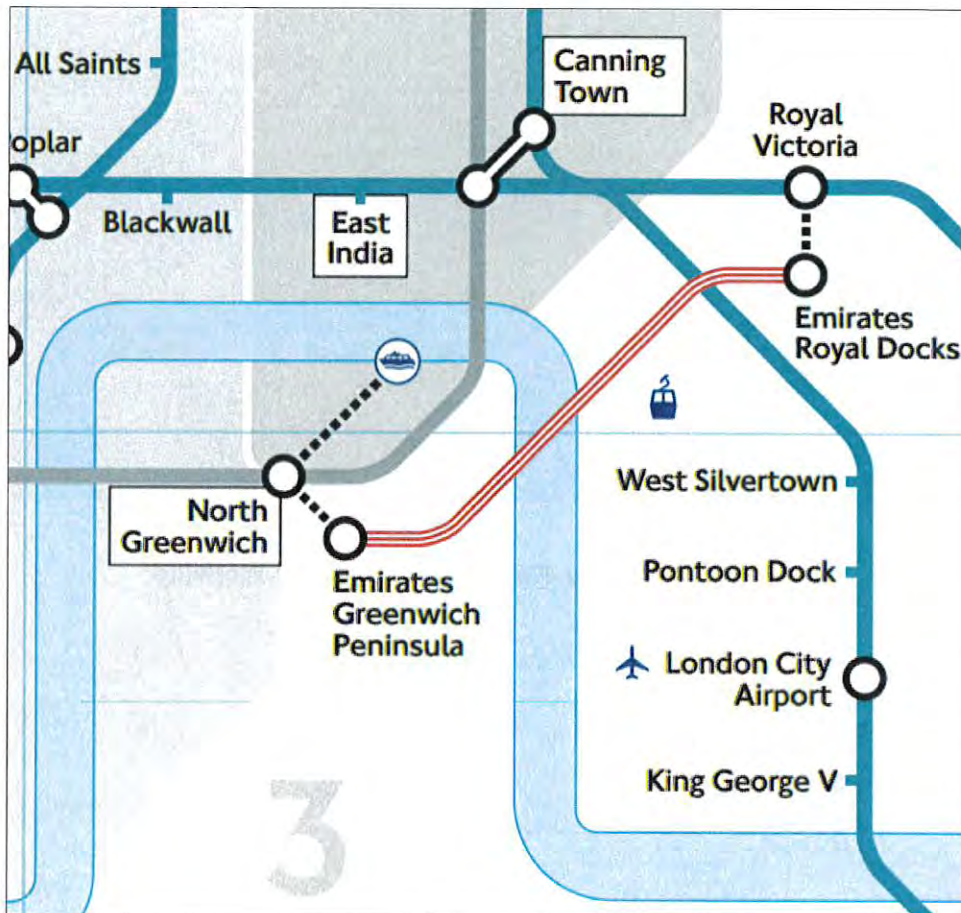


Figure 6. Extract from 'London's Rail & Tube Services' Map

5.2.2 Buses

The Silvertown worksite is served by TfL's bus route 474 which connects to the adjacent Canning Park Bus Station and West Silvertown Station (for interchange to DLR). Between the hours of 7am to 9pm this runs with an interval of 10-13mins in either direction. Outside those hours there are between 2 and 5 services in each direction per hour. The Greenwich worksite sits adjacent to the North Greenwich Bus Terminal providing multiple service routes North and South of the River Thames.



Figure 7. Bus Route 474 local to Silvertown Worksite

5.2.3 River Services

The nearest river services to the worksite are available at Royal Wharf (north of the river) and North Greenwich (south of the river).

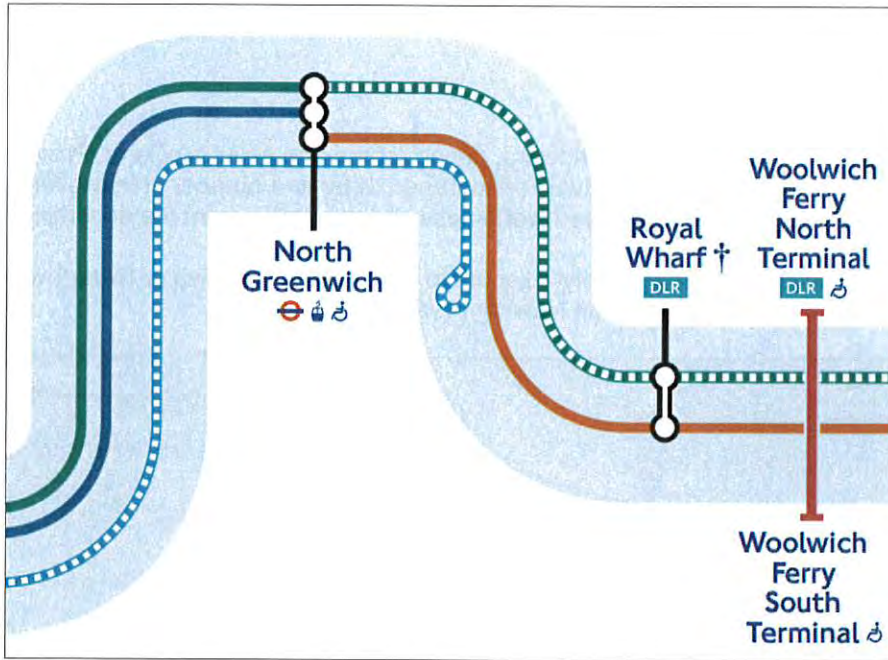


Figure 8. River Services local to Silvertown Worksite

| | | | | | | | | | |
|---|---|---------------------|----------------------|-----------------------------|-----------------|---------------------|--|---------------------|--|
| <p>River Bus:</p> <p>RBI Westminster to North Greenwich Daily</p> <p>North Greenwich to Woolwich Royal Arsenal Limited service: mornings and evenings only</p> <p>Westminster to Battersea Power Station Limited service: morning peak only</p> <p>RBIX Westminster to North Greenwich Weekends only Canary Wharf: westbound only Bankside: eastbound only</p> <p>† Royal Wharf expected to open summer 2019 River Bus services are operated by MBNA Thames Clippers</p> | <p>Ferry service:</p> <p>Woolwich Ferry Daily Operated by Briggs Marine</p> | | | | | | | | |
| <p>River Tours summer-only:</p> <p>Thames Barrier loop Some boats cruise through the Thames Barrier Operated by Thames River Services</p> | | | | | | | | | |
| <p>Key to symbols:</p> <table border="0"> <tr> <td>○ Interchange piers</td> <td>⊕ London Underground</td> </tr> <tr> <td>DLR Docklands Light Railway</td> <td>⊕ National Rail</td> </tr> <tr> <td>✈ Emirates Air Line</td> <td>♿ Step-free access from street level to pier</td> </tr> <tr> <td>🚇 London Overground</td> <td></td> </tr> </table> | | ○ Interchange piers | ⊕ London Underground | DLR Docklands Light Railway | ⊕ National Rail | ✈ Emirates Air Line | ♿ Step-free access from street level to pier | 🚇 London Overground | |
| ○ Interchange piers | ⊕ London Underground | | | | | | | | |
| DLR Docklands Light Railway | ⊕ National Rail | | | | | | | | |
| ✈ Emirates Air Line | ♿ Step-free access from street level to pier | | | | | | | | |
| 🚇 London Overground | | | | | | | | | |

Figure 9. Key - River Services local to Silvertown Worksite

5.3. Motorcycles

Where possible, Riverlinx CJV will endeavour to make space available for motorcycle parking. Site offices will have welfare facilities incorporating drying and changing rooms plus lockers for the secure storage of motorcycle clothing and helmets.

5.4. Cycling

The site accommodation will include welfare showers, drying rooms and secure lockers. Provision will be made for parking of bicycles. Cycling to work will be actively encouraged through a number of initiatives, (e.g. cycle to work days). These will cover cycling safety, cycle road worthiness and the cyclist from the driver point of view.

There are no Cycle Superhighways immediately adjacent to either the Greenwich or Silvertown site locations. The east-west running CS3 sits 1km to the north on Newham Way.



Figure 10. Cycle Superhighways local to Silvertown Worksite

5.5. Walking

Walking to the Silvertown site from adjacent DLR and Emirates Airline stations will often prove quickest with Royal Victoria Station 8mins walk to the east, Emirates Airline 5mins walk to the east and West Silvertown Station 8mins to the south-east. The North Greenwich Station is adjacent to the Greenwich site in the South with established walking routes available.

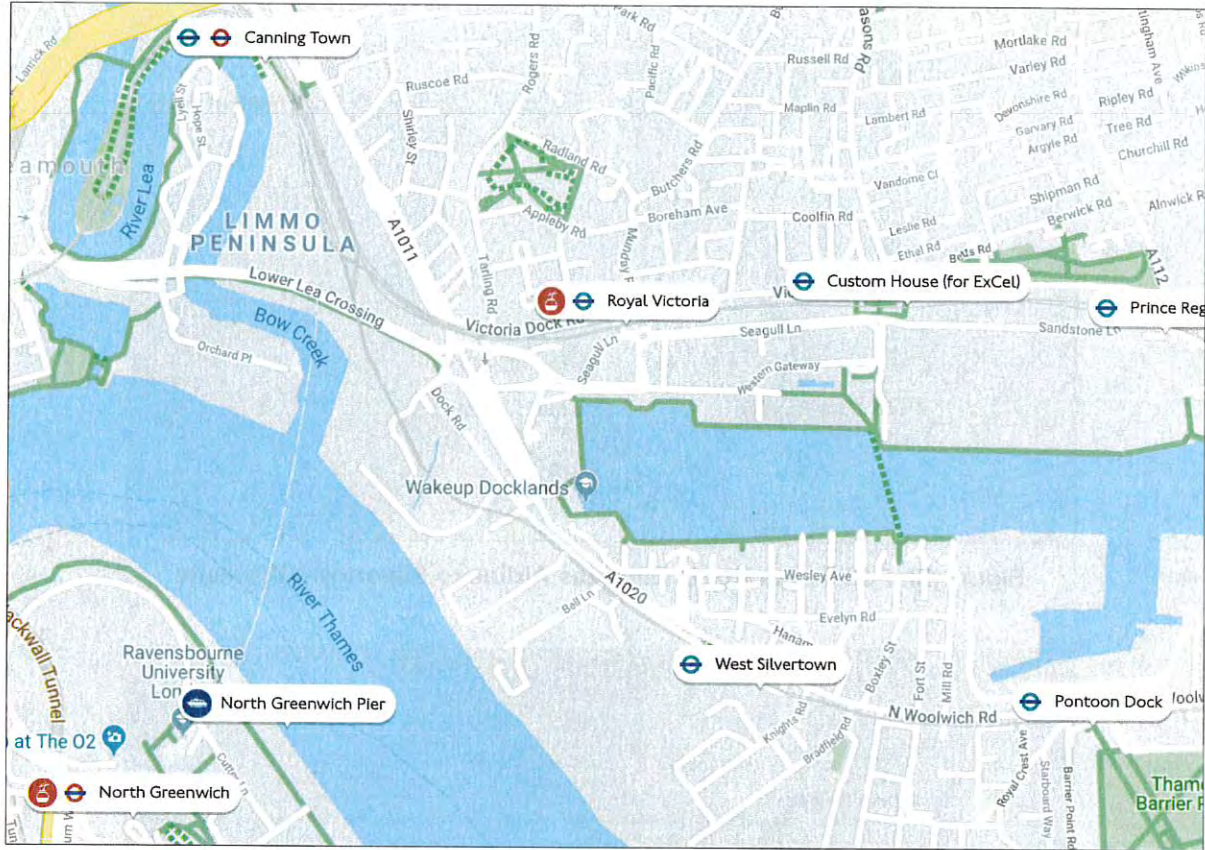


Figure 11. DLR/LUL Stations local to Silvertown Worksite

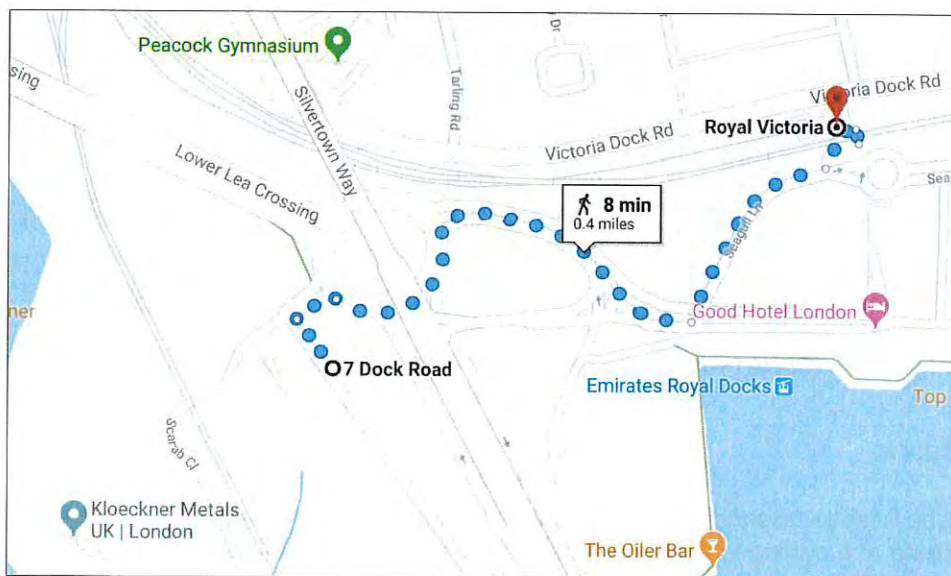


Figure 12. Pedestrian Route Royal Victoria Station to Silvertown Worksite

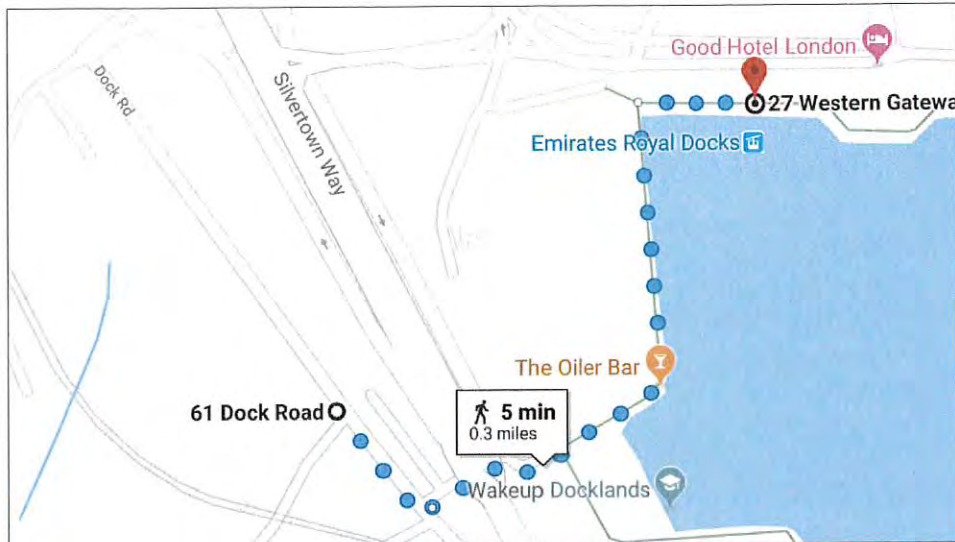


Figure 13. Pedestrian Route Emirates Airline to Silvertown Worksite

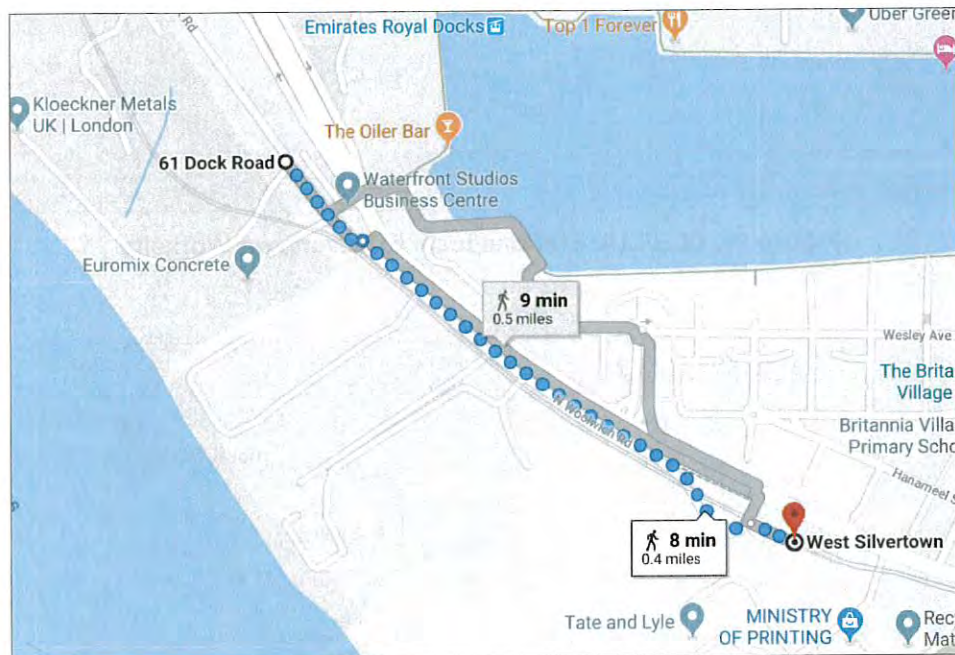


Figure 14. Pedestrian Route West Silvertown Station to Silvertown Worksite

5.6. Communication

Toolbox Talks will be used to disseminate information to staff making them aware of the public transport routes and the benefits of walking and cycling to work. Leaflets and maps will be made available to all staff detailing walking routes. Information will also be delivered at the Site Induction.

6. Objectives and Targets

6.1. Objectives

Riverlinx CJV realise its social duty both to the environment and the communities in which we operate. Through the use of the CWTP we will encourage staff and visitors to the site to:

- reduce their reliance on car travel;
- increase the use of walking cycling and public transport; and
- encourage work practices that reduce the need to travel, where practicable.

This CWTP will complement a broader aspiration by Riverlinx CJV to reduce the environmental impact of the contract by encouraging such things as active travel and the use of public transport for travel to and from the worksite.

Staff living within 1km of their worksite will be encouraged to walk to work; those living within 5km of their worksite will be encouraged to cycle.

The CWTP will be in place by the start of works on site and be maintained until the completion of the construction works.

This section outlines the objectives of the Travel Plan for the worksite. The objectives have been set by taking account of the aims and objectives outlined in the CoCP and the following:

- Mayoral policy and strategic guidance;
- Riverlinx CJV policy; and
- The challenges and opportunities specific to the worksite.

The principles, themes and best practice contained in these guidance documents form a framework for the Construction Workers Travel Plan. We have endeavoured to integrate as much of this guidance into this plan as is relevant and appropriate to The Scheme and the anticipated level and type of activities to be undertaken.

The travel plan objectives describe the key 'goals' that it seeks to achieve. These are as follows:

- To reduce carbon emissions associated with private car travel by encouraging staff to utilise sustainable modes of travel, including walking and cycling as well as public transport use;
- To encourage efficiency in travelling to the worksite in order to minimise the impact and frequency of travel by the chosen mode;
- To ensure staff members of the worksite are aware of the Travel Plan and its constituent measures;
- To reduce any transport impacts of the worksite on the local community; and
- Improve the health and well-being of staff by promoting the health benefits of active travel.

The above objectives will be achieved by introducing a package of measures that focus on promoting access to the worksite by sustainable modes of transport as an alternative to the private car. This will encourage staff at the Silvertown and Greenwich worksites to consider healthier and lower carbon travel alternatives for trips to and from the worksites as opposed to single occupancy car travel.

6.2. Targets

In order to provide a means of measuring whether the objectives, as outlined above, are being met, SMART targets need to be introduced. SMART targets are defined as follows:

- Specific – identifying precisely what is to be achieved;
- Measureable over the duration of the target period, allowing for regular evaluation of effectiveness;
- Appropriate and linked to the overall objectives;
- Realistic – in terms of the potential actually to be achieved over the duration of the target; and
- Timed – the target must define a date and series of dates by which it is expected to be achieved.

Once work on site has commenced, a staff travel survey will be used to determine the mode of travel to and from the worksite. This will then be used to set specific mode share targets.

Riverlinx CJV is committed to minimising the requests to access the worksite by vehicle unless they are delivering or collecting essential materials or equipment. Riverlinx CJV does not propose to provide staff minibuses between the worksite and adjacent public transport stations, as part of this Travel Plan for workforce commuting. No access will be available to the worksites for private cars used for workforce commuting.

Riverlinx CJV is working closely with local residents and their representative groups and are committed to encouraging their workforce not to seek to travel to the worksite by private car or to seek to park within the local streets. This point will be made clear at the time of interview and reiterated at the start of their contract and through induction and Tool Box talks.

The first staff travel survey will be undertaken within the first 3 months of commencement of works on site, and then every 6 months thereafter. The initial results will be used to determine appropriate but challenging targets moving forwards. The surveys will be used thereafter to measure progress towards the implemented travel plan's targets as well as enhancements to those targets. The surveys will also monitor any travel aspirations of staff and ensure measures are introduced to support those aspirations.

7. Measures and Action Plan

7.1. Measures

A number of measures and initiatives will be utilised to encourage sustainable travel choices amongst staff of the worksites. These will actively discourage reliance on private car use by influencing travel behaviour in favour of walking, cycling and public transport use.

The Silvertown worksite is located within an appropriate walking distance of the DLR stations at Royal Victoria and West Silvertown as well as bus stops for the 474 and the Emirates Airline. As such there is no need for Riverlinx CJV to provide dedicated staff mini-bus services to facilitate walking to the worksite and the use of Public Transport.

The following measures aim to achieve the objectives and targets of the Travel Plan. The list of measures will be updated to take account of the results of the initial staff travel survey.

- Car Parking - No parking will be available on site for staff or visitors. Through project induction staff will be made aware that Riverlinx CJV will also actively discourage parking on streets around the worksites. Riverlinx CJV will respond to concerns raised relating to parking issues reputedly related to the operation of the worksite. In order to deter parking by workers in the surrounding area the TPC will regularly reiterate to staff that work-based travel should be active forms of travel or on public transport. To complement this aspiration to promote environmentally friendly travel options, close co-operation with TfL and the LBCs will be sought to ensure the workforce travel patterns do not adversely impact on local Air Quality or occupy local parking places;
- Cycle Parking –Cycle parking spaces will be provided on site– these will be adjacent to the access to the welfare office and within the coverage of the worksite CCTV to enhance the security of the storage area. Storage for a minimum of four folding cycles will be provided adjacent to the ‘fixed frame’ cycles’ storage. The quantum of cycle parking provision will be reviewed at the time of the Staff Travel Surveys and action taken to respond to excess demand where required;
- Appoint Travel Plan Co-ordinator (TPC) role – Riverlinx CJV will appoint the prior to the commencement of the associated Works and maintain that (part-time) role throughout the duration of those Works.
- Notice Boards – A travel plan notice board will be visible within staff rooms and common areas, accessible to all staff on site. The boards will inform staff about changes to public transport services, as well as statistics of staff travel and associated TP targets. Details of local cycle route will be available through copies of TfL’s cycle maps; information on the bus services available. Updates will be provided on the Travel Plan surveys and highlighting any communications from the TPC.
- Personalised Travel Planning (PTP) Service - the TPC will provide a free PTP service to staff advising on route options as well as ways to cut journey costs/times and other general travel advice.
- Provide Comprehensive Welfare Facilities – the facilities within the worksite will include washing, changing and laundry facilities for staff members to shower / wash before and after work and change into their work PPE or appropriate clothing for travel. Lockers will be provided for clothes and other possessions to be stored securely and canteen facilities to allow staff to stay on-site for their meals. Sufficient lockers will allow for the peak quantum of workforce and an allowance for visitors.
- Travel ‘Champions’ - Identifying Sustainable Travel Behaviour Champions for key roles in delivering the sustainable travel proposals. These will not be formal roles, but finding individuals who will work through their social network of colleagues to spread the word about travel options, since market research has shown that individuals are influenced much more by personal intervention / recommendation from friends, family and colleagues (i.e. their social network) than traditional advertising and information.
- Inter-site Travel – a number of staff members will be required to travel between worksites during their working day for meetings, briefings and to transport small items of tools and equipment. To facilitate this inter-site movement Riverlinx CJV will use a small site vehicle and or the adjacent Emirates Airline. Where appropriate, members of staff will be encouraged to arrange to work from the site where the meeting is being held so as to reduce the amount of travel required.
- Welcome Pack / Induction Travel Pack and process – A Welcome Pack will be given to each staff member working on site or associated with the Project. This pack will include a range of information about the

project and will supplement the broader Induction process. Included within the Welcome Pack will be information to staff on the following:

- o Contact details of the TPC;
- o Maps showing the location of public transport facilities in close proximity of the worksite;
- o Maps showing walking and cycling routes to and from the worksite and facilities; and
- o Public transport timetables, including services operational during the night.

7.2. Action Plan

At this early stage, a simplified programme for the implementation of the travel plan is summarised below. These actions will be reviewed as part of the CWTP monitoring process.

Short-term

- Provide safe pedestrian and cycle routes into and within the worksites through the use of barriers and site signing.
- Provide secure cycle parking on-site.
- Appoint a Travel Plan Coordinator (TPC)
- Prepare Staff Welcome Packs – including the provision of basic travel to work information issued at the time of appointment (i.e. prior to starting work).
- Emphasise Health and Wellbeing benefits of sustainable travel through Induction and “Rightway” initiatives and encourage walking for those living within 1km of the worksite and cycling for those living within 5km of the worksite.
- Carry-out initial survey within 3 months of start on site.

Medium-term

- Distribute Staff Welcome Packs
- Provide travel plan and information notice boards
- Conduct update Staff Travel Survey and report to TPM each 6 month period after initial survey
- Promote Personalised Travel Planning Service to staff
- Promote national sustainable travel events (i.e. Bike Week and Walk to Work Week)

Long-term

- Conduct 6 monthly follow-up surveys and reports
- Maintain and update travel plan and information notice boards
- Continue to promote national sustainable travel events
- Review appropriateness of walking route, cycle parking and welfare facilities

8. Management and Monitoring

8.1. Responsibilities

8.1.1 Riverlinx CJV

Riverlinx CJV will appoint a TPC to develop and implement this CWTP.

The appointed TPC will:

- Develop and maintain a CWTP for the worksite in accordance with the contractual requirements and Travel Plan guidance set out in the CoCP.
- Procure, implement and actively promote Travel Plan measures in the CWTP and, in turn, support implementation.
- Ensure the requirements for workforce inductions, briefings and communications are met;
- Act as a focal point on Workforce travel-related issues at the worksite and ensure that the Contractor's staff comply with their responsibilities and that suitable contractual requirements are included in sub-contracted staff agreements.
- Manage the monitoring, audit and review of the CWTP process.
- Ensure subcontractors and suppliers comply with their role and, where appropriate, appoint Travel Plan Representatives (TPR).

8.1.2 Subcontractor and Supplier

All subcontractors and suppliers that are likely to have a significant presence on site (25 staff or more) will be required to appoint a TPR. The appointed TPR would:

- Act as a key interface between the contractors TPC and the subcontractor's workers.
- Ensure that their own staff members comply with their responsibilities.
- Provide support to the TPC in monitoring and reviewing the effectiveness of Travel Plan measures.
- Liaise with the TPC and other TPRs to share ideas and coordinate efforts.

8.1.3 Workers

Each worker on the Project will be required to uphold and comply with the Travel Plan requirements and objectives.

Their responsibilities will be to:

- Consider all transport options available to them for travel to and from the site and ensure that adequate travel time is allowed for the journey.
- Ensure they have all the necessary equipment to travel safely by their chosen mode of transport.
- Report on the effectiveness of the travel plan and raise concerns about any problems that become apparent – such as shift patterns restricting access to travel options.
- Suggest ideas to their appointed representative on how to modify the plan to suit the workforce.

8.2. Management Monitoring Strategy

A key aspect of having a Travel Plan is that it directly informs the travel behaviours of those it is intended to support and that this leads to tangible impacts such as cost and time savings as well as environmental benefits such as reduced carbon emissions, congestion and pollution.

Riverlinx CJV will collect staff postcode information as part of the Project induction process and will use this to better inform actions and initiatives. Where the data collection process does not return the information intended, the survey approach and content will be amended.

Travel Plan monitoring reports will provide data on:

- The percentage of workforce travelling by each mode – including information on those seeking to travel by car and car-sharing;
- Details on workforce postcode information – including those living within the 14 London Boroughs;
- Sub-contractors and suppliers with more than 25 staff on the worksite; and
- The challenges to be addressed to aid improvements in sustainable mode share; to tackle safety and well-being concerns; and issued around shift change overs.

8.3. Review

The TPC will be responsible for the review of the staff travel surveys and any additional feedback received from staff received on transport related matters. The information received will help to develop the CWTP. The results of the staff travel surveys will be used by Riverlinx CJV for the purpose of monitoring travel patterns and measuring progress against the defined Project metrics. Actions can be reviewed to inform the on-going implementation of the Travel Plan.

Appendix A

Regional Policy and Guidance

London Plan

The London Plan, adopted in July 2011, sets out the Spatial Development Strategy for Greater London. The London Plan has been the subject of revisions, including:

- Revised Early Minor Alterations (REMA) to the London Plan (October 2013);
- Further Alterations to the London Plan (FALP) (March 2015); and
- Minor Alterations to the London Plan (MALP) (March 2016).

A key objective of the Plan states that London should be:

“A city where it is easy, safe and convenient for everyone to access jobs, opportunities and facilities with an efficient and effective transport system which actively encourages more walking and cycling”. Chapter 6 of the London Plan identifies policies to support the delivery of an efficient and effective transport system and places emphasis on encouraging sustainable travel.

Mayor's Transport Strategy

The current Mayor's Transport Strategy (MTS) sets out the transport vision for London and was prepared under the governance of Boris Johnson. Updates since the appointment of Sadiq Khan have not been issued. The vision contained within the MTS is that London's transport system should excel in providing access to opportunities for all its people and enterprises. Three goals in the MTS set the context which this WSTP incorporates:

- “Enhance the quality of life for all Londoners
- Improve transport opportunities for all Londoners
- Reduce transport's contribution to climate change and improve its resilience”.

The Walking Plan for London sets out the '5C's' that indicate walkability as follows:

- Connected;
- Convivial;
- Conspicuous;
- Comfortable; and
- Convenient.

TfL Travel Planning Guidance

[Travel Planning for New Development in London: Incorporating Deliveries and Servicing' (January 2012)].

The guidance writes that its purpose should be to:

“Influence behaviour change and lead to use of more sustainable modes of travel and/or to reduce overall travel to/from the site. This is critical for new developments in order to facilitate the use of sustainable modes among occupiers and visitors from the outset, or to mitigate the impacts of trips generated by the site”.

The guidance document sets out the core elements of a travel plan that are deemed essential. The essential elements are:

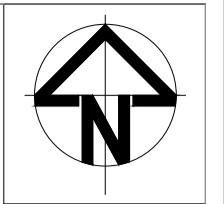
- Objectives,
- Targets,
- Measures,
- Management,
- Action Plan,
- Securing, and
- Monitoring and Review.

Appendix D

Construction Drawings

Document Listing

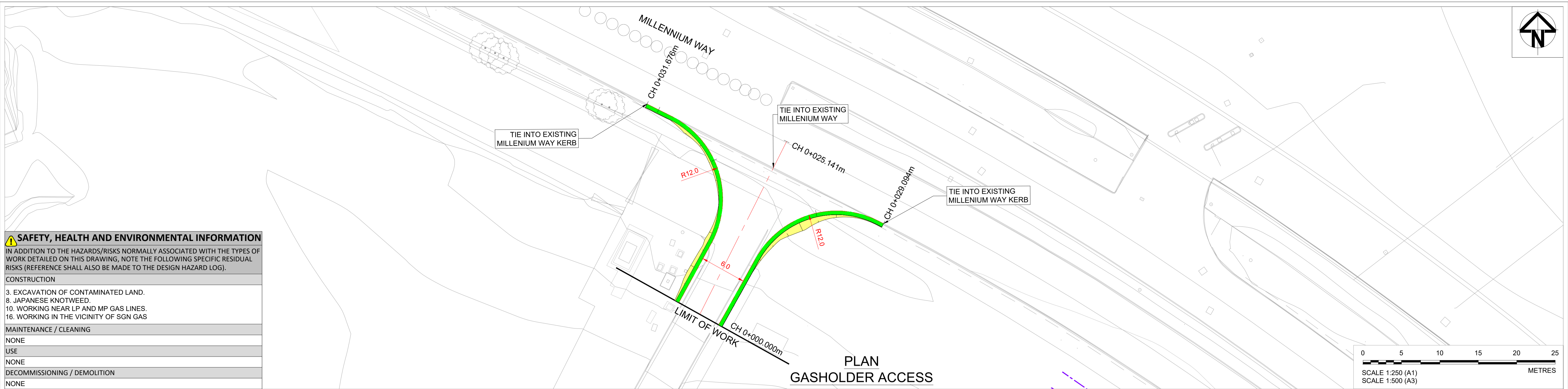
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| 2 | Silvertown Supplementary Works Package B1 - SGN Facilities - Plan and Profile Access 2 | ST150030-ARC-CAR-06-S10-DR-C-0002 | TfL Surface Projects - Silvertown Tunnel\09 - RiverLinx Preferred Bidder\04.00 Contracts & Commercial Management\04.08 Data Room Since Tender Submission\04.08.03 Supplementary Works Designs\04.08.03.02 Package B1\04.08.03.02.05 SGN Detailed Design | P05 | 7 |
| 3 | Silvertown Supplementary Works Package B1 - Access to SGN Facilities - Drainage Details and Schedule | ST150030-ARC-DRG-06-S10-DR-C-0002 | TfL Surface Projects - Silvertown Tunnel\09 - RiverLinx Preferred Bidder\04.00 Contracts & Commercial Management\04.08 Data Room Since Tender Submission\04.08.03 Supplementary Works Designs\04.08.03.02 Package B1\04.08.03.02.05 SGN Detailed Design | P05 | 3 |
| 4 | Silvertown Supplementary Works Package B1 - Access to SGN Facilities - Kerbs, Footways and Pavement | ST150030-ARC-KFP-06-S10-DR-C-0001 | TfL Surface Projects - Silvertown Tunnel\09 - RiverLinx Preferred Bidder\04.00 Contracts & Commercial Management\04.08 Data Room Since Tender Submission\04.08.03 Supplementary Works Designs\04.08.03.02 Package B1\04.08.03.02.05 SGN Detailed Design | P05 | 3 |
| 5 | Silvertown Supplementary Works Package B1 - SGN Facilities - Lighting, Fencing and Barriers | ST150030-ARC-MAC-06-S10-DR-C-0002 | TfL Surface Projects - Silvertown Tunnel\09 - RiverLinx Preferred Bidder\04.00 Contracts & Commercial Management\04.08 Data Room Since Tender Submission\04.08.03 Supplementary Works Designs\04.08.03.02 Package B1\04.08.03.02.05 SGN Detailed Design | P05 | 7 |
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| 7 | Silvertown Supplementary Works Package B1- SGN Facilities - Visibility Splay Verification | ST150030-ARC-MAC-06-S10-DR-C-0005 | TfL Surface Projects - Silvertown Tunnel\09 - RiverLinx Preferred Bidder\04.00 Contracts & Commercial Management\04.08 Data Room Since Tender Submission\04.08.03 Supplementary Works Designs\04.08.03.02 Package B1\04.08.03.02.05 SGN Detailed Design | P04 | 5 |
| 8 | Silvertown Supplementary Works Package B1 - SGN Facilities - Vehicle Tracking | ST150030-ARC-MAC-06-S10-DR-C-0006 | TfL Surface Projects - Silvertown Tunnel\09 - RiverLinx Preferred Bidder\04.00 Contracts & Commercial Management\04.08 Data Room Since Tender Submission\04.08.03 Supplementary Works Designs\04.08.03.02 Package B1\04.08.03.02.05 SGN Detailed Design | P07 | 7 |



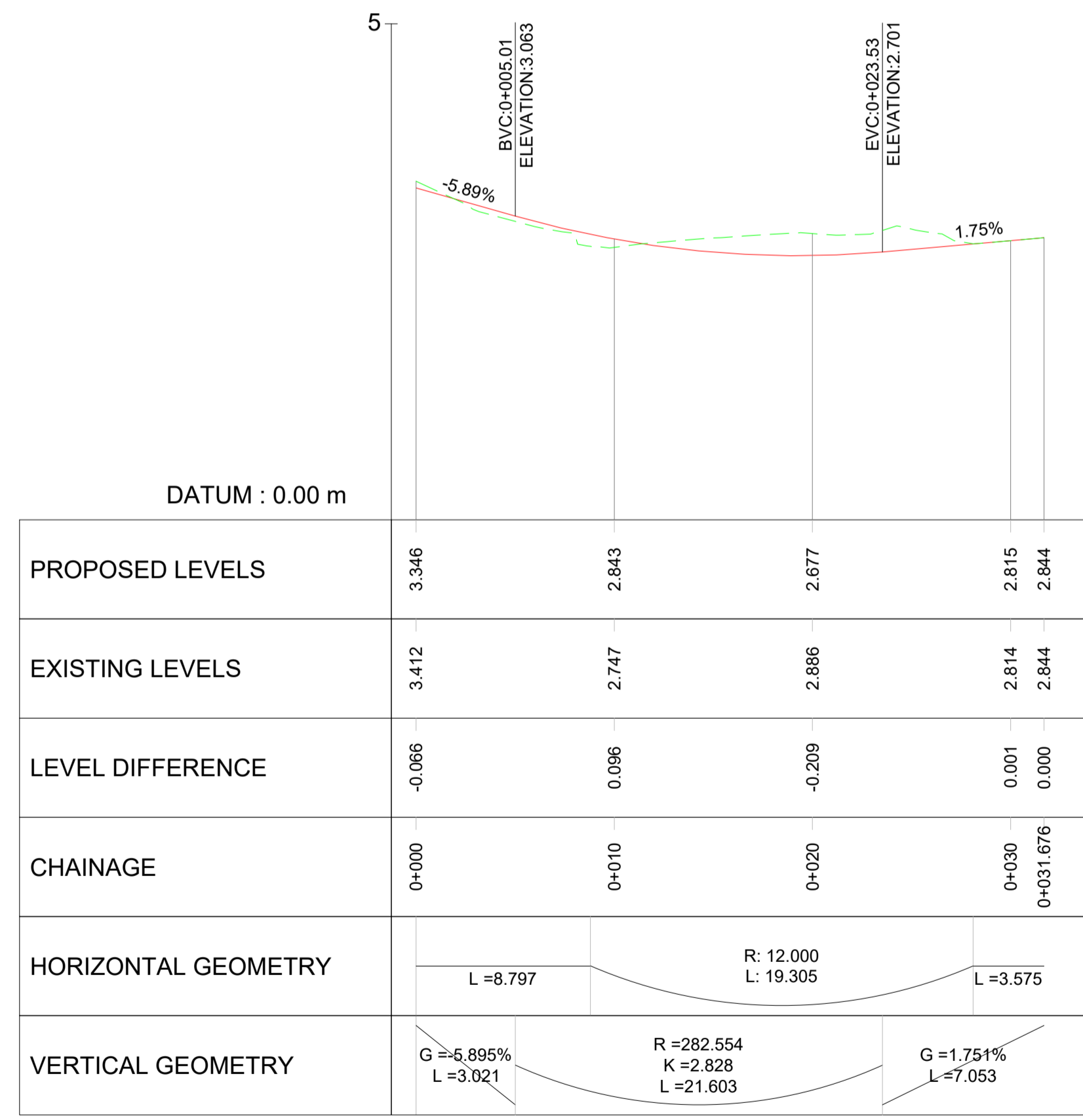
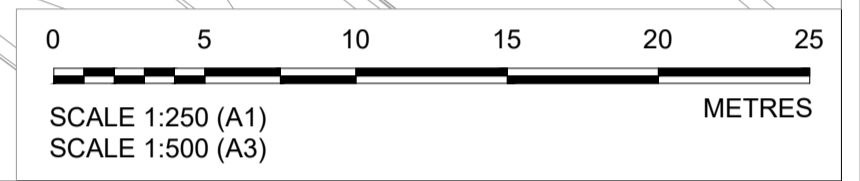
SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

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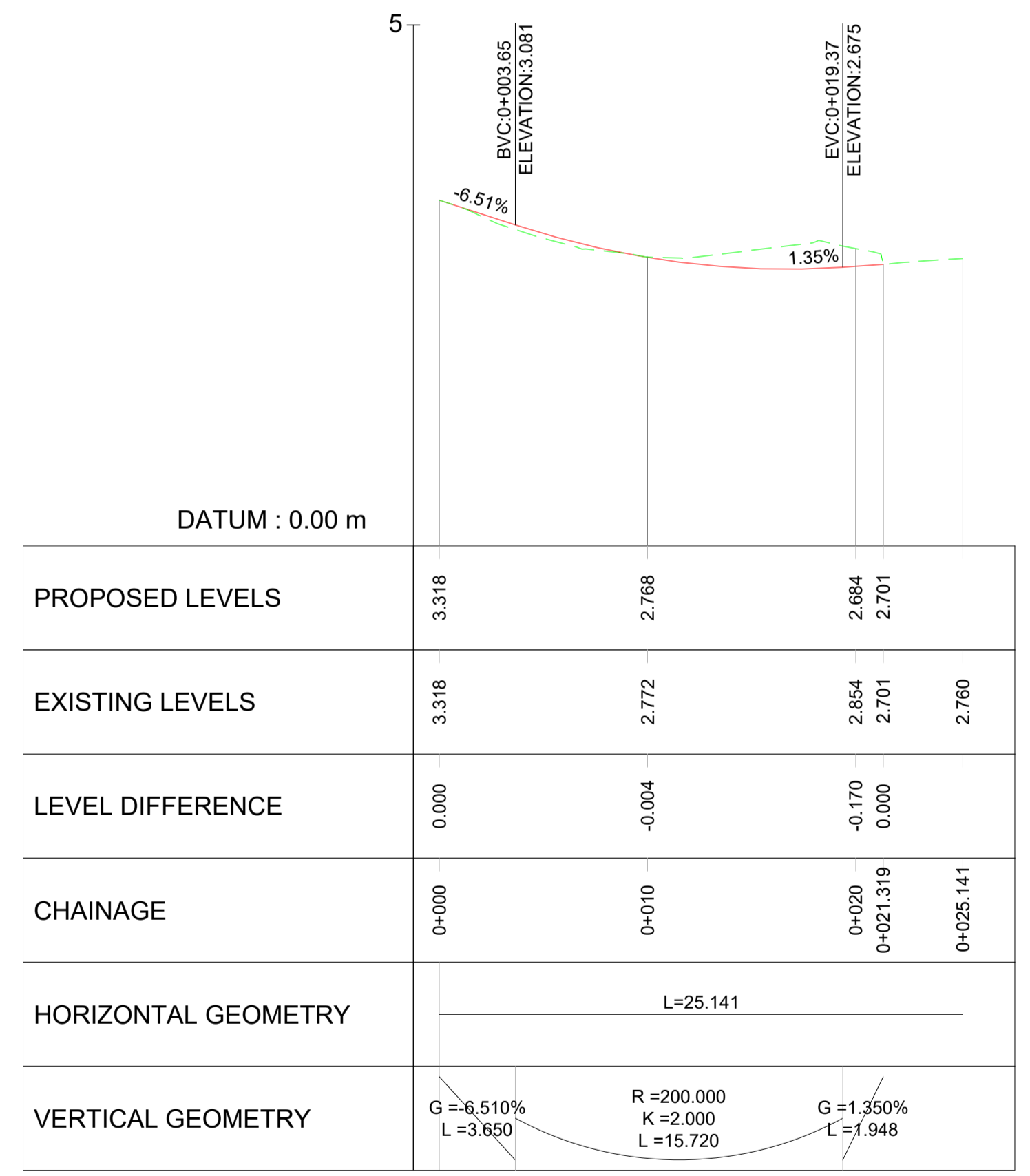
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| 8. JAPANESE KNOTWEED. |
| 10. WORKING NEAR LP AND MP GAS LINES. |
| 16. WORKING IN THE VICINITY OF SGN GAS |
| MAINTENANCE / CLEANING |
| NONE |
| USE |
| NONE |
| DECOMMISSIONING / DEMOLITION |
| NONE |



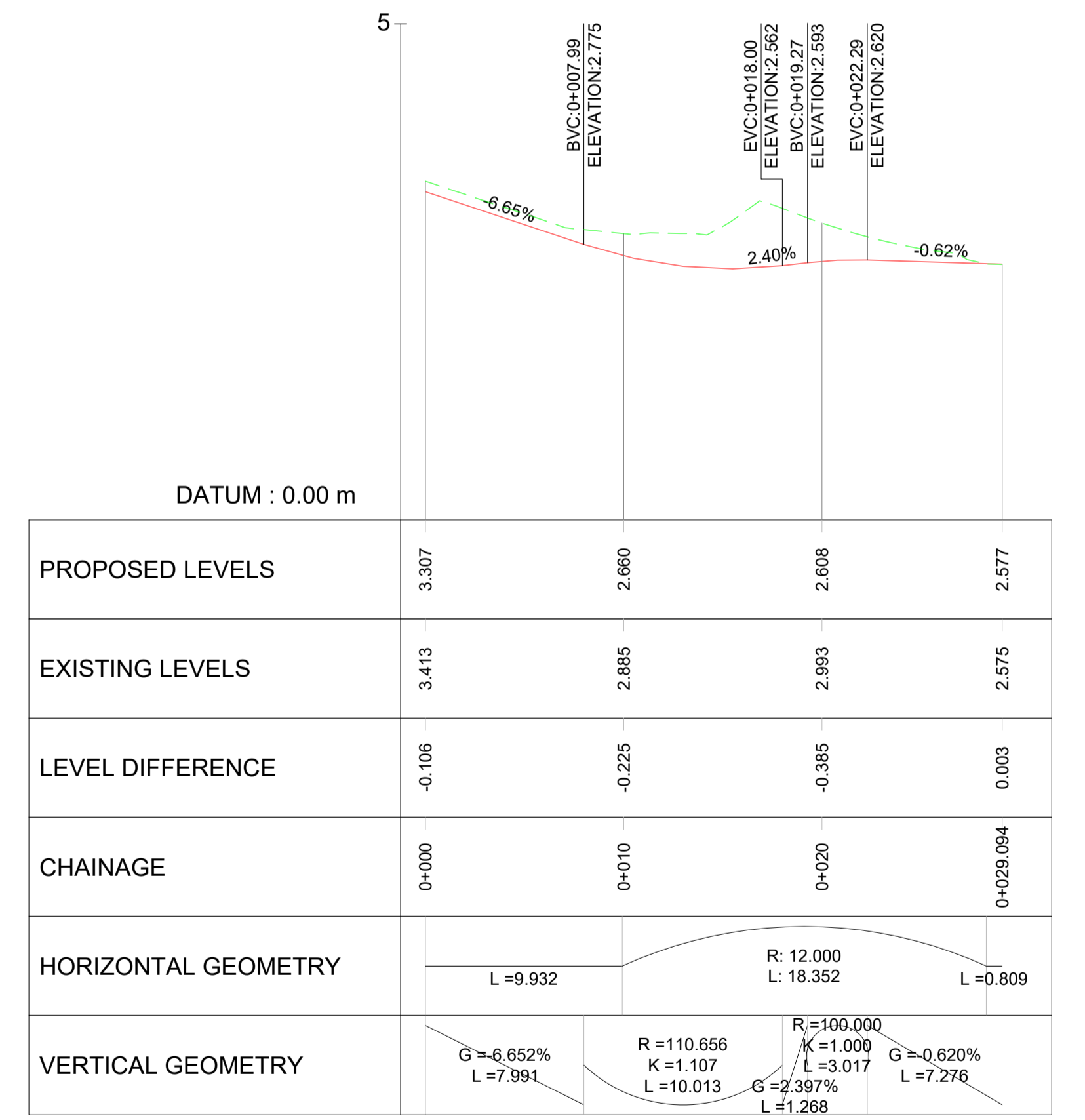
**PLAN
GASHOLDER ACCESS**



LONGITUDINAL SECTION GASHOLDER ACCESS LEFT KERB
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LONGITUDINAL SECTION GASHOLDER ACCESS
SCALE: 1:250 (H) 1:50 (V)



LONGITUDINAL SECTION GASHOLDER ACCESS RIGHT KERB
SCALE: 1:250 (H) 1:50 (V)

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 - ALL CONSTRUCTION SHOULD BE IN ACCORDANCE WITH THE SPECIFICATION FOR HIGHWAY WORKS VOLUME 1.

LEGEND:

PLAN:

- ROAD CENTRE LINE
- PROPOSED VERGE
- PROPOSED EARTHWORK

PROFILE:

- PROPOSED LEVELS
- EXISTING LEVELS

| Rev | Date | Details | Dm | Chk | App |
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| P03 | 15MAR19 | ISSUED FOR ACCEPTANCE | KB | HS | JC |
| P02 | 01MAR19 | ACCESS DESIGNS AS PER SGN REQUIREMENTS | KB | CBR | JC |
| P01 | 31DEC18 | FINAL DETAILED DESIGN | YGS | CBR | JC |

Transport for London
TfL Engineering

Traffic Design Engineering

Palestra
197 Blackfriars Road
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Arcadis House, 34 York Way, London, N1 9AB

Project Title: SILVERTOWN TUNNEL SUPPLEMENTARY WORKS PACKAGE B1

Drawing Title: SGN FACILITIES PLAN AND PROFILE ACCESS 1

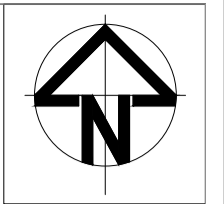
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For Acceptance

Sheet No. 01 OF 01

Revision: P04

Drawing No. ST150030-ARC-CAR-06-S10-DR-C-0001



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

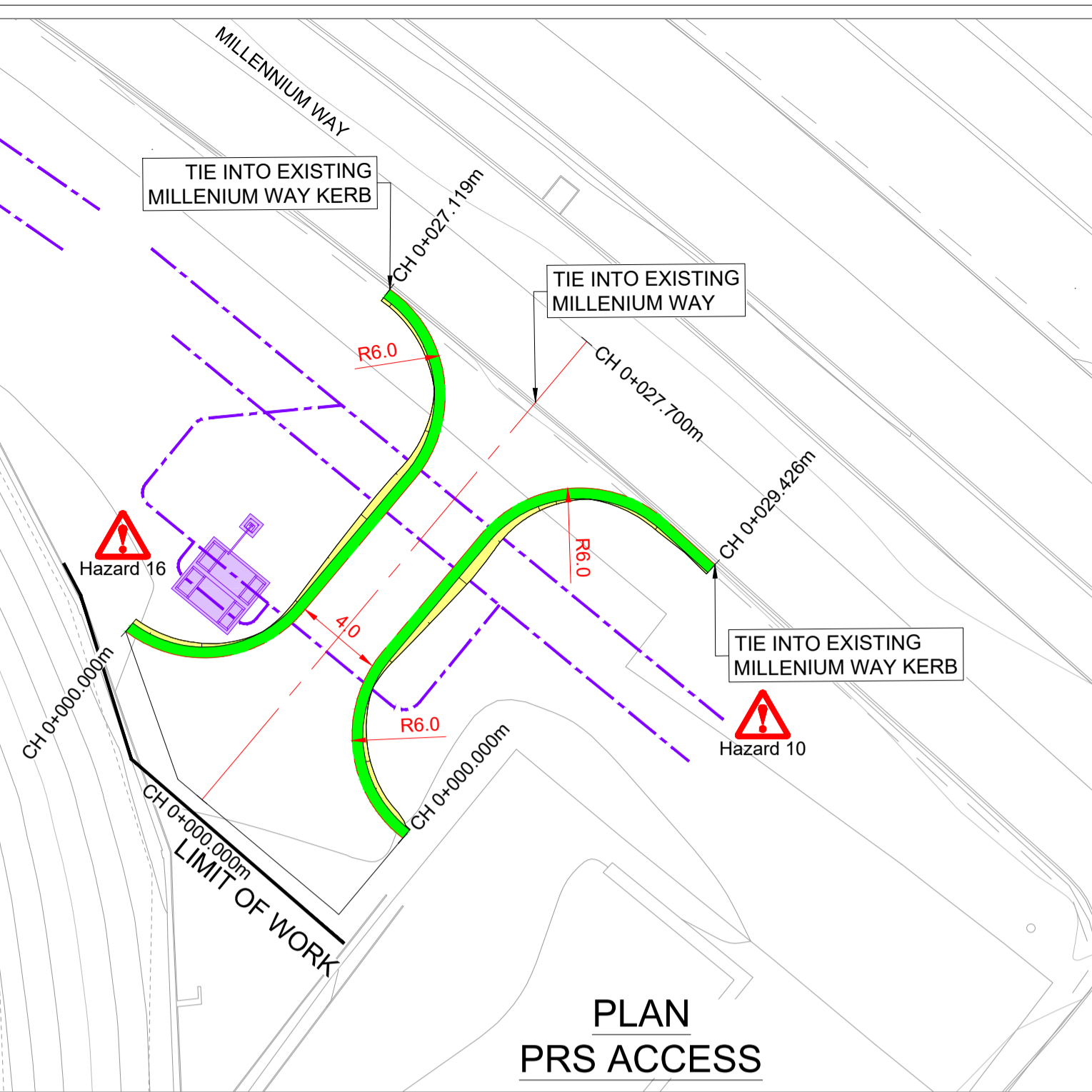
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| CONSTRUCTION |
|---|
| 3. EXCAVATION OF CONTAMINATED LAND. |
| 8. JAPANESE KNOTWEED. |
| 10. WORKING NEAR LP AND MP GAS LINES. |
| 16. WORKING IN THE VICINITY OF SGN GAS. |
| 20. EXISTING GAS HOLDER RETAINING WALL. |

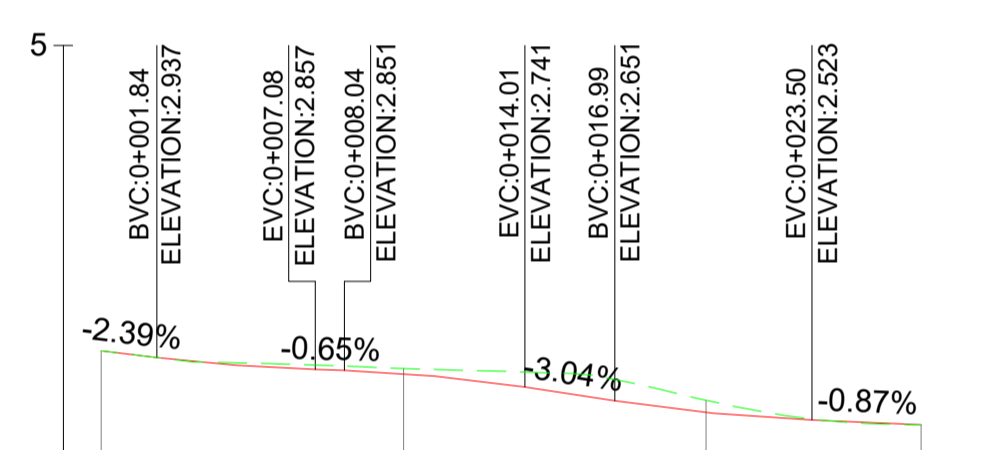
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| USE |
|------|
| NONE |

| DECOMMISSIONING / DEMOLITION |
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| NONE |



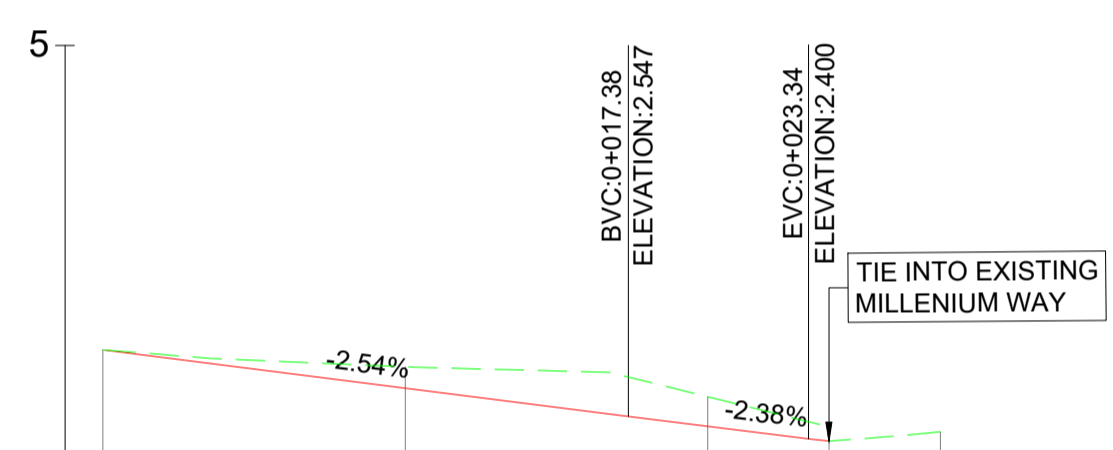
PLAN
PRS ACCESS



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| CHAINAGE | 0+000 | 0+010 | 0+020 | 0+027.119 |
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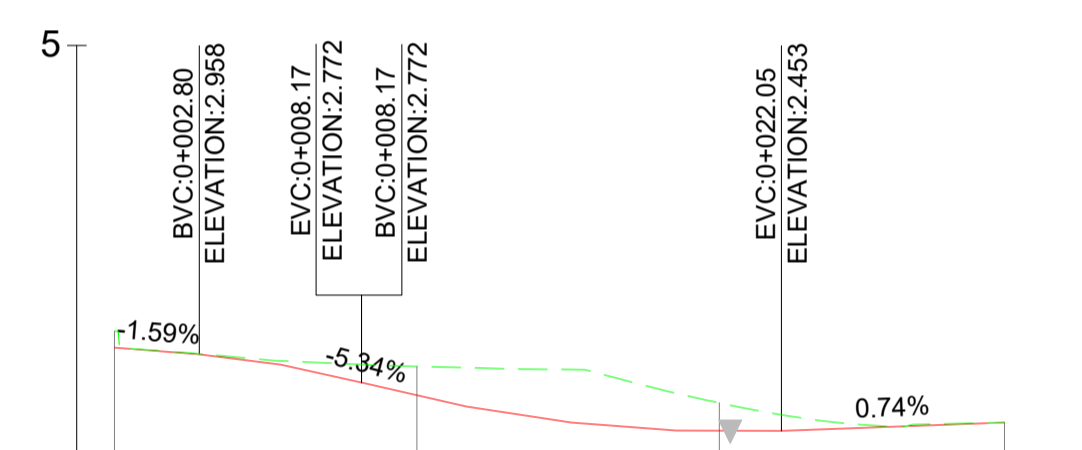
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LONGITUDINAL SECTION PRS ACCESS
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LONGITUDINAL SECTION PRS ACCESS RIGHT KERB
SCALE: 1:250 (H) 1:50 (V)

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LEGEND:

PLAN:

- ROAD CENTRE LINE
- GAS MAIN
- PROPOSED VERGE
- PROPOSED EARTHWORK

PROFILE:

- PROPOSED LEVELS
- EXISTING LEVELS

| Rev | Date | Details | Dm | Chk | App |
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| P04 | 16APR19 | ACCESS 2 LAYOUT AND SHE BOX AMENDED | KB | HS | JC |
| P03 | 15MAR19 | ISSUED FOR ACCEPTANCE | KB | HS | JC |
| P02 | 01MAR19 | ACCESS DESIGNS AS PER SGN REQUIREMENTS | KB | CBR | JC |
| P01 | 31DEC18 | FINAL DETAILED DESIGN | YGS | CBR | JC |

Transport for London
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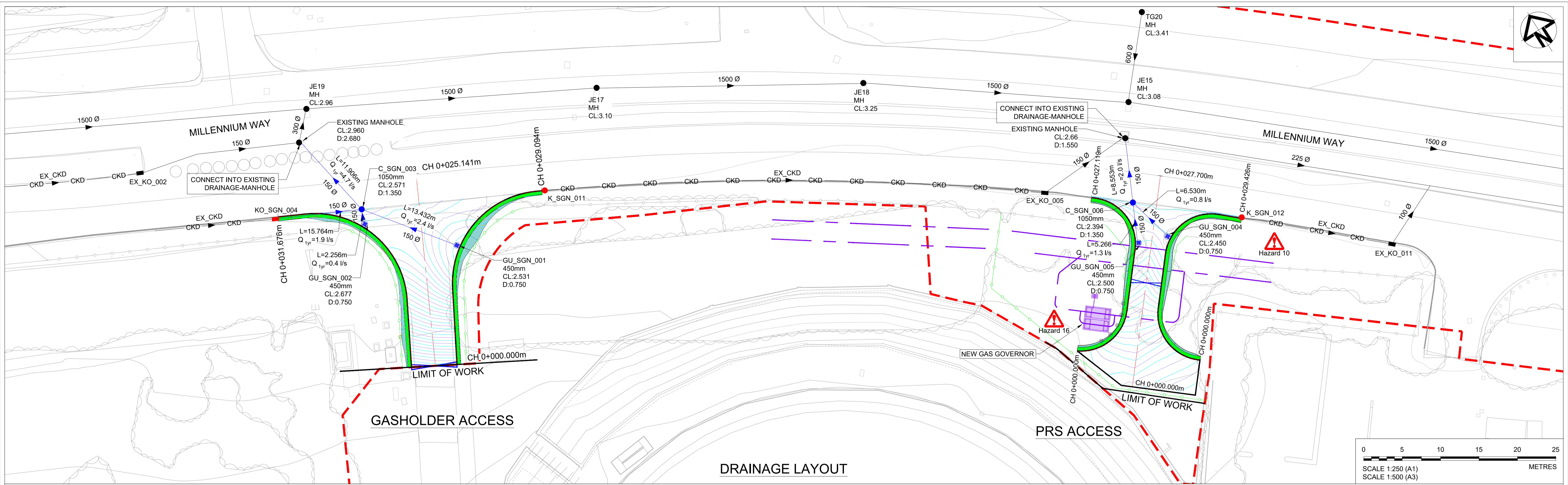
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Drawing Title: SGN FACILITIES PLAN AND PROFILE ACCESS 2

Date: 29OCT18
Scale: AS SHOWN
Dm: KB
Chk: HS
App: JC
Sheet No: 01 OF 01

Revision: P05

Drawing No: ST150030-ARC-CAR-06-S10-DR-C-0002



| PROPOSED PIPE AND CHAMBER SCHEDULE | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------------|----------|-------------------|----------------------|------------|-------------|----------|---------------|--------------------|----------------------------|---------------|-------------|---------------------|--------------|--------------|----------|-------|-----------------|--------------|------------------|--------|-----------------|---------------|--|--|
| Identification | Location | Chamber Details | | | | | | | | | Pipe Out | | | | Pipe In | | | | Pipe Out Details | | | Comments | | |
| | | Chamber Reference | Carriageway Location | Chainage | Easting | Northing | Loading Class | Chamber Cover Type | Chamber Cover Opening Size | Chamber Type | Cover Level | Cover Clear Opening | Chamber Size | Invert Level | Diameter | Slope | Depth to Invert | Invert Level | Diameter | Slope | Depth to Invert | | Length | Type |
| (...) | (...) | (m) | (m) | (m) | (D400 etc.) | (...) | (mm x mm) | (...) | (m) | (mm x mm) | (mm) | (m) | (mm) | (1/X) | (m) | (m) | (mm) | (1/X) | (m) | (m) | (...) | (...) | | |
| C_SGN_003 | Verge | N/A | 539254.074 | 179459.047 | D400 | Solid | 600 x 600 | 7 | 2.751 | 600 x 600 (S) | 1050 | 1.385 | 150 | 304.0 | 1.366 | 1.385 | 150 | 4.2 | 1.366 | 11.906 | PR Carrier | Thermoplastic | This Proposed Catchpit is for SGN Access 1. Gully Pipe is outfalling into Proposed Catchpit. | |
| KO_SGN_004 | Verge | N/A | 539243.931 | 179464.005 | N/A | Solid | 490 x 900 | N/A | 2.961 | 490 x 900 | 490 x 900 | 1.385 | 150 | 50.0 | 1.576 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | Proposed Kerb Outlet for Existing CKD |
| K_SGN_011 | Verge | N/A | 539275.489 | 179448.339 | N/A | Solid | 490 x 900 | N/A | 2.574 | 490 x 900 | 490 x 900 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | Proposed Kerb Access Unit for Existing CKD |
| K_SGN_012 | Verge | N/A | 539396.106 | 179396.730 | N/A | Solid | 490 x 900 | N/A | 2.485 | 490 x 900 | 490 x 900 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | Proposed Kerb Access Unit for Existing CKD |
| C_SGN_006 | Verge | N/A | 539339.198 | 179405.953 | D400 | Solid | 600 x 600 | 7 | 2.394 | 600 x 600 (S) | 1050 | 1.044 | 150 | 301 | 1.350 | 1.044 | 150 | 10 | 1.350 | 8.553 | PR Carrier | Thermoplastic | This Proposed Catchpit is for SGN Access 2. Gully Pipe is outfalling into Proposed Catchpit. | |

| PROPOSED GULLY SCHEDULE | | | | | | | | | |
|-------------------------|----------|----------------------|------------|-------------------------|------------------|----------|------------------|---------------|---------------------------------|
| Reference | Chainage | Chamber Co-Ordinates | | Cover Class (BS EN 124) | Pipe Out Details | | | | Comments |
| | | Easting | Northings | | Length | Diameter | Type | Material | |
| (m) | (m) | (m) | (m) | (m) | (mm) | (...) | (...) | | |
| GU_SGN_001 | CH 0+015 | 539262.119 | 179448.291 | D400 | 13.432 | 150 | PR Carrier Drain | Thermoplastic | This Gully is for SGN Access 1. |
| GU_SGN_002 | CH 0+019 | 539253.306 | 179456.925 | D400 | 2.256 | 150 | PR Carrier Drain | Thermoplastic | This Gully is for SGN Access 1. |
| GU_SGN_004 | CH 0+020 | 539340.743 | 179399.608 | D400 | 6.530 | 150 | PR Carrier Drain | Thermoplastic | This Gully is for SGN Access 2. |
| GU_SGN_005 | CH 0+023 | 539399.608 | 179401.213 | D400 | 5.266 | 150 | PR Carrier Drain | Thermoplastic | This Gully is for SGN Access 2. |

DRAINAGE SCHEDULE

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING SPECIFIC RESIDUAL RISKS (REFERENCE SHALL ALSO BE MADE TO THE DESIGN HAZARD LOG).

CONSTRUCTION

- 3. EXCAVATION OF CONTAMINATED LAND.
- 8. JAPANESE KNOTWEED.
- 10. WORKING NEAR LP AND MP GAS LINES.
- 16. WORKING IN THE VICINITY OF SGN GAS.
- 20. EXISTING GAS HOLDER RETAINING WALL.

MAINTENANCE / CLEANING

NONE

USE

NONE

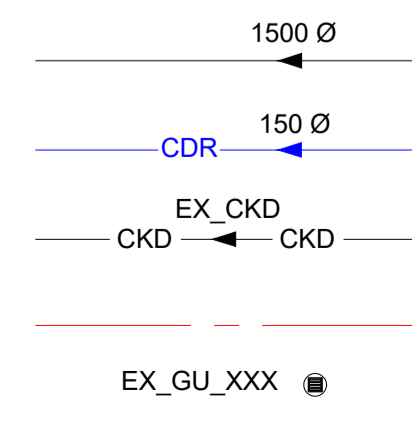
DECOMMISSIONING / DEMOLITION

NONE

- NOTES:**
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 - AFFECTED VERGES TO BE MADE GOOD AS PER THE LOCAL AUTHORITY REQUIREMENTS.
 - ALL CONSTRUCTION SHOULD BE IN ACCORDANCE WITH THE SPECIFICATION FOR HIGHWAY WORKS VOLUME 1.

LEGEND:

- ORDER LIMITS
- EXISTING FEATURES
- PROPOSED KERB
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- GAS MAIN
- EXISTING TREE CANOPY



- EXISTING CKD OUTFALL CHAMBER WITH REFERENCE NUMBER (EX_KO_XXX)
- PROPOSED MANHOLE / CATCHPIT WITH REFERENCE NUMBER (X_SGN_XXX)
- PROPOSED CKD ACCESS CHAMBER WITH REFERENCE NUMBER (K_SGN_XXX)
- PROPOSED CKD OUTFALL CHAMBER WITH REFERENCE NUMBER (KO_SGN_XXX)
- EXISTING MANHOLE / CATCHPIT WITH REF NUMBER (JE XX)

NOTES:

- App 5/1, 5/5 specifications have not been supplied with this drawing. Please refer to the notes shown.
- All gully covers to be class D400 heavy duty, black bitumen coated, ductile iron units, manufactured to BS EN 124.
- All chamber covers to be class D400, manufactured to BS EN 124.
- Bedding, backfill and cover of pipes will conform to the specifications set out in SHW 503 and 505.
- The Contractor is responsible for ensuring all proposed levels tie in to existing levels. All existing invert levels to be checked by the Contractor at the start of works and any the Engineer to be notified of any discrepancies.
- All existing service covers and frames shall be raised/lowered to match new levels.
- Gully spacings are designed to HA102/17.
- All gully connections to the existing drainage system to be in accordance with clause 506 of the SHW.
- The highway works shall be inspected/supervised by representatives of the appropriate highway or local authority. Prior to commencing work the Contractor shall provide a detailed construction programme.
- The Contractor shall undertake an inspection of any retained sections of existing drainage system in the form of a CCTV survey, which is to be carried out to locate any sections of the existing system that may require repair/replacement. The Contractor must notify the approving authority of any defects and blockages in any retained drainage networks prior to commencement of construction.

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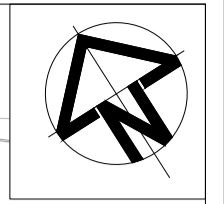
ARCADIS
Arcadis House, 34 York Way, London, N1 9AB

SILVERTOWN TUNNEL SUPPLEMENTARY WORKS PACKAGE B1

SGN FACILITIES - DRAINAGE DETAILS AND SCHEDULES

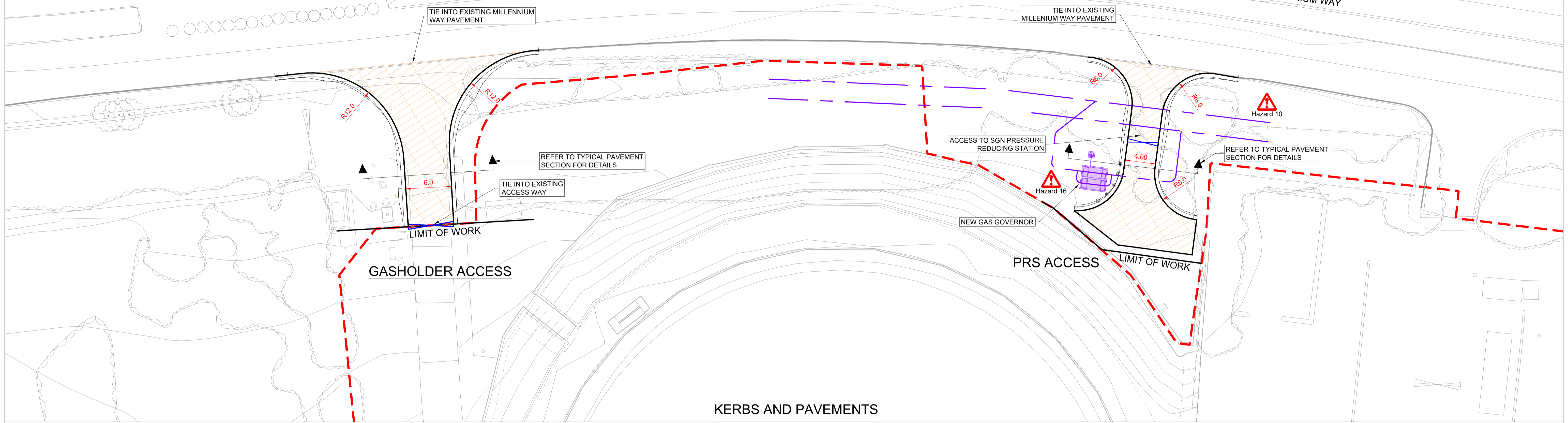
Project Title: SILVERTOWN TUNNEL SUPPLEMENTARY WORKS PACKAGE B1
Drawing Title: SGN FACILITIES - DRAINAGE DETAILS AND SCHEDULES
Scale: 1:250 @ A1
Status: FOR ACCEPTANCE
Revision: P05

ST150030-ARC-DRG-06-S10-DR-C-0002



MILLENNIUM WAY

MILLENNIUM WAY



KERBS AND PAVEMENTS

TYPICAL PAVEMENT SECTION
PAVEMENT TYPE A1
SCALE 1:50

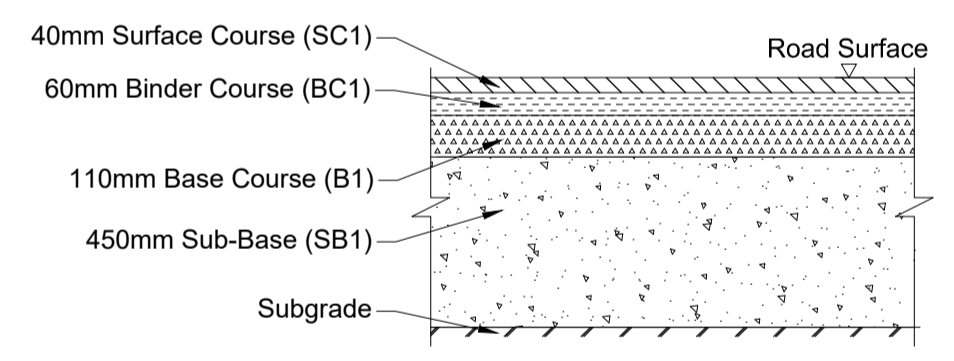


Table 1: Pavement Design for Entrances.

| Pavement Type: A1 (Traffic 1.5 MSA) | | | |
|-------------------------------------|-----------------|-------------|--|
| Layers | Thickness in mm | Designation | Material |
| Surface Course | 40 | AC | AC10 close surf 70/100, Clause 912, PSV 60 |
| Binder Course | 60 | AC | AC20 Dense bin 40/60, Clause 906 |
| Base Course | 110 | AC | AC32 Dense base 40/60, Clause 906 |
| Sub Base | 450 | Type 1 | Clause 803 |
| Total | 660 | | |

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING SPECIFIC RESIDUAL RISKS (REFERENCE SHALL ALSO BE MADE TO THE DESIGN HAZARD LOG).

| CONSTRUCTION |
|---|
| 3. EXCAVATION OF CONTAMINATED LAND. |
| 8. JAPANESE KNOTWEED. |
| 10. WORKING NEAR LP AND MP GAS LINES. |
| 16. WORKING IN THE VICINITY OF SGN GAS. |
| 20. EXISTING GAS HOLDER RETAINING WALL. |

| MAINTENANCE / CLEANING |
|------------------------|
| NONE |

| USE |
|------|
| NONE |

| DECOMMISSIONING / DEMOLITION |
|------------------------------|
| NONE |

NOTES:

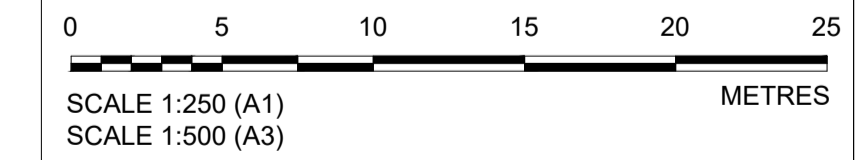
- ALL DRAWINGS MUST BE READ IN CONJUNCTION WITH NOTES ON DRAWING No. ST150030-ARC-MAC-ZZ-ZY-DR-C-0001.
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- AFFECTED VERGES TO BE MADE GOOD AS PER THE LOCAL AUTHORITY REQUIREMENTS.
- ALL CONSTRUCTION SHOULD BE IN ACCORDANCE WITH THE SPECIFICATION FOR HIGHWAY WORKS VOLUME 1.

LEGEND:

| | | | |
|--|----------------------|--|--|
| | ORDER LIMITS | | PROPOSED CARRIAGEWAY PAVEMENT (REFER TO NOTES) |
| | EXISTING FEATURES | | SURFACE COURSE (SC1) |
| | PROPOSED KERB | | BINDER COURSE (BC1) |
| | GAS MAIN | | BASE COURSE (B1) |
| | EXISTING TREE CANOPY | | SUB-BASE (SCB1) |

NOTES:

- All dimensions are in meters unless otherwise specified.
- The foundation design should be in accordance with section 4 of the Pavement Design Report.
- All asphalt interfaces shall be treated with a tack coat prior to placing each successive asphalt course in accordance with Appendix 7/4.
- Where there are asphalt to asphalt joints, the tie in details must be in accordance with HD27 (Figure 2.2).
- Surface level checks and tolerance requirements should adhere to MCHW guidance notes NG700.
- Surface course joints must coincide with either lane edges or lane markings as per Clause 9.3.21.
- The foundation thickness is based on CBR of 2.5%, should different CBR's be encountered then refer to IAN 73/06 Table 3.1
- Kerbing operations to adhere to MCHW guidance notes NG1100.
- All kerbs are to be 125 x 255mm bullnose/half battered precast concrete kerbs to SHW clause 1101, unless otherwise shown.
- Suitable transition kerb to be provided between Existing Combined Kerb Drainage and New HB2 Kerbs.
- All ironworks shall be reset to new levels where required prior to road surfacing.
- The Contractor shall fully comply with all relevant legislation and regulations during the works.



| Rev | Date | Details | Dm | Chk | App |
|-----|---------|--|-----|-----|-----|
| P05 | 25SEP19 | ACCESS NAMES UPDATED | KB | HS | JC |
| P04 | 16APR19 | ACCESS 2 LAYOUT AND SHE BOX AMENDED | KB | HS | JC |
| P03 | 15MAR19 | ISSUED FOR ACCEPTANCE | KB | HS | JC |
| P02 | 01MAR19 | ACCESS DESIGNS AS PER SGN REQUIREMENTS | KB | CBR | JC |
| P01 | 31DEC18 | FINAL DETAILED DESIGN | YGS | CBR | JC |

Transport for London
TfL Engineering Traffic Design Engineering

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ARCADIS
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Project Title
SILVERTOWN TUNNEL SUPPLEMENTARY WORKS PACKAGE B1

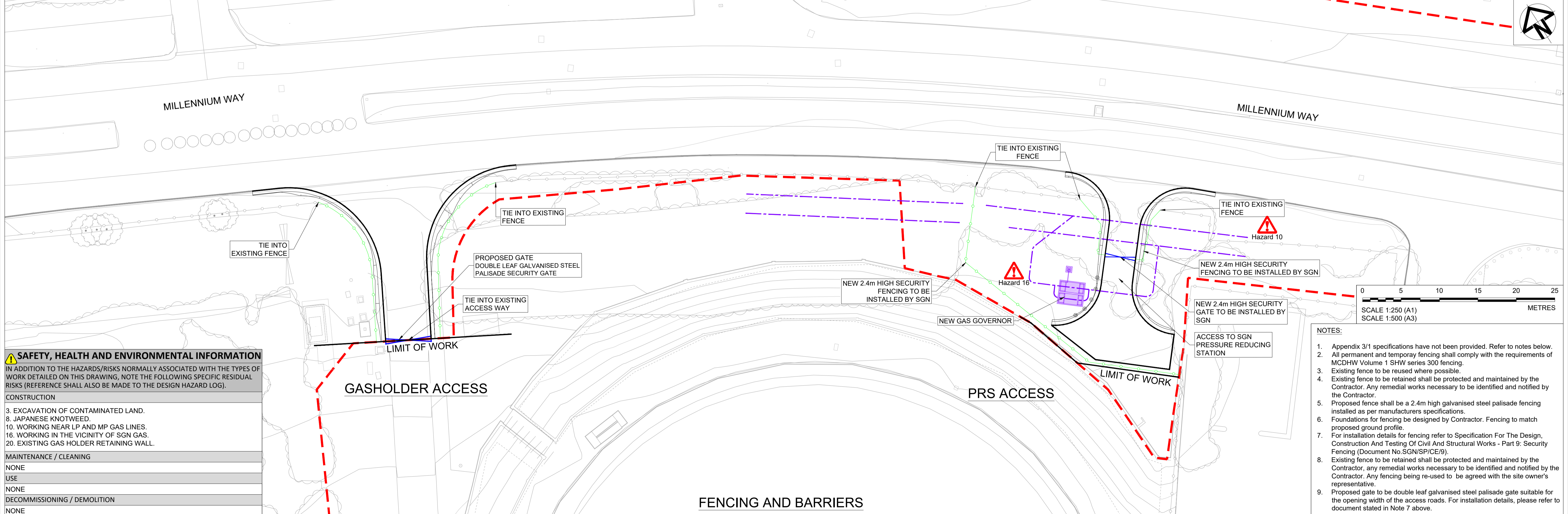
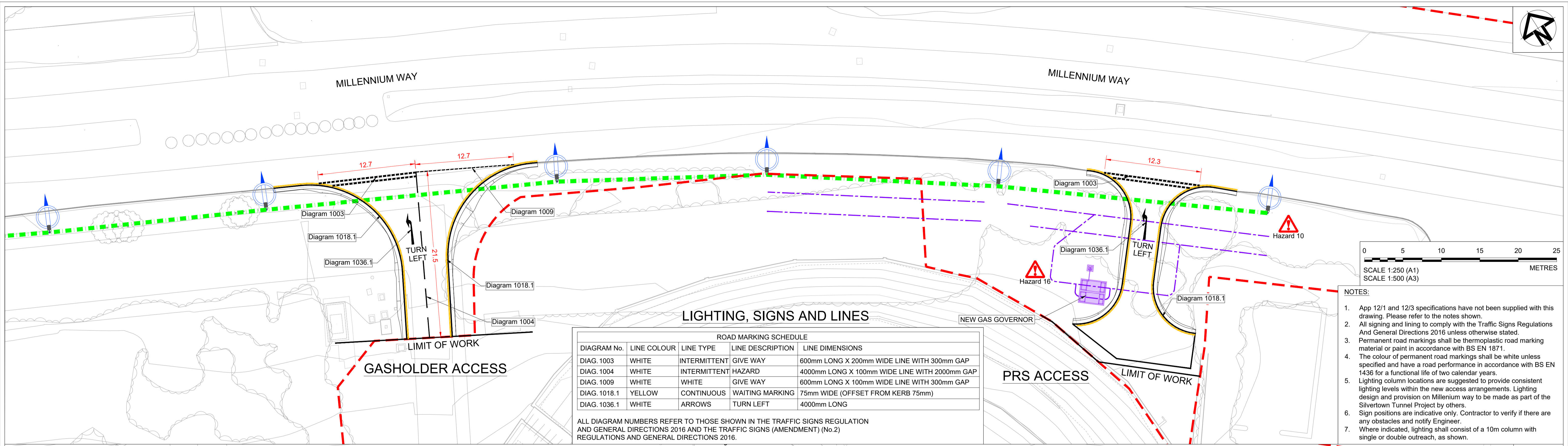
Drawing Title
SGN FACILITIES - DRAINAGE, KERBS, FOOTWAYS & PAVED AREAS

Date: 29OCT18 Scale: 1:250 @ A1 Dm: KB Chk: HS App: JC Sheet No: 01 OF 01

Submittal: FOR ACCEPTANCE Revision: P05

Drawing No.
ST150030-ARC-KFP-06-S10-DR-C-0001

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SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

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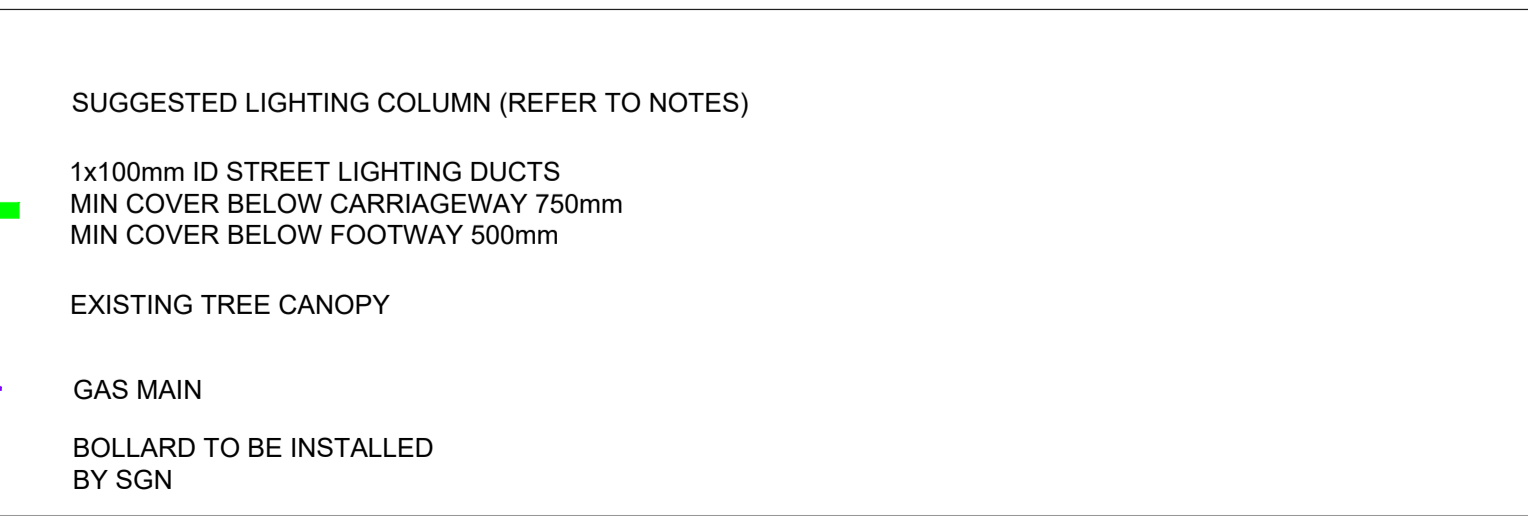
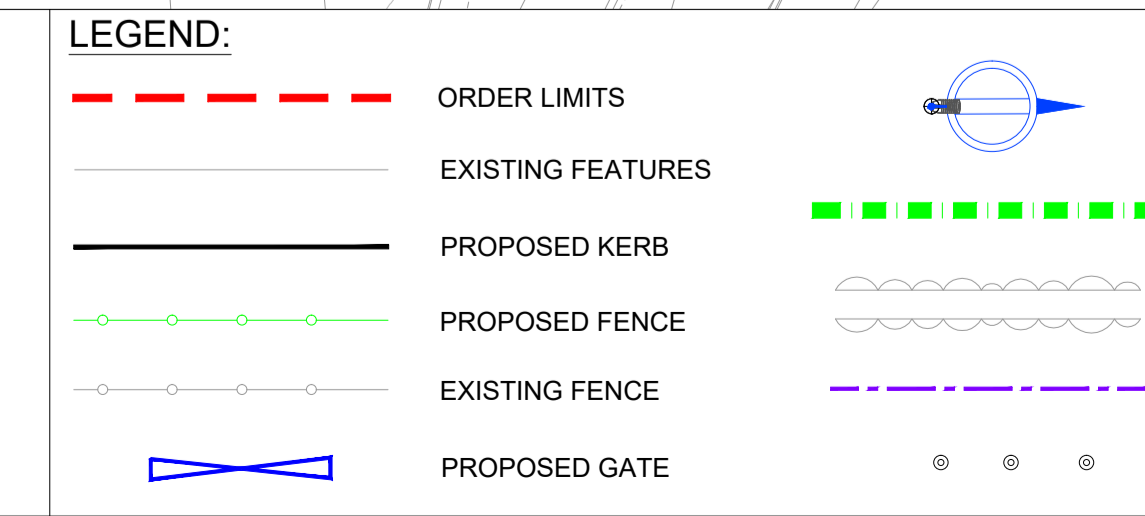
| CONSTRUCTION |
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| 20. EXISTING GAS HOLDER RETAINING WALL. |

| MAINTENANCE / CLEANING |
|------------------------|
| NONE |

| USE |
|------|
| NONE |

| DECOMMISSIONING / DEMOLITION |
|------------------------------|
| NONE |

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| Rev | Date | Details | Dm | Chk | App |
|-----|---------|--|-----|-----|-----|
| P05 | 25SEP19 | ACCESS NAMES UPDATED | KB | HS | JC |
| P04 | 16APR19 | ACCESS 2 LAYOUT AND SHE BOX AMENDED | KB | HS | JC |
| P03 | 03APR19 | ISSUED FOR ACCEPTANCE | KB | HS | JC |
| P02 | 28FEB19 | ACCESS DESIGNS AS PER SGN REQUIREMENTS | KB | CBR | JC |
| P01 | 14JAN19 | FINAL DETAILED DESIGN | YGS | CBR | JC |

Transport for London
TfL Engineering

Traffic Design Engineering

Palestra
197 Blackfriars Road
London SE1 8NJ

Project Title: SILVERTOWN TUNNEL SUPPLEMENTARY WORKS PACKAGE B1

Drawing Title: SGN FACILITIES LIGHTING, FENCING AND BARRIERS

Date: 29OCT18
Scale: 1:250 @ A1
Dm: KB
Chk: HS
App: JC
Sheet No.: 01 OF 01

Revised: 01 OF 01

Subsidiary Description: FOR ACCEPTANCE

Revision: P05

Drawing No.: ST150030-ARC-MAC-06-S10-DR-C-0002

Project: SILVERTOWN TUNNEL SUPPLEMENTARY WORKS PACKAGE B1

Project Number: 150030-ARC-MAC-06-S10-DR-C-0002

Project Date: 2019

Project Location: SILVERTOWN TUNNEL SUPPLEMENTARY WORKS PACKAGE B1

Project Description: SILVERTOWN TUNNEL SUPPLEMENTARY WORKS PACKAGE B1

Project Status: FOR ACCEPTANCE

Project Reference: ST150030-ARC-MAC-06-S10-DR-C-0002

Project Contact: ARCADIS

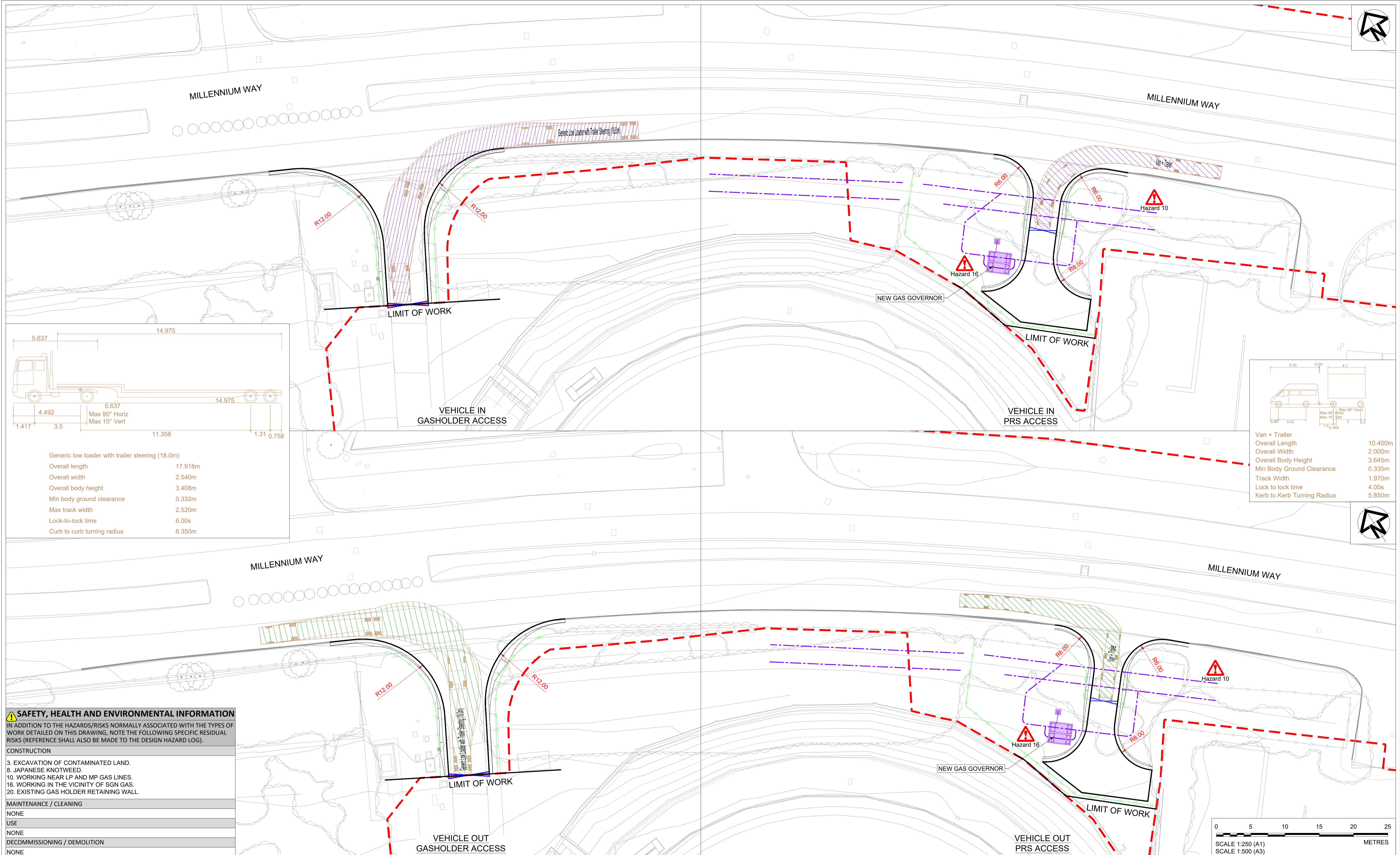
Project Address: Arcadis House, 34 York Way, London, N1 9AB

Project Phone: +44 (0)20 7843 6000

Project Email: info@arcadis.com

Project Website: www.arcadis.com

Project Logo: ARCADIS



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

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| | |
|-------------------------------------|------|
| MAINTENANCE / CLEANING | NONE |
| USE | NONE |
| DECOMMISSIONING / DEMOLITION | NONE |

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LEGEND:

| | | | |
|--|-------------------|--|----------------------|
| | ORDER LIMITS | | GAS MAINS |
| | PROPOSED KERB | | PROPOSED FENCE |
| | EXISTING FEATURES | | PROPOSED GATE |
| | VEHICLE IN | | EXISTING TREE CANOPY |
| | VEHICLE OUT | | |

- NOTES:**
- The Design Van for the PRS Access can safely enter the site without any Temporary Traffic Management.
 - If the Van and Trailer used by the PRS maintenance team will protrude into Millennium Way, SGN is to employ Traffic Management during access and egress to/from Access 2 to ensure no hazards are posed to the traffic on Millennium Way.
 - Whilst within the compounds of Access 2, SGN staff to manually operate the trailer within their site to turn it around. The transit van shall be turned around separately.

| Rev | Date | Details | Dm | Chk | App |
|-----|---------|---|-----|-----|-----|
| P07 | 25SEP19 | ACCESS NAMES UPDATED | KB | HS | JC |
| P06 | 24JUL19 | SGN TRACKING AMENDED | AA | HS | JC |
| P05 | 16APR19 | ACCESS 2 LAYOUT AND SHE BOX AMENDED | KB | HS | JC |
| P04 | 15MAR19 | ISSUED FOR ACCEPTANCE | KB | HS | JC |
| P03 | 28FEB19 | VAN AND TRAILER AS PER SGN REQUIREMENTS | KB | CBR | JC |
| P02 | 08FEB18 | NEW TRACKING FOR REDESIGNED ACCESSSES | KB | CBR | JC |
| P01 | 27DEC18 | FINAL DETAILED DESIGN | YGS | CBR | JC |

Transport for London
TfL Engineering

Traffic Design Engineering

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London SE1 8NJ

ARCADIS

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Project Title
SILVERTOWN TUNNEL SUPPLEMENTARY WORKS PACKAGE B1

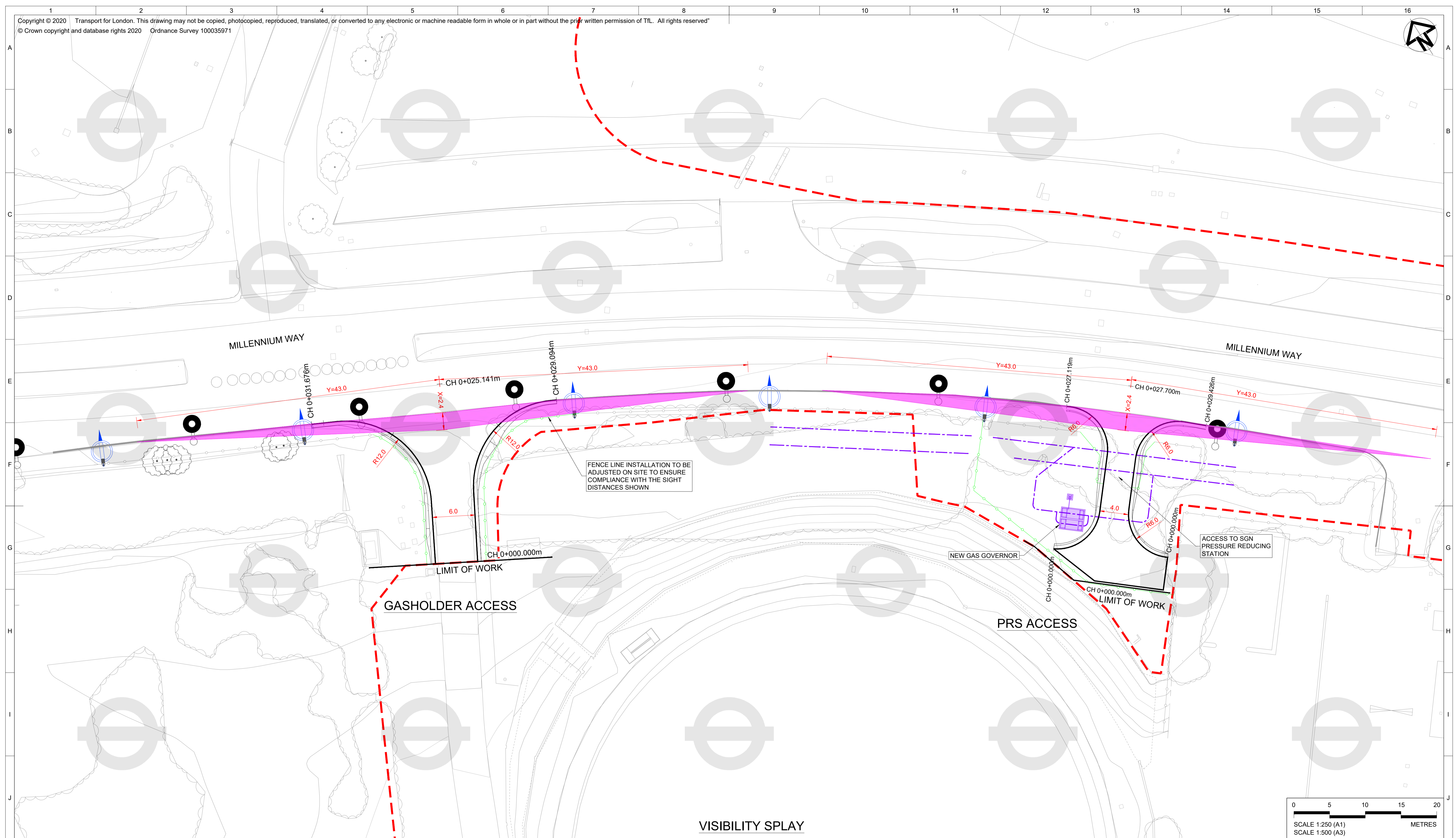
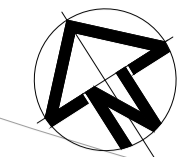
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SGN FACILITIES - CONCEPT DESIGN VEHICULAR SWEEP PATH

Scale: 1:250 @ A1
Scale: 1:500 (A3)

Sheet No. 01 OF 01
Revision P07

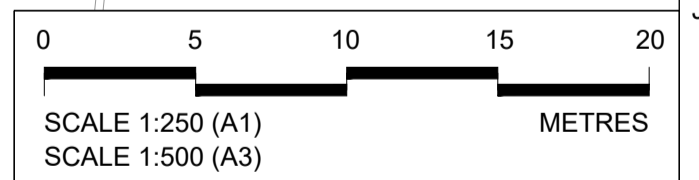
Drawing No. ST150030-ARC-MAC-06-S10-DR-C-0006

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FENCE LINE INSTALLATION TO BE ADJUSTED ON SITE TO ENSURE COMPLIANCE WITH THE SIGHT DISTANCES SHOWN

ACCESS TO SGN PRESSURE REDUCING STATION



LEGEND:

- ORDER LIMITS
- EXISTING FEATURES
- PROPOSED KERB
- PROPOSED FENCE
- EXISTING FENCE
- GAS MAIN
- EXISTING VEGETATION
- EXISTING TREE CANOPY
- SUGGESTED LIGHTING COLUMN (REFER TO NOTES)
- VISIBILITY ENVELOPE

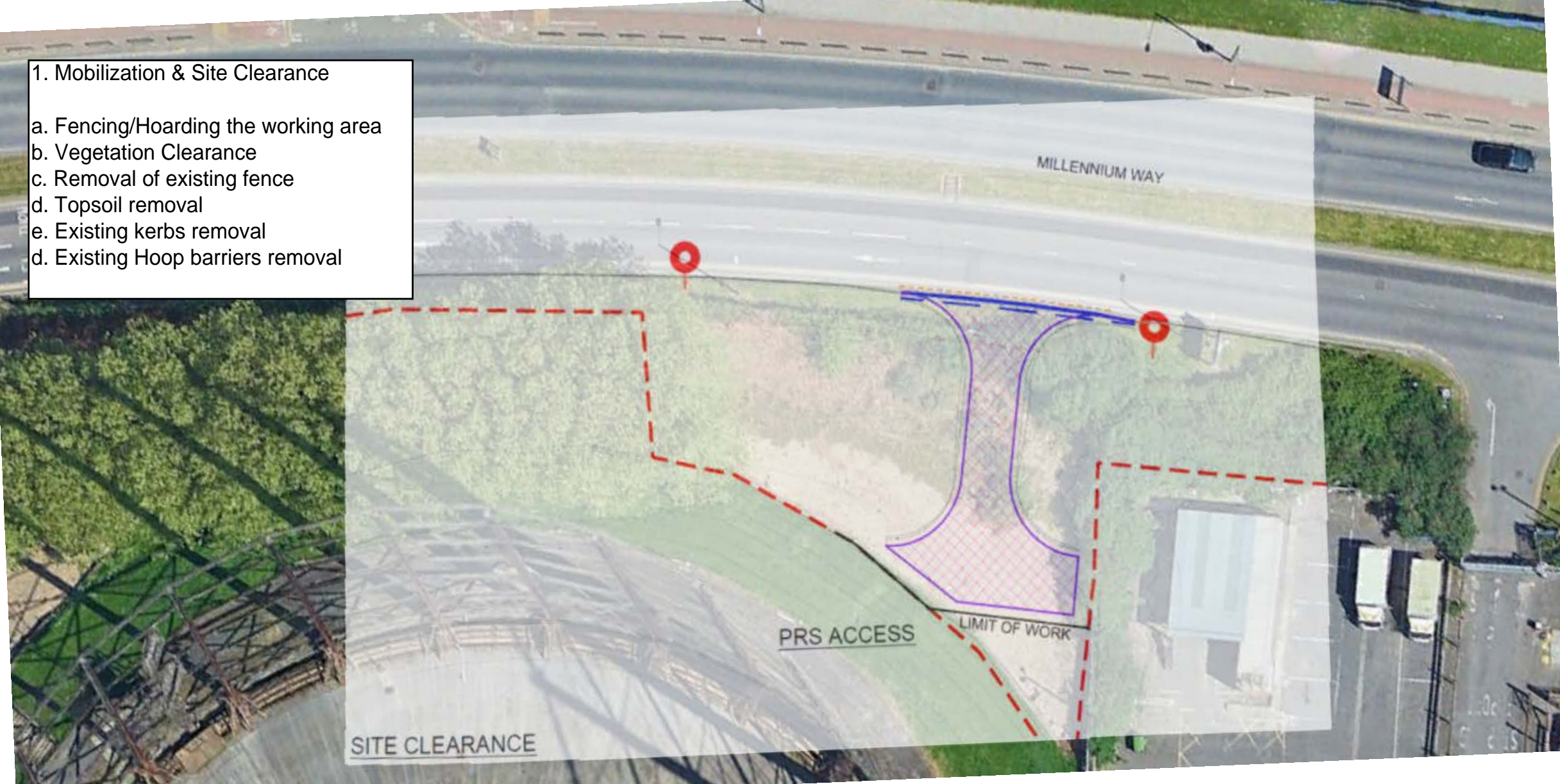
| | | | | | | | | | | | |
|------------|-----------------|----------|--|-----------------------|--|----------------------|--|-------------------------------|--|---|--|
| Restricted | Project | | | | | Silvertown Tunnel | | Title | | Drawing Supporting SGN PRS Consent Submission | |
| | Originator | | | | | Arcadis | | Location | | Visibility Splay Verification | |
| | Greenwich | | | | | Asset Classification | | Multiple Asset Classification | | Lifecycle | |
| | Detailed Design | | | | | Suitability | | S2 | | Fit for Information | |
| Rev | | Date | | Purpose / Description | | T. Checked | | T. Approved | | P. Approved | |
| P02 | | 04/05/20 | | SP | | SH | | | | | |
| P01 | | 09/04/20 | | SP | | SH | | | | | |
| S2 | | | | | | | | | | Drawing Number | |
| | | | | | | | | | | Rev. | |
| | | | | | | | | | | ST150030-ARC-MAC-06-S10-SKE-HE-0005 | |
| | | | | | | | | | | P02 | |

Appendix E

Construction Sequence sketches

1. Mobilization & Site Clearance

- a. Fencing/Hoarding the working area
- b. Vegetation Clearance
- c. Removal of existing fence
- d. Topsoil removal
- e. Existing kerbs removal
- d. Existing Hoop barriers removal



SITE CLEARANCE

PRS ACCESS

LIMIT OF WORK

MILLENNIUM WAY

2. Earthworks and Drainage

- a. Excavation of existing made ground to required level
- b. Protection of existing Utilities
- c. Drainage works (Gully, manholes, ducting/ pipes)
- d. Installation of sub base course



DRAINAGE LAYOUT

3. PRS Works

- a. New Fence Installation
- b. New Gate Installation
- c. Installation of new Governor
- d. Bollards installation



4. Surface Works

- a. Installation of Kerb
- b. Base course installation
- c. Binder course installation
- d. Wearing Course Installation
- e. Road marking

