THE THORPE ESTATE SOLAR FARM

Construction Traffic Management Plan

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The Thorpe Estate Solar Farm
Construction Traffic Management Plan
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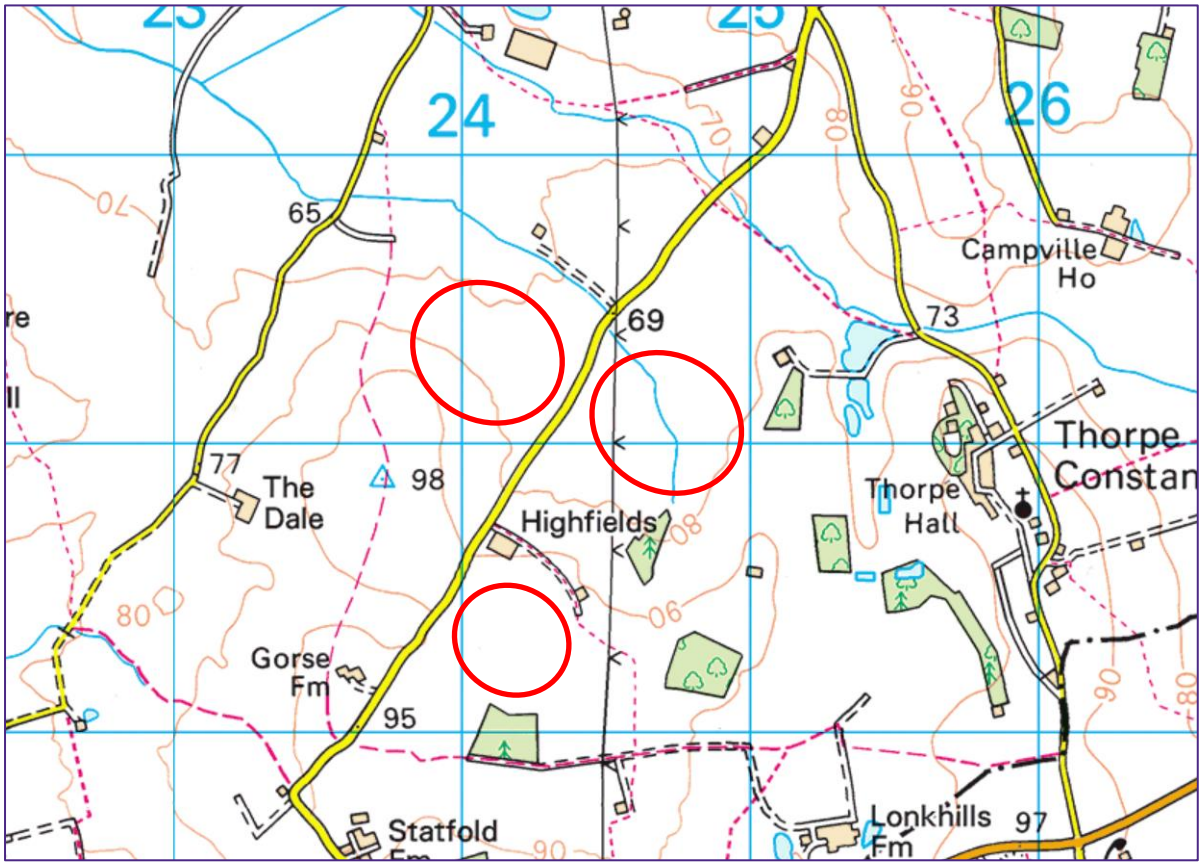
Appendices

1 INTRODUCTION

1.1 This Construction Traffic Management Plan (CTMP) has been prepared by RPS on behalf of ELGIN ENERGY EsCO LTD (the 'Applicant') for a proposed development comprising free standing, static solar PV panels, substation and ancillary development on land at the Thorpe Estate, Thorpe Constantine, Tamworth B79 0LH.

1.2 The site is located to the west of Thorpe Constantine, to the north of the B5493 and to the north east of Tamworth. The site is split into three sections, their locations are shown on **Figure 1** below. The site layout is shown at **Appendix A.**

Figure 1: Site Location



1.3 There are no existing building developments within the Application Site. The site comprises of large-scale arable fields surrounded by hedgerows. The site is formed into three sections, a southern section, a north-eastern section and a north-western section.

1.4 The southern section is bounded by Clifton Lane to the west, Highfield Farm House to the north and arable fields to the east and south. The Clifton Rough woodland is also located to the south.

1.5 The northern-eastern section is bounded by arable fields to the north, east and south, with Highfield Farm House also located to the south. To the west this section is bounded by Clifton lane.

1.6 The northern-western section is bounded by arable fields to the north, west and south. To the east this section is bounded by Clifton lane.

Development Proposals

1.7 The planning application comprises of free standing, static solar PV panels, substation and ancillary development. All electricity produced will be fed into the local grid. A site layout plan is shown at **Appendix A**.

1.8 In summary the proposed development will include:

- A series of ground mounted solar arrays on an east west alignment;
- Inverters and transformer buildings;
- Substations and associated infrastructure;
- A security fence with gated site entrance;
- Underground electrical cabling connecting the arrays with the inverters and substation;
- Internal access tracks; and
- A temporary construction compound located within the site to hold temporary portacabin structures during the construction phase.

Context and Scope

1.9 The principal aim of this CTMP is to ensure that the construction works are organised and delivered in a manner that safeguards the highway impact, highway safety and amenity of the area surrounding the Application Site.

Report Structure

- **Section 2** summaries the different phases of work and sets out the construction methodology and working hours;
- **Section 3** outlines the anticipated composition and volume of traffic during the construction phase of the Development along with the proposed routing of traffic;
- **Section 4** provides an appraisal of the highway geometry of the identified construction route, having regard to current design guidance in combination with the volume and type of traffic generated by the Development;
- **Section 5** focuses on the proposals to ensure that a suitable management strategy and structure is in place to control activity on site and to ensure a suitable reporting procedure for local residents and stakeholders;
- Travel Plan measures are outlined in **Section 6**; and
- The findings of the CTMP are summarised in **Section 7**.

2 CONSTRUCTION PROCESS

2.1 This section outlines the proposed indicative development schedule, construction methodology and the way in which deliveries will be controlled with regards to the local highway network.

Development Schedule

2.2 The proposed construction is scheduled to last up to 6 months (24 weeks). The construction can broadly be split into the following phases:

- Site Setup – including site tracks, perimeter fencing, site welfare, construction compound;
- Solar Panel Frames – including setting out positions, installing piles, constructing frames;
- Cabling and Ducting – including installing AC cables, DC mains, earthing system and ducts; and
- Modules and Commissioning – including connecting LV DC and AC, installing modules and overall commissioning.

2.3 It should be noted however that the construction programme may be subject to change prior to work commencing on site.

Delivery of Plant and Materials

2.4 All materials and plant associated with the development process will be stored within the footprint of the Application Site. A loading and unloading area for plant and materials will be provided within the Application Site. It is anticipated that the majority of deliveries will be made via articulated low loader and rigid HGVs.

Working Hours

2.5 All work will be conducted between 08:00 - 18:00 Monday to Friday with limited construction activities on Saturdays between 08:00 - 13:00. No construction activities will take place on a Sunday or Bank Holiday.

3 CONSTRUCTION TRAFFIC GENERATION

3.1 This section of the report sets out the estimated volume and type of vehicles that will be generated throughout the construction phase of the development. This information has been used in subsequent sections that consider the geometry and safety of the adjoining highway networks, in order to inform the suite of management measures proposed.

3.2 It should be noted that the construction programme and corresponding construction traffic strategy may be subject to change following the appointment of a construction contractor and prior to work commencing on site. Any substantial changes in the build program and / or number of vehicular movements will be communicated to Staffordshire County Council (SCC) in advance of construction.

Construction Vehicles

3.3 The trip generation potential of the construction phase of development has been informed though discussion with the Applicant on the anticipated construction programme and is based on experience of delivering similar developments in the United Kingdom.

3.4 The construction period is anticipated to last for up to 6 months. **Table 3.1** below summarises the estimated average construction traffic associated with the development.

Table 3.1: Construction HGVs

Item	Vehicle Type	Number of HGV Movements
Solar Panels	Rigid HGV	Average of 6 HGV movements per day (3 HGV arrivals plus 3 HGV departures per day)
Mounting System	Rigid HGV	
Prefabricated Buildings	Articulated Low Loader	
Unloading Buildings	80 tonne Crane	
Cables	Rigid HGV	
Fencing	Rigid HGV	
Small Deliveries	Rigid HGV	
Plant Delivery	10t-20t HGV (normally Rigid HGV)	

3.5 The construction period is estimated to last for up to 6 months (24 weeks), with deliveries fluctuating within this period. It is envisaged that the majority of movements would be Monday to Friday with only a limited number of movements on a Saturday.

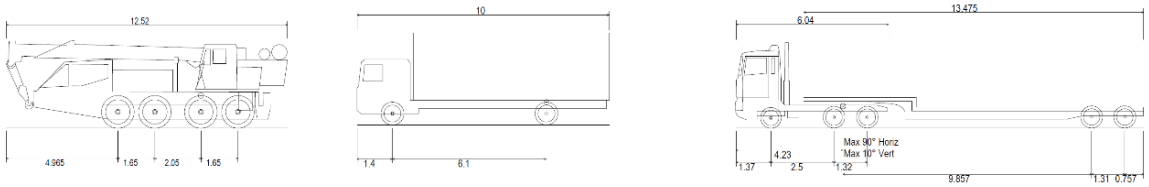
3.6 Deliveries will vary in amount per day during the construction period with an average of three deliveries (three inbound plus three outbound movements) per day over the 24-week period.

Construction Vehicle Types

3.7 It is noted that a variety of vehicles will need to access the Application Site during construction. These will include articulated low loaders, rigid HGVs and cranes associated with delivering the requisite

materials (including aggregate, mounting frames, solar panels and other equipment) and prefabricated buildings. The dimensions of the vehicle types are shown below.

Figure 2: Vehicle Dimensions



Liebherr LTM 1070-4.1 Mobile Crane (80t)	
Overall Length	12.520m
Overall Width	2.820m
Overall Body Height	3.900m
Min Body Ground Clearance	0.410m
Track Width	2.820m
Lock to Lock Time	4.00s
Kerb to Kerb Turning Radius	6.490m

FTA Design HG Rigid Vehicle (1998)	
Overall Length	10.000m
Overall Width	2.500m
Overall Body Height	3.645m
Min Body Ground Clearance	0.440m
Track Width	2.470m
Lock to Lock Time	3.00s
Kerb to Kerb Turning Radius	11.000m

Low Loader	
Overall Length	16.154m
Overall Width	2.520m
Overall Body Height	3.393m
Min Body Ground Clearance	0.318m
Max Track Width	2.500m
Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	6.990m

Dwell Times

3.8 Delivery vehicles are likely to attend the Application Site for approximately one hour per vehicle. Deliveries will be managed to stagger arrivals on site, with hourly slots for unloading.

3.9 There will be sufficient space within the curtilage of the Application Site to ensure that no vehicles would have to wait on the surrounding highway network.

3.10 Further measures that will be employed to control the number and frequency of vehicles arriving at the Application Site are detailed further below.

Construction Staff

3.11 During construction, there is a balance to be made between the intensity of on-site activity and duration of activity.

3.12 Experience of similar developments elsewhere suggests that car sharing promotion by the contractor will reduce the number of cars. This will be achieved through management of staff travel patterns and actively encouraging car sharing as set out further in **Section 6**.

3.13 All staff are anticipated to arrive at the site during the 30 minute period preceding the start of the operating day (i.e. 07:30 to 08:00 Monday to Saturday) and depart during the 30 minute period that follows the end of the operating day (i.e. 18:00 - 18:30 Monday to Friday and 13:00 - 13:30 on Saturdays). Staff trips are likely to travel to / from different origins / destinations and hence spread their movement across the highway network.

3.14 Provision will be made to enable all vehicles to park on site to avoid obstruction to the operation of the public highway and this shall be strictly enforced. **Section 6** sets out full details on construction worker trips and also contains a Construction Worker Travel Plan that seeks to minimise construction workers' travel.

Maintenance

3.15 Once operational, the proposed Development will not require significant maintenance, with the exception of occasional visits made by 4x4 vehicles or panel van vehicles.

3.16 The impact of maintenance vehicles is considered to be negligible given the infrequent nature of maintenance visits. The site is currently an agricultural field generating associated vehicle movements throughout the year. There will therefore not be an intensification of use on the site during its operational period.

Decommissioning

3.17 The proposed use is temporary and reversible, and the land will be restored to agriculture at the end of the park's life which is estimated to be 40 years. After the expected life of the project, the park can be dismantled, and the components recycled. The site can be reclaimed and returned to its original state.

3.18 The decommissioning of the proposed development will be expected to generate a similar (or fewer) number of trips as the construction phase, since there is not the same requirement to transport the material separately. The traffic associated with the decommissioning phase will be discussed with the Highway Authority prior to commencement, and appropriate measures will be agreed as necessary at that time.

3.19 The decommissioning phase is expected to take less time than the construction and will consist of the exact opposite construction sequence: starting with disconnecting the plant from the grid, removing the substations, inverters, opening of trenches to remove DC and / or AC cables, disconnecting all solar modules, and dismantling the modules and supporting structure.

4 CONSTRUCTION VEHICLE ACCESS AND ACCESS ROUTE

4.1 The Application Site is currently accessed from Clifton Lane. Details of the access arrangements are set out below.

Local Highway Network

Clifton Lane

4.2 Clifton Lane provides access into the site. It routes from the crossroads with Smithy Lane and Chestnut Lane in the north to the priority junction with the B5493 in the south. It bisects the site, forming the western boundary of the southern and north-eastern sections and forming the eastern boundary of the north-western section of the site.

4.3 Clifton Lane is a single carriageway road which is subject to the national speed limit. There is no streetlighting along Clifton Lane and there are also no footways along its length. There are no weight restrictions on Clifton Lane.

4.4 Clifton Lane provides frontage access to a few residential dwellings and agricultural farms.

B5493

4.5 The B5493 forms the major arm of the priority junction with Clifton Lane. The B5493 routes east to west, from its junction with the M42 to its signalised junction with the A513 in Tamworth.

4.6 The B4593 is a single carriageway road which is subject to the national speed limit along the majority of its length. It decreases to a 40mph speed limit through No Man's Heath and 30mph through Tamworth. There are no weight restrictions along its length.

4.7 The B5493, from its junction with the M42, has a footway on the southern side of the carriageway until the priority junction with Little Wigston. There is then no footway provision on either side of the carriageway until No Man's Heath where there is provision intermittently on both side of the carriageway. There is then no footway provision along the length of the B5493 until Tamworth where there are footways on both sides of the carriageway.

4.8 It also has streetlighting intermittently along is length, from the junction with the M42 street lighting is provided on both sides of the carriageway until the junction with Little Wigston. Streetlighting is then not provided again until No Man's Heath where it is provided on both sides of the carriageway. Streetlighting is then not provided along the majority of the B5493 except at singular residential properties. Once the B5493 reaches Tamworth street lighting Is provided on both sides of the carriageway.

4.9 The B5493 provides frontage access to residential dwellings in Tamworth together with a few dwellings along the rest of the B5493. Agricultural farms and light industrial areas take access from the B5493 and It also provides access to Tamworth and No Man's Heath together with routes to Newton Regis and Seckington.

4.10 The B5493 connects to the wider highway network through its junction with the M42, which also connects the site to the A42 and A444.

Construction Traffic Routeing

4.11 Construction HGVs will route to the site from the M42 via the B5493 and Clifton Lane. The M42 connects to the B5493 at Junction 11 to the north-east of the site. The construction HGVs would then route south-west along the B5493 until the junction with Clifton Lane. Constructions HGVs would then route north on Clifton Lane until they reach the site.

4.12 All construction HGVS will route to / from the site from the B5494 and Clifton Lane. No HGVs will route along Clifton Road or through Clifton Campville. As such all construction HGVs will approach the site from the south along Clifton Lane.

4.13 Three existing field entrances from Clifton Lane will be suitably improved to allow for HGV movements. Internal access tracks will be required during the construction phase. The tracks will be constructed using compacted gravel or EVE TUFF track temporary road system.

4.14 It is considered that the proposed routeing minimises the use of minor roads and maximises the use of the major strategic roads where possible. It is proposed that temporary signage is used to direct construction traffic to the site along the proposed construction traffic route utilising existing street furniture.

4.15 A construction compound area will provide an area for loading and unloading of vehicles and will provide a turning area to allow vehicles to exit the site in forward gear. All delivery drivers and construction workers will be advised of the construction route prior to making their delivery or commencing work.

4.16 It is considered appropriate to avoid routes where scheduled road works and construction vehicles could conflict. The Site Manager will keep up to date on scheduled roadworks in the area using the one.network website. Any major roadworks on the preferred route that result in the deviation of the preferred route will be agreed with officers at SCC in advance.

4.17 Post-construction, the proposed development will not require significant maintenance apart from occasional visits made by 4x4 vehicles. The construction access design allows for two-way vehicle movements of these vehicle types.

Access Proposals and Visibility

4.18 It is proposed that the site will take access from Clifton Lane. All construction vehicles will travel along Clifton lane and the B5494, which routes to the wider highway network.

4.19 Clifton Lane is subject to the national speed limit; however, vehicle speeds are significantly lower in certain sections due to the road geometries and alignment.

4.20 There are three access locations proposed (southern, north-eastern and north-western), one to access each of the three different sections of the Application Site.

4.21 A preliminary access arrangement for each of the access locations, at **Appendix B**, demonstrates the ability of a construction low loader to turn into and out of the site appropriately. The highway boundary data is attached at **Appendix C**.

4.22 For the proposed access for the southern section the achievable visibility to the north-east of the site access is approximately 2.4m x 91m, and to the south-west of the site access the achievable visibility is approximately 2.4m x 85m to a 1.0m offset from the edge of carriageway using Manual for Streets 2 (MfS2) principles. Clifton lane is lightly trafficked and at this section of road, due to the road

geometries, vehicle speeds are significantly lower. Management measures will be implemented to ensure that construction HGVs can access and exit the site safely.

4.23 Construction HGVs will be subject to a booking system with fixed arrival times. A banksperson will be utilised and must be situated at the southern site access to assist HGVs in accessing and egressing the site and will only instruct HGVs to depart the site when Clifton Lane is clear of traffic within the vicinity of the site access and it is safe to do so.

4.24 For the proposed access for the north-eastern section, the access arrangement demonstrates achievable visibility splays of 2.4m x 215m to the north-east and the south-west.

4.25 For the proposed access for the north-western section the achievable visibility splay to the north-east of the site access is approximately 2.4m x 87m to a 1.0m offset from the edge of carriageway using MfS2 principles. To the south-west the of the site access the achievable visibility is 2.4 x 215m. Clifton lane is lightly trafficked and at this section of road, due to the road geometries to the north, vehicle speeds are significantly lower. Management measures will be implemented to ensure that construction HGVs can access and exit the site safely.

4.26 Construction HGVs will be subject to a booking system with fixed arrival times. A banksperson will be utilised and must be situated at the north-western site access to assist HGVs in accessing and egressing the site and will only instruct HGVs to depart the site when Clifton Lane is clear of traffic within the vicinity of the site access and it is safe to do so.

4.27 In addition to a banksperson situated at the southern section and north-western section proposed access locations it is proposed for a temporary speed limit restriction of 40mph to be implemented from south of the southern proposed access location to north of the north-western access location, in accordance with Traffic Signs Manual Chapter 8.

4.28 It is also proposed that temporary signage be located in the vicinity of the site accesses in both directions during the construction period to warn drivers of the site entrance, as shown on **Plate 1** below.

Plate 1: Temporary Signage at Site Access

4.29 Additional signage located at the Clifton lane and the Clifton Lane / B5493 junction, will advise of HGVs turning. This is shown on **Plate 2.**

Plate 2: Temporary Signage on Clifton Lane / B5493

Highway Safety

4.30 An investigation of Personal Injury Accident data on the local network has been undertaken using www.crashmap.co.uk. The latest available data on Crashmap is verified up to 2019. Therefore, the personal injury accident data for the latest available verified 5 years (1 January 2015 and 31 December 2019) has been assessed for Clifton Lane in the vicinity of the site accesses. There were no injury accidents within the study area.

4.31 Based on the recorded injury accident data there is not considered to be an undue road safety problem within the vicinity of the Application Site.

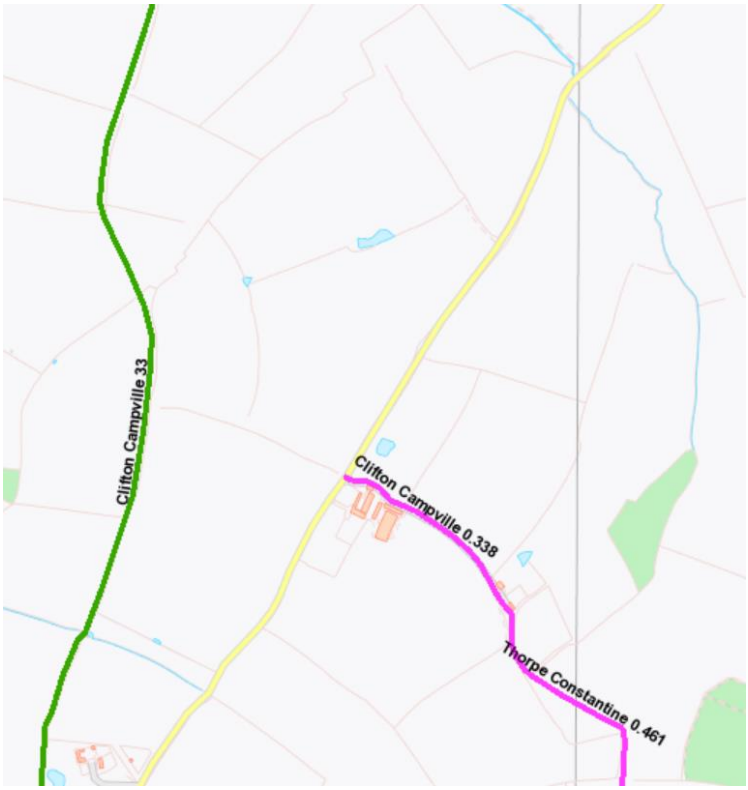
5 MEASURES, MANAGEMENT AND CONTROL PROCESSES

5.1 This section sets out the measures, management structure and control processes that will be put in place to implement, monitor and manage the CTMP. The Site Manager will be responsible for the site works which will ensure that the control processes are efficiently communicated and implemented.

Public Rights of Way

5.2 There are two Public Rights of Way (PRoW) within the vicinity of the site, as shown in **Figure 3** below.

Figure 3: Staffordshire Public Rights of Way



5.3 Clifton Campville 33 is a bridleway which is to the west of the north-western section of the site. Clifton Campville 0.338 is a footpath that bisects the southern and north-eastern sections of the site.

5.4 Fencing will be erected around the three construction site sections to segregate users of the PRoW from the construction area.

Ongoing Review of Access Routes

5.5 It is considered appropriate to avoid routes where scheduled road works and construction vehicles could conflict. Any major roadworks on the access routes that result in the deviation of the route will be agreed with officers at SCC in advance where feasible.

Transport Co-ordination

5.6 The Applicant will appoint a Site Manager for the project and the details will be provided to SCC once confirmed. The Site Manager for the project will undertake the transport co-ordination role for the site. In this respect, their main responsibilities will include:

- Managing implementation of the CTMP;
- Vehicle scheduling;
- Checking for scheduled road works on the one.network website;
- Checking for scheduled refuse collections to avoid conflict with HGV deliveries within built up areas;
- Handling any complaints; and
- Acting as a point of contact for employees, contractors and the general public.

5.7 The Site Manager will ensure that there is adequate liaison between the following key stakeholders throughout the construction period:

- The Contractor;
- The Applicant;
- Site neighbours;
- Other local stakeholders such as emergency services or local transport providers; and
- SCC.

5.8 Regular review meetings and telecommunication will be held between the Site Manager and SCC if requested. It is envisaged that update meetings / telecommunication will be held on an ad-hoc basis as required. Furthermore, the Site Manager will provide any monitoring data, delivery schedules, complaints or breaches of agreements to SCC if requested.

Booking System

5.9 On a weekly basis, the Site Manager will evaluate details of the daily profile of deliveries proposed for the upcoming week. Through discussions with hauliers the Site Manager will, as far as practicable, ensure that the deliveries are spread out across the week and across the day to minimise any potential disruption.

5.10 The proposed deliveries will be checked against the weekly delivery schedule. This will be overseen by the Site Manager to ensure that construction deliveries are managed in an efficient manner with minimal disruption and delays.

5.11 The proposed construction compound could provide an area for waiting for an additional vehicle if required. Hauliers will be required to contact the Site Manager to give an indicative delivery time to ensure that the delivery space and banksmen (if required) are ready for their arrival onsite.

5.12 Where possible, sufficient time will be given between deliveries to allow for any delays as a result of the delivery vehicle getting stuck in traffic or the loading / unloading taking longer than expected and to avoid any vehicles waiting.

5.13 The Applicant will provide banksmen to assist with the manoeuvring of delivery vehicles throughout the Application Site. The construction compound will be located off the public highway within the site, accessed via the internal access road.

Route Compliance

5.14 Use of the agreed vehicle route shall be included as a contractual requirement of the Contractor and will be communicated to all drivers. This will include information on the times of operation, delivery routes and the vehicle booking system.

Construction Compound

5.15 The construction compound area will be accessed via the internal access road. There will be a construction compound area located in each of the three sections of the site. The compound will provide an area for loading and unloading of vehicles and will provide a turning area to allow vehicles to exit the site in forward gear. All delivery drivers and construction workers will be advised of the construction route prior to making their delivery or commencing work.

5.16 The vehicle compound will be capable of accommodating a turning vehicle whilst at least one vehicle is parked, to allow for vehicles to be held back during restricted periods and to ensure no vehicles wait on the public highway.

Site Fencing

5.17 A security fence will be constructed around the site prior to any significant construction works taking place. The security fence will be erected on the inside of any hedgerows, so that it will be screened by any such hedgerow in views from the surrounding area, further mitigating any visual impact.

5.18 The fencing of the site will protect members of the public from the ongoing construction works as well as preventing unauthorised personnel accessing the site. The fencing will also ensure that construction vehicles do not enter any root protection areas.

5.19 The fencing of the site will also have environmental benefits in terms of reducing the impact of dust generated on the surrounding environment and reducing noise pollution from the site. Mandatory safety signage will be displayed for construction staff entering the site along with contact details for the Site Manager. The fencing will be kept clean and tidy at all times.

Communication Strategy

5.20 As identified above, the Site Manager will be responsible for ensuring that there is adequate liaison between all stakeholders throughout the construction period.

5.21 Prior to any works starting the contractor shall inform neighbours which may be affected by noise, dust or vehicular movements arising from the construction work of the nature of the works, proposed hours of work and their expected duration. In addition to this a notice will be placed at the main entrance to the site informing site neighbours of the hours of work.

Complaints Procedure

5.22 Whilst the Site Manager will use reasonable endeavours to ensure that site neighbours are informed of the construction programme and associated impacts it is possible that complaints may be raised

by site neighbours about the programme of works. The Site Manager will therefore be available to meet and explore issues with concerned neighbours directly via appointment.

5.23 Complaints shall be taken seriously and addressed immediately by the construction team. All complaints that are received will be reviewed in weekly site meetings to ensure that any required actions are communicated to all employees.

5.24 The Site Managers contact details will be provided to SCC prior to work commencing on site. Contact details for the Site Manager will also be displayed at the site entrance.

Dust and Dirt Control

5.25 Mud and debris on the road are regarded as one of the main environmental nuisances and safety problems arising from construction sites. A wheel washing facility will be provided for the duration of the construction works to ensure levels of soil on roadways near the Application Site is minimised. The wheel washing facilities will be in the form of a hose down point located adjacent to the construction compound. All vehicle wheels will be cleaned whenever a vehicle leaves the site.

5.26 The contractor will ensure that the area around the Application Site including the public highway is regularly and adequately swept to prevent any accumulation of dust and dirt.

Fuel Consumption / Emissions

5.27 The appointed Construction Contractor will strive to procure local contractors for the project, thereby minimising transport costs and impact on the local environment. The use of the booking system for deliveries will also help to ensure that the construction site is serviced in an efficient manner which will help to minimise the number of vehicle movements that would be generated.

5.28 A further measure that will be employed is encouraging all delivery vehicles to switch off engines as they are waiting at the site, thereby preventing unnecessarily idling vehicles.

6 CONSTRUCTION TRAVEL PLAN

6.1 A Travel Plan is a package of measures aimed at promoting greener, cleaner travel choices and reducing reliance on the private car. It enables employers to reduce the impact of travel on the environment, whilst also bringing a number of other benefits to the organisation as an employer and to staff.

6.2 This Travel Plan seeks to address activities related to the construction of the Application Site which includes commuter journeys for construction workers, material supplies and deliveries. By successfully addressing these different types of travel by promoting travel via sustainable modes and sourcing labour and goods locally, the Travel Plan objectives can be achieved.

Trip Generation

6.3 The number of construction staff on site will vary over the construction period depending on the activity that is taking place. It is estimated that at peak times there could be up to 100 staff on site. These 100 staff would car share and as such it is estimated that there would be less than 50 cars on site at peak times.

6.4 This will be achieved through management of staff travel patterns and actively encouraging car sharing. As such the Site Manager will actively promote the use of car sharing as the primary method for construction workers to access the Application Site. Car parking will be provided within the Application Site.

6.5 **Section 2** has calculated that during the construction phase the Development would generate an average of approximately three deliveries (three inbound / three outbound movements) per day over the 24-week period.

Existing Conditions

6.6 The application site is south of the village of Clifton Campville. The proposed access locations are accessed from Clifton lane. Clifton Lane has no street lighting or footway provision, but traffic flows are not high.

6.7 The contractor, where feasible, will seek to recruit construction workers from the local area. This will help maximise the potential for construction workers to walk and cycle to the site.

6.8 There is potential for construction workers to car share to work, especially given the fact that some sub-contractors are likely to be travelling from the same origin to the same destination (the Application Site).

6.9 Car sharing represents a relatively convenient form of travel offering a significant potential to reduce overall private mileage of construction workers. It is this mode of transport which often forms one of the most convenient methods of sustainable travel for construction workers.

6.10 The Site Manager would promote a car-sharing scheme throughout the construction program. The Site Manager would also make construction workers aware of existing car sharing schemes such as liftshare.com/uk.

6.11 The Site Manager will determine construction staff members' willingness to car share. Furthermore, looking at workers home / local residence postal addresses it would become evident whether there are any area groupings of people that would make the principle of car sharing a reasonable prospect of being successful. The Site Manager will then investigate setting up a database of construction

workers willing to share journeys, including information such as their home / local residence addresses and could try and match suitable car sharers.

6.12 The construction site will provide facilities in accordance with requirements set out in Health and Safety Executive guidelines. Consequently, the Application Site will provide a drying room, storage facilities, toilets and offices within the welfare area. This will encourage people to travel to the Application Site by sustainable modes whilst having the added benefit of reducing the number of trips made off site during lunch breaks.

Aims and Targets

6.13 The Application Site is a construction site and sustainable transport measures will be adopted.

6.14 Construction worker parking at the site will be monitored, controlled and recorded by the Site Manager to ensure that single occupancy car use is minimised. The Site Manager will ensure there is space made available for any overspill parking during the early periods of construction.

6.15 This CTMP and Travel Plan will be communicated to all construction workers as part of their induction / training process. An up to date copy of the Travel Plan will always be available for consultation.

Measures

6.16 As indicated above there is potential to for construction workers to car share or travel by bicycle to the Application Site. It is therefore deemed appropriate to promote the following measures to promote sustainable travel by construction staff.

6.17 Include local public transport timetables and route maps within the on-site compound for construction staff to review:

- Providing changing and storage facilities for construction staff;
- Assist in matching car sharers; and
- Minimise, where possible, the number of contractors on site at any one time to reduce trips generated and promote car sharing.

6.18 Further to this the following measures are to be promoted to minimise the environmental impacts of HGV trips generated by the Development:

- Initiate a weekly booking system for the delivery of plant and materials to the site;
- The Applicant will strive to procure local contractors for the project, thereby minimising transport costs and impact on the local environment;
- All delivery vehicles will be required to switch off their engines as they are waiting at the site, thereby preventing unnecessarily idling vehicles;
- Use of the agreed vehicle routes shall be included as a contractual requirement of the Contractor and will be communicated to all individuals associated with the works; and
- Provision of wheel washing facilities at the Application Site entrance / egress.

Residual Impacts

6.19 A booking system will be initiated to ensure that construction deliveries are managed efficiently with minimal disruption and delay. Local residents will be informed of the commencement of the construction process. The initiation of the Travel Plan measures alongside the targets will therefore minimise impacts upon the operation of the local highway network as well as reduce environmental impact.

7 SUMMARY AND CONCLUSIONS

7.1 This CTMP has been prepared by RPS on behalf of ELGIN ENERGY EsCO LTD (the 'Applicant') for a proposed development comprising free standing, static solar PV panels, substation and ancillary development on land at the Thorpe Estate, Thorpe Constantine, Tamworth B79 0LH.

7.2 The CTMP provides information to ensure that the development works are organised and delivered in a manner that mitigates and safeguards the highway impact, highway safety and amenity of the area surrounding the Application Site.

7.3 The construction period is anticipated to be up to 6 months (24 weeks). It should however be noted that the construction programme and corresponding construction traffic strategy may be subject to change following the appointment of a construction contractor and prior to work commencing on site. Any substantial changes in the build program and / or number of vehicular movements will be communicated to SCC in advance of construction.

7.4 The majority of staff will car share and will park on site during the day. At the peak of activity, there will be approximately 50 staff cars on site. The Travel Plan seeks to minimise travel by single occupancy vehicle.

7.5 All materials and plant associated with the development process will be stored within the temporary construction compound to be provided at the Application Site.

7.6 Deliveries will vary in amount per day during the construction period with an average of approximately three deliveries (three inbound / three outbound movements) per day over the 24-week period.

7.7 The construction process will be managed by the appointed Site Manager employed by the contractor. The Site Manager's responsibilities will include acting as a point of contact for the local authority, stakeholders and members of the public. The Site Manager will be responsible for delivery scheduling (including potentially avoiding deliveries arriving at or departing the site during peak school pick-up and drop-off hours), construction route compliance and managing other contractors employed on-site.

7.8 The scale and volume of vehicle movements associated with the development construction period is not considered to have any significant impacts on the operation of the local highway network. It is anticipated that the majority of deliveries will be made via articulated low loaders and rigid HGVs.

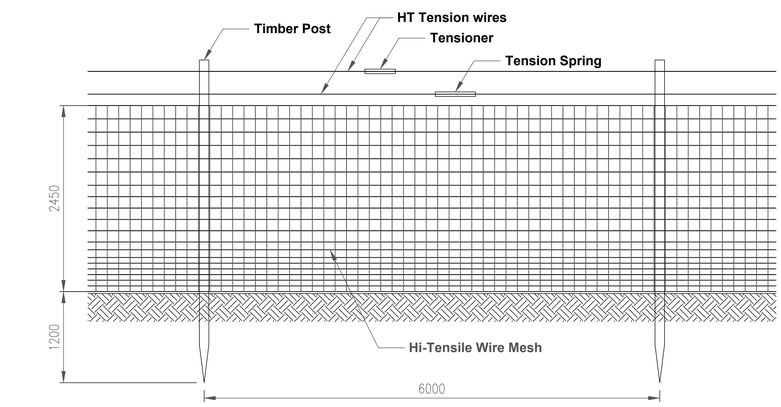
7.9 The Site Manager will evaluate details of the daily profile of deliveries proposed for the upcoming week. Through discussions with hauliers, the Site Manager will seek to ensure that deliveries are spread out across the week and across the day to minimise any potential disruption. All deliveries will be met by a member of staff who will assist vehicles entering, manoeuvring within and exiting the site.

7.10 Overall, it is considered that the measures and control processes outlined in this CTMP are appropriate to overcome the identified constraints associated with the Application Site.

Appendices

Appendix A – Site Layout Plan

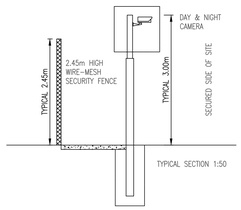
TYPICAL SECURITY DEER FENCE DETAILS



TYPICAL IMAGE OF DEER FENCE

TYPICAL HIGH TENSILE FIXED KNOT FENCING:

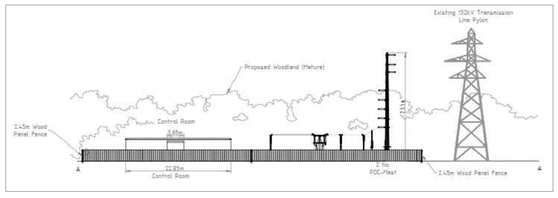
1. 2.45M HIGH PRESSURE TREATED TIMBER POSTS AT 6M CENTRES.
2. HIGH TENSILE GALVANISED WIRE TO BS EN 10223 AND BS EN 10244.
3. 20 NO. HORIZONTAL LINES, 2.5MM WIRE, SPACING VARIES BETWEEN 75MM AND 175MM.
4. VERTICAL LINES, 2.5 WIRE AT 150MM CENTRES.
5. HIGH TENSILE TENSION WIRE TO TOP FITTED WITH TENSIONER AND TENSION SPRING.



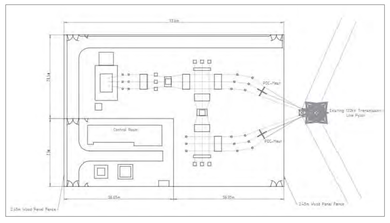
CCTV CAMERA DETAILS
TYPICAL SECTION

TYPICAL IMAGE OF CCTV CAMERA

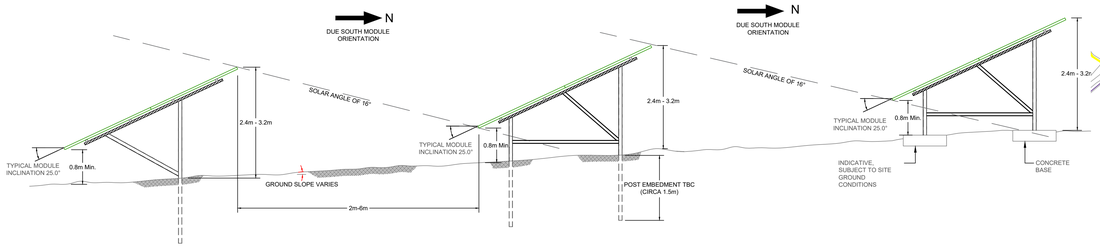
TYPICAL INVERTOR SUBSTATION
DIMENSIONS: 7m x 2.5m x 3m HIGH.
ALL SUBJECT TO FINAL DESIGN



TYPICAL 132kv POC MAST AND CONTROL ROOM
ALL SUBJECT TO FINAL DESIGN



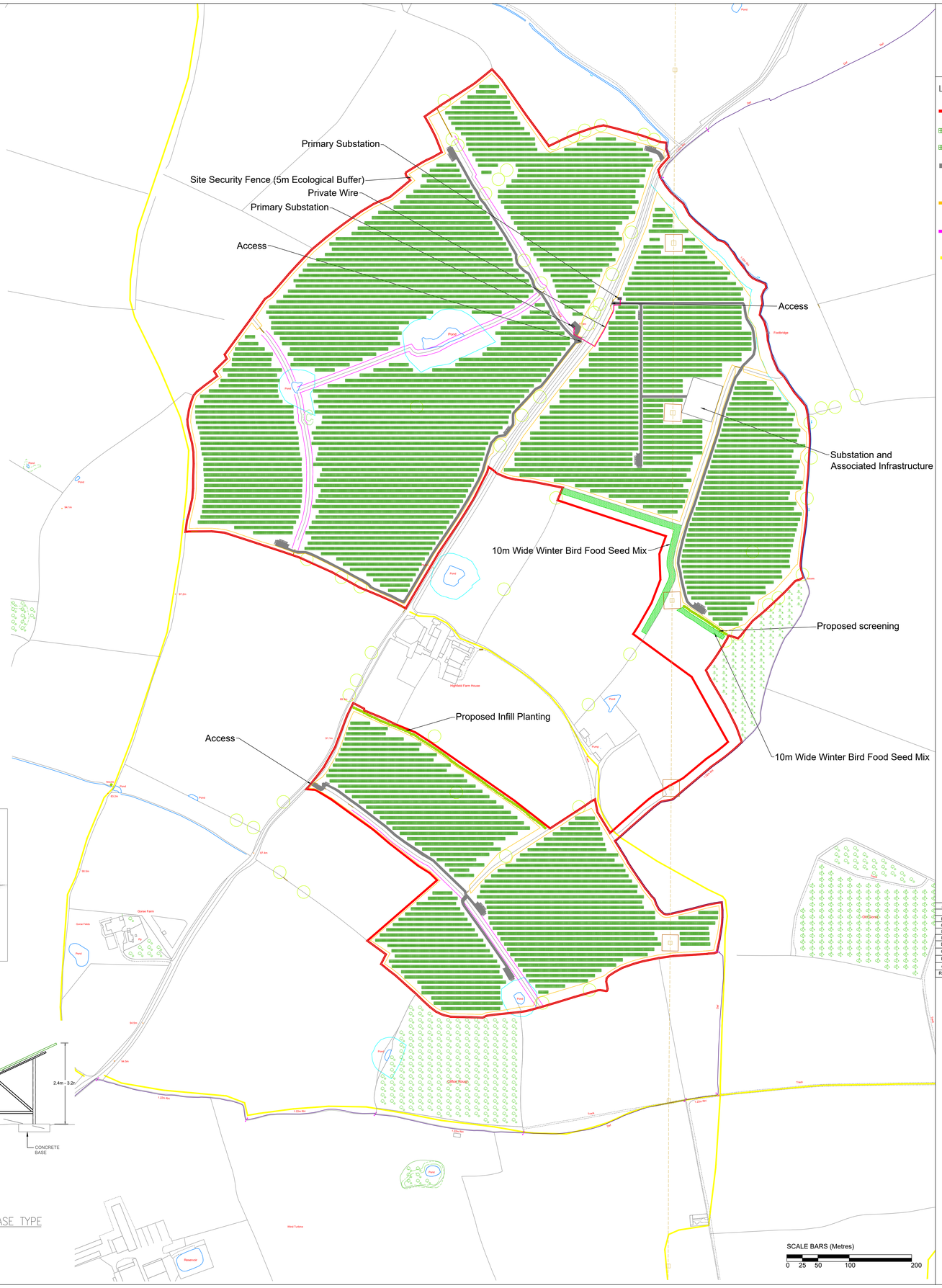
TYPICAL 132kv POC MAST AND CONTROL ROOM
ALL SUBJECT TO FINAL DESIGN



SINGLE POST TYPE | TABLE POST TYPE | CONCRETE BASE TYPE

TYPICAL SECTION THROUGH VARIOUS MODULE OPTIONS

SCALE 1:50



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LEGEND

- SITE BOUNDARY
- 2 x 12 = 24 MODULE PANEL (12m)
- 2 x 24 = 48 MODULE PANEL (24m)
- 3.5m ACCESS TRACK
- INVERTER SUBSTATION
- SECURITY FENCE 5m ECOLOGICAL BUFFER)
- 5m ECOLOGICAL BUFFER FROM VEGETATION
- PROW
- APPROX LOCATION OF TREES
- PROPOSED INFILL PLANTING

NOTES:

ARRANGEMENT OF PANELS SHOWN IS BASED ON THE FOLLOWING DATA:

1. TYPICAL PANEL SIZE = 0.2m X 1.2m APPROX.
2. PANEL TYPICAL INCLINATION = 25 DEGREES TO HORIZONTAL.
3. MODULE LENGTH = TYPICAL 15.6m RUN WITH 0.2m GAPS SUPPORTED ON FOUR POST/FRAMES.
4. THE TYPICAL MODULE SECTION SHOWS TWO PANELS IN PORTRAIT ORIENTATION. THREE PANEL IN PORTRAIT, FOUR PANELS IN LANDSCAPE OR SIX PANELS IN LANDSCAPE MAY ALSO BE REQUIRED. DETAILS ARE SUBJECT TO FINAL DESIGN.
5. FOR CLEAR AISLES DISTANCE BETWEEN PANELS REFER TO SECTION.
6. PANELS AT LOWEST POINT SET AT 0.8m ABOVE GROUND LEVEL INCREASING TO 2.4m - 3.2m APPROXIMATE.
7. PANELS NOT LOCATED WHERE LAND GRADIENT EXCEEDS 1 IN 9.5 (6 DEGREES) DUE TO EXCESSIVE LEG HEIGHTS.
8. MINIMUM 5m ECOLOGY BUFFER ALLOWED TO ALL BOUNDARIES.
9. ACCESS TRACKS TO CONSIST OF CLAUSE 804 MATERIAL WHERE REQUIRED I.E. AREAS OF SOFT SPOTS, FINAL EXTENT AND DESIGN TO BE CONFIRMED. ONLY PERMEABLE TRACKS TO BE USED.
10. FOR EXTENT AND TYPE OF SCREENING REQUIRED REFER TO LANDSCAPE AND VISUAL ASSESSMENT REPORT FOR PROPOSALS.
11. ALL EXISTING HEDGEROWS AND TREES TO BE RETAINED.
12. NUMBER AND LOCATION OF INVERTOR SUBSTATIONS SUBJECT TO FINAL DESIGN.
13. LOCATION OF SECURITY FENCE SUBJECT TO FINAL DESIGN.

Rev	Description	By	CB	Date
J	Revised bird mix location	GG	DW	01/06/21
I	Revised red line boundary	GG	DW	07/05/21
H	Very small amendments to layout	GG	DW	06/05/21
G	Amendments to layout & additional larger water buffer	GG	DW	05/05/21
F	Amendments to layout and scheme name	GG	DW	22/04/21
E	Amendments to red line boundary and layout	GG	DW	12/02/21
D	Addition of winter bird mix area	GG	DW	11/12/20
C	Layout amendments	GG	DW	21/11/20
B	Layout amendments	GG	DW	09/10/20
A	Red line and layout amendments	GG	DW	25/10/19

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Client: ELGIN ENERGY EsCO LTD

Project: THE THORPE ESTATE SOLAR FARM

Title: PROPOSED SITE LAYOUT

Status	Drawn By	PM/Checked by
DRAFT	GG	DW

Job Ref	Scale @ A0	Date Created
JPW1425	1:2500	SEPT 2019

RPS Drawing / Figure Number: JPW1425-003 Rev: J

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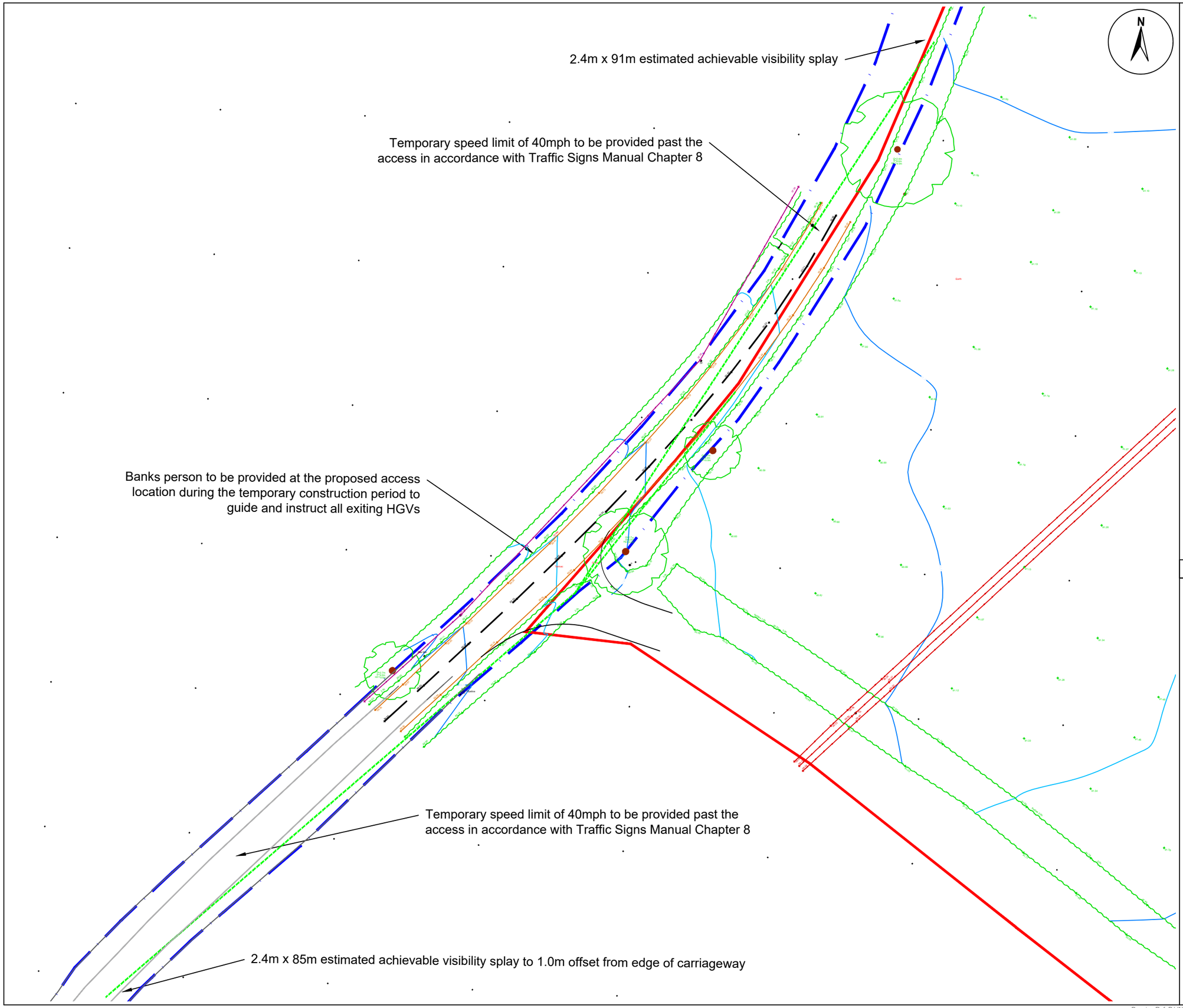
D:\04 JOBS\01 OPEN JOBS\JPW14xx\JPW1425 - The Thorpe Estate Solar Farm (DW)\4. Drawings\1. RPS Drawings\DWG\JPW1425-003RevJ_D210601_<The Thorpe Estate Solar Farm Site Layout Plan>.dwg

Appendix B – RPS Drawings



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Key:

Extent of public highway

Site boundary

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CONSTRUCTION

Rev	Description	By	CB	Date

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Client ELGIN ENERGY EsCO LTD

Project THE THORPE ESTATE SOLAR FARM

Title Preliminary Southern Construction Access Layout

Status	Drawn By	PM/Checked by
INFORMATION	CM	DA
Project Number	**Scale @ A3**	**Date Created**
JNY10858	1:500	12.01.2022
RPS Drawing/Figure Number		**Rev**
JNY10858-01		A

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Drawing Ref: P:\JNY10858 - Highfields Farm\Highways\Drawings\JNY10858-01 Preliminary Construction Access2.dwg

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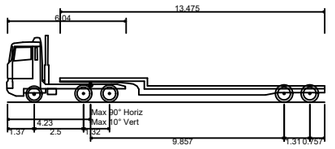

Low Loader	
Overall Length	16.154m
Overall Width	2.520m
Overall Body Height	3.393m
Min Body Ground Clearance	0.318m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.990m

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Rev	Description	By	CB	Date

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Client ELGIN ENERGY EsCO LTD

Project THE THORPE ESTATE SOLAR FARM

Title Preliminary Southern Construction Access Layout Low Loader Swept Path Analysis

Status	Drawn By	PM/Checked by
INFORMATION	CM	DA
Project Number	**Scale @ A3**	**Date Created**
JNY10858	1:500	12.01.2022

RPS Drawing/Figure Number: JNY10858-02

Rev: A

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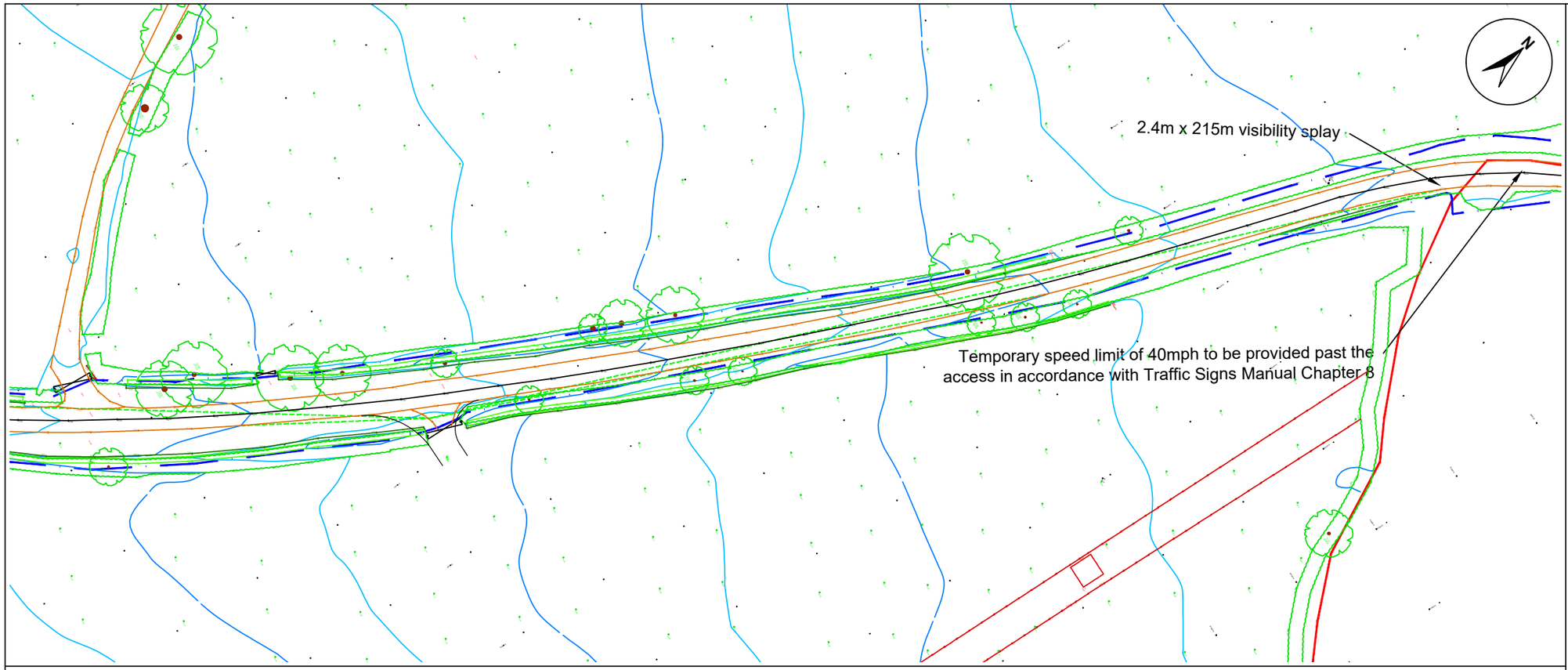

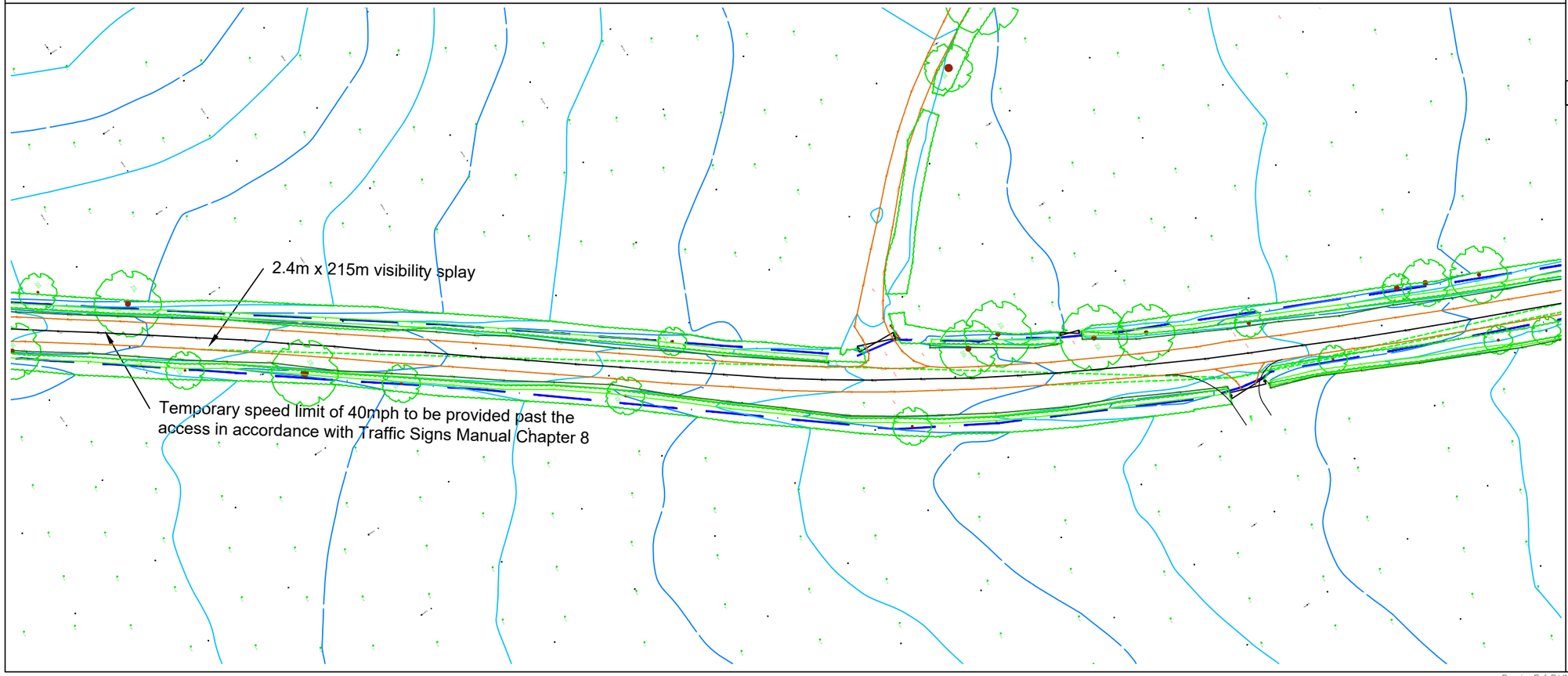

Key:

- Extent of public highway
- Site boundary

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Rev	Description	By	CB	Date

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Client ELGIN ENERGY EsCO LTD

Project THE THORPE ESTATE SOLAR FARM

Title Preliminary North-Eastern Construction Access Layout

Status	Drawn By	PM/Checked by
INFORMATION	CM	DA
Project Number	**Scale @ A3**	**Date Created**
JNY10858	1:1000	12.01.2022
RPS Drawing/Figure Number		**Rev**
JNY10858-03		A

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Drawing Ref: P:\JNY10858 - Highfields Farm\Highways\Drawings\JNY10858-01 Preliminary Construction Access2.dwg

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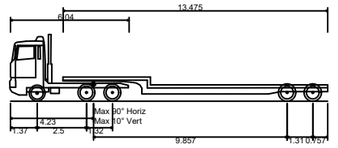

Low Loader	
Overall Length	16.154m
Overall Width	2.520m
Overall Body Height	3.393m
Min Body Ground Clearance	0.318m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.990m

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Rev	Description	By	CB	Date

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Client ELGIN ENERGY EsCO LTD

Project THE THORPE ESTATE SOLAR FARM

Title Preliminary North-Eastern Construction Access Layout Low Loader Swept Path Analysis

Status	Drawn By	PM/Checked by
INFORMATION	CM	DA
Project Number	**Scale @ A3**	**Date Created**
JNY10858	1:500	12.01.2022

RPS Drawing/Figure Number: JNY10858-04

Rev: A

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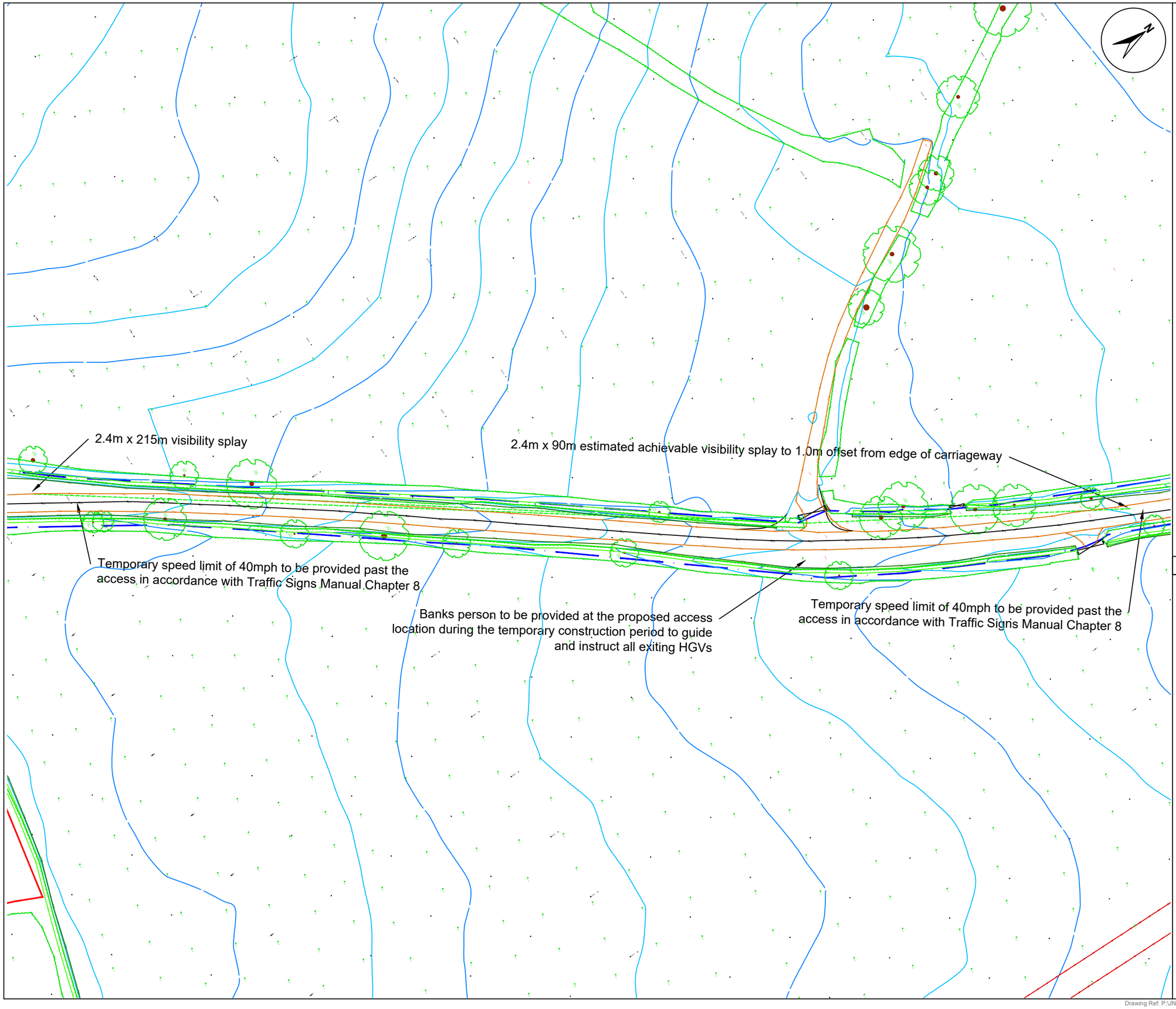
Drawing Ref: P:\JNY10858 - Highfields Farm\Highways\Drawings\JNY10858-01 Preliminary Construction Access2.dwg



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Key:

Extent of public highway

Site boundary

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Client ELGIN ENERGY EsCO LTD

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Title Preliminary North-Western Construction Access Layout

Status	Drawn By	PM/Checked by
INFORMATION	CM	DA
Project Number	**Scale @ A3**	**Date Created**
JNY10858	1:1000	12.01.2022
RPS Drawing/Figure Number		**Rev**
JNY10858-05		A

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Drawing Ref: P:\JNY10858 - Highfields Farm\Highways\Drawings\JNY10858-01 Preliminary Construction Access2.dwg

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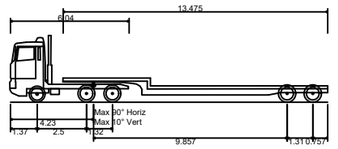

Low Loader	
Overall Length	16.154m
Overall Width	2.520m
Overall Body Height	3.393m
Min Body Ground Clearance	0.318m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.990m

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Client ELGIN ENERGY EsCO LTD

Project THE THORPE ESTATE SOLAR FARM

Title Preliminary North-Western Construction Access Layout Low Loader Swept Path Analysis

Status	Drawn By	PM/Checked by
INFORMATION	CM	DA
Project Number	**Scale @ A3**	**Date Created**
JNY10858	1:500	12.01.2022

RPS Drawing/Figure Number
JNY10858-06

Rev
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Appendix C – Clifton Lane Highway Boundary Data

Key				Scale	Date
Highway Maintainable at Public Expense (HMPE)	Prospectively Maintainable at Public Expense (PMPE)	Public Rights of Way: Byway Open to All Traffic (BOAT), Bridleway, Footpath, Restricted Byway		1:7,000 @A4	02/03/2021
Title	**Clifton Lane.Tamworth**			Plan No.	**OLF-97553-6046**

This plan has been produced to show Highway Maintainable at Public Expense (HMPE) according to our current records for the title address, and should not be used for any other purpose, as its accuracy cannot be guaranteed. This plan is based on Ordnance Survey mapping and therefore only shows the general position of the boundaries, not their exact line. Vehicular rights cannot be assumed or implied. If roadside ditches are present, the legal presumption without evidence to the contrary is that these do not form part of the HMPE. If you have any documentary evidence you wish us to consider that relates to this extent please email it to us with this plan.

N

Staffordshire County Council

www.staffordshire.gov.uk/highwaydata
highwaydata@staffordshire.gov.uk

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