



Radcliffe BESS, Manchester

Taiyo Power & Storage Ltd

Construction Traffic Management Plan

July 2025





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1 Introduction

- 1.1 Rappor have been instructed by Taiyo Power & Storage Ltd to prepare a Construction Traffic Management Plan (CTMP) in support of a full planning application for a proposed battery energy storage system (BESS) near Radcliffe, Manchester, M26 1FA.
- 1.2 Full planning permission is sought for the installation of a new 11MW BESS on land east of Shore Top Farm, with temporary construction access from Wood Street, which is also a Public Right of Way (PRoW) footpath, ref 7SS, as well as ancillary infrastructure.
- 1.3 This CTMP has been produced to address the highways and transport matters arising from both the construction of the site and its general operation/maintenance once built out. This will ensure that construction traffic and servicing / maintenance traffic post construction, can be safely managed.
- 1.4 The key issues that need to be considered within this CTMP are:
 - a) Review of the local highway network, including highway safety;
 - b) Assessment of available construction routes to the site;
 - c) Details of the construction / maintenance access points;
 - d) Delivery methods and types of vehicles used;
 - e) A summary of site management;
 - f) A summary of forecast vehicle trips arising from the temporary construction period; and
 - g) Mitigation measures for noise, vibration, dust, and dirt.

Pre-Application Correspondence

- 1.5 A pre-application enquiry (planning ref: 02898E) was submitted in 2023 to the local planning authority (Bury Council - BC) for the *“erection of battery energy storage facility (BESS) with total proposed capacity of 11MW, utilising the existing gateway/access track from Wood Street (to be resurfaced)”* on land at Shore Top House, Ringley Road West, Radcliffe, Manchester, M26 1FA.
- 1.6 A response was received in December 2023. This response is attached at **Appendix A**.
- 1.7 The transportation matters are quoted below:



“Issues relating to the construction of the facility and access to the site should be covered in a robust Construction Traffic Management Plan that will also need to look carefully at minimising any impact on existing residents and their parking on Wood Street from both a highway safety and residential amenity perspective.”

- 1.8 This report has been produced to address the highway and transportation matters raised by BC as part of the consultation process and concludes that the proposed development, in highway and transportation terms, is acceptable, and there are no highway and transportation reasons that should prevent the local highway authority, BC, from recommending no objection to the application.

Site Location

- 1.9 The application site is located approximately 1.6km to the south of Radcliffe and 6.5km to the southeast of Bolton. The site currently comprises 1.25 ha of undeveloped agricultural fields to the west of Public Rights of Way (PRoW) 7SS.
- 1.10 The application site is bound to the north by existing trees/vegetation, a track and the ENW substation beyond, to the east by a single track and PRoW 7SS, and to the south and west by undeveloped agricultural land.
- 1.11 Within the vicinity of the application site, there is one PRoW that the application site will take temporary construction access off – Wood Street, PRoW Ref 7SS and a PRoW that will be used for operational / maintenance purposes – PRoW Footpath 9SS. The impact of the development proposals will be considered within this CTMP to ensure the PRoWs are not unduly impacted during the construction of the development.
- 1.12 A site location plan is provided at **Appendix B**, with the proposed site layout plan attached at **Appendix C**.
- 1.13 The above PRoWs will be retained to ensure that they are accessible throughout the construction of the development as the construction route only utilises the existing carriageway and enters the field prior to the existing vehicle barrier that is present immediately north of the northernmost dwelling on Wood Street.



2 Routing and Site Access

Local Highway Network

Wood Street / PRow 7SS

- 2.1 Wood Street is a no-through route that has a north to south alignment, along the eastern boundary of the application site. PRow 7SS also routes along Wood Street. Wood Street is surfaced for its first c. 100m from the Wood Street / Ringley Road West (A667) junction, where at this point, a barrier is present, and the track becomes a single-track unbound lane (PRow 7SS.)
- 2.2 At its northern extent, the Wood Street / PRow 7SS routes west towards the River Irwell, whilst at its southern extent, it forms the minor arm of a priority junction with Ringley Road West (A667).
- 2.3 Wood Street, along its first c.100m from its junction with Ringley Road West (A667), serves 12 terraced dwellings and for the first circa 30m north of the junction with Ringley Road West, there is no footway present, with the PRow/Wood Street acting as a shared surface. A footway is then present along the frontage of the dwellings that front onto Wood Lane. The footway terminates at the northernmost dwelling, where pedestrians are then accommodated along the PRow route.
- 2.4 Wood Street is subject to a 30mph speed limit and benefits from street lighting.

Ringley Road West (A667)

- 2.5 Ringley Road West (A667) routes east to west, approximately 500m to the south of the application site. At its western extent, it becomes Kearsley Road (A667) at priority junction with Prestolee Road, approximately 750m to the northwest of the Wood Street / Ringley Road West (A667) junction. From here, the A667 continues to route west to the A666 (Motorway) and into Kearsley. At its eastern extent, it becomes Ringley Road at a priority junction with Ringley Mews. From here, the A667 continues to route east into Whitefield.
- 2.6 Ringley Road West benefits from a continuous footway along the northern side of the carriageway and a footway that commences along the southern side of the carriageway, opposite the Wood Street / Ringley Road West (A667).
- 2.7 Ringley Road West is subject to a 40mph speed limit, in the vicinity of the application site, and benefits from street lighting.

Local Highway Safety

- 2.8 For the purpose of this assessment, Personal Injury Collision (PIC) data has been obtained from Transport for Greater Manchester for the most recent five-year period available at the time of the request, within the vicinity of the application site, between 1st July 2019 – 30th June 2024.
- 2.9 An extract from the Transport for Greater Manchester report is provided in **Figure 2.1**, which indicates the location of collisions and the section of highway along Ringley Road West (A667), approximately 200m to the east and west of the Wood Street / Ringley Road West (A667) junction, which the application site will take construction access from. The full data is attached at **Appendix D**.

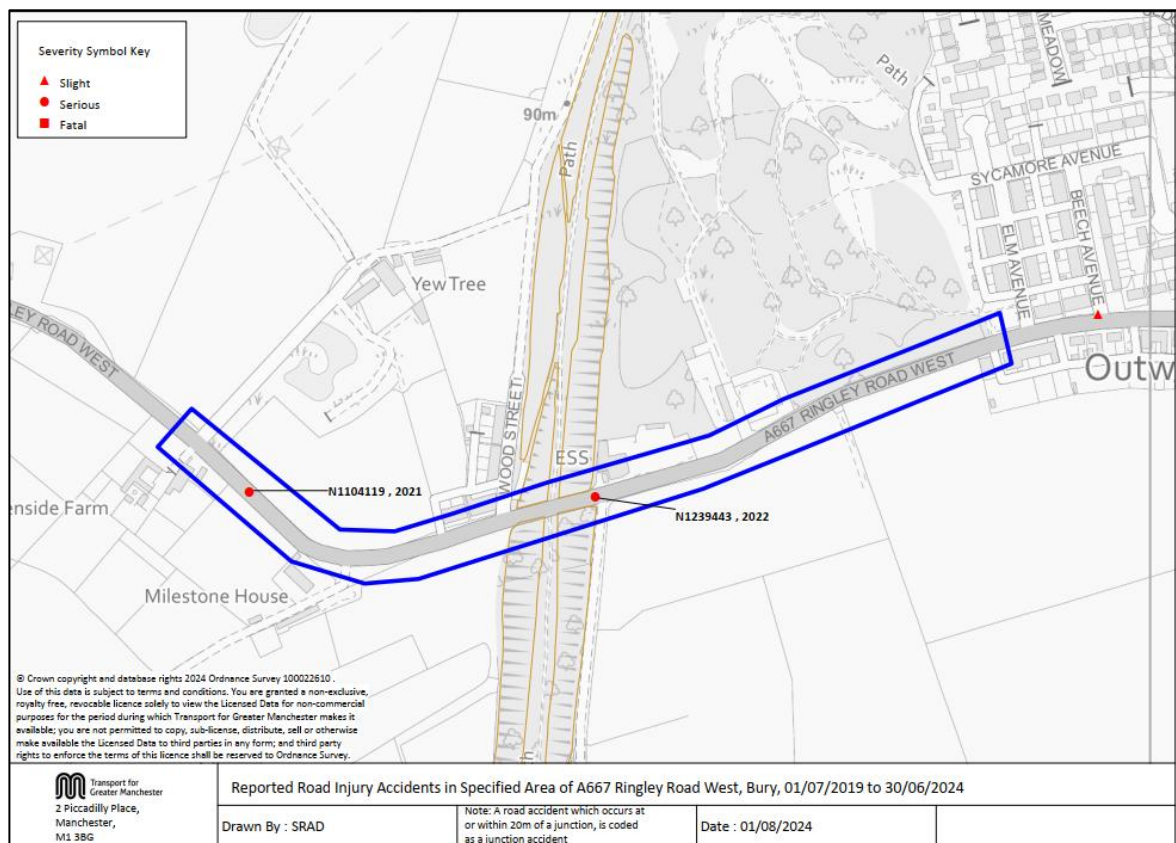


Figure 2.1: Transport for Greater Manchester Report Extract

- 2.10 The data indicates that there have been 2 PICs in this five-year period, which have both been classified a 'serious' in terms of severity. These PICs resulted in 2 serious casualties and 2 slights casualties.



- 2.11 The first PIC (Accident Reference Number: N1104119) was recorded as 'serious' in terms of severity and occurred on Saturday 30th October 2021 at 11:08 along Ringley Road West (A667), approximately 230m to the northwest of the Wood Street/Ringley Road West (A667) junction. The collision occurred on a wet road surface and rain. A vehicle travelling along the carriageway, at excessive speed, left the carriageway. The collision resulted 1 serious casualty and 2 slight casualties.
- 2.12 The other PIC (Accident Reference Number: N1239443) was recorded as 'serious' in terms of severity and occurred on Sunday 6th November 2022 at 11:30 along Ringley Road West (A667), approximately 80m to the east of the Wood Street/Ringley Road West (A667) junction. The collision occurred on a wet road surface and rain. A vehicle travelling along the carriageway hit a pedestrian that was crossing the carriageway from the driver's nearside. The pedestrian failed to look before crossing and sustained serious injuries.

Analysis of PICs

- 2.13 The number and distribution of PICs is considered typical for this category of highway, which is a major route between Kearsley and Whitefield. The record of only 2 PICs in the studied area does not suggest that there are any discernible patterns of highway safety concern within the vicinity of the application site.
- 2.14 The lack of any clustering and sporadic nature of these PICs indicates that there is no inherent geometric issue with the local highway network, and that instead these PICs likely occurred primarily as a result of driver error, particularly given that the collision reports identified that driver and pedestrian behaviours were contributory factors.

Summary

- 2.15 As there is no pattern or history of collisions in the immediate locality of the application site associated with a dangerous highway network, it is considered that there is no existing safety issue on the local highway network that could be exacerbated by the development proposals. Furthermore, with the low forecast traffic from the development in real terms (further detailed in **Section 4**), this is expected to continue.

Construction Routing of Traffic to Site

- 2.16 All construction traffic can route to/from Ringley Road West. It is important to highlight that all large vehicles, including 16.5m articulated vehicles will route to/from the west only, due to limitations with the right-turn from the east into/ from Wood Street. This is expanded upon below and supported by swept path analysis assessment.



2.17 The proposed routing strategy is presented on the plan contained at **Appendix E**.

2.18 There are two construction routes proposed to accommodate construction traffic.

- a) Route 1 - Construction traffic travelling to/from the north, south and west will be required to route to/from the A666(M) / A6053 / Bolton Road (A666) roundabout, along a short section of Bolton Road (A666) and then along the A667 to the junction with Wood Street. This route is suitable for all vehicles.
- b) Route 2 - Construction traffic travelling to/from the east will be required to route to/from the M60 (Manchester Outer Ring) / Bury New Road roundabout, then north along Bury New Road and then east onto the A667 at the Bury New Road / Stanley Road / A667 crossroads junction, up to the junction with Wood Street. This route is not suitable for vehicles over 16.5m in length as they are unable to suitably access Wood Street from this direction. This will be made clear to all delivery drivers.

2.19 All routes to the site have been selected to avoid various weight and width restriction located on the local highway network. The routes selected are all two-way carriageways, or A-Roads or along a Motorway, indicating that safe and suitable access by HGVs is achievable to the site access.

Construction Access

2.20 For the purpose of construction, temporary access will be achieved from Wood Street via a new gated access, immediately north of the northernmost dwelling on Wood Street, into the field and route along a temporary access track into the application site.

2.21 The temporary access track within the fields will comprise heavy-duty roadway matting. At the point where the access track crosses PRow 9SS to the north, a gate will be in place to ensure pedestrian priority is maintained. The access strategy is illustrated on the site layout plan at **Appendix C**, with the pedestrian visibility assessed later in this section.

2.22 In addition to suitable pedestrian visibility being achievable (**Appendix J** – detailed further below), the following measures are proposed to ensure pedestrian safety at the time of deliveries:

- a) Ahead of scheduled deliveries, banksmen will be present at the gated access onto PRow 7SS and onto PRow 9SS, to safely guide the HGV across the footpath, ensuring pedestrians are standing clear.

- b) On approach to the gated accesses, signage will be present for both pedestrians and HGV drivers, such as the image shown in **Figure 2.2**.

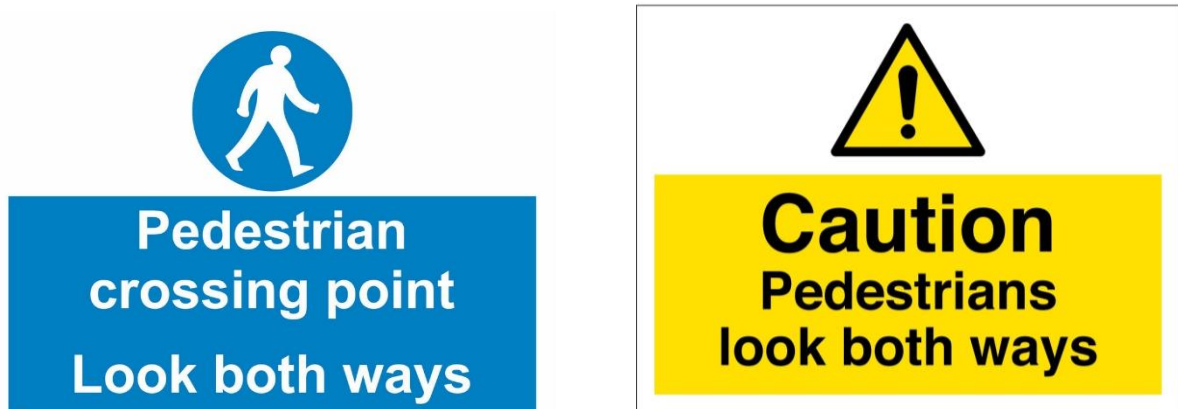


Figure 2.2 Example of Pedestrian Safety Signage

- c) Across the new gates, 'No Unauthorised Entry' signage will be present to ensure there is no confusion regarding the routing of the PRoW, such as the image shown in **Figure 2.3**.



Figure 2.3 Example of Signage

- 2.23 Swept path analysis of the largest delivery vehicles expected to access the site is provided at **Appendix F**, which demonstrates an articulated lorry accessing and egressing the site in a forward gear, with vehicles parked in appropriate locations along Wood Street to enable this. The client has indicated that the vehicles used in the assessment represent the largest vehicles that will require access to the site.
- 2.24 A communication/monitoring plan will be developed by the applicant prior to construction to ensure local residents are aware when large vehicle deliveries will take place, and this is detailed further in **Section 3**. It should be noted that all construction workers will also utilise the temporary access off Wood Street, outside of all delivery times, to reduce the potential of conflicting movements.



Access Visibility

- 2.25 To determine the visibility splays required at the Wood Street / Ringley Road West (A667) an Automatic Traffic Count (ATC) was undertaken on the adjacent highway by Paul Castle Associates, an independent traffic surveyor. The ATC was undertaken from Saturday 13th July 2024 to Friday 19th July 2024, with the full results provided at **Appendix G**.
- 2.26 The recorded 85th percentile speeds were identified as 40.6mph westbound and 40.8mph eastbound whilst the average speeds were recorded as 35.3mph and 35.4mph westbound and eastbound respectively.
- 2.27 As the 85th percentile speeds are above 37mph, a reaction time of 2 seconds has been applied in accordance with Manual for Streets 2 (MfS2) Table 10.1 for average speeds below 37mph. In terms of deceleration rate, based on recorded 85th percentile speeds being more than 37mph, a deceleration rate of 2.45 has been applied.
- 2.28 Visibility has been measured from a 2.4m 'X' distance.
- 2.29 Based on the assessment provided, the following parameters have been used:

To the east (to account for westbound speeds)

- a) Design Speed: 40.6mph;
- b) Reaction time 2 seconds; and
- c) Deceleration Rate: 2.45m/s

To the west (to account for eastbound speeds)

- a) Design Speed: 40.8mph
- b) Reaction time 2 seconds; and
- c) Deceleration Rate: 2.45m/s

- 2.30 Based on the visibility parameters set out, the following visibility splays are required:

- a) 2.4m x 103.5m Visibility Splay to the east commensurate with recorded westbound 85th percentile speeds of 40.6mph;
- b) 2.4m x 104.4m Visibility Splay to the west commensurate with recorded eastbound 85th percentile speeds 40.8mph;
- c) 106.8m Forward Visibility Splay Eastbound; and
- d) 105.9m Forward Visibility Splay Westbound.



- 2.31 The drawing provide at **Appendix H** identifies that, based on the existing arrangements and landscape, the required visibility is achievable, within the extent the adjacent adopted highway. The highway boundary data is attached at **Appendix I**.

Pedestrian Visibility

- 2.32 Visibility at the proposed gated access from/onto Wood Street / PRoW 7SS and across the PRoW 9ss has also been shown. The drawings attached at **Appendix J** shows that suitable pedestrian visibility is achievable along the routes. The fence line within the splays will be splayed / set back behind the visibility splays to ensure that there is no obstruction to visibility. Furthermore, at the time of construction, the construction fencing would be post wire style, similar to the proposed composition of the gates shown at **Appendix O**, where a pedestrian would be visible through the fencing. In addition to this, banksmen will be present at the time of each delivery, which will ensure pedestrian safety is prioritised. Following construction, the gate and fencing would be removed and a new rural style gate will be installed to match the existing rural style post and wire fencing.
- 2.33 Along the PRoW 7SS, to the north, there is a barrier that prohibits public vehicles utilising the PRoW, including any traffic associated with development proposals.

Operational / Maintenance Access

- 2.34 For the purpose of maintenance / operation, the existing track / PRoW 9SS (west of Wood Street) will be utilised, as indicated on the site layout at **Appendix C**.
- 2.35 This access point is regularly used by larger vehicles, such as horseboxes and trailers, and a swept path analysis of the largest vehicle expected to access the site at this access point is provided at **Appendix K**, which demonstrates a fire tender accessing and egressing the access point in a forward gear. The client has indicated that the vehicle used in the assessment represent the largest vehicles that will require access to the site post-construction, with the majority of regular vehicle trips being undertaken by a light van or a 4x4. It is anticipated that post-planning, there will be no more than two visits to per month associated with the operation / maintenance of the site.

Summary

- 2.36 The local highway network is suitable to accommodate traffic arising from the temporary construction period, with no existing highway safety concerns.



- 2.37 The proposed routing strategy for the construction traffic associated with the proposed development has outlined that suitable routes are available for all construction traffic travelling from major locations surrounding the development.
- 2.38 Safe and suitable access can be achieved, as demonstrated by visibility and swept path analysis assessments.



3 Site Management

Construction Works

- 3.1 Construction at the site will be permitted to be carried out Monday to Friday 07:00 – 19:00, and Saturdays 08:00 – 13:00. No construction or deliveries will take place on Sundays or Bank Holidays.
- 3.2 Deliveries will also be required to conform to these operational times. Where possible, deliveries will be scheduled outside of the typical network peak hours of 08:00 – 09:00 and 17:00 – 18:00, which will ultimately minimise the temporary impact on the local highway network.
- 3.3 The construction phase is estimated to take place over a period of up to 20 weeks (5 months).

Deliveries

- 3.4 As stated, deliveries will not occur outside of the construction times of 07:00 – 19:00, Monday to Friday, and 08:00 – 13:00 on Saturdays. On weekdays, best effort will be made to avoid deliveries during 08:00 – 09:00 and 17:00 – 18:00. No deliveries will occur on Sundays or Bank Holidays.
- 3.5 Deliveries will arrive at the site based on the highlighted traffic routes set out in **Section 2**. Drivers will be made aware of the route they will need to take when travelling to the site prior to undertaking their journey.
- 3.6 The largest delivery vehicle that will be required to access the site is a 16.5m articulated lorry, which has been assessed in the vehicle tracking provided in **Section 2**.
- 3.7 Drivers will be required to call ahead of arrival to ensure there is sufficient space on-site to accommodate deliveries. Drivers will be informed if they are required to wait until another HGV has vacated the site.
- 3.8 Due to the limited availability of laybys within the vicinity of the application site, and along the construction traffic routes, construction traffic will be required to wait at services along the M62 and M61 until the site is clear and able to receive the delivery vehicle. It will be the responsibility of the driver to find a safe place to wait if required to do so. The local service stations are summarised below:



- a) M61: Rivington Services – c. 20km to the northwest (20 minutes drive)
- b) M62: Moto Birch – c. 14km to the southeast (18 minutes)
- c) M62: Welcome Break – c. 33km to the southwest (35 minutes)

3.9 It will also be the responsibility of the appointed contractor to ensure the site has the capacity to receive deliveries without impacting the local highway network.

3.10 Local residents of Wood Street will be informed by the contractor as and when the delivery vehicles are going to need to access the site. It is proposed that a communication/monitoring strategy for residents be set out via a suitably worded planning condition. It is envisaged that this could comprise the production on a plan identifying suitable parking locations on Wood Street where on-street parking could occur to enable large vehicles to access Wood Street as well as the strategy around the delivery timetable and the communication of this. Local residents will therefore be informed in good time when deliveries will be undertaken as well as the details for a point of contact. A plan showing indicative on-street parking locations on Wood Street during delivery periods is attached at **Appendix L**.

Construction Compound

3.11 A temporary construction compound will be formed within or adjacent to the site.. This land will be used for facilities, storage and parking during the construction period and will be removed once the proposed development is operational.

3.12 Delivery vehicles will access the temporary compound via the proposed gated access points, unload, and manoeuvre within the compound to egress in a forward gear. The extent of land within the Applicant's control indicates that there is sufficient space for the temporary installation of welfare facilities, storage, parking, and HGV turning.

3.13 The exact location of the construction compound is subject to the appointed contractor and is subject to being moved as the site is built out. It is proposed that the detailed design of the compound is to be achieved via a suitably worded condition following planning permission.

3.14 An indicative plan illustrating the location of the construction compound is attached at **Appendix M**.



Parking

- 3.15 It is estimated that a maximum of 15 construction workers will be on site during the construction period. In order to accommodate vehicles associated with the construction workers, dedicated car parking for workers at the site will be provided within the boundary of the application site. At least 15 car parking spaces will be provided on-site. The exact number of required spaces will be set out prior to the commencement of works.
- 3.16 All car parking will occur within the site. The plan provided at **Appendix C** indicates that there is sufficient land available for parking on-site.

Banksmen

- 3.17 All on-site construction vehicles will enter and exit the site in a forward gear, utilising the available space to manoeuvre.
- 3.18 Appropriately trained, qualified, and certified banksmen will be in place to assist in the guidance of heavy and large construction / delivery vehicles from the junction with Wood Street and supervise unloading; it is anticipated that such person (s) will form part of the contractor team and will have additional duties to undertake.

Road Closures

- 3.19 It is not anticipated that there will be a requirement for any road closures on the local highway network.

Maintaining Signage

- 3.20 Maintaining signage and barriers associated with the site will be the responsibility of the contractor, it is not anticipated that the regime of signage, barrier inspection and maintenance will have a severe impact on the surrounding highway network.

4 Forecast Trip Attraction

- 4.1 The Applicant has supplied an indicative break down of the proposed construction of the BESS, based on a 20-week delivery and construction schedule, of which this Chapter provides a summary.

Staff Trips and Parking

- 4.2 A maximum of up to 15 construction workers are anticipated to be on site during peak times during the construction period.
- 4.3 The location of where staff will travel from is unknown at this stage as it will depend on the appointed contractor. Parking will be provided for construction contractors within the site and as such no overspill car parking will occur on the local highway network.
- 4.4 It is anticipated that the staff members will attract a maximum of 30 vehicle movements a day across a 26 day working month, over a period of 20 weeks. It is likely to be less as car sharing will be encouraged by the contractor.

Construction Vehicle Trips

- 4.5 The construction phase includes the preparation of the site, which involves the delivery of welfare units and construction machinery, installation of internal maintenance track access roads, sub construction work as well as work on foundations.
- 4.6 The construction period will include the use of Heavy Goods Vehicles (HGVs) to bring the BESS equipment onto the site and this will be strictly managed to ensure that vehicle movement is controlled and kept to a minimum.
- 4.7 It should be noted that the construction of this BESS does not require equipment to be delivered by abnormal loads (i.e. vehicles over 16.5m in length).
- 4.8 **Table 4.1** summarises the heavy goods movements that could be associated with the construction period provided by the Applicant, attached in **Appendix N**.



Activity	Vehicle Size	Two-way Vehicle Movements across 20-week period
Site Set Up and On-going Management (including site mobilisation, demobilisation, fencing, water/waste deliveries, site huts, fuel, CCTV, heavy-duty matting etc)	Various sizes with around 70% being 8-10m rigids and the remaining 30% being 16.5m articulated vehicle	184 trips (92 deliveries)
Batteries, associated infrastructure and cabling delivery	16.5m articulated vehicle	140 trips (70 deliveries)
Storage and Substations	16.5m articulated vehicle	24 trips (24 deliveries)
Aggregate (Access Track)	32 tonne tipper lorry	100 trips (50 deliveries)
Concrete and Foundation Steel (Battery/Substation Base)	32 tonne tipper lorry	210 trips (105 deliveries)
Total	-	658 trips (c. 329 deliveries)

Table 4.1 Forecast Deliveries

4.9 In summary, the site is forecast to require 329 vehicles making deliveries during the temporary construction period of 20 weeks. Of these 329 deliveries, it has been advised by the Applicant that only 17 of these deliveries (34 trips) will be undertaken by a 16.5m articulated vehicle, with the remaining deliveries to be undertaken on smaller rigid truck vehicles. Based on the information set out in **Appendix N**, the site will attract the following across the 20-week period, on-average:

- a) Weeks 1 – 4: An average of 4 HGV trips per day
- b) Weeks 4 – 8: An average of 10 HGV trips per day
- c) Weeks 8 – 12: An average of 8 HGV trips per day
- d) Weeks 12 – 16: An average of 2 HGV trips per day
- e) Weeks 16 – 20: An average of 2 HGV trips per day



- 4.10 In addition to delivery vehicle trips, it is forecast that there will a maximum of 15 vehicles per day associated with construction workers, therefore resulting in 30 two-way vehicle trips per day during the temporary construction period, over a 26-working day month. It is also worth noting that these vehicles will be a mixture of vans and cars.
- 4.11 Workers will arrive in a staggered fashion across the day; however, it is unlikely any trips will be made during the typical network AM (08:00 - 09:00) or PM (17:00 - 18:00) peak periods due to the working times at the site.
- 4.12 Based on the information provided by the Applicant, it is forecast that the construction of the site will attract a maximum of 32-40 trips per day including deliveries and construction workers, for a period of up to 20-week (5 months).

Summary

- 4.13 The forecast vehicle trips will be spread across the day and will primarily avoid conflict with the typical network peak hours, mitigating the impact of the construction of the proposed development on both the local and strategic road networks. It is therefore concluded that the anticipated construction period at the application site will not result in a severe cumulative impact on the adjacent highway network, in accordance with Paragraph 116 of the NPPF.

Operational Phase Vehicle Trips

- 4.14 Once operational, there are anticipated to be around 2 visits a month to the site to undertake maintenance. These vehicle trips would typically be made by a light van or 4x4 vehicle and would access and egress the site via the PROW 9SS access route, located to the west of Wood Street as identified in **Appendix C**.
- 4.15 Space will remain within the site for such a vehicle to turn around to ensure that the vehicle can enter and exit the site in forward gear.



5 Mitigation Measures for Noise, Vibration, Dust and Dirt

- 5.1 Wheel-washing facilities will be provided at the construction compound area, therefore construction and delivery vehicles exiting the site will not take mud or debris onto the adjacent highway or PRow.
- 5.2 It is proposed that wheel-washing will be undertaken via washing station, anticipated to be located immediately prior to exiting onto Wood Street. The exact placement and provision of wheel washing facilities will fall to the appointed contractor.
- 5.3 The following mitigation measures will also be adopted to minimise noise, vibration, dust, and dirt pollution:
- a) Requirement for all engines to be switched off when not in use;
 - b) Spraying of areas with water, as and when conditions dictate;
 - c) The adopted public highway and PRow within the vicinity of the site will be swept within an agreed timeframe, as and when reasonably requested by any officer of the Local Highway Authority;
 - d) Vehicles carrying waste material off-site will be sheeted; and
 - e) Any damage to the adjacent highway will be reported and repaired in a timely manner at the expense of the developer.



6 Contractor Responsibility

- 6.1 Alongside measures already mentioned in this report, it will be the responsibility of the appointed contractor to comply with all statutory regulations and guidelines in relation to construction and movement activities. It will also be the responsibility of the contractor to deal with any issues related to fuel and oil storage, together with a strategy for dealing with any spillages.
- 6.2 Details of the main contractor, project manager and site management will be provided to the Local Highway Authority when the roles have been appointed by the client/developer.
- 6.3 The appointed contractors will be provided with a copy of this CTMP (or any updated CTMP) and will adhere to it as part of the planning consent. The CTMP will form part of the on-site induction and a copy of the CTMP will also be made available within the contractors' compound.
- 6.4 A walk-over condition survey on the PRoW and local highway network will be carried out and agreed with highway officers, prior to commencement of construction, in order to assess the baseline highway condition. This will be in the form of a photographic record and location plan.
- 6.5 This would be followed by a further condition survey with highway officers including a photographic record covering the same extents as the pre-construction condition survey at the end of construction activities, in order to ensure only highway defects attributable to the construction of the BESS (if any) are identified and any necessary remedial works are agreed.
- 6.6 On completion of construction, the temporary access track (construction composition attached as **Appendix O**) that will route from Wood Street/PRoW 7SS across the Applicant's land, will be removed and the land made good following construction. The temporary construction fencing is also attached at **Appendix O**.

7 Summary and Conclusion

Summary

- 7.1 Rappor have been instructed by Taiyo Power & Storage Ltd to prepare a Construction Traffic Management Plan (CTMP) in support of a planning application for a proposed BESS on land near Radcliffe, Manchester, M26 1FA.
- 7.2 Full planning permission is sought for the installation of a new 11MW BESS, with temporary access from Wood Street/PRoW 7SS and ancillary infrastructure on land east of Shore Top Farm, Radcliffe, Manchester, M26 1FA.
- 7.3 The CTMP has been prepared to provide an assessment of the development proposals relating to the construction of the site and has demonstrated the following:
- a) The local highway network is suitable to accommodate forecast construction and operational traffic;
 - b) There is no observable pattern of vehicle collisions on the local highway network in the vicinity of the site;
 - c) Safe and suitable routes are available to the site, avoiding weight restrictions;
 - d) The proposed access arrangements are suitable to allow access by HGVs associated with the construction of the site;
 - e) There is sufficient land available within the red line boundary to accommodate welfare and storage facilities, as well as parking for workers;
 - f) Once operational, the site will attract a small number of trips per month for maintenance purposes. During the temporary 20-week construction period, it is forecast that there will be between approximately –32-40 vehicles trips per day, including HGVs and construction workers;
 - g) Forecast trip attraction indicates that the proposals will not have a ‘severe’ impact on the local highway network; and
 - h) Measures will be incorporated to reduce the impact on the local highway network during the construction phase, in terms of mud and debris.

Conclusion

- 7.4 This CTMP has addressed the key construction traffic related issues arising from the proposed development.



- 7.5 Rappor conclude that the proposed development at the application site will not have a severe impact upon the safety or operation of the surrounding local highway network, in relation to Paragraph 116 of the NPPF. As such, there are no significant highways and transportation matters that should prevent the planning application from being permitted.



Appendix A – Pre-application Correspondence

Our Ref: 02898E
Your Ref:
Date: 06 December 2023
Please ask for: Jennie Townsend
Direct Line: 0161 253-5320
Fax: 0161 253 7373
E-Mail: j.l.townsend@bury.gov.uk

Arthama Lakhanpall
ADAS Planning
Fourways House
57 Hilton Street
Manchester
M1 2EJ

Dear Sir/Madam

Proposal: Erection of battery energy storage facility (BESS) with total proposed capacity of 11MW, utilising the existing gateway/access track from Wood Street (to be resurfaced)
Location: Land at Shore Top House, Ringley Road West, Radcliffe, Manchester, M26 1FA

I am writing following receipt of your enquiry on 29 August 2023 in connection with the above proposal and to provide the Council's view of the issues discussed.

The details within this note are provided as a guidance note in the event of a formal application being submitted.

Should you wish to discuss any of the issues contained within this note, then please contact the above case officer.

Yours faithfully

Jennie Townsend
Senior Planning Officer

Accompanying/Supporting Information

To accompany any application for planning permission, the following documents, in the first instance, should be submitted in line with both national and Local Validation Procedures. Failure to do so would mean that any application without these would not be validated.

Application form and certificate of ownership
Red/blue edge site location plan.
Topographical plan
Existing site plan within a wider site area (1:5000)
Proposed site plan within the wider area (1:5000)
Aerial photograph to scale
Proposed site plan including access (1:1250 and 1: 250 or similar)
Detailed proposed site plan and access
Proposed access details
Site plan details only
Proposed elevations of all equipment/structures
Floor plan of all equipment/structures
Boundary fence details
Security details
Photomontage from different view points
Preliminary Risk Assessment
Reports/information to address the requirements outlined in Policy 8 of the GM Joint Minerals Plan.
Construction Traffic Management Plan
Community Consultation Statement
Preliminary Ecological Appraisal (PEA)
Any other surveys recommended in the PEA
Biodiversity net gain assessment plan
Design and Access Statement
Planning Statement
Site selection process including a map of other alternative sites considered

Planning Policies

In the consideration of the proposals, the following policies are relevant to the scheme and would be taken into consideration should any application be formally submitted:

NPPF	National Planning Policy Framework
EN1/1	Visual Amenity
EN1/2	Townscape and Built Design
EN1/3	Landscaping Provision
EN1/5	Crime Prevention
EN4/1	Renewable Energy
EN6/4	Wildlife Links and Corridors
EN8/2	Woodland and Tree Planting
EN6/3	Features of Ecological Value
OL1	Green Belt
OL1/2	New Buildings in the Green Belt
OL5/2	Development in River Valleys
RT3/1	Protection of Existing Recreation Prov in the Countryside
SPD6	Supplementary Planning Document 6: Alterations & Extensions
PATH	Pathway

The pre-application seeks the erection of battery energy storage facility (BESS) with total proposed capacity of 11MW, utilising the existing gateway/access track from Wood Street (to be resurfaced).

Places for Everyone

The Places for Everyone Joint Development Plan Document (PfE) is a joint plan covering nine of the ten Greater Manchester districts, including Bury, and is intended to provide the overarching framework to strategically manage growth across the boroughs.

PfE was published in August 2021 and subsequently submitted to the Secretary of State in February 2022. Inspectors have been appointed to carry out an independent examination of the Plan with the hearing sessions commencing in November 2022 and were concluding in July 2023. The examination of the plan is on-going.

Given the advanced stage in the preparation of PfE, it is already considered reasonable that the Plan (as proposed to be modified) should be given weight in the decision-making process in line with paragraph 48 of the National Planning Policy Framework. PfE policies will therefore be relevant in the subsequent consideration of any planning application. The weight attached to these policies will be dependent on the stage reached at that time and full weight will be given to the policies once the Plan is adopted.

Policies

Chapter 13 - Protecting Green Belt Land, Paragraphs 147 and 148 state that inappropriate development in the Green Belt is by definition, harmful and should not be approved except in Very Special Circumstances (VSC). Planning Authorities should ensure that substantial weight is given to any harm in the Green Belt. VSC will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm resulting from the proposal, is clearly outweighed by other considerations.

Para 149 states that the construction of new buildings in the Green Belt is inappropriate development. The proposed development would not comply with any of the exceptions listed.

Para 151 of the NPPF states that when located in the Green Belt, elements of many renewable energy projects will comprise inappropriate development. In such cases developers will need to demonstrate very special circumstances if projects are to proceed. Such very special circumstances may include the wider environmental benefits associated with increased production of energy from renewable sources.

Para 152 states that the planning system should support the transition to a low carbon future in a changing climate taking into full account of flood risk and coastal change.

Paragraph 158 of the NPPF states that when determining planning applications for renewable development, local planning authorities should not require applicants to demonstrate the overall need for renewable or low carbon energy, and recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions; and approve the application if its impacts are (or can be made) acceptable.

The site is designated as Green Belt under UDP policy OL1 and as a result any development on the site would be subject to NPPF Paragraph 149.

The purpose of including land in the green belt is to assist in safeguarding from encroachment and the construction of a new building/s in the Green Belt would be considered inappropriate development unless the applicant can demonstrate that the proposal will meet one of the exceptions included in Paragraph 149 of the NPPF. Inappropriate development in the green belt should not be approved except in very special circumstances (VSC) and any harm to the Green Belt would be given substantial weight. VSC will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm resulting from the proposal, is clearly outweighed by other considerations.

The proposed development would be considered inappropriate development and would cause harm to the openness of the Green Belt, which should be given substantial weight.

The site which has been put forward is an open field on fairly level ground but at one of the higher points in the vicinity and is therefore a relatively prominent location visible from close and wide range views from the south, west and north.

The pre-app states that the site has been chosen due to the proximity to a suitable grid connection but does not explain where other grid connections are located or if other potential grid connections have even been considered and if they have been considered, why they have been discounted. There is also an existing electricity distribution station just up the track from the site, and it has not been made clear at all why this open Green Belt site is sequentially preferable. Any application for very special circumstances should clearly and demonstrably evidence a sequential approach has been carried out and this should include brownfield sites.

Whilst visual mitigation measures have been suggested by providing a landscaping buffer of trees around the facility (which would grow to maturity) , a line of trees in the middle of a field could appear manufactured and uncharacteristic of the landscape and would only be planted effectively to 'hide' or 'mask' the site from views.

Whilst the importance of renewable energy and that the facility would contribute to energy demands is acknowledged, it is considered that as it currently stands and with the evidence presented the siting of the equipment in this location would likely not be supported.

Furthermore, given that the majority of the site is immediately adjacent to a wildlife corridor (Policy EN6/4), with part of the red line within the wildlife corridor and river valley (Policy OL5/6), applicants would need to consider opportunities for environmental enhancement if an application was to be progressed for this site. Any development should contribute to the effectiveness of the wildlife corridor through design, landscaping, and siting of the development proposal and mitigation works.

Update on the above response following receipt of email dated 6/12/23 in connection with site selection information.

The additional information only partially sets out the reasons behind the selection of this particular site. Whilst a need was identified in a 1km radius of the Radcliffe Station, we would need an understanding of where other capacities may exist where this facility could function or for this area in particular what other sites within the 1km radius were investigated.

There is still no explanation as to why the facility could not be located within the existing sub-station site or closer by, so this would need to be explained in a supporting statement along with the other sites which have been considered first, before the pre-app site was put forward.

Highways - Issues relating to the construction of the facility and access to the site should be covered in a robust Construction Traffic Management Plan that will also need to look carefully at minimising any impact on existing residents and their parking on Wood Street from both a highway safety and residential amenity perspective

Public Right of Way

Historically the footpath (No. 7 St. Saviours, Radcliffe) was access to a small village known as Bottom O' Th' Fields.

It is believed the Authority erected a gate where the path leaves Wood Street due to problems with burnt out cars, fly tipping etc. This barrier, or similar needs to remain with keys for those requiring legitimate access.

Having looked on site, the field gate being used for access is not immediately adjacent to the footpath/Wood Street and the link route is currently overgrown and not fit for access by motorised vehicles. We would require information on what works are proposed to bring this up to standard and what warnings would be in place for the public using the footpath, especially when vehicles are leaving the site and joining the footpath at an acute angle.

Part of the access track/path looks like it is owned by the Council (Leisure Services) and therefore should an application come forward, notice will need to be appropriately served.

The pre-app makes reference to the upper part of Wood Street near the residential properties, and proposes to resurface Wood Street. The applicant would be advised to contact/speak to all the residents on Wood Street to understand whether they would be any resistance to such works being carried out.

Contaminated Land Section response

The site has previously been in use as a sand pit, deposited ground, and possible landfill. Surrounding historical uses have included a brick works, a colliery, a sewage works, a railway and railway sidings. Currently the site is open space.

The site is situated above the Newton Heath Sandstone Secondary A aquifer which is overlain by Glacial Till. The site is just within 250m of a registered landfill.

In line with the National Planning Policy Framework, there is the potential for contamination on this site therefore we recommend that the following contaminated land conditions are placed on any grant of permission:

- Contaminated Land Preliminary Risk Assessment, Site Investigation, Detailed Risk Assessment and Remediation Strategy.
- Contaminated Land implementation of Remediation Strategy and Site Verification Report.

Greater Manchester Minerals and Waste

Greater Manchester Minerals and Waste would advise that the Coal Authority are consulted on this application if not already contacted. In terms of brick clay, the applicant hasn't addressed the requirements outlined in Policy 8 of the GM Joint Minerals Plan within the supporting information of their application and therefore not considered the following:

Proposals for non-mineral development within the Mineral Safeguarding Areas that do not allow for the prior extraction of minerals will only be permitted where:

1. The need for the development outweighs the need to extract the mineral; or
2. It can be clearly demonstrated that it is not environmentally acceptable or economically viable to extract the mineral prior to non-mineral development taking place; or;
3. It can be clearly demonstrated that the mineral is either not present or of no economic value or too deep to extract in relation to the proposed development; or;
4. The development is limited or temporary and would not prevent minerals extraction taking place in the future.

Electricity North West

Reserve their position until such time an application is submitted.

Coal Authority

Have reviewed the proposals within the context of the defined Development High Risk Area and can confirm that the Coal Authority would not expect the planning application to be supported by a Coal Mining Risk Assessment, or equivalent, to assess the risk to the development from coal mining legacy. The area where built development is proposed is not in the Development High Risk Area.

GMEU

Not aware of any specific ecological issues associated with this site. The field appearing to be low ecological value grassland.

Ecological Survey Requirements

Given the scale of the site and location adjacent to Outwood Forest Park GMEU would recommend:

- A preliminary ecological appraisal (PEA) and;
- Any addition surveys recommended by the PEA

are provided with any application.

Biodiversity Net Gain (BNG)

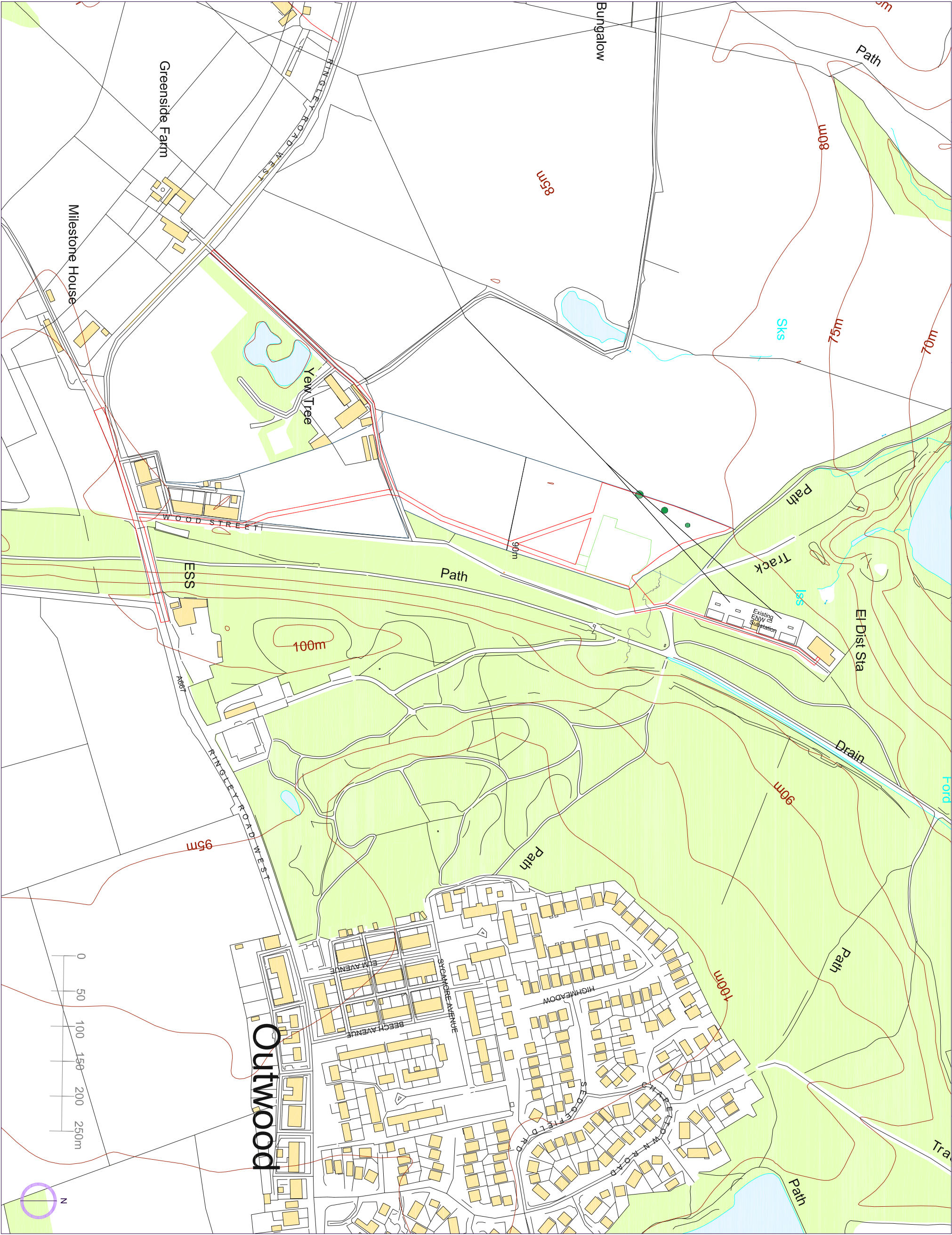
10% BNG is now due to become mandatory in 2024. GMEU therefore recommend that as part of any application a biodiversity net gain assessment plan is provided, that demonstrates that either 10% BNG can be achieved on the site or if not how 10% BNG will be achieved.

Contributing to and Enhancing the Natural Environment

Section 174 of the NPPF 2021 states that the planning policies and decisions should contribute to and enhance the natural and local environment. Whether or not 10% BNG is required, mitigation for loss of grassland should be provided along with mitigation for any adverse effects to wildlife.



Appendix B – Site Location Plan



Notes

1. If no comment is received against this submitted document within 10 working days from the date of issue, the client is deemed to have approved.

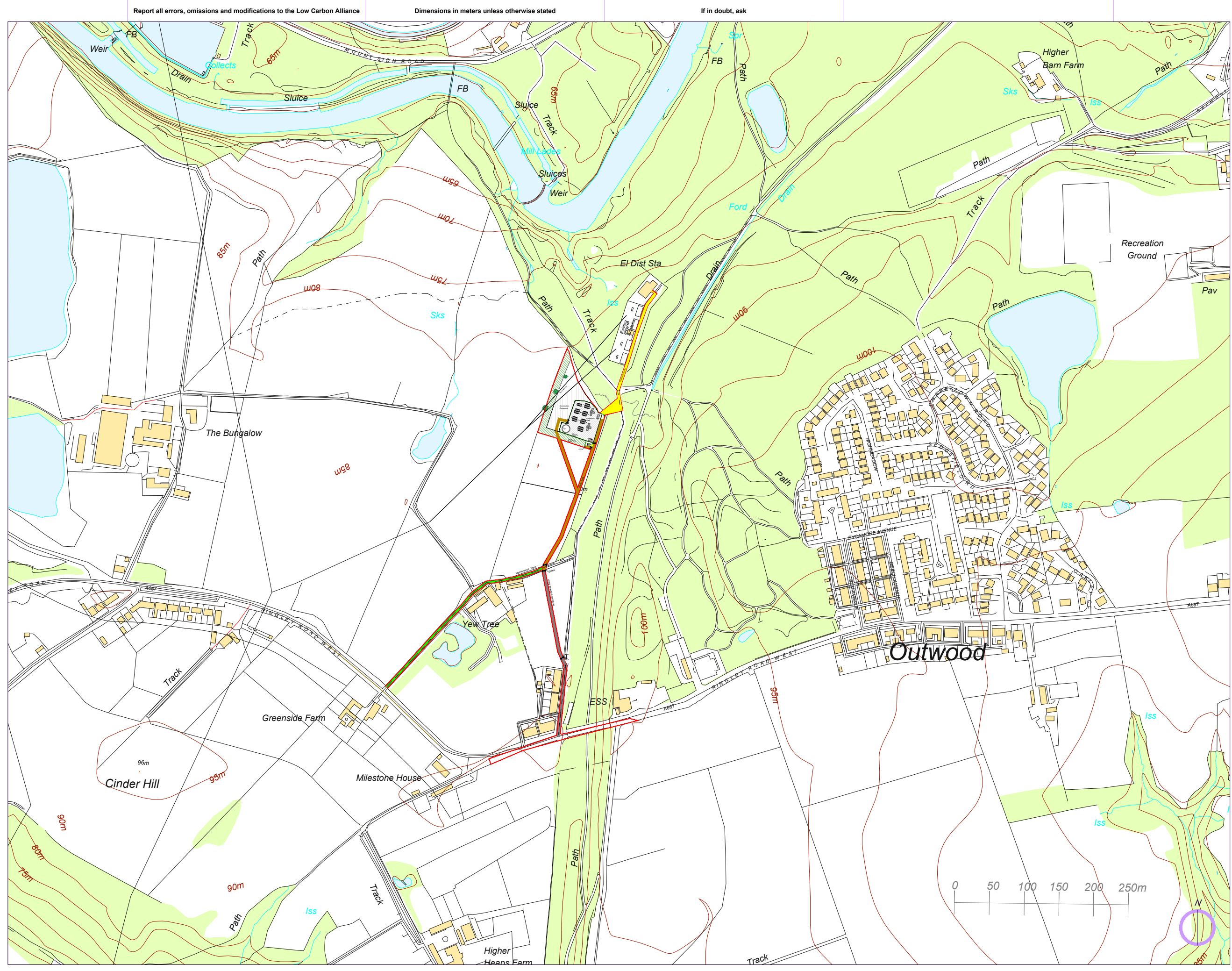
THIS DRAWING
IS NOT FOR
CONSTRUCTION

- Red Line Boundary
- Compound Area
- Owners Land

Drawn By	Checked By	REV	12
MS/TP	PC		
Date	Approved By		
26.02.2025	PC		
PROJECT			
Shore Top Farm BESS			
TITLE			
Location Plan			
CLIENT			
Taiyo Power & Storage Ltd.			
STATUS			
Sheet No	Overall Plan	Sheet Size	A3
ENTERSHEETNO	1		
Scale	Drawing Number		
1:5000	121-10014		



Appendix C – Proposed Site Layout Plan



Report all errors, omissions and modifications to the Low Carbon Alliance

Dimensions in meters unless otherwise stated

If in doubt, ask

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Notes

1. If no comment is received against the submitted document within 10 working days from the date of issue, this will be deemed as being approved.

THIS DRAWING IS NOT FOR CONSTRUCTION

- Red Line Boundary
- Security Fence
- Cable Route/ Corridor
- Access Track
- Temporary Access Track
- Maintenance Access
- Overhead Line
- Compound Area Hardcore
- Landscape Buffer
- Construction Compound
- Tree
- Battery Container
- Transformer/ Inverters
- Storage
- Customer Substation
- DNO Substation
- CCTV
- Gate
- Water Tank
- PROW

Drawn By	Checked By	REV	015
MSTP	PC		
Date	Approved By		
24.07.2025	PC		

PROJECT	Radcliffe BESS
TITLE	Proposed Site Layout
CLIENT	Taiyo Power & Storage Ltd.

STATUS		
Sheet No	Overall Plan	Sheet Size
ENTERSHEETNO	1	A3
Scale	Drawing Number	
1:5000	121-10003	



Appendix D – Transport for Greater Manchester Collision Data

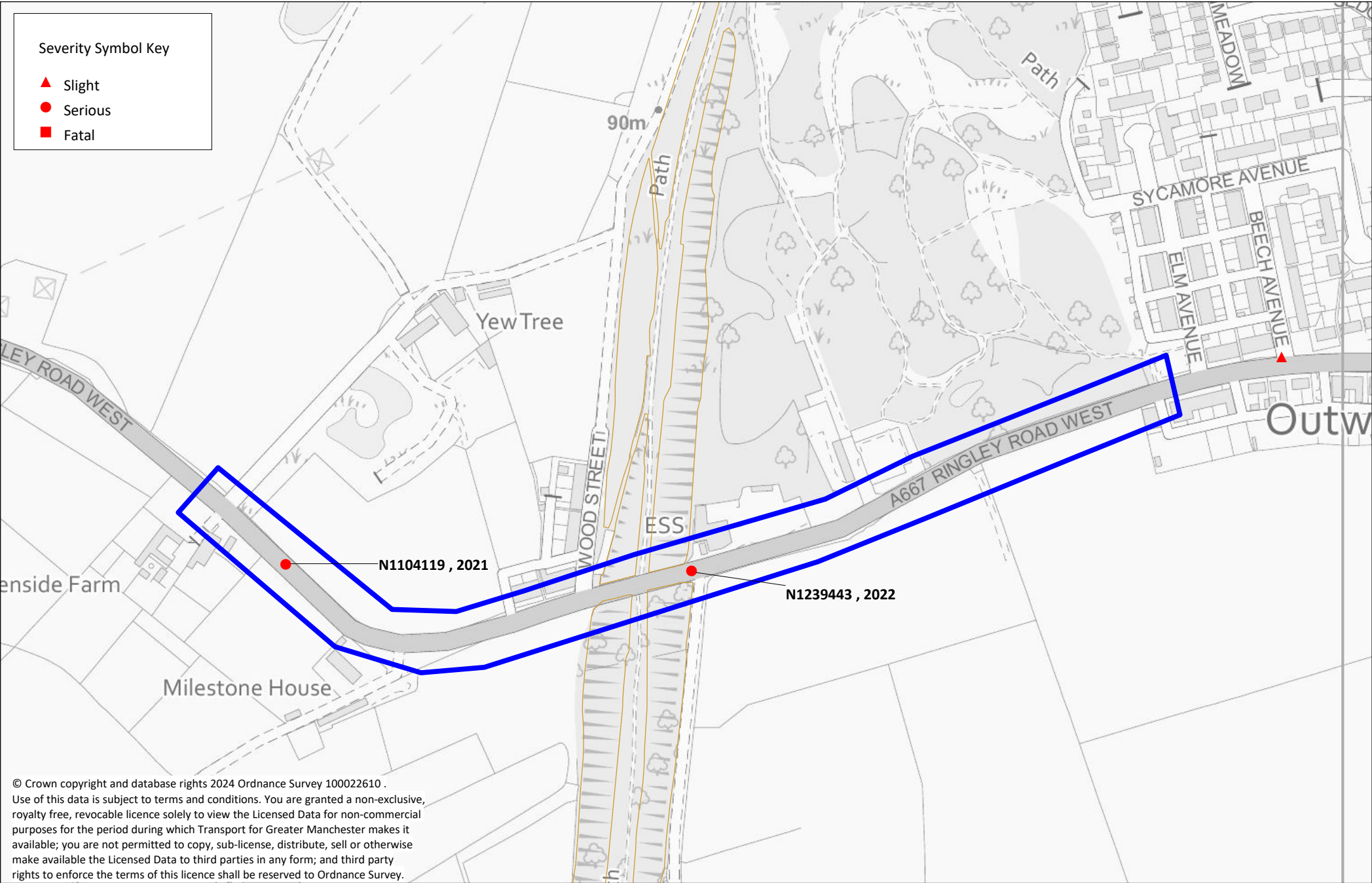
TRANSPORT FOR GREATER MANCHESTER



Traffic Accident Data for

Rappor

**Reported Road Injury Accidents in Specified Area of A667 Ringley
Road West, Bury.
01/07/2019 to 30/06/2024**



TRANSPORT FOR GREATER MANCHESTER



**Reported Road Injury Accidents in Specified Area of A667 Ringley Road West, Bury.
01/07/2019 to 30/06/2024**

Injury Accidents	Jul - Dec 2019	2020	2021	2022	2023	Jan - Jun 2024	Total
Fatal	0	0	0	0	0	0	0
Serious	0	0	1	1	0	0	2
Slight	0	0	0	0	0	0	0
Total	0	0	1	1	0	0	2

Standard Totals Report : Reported Road Injury Collisions in Specified Area of A667 Ringley Road West, Bury 01/07/2019 to 30/06/2024

Accidents

Serious	2
Total Accidents	2

Casualties Broken Down By Type

Car (Driver)	0-15	16+	Total
Serious	0	1	1
Total	0	1	1
Car (Passenger)	0-15	16+	Total
Slight	0	2	2
Total	0	2	2
Pedestrian	0-15	16+	Total
Serious	0	1	1
Total	0	1	1
Total	0	4	4

Casualties By Age and Sex

Severity	0 - 15	16 - 59	60 - 69	70 +	Total
Serious					
Male	0	2	0	0	2
Total	0	2	0	0	2
Slight					
Male	0	1	0	0	1
Female	0	1	0	0	1
Total	0	2	0	0	2
Total Casualties	0	4	0	0	4

Casualties By Age and Class

Severity	0 - 15	16 - 59	60 - 69	70 +	Total
Serious					
Driver or rider	0	1	0	0	1
Pedestrian	0	1	0	0	1
Total	0	2	0	0	2
Slight					
Veh or pillion pas	0	2	0	0	2
Total	0	2	0	0	2
Total Casualties	0	4	0	0	4

Cyclist (Rider and Pillion) and Pedestrian Casualties By Age

Severity	0 - 15	16 - 59	60 - 69	70 +	Total
Serious	0	1	0	0	1
Total Casualties	0	1	0	0	1

Standard Report - Reported Road Injury Collisions in Specified Area of A667 Ringley Road West, Bury

01/07/2019 to 30/06/2024

This printout has been generated from the Transport for Greater Manchester's database of road traffic accident records using the query system, GMAXI.

The road traffic accident database contains STATS19 data supplied by Greater Manchester Police and further validated by the Highways Forecasting and Analytical Services (HFAS) section of Transport for Greater Manchester. It is maintained by HFAS on behalf of the ten District Councils in Greater Manchester.

This information is provided for the sole use of the recipient. It may not be sold, lent, hired out, or in any other way disclosed to a third party nor may it be reproduced in any form which may be obtained by a third party.

Accident Reference Number: N1104119				Day: Saturday		Contributory Factors			Date: 30/10/2021					Time: 11:08				
Place Reported: Scene				District: Bury														
Location: Ringley Road West 230 metres NW Of Wood Street						Factor Conf Ref			Vehicle Details					Casualty Details				
Description: V1 Trav Se Ringley Rd W At Excessive Speed. V1 Loses Control On Wet Road & Leaves C/way On N/s & Front Collides With A Tree						DLoss VLike V1			Type	Move	From	To	Skid	Type	Sex	Age	Sev	Pupil
									Car	Ahead	NW	SE	Skid	1 Drv	M	20	Serious	Un
														2 Pas	F	19	Slight	Un
														3 Pas	M	21	Slight	Un
Locational Details				Conditions		Accident Details												
Road:	A667		Junction Details:		Road Surface:	Wet		Severity:		Serious								
OSGR:	377259	405600	Junction Control: n/a		Light Conditions:		Light		No. of Vehicles:		1							
Speed Limit:	40		Ped Crossing:		Weather Conditions:		Rain		No. of Casualties:		3							

Accident Reference Number: N1239443				Day: Sunday		Contributory Factors			Date: 06/11/2022					Time: 11:30				
Place Reported: Scene				District: Bury														
Location: Ringley Road West 80 metres E Of Wood Street						Factor Conf Ref			Vehicle Details					Casualty Details				
Description: V1 Trav W Ringley Rd W, C1 (Pedestrian) Crossing Road From Drivers N/s Heading N-bd. C1 Fails To Look Properly & Hit By Front Of V1						PFLook VLike C1			Type	Move	From	To	Skid	Type	Sex	Age	Sev	Pupil
						PJudge VLike C1			Car	Ahead	E	W		1 Ped	M	19	Serious	Un
Locational Details				Conditions		Accident Details												
Road:	A667/U		Junction Details: Tjun		Road Surface:	Wet		Severity:		Serious								
OSGR:	377547	405594	Junction Control: GW		Light Conditions:		Light		No. of Vehicles:		1							
Speed Limit:	40		Ped Crossing:		Weather Conditions:		Rain		No. of Casualties:		1							

Abbreviations used in GMAXI Reports for New Contributory Factors - 2005/06

WARNING: Please note that -

Codes 101 to 999 only relate to accidents from 1 April 2005. - New National Factors introduced by DfT

Codes 1001 to 1154 relate to accidents from 1 April 1999 to 31 March 2005 only. - Local Factors introduced

Accidents before 1 April 1999 do not have contributory factors attached.

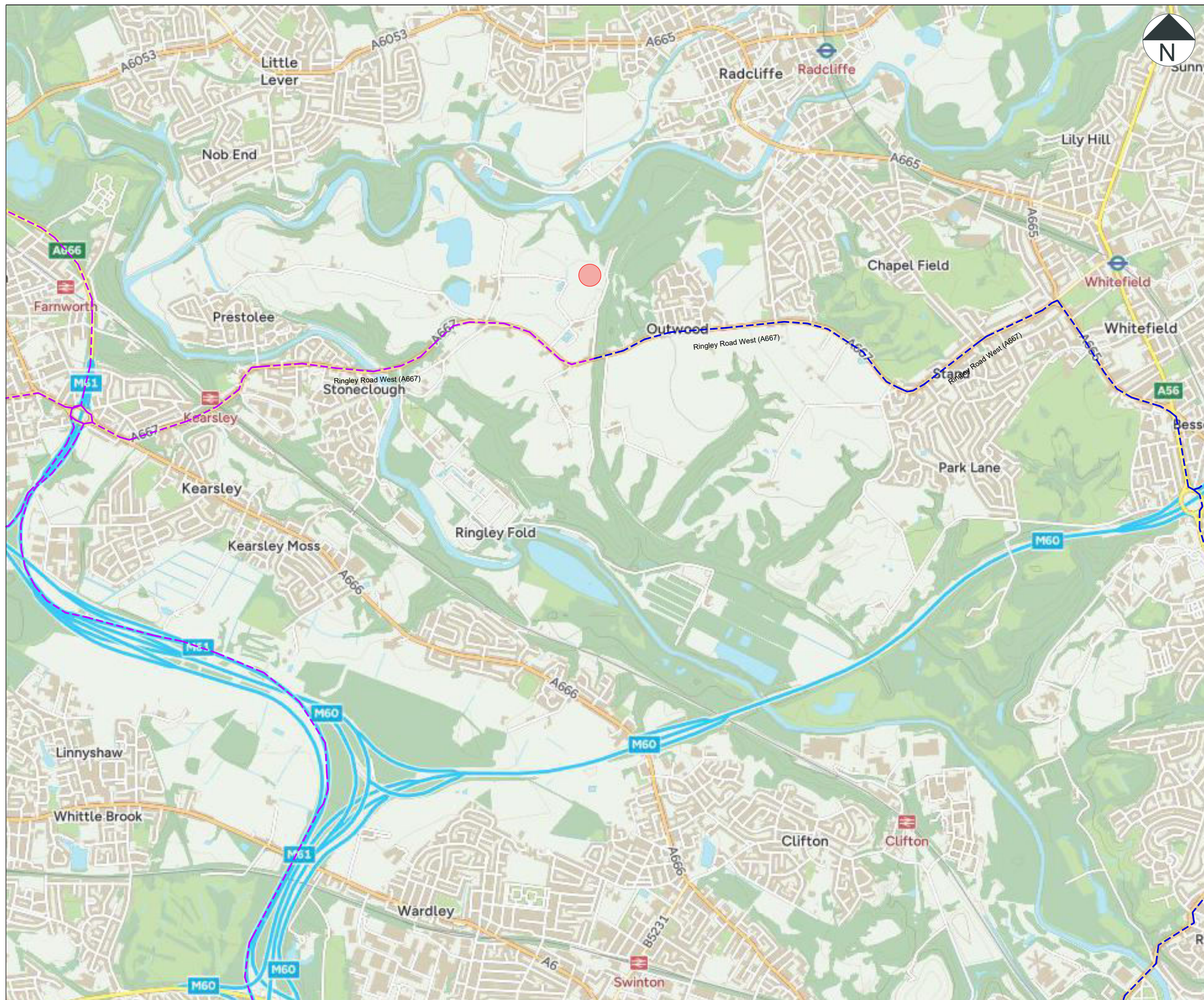
Code	ContribFactor1Name	ContribFactor1Abb
0	None	
101	Poor or defective road surface	Surf
102	Deposit on road (eg oil, mud, chippings)	Dposit
103	Slippery road (due to weather)	Slip
104	Inadequate/masked signs or road markings	Mark
105	Defective traffic signals	DefATS
106	Traffic calming (eg speed cushions, road humps, chicanes)	TCalm
107	Temporary road layout (eg contraflow)	TmpRd
108	Road layout (eg bend, hill, narrow carriageway)	RdLay
109	Animal or object in carriageway	ObjInC
201	Tyres illegal, defective or under inflated	VTyres
202	Defective lights or indicators	VLight
203	Defective brakes	VBrake
204	Defective steering or suspension	VSteer
205	Defective or missing mirrors	VMirr
206	Overloaded or poorly loaded vehicle or trailer	VLoad
301	Disobeyed automatic traffic signal	DATS
302	Disobeyed Give Way or Stop sign or markings	DGWorS
303	Disobeyed double white line	DWhite
304	Disobeyed pedestrian crossing facility	DPedX
305	Illegal turn or direction of travel	DITurn
306	Exceeding speed limit	DSpeed
307	Travelling too fast for conditions	DFast
308	Following too close	DTgate
309	Vehicle travelling along pavement	DPave
310	Cyclist entering road from pavement	DCPave
401	Junction overshoot	DJnOvr
402	Junction restart	DJnRst
403	Poor turn or manoeuvre	DTurn
404	Failed to signal/misleading signal	DSign
405	Failed to look properly	DFLook
406	Failed to judge other person's path or speed	DJudge
407	Passing too close to cyclist, horse rider or pedestrian	DClose
408	Sudden braking	DBrake
409	Swerved	DSwerv
410	Loss of control	DLossC
501	Impaired by alcohol	DAlcoh
502	Impaired by drugs (illicit or medicinal)	DDrugs
503	Fatigue	DTired
504	Uncorrected, defective eyesight	DEye
505	Illness or disability, mental or physical	DIllns
506	Not displaying lights at night or in poor visibility	DNoLit
507	Cyclist wearing dark clothing at night	DCDark
508	Driver using mobile phone	DMobPh
509	Distraction in vehicle	DDisIn
510	Distraction outside vehicle	DDisOu
601	Aggressive driving	DAggre
602	Careless/reckless/in a hurry	DCare

603	Nervous/uncertain/panic	DPanic
604	Driving too slow or conditions or slow vehicle (eg tractor)	DSlow
605	Learner or inexperienced driver/rider	DLearn
606	Inexperience of driving on the left	DInDrL
607	Inexperience with type of vehicle	DInVeh
701	Stationary or parked vehicle(s)	DStat
702	Vegetation	DVeg
703	Road layout (eg bend, winding road, hill crest)	DRdLay
704	Buildings, road signs, street furniture	DBuild
705	Dazzling headlights	DHLigt
706	Dazzling sun	DSun
707	Rain, sleet, snow, or fog	DRain
708	Spray from other vehicles	DFog
709	Visor or windscreen dirty or scratched	DSpray
710	Vehicle blind spot	DWscrn
801	Crossed road masked by stationary or parked vehicle	PXMask
802	Failed to look properly	PFLook
803	Failed to judge vehicle's path or speed	PJudge
804	Wrong use of pedestrian crossing facility	PPedX
805	Dangerous action in carriageway (eg playing)	PDange
806	Impaired by alcohol	PAlcoh
807	Impaired by drugs (illicit or medicinal)	PDrugs
808	Careless/reckless/in a hurry	PCare
809	Pedestrian wearing dark clothing at night	PCloth
810	Disability or illness, mental or physical	Pllns
901	Stolen vehicle	StoVeh
902	Vehicle in course of crime	VCrime
903	Emergency vehicle on call	EmVeh
904	Vehicle door opened or closed negligently	VDoor
999	Other	Other
1001	Failed to stop (mandatory sign)	Fstop
1002	Failed to give way	Fgive
1003	Failed to avoid pedestrian (pedestrian not to blame)	FAPed
1004	Failed to avoid vehicle or object in carriageway	FAObj
1005	Failure to signal/misleading signal	Fsig
1006	Loss of control of vehicle	Loss
1007	Pedestrian entered carriageway without due care	Ped
1008	Passenger fell in or near PSV	Pfell
1009	Swerved to avoid object in carriageway	Swerv
1010	Sudden braking	Brake
1011	Poor turn/manoeuvre	Turn
1012	Poor overtaking	Over
1013	Drove wrong way (e.g. 1-way street)	1Way
1014	Opening door carelessly	Door
1015	Other	Other
1101	Impairment alcohol	Alcoh
1102	Impairment drugs	Drugs
1103	Impairment fatigue	Tired
1104	Impairment illness	Ill
1105	Distraction stress/emotional state of mind	Stress
1106	Distraction physical in/on vehicle	DPhIn
1107	Distraction physical outside vehicle	DPhOut
1108	Behaviour panic	Panic
1109	Behaviour careless/thoughtless/reckless	Care
1110	Behaviour nervous/uncertain	Nerve
1111	Behaviour in a hurry	Hurry

1112	Failure to judge other person's path or speed	Fjudg
1113	Disability	Disab
1114	Failed to look	F2look
1115	Looked but did not see	Nsee
1116	Inattention	Inatt
1117	Person hit wore dark or inconspicuous clothing	Cloth
1118	Other (Personal details)	Pother
1119	Crossed from behind parked vehicle etc	Cross
1120	Ignored lights at crossing	Xlight
1121	Excessive Speed	Speed
1122	Following too close	Tgate
1123	Inexperience of driving	InDri
1124	Inexperience of vehicle	InVeh
1125	Interaction or competition with other road users	Users
1126	Aggressive driving	Aggr
1127	Lack of judgement of own path	Judge
1128	Tyres wrong pressure	Press
1129	Tyres deflation before impact	Deflat
1130	Tyres worn/insufficient tread	Tread
1131	Defective lights or signals	Signal
1132	Defective brakes	Brakes
1133	Other (Vehicle defects)	Vother
1134	Site details poor road surface	Surf
1135	Site details poor/no street lighting	Lightg
1136	Site details inadequate signing	Sign
1137	Site details steep hill	Hill
1138	Site details narrow road	Narr
1139	Site details bend/winding road	Rbend
1140	Site details roadworks	Works
1141	Slippery road	Slip
1142	High winds	Winds
1143	Earlier accident	Earli
1144	Other (Local conditions)	Lother
1145	View windows obscured	Obs
1146	View glare from sun	Glare
1147	View glare from headlights	Head
1148	Surroundings bend/winding road	Bend
1149	Surroundings stationary parked vehicle	Stat
1150	Surroundings moving vehicle	Move
1151	Surroundings buildings, fences, vegetation etc	Fence
1152	Weather (e.g. mist or sleet)	Weath
1153	Failed to see pedestrian or vehicle in blindspot	Blind
1154	Animal out of control	Animal
9999	GMP Out of Range	OoR



Appendix E – Construction Traffic Routing Plan



Notes:

1. Do not scale from this drawing. All dimensions are in metres, unless stated otherwise.
2. Ordnance Survey, (c) Crown Copyright 2024. All rights reserved. Licence number 100022432.

Key:

- Indicative Site Location
 Construction Route for vehicles over 16.5m in length
 Construction Route for all vehicles

-	-	-	-	-
Rev	Date	Details		By Chkd

rappor



CLIENT: **Tayio Power & Storage Ltd**

PROJECT: Radcliffe BESS

TITLE: **Proposed Construction Routes**

SCALE @ A3:	DATE:	DRAWN:	CHECKED:	APPROVED:
NTS	02.08.24	RC	BQ	BQ

STATUS:	INFORMATION
---------	-------------

DRAWING NO:	REVISION:
240306-RAP-XX-XX-DR-TP-7100	-

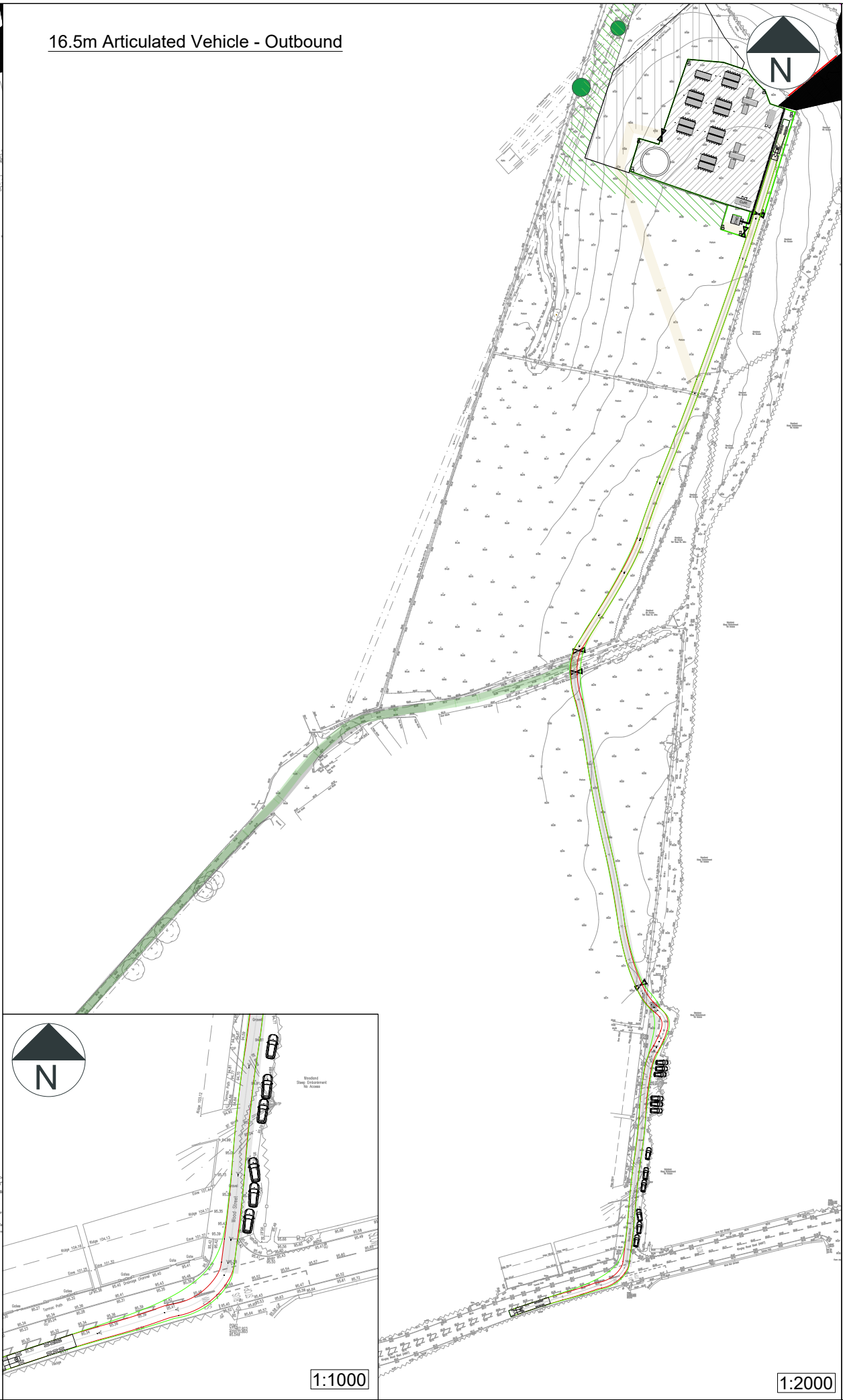


Appendix F – Swept Path Analysis – 16.5m Articulated Vehicle

16.5m Articulated Vehicle - Inbound



16.5m Articulated Vehicle - Outbound



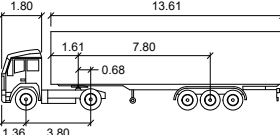
Notes:

1. Do not scale from this drawing. All dimensions are in metres, unless stated otherwise.
2. The site layout has been provided by Low Carbon Alliance (Drawing Number: 121-10003 Rev 14) dated 20.03.25.
3. The topographical survey was received from Latitude Surveys, Drawing no. GPP1011-003, dated 14.11.24.
4. Drawing to be read in conjunction with all other drawings. Any discrepancies are to be reported to the engineer 5 working days in advance of undertaking any work.
5. The layout is subject to detailed design, capacity testing, ground investigations & earth modelling, road safety audit, utilities & services and confirmation of land ownership.
6. Use of the drawing does not absolve the client from their responsibilities in regards to health & safety and CDM regulations.

Key:

- Temporary Access Track
- Maintenance Access
- Access Track

Vehicle Profile



Artic	
Tractor Width : 2.55	Lock to Lock Time : 6.0
Trailer Width : 2.55	Steering Angle : 42.7
Tractor Track : 2.55	Articulating Angle : 70.0
Trailer Track : 2.55	

P03	26.02.25	Updated Site Layout	RC	BQ
P02	14.03.25	Site Layout Added	RC	BQ
P01	10.02.25	Revised Rouing & Swept Path Analysis	RC	RC
Rev	Date	Details	By	Chkd

rappor



Infrastructure and
environmental consultants
rappor.co.uk

CLIENT: Tayio Power & Storage

PROJECT: Radcliffe BESS

TITLE: Swept Path Analysis - 16.5m Artic

SCALE @ A3:	DATE:	DRAWN:	CHECKED:	APPROVED:
As Shown	16.01.25	RC	BQ	BQ

STATUS: INFORMATION

DRAWING NO:	REVISION:
240306-RAP-XX-XX-DR-TP-4107	P03



Notes:

- Do not scale from this drawing. All dimensions are in metres, unless stated otherwise.
- The topographical survey was received from Latitude Surveys, Drawing no. GPP1011-003, dated 14.11.24.
- Drawing to be read in conjunction with all other drawings. Any discrepancies are to be reported to the engineer 5 working days in advance of undertaking any work.
- The layout is subject to detailed design, capacity testing, ground investigations & earth modelling, road safety audit, utilities & services and confirmation of land ownership.
- Use of the drawing does not absolve the client from their responsibilities in regards to health & safety and CDM regulations.
- The architect's layout has been provided by Low Carbon Alliance, Drawing Number 121-10003 Rev 012, dated 22.02.25.

Key:

- Temporary Access Track
- Maintenance Access
- Access Track

Vehicle Profile

Artic

Tractor Width : 2.55	Lock to Lock Time : 6.0
Trailer Width : 2.55	Steering Angle : 42.7
Tractor Track : 2.55	Articulating Angle : 70.0
Trailer Track : 2.55	

Rev	Date	Details	By	Chkd

rappor

Infrastructure and environmental consultants

rappor.co.uk

CLIENT:

Tayio Power & Storage

PROJECT:

Radcliffe BESS

TITLE:

Swept Path Analysis - 16.5m Artic Internal

SCALE @ A3:	DATE:	DRAWN:	CHECKED:	APPROVED:
1:500	14.03.25	RC	BQ	BQ

STATUS:

INFORMATION

DRAWING NO:	REVISION:
240306-RAP-XX-XX-DR-TP-4109	-



Appendix G – ATC Data

Radcliffe ATC, A667 Ringley Road West

Direction: Eastbound

Hour Beginning	Sat 13/07/2024	Sun 14/07/2024	Mon 15/07/2024	Tue 16/07/2024	Wed 17/07/2024	Thu 18/07/2024	Fri 19/07/2024	5-Day Ave.	7-Day Ave.
00:00	44	51	44	14	19	21	24	24	31
01:00	26	22	18	11	14	15	11	14	17
02:00	14	19	13	10	13	6	8	10	12
03:00	8	10	8	10	4	8	12	8	9
04:00	8	15	16	8	11	12	12	12	12
05:00	27	23	36	45	53	55	47	47	41
06:00	48	32	127	165	178	173	151	159	125
07:00	108	61	342	392	382	422	381	384	298
08:00	206	98	374	442	428	464	446	431	351
09:00	235	138	301	329	339	295	320	317	280
10:00	311	218	257	249	247	276	276	261	262
11:00	317	259	245	220	284	286	314	270	275
12:00	345	334	272	275	288	279	401	303	313
13:00	347	287	254	280	244	328	329	287	296
14:00	319	322	276	300	308	323	341	310	313
15:00	254	355	355	403	411	359	435	393	367
16:00	313	323	484	554	513	523	490	513	457
17:00	271	250	496	596	561	502	452	521	447
18:00	224	243	266	384	384	317	287	328	301
19:00	168	166	208	205	230	259	227	226	209
20:00	142	68	162	156	184	191	166	172	153
21:00	126	56	106	100	119	143	138	121	113
22:00	92	126	74	81	91	113	122	96	100
23:00	89	64	33	39	43	49	70	47	55
Total 12H(7-19)	3250	2888	3922	4424	4389	4374	4472	4316	3960
16H(6-22)	3734	3210	4525	5050	5100	5140	5154	4994	4559
18H(6-24)	3915	3400	4632	5170	5234	5302	5346	5137	4714
24H(0-24)	4042	3540	4767	5268	5348	5419	5460	5252	4835
AM Peak	11:00 317	11:00 259	08:00 374	08:00 442	08:00 428	08:00 464	08:00 446	08:00 431	08:00 351
PM Peak	13:00 347	15:00 355	17:00 496	17:00 596	17:00 561	16:00 523	16:00 490	17:00 521	16:00 457

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Direction: Westbound

Hour Beginning	Sat 13/07/2024	Sun 14/07/2024	Mon 15/07/2024	Tue 16/07/2024	Wed 17/07/2024	Thu 18/07/2024	Fri 19/07/2024	5-Day Ave.	7-Day Ave.
00:00	45	50	35	10	15	19	21	20	28
01:00	16	14	21	10	15	10	12	14	14
02:00	15	6	11	4	6	4	6	6	7
03:00	8	13	16	8	9	12	10	11	11
04:00	9	8	16	16	13	19	21	17	15
05:00	26	23	53	67	59	64	60	61	50
06:00	48	32	166	197	187	193	191	187	145
07:00	65	45	378	481	498	458	372	437	328
08:00	137	74	425	504	451	441	536	471	367
09:00	199	125	279	311	336	296	359	316	272
10:00	258	182	200	244	238	242	263	237	232
11:00	329	259	273	252	239	277	375	283	286
12:00	353	305	225	270	267	279	405	289	301
13:00	352	261	241	246	282	277	379	285	291
14:00	284	239	261	270	337	306	372	309	296
15:00	267	231	302	326	344	311	357	328	305
16:00	284	245	379	402	443	445	415	417	373
17:00	264	207	342	424	431	495	348	408	359
18:00	250	189	281	288	299	308	285	292	271
19:00	184	159	185	198	229	212	190	203	194
20:00	137	71	166	178	181	188	177	178	157
21:00	112	41	109	131	132	107	145	125	111
22:00	94	143	53	55	78	106	109	80	91
23:00	70	77	33	44	46	53	76	50	57
Total 12H(7-19)	3042	2362	3586	4018	4165	4135	4466	4074	3682
16H(6-22)	3523	2665	4212	4722	4894	4835	5169	4766	4289
18H(6-24)	3687	2885	4298	4821	5018	4994	5354	4897	4437
24H(0-24)	3806	2999	4450	4936	5135	5122	5484	5025	4562
AM Peak	11:00 329	11:00 259	08:00 425	08:00 504	07:00 498	07:00 458	08:00 536	08:00 471	08:00 367
PM Peak	12:00 353	12:00 305	16:00 379	17:00 424	16:00 443	17:00 495	16:00 415	16:00 417	16:00 373

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Direction: Total Flow

Hour Beginning	Sat 13/07/2024	Sun 14/07/2024	Mon 15/07/2024	Tue 16/07/2024	Wed 17/07/2024	Thu 18/07/2024	Fri 19/07/2024	5-Day Ave.	7-Day Ave.
00:00	89	101	79	24	34	40	45	44	59
01:00	42	36	39	21	29	25	23	27	31
02:00	29	25	24	14	19	10	14	16	19
03:00	16	23	24	18	13	20	22	19	19
04:00	17	23	32	24	24	31	33	29	26
05:00	53	46	89	112	112	119	107	108	91
06:00	96	64	293	362	365	366	342	346	270
07:00	173	106	720	873	880	880	753	821	626
08:00	343	172	799	946	879	905	982	902	718
09:00	434	263	580	640	675	591	679	633	552
10:00	569	400	457	493	485	518	539	498	494
11:00	646	518	518	472	523	563	689	553	561
12:00	698	639	497	545	555	558	806	592	614
13:00	699	548	495	526	526	605	708	572	587
14:00	603	561	537	570	645	629	713	619	608
15:00	521	586	657	729	755	670	792	721	673
16:00	597	568	863	956	956	968	905	930	830
17:00	535	457	838	1020	992	997	800	929	806
18:00	474	432	547	672	683	625	572	620	572
19:00	352	325	393	403	459	471	417	429	403
20:00	279	139	328	334	365	379	343	350	310
21:00	238	97	215	231	251	250	283	246	224
22:00	186	269	127	136	169	219	231	176	191
23:00	159	141	66	83	89	102	146	97	112
Total 12H(7-19)	6292	5250	7508	8442	8554	8509	8938	8390	7642
16H(6-22)	7257	5875	8737	9772	9994	9975	10323	9760	8848
18H(6-24)	7602	6285	8930	9991	10252	10296	10700	10034	9151
24H(0-24)	7848	6539	9217	10204	10483	10541	10944	10278	9397
AM Peak	11:00 646	11:00 518	08:00 799	08:00 946	07:00 880	08:00 905	08:00 982	08:00 902	08:00 718
PM Peak	13:00 699	12:00 639	16:00 863	17:00 1020	17:00 992	17:00 997	16:00 905	16:00 930	16:00 830

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Radcliffe ATC, A667 Ringley Road West

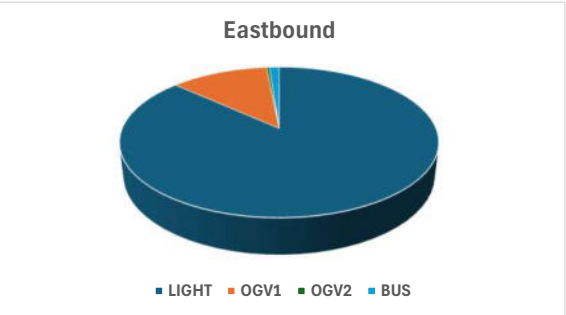
Direction: Eastbound					
	Total Volume	LIGHT	OGV1	OGV2	BUS
Sat 13 Jul 2024	4042	3646	364	4	28
Sun 14 Jul 2024	3540	3259	256	9	16
Mon 15 Jul 2024	4767	4067	633	7	60
Tue 16 Jul 2024	5268	4528	649	21	70
Wed 17 Jul 2024	5348	4601	653	24	70
Thu 18 Jul 2024	5419	4616	703	26	74
Fri 19 Jul 2024	5460	4620	734	27	79
5 Day Ave.	5252	4486	674	21	71
7 Day Ave.	4835	4191	570	17	57

Direction: Westbound					
	Total Volume	LIGHT	OGV1	OGV2	BUS
Sat 13 Jul 2024	3806	3513	263	3	27
Sun 14 Jul 2024	2999	2820	167	0	12
Mon 15 Jul 2024	4450	3948	446	12	44
Tue 16 Jul 2024	4936	4356	522	14	44
Wed 17 Jul 2024	5135	4534	527	25	49
Thu 18 Jul 2024	5122	4501	558	15	48
Fri 19 Jul 2024	5484	4766	643	21	54
5 Day Ave.	5025	4421	539	17	48
7 Day Ave.	4562	4063	447	13	40

Direction: Total Flow					
	Total Volume	LIGHT	OGV1	OGV2	BUS
Sat 13 Jul 2024	7848	7159	627	7	55
Sun 14 Jul 2024	6539	6079	423	9	28
Mon 15 Jul 2024	9217	8015	1079	19	104
Tue 16 Jul 2024	10204	8884	1171	35	114
Wed 17 Jul 2024	10483	9135	1180	49	119
Thu 18 Jul 2024	10541	9117	1261	41	122
Fri 19 Jul 2024	10944	9386	1377	48	133
5 Day Ave.	10278	8907	1214	38	118
7 Day Ave.	9397	8254	1017	30	96

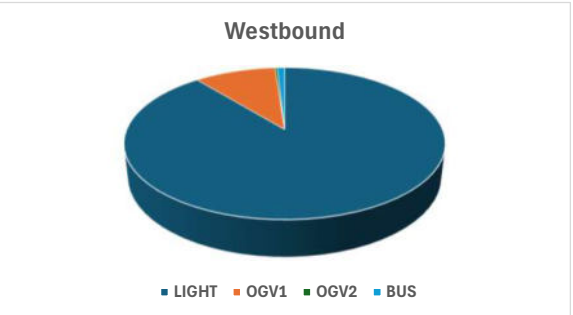
	Total Volume	LIGHT	OGV1	OGV2	BUS
Sat 13 Jul 2024	100.0%	90.2%	9.0%	0.1%	0.7%
Sun 14 Jul 2024	100.0%	92.1%	7.2%	0.3%	0.5%
Mon 15 Jul 2024	100.0%	85.3%	13.3%	0.1%	1.3%
Tue 16 Jul 2024	100.0%	86.0%	12.3%	0.4%	1.3%
Wed 17 Jul 2024	100.0%	86.0%	12.2%	0.4%	1.3%
Thu 18 Jul 2024	100.0%	85.2%	13.0%	0.5%	1.4%
Fri 19 Jul 2024	100.0%	84.6%	13.4%	0.5%	1.4%
5 Day Ave.	100.0%	85.4%	12.8%	0.4%	1.3%
7 Day Ave.	100.0%	86.7%	11.8%	0.3%	1.2%

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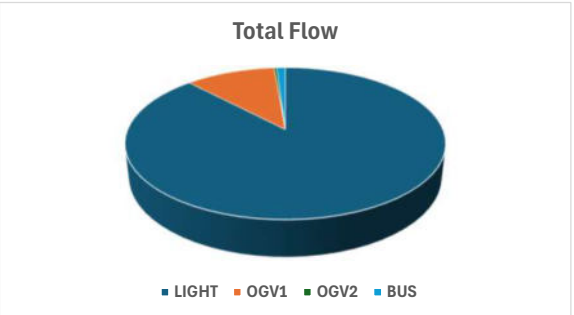
	Total Volume	LIGHT	OGV1	OGV2	BUS
Sat 13 Jul 2024	100.0%	92.3%	6.9%	0.1%	0.7%
Sun 14 Jul 2024	100.0%	94.0%	5.6%	0.0%	0.4%
Mon 15 Jul 2024	100.0%	88.7%	10.0%	0.3%	1.0%
Tue 16 Jul 2024	100.0%	88.2%	10.6%	0.3%	0.9%
Wed 17 Jul 2024	100.0%	88.3%	10.3%	0.5%	1.0%
Thu 18 Jul 2024	100.0%	87.9%	10.9%	0.3%	0.9%
Fri 19 Jul 2024	100.0%	86.9%	11.7%	0.4%	1.0%
5 Day Ave.	100.0%	88.0%	10.7%	0.3%	1.0%
7 Day Ave.	100.0%	89.1%	9.8%	0.3%	0.9%

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	Total Volume	LIGHT	OGV1	OGV2	BUS
Sat 13 Jul 2024	100.0%	91.2%	8.0%	0.1%	0.7%
Sun 14 Jul 2024	100.0%	93.0%	6.5%	0.1%	0.4%
Mon 15 Jul 2024	100.0%	87.0%	11.7%	0.2%	1.1%
Tue 16 Jul 2024	100.0%	87.1%	11.5%	0.3%	1.1%
Wed 17 Jul 2024	100.0%	87.1%	11.3%	0.5%	1.1%
Thu 18 Jul 2024	100.0%	86.5%	12.0%	0.4%	1.2%
Fri 19 Jul 2024	100.0%	85.8%	12.6%	0.4%	1.2%
5 Day Ave.	100.0%	86.7%	11.8%	0.4%	1.2%
7 Day Ave.	100.0%	87.8%	10.8%	0.3%	1.0%

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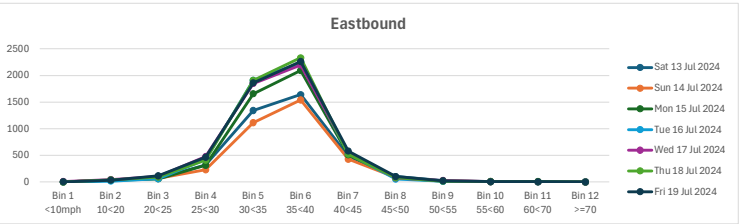


Radcliffe ATC, A667 Ringley Road West

Direction: Eastbound

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<20	Bin 3 20<25	Bin 4 25<30	Bin 5 30<35	Bin 6 35<40	Bin 7 40<45	Bin 8 45<50	Bin 9 50<55	Bin 10 55<60	Bin 11 60<70	Bin 12 >=70
Sat 13 Jul 2024	4042	41.4	35.6	5.6	5	37	70	318	1342	1641	485	103	26	10	2	3
Sun 14 Jul 2024	3540	41.5	35.8	5.5	1	33	69	231	1114	1541	426	88	22	10	5	0
Mon 15 Jul 2024	4767	40.6	35.6	4.9	0	32	60	313	1656	2094	509	78	17	4	4	0
Tue 16 Jul 2024	5268	40.3	35.3	4.8	1	18	63	422	1908	2240	535	55	13	5	6	2
Wed 17 Jul 2024	5348	40.6	35.1	5.3	9	49	102	476	1850	2197	554	75	25	7	3	1
Thu 18 Jul 2024	5419	40.6	35.3	5.1	1	40	93	410	1907	2332	521	79	18	10	8	0
Fri 19 Jul 2024	5460	40.8	35.3	5.3	4	34	116	466	1860	2261	581	102	22	6	6	2
5 Day Ave.	5252	40.6	35.3	5.1	3	35	87	417	1836	2225	540	78	19	6	5	1
7 Day Ave.	4835	40.8	35.4	5.2	3	35	82	377	1662	2044	516	83	20	7	5	1

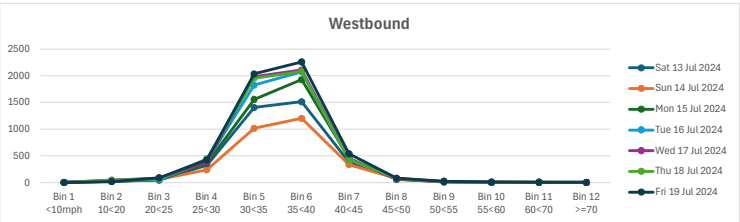
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Direction: Westbound

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<20	Bin 3 20<25	Bin 4 25<30	Bin 5 30<35	Bin 6 35<40	Bin 7 40<45	Bin 8 45<50	Bin 9 50<55	Bin 10 55<60	Bin 11 60<70	Bin 12 >=70
Sat 13 Jul 2024	3806	40.6	35.3	5.1	3	22	52	320	1407	1513	385	79	16	5	3	1
Sun 14 Jul 2024	2999	41.5	35.6	5.7	3	28	57	239	1016	1203	336	75	25	10	6	1
Mon 15 Jul 2024	4450	40.5	35.4	4.9	2	22	47	357	1558	1926	452	58	18	3	5	2
Tue 16 Jul 2024	4936	40.3	35.2	4.9	2	33	54	403	1826	2075	442	71	18	7	3	2
Wed 17 Jul 2024	5135	40.3	35.0	5.0	3	44	84	387	1979	2106	443	67	9	5	4	4
Thu 18 Jul 2024	5122	40.2	35.0	5.0	1	45	71	444	1954	2081	427	76	11	3	7	2
Fri 19 Jul 2024	5484	40.5	35.3	5.0	1	19	90	421	2036	2257	539	81	23	10	5	2
5 Day Ave.	5025	40.4	35.2	5.0	2	33	69	402	1871	2089	461	71	16	6	5	2
7 Day Ave.	4562	40.6	35.3	5.1	2	30	65	367	1682	1880	432	72	17	6	5	2

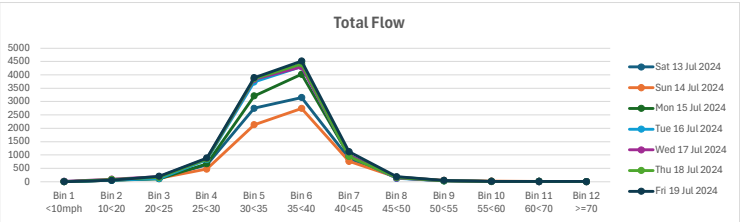
Paul Castle Associates



Direction: Total Flow

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<20	Bin 3 20<25	Bin 4 25<30	Bin 5 30<35	Bin 6 35<40	Bin 7 40<45	Bin 8 45<50	Bin 9 50<55	Bin 10 55<60	Bin 11 60<70	Bin 12 >=70
Sat 13 Jul 2024	7848	41.0	35.4	5.4	8	59	122	638	2749	3154	870	182	42	15	5	4
Sun 14 Jul 2024	6539	41.5	35.7	5.6	4	61	126	470	2130	2744	762	163	47	20	11	1
Mon 15 Jul 2024	9217	40.6	35.5	4.9	2	54	107	670	3214	4020	961	136	35	7	9	2
Tue 16 Jul 2024	10204	40.3	35.3	4.9	3	51	117	825	3734	4315	977	126	31	12	9	4
Wed 17 Jul 2024	10483	40.5	35.1	5.2	12	93	186	863	3829	4303	997	142	34	12	7	5
Thu 18 Jul 2024	10541	40.4	35.1	5.1	2	85	164	854	3861	4413	948	155	29	13	15	2
Fri 19 Jul 2024	10944	40.6	35.3	5.1	5	53	206	887	3896	4518	1120	183	45	16	11	4
5 Day Ave.	10278	40.5	35.3	5.0	5	67	156	820	3707	4314	1001	148	35	12	10	3
7 Day Ave.	9397	40.7	35.3	5.2	5	65	147	744	3345	3924	948	155	38	14	10	3

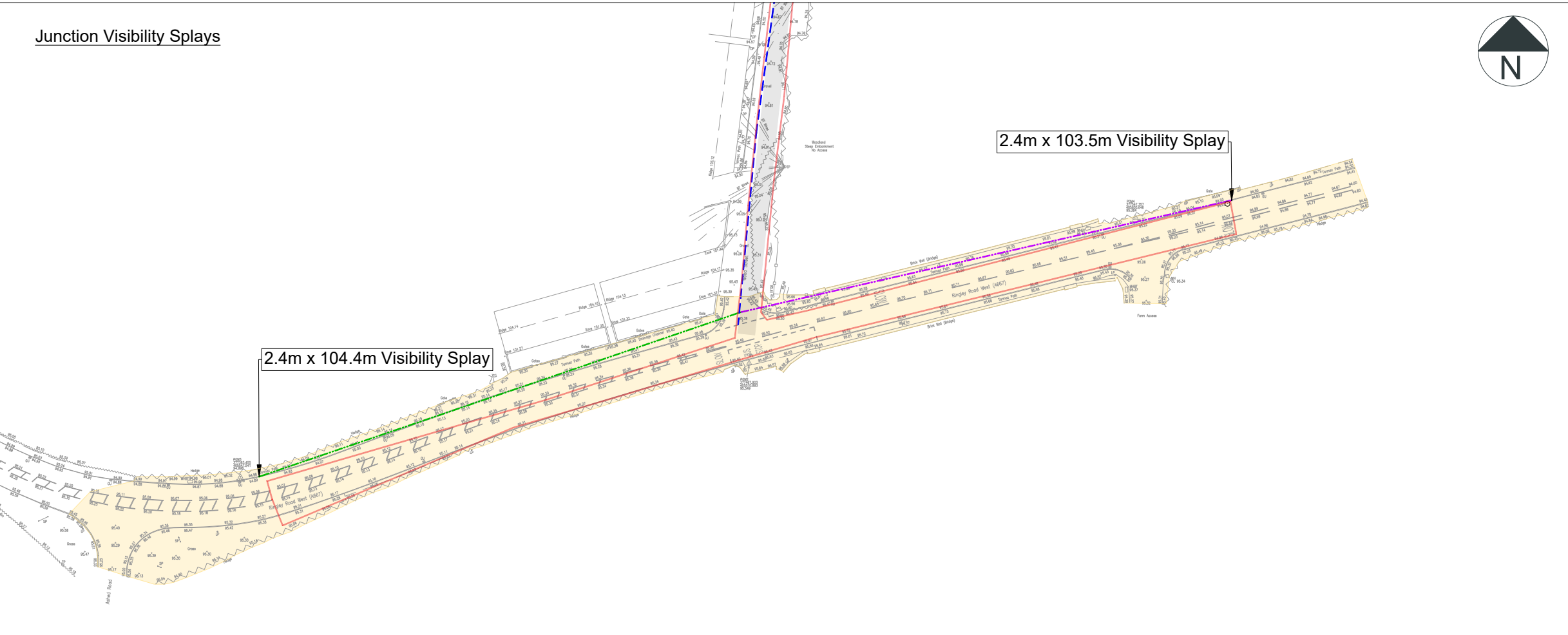
Paul Castle Associates



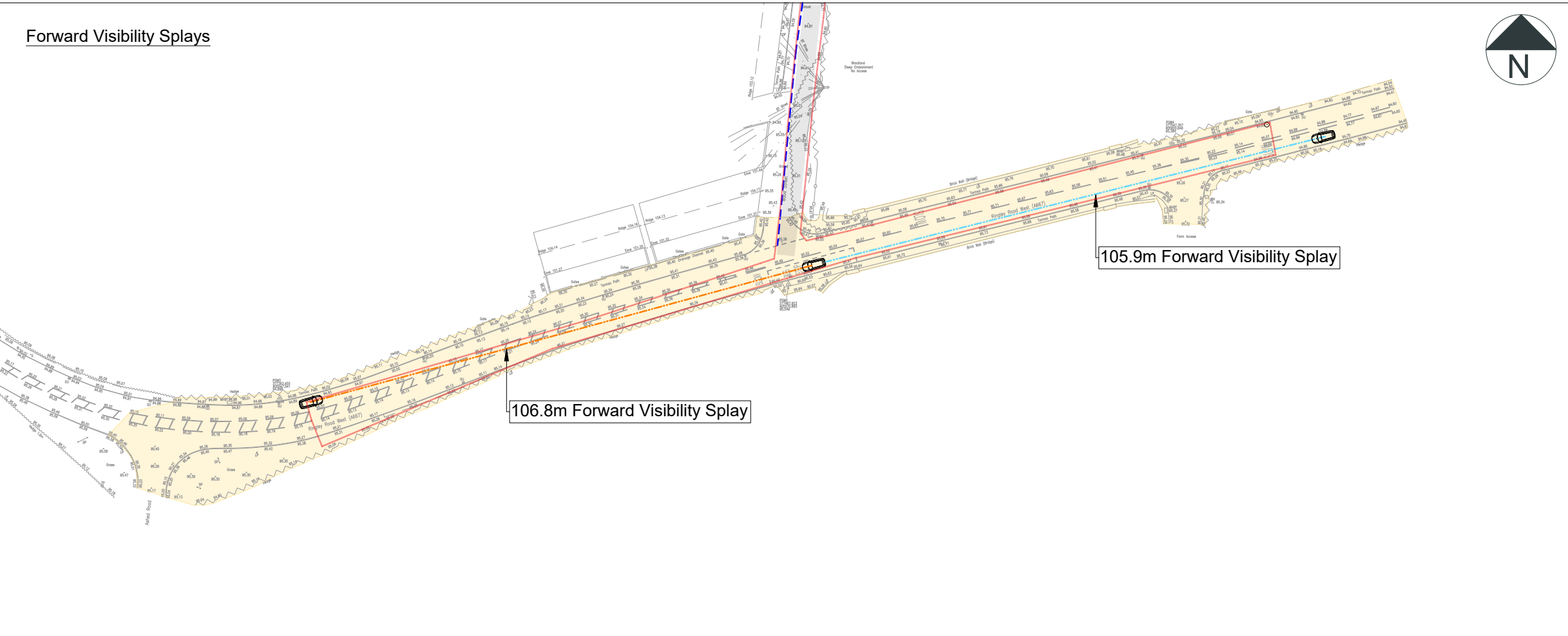


Appendix H – Visibility Assessment

Junction Visibility Splays



Forward Visibility Splays



- Notes:
- 1. Do not scale from this drawing. All dimensions are in metres, unless stated otherwise.
 - 2. The topographical survey was received from Latitude Surveys (Drawing no. GPP1011-003.
 - 3. Highway boundary information has been provided by CADCORP on June 3rd 2024, and has been overlaid by Rappor onto the Topographical Survey on a best fits basis.
 - 4. Drawing to be read in conjunction with all other drawings. Any discrepancies are to be reported to the engineer 5 working days in advance of undertaking any work.
 - 5. The layout is subject to detailed design, capacity testing, ground investigations & earth modelling, road safety audit, utilities & services and confirmation of land ownership.
 - 6. Use of the drawing does not absolve the client from their responsibilities in regards to health & safety and CDM regulations.
 - 7. The red line boundary has been provided by Low Carbon Alliance, Drawing Number 121-10003 Rev 014, dated 20.03.25. The Client should undertake legal and title checks to ensure that the red line boundary is accurate. Rappor will not accept any liability for any inaccuracies in the red line plan.

Key:

- Adopted Highway Boundary
- 2.4m x 104.4m Visibility Splay commensurate with recorded eastbound 85th percentile speeds of 40.8mph
- 2.4m x 105.9m Visibility Splay commensurate with recorded westbound 85th percentile speeds 40.6mph
- 106.8m Forward Visibility Splay commensurate with recorded eastbound 85th percentile speeds of 40.8mph
- 105.9m Forward Visibility Splay commensurate with recorded westbound 85th percentile speeds of 40.6mph
- PROW - Public Right of Way
- Temporary Access Track
- Site Boundary provided on the Site Layout

P02	26.03.25	Site Boundary Added	RC	BQ
P01	13.03.25	Job Name Updated	RC	BQ
Rev	Date	Details	By	Chkd



CLIENT:
Tayio Power & Storage Ltd

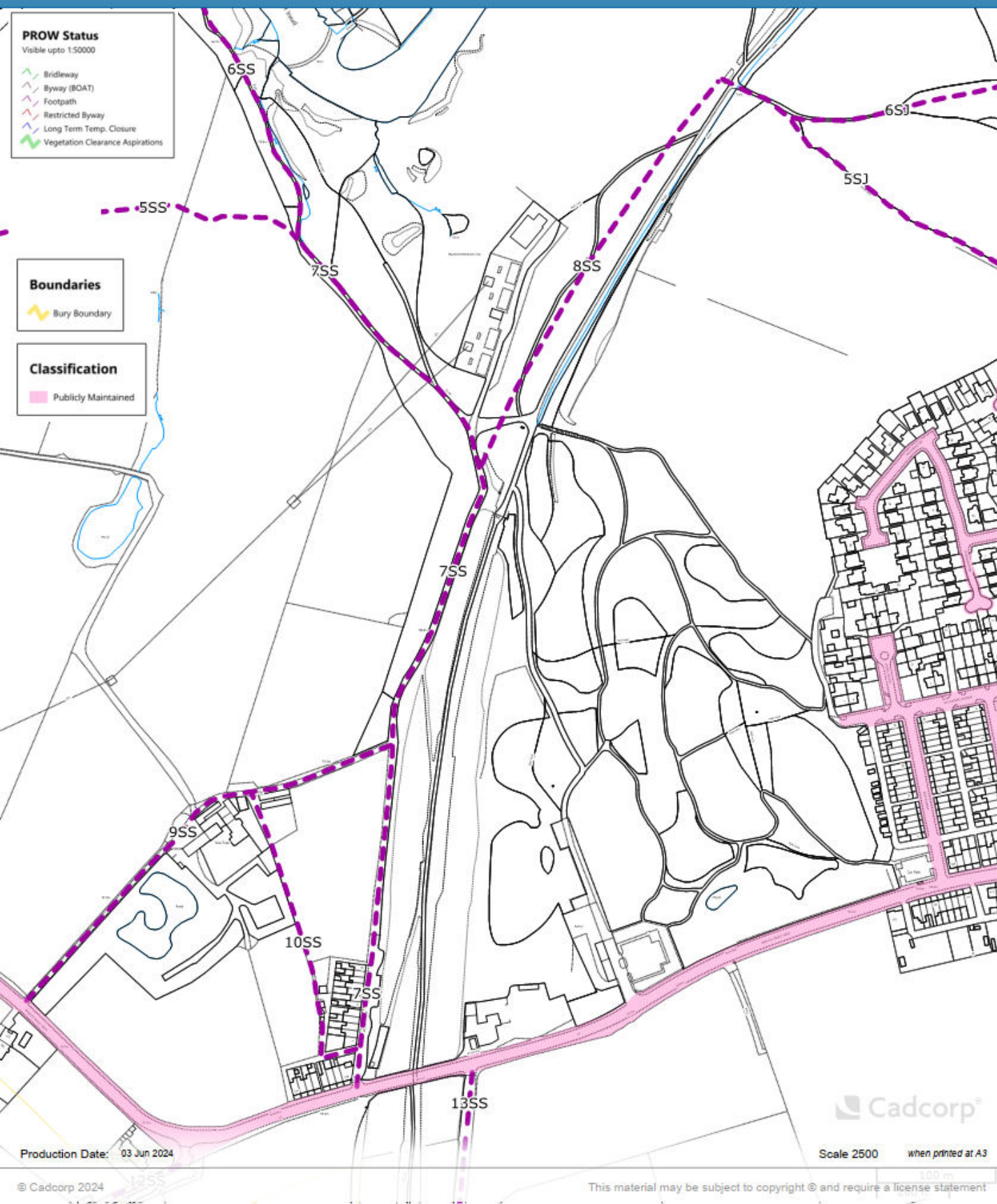
PROJECT:
Radcliffe BESS

TITLE:
Visibility Assessment - Wood Street / A667

SCALE @ A3:	DATE:	DRAWN:	CHECKED:	APPROVED:
1:1000	29.07.24	RC	BQ	BQ
STATUS: INFORMATION				
DRAWING NO: 240306-RAP-XX-XX-DR-TP-3201				REVISION: P02



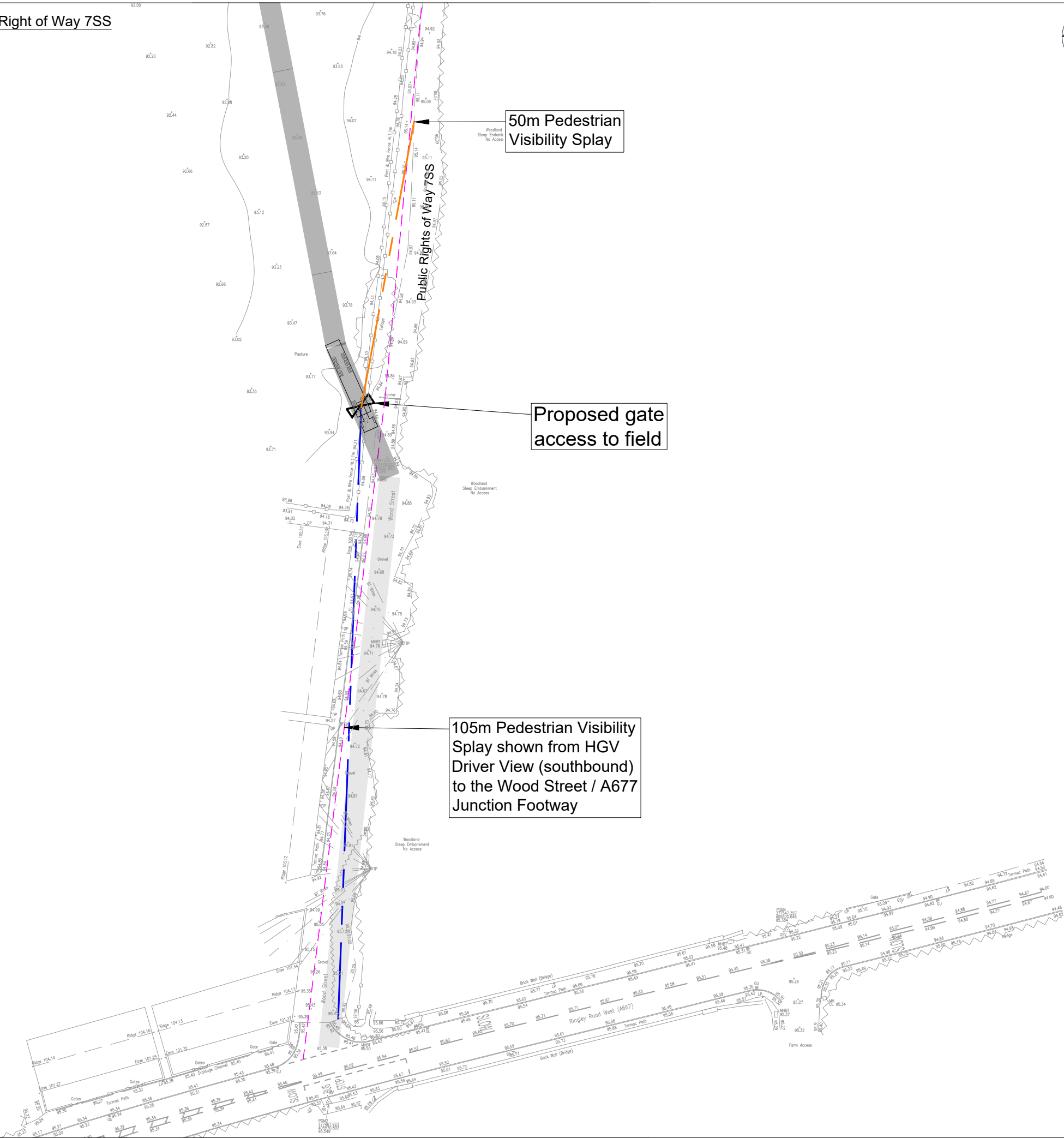
Appendix I – Highway Boundary Data





Appendix J - Pedestrian Visibility Assessment

Pedestrian Visibility - Along Public Right of Way 7SS



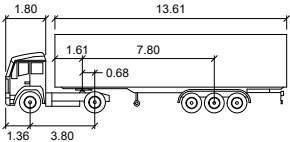
Notes:

1. Do not scale from this drawing. All dimensions are in metres, unless stated otherwise.
2. The topographical survey was received from Latitude Surveys (Drawing no. GPP1011-003).
3. Drawing to be read in conjunction with all other drawings. Any discrepancies are to be reported to the engineer 5 working days in advance of undertaking any work.
4. The layout is subject to detailed design, capacity testing, ground investigations & earth modelling, road safety audit, utilities & services and confirmation of land ownership.
5. Use of the drawing does not absolve the client from their responsibilities in regards to health & safety and CDM regulations.

Key:

- Temporary Access Track
- Public Right of Way

Vehicle Profile



Artic

Tractor Width : 2.55	Lock to Lock Time : 6.0
Trailer Width : 2.55	Steering Angle : 42.7
Tractor Track : 2.55	Articulating Angle : 70.0
Trailer Track : 2.55	

P01	13.03.25	Updated Job Name	RC	BQ
Rev	Date	Details	By	Chkd

rappor



CLIENT:
Taiyo Power & Storage Ltd

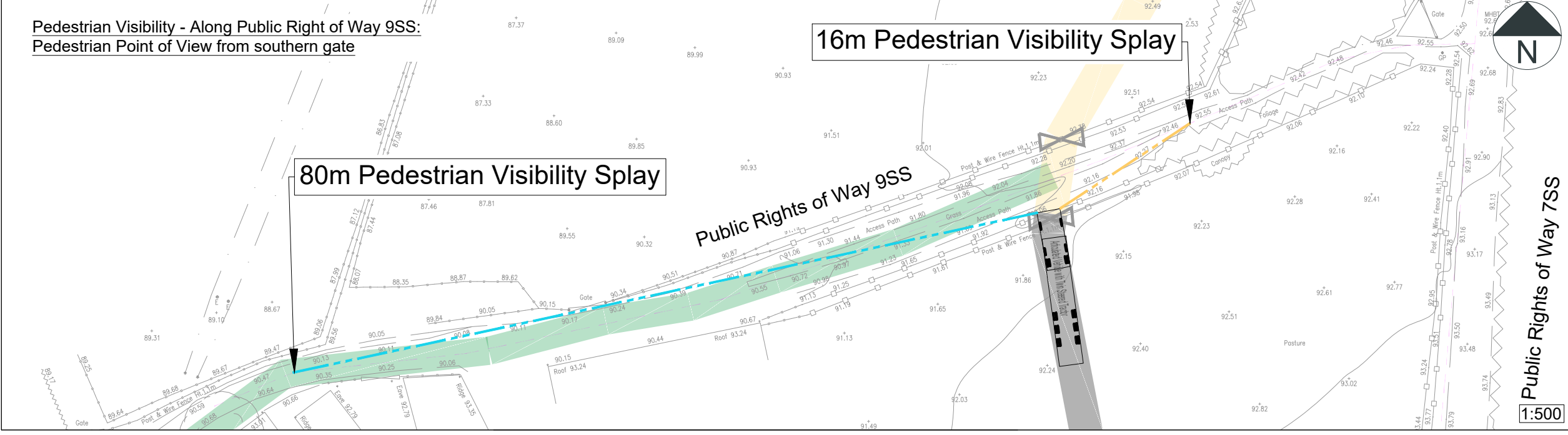
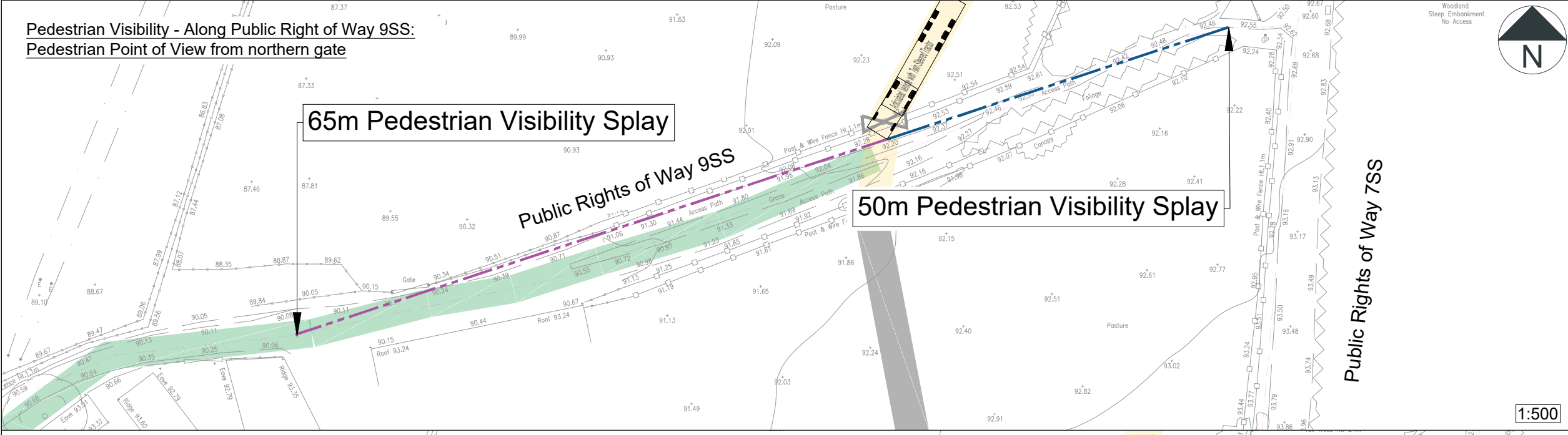
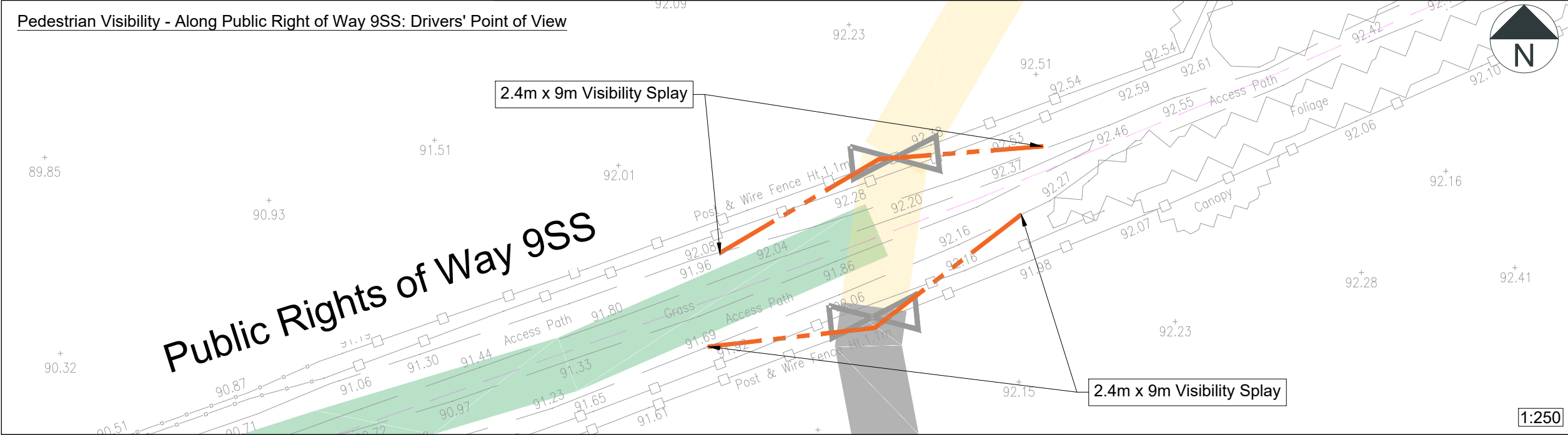
PROJECT:
Radcliffe BESS

TITLE:
Pedestrian Visibility Assessment -
Public Rights of Way

SCALE @ A3: NTS	DATE: 05.07.24	DRAWN: RC	CHECKED: BQ	APPROVED: BQ
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STATUS:
INFORMATION

DRAWING NO: 24-0306-RAP-XX-XX-DR-TP-3200	REVISION: P01
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- Notes:**
- Do not scale from this drawing. All dimensions are in metres, unless stated otherwise.
 - The topographical survey was received from Latitude Surveys (Drawing no. GPP1011-003).
 - Drawing to be read in conjunction with all other drawings. Any discrepancies are to be reported to the engineer 5 working days in advance of undertaking any work.
 - The layout is subject to detailed design, capacity testing, ground investigations & earth modelling, road safety audit, utilities & services and confirmation of land ownership.
 - Use of the drawing does not absolve the client from their responsibilities in regards to health & safety and CDM regulations.

- Key:**
- Temporary Access Track
 - Maintenance Access
 - Access Track
 - Public Right of Way

Rev	Date	Details	By	Chkd

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CLIENT: Taiyo Power & Storage Ltd

PROJECT: Radcliffe BESS

TITLE: Pedestrian Visibility Assessment - Public Rights of Way 9SS

SCALE @ A3: 1:250	DATE: 29.07.25	DRAWN: RC	CHECKED: BQ	APPROVED: BQ
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STATUS: INFORMATION

DRAWING NO: 24-0306-RAP-XX-XX-DR-TP-3203	REVISION: -
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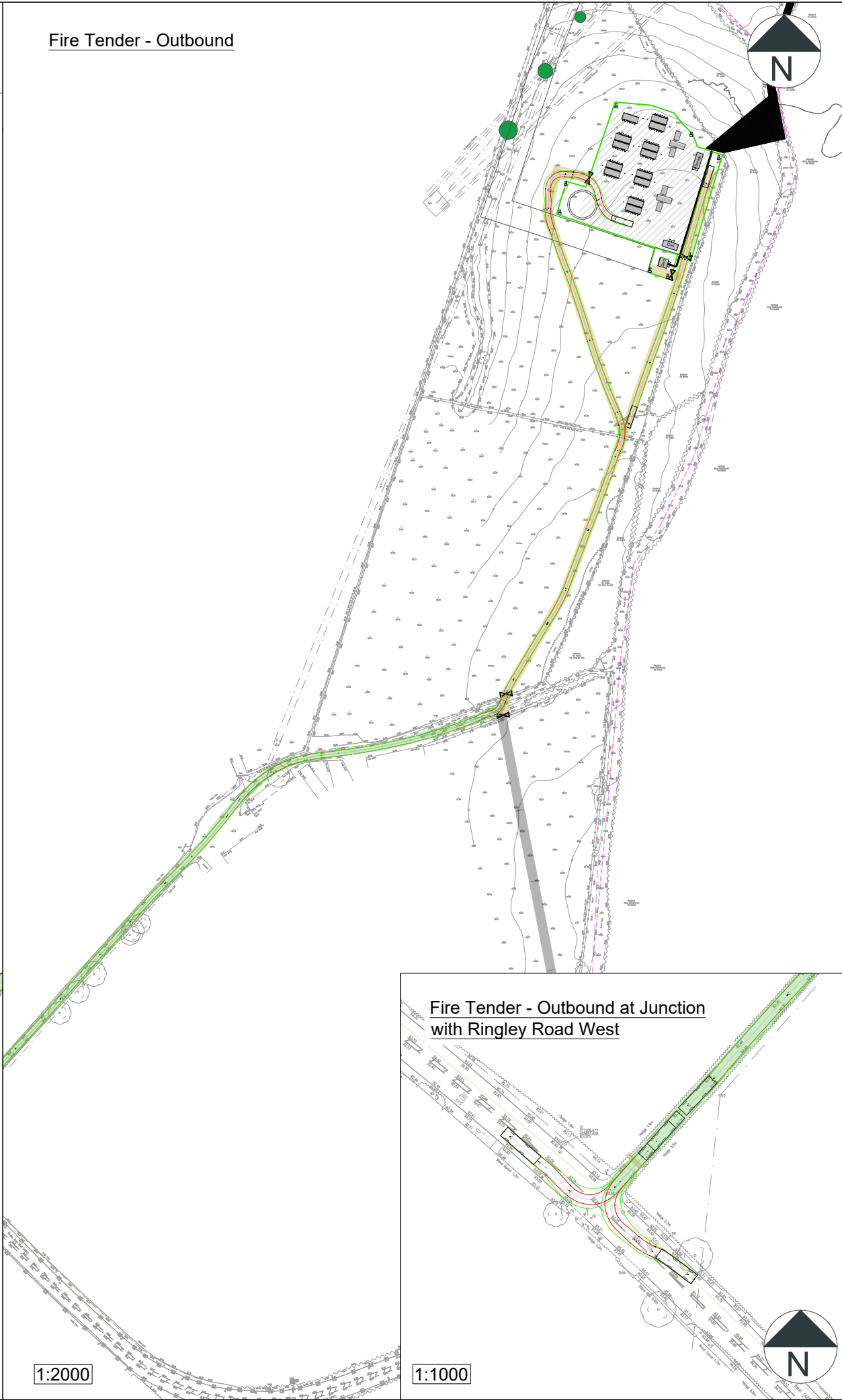


Appendix K - Swept Path Analysis – Fire Tender

Fire Tender - Inbound



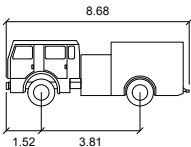
Fire Tender - Outbound



- Notes:
- Do not scale from this drawing. All dimensions are in metres, unless stated otherwise.
 - The topographical survey was received from Latitude Surveys, Drawing no. GPP1011-003, dated 14.11.24.
 - Drawing to be read in conjunction with all other drawings. Any discrepancies are to be reported to the engineer 5 working days in advance of undertaking any work.
 - The layout is subject to detailed design, capacity testing, ground investigations & earth modelling, road safety audit, utilities & services and confirmation of land ownership.
 - Use of the drawing does not absolve the client from their responsibilities in regards to health & safety and CDM regulations.
 - The architect's layout has been provided by Low Carbon Alliance, Drawing Number 121-10003 Rev 012, dated 22.02.25.

- Key:
- Temporary Access Track
 - Maintenance Access
 - Access Track

Vehicle Profile



DB32 Fire Appliance	
Width	8.68
Track	1.52
Lock to Lock Time	3.81
Steering Angle	

P02	13.03.25	Site Layout Added	RC	BQ
P01	10.02.25	Revised Routing & Swept Path Analysis	RC	RC
Rev	Date	Details	By	Chkd

rappor



CLIENT: Tayio Power & Storage

PROJECT: Radcliffe BESS

TITLE: Swept Path Analysis - Fire Tender

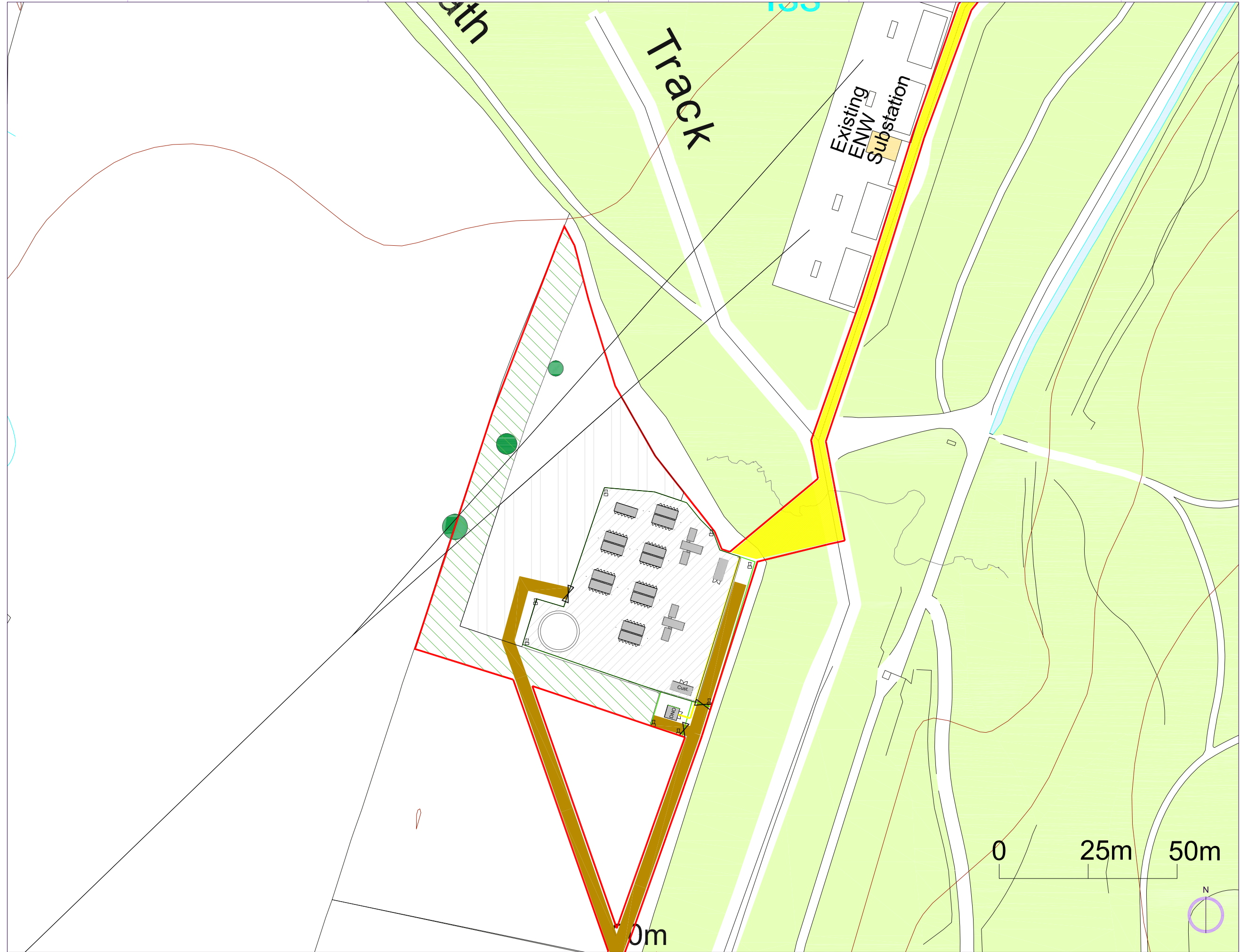
SCALE @ A3:	DATE:	DRAWN:	CHECKED:	APPROVED:
As Shown	17.01.25	RC	BQ	BQ
STATUS: INFORMATION				
DRAWING NO: 240306-RAP-XX-XX-DR-TP-4108				REVISION: P02



Appendix L – Indicative Car Parking Plan – Wood Street



Appendix M - Indicative Construction Compound Area



Notes

1. If no comment is received against the submitted document within 10 working days from the date of issue, this will be deemed as being approved.

THIS DRAWING
IS NOT FOR
CONSTRUCTION

Red Line Boundary

Security Fence

Cable Route / Corridor

Access Track

Maintenance Access

Overhead Lines

Compound Area Hardcore

Landscape Buffer

Construction Compound

Tree

Battery Container

Transformer/
Inverters

Storage

Customer Substation

DNO Substation

CCTV

Gate

Water Tank

Drawn By	Checked By	REV	014
MSTP	CD		
Date	Approved By		
24.03.25	CD		

PROJECT	Radcliffe BESS		
TITLE	Proposed Site Layout With Construction Compound Area		
CLIENT	Taiyo Power & Storage Ltd.		

STATUS			
Sheet No	Bess Compound	Sheet Size	
ENTERSHEETNO	1	A3	
Scale	Drawing Number		
1:1000	121-10024		



Appendix N - Construction Traffic Vehicle Movements

Delivery / Activity	Month					Total Deliveries	Total Two-Way Movement
	1	2	3	4	5		
	HGVs						
Site mobilisation / demobilisation	15				15	30	60
Access tracks and hardstanding	25	25				50	100
Small Crane (delivery and removal)		1		1		2	4
Battery containers, associated infrastructure and cabling delivery		35	35			70	140
Substation and storage buildings			6	6		12	24
Concrete delivery		50	50			100	200
Foundation steel	5					5	10
Miscellaneous deliveries, incl. fencing, CCTV, cable, sand	5	10	10	10	5	40	80
Fuel	4	4	4	4	4	20	40
Sub-Total Number of Deliveries	54	125	105	21	24	329	-
Sub-Total Two-Way Movement	108	250	210	42	48	658	-
	Staff Cars and Vans						
Testing and Commissioning				5	10	15	-
Staff	780	780	780	780	780	3,900	-
Sub-Total	780	780	780	785	790	3,915	-
Total (All Vehicles)	888	1030	990	827	838	4,573	-
Total (HGV only)	108	250	210	42	48	658	-
Average Total Traffic per Day*	34	40	38	32	32		
Average HGV per Day*	4	10	8	2	2		

* Assumes 26-day working month

*15 staff members - 30 two-way movements per day x 26 day working month

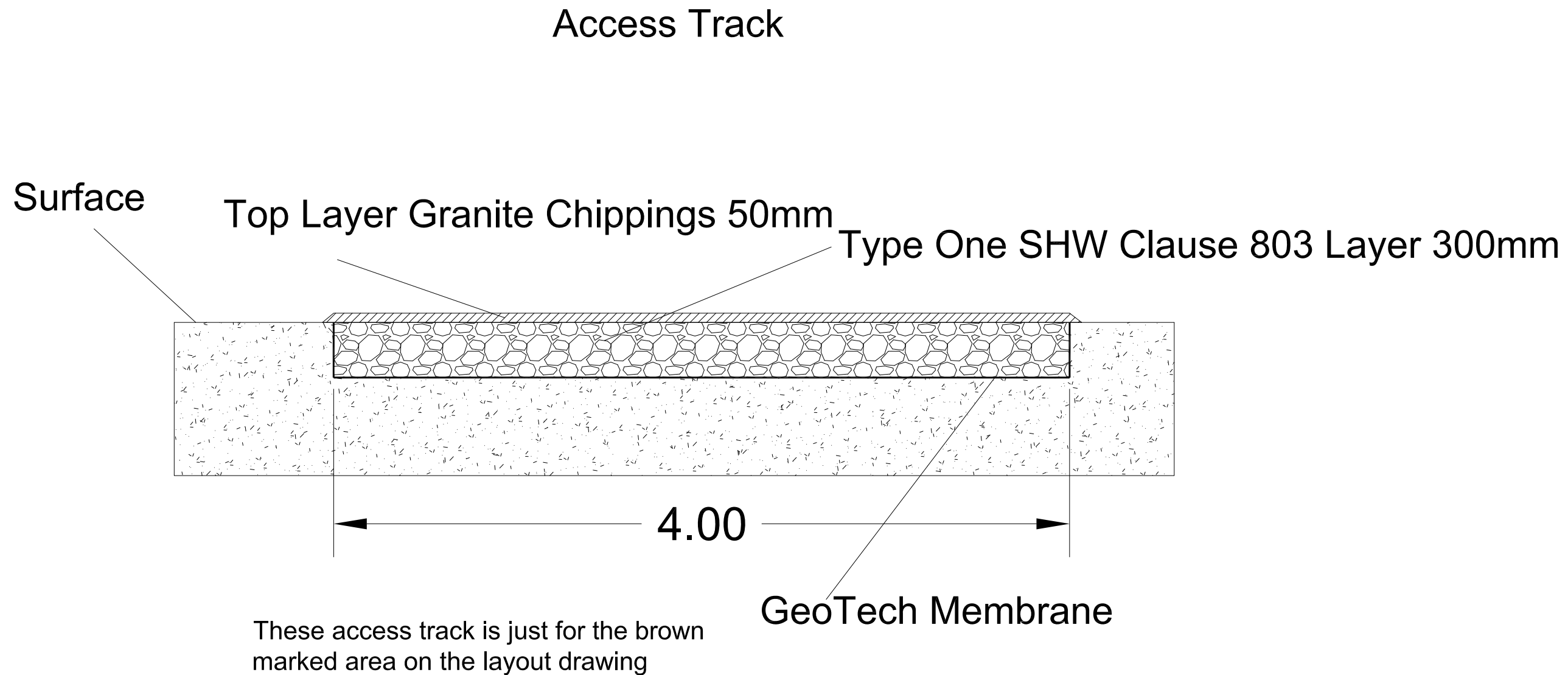


Appendix O - Proposed Temporary Construction Access Track Composition and Fencing

**Notes**

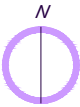
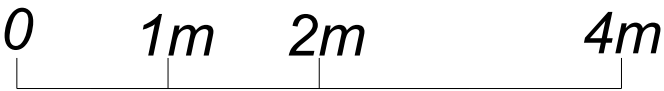
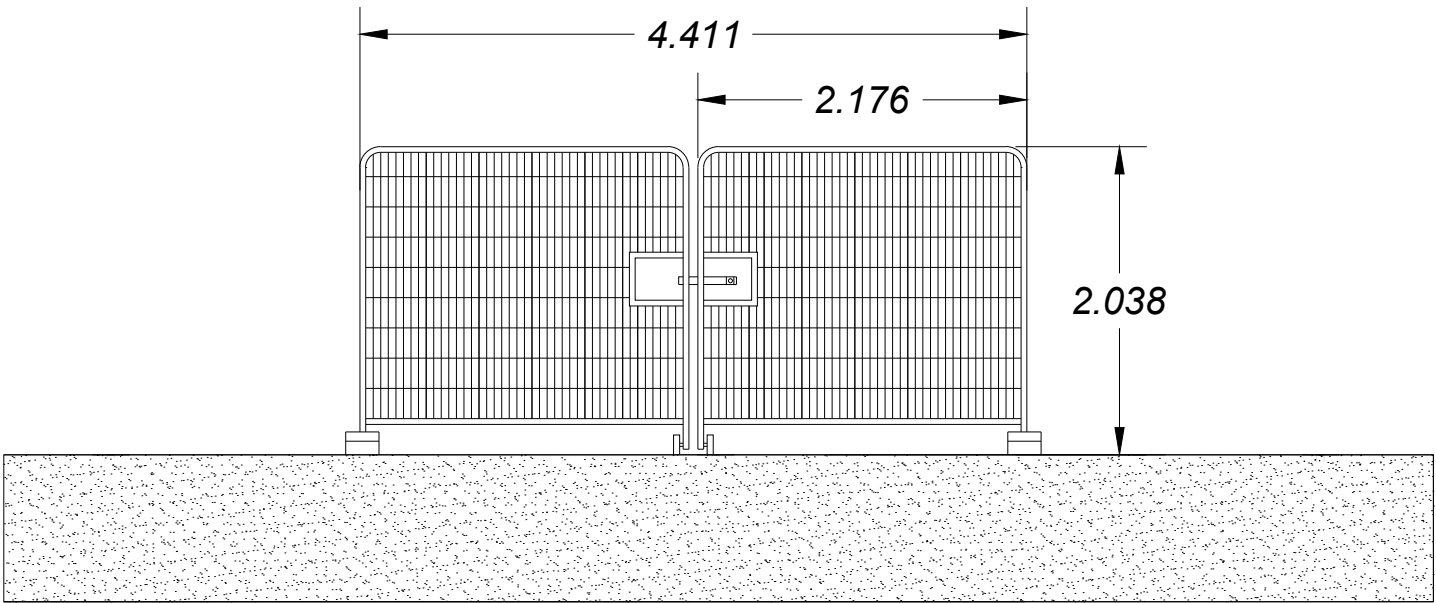
1. If no comment is received against the submitted document within 10 working days from the date of issue, this will be deemed as being approved.

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Drawn By	Checked By	REV	003
MSTP	CD		
Date	Approved By		
20.03.2025	CD		
PROJECT		Radcliffe BESS	
TITLE		Access Track	
CLIENT		Taiyo Power & Storage Ltd.	
STATUS			
Sheet No	Access Track		Sheet Size
ENTERSHEETNO	1		A3
Scale	Drawing Number		
1:25	121-10008		

FRONT VIEW



Notes

1. If no comment is received against the submitted document within 10 working days from the date of issue, this will be deemed as being approved.

THIS DRAWING
IS NOT FOR
CONSTRUCTION

- Red Line Boundary
- Fence
- Cable Route
- Access Track
- Battery Container
- Transformer/ Inverters
- Storage
- Customer Substation
- DNO Substation
- CCTV
- Gate
- Cable Route Corridor

Drawn By	Checked By	REV	001
MSTP	CD		
Date	Approved By		
18/07/2025	CD		
PROJECT		Radcliffe BESS	
TITLE		Temporary Heras Fencing Gate	
CLIENT		Taiyo Power & Storage Ltd.	
STATUS			
Sheet No	Overall Layout		Sheet Size
ENTERSHEETNO	1		A3
Scale	Drawing Number		
1:50	121-10015		

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