

**Creag Dhubh to Inveraray 275 kV OHL
Connection Environmental Impact
Assessment
Volume 4 | Technical Appendix 12.2
Construction Traffic Management Plan**

March 2022



North Argyll-Inveraray OHL 275kV Reinforcement Project

TRAFFIC MANAGEMENT PLAN

CUSTOMER:	SSEN
CONTRACT:	North Argyll – Inveraray OHL 275kV Reinforcement
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P02	22/03/22	Revision for Changes	RC	
P03				
P04				

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1.0 Record of Review

The Traffic Management Plan and site arrangements shall be monitored informally on a daily basis and form part of the Project programmed inspection/audit regime and reviews.

The Traffic Management Co-coordinator will review the Plan every 4 weeks or when any significant changes that affect the safe passage of vehicles and pedestrians occur.

The Traffic Management Plan will be treated as a LIVE document and as such, any updates will be shared with all key stakeholders.

1.1 Document Control Sheet

Date	Details of Review	Action Taken	Signed
16/02/22	P01	2022 Review of TMP to align with agreed OHL Route	RC
22/03/22	PO2	Changes to Site Access	RC

2.0 Introduction

2.1 Introduction to Project

In order to meet its license obligations, Scottish Hydro Electric Transmission Plc (SHE Transmission) is required to provide a new 275 kV transmission connection, between the existing Inveraray to Crossaig 275 kV overhead line and the new Substation at Creg Dhubh. The main drivers for the project are the forecast growth in renewable electricity generation across Argyll and the need to reinforce the electricity transmission network to transport that electricity to areas of demand, supporting the transition to net zero emissions.

Following recent SSE consultation of the OHL options with local public, authorities and statutory boards, SSE has engaged with Balfour Beatty to undertake additional Part A works related to the new proposed OHL connection from Tower IC15 Inveraray – Crossaig to the proposed Substation at Creg Dhubh.

The new overhead line will consist of L8(c) Towers with 2 x 500mm² NNA AAAC (Rubus) phase conductor and 1 x 160mm² NNA AACSR (Keziah) OPGW earthwire. In addition, there will be modifications required to the existing 275kv Inveraray to Crossaig circuit OHL in order for it to tie-in to the new OHL Route. The ITE/ITW 132kv OHL crosses the new 275kvOHL Route so a cable diversion off Woodpole structures will remove this interface. A temporary 132kv Connection is also required within Creag Dhubh Substation and the realignment of the existing ITE/ITW route will be required utilising temporary structures. The 2022 phase of works shall include the Part A Design of the new overhead Transmission Line system described above and all associated works and should also include, but not limited to, the following:

- *Programme*
- *All necessary Site Walkovers*
- *Environmental Surveys*
- *All necessary ground investigation & any temporary access works.*
- *Trial Holes*

2.2 Introduction to Traffic Management Plan

The Traffic Management Plan (TMP) has been developed to provide information on the impacts of construction traffic to existing users on the public highway network caused by the North Argyll-Inveraray OHL Reinforcement Project. Balfour Beatty PT&D recognises the importance of this document and has taken the necessary steps to engage in discussions with the relevant stakeholders (i.e. Local Authority, Transport Scotland, BEAR Scotland, Local Landowners and other affected bodies such as the local Forestry Commissions and SEPA).

The TMP sets out the strategy and measures to be adopted within the project in respect to construction traffic in order to:

- Facilitate site access points and routes for the delivery of construction materials and equipment;
- Provide temporary access routes within site working areas where necessary

- Carry out construction activities within prescribed times as may be required within the planning consent.
- Maintain communication with local authorities and residents throughout construction activities and monitor the conditions of the highway surfaces.

The TM Plan for this project identifies the hazards, constraints and logistics associated with Balfour Beatty and their sub-contractors using the local road network to access/exit access tracks to individual overhead line towers. The TM plan sets out the arrangements that are required to be implemented by the Principal Contractor throughout the duration of the works to ensure the health and safety of the public, traffic and project construction personnel.

The TMP for the project will look at minimising the interface wherever possible between the Public and Site Traffic, and Balfour Beatty will aim to reduce the number of deliveries, construction traffic/plant where practicable, including the staggering of works such that the volume of traffic is kept as even as possible avoiding peaks, and controlling vehicular movements on the project

Traffic Management requests will be submitted by Balfour Beatty PT&D to the Local Authority/BEAR Scotland via SSE using a 'Symology Report' or by directly applying to BEAR Scotland using their 'Network Access Request Form'. The arrangements for Traffic Management will be communicated to the public and local community directly affected via the SSE public liaison officer. Other methods of communication which can be implemented by the project team include letter drops to landowners in the immediate vicinity to planned TM works, web update notices communicated via SSE website and local press releases as and when required.

It is intended that the TMP is a LIVE document that will be updated and modified as agreed with the relevant authorities as the Project progresses and as details are clarified prior to the start of works on site. The TMP may also need modification to reflect other developments in the area whose details are uncertain but, subject to their programmes and progress, may have a cumulative effect on the public highway network at the time of construction of the Project.

3.0 Traffic Management – Key Project Information

3.1 North Argyll-Inveraray Reinforcement Project Organogram



This is the current organogram for *Part A* works in 2022 and will be updated prior to the commencement of the project *Part B* phase.

3.2 Traffic Management Co-ordinator

The Traffic Management Coordinator (TMC) for the project is responsible for compliance with this document on site and will liaise with the Project Manager on any aspects of the plan that need changing, updating or escalating externally with clients and subcontractors.

The TMC will also be responsible for briefing the requirements to the Traffic Management Supervisors and ensuring day to day compliance.

The TMC will act as the Balfour Beatty focal point with the TM contractor for all site related TM activities and will hold a valid in date National Roads and Street Works Act 1991 (NRSWA) ticket.

The designated TMC and deputy for the North Argyll-Inveraray Reinforcement project is detailed below.

NAME	POSITION	CONTACT DETAILS
Rob Christie	TM Co-ordinator	07971 614155
Colin McRae	Deputy TM Co-ordinator	07875 340351

TMC Duties:

- Liaise and coordinate with Transport Scotland/BEAR Scotland and Local Authority, Police, Site management and Client's Representative in all matters relating to traffic management activities.
- Ensure that all schemes are designed and implemented to meet the Employer's and *Company* requirements, ensuring that the principles contained in the following documents are used to design and plan the measures to be taken to ensure the safety of both our operatives and the travelling public: "*Guidance for Safer Temporary Traffic Management*", *Chapter 8 of the Road and Traffic Signs Manual* and "*Safety at Street Works and Road works*" *Code of Practice*
- Liaise closely with TM contractor during preparation and submission of Method Statements, Risk Assessments and emergency procedures for Traffic Management Activities.
- Ensure that all persons working within the TM are inducted into the safe means of access and egress, rules for working within TM and emergency procedures including break-downs.
- Ensure that all personnel directly or indirectly engaged in the works, on or near the highway, wear the appropriate high visibility clothing and PPE in accordance with current regulations.
- Inform all personnel employed on the works of any changes to the TM system, which may affect their access to the site, or their working conditions.

The TM Coordinator Deputy role and responsibilities is as above when primary TMC representative is not available on site.

3.3 Traffic Management Supervisor & Plant/Vehicle Marshalls

Traffic Management Supervisor

Traffic Management Supervisors (TMS) will be responsible for day to day application of the document on site, ensuring compliance with all BB staff, operatives, contractors and clients. The TMS will coordinate all works with the Plant & Vehicle Marshalls.

The designated TM Supervisors for the North Argyll – Inveraray Reinforcement project is detailed below.

NAME	POSITION	CONTACT DETAILS
Rob Christie	Senior Project Manager	07971 614155

Plant & Vehicle Marshalls

All on site reversing operations and the movement of plant/deliveries will be supervised and controlled by a Balfour Beatty trained and authorised Plant and Vehicle Marshal (PVM). The PVM will be identifiable on site by means of (Orange) Hi-Viz clothing. The PVM in the gang shall be nominated at the start of each day and noted on the daily site risk assessment.

3.4 Traffic Management Programme

The traffic management programme will be continually reviewed as the works progress and the document will be updated to suit the overall project timeline. Any activity sequence changes will be communicated, and the TM programme will be updated accordingly.

3.5 Traffic Management Drawing Register and Drawings

All site-specific traffic management drawings will be provided by the TM sub-contractor. The TM project drawing register and drawings will be produced during *Part B*, an example drawing is included in **Appendix A** for reference.

4.0 Project Operational Details

4.1 Hours of Working

Normal working hours for the project works shall be restricted to the hours of 07:00-17:00 Monday to Friday in the winter months and 07:00-19:00 in the summer months.

Normal working hours for the project works shall be restricted to the hours of 07:00-16:00 Saturday & Sunday in the winter months and 07:00-17:00 in the summer months.

In the event that an extension to normal working hours is required, Balfour Beatty will provide as much advance notice as possible and will review with the relevant bodies and local authorities with respect to potential noise/light pollution and any overnight traffic management directly resulting from the works. Due to the nature of the works, there may be the requirement for 24hour/7 day working on call for certain aspects and periods of the construction to suit operational constraints.

4.2 Local Area and Impacted Trunk Roads

The project works will be focused on 34 No. tower locations between Inveraray (Sallachry) and the proposed new substation at Creag Dhubh. During the Part B works, due to the tower locations, significant civil infrastructure works are required to provide safe access for construction works to commence; accessing the new or existing stone access tracks is only possible via the A819.

However, at this stage of the project, in this initial Part A phase, almost all work locations will predominantly be accessed using tracked, ATV and 4x4 vehicles. Refer to *Section 9* for more details on the identified access points/bellmouths off the A819 roads.

The key roads identified as part of the proposed project is the A819. The A819 is a main road linking the A83 with Inveraray in the south and the A85 in the north. Based on the current OHL route selection, all 34 No. Towers will be accessed off the A819. The surrounding area of the proposed OHL route is primarily rural/forested land with a small number of private land/estates. The table (1.0) below provides a breakdown of proposed Tower locations and landowner status/information.

Tower Number	Access Proposed/Location Info
Proposed New Tower Position 1-10 ITE-ITW 34-37 Woodpole Diversion Creag Dhubh Substation ITE-ITW 23-26 Woodpole Diversion	Existing Bellmouth, approx. 11.5km North of Inveraray What3words: ///terminal.conclude.instilled
Proposed New Tower Position 6-16 ITE-ITW 23-26 Woodpole Diversion	New Bellmouth, approx. 7.5km North of Inveraray. Access between Sheep Pen area and North Tullich What3words: ///ambushed.offer.jokes
Proposed New Tower Position 10-27 ITE-ITW 23-26 Woodpole Diversion	New Bellmouth, approx. 6.5km North of Inveraray. Access between Sheep Pen area and North Tullich What3words: ///expansion.typed.woods

Proposed New Tower Position 17-31	Existing bellmouth approx. 4km North of Inveraray at Three Bridges What3words: ///stiletto.covertly.operating
Propose New Tower Position 32-34 (Inc Temporary ST Tower). Access required to existing IDW/IAE Towers 16-20	Existing Bellmouth approx. 2km North of Inveraray What3words: ///buffoon.gears.attention

Table 1.0 – Tower Locations (Pre-lim) & Impacted Areas & Landowners

Note: Refer to **Appendix E, Part A Access Maps** for more details.

4.3 Key Events

Balfour Beatty PT&D will look to ensure that the traffic management proposals take into account any high level public events, dates and public holidays so that the works can be planned, where possible, to avoid impacting on the traffic flow and movement along the A819.

Planned *Part A* works which will involve the use of the road networks are scheduled to start July/Aug 2021 for short period (< 3 weeks). Further review and expansion on peak construction works and timelines will be provided prior to commencement of the *Part B* phase of the project.

Upcoming Key Events in the local and surrounding areas are contained in Table 2.0 below. This also includes key events around Scotland which could result in an increase in traffic for commuting to and from the events along the A85/A819/A83. The event calendar will be reviewed as required throughout the duration of the works and any updates will be included and communicated to the project team and TM contractor.

Event	Expected Date/Period
Annual Oban Highland Games	August
Oban Winter Festival	November
School Summer Holidays/Easter Break	July-Aug & Apr Annually
Hogmanay Festivals around Scotland	December/Annually
Gig in the Goil (Festival Music)	TBC
Dalmally Stock Market	Various

Table 2.0 – Expected Key Events in Local Area

NOTE: Some of the events and dates are subject to change and may be impacted by COVID19 restrictions/cancellations if this is still a risk during the construction phase of the project.

The Dalmally stock market takes place periodically throughout the year. The market attracts a large number 4x4 vehicles towing trailers with live stock. These vehicles can be travelling relatively slowly due to the sensitive nature of the cargo. Enough space should be allowed for these vehicles travelling on the public road.

Any TM restrictions during certain time periods which are relayed by both the Local Authority and Transport Scotland or BEAR Scotland to Balfour Beatty will be adhered to at all times. This will be dealt with on a case by case basis.

Typically, from experience on previous projects, no TM may be permitted or granted by Transport Scotland/BEAR Scotland during the Easter Weekend and key 'peak' traffic times of the year. All planned works requiring TM will be planned and scheduled accordingly.

5.0 Construction Traffic

The project works will involve a number of multi-discipline simultaneous operations (SIMOPS) which will each require their own specific vehicles, plant and material deliveries.

5.1 Types of Construction Traffic & Movements

Refer to **Appendix B** for breakdown of all vehicle/plant anticipated for the North Argyll – Inveraray Reinforcement Project. Note: This is an estimate at this time and will be finalised during Part B.

Construction traffic types will be varied throughout the duration of the project, from delivering/collecting heavy plant and equipment to daily deliveries of material including stone and concrete. As the Principal Contractor, Balfour Beatty PT&D will look to actively pursue methods of reducing the number of vehicle movements on the public road where possible.

5.2 Site Deliveries

Deliveries to site shall be scheduled to the working times of the site. Any deliveries to be made out with the working day will be reviewed on a case by case basis taking into account a number of factors including, time and impact on local community, noise and traffic disruption. Contractors will be required to give details of proposed timings of material deliveries to the site. At this stage they will be given a specific area for delivery with key maps and access routes including direction of travel, turning points and any site-specific hazards.

All delivery drivers will be notified in advance that they must report to the Balfour Beatty site office or otherwise stated controlled access point upon arrival on site, to be instructed and controlled by the designated PVM and Site Engineer. On arrival to site, the PVM shall brief the external company delivery driver using the site delivery flash card before work commences. A copy of the project flashcard can be found in **Appendix C**. In the event of offloading within a TM area, controlled access/egress will be taken into account for the design of each TM system. This plan will be subsequently shared with the external delivery/Haulage Company.

5.3 Plant & Vehicle Cleaning

As highlighted in Section 5.2, delivery wagons/drivers will be advised in advance to the access routes and as such should use only the designated roads and tracks when travelling and exiting/entering the A819 from the access tracks. This will help to reduce the potential for excess dirt/muck attaching to the wheels of the wagon/lorry. Any driver found to be driving off-track will be reported and removed from site by site management.

In the event of bad weather or muck being displaced onto the trunk road, additional road sweeping measures may be employed as and when required. Balfour Beatty will look to have an agreement in place with a local road sweeping contractor with a view to having a road sweeper available throughout the duration of the works on an on-call basis.

The site supervisor and PVM will be responsible for carrying out daily checks of the access points and will report any mud deposits to site management immediately.

6.0 Maintaining Access and Public Services

6.1 Private Roads/Access

A number of towers are located on private land and as such, access to these towers will be gained via either a new access track or upgrade of an existing stone access track. Any access requirements will be addressed as required and Balfour Beatty PT&D will liaise with SSEN Land/Wayleaves Manager to gain prior approval with the landowner before commencing works and allowing construction traffic to pass through.

Whilst it is not foreseen to be an issue, in the event that the Temporary Traffic Management System directly affects access to a landowner's private house/land, Balfour Beatty in conjunction with the TM contractor will look to ensure there is always a suitable method of access/egress for the private landowner.

6.2 A85/A819/A83 Parking/Rest Bays

In the event that the proposed TM plans associated with our works impact on the parking bays sited on the A85/A819/A83 the Local Authority and Transport Scotland will be consulted well in advance. To maintain the safety of the workforce and TM team, the parking bay would be temporarily closed during the duration of the TM system.

To avoid disruption to the public and traffic, where possible all site construction traffic will be advised to avoid using the existing parking bays along the A85/A819/A83; in particular when wagons, articulated trucks & low loaders are delivering plant or construction material to the project. The site team will ensure that all deliveries are organised and known in advance and if delays result in being unable to accept deliveries at site, drivers will be encouraged to park up at Balfour Beatty yard areas to avoid blocking public parking bays and this will be advised to all Contractors and Delivery companies employed either directly or via 3rd Parties for the duration of the project.

6.3 Bus Routes

The scope of works and associated TM plans are not anticipated to have a direct impact on the local bus routes. If any local bus stops along the A85/A819/A83 are likely to be affected, Balfour Beatty will liaise with the Local Authority and Public Transport provider to discuss further and come to a solution. Bus tours and long haul buses coming from Glasgow and beyond are again not expected to be adversely impacted as a result of the projects TM plans and as such no steps have been taken to consult with the transport providers (e.g. Stagecoach/Megabus/Lochs and Glens/CityLink). In the event that the works are found to have the potential to impact the service providers, Balfour Beatty will act accordingly to open communication channels with them alongside the Client, SSEN.

6.4 Impacts to Residential Streets

Balfour Beatty PT&D do not expect to require any parking in housing estates/built up areas/villages. All other works access will be via new/existing access racks located off the A85/A819/A83. The access tracks are mainly located in privately managed forests / private land with the terms of access being agreed via SSEN. Access for construction traffic through Dalmally (via train station and Duncan ban road) is prohibited and will not form part of the projects access routes.

7.0 Site Compound and Site Traffic Rules

7.1 Site Office

The projects main site office will be located within an appropriate and approved site yet to be confirmed. Once confirmed for *Part B* works details of the Site Office and Yard layout will be included as an appendix.

Note: For the *Part A* works in 2022, BB will be located in a temporary yard to house welfare and laydown of materials. The laydown yard location has still to be agreed.

7.2 Site Traffic Rules

- All visitors and new staff must have a site induction. During the induction personnel will be made aware of the Traffic Management Plan and site rules.
- Prior to entering a site, the site supervisor will brief personnel on the site hazards and ask you to sign onto the daily site risk assessment, stating that the hazards and control measures have been briefed and fully understood.
- When on site, pedestrians must stick to the segregated areas and are not to approach moving vehicles, or vehicles with the engine running without prior approval from the driver.
- Pedestrians are to stay vigilant and visitors are to be escorted by the plant and vehicle marshal or coordinator on an active site or at site yards.
- Pedestrians must not go through any closed barriers or move any cones preventing access. Only enter these work areas under the direct supervision of an appointed PVM and beware items of plant and machinery and personnel working in the vicinity.
- Off-public site roads; speed limit is **10 mph**, with a reduction to 5 mph when passing work activities.
- The use of seat belts in both vehicles and plant is mandatory.
- No use of mobile phones whilst driving or operating plant and no eating, drinking or smoking whilst driving or operating plant.
- All reversing to be controlled by a PVM (Unless the need for Marshals has been eliminated). **The preference is always to remove the requirement for reversing and plant and people interface therefore negating the requirement for a marshal.**
- Engines to be switched off prior to leaving the vehicle and keys must be removed from the vehicle **when not in use.**
- All personnel must wear full PPE and high visibility clothing at all times (When working near to any existing access roads/highways full Hi-Vis in accordance with Chapter 8 must be worn).

8.0 Traffic Management

8.1 Traffic Management Contractor

Company Name:	<i>Alba Traffic Management Ltd</i>
Head Office Address:	<i>24 Longman Drive, Longman Industrial Estate, Inverness, IV1 1SU</i>

Point of Contact:	<i>Ewan Bruce- 07834 051 252</i>
Deputy Contact	<i>Nicky Lister- 07894 395 307</i>

Key responsibilities include the management of all traffic management measures including provision of Traffic Management drawings, procedures, method statements and risk assessments as well as the safe Installation, maintenance and removal of all TM signage and TM equipment.

Note: The TM Contractor for the Part B works is subject to change.

8.2 Traffic, Public and Construction Personnel Safety Measures

For the project duration, all traffic management required will be completed by trained and competent personnel. All sub-contractor personnel will receive a Balfour Beatty Site Induction and will be briefed on all project site specific hazards. During the induction, all competency skill cards will be reviewed, and a copy taken for site records. All workers will be briefed and made familiar with the site Emergency Response Plan (ERP), a copy of the ERP will be provided in the work packs which will be located at site.

All traffic management will be designed and installed in accordance with Chapter 8 and design standards as per Transport Scotland requirements. In the event that 2-way traffic lights are required, the assigned TM contractor will submit a temporary traffic light (TTL) permit to the local authority alongside all other necessary documents.

Method Statement & Risk Assessments

A Method Statement and Risk Assessment will be completed for the installation of temporary traffic management at all access/bell mouths off the main trunk roads. The RAMS will be site specific and will be provided to the client and other parties if required (Transport Scotland/BEAR Scotland) a minimum of two weeks prior to works commencing to allow for suitable review and comments period.

Construction Vehicle Access to TM Lane

It is not anticipated, neglecting the TM contractor operator's vehicle, that construction traffic will be parked on the roadside within a TM system. If for whatever reason this is a necessity, all access/egress points within the TM lane will be coordinated by TMC and TM contractor and will be included in the site-specific RAMS and captured within the TM design stage.

Vehicle Recovery

The TM systems are expected to be limited to the bellmouths (New and Existing) off the A819 and are viewed as being unlikely to result in long lane closures and narrowing of single carriageways. As a result, Balfour Beatty does not anticipate having to provide a vehicle recovery service within the TM period. This will be reviewed during the works should the TM arrangement be altered or result in significant congestion. If this is deemed necessary following consultation with BEAR Scotland, Balfour Beatty PT&D will look to agree a solution between all parties.

Emergency Access through Works

In the event that emergency vehicles must pass through the TM system on site, the TM contractor in close liaison with the TM Co-ordinator will be responsible for managing this on site to ensure all emergency services can pass through the TM system in a safe manner.

Roadside Incidents/Accidents

In the event of an accident occurring within the project TM system or in close proximity to the works, the site supervisor and TM sub-contractor will contact Balfour Beatty TMC and the

emergency services immediately. Some useful contact details for services are contained in Table 3.0 below.

Emergency Service	Contact Details
Police Scotland	999 (Emergency) or 101 (Non-Critical)
Emergency Distress Number (Europe)	112 (GPS reference provided)
Fire Brigade (Dalmally) Inveraray also has a Community Fire Station that is unmanned	999 (Emergency) or 01838 200677 (Station)
Lorn and Islands Hospital Oban	999 (Emergency) or 01631 567500 (Direct)
BEAR Scotland (A85)	0800 028 1414 (Traffic Customer Care Line)
Transport Scotland (A85)	0141 272 7100 (Main Glasgow Office)
Scottish Water	0345 711 4141

Table 3.0 – Emergency Contacts

8.3 Temporary Works Access Signage

Temporary works access signage will be employed throughout the project at the junctions where construction traffic will access/egress from the temporary access roads onto the main trunk roads.

The layout of the access signage will be outlined on the corresponding access point TM plan; the layout and design will be based on guidance included in Chapter 4 and Chapter 8 Traffic Signs Manual and will be provided by the approved TM contractor and agreed in advance with BEAR Scotland and the local authority prior to deployment.

All temporary works access signage and sites will be inspected regularly to ensure that signage has not moved, been damaged or became unreadable through dirt/snow etc. Daily checks will be carried out by a competent person;

- Before starting work, activities and allowing construction traffic to operate off A819 onto bell mouths and access tracks
- Throughout the course of the shift
- At the end of the shift, before leaving site

8.4 Failure to Comply with TM System at Access Points

All personnel involved in the North Argyll Reinforcement project will receive a site induction upon their first visit to site. During the induction, workers will be briefed on the Traffic Management Plan and informed of the TM restrictions in place. For delivery drivers and material suppliers, a copy of the TM plan can be provided and shared in conjunction with the 'Driver Flashcards'.

In the event that project personnel are found to have breached TM systems in place, they will be subject initially to a Site Investigation. If the outcome of the internal investigation finds that there was a breach of safety or endangerment to others or themselves then this could lead to further disciplinary procedures. Where third party delivery drivers are found to have been non-compliant with the TM system in operation, they will be reported to their employer and reminded of the TM site rules and procedures. Persistent non-compliance with the TM system will lead to immediate removal from site and further disciplinary proceedings.

9.0 Site Access Points

Access to the Tower locations along the North Argyll – Inveraray OHL Reinforcement route is to be achieved through upgrading existing tracks, installing temporary stone access tracks or installing new permanent stone access tracks. All tracks will be accessible off the A819 via either an existing or new bell mouth. Existing accesses will be assessed for line of sight and vehicle movements and types considered allowing an assessment of how safe it is to use an existing junction prior to these being used by project construction traffic.

In total, 5 No. junctions (exclusive of the Site Yard) along the A819 have been identified whereby project construction traffic will require to enter/exit from in order to use the access tracks to reach the work locations. These locations are indicated on Access Maps Drawing which have been included in **Appendix E**.

9.1 Identified Access Points

An access point is a location where either construction traffic will leave the trunk road to gain access to one or more pylons or where construction traffic will be required to turn left/right at a junction off the A819 to reach other roads.

The 5 No. access points/junctions are contained in *Table 4.0* below. The table also identifies whether the access is an existing access point or if a new bell mouth/access point will be constructed. The table also provides a brief description as well as highlighting the corresponding towers which can be accessed.

Access No	Tower Number	Access Proposed/Location Info	New/Existing Access Bell Mouth
1	Proposed New Tower Position 1-10 ITE-ITW 34-37 Woodpole Diversion Creag Dhubh Sub ITE-ITW 23-26 Woodpole Div	Existing Bellmouth, approx. 11.5km North of Inveraray	Existing
2	Proposed New Tower Position 6-16 ITE-ITW 23-26 Woodpole Div	New Bellmouth, approx. 7.5km North of Inveraray. Access between Sheep Pen area and North Tullich	New
3	Proposed New Tower Position 10-27 ITE-ITW 23-26 Woodpole Div	New Bellmouth, approx. 6.5km North of Inveraray. Access between Sheep Pen area and North Tullich	New
4	Proposed New Tower Position 17-31	Existing bellmouth approx. 4km North of Inveraray at Three Bridges	New
5	Propose New Tower Position 32-34 (Inc Temp ST Tower). Access required to existing IDW/IAE Towers 16-20	Existing Bellmouth approx. 2km North of Inveraray	Existing

Table 4.0 – Inveraray-North Argyll Access Schedule (Pre-Lim Part A)

Note: Access to some locations currently under review and will be defined prior to commencement of the Part B works.
Additional Access requirements to utilise borrow pits are still to be confirmed.

9.2 Shared Accesses & Past Traffic Accidents Review

Of the 5 No. access points detailed in Table 4.0, two of these are managed by Forestry contractors for transporting timber from their sites to the main road network.

Access Points	1	2	3	4	5
Commercial Forestry	X	X			X
Private Landowners		X		X	
Other	X			X	X

Table 5.0 – Shared Access Identification

Four of the access points have been reviewed using Crashmap (crashmap.co.uk) to assess if any road traffic incidents/collisions have occurred directly at the junction or in the immediate vicinity along the A819 over the past 10 years. No specific recorded incidents were found to have been recorded at the specific junctions/accesses in the past 10 years.

However, a number of incidents were found in and around the area on both of the main roads of the A85 to the north and the A83 in the south onto the A819 and other minor road connections.

- Access off/onto the A819 from the A83 has several recorded incidents though this may not be contributable to
- The T Junction off the A819 onto the B840 has had 2 Slight Incidents and 1 Serious incident in the past 10 years
- Along the A819 adjacent to Kilchurn Castle there has been 3 serious incidents and 1 slight incident.
- At the junction to the A85 off the A819 there has been 5 slight incidents and 1 fatality (2013).

It should be noted that the A85/A819 junction on the main road network will be highlighted within the Site Induction and briefed to all Contractors.

Note: CrashMap UK uses data collected by the police about road traffic crashes occurring on British roads where someone is injured. Crashmap plots incidents within 10 metres of their location and is designated as being *slight*, *serious* or *fatal*. The data is approved by the National Statistics Authority and reported on by the Department for Transport each year.

9.3 Access Points – Hazard Plans

For each of the 5 No. access points identified above in *Section 9.1*, an individual site-specific Access Hazard Plan will be compiled by the project TM Contractor to assess the access point. An example of the 'The Access Hazard Plan' which will be implemented by the site team has been included in **Appendix F**. The plan will detail the following;

- Access Description – snapshots of access way including step by step route directions to reach the tower locations off the access points.
- Specific Route Map identifying the towers that can be accessed from that particular access track.
- Site Hazards including OHL and UG services, detailing key information such as height restrictions in place (GS6 Goalposts), public interface, security and CDM demarcation/zones.

- Any relevant Environmental Concerns/Ecological Issues to that specific area/access route.
- Corresponding TM plan/drawing including any special instructions for construction traffic to abide by.

The hazard plans will be compiled prior to works starting and permitting construction traffic to use the access track and access points. The plan will be reviewed continuously as the works progress and updated accordingly.

9.4 New Bellmouth Installation

Following the realignment of the proposed OHL in 2022 Part A works, the requirement for new bell-mouth installations have been removed. However, at this stage of the works, it may be identified following commencement of the Part B works and further consultation with all stakeholders and wayleave permissions that new bellmouths are required to facilitate the project construction.

In the event that new bellmouths are required, they will be designed in accordance with Design Manual for Roads and Bridges (DMRB) Vol. 6. The designs will be submitted to BEAR Scotland & Transport Scotland for review and approval prior to works commencing.

All new and existing bell mouths locations will undergo a full swept path analysis and will be surveyed on site to evaluate if any vegetation, trees and shrubs need to be removed within the visibility splay to allow adequate visibility in each traffic direction on all public roads. The maximum height obstructions within the visibility splay envelope are determined by the type and speed limit of the road in question.

10.0 Access Design

Balfour Beatty PT&D will contract a sub-contractor to survey and carry out a geometrical assessment to confirm the visibility splays at all of the 7 No. accesses/junctions identified in Section 9.0. As the access points will be required to accommodate large construction vehicles turning off the main trunk road, it will be critical to assess and confirm that the proposed access points line of visibility splays are in accordance with the Design Manual for Roads and Bridges (DMRB) Vol. 6 where applicable.

10.1 Access Points – Visibility Splays

The DMRB TD41/95 (Section 2.22, Table 2/1) provides the standard visibility splay required for roads with design speeds ranging from 50-120kph (30-70mph). All proposed access points are located within either a 30/40/50 or 60mph speed limit zone and as such the 'Y' distance (the minimum stopping sight distance) for these design speeds can be seen below.

Design Speed (mph)	30	40	50	60
Y Distance (m)	70	120	160	215

Each access point/junction layout will be surveyed onsite and a desktop review carried out. The outcomes from the visibility splay surveys will be detailed in Table below. The 'X' distance (set-back distance) for the survey and visibility splay assessments was taken as 2.4m for all access points.

Access Point	Visibility Splay (Left)	Visibility Splay (Right)	Speed Limit	Required Visibility Splay 'Y'	Standard Achieved (Left)	Standard Achieved (Right)
1	TBC	TBC	60	215m	TBC	TBC
2	TBC	TBC	60	215m	TBC	TBC
3	TBC	TBC	60	215m	TBC	TBC
4	TBC	TBC	60	215m	TBC	TBC
5	TBC	TBC	60	215m	TBC	TBC
6	TBC	TBC	60	215m	TBC	TBC
7	TBC	TBC	60	215m	TBC	TBC

Table 6.0 – Access Junction Visibility Splays

10.2 Construction Traffic Mitigation Measures

Balfour Beatty PT&D intend to implement the following traffic mitigation measures at access points/existing bell mouths where found not to meet DMRB visibility splay standards.

These restrictions can be relaxed when Temporary Traffic Light (TTL) systems are implemented. this will be reviewed on a case by case basis once the visibility splay surveys are carried out in Part B of the project. Further consultation with BEAR Scotland and the local authority will also be held following Part B works commencing to agree on BB PT&D access points and mitigation measures.

At all construction access junctions, the speed limit will be reduced to a max 30mph with suitable signage and TM employed as required.

All traffic restrictions outlined will apply to large/heavy project construction traffic (e.g. HGV's and Articulated Lorries) and will be subject to change following further consultation with the local road's authority.

In addition to the above restrictions, BB PT&D will aim to review on site to determine if further tree/hedge/shrub trimming is required as a way of improving the visibility splay at these junctions/access points.

10.3 Turning Points for Construction Traffic

Turning points for construction traffic will be detailed below and briefed to all project operatives.

The table below details the estimated distance from the access points to the turning points.

Note: The below does not consider the turning heads/points made within the stone access tracks which facilities construction access to the Tower locations.

Access/Junction	Distance to TP 1 (Miles)	Distance to TP 2 (Miles)	Distance to TP 3 (Miles)
N/A	N/A	N/A	N/A

Table 7.0 – Estimated Travel Distance from Access Points to Turning Points

11.0 A85/A819/A83 Trunk Road - Restrictions for Construction Traffic

11.1 Speed Limits

All project construction traffic including sub-contractors and haulage contractors will be expected to adhere to the legal road speed limits already in place along public roads. *Table 8.0* below details the statutory speed limits along with more strict speed limits for construction traffic in high risk areas.

Road Section	Speed Limit (mph)	Construction Speed Limit (mph)	Observations (Footpaths/Cycle Tracks etc.)	Access Points
A85	National / 60	National / 60		N/A
A85	40	40	Through Dalmally Village. Built-up pedestrian area – tourists/tours etc. Footpaths on both sides of the carriageway	N/A
A819	National / 60	National / 60		2, 3, 4, 5
A83	30	30	Through the village of Inveraray. Built up pedestrian area – tourists/tours etc. Footpaths on both sides of the carriageway	N/A
A83	National / 60	National / 60		N/A

Table 8.0 – Speed Limit Restriction on A85/A819 for Construction Traffic Route

11.2 Road Width, Height & Weight Considerations/Restrictions

There may be a number of locations along the A85/A819/A83 where the road narrows as a result of bends at minor bridge crossings; existing road signs at locations are already in place along the roadside. The proposed construction traffic routes do not have any weight restrictions in place.

All height restrictions e.g. passing below existing OHL will be covered in more detail by the 'Access Hazard Plan' as outlined in *Section 9.2*. This will include the max height allowed and GS6 goalposts will be erected as required. It is not envisaged that any additional goal posts on public roads will be required due to statutory height clearances to conductors and overhead cables being suitable for all Balfour Beatty construction traffic.

11.3 Swing Bridges

There are no known swing bridges in the vicinity of the project.

11.5 Abnormal Loads

At this stage of the project, it is not anticipated that the scope of works will result in deliveries of abnormal loads. In the event that there is the need for a wide/abnormal load delivery, Balfour Beatty PT&D will liaise with the relevant bodies including the Local Authority, BEAR Scotland, Transport Scotland and the Police in order to safely manage, coordinate and provide suitable notice to the wider community with regards to the delivery.

11.6 Other Contractors/Projects in the Area

Balfour Beatty PT&D will actively engage and be pro-active in identifying any new construction developments/projects which are in proximity to the planned North Argyll Reinforcement works and the Construction of Creag Dhubh Substation.

Note: This section will be updated following commencement of Part B after further consultation with all involved stakeholders.

12.0 TM Plan Appendices

Appendix	Document
A	Traffic Management Drawing Register and Drawings (TBC with Part B)
B	Plant and Vehicle Movement Estimate (Part A Pre-Lim)
C	Visiting Drivers Flashcard Induction
D	Site Office and Yard Layout Drawings (TBC, example provided)
E	Access Plans (For ongoing landowner discussions)
F	Access Hazard Plans (TBC with Part B)

Access Point	Tower Number	Stone Haul Road / Crane Pads / Lay Downs						Foundations	Trackway	Erection	Scaffold	Deliveries		
		Delivery			Removal			Concrete	Panels	Crane- 90T	HGV	HGV Articulated Vehicle	HGV Man 4x4	Van 3.5T
		m3	T	No. Loads (20T)	m3	T	No. Loads (20T)	No. Loads (20T)	No. Loads	No.	No.	No.	No.	No.
2	Bridge Site Aray	3475	6950	348	3475	6950	348	0	0	1	0	3	8	420
	T1	527	1054	53	257	515	26	16	2	1	0	3	8	84
	T2	909	1819	91	633	1265	63	16	0	1	0	3	8	84
	T3	1371	2742	137	257	515	26	16	2	1	0	3	8	84
	T4	1116	2232	112	1116	2232	112	16	0	1	0	3	8	84
	T5	1149	2298	115	1149	2298	115	16	0	1	0	3	8	84
	T6	1238	2476	124	1238	2476	124	16	0	1	0	3	8	84
3	Pole Diversion	0	0	0	0	0	0	0	0	1	0	3	8	84
	35A	514	1028	51	514	1028	51	16	0	1	0	3	8	84
	35B	514	1028	51	514	1028	51	16	1	1	0	3	8	84
	T7	758	1515	76	257	515	26	16	0	1	4	3	8	84
	T8	948	1897	95	257	515	26	16	0	1	0	3	8	84
	T9	1906	3811	191	257	515	26	16	0	1	0	3	8	84
	T10	751	1502	75	257	515	26	16	0	1	0	3	8	84
4	T11	1317	2634	132	257	515	26	16	0	1	0	3	8	84
	T12	860	1719	86	257	515	26	16	0	1	0	3	8	84
	T13	935	1870	94	363	725	36	16	0	1	0	3	8	84
	T14	800	1601	80	396	791	40	16	2	1	0	3	8	84
	T15	1425	2851	143	257	515	26	16	2	1	0	3	8	84
	T16	1702	3404	170	570	1140	57	16	0	1	0	3	8	84
	T17	1096	2193	110	257	515	26	16	0	1	0	3	8	84
5	Woodpole Diversion	257	515	26	257	515	26	0	6	1	4	3	8	72
	T18	1731	3463	173	257	515	26	16	0	1	0	3	8	84
	T19	1587	3173	159	257	515	26	16	0	1	0	3	8	84
	T20	2162	4325	216	257	515	26	16	0	1	0	3	8	84
	T21	2435	4871	244	257	515	26	16	0	1	0	3	8	84
	T22	860	1719	86	860	1719	86	16	0	1	0	3	8	84
	T23	1218	2436	122	330	660	33	16	0	1	0	3	8	84
	T24	2301	4601	230	257	515	26	16	2	1	0	3	8	84
	T25	1981	3963	198	257	515	26	16	2	1	0	3	8	84
	T26	2271	4542	227	537	1074	54	16	0	1	0	3	8	84
	T27	1386	2772	139	356	712	36	16	0	1	0	3	8	84
	T28	1261	2522	126	350	699	35	16	0	1	0	3	8	84
	T29	1527	3055	153	340	679	34	16	0	1	0	3	8	84
	T30	1544	3088	154	257	515	26	16	0	1	0	3	8	84
	T31	1300	2601	130	419	837	42	16	0	1	0	3	8	84
	T32	1547	3094	155	573	1147	57	16	0	1	0	3	8	84
	T33	1417	2834	142	603	1206	60	16	2	1	0	3	8	84
	T34	2225	4449	222	810	1620	81	16	0	1	0	3	8	84
	15R	537	1074	54	537	1074	54	16	2	1	0	3	8	84
	Temporary ST Divers	1712	3423	171	1712	3423	171	16	0	1	0	3	8	84
Existing IC Towers														

			HGV (Rigid)			HGV (Rigid)	HGV (Rigid)	HGV (Rigid)	Crane- 90T	HGV (Rigid)	HGV- Artic	HGV (Rigid)	Van 3.5T
Totals	54571	109142	5457	22027	44053	2203	608	22	41	8	123	328	3768

AP	Totals	HGV (Rigid)	HGV (Rigid)	HGV (Rigid)	HGV (Rigid)	HGV (Rigid)	Crane- 90T	HGV (Rigid)	HGV- Artic	HGV (Rigid)	Van 3.5T	
AP 1	Totals	0	0	0	0	0	0	0	0	0	0	
AP 2	Totals	17769	20130	13813	701	191	15	44	99	1045	1012	924
AP 3	Totals	436	3819	7638	382	160	10	9	4	33	88	912
AP 4	Totals	894	2303	4606	230	128	4	8	0	24	64	672
AP 5	Totals	76	257	515	26	16	0	1	4	3	8	84

SITE SAFETY INDUCTION FOR VISITING DRIVERS

These site rules are for your safety and all others on site - Please read carefully to ensure compliance.

- Do not proceed onto site unless specifically instructed to do so by a Balfour Beatty supervisor.
- Stay on the designated access route.
- Switch on hazard warning lights/beacons
- All reversing operations on site **MUST** be controlled by a Vehicle Marshal.
- You are required to maintain 3 metres separation between moving plant/vehicles and people at all times.
- The site speed limit is 10 mph and 5mph when passing pedestrians or work areas.
- **The use of mobile phones is strictly prohibited at all times when operating any vehicle or item of plant and machinery.**
- Red and white 'goal posts' indicate **live** overhead line crossings! If your vehicle is higher than the indicated clearance do **NOT** pass. No work, loading or unloading to be undertaken between the goalposts without written authorisation.
- Do not climb onto the lorry bed unless fall prevention or fall arrest measures are in place.



COVID-19

- Maintain 2m at all times!
- Verbal briefings in place on site – wait in cab until approached by works supervisor
- Use Hand Sanitiser
- Hand Washing facilities available at PoW & Site
- Driver to sign tickets on operative's behalf – promotion of electronic DN's



BEWARE COVID-19
KEEP YOUR
SOCIAL
DISTANCE

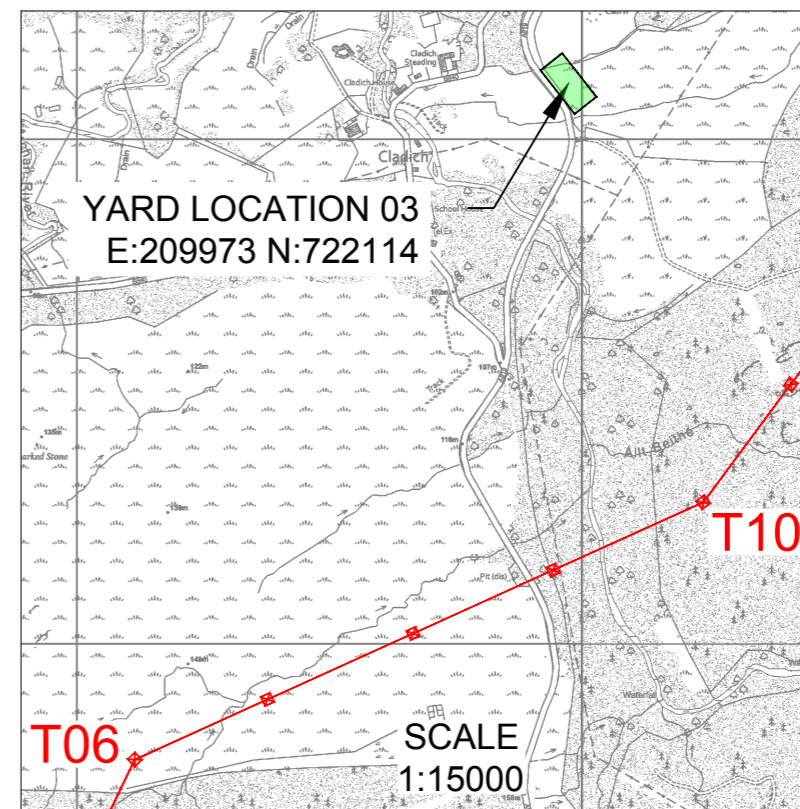
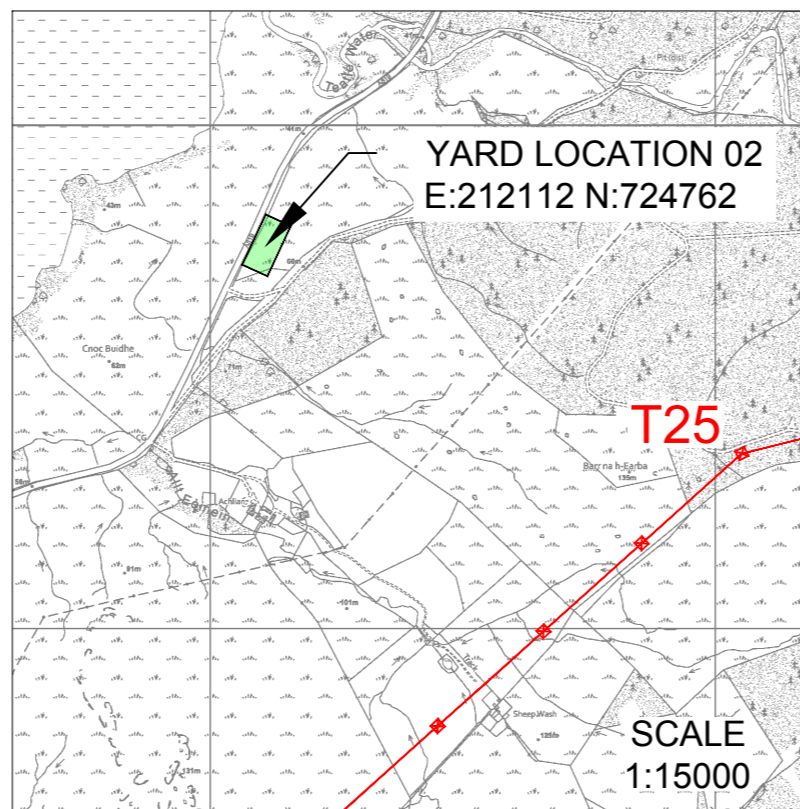
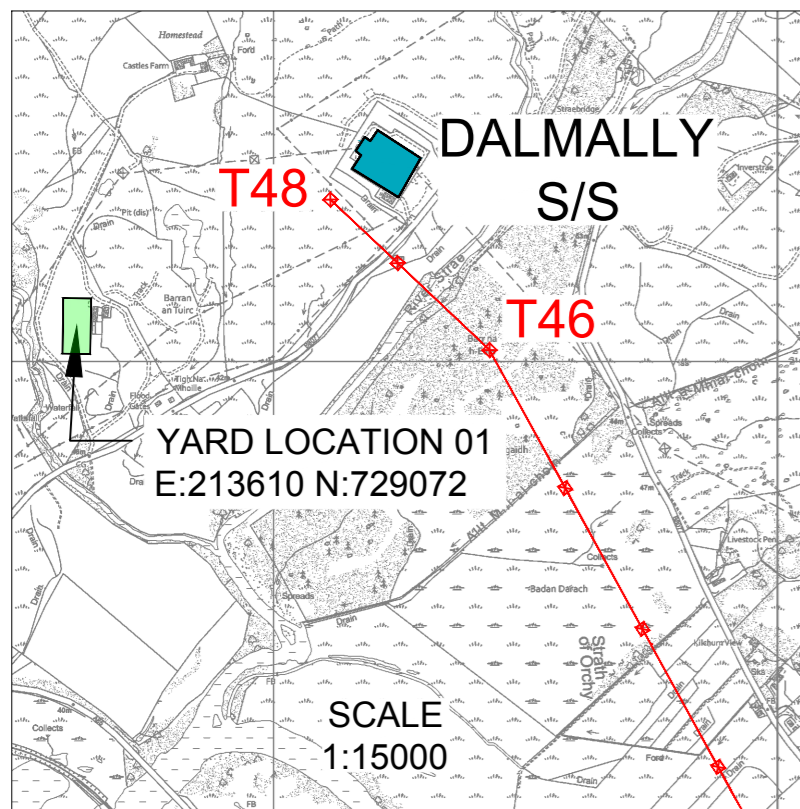
Site Contact Details

Position	Name	Contact Number
BB Project Eng	Sean McAloon	07873788453
Environmental Advisor	Colin MacKay	07971614550
Safety Advisor	Neil Whyteside	07791926951

Mandatory PPE: If you leave your vehicle you must wear the following



When you exit your vehicle beware of uneven ground conditions and watch your step.



DRAWING STATUS: FOR COMMENT

SSSEN CONTRACT NUMBER	LT00029	
SSSEN MDR NUMBER	3066_XYW-XYE_DWG_1109_1050_01 Rev 01	
SSSEN REVISION	DATE	HISTORY
01	20/11/19	FIRST ISSUE
02		
03		
04		
05		

KEY

- CO2 FIRE EXTINGUISHER
- POWDER FIRE EXTINGUISHER
- FOAM FIRE EXTINGUISHER
- FIRE BLANKET
- EYE WASH STATION
- FIRST AID
- EMERGENCY EXIT
- AUTOMATIC EMERGENCY DEFIBRILLATOR
- HERAS FENCING
- DEER FENCING
- FENCING
- PROPOSED OHL ROUTE

NOTE:
DO NOT SCALE, IF IN DOUBT ASK.
THIS LAYOUT IS INDICATIVE ONLY AND
MAY VARY. EXACT LAYOUT WILL BE
SUBJECT TO SITE CONDITIONS.

(PART A PURPOSES ONLY)

ISSUE	C01	REMARKS:
DRAWN		FOR COMMENT
CHKD 1		
CHKD 2		
APPD		DATE

CIRCUIT:
275kV XYW - XYE
132kV ITE - ITW

SSSEN DRAWING NUMBER: 3066_XYW-XYE_DWG_1109_1050_01 Rev 01

SSSEN CONTRACT NUMBER: LT00029

TITLE : CONSTRUCTION SITE LAYOUT & LOCATIONS

DRAWN	GM	DATE	6/11/2019
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CHKD 2	AW	APPD	CM

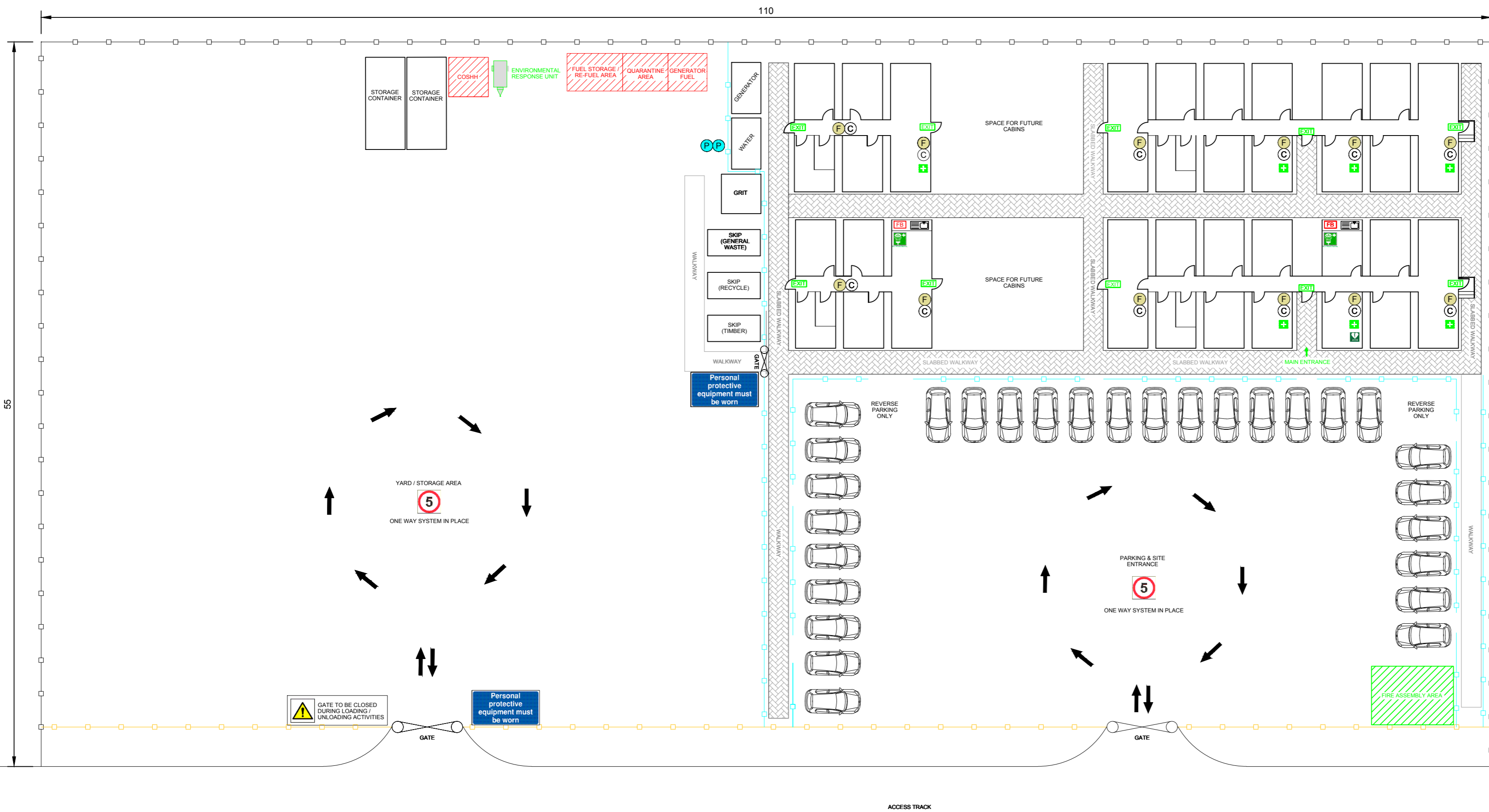
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JOB NUMBER : ULAH5229

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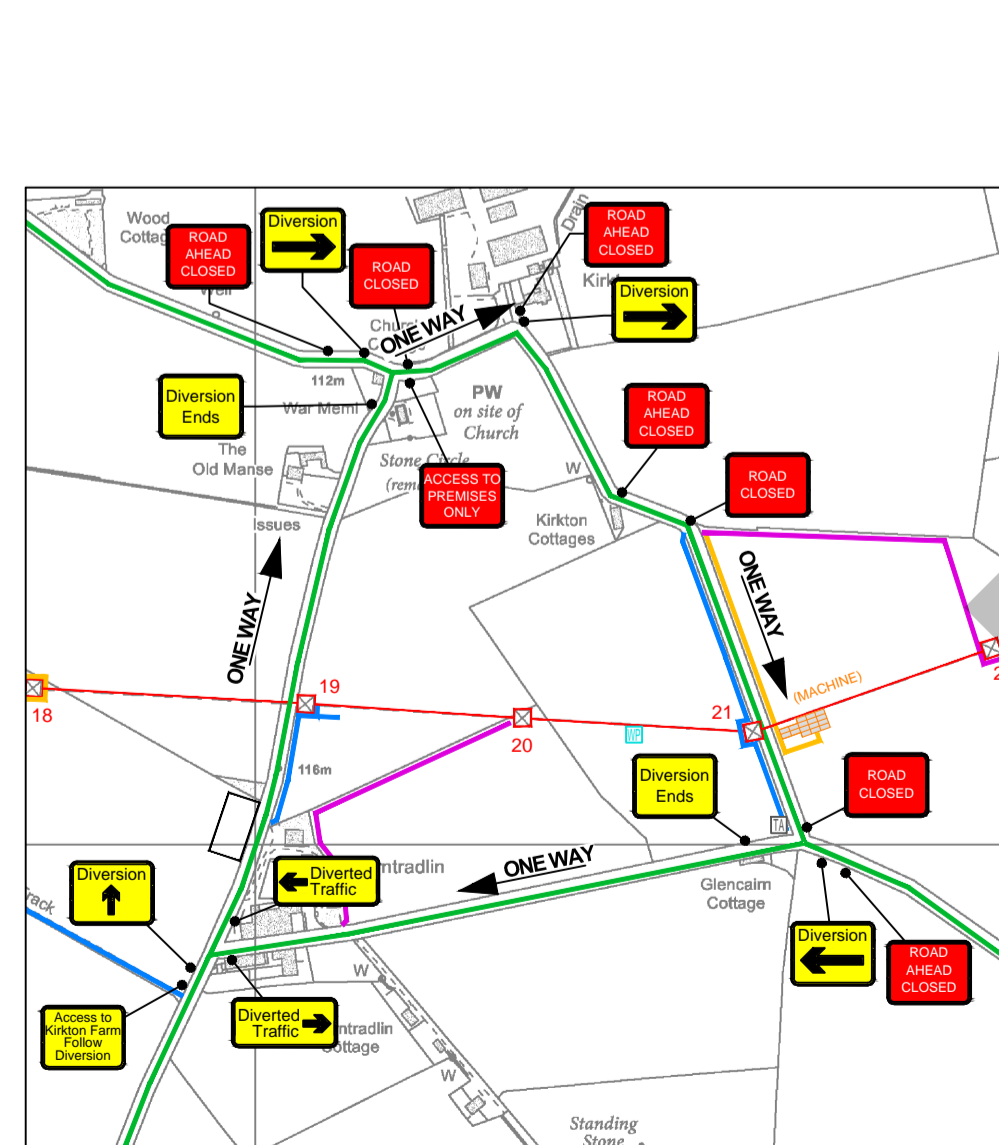
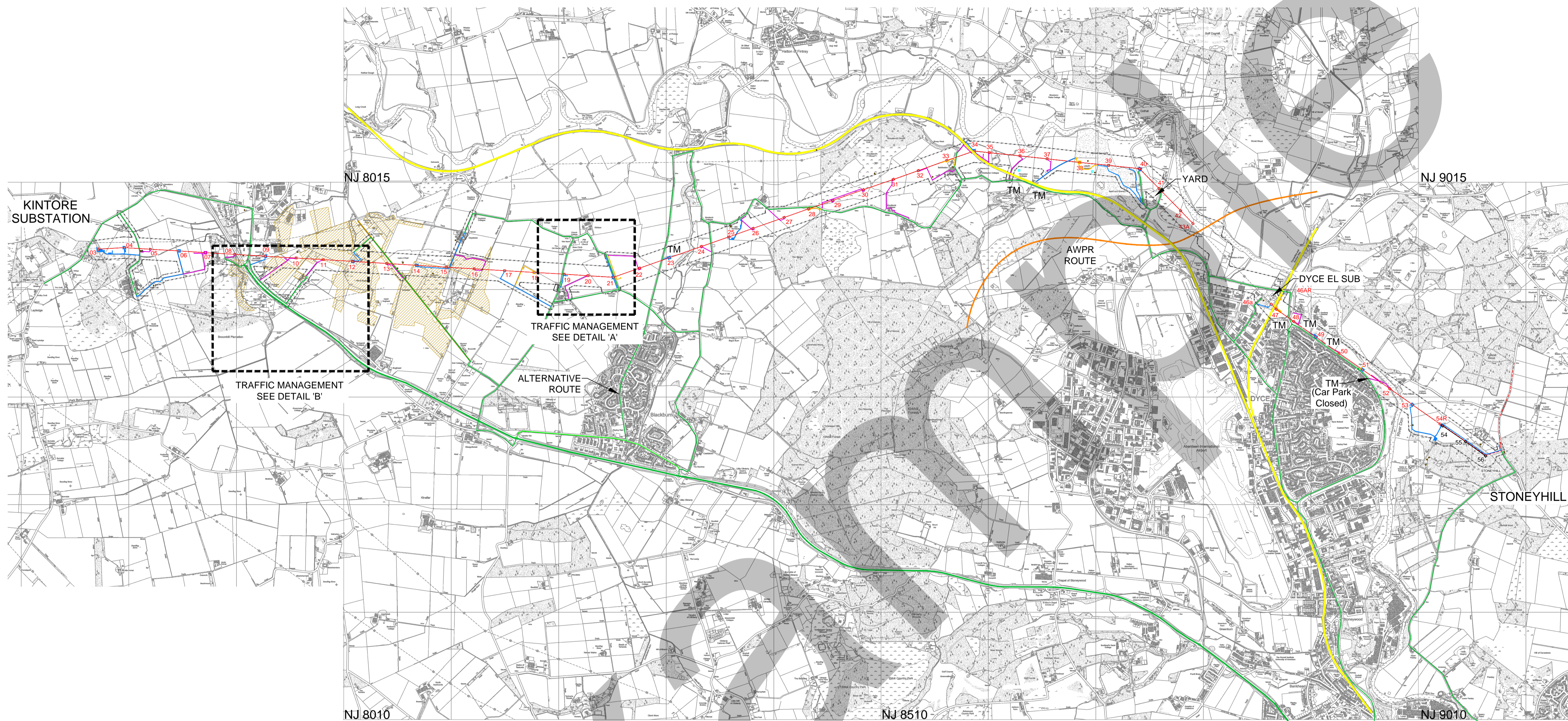
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ISSUE: P01 STATUS: S4

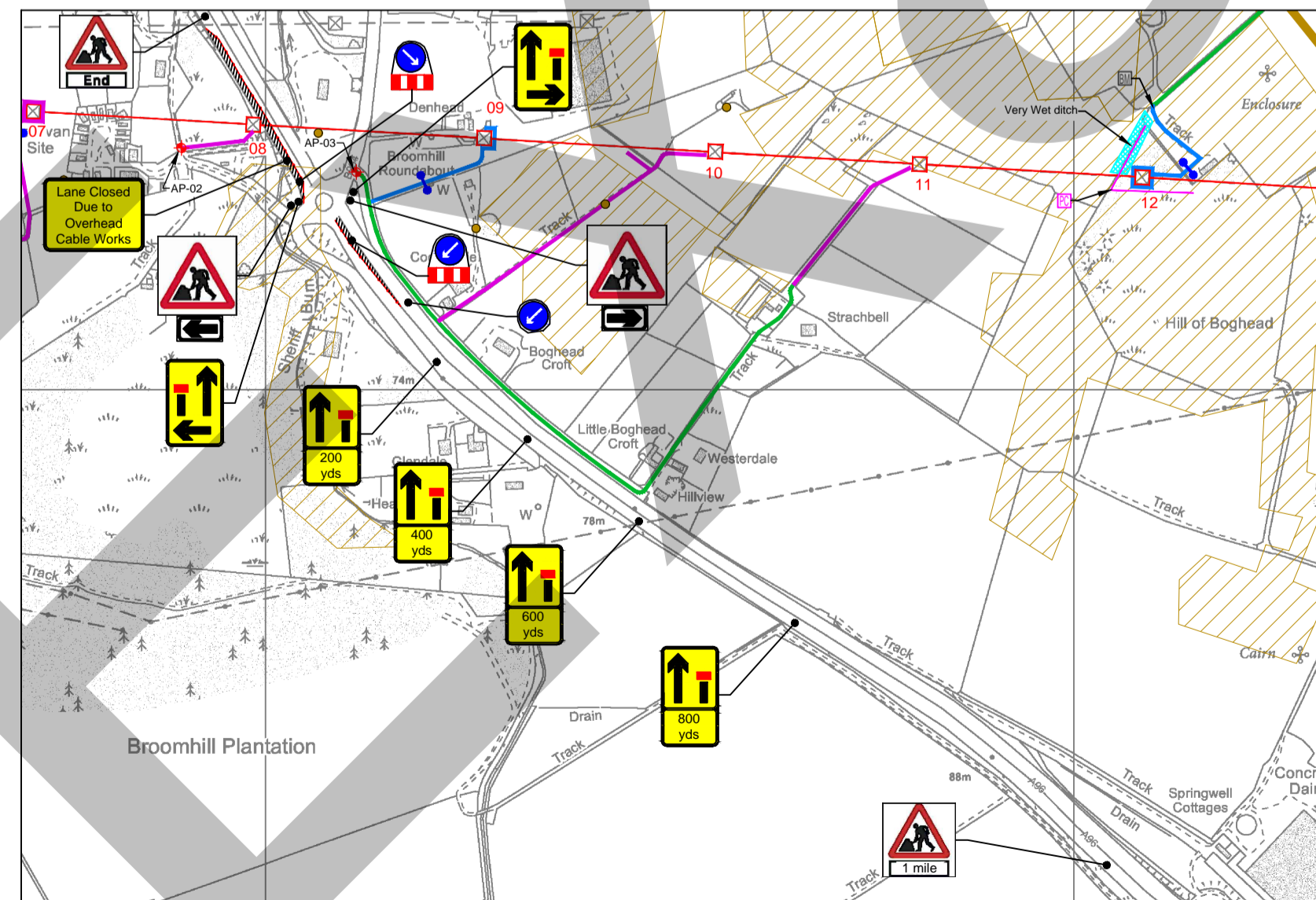


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TRAFFIC MANAGEMENT
DETAIL 'A'



TRAFFIC MANAGEMENT
DETAIL 'B'

LEGEND	
	OH LINE ROUTE
	OH LINE DISMANTLING
	OH LINE DISMANTLING
	ACCESS ROUTE - ALL VEHICLES
	TRACKWAY
	NEW STONE ACCESS ROAD
	4x4 / TRACTOR/ ATV ACCESS
	RAILWAY
	TRAFFIC MANAGEMENT

Rev	Date	Issue	Chk	App

Job: **ABERDEEN BAY
132kV MODERNISATION**

Client:

Title: **AOWFC - OHL
TRANSPORT MANAGEMENT
AND LOCATION MAP**

Balfour Beatty
Power Transmission & Distribution
Services Division
29-43 Napier Road, Wardpark North
Cumbernauld, G68 0EF
Telephone 01236 862100 A Balfour Beatty Company

DATE: 18/07/2017
DRAWN: PH
CHECKED:
SCALE: NTS @ A1

SKETCH No.
SK-ULAH4876-021 REV A