Pell Frischmann

Coylton BESS

Transport Statement & Construction Traffic Management Plan

October 2023

107277

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1 Introduction

Pell Frischmann has been instructed by TNEI, on behalf of Statkraft UK Limited (the Applicant) to produce a combined Transport Statement and Construction Traffic Management Plan (CTMP) to support a planning application for the creation of a Battery Energy Storage System development (BESS) at a site adjacent to Coylton substation, East Ayrshire.

The planning application is for a proposed BESS (the Development) which includes associated access infrastructure, electrical grid connections and soft and hard landscaping features.

This report provides an overview of the Development in relation to construction traffic and sets out the proposed mitigation measures for use at the site.

2 Development Description

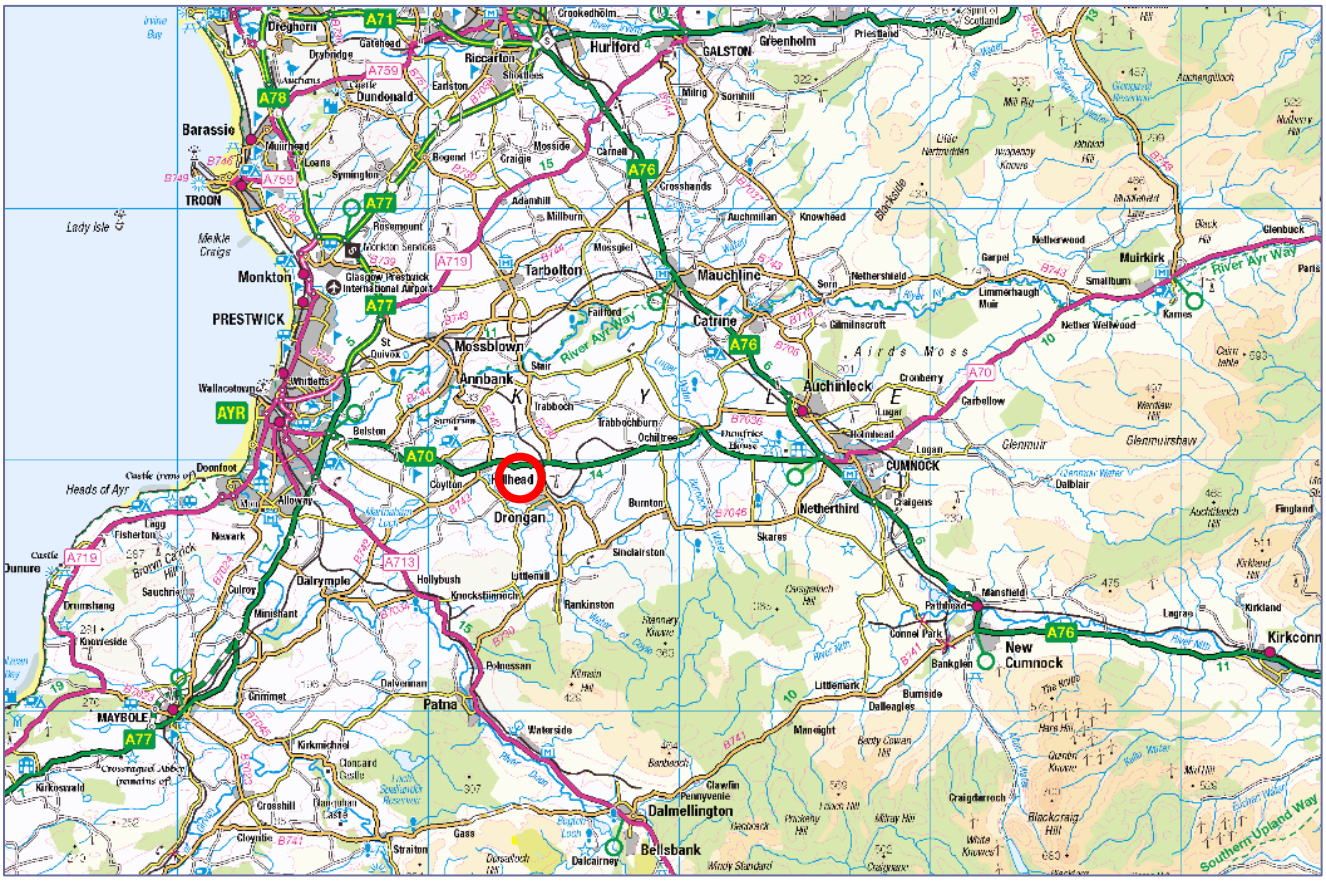
2.1 Development Location and Layout

The Development comprises of a BESS, featuring the following facilities:

- Battery storage and their electrical connections;
- Access track and secure compound;
- Grid connection infrastructure and control facilities; and
- Security fencing, landscaping and other soft features.

The Development location is illustrated in Figure 1.

Figure 1 Development Location

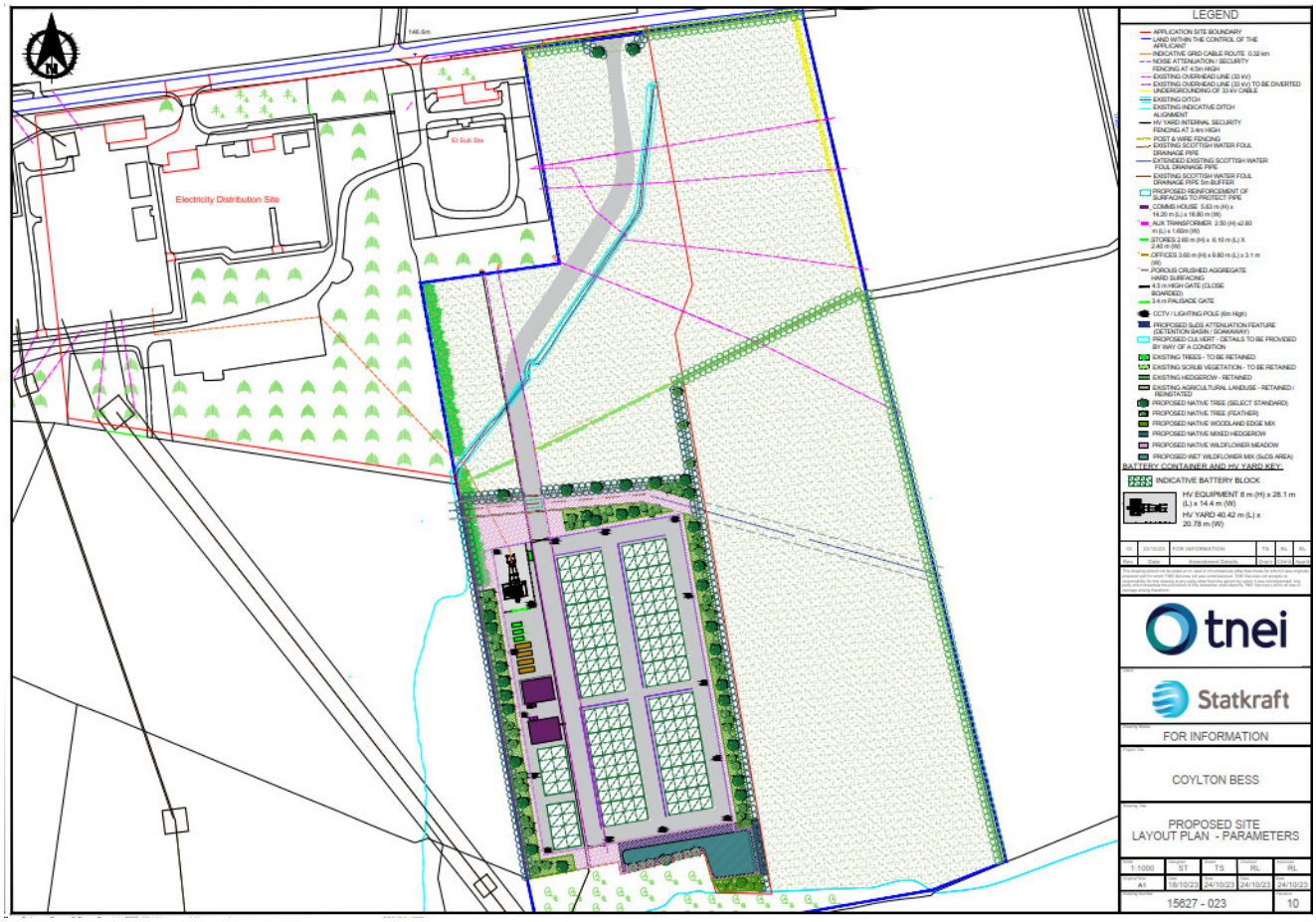


Access to the Development is to be made via a new site access junction on the A70. No further public road connections are proposed. The access junction will have a visibility splay of 4.5m x 215m in either direction.

The layout of the Development is illustrated in Figure 2. The junction has been design to accommodate the proposed transformer deliveries and a swept path assessment for this load is also attached in Appendix A.

The swept path assessment has considered access from both the east and west to future proof the design. Full details will be provided once the transformer supplier has been appointed.

Figure 2 Development Layout



3 Existing Network

3.1 Active Travel Network

A review of the East Ayrshire Council Core Path maps indicates that there are no Core Paths located in close proximity to the development site. The National Cycle Routes (NCR) map of the United Kingdom indicates that there are no NCR located along the site frontage or in close proximity to the Development.

3.2 Existing Road Links

The site is equidistant to the A77 (Glasgow – Stranraer trunk road) and the A76 (Kilmarnock – Dumfries trunk road). Both roads provide north – south connections to Ayrshire, Galloway and Dumfriesshire and are operated by Transport Scotland.

The Development is accessed from the A70. The A70 is operated by the Ayrshire Roads Alliance (ARA) on behalf of East Ayrshire Council and is subject to a 60mph speed limit in the vicinity of the development site. The road provides district connectivity between Ayr and Edinburgh and is capable of accommodating HGV traffic associated with construction activities.

3.3 Road Safety Review

A review of the online accident database, www.crashmap.co.uk, indicates that there have been ten accidents on the A70 within the last five years between the outskirts of Coylton and Ochiltree. Of these, seven are classified as “slight”, i.e., damage only incidents, with three categorised as “serious” having resulted in a physical injury. No fatal accidents were recorded.

Three accidents involved a young driver, one of which was located near to the proposed access junction at East Tarelgin Farm. Two “slight” accidents involved an HGV, this occurring at the access to the nearby Hargreaves Killoch coal mine access junction.

All other accidents were those involving cars and occurred in close proximity to junction located in the wider road network.

4 Construction Traffic

4.1 Trip Generation

The proposed construction works are estimated to take up to 14 months.

The programme has been divided into its component sections and estimates of the likely traffic generation have been made from the material quantities, staff requirements and component deliveries required. The main areas of construction traffic can be subdivided as follows:

- Import of Plant and Machinery;
- Site Establishment Clearance Loads;
- Import of Bulk Materials;
- Import of Ready-Mix Concrete;
- Import of General Building Supplies;
- Delivery of HV Electrical Components;
- Delivery of batteries;
- Delivery of general site materials and supplies;
- Grid and electrical connection works; and
- Arrival and departure of construction and commissioning staff at the site.

The traffic generation during the construction phase has used first principles to establish the volume and tonnage of construction materials. This has then been converted to two-way vehicle movements to create the construction programme illustrated in Appendix B.

The peak of construction activity occurs in Month 4 of the construction programme.

4.2 Distribution of Construction Trips

Exact material suppliers will be determined through the Balance of Plant (BoP) contract. The supplies anticipated for use in this study however are based upon the following:

- Aggregate and stone: Likely to be supplied from Sorn Quarry, located to the northeast of the site and accessed from the A70;
- Ready-mix Concrete: Likely to be supplied from the adjacent Breedon Killoch depot;
- HV electrical equipment: Likely to be supplied from the south via the A76 from the Central Belt, but to be confirmed upon confirmation of transformer model and supplier;
- General construction supplies: Supplied from Ayr, via the A70;
- General site deliveries: Supplied from Ayr, via the A70; and
- Construction Staff: Accessing the site from the local area, with 50% based in Ayr and to the west of the site and the remainder from Cumnock and to the east of the site.

These general distributions have been applied to the peak of construction activities to estimate the likely peak traffic associated with construction activities. The peak construction traffic flows are summarised in Table 1.

Table 1: Peak Construction Traffic Flows

Description	Cars & LGV	HGV	Total Traffic
A70 (West of Site)	8	2	10
A70 (East of Site)	8	65	73

The daily Car & LGV flows are not significant in traffic terms. HGV traffic volumes are considered low and an HGV movement on the public roads will occur at 7 movements per hour (assuming an 10-hour working period) at the peak of construction activities.

The impact of this number of HGV movements on the A70 and the surrounding communities, all of which lie on a district distributor A class road are considered low and can be managed by a Construction Traffic Management Plan (CTMP) to ensure that any disruption and disturbance can be kept to a minimum.

5 Construction Traffic Management Proposals

The traffic management proposals in this report will be provided to the Principal Contractor and they will be required to abide by these regulations as part of their commercial contracts with the Applicant. Failure to follow the traffic management measures proposed would be a contractual matter and could result in contractors being dismissed from the site.

Pages with information about the construction of the development will be available on the project website. These will be updated throughout the construction period. If visitors to the site are unable to find the answer to their question in the webpages, an email address will be provided on the project website to contact the Applicant. In addition, details will also be circulated via a newsletter advising about ongoing activities. A telephone number for the Principal Contractor would be published during operational hours to resolve any traffic management problems that occur, and these calls would be logged and reported to the Applicant on a weekly basis to monitor the situation.

All contractors will be monitored through regular spot-checks to ensure they follow the approved access route(s). Access routes identified will be clearly defined in all sub-contracts and signposted.

The site access junction will be kept clear at all times during construction and will be monitored by on-site staff to ensure vehicles do not attempt to use the area for parking.

Use of a visible vehicle identification system for HGV deliveries should be employed to ensure compliance with the agreed route and driver behaviour standards. This will allow the public to identify any rogue vehicles to the site office for easy recognition and review.

The Applicant will also create a protocol for working with local businesses to ensure the construction traffic does not interfere with deliveries or normal business traffic wherever possible.

The following measures would be provided to assist in managing traffic across the study area road network.

5.1 General Measures

Wherever reasonably possible, local suppliers such as quarries and concrete works are proposed to help minimise traffic levels of the network.

The following measures would be implemented through this CTMP during the construction phase:

- Contractual requirement in the BoP contract that contractors will only use the agreed access route;
- Direction signage signposting traffic on the agreed access route;
- Identification numbers of HGV and vans to allow easy recognition;
- Providing the public with details of how to report use of unapproved routes or driving issues of concern;
- Using GPS trackers to allow the monitoring of bulk delivery vehicle movements;
- Setting out site staff disciplinary measures for those who ignore the agreed access route and enforcing these throughout the construction period;
- All site vehicles will feature “white noise” reversing warning devices to reduce noise disruption when on site;
- All materials delivery lorries (dry materials) will be sheeted to reduce dust and stop spillage on public roads;
- Specific training and disciplinary measures will be established to ensure the highest standards are maintained to prevent construction vehicles from carrying mud and debris onto the carriageway;
- Wheel cleaning facilities will be established at the site entrance. A road sweeper would also be provided at site to ensure that the A70 is kept clean at the site access junction during the development platform works; and

- Site induction for all staff instructing them on what route to site they can use to enter and exit the site and obtaining their acknowledgement that there is only one approved access route. The induction would include:
  - A tool box talk safety briefing;
  - The need for appropriate care and speed control;
  - A briefing on driver speed reduction agreements (to slow site traffic at sensitive locations through towns and villages on the route); and
  - Identification of the required access routes and access junction operation and the controls to ensure no departure from these routes.

5.2 Road Signage

A junction signage strategy will be prepared and agreed with East Ayrshire Council / ARA prior to works commencing. The strategy will include the following:

- Site access signage to advise other road users of increased movements at the junction; and
- Chapter 8 (Traffic Signs Manual) “Slow Down” and “Heavy Plant Crossing” signage on the A70 within 100m of the site access junction.

Regular maintenance will be undertaken at the sign locations to keep the plates clean and to ensure they do not block the public footway and remain upright on their temporary mountings.

5.3 Wear & Tear Agreement

An agreement is suggested to cover the cost of any abnormal wear and tear on the A70 in the vicinity of the access junction. This would be agreed with the Ayrshire Roads Alliance subject to the granting of planning approval.

The wear & tear agreement will address concerns about possible damage to the public road, verges and structures. It will be based upon condition surveys of the road to ensure that the condition of the road does not deteriorate as a result of the construction works.

Video footage of the pre-construction phase condition of the agreed area covered by the condition survey would be recorded to provide a baseline of the state of the road prior to any construction work commencing. This High Definition (HD) baseline review would inform any change in the road condition during the construction stage of the proposed Development as it notes the existing condition of the road surface and features and details current condition.

The condition survey would feature still images for the survey and would measures specific defects to monitor their progression. Locations of points would be accurately logged using a GPS tracker.

To agree the current state of the road, the report would be agreed with the Council prior to construction works commencing.

Any immediate necessary repairs would be coordinated with the Ayrshire Roads Alliance. Any damage caused by traffic associated with the proposed Development, during the construction period that would be hazardous to public traffic, would be repaired immediately.

During construction activities, a general road wear and tear review would be undertaken with the ARA every four months during construction. Interim reviews will be undertaken by the principal contractor on a regular basis and the progress reports issued to the Applicant.

Any damage to road infrastructure caused directly by construction traffic would be made good, and street furniture that is removed on a temporary basis would be fully reinstated.

There would be a regular road edge review and any debris and mud would be removed from the public carriageway to keep the road clean and safe during the initial months of construction activity, until the construction junction and immediate access track works are complete.

Where defects occur, the principal contactor will ensure that they maintain a stockpile of road repair material on site to undertake repair works quickly and efficiently, when authorised by the Council to undertake interventions.

Upon completion of construction activities, a follow-on condition review will be undertaken around the site access junction and a defects list prepared. Works required to reinstate the road back to its original condition would be undertaken at the Applicant's expense follow a review by the ARA.

There are cases where defects will need to be undertaken quickly and the contractor will have arrangements in place to respond to serious and significant defects within agreed hours.

5.4 Turning Facilities & Banksmen

For safety reasons both onsite and for other road users, the site has been designed so all vehicles can enter and exit the site in a forward gear. No vehicle shall reverse onto unmanaged public roads and shall only enter / exit the site using forward gear only.

A banksman will be provided at the site access to help guide traffic within the site and to ensure health and safety access for the site. The banksman will be in radio contact with the wider site compound to advise of movements to and from the site.

Upon completion of construction works, a gate will be provided on the access track at its junction into the proposed Development. The gate will be set back from the public road to ensure that any future HGV vehicles can stop at the gate without blocking back onto the track.

6 Summary

This combined Transport Statement & Construction Traffic Management Plan has considered the likely impact of traffic generated by the proposed development on the local road network.

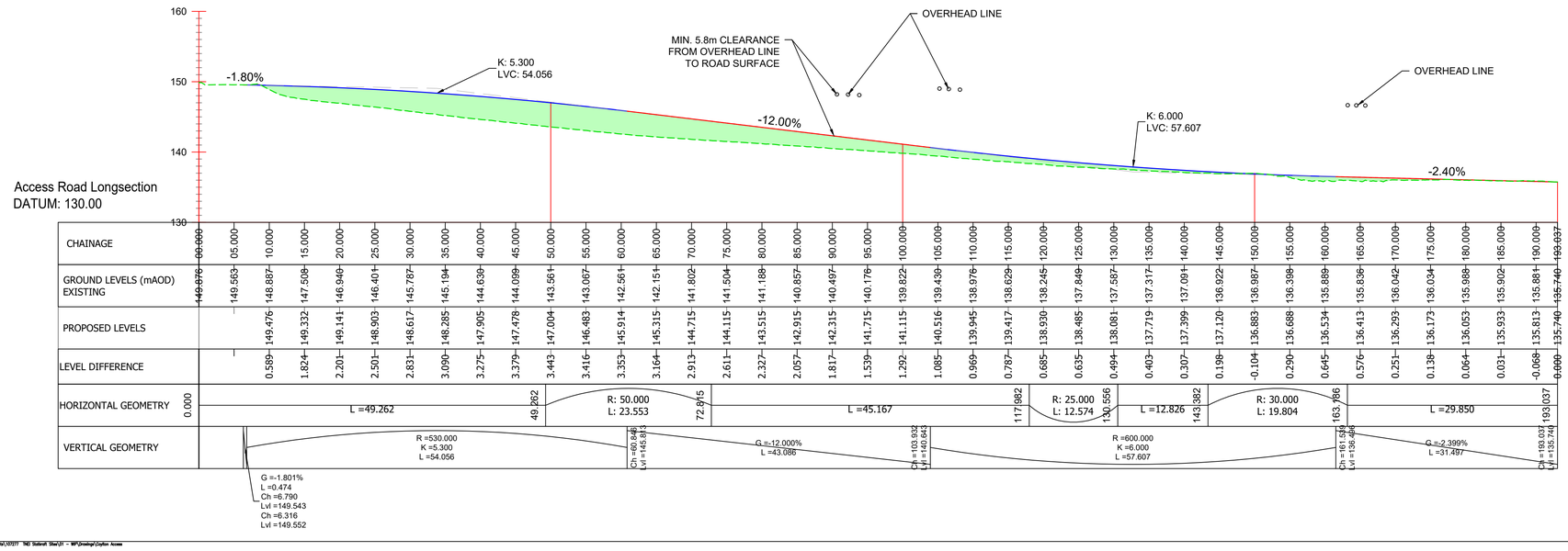
A review of the type and volume of vehicles associated with the construction programme has been provided and the peak of construction activities identified. This peak in traffic has been used to review the likely impact that construction activities would have.

Construction of the proposed Development will generate approximately 83 movements vehicle movements per day at the peak of construction. It is expected that during the peak month of construction (Month 4), 67 two-way HGV movements per day will occur per day. A further 16 car / LGV trips would be created by construction staff travelling to and from the site.

Traffic management procedures have been proposed within this report which would ensure the safe operation of the approach route to the site during construction. Determination of the final details of these traffic management measures will occur once the BoP contractor has been appointed.

As the proposed Development will not be manned, operational traffic is expected to be minimal and would be conducted by smaller vehicles. The impact of this on the wider road network will be negligible.

Appendix A Site Access Junction



Access Road Longsection
DATUM: 130.00

CHAINAGE	0.000	05.000	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000	55.000	60.000	65.000	70.000	75.000	80.000	85.000	90.000	95.000	100.000	105.000	110.000	115.000	120.000	125.000	130.000	135.000	140.000	145.000	150.000	155.000	160.000	165.000	170.000	175.000	180.000	185.000	190.000	193.037
GROUND LEVELS (mAOD) EXISTING	149.876	149.563	148.887	147.508	146.940	146.401	145.787	145.194	144.630	144.099	143.561	143.067	142.561	142.151	141.802	141.504	141.188	140.857	140.497	140.176	139.822	139.430	138.976	138.629	138.245	137.849	137.587	137.317	137.091	136.922	136.987	136.398	135.889	135.836	136.042	136.034	135.988	135.902	135.881	135.740
PROPOSED LEVELS		149.476	149.332	149.141	148.903	148.617	148.285	147.905	147.478	147.004	146.483	145.914	145.315	144.715	144.115	143.515	142.915	142.315	141.715	141.115	140.516	139.945	139.417	138.930	138.485	138.081	137.719	137.399	137.120	136.883	136.688	136.534	136.413	136.293	136.173	136.053	135.933	135.813	135.740	
LEVEL DIFFERENCE		0.589	1.824	2.201	2.501	2.831	3.090	3.275	3.379	3.443	3.416	3.353	3.164	2.913	2.611	2.327	2.057	1.817	1.539	1.292	1.085	0.969	0.787	0.685	0.635	0.494	0.403	0.307	0.198	-0.104	0.290	0.645	0.576	0.251	0.138	0.064	0.031	-0.068	0.000	
HORIZONTAL GEOMETRY	0.000	L =49.262									49.262	R: 50.000 L: 23.553					72.815	L =45.167							117.982	R: 25.000 L: 12.574		130.556	L =12.826	143.382	R: 30.000 L: 19.804			163.466	L =29.850					193.037	
VERTICAL GEOMETRY		G =-1.801% L =0.474 Ch =6.790 Lvl =149.543 Ch =6.316 Lvl =149.552				R =530.000 K =5.300 L =54.056							Ch =60.846 Lvl =148.887					G =-12.000% L =43.086				Ch =103.932 Lvl =140.843						R =600.000 K =6.000 L =57.607							Ch =161.566 Lvl =136.883				G =-2.399% L =31.497			Ch =193.037 Lvl =135.740	

NOTE:

1. ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATION FOR HIGHWAY WORKS AND THE TURBINE MANUFACTURERS STANDARDS AND ALL RELEVANT DRAWINGS WITHIN THE PROJECT DESIGN PACKAGE.
2. ALL WORKS TO BE EXECUTED IN ACCORDANCE WITH THE DMRB, THE MANUAL OF CONTRACT DOCUMENTS FOR HIGHWAY WORKS, DESIGN MANUAL FOR ROADS AND BRIDGES, AND TRAFFIC SIGNS MANUAL.
3. ALL DIMENSIONS ARE IN METRES UNLESS STATED OTHERWISE. ALL LEVELS ARE IN METRES AND RELATE TO ORDNANCE DATUM.
4. DO NOT SCALE FROM ANY DRAWING. WORK TO FIGURED DIMENSIONS ONLY. ANY DISCREPANCIES IN DIMENSIONS ARE TO BE REFERRED TO THE DESIGNER BEFORE WORK IS PUT TO HAND.
5. ALL DIMENSIONS AND LEVELS ARE TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO PREPARING ANY WORKING DRAWINGS OR COMMENCING ON SITE.
6. ALL WORKS BY THE CONTRACTOR MUST BE CARRIED OUT IS SUCH A WAY THAT ALL REQUIREMENTS UNDER THE HEALTH AND SAFETY AT WORK ACT ARE SATISFIED.
7. ALL WORKS ARE TO BE CARRIED OUT IN COMPLIANCE WITH THE REQUIREMENT OF THE STATUTORY AUTHORITIES AND CONSTRUCTION DESIGN MANAGEMENT REGULATIONS.

KEY – PLAN VIEW:

- PROPOSED MAJOR CONTOUR (0.5m)
- PROPOSED MINOR CONTOUR (0.1m)

KEY – LONG-SECTIONS:

- EXISTING GROUND PROFILE
- PROPOSED GROUND PROFILE
- CUT AREA
- FILL AREA

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Client
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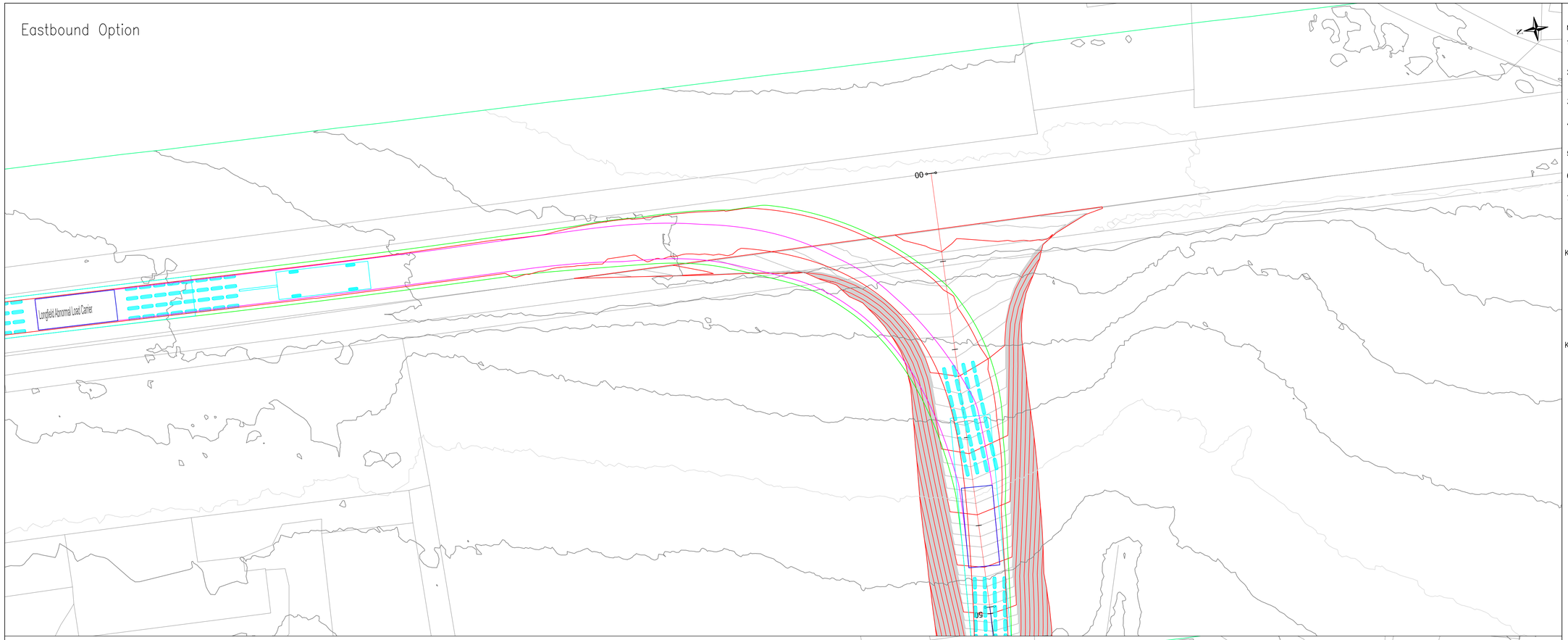
Project
COYLTON BESS

Drawing Title
ACCESS JUNCTION AND TRACK

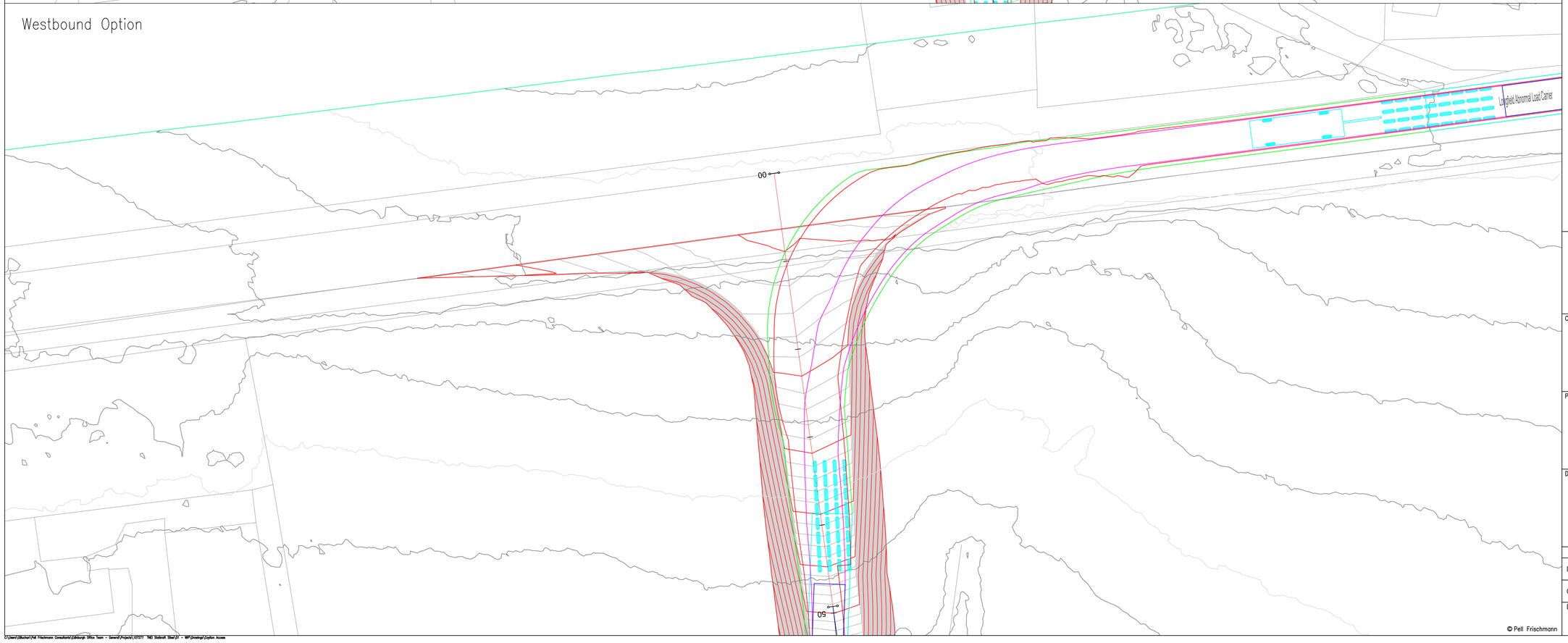
	Name	Date
Designed	RL	24.09.2023
Checked	SM	24.09.2023

Scale 1:400 @ A1
File 230924 Coylton Planning
Drawing Status DRAFT
Drawing No. SK01
Revision P1

Eastbound Option



Westbound Option



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Client

STATKRAFT

Project

COYLTON BESS

Drawing Title

TRANSFORMER SWEPT PATH ASSESSMENT

	Name	Date	Scale
			##### @ A1
Designed	RL	11.10.2023	File: 23105 Coylton Planning
Checked	SM	11.10.2023	Drawing Status: DRAFT

Drawing No.: SK02

Revision: P1

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Appendix B Construction Programme

Construction Programme

Element	Vehicle														
Month		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
Site Establishment / Reinstatement	HGV	150													150
General Deliveries	HGV	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Site Clearance & Preparation	HGV	566	566	566	566										
Access Tracks	HGV			102	102	102									
Geotextile	HGV		2												
Development Platform	HGV			759	759	759	759								
Foundation Steel	HGV							2	2						
Foundation Concrete	HGV							471	471	471					
Cabling	HGV						8								
Cable Sand	HGV						108	108							
EV Gear & Switchgear	HGV							14							
Cranes	HGV							20			20				
Batteries & Invertors	HGV									66	22				
Buildings	HGV							36	36	36	36				
Fencing	HGV										50				
Fit Out	HGV											50	50		
Landscaping	HGV													88	88
Escort Vehicles	LGV							6							
Commissioning	LGV												88	88	88
Staff	LGV	308	308	308	361	572	572	572	572	572	572	572	572	308	308
Total		1064	916	1775	1828	1473	1487	1269	1121	1185	740	662	750	524	674
Total HGV		756	608	1467	1467	901	915	691	549	613	168	90	90	128	278
Total LGV		308	308	308	361	572	572	572	572	572	572	572	660	396	396
Total HGV / Day		***34***	***28***	***67***	***67***	***41***	***42***	***31***	***25***	***28***	***8***	***4***	***4***	***6***	***13***
Total LGV / Day		***14***	***14***	***14***	***16***	***26***	***26***	***26***	***26***	***26***	***26***	***26***	***30***	***18***	***18***
Total per Day		***48***	***42***	***81***	***83***	***67***	***68***	***57***	***51***	***54***	***34***	***30***	***34***	***24***	***31***