



Scottish Power Energy Networks

Kennoxhead Windfarm to Coalburn Substation Overhead Line

Transport Statement

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RSK



RSK GENERAL NOTES

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1 INTRODUCTION

1.1 General

RSK have been instructed by ScottishPower Energy Networks (SPEN) to prepare inputs to the emerging EIA submission and Transport Statement (TS) in support of a Section 37 (S37) consent application (with deemed planning consent under Section 57(2) of the Town and Country Planning (Scotland) Act 1997 for the development and any ancillary works) for the construction of a 132 kV continuous overhead line (OHL) between Kennoxhead Windfarm (Grid ref: 277165E 624386N) and Coalburn Substation (Grid ref: 282510E 637337N), which lies approximately 17 km north-north-east of the windfarm.

1.2 Background

The proposed development, for the purpose of the application for consent, comprises the construction and operation of approximately 17 km of 132 kV OHL. The OHL will be supported on wood poles. A total of 3.5 km of underground cable is proposed at the northern and southern ends of the route to make the connection into Coalburn Substation and Kennoxhead Windfarm substation, respectively, and avoid a proposed wind turbine.

While the S37 consent is concerned only with the installation of the OHL, the applicant is also seeking deemed planning permission for the proposed development and any ancillary works. Ancillary works for a wood pole line may include minor work to form new or improve existing bell mouths at public road access points, to provide temporary construction access tracks and working areas and construction compounds.

1.3 Purpose of the Transport Statement Report

This report provides details of the estimated traffic movements of the construction phase of the OHL on the local road network to be used for access. Traffic flows associated with the construction phase of the works is greater than the anticipated operational traffic, and therefore represents a robust assessment of potential impact on the local highway network.

In addition to this, the report sets out the preliminary details of the temporary access points to the various work areas along the route of the OHL which have been agreed in principle during consultation with Road Officers of South Lanarkshire Council (SLC).

1.4 Purpose and Structure of Report

The following chapters describe the work that has been undertaken as part of this study. The report is structured as follows:

- Chapter 2 details the development proposals;
- Chapter 3 describes the primary routing for construction traffic, as well as quantifying the predicted construction vehicle traffic flows on the local road network;
- Chapter 4 describes the agreed in principle means of access to the various working areas along the OHL route; and
- Chapter 5 provides an overall summary.

2 PROPOSED DEVELOPMENT

2.1 Overhead Line Infrastructure

2.1.1 General

The proposed development comprises the construction of a new 17 km 132 kV single circuit wood pole (Trident) OHL and two sections of underground cable at each end of the OHL to allow connection, totalling approximately 3.5 km, connecting the consented Kennoxhead Wind Farm Substation and the existing Coalburn Substation.

The route of the proposed development is described in **Chapter 1: Introduction** of the EIA Report and shown in **Chapter 4: Development Description Figure 4.1a-f**, along with the locations of the ancillary development.

2.1.2 Wood Poles

Wood poles are proposed for the single circuit line operating at 132 kV. Wood poles are fabricated from pressure impregnated softwood, treated with a preservative to prevent damage to structural integrity. New wood poles are dark brown in colour and weather over the years to a light grey.

Double (also known as 'H') poles are proposed to be used for the proposed development, with 169 H wood poles being required in total. There are three types of wood pole required:

- Intermediate: where the pole forms part of a straight-line section;
- Angle: where the OHL requires a change of direction. All angle structures will require to be back stayed. The maximum allowable angle deviations permitted on 'H' pole section is 75°, subject to special limitations; and
- Terminal: where the OHL terminates into a substation or on to an underground cable section via a cable sealing end.

Further details are provided in **Chapter 4: Development Description** of the EIA Report.

2.1.3 OHL Components

The line will carry one 3-phase circuit, which means that the poles will support three conductors. Each conductor is made of aluminium alloy, with a cross-sectional area of 200 mm². The trident design has no earth wire however the middle phase conductor will incorporate a fibre-optic telecommunication wire for control purposes.

Insulators attached to the pole cross-arms support the conductors and prevent the electric current from crossing to the pole body. The insulators are likely to be made from a polymeric compound (grey plastic).

2.1.4 Underground Cable

Approximately 0.3 km of underground cable would be installed to connect the OHL with Coalburn Substation. Another underground cable, approximately 3.2 km long would be installed to connect the OHL with Kennoxhead Wind Farm Substation.

2.1.5 Ancillary Development

In addition to the components detailed above, which are considered to be permanent for the purposes of the applications for S37 consent and deemed planning permission and the EIA process, other ancillary development will be required during the felling and construction phase. This ancillary development will be in situ on a temporary basis, during the felling and construction phases only, and will be reinstated once the proposed development is commissioned. These ancillary components comprise:

- 60 m wayleave for route;
- Access tracks;
- Access from public roads;
- Watercourse crossings;
- Working areas (around wood poles);
- Laydown areas/construction compounds; and
- Winching/pulling areas.

2.2 Overhead Line Construction and Maintenance

OHL construction typically follows a standard sequence of events as follows:

- Prepare access to the pole locations using existing access tracks (farms, windfarms, etc) as appropriate;
- Erect wood poles;
- String conductors; and
- Reinststate pole sites and remove temporary accesses.

Temporary accesses will be constructed, as necessary, and laydown/storage areas established to facilitate development depending on ground conditions. In some cases it can be possible to access work locations by tracked/low ground pressure vehicles. However, trackway panels or temporary stone roads may be required in some circumstances. Following commissioning of the OHL, all equipment and temporary access of construction areas will be removed with the land being reinstated to the satisfaction of the landowner.

For wood pole line construction, the 'poles' are typically erected using normal agricultural machinery such as an excavator with a lifting arm. A tracked excavator and low ground-pressure vehicles, (e.g., tractor, ATV, quad bikes) are used to deliver, assemble and erect each wood pole structure at each location. The erection of the wood poles requires a typical excavation of 3 m² x 2 m deep. The excavated material is segregated into appropriate layers and used for backfilling. It is relatively rare for concrete or other backfill to be used in the foundations of wood poles. This would normally only be used where ground conditions are particularly unstable (identified by site investigations). An excavator is typically used to hoist the assembled structure into position and once the structure has been braced in position the trench is backfilled.

Stringing of conductors. The conductors would be winched to/pulled from section poles; these poles therefore require access for heavy vehicles to transport the conductor drums and large winches. Where the OHL crosses a road a scaffold tunnel would be used to protect the vehicles from the works. Existing distribution lines would be either switched off, deviated or protected using 'live line' scaffolds.



Reinstatement of pole sites and removal and reinstatement of temporary infrastructure sites. In all cases, every effort is made to cause the least disturbance to landowners and local residents during construction. Following completion all ground disturbance resulting from the construction of the new line is reinstated.

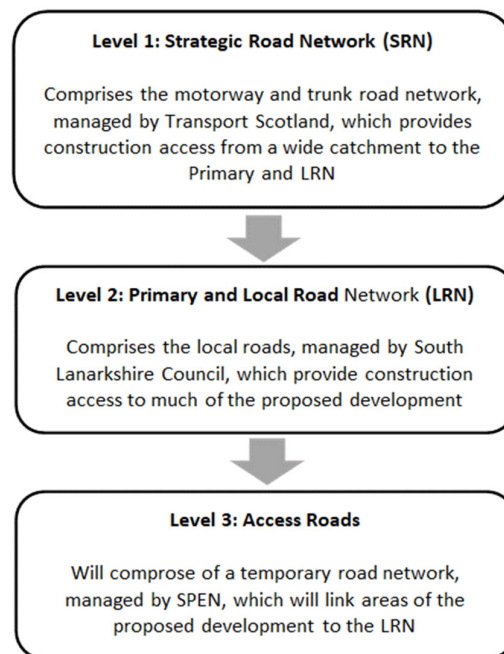
3 ACCESS & ROUTE STRATEGY

3.1 Introduction

As part of the project, access is required to construct the various elements of the proposed development. This is proposed to be via the 11 access locations along the length of the route. These accesses are varied in location, type, nature, size and whether they exist or not currently.

To provide access to the proposed development, there are three levels of access roads outlined in **Figure 3.1** below:

Figure 3.1: Construction Access Hierarchy



3.2 Consultation on Access

Roads Officers of SLC have been engaged in discussion with RSK and the application regarding the location of temporary accesses to be formed for the construction phase of the OHL. Details of the proposed access locations are described in greater detail in this section of the report and form the basis of an agreement in principle between the applicant and SLC Roads Officers on access points and the principle of traffic management to be used during the construction programme of the works.

3.3 Transport Routes and Site Access Points

The routing strategy has been agreed with SLC. The proposed construction routes link haul roads to Local Road Network (LRN) and to the Strategic Road Network (SRN). The primary consideration for the routing strategy is:

- To use shortest route from location of access points to SRN;
- As far as possible use A roads as first priority, then B roads, then C roads and then unclassified roads;
- Where possible avoid single carriageway roads unless these provide direct access to a construction site; and
- To avoid settlements and sensitive receptors to minimise impact on villages and towns and sensitive road users.

Transport routes and location of the site access points are shown in **Appendix A**.

The proposed construction site access route to the proposed development will be via existing, new and temporary tracks from existing SLC and Trunk roads. At a number of locations new bell mouths will be installed where site access tracks adjoin the public roads. Existing bell mouth openings from the public highway will be improved to SLC requirements including widening and work carried out to improve sightlines.

More detailed drawings of the site access points, are provided in **Appendix B**.

The proposed access points from existing SLC and Trunk roads for the construction of the new OHL are outlined in **Table 3.1** below, working from north to south along the cable route.

Table 3.1: Site Access Points

Access Point	Road Name	Poles	Proposed Means of Access	Location
1	Coalburn Road (Substation)	164 – 168	Existing field access opening to be upgraded to form a bell mouth opening with visibility splays. A bound running surface to be provided for the first 15 m into the OHL working area with a stepped construction joint at its interface with Coalburn Road. Detail of the access construction TBC.	NS 81607 37626 (Lat, Lon: 55.617769, - 3.8814129)
2	Coalburn Road (opp. Hollandbush Golf Course)	154 – 163	Existing field access opening to be upgraded to form a bell mouth opening. Restricted visibility will require control of this access using 3-way traffic signals. A bound running surface to be provided for the first 15 m into the OHL working area with a stepped construction joint at its interface with Coalburn Road. Detail of the access construction TBC.	NS 81270 36754 (Lat, Lon: 55.609856, - 3.8863835)

Access Point	Road Name	Poles	Proposed Means of Access	Location
3	Coalburn Road, south of Glaikhead (East)	151 – 153	Existing field access opening to be upgraded to form a bell mouth opening with visibility splays. A bound running surface to be provided for the first 15 m into the OHL working area with a stepped construction joint at its interface with Coalburn Road. Detail of the access construction TBC.	NS 81181 36036 (Lat, Lon: 55.603389, - 3.887499)
4	Coalburn Road, south of Glaikhead (West)	146 – 150	Existing field access opening to be upgraded to form a bell mouth opening with visibility splays. A bound running surface to be provided for the first 15 m into the OHL working area with a stepped construction joint at its interface with Coalburn Road. Detail of the access construction TBC.	NS 81181 36036 (Lat, Lon: 55.603389, - 3.887499)
5	Shoulderigg Road	142 – 145	New field access opening to be upgraded to form a bell mouth opening with visibility splays. A bound running surface to be provided for the first 15 m into the OHL working area with a stepped construction joint at its interface with Shoulderigg Road. Detail of the access construction TBC.	NS 80533 35625 (Lat, Lon: 55.599532, - 3.8975903)
6	Shoulderigg Road	128 – 141	Existing access with track / stone road.	NS 80533 35625 (Lat, Lon: 55.599532, - 3.8975903)
7	M74 Poniel Interchange	97 – 127	Existing access to the disused Dalquhandy Opencast Coal Site (OCCS) via the John Dewar & Sons access road from Poniel Interchange on the A74(M).	NS 84561 34650 (Lat, Lon: 55.575528, - 3.854995)
8	M74 Poniel Interchange	77 – 96	John Dewar & Sons access road from Poniel Interchange on the A74(M).	NS 84561 34650 (Lat, Lon: 55.575528, - 3.854995)
9	Station Road	55 – 76	Existing access to Hagshawburn Wind Farm.	NS 83329 30307 (Lat, Lon: 55.552457, - 3.8510004)

Access Point	Road Name	Poles	Proposed Means of Access	Location
10	A70	34 – 54	Existing field access opening to be upgraded to form a bell mouth opening with visibility splays. A bound running surface to be provided for the first 15 m into the OHL working area with a stepped construction joint at its interface with A70 Ayr Road. Detail of the access construction TBC.	NS 79958 27778 (Lat, Lon: 55.528927 , - 3.9033088)
11	A70	Buried Cables and 1 – 33	Existing access to the disused Glentagart OCCS.	NS 79944 27780 (Lat, Lon: 55.528936 , - 3.9035301)

3.4 Local highway issues and constraints

Site audits along the proposed construction access routes were conducted and discussions held with SLC throughout the project development process.

The study area encompasses all vehicular routes to be used between the proposed development's main compound and individual work areas. A number of common issues and constraints were identified in regard to the study area. These are set out in **Table 3.2** below and many have been mitigated through the design development process.

Table 3.2: Common Issues and Constraints Identified

No.	Issue / Constraint	Mitigated at Stage	Notes
1	Sensitive, built-up areas (villages, towns) to be avoided by temporary construction traffic due to congestion, reduction of safety and air and noise pollution	Construction route planning stage	<p>Routing of vehicles and access to working areas has been discussed during the pre-planning application stages. The location of the main compound off Poniel Interchange avoids the highest HGV and general personnel traffic movements from entering built up areas.</p> <p>HGVs and pooled personnel vehicles will disperse across working areas using the local road network, generally avoiding built up areas, with the levels of traffic identified in Chapter 2.</p> <p>Notwithstanding, the final construction routing, construction vehicle and personnel travel will be managed through a Construction Traffic Management Plan (CTMP) agreed between the Principal Contractor and SLC Officers.</p>

No.	Issue / Constraint	Mitigated at Stage	Notes
2	Avoidance, if possible, of built-up areas to remove conflicts with parking areas and local roads and streetscapes	Construction route planning stage	<p>Routing of vehicles and access to working areas has been discussed during the pre-planning application stages. The location of the main compound off Poniel Interchange avoids the highest HGV and general personnel traffic movements from entering built up areas.</p> <p>HGVs and pooled personnel vehicles will disperse across working areas using the local road network, generally avoiding built up areas, with the levels of traffic identified in Chapter 2.</p> <p>Notwithstanding, the final construction routing, construction vehicle and personnel travel will be managed through a CTMP agreed between the Principal Contractor and SLC Officers.</p>
3	Avoidance of narrow rural roads	Construction route planning stage	<p>Routing of vehicles and access to working areas has been discussed during the pre-planning application stages.</p> <p>Routing of vehicles to/from the main compound off Poniel Interchange and the working areas uses the local road network which in general are capable of handling construction vehicles (including HGVs). Shoulderigg Road has been identified by Roads Officers as a Category 4 Road not suitable for continual use by construction traffic. It has been agreed that condition surveys will be carried out pre and post construction with any identified damage attributable to the works being repaired with a particular focus on Shoulderigg Road.</p> <p>Emergency repairs will be carried during construction where any damage poses a risk to road safety or where non-repair will lead to more extensive damage and associated repair costs.</p> <p>Notwithstanding, the final construction routing, construction vehicle and personnel travel will be managed through a CTMP agreed between the Principal Contractor and SLC Officers.</p>

No.	Issue / Constraint	Mitigated at Stage	Notes
4	Limited visibility at bell mouths	Bell mouth selection and design stage	Bell mouth positions and designs to be agreed with SLC. In general visibility splays accord with the posted speed limits on the routes used. Speed surveys were carried out on Coalburn Road to identify where relaxations in the Design Standard could be applied to assist with achieving acceptable access points taking into consideration geometrical and environmental constraints along this particular section of the road network where access was required.
5	Impacts on pedestrians (Core Paths), cyclists (National Cycle Network, Sustrans and local routes) and equestrians (local routes)	Construction route planning stage and bell mouth design stage	Route is generally in a rural location. Certain parts will potentially experience pedestrian and cycle activity e.g. where there are marked routes such as the B7087 Old Carlisle Road and in small settlements such as Douglas where there are roadside footways. However, the estimated increase in traffic resulting from the construction phase of the development is not significant.
6	Construction traffic impacts on capacity of junctions and links on the construction routes (SRN and Local Highway Network)	Transport and Construction route planning stage, Transport Statement, CTMP and mitigation	
7	Environmental interests in the local areas, i.e. conservation areas, monuments, listed buildings and Sites of Specific Significance Interest (SSSI)	Mitigation identified in the EIA Report and supporting documents and implemented via the CEMP and accompanying documents	

3.4.1 Road Classification

The routes to site have been assessed on the principle that the construction vehicles use the major highways network (A and B Roads) for as long as possible before joining smaller roads to access the site.

3.4.2 Road Layout

The routes to site have been assessed on the principle that the construction vehicles avoid any particularly sensitive junctions in the local area and areas where road layout may be an issue.

3.5 Work Area Access Details

3.5.1 Access 1 – Coalburn Road (west of Coalburn Substation)

This proposed works access provides an access point to the east off Coalburn Road, to the west of the Coalburn Substation, associated with an existing access track. Access will be provided here to the works area for OHL Poles 164-168.

Site observations confirm that the visibility to either side is very limited mainly due to the local topography and road alignment, as well as vegetation to either side of the access.

Visibility to the left (south) is mainly restricted by the ground level to the south in relation to the falling road alignment in addition to dense hedges which appear to be rooted in the road verge. The road alignment falls and bends to the left travelling in the southbound direction passing the site before crossing a bridge/culvert over a water course that also acts as a constriction in the road width.

On the recommendation of SLC Officers speed surveys were carried for this location and the further access points proposed along Coalburn Road to determine the observed vehicle speeds given the prevailing road geometry at any specific location to identify whether a relaxation in the visibility design standard from the Design Manual for Roads and Bridges could be applied. Speed measurements were carried out to the north of the proposed access point to determine the southbound vehicles on the downhill grade approaching the bridge and secondly to the south of the access to determine the vehicles speeds as they accelerate on the northbound uphill grade away from the bridge. Observed speeds determined that the maximum 85th percentile speed on this section of Coalburn Road is 46 mph thus dictating a desirable visibility Y-distance of 160 m.

Drawings 661718-10-01D, 661718-10-06D and 661718-10-21E in **Appendix B** illustrate the indicative temporary access junction layout, HGV swept path analysis and visibility splay.

3.5.2 Access 2 – Coalburn Road (east of Hollandbush Golf Course)

This proposed works access provides an access point to the east off Coalburn Road, opposite Hollandbush Golf Club and is associated with an existing plantation access track. Access will be provided here to the works area for OHL Poles 154-163.

Site observations noted that the visibility is highly restricted in both directions by the overgrown bushes, trees and vegetation in the road verge and adjacent land.

During the site visit it was observed that it is possible to achieve visibility in both directions up to the distance of approximately 100 m – 120 m without removal of substantial amount of vegetation. However, there is a tree within the area required for the access formation which will have to be removed to construct the access.

Limitations in the visibility at the access were acknowledged by SLC and from on-site discussions and it was agreed that the most appropriate solution to permit the use of this access for the work area would be 3-way traffic signals combined with appropriate traffic management including the temporary reduction in speed limit on the north and southbound approaches to the access.

Drawings 661718-10-02C, 661718-10-07C and 661718-10-12C in **Appendix B** illustrate the proposed access junction design, Swept Path Analysis using Articulated HGV (16.5 m) and the visibility splay (2.5 m x 215 m) for a standard priority-controlled junction is shown but this would be reduced with the use of 3-way traffic signal control.

3.5.3 Access 3 – Coalburn Road, south of Glaikhead (East)

This access will be a new access opening with construction details to be agreed with SLC post planning consent for the OHL works. Access will be provided here to the works area for OHL Poles 151-153.

Site observations confirm that there are no restrictions to visibility to the left (south) or right (north) of the junction. The location of this junction was agreed in consultation with SLC Roads Officers through site visits and written dialogue.

Drawings 661718-10-03E, 661718-10-08E and 661718-10-13E in **Appendix B** illustrate the indicative temporary access junction layout, HGV swept path analysis and visibility splay.

3.5.4 Access 4 – Coalburn Road, south of Glaikhead (West)

This access will be a new access opening with construction details to be agreed with SLC post planning consent for the OHL works. Access will be provided here to the works area for OHL Poles 146-150.

Site observations confirm that there are no restrictions to visibility to the left (south) or right (north) of the junction. The location of this junction was agreed in consultation with SLC Roads Officers through site visits and written dialogue.

An overhead telephone cable spans across the location of the proposed access on wooden poles. It is understood this section of the telephone line is to be undergrounded during the works in order to prevent damage from higher sided HGVs from damaging the line and interrupting services for residents.

Drawings 661718-10-22C, 661718-10-23C and 661718-10-24C in **Appendix B** illustrate the indicative temporary access junction layout, HGV swept path analysis and visibility splay.

3.5.5 Access 5 – Shoulderigg Road (North)

This access will be a new access opening with construction details to be agreed with SLC post planning consent for the OHL works. Access will be provided here to the works area for OHL Poles 142-145.

Site observations confirm that there are no restrictions to visibility to the left (south) or right (north) of the junction. The location of this junction was agreed in consultation with SLC Roads Officers through site visits and written dialogue.

Site observations confirm that visibility to either side of the proposed access point measured to a y-distance 215 m, is interrupted by intermittent vegetation to the back of the road verge consisting of small bushes / young trees which will need to be trimmed / removed.

SLC Roads Officers confirmed that the road would be classified as a Category 4 road, that being one not designed for continual use by HGV traffic. As such pre/post-construction condition surveys of the road surfacing will need to be carried out with any damage by construction traffic for the OHL works being rectified at the applicant's expense. Continual monitoring during the works will be required with any damage considered hazardous to driver safety or where damage may lead to more extensive and expensive repairs being repaired at the earliest opportunity.

Drawings 661718-10-16C, 661718-10-17C and 661718-10-18C in **Appendix B** illustrate the indicative temporary access junction layout, HGV swept path analysis and visibility splay.

3.5.6 Access 6 – Shoulderigg Road (South)

This access utilises an existing access opening which will require to be upgraded. Construction details to be agreed with SLC post planning consent for the OHL works. Access will be provided here to the works area for OHL Poles 128-141.

Site observations confirm that there are no restrictions to visibility to the left (south) or right (north) of the junction. The location of this junction was agreed in consultation with SLC Roads Officers through site visits and written dialogue.

Site observations confirm that visibility to either side of the proposed access point measured to a y-distance 215 m, is interrupted by intermittent vegetation to the back of the road verge consisting of small bushes / young trees which will need to be trimmed / removed.

As noted above Shoulderigg Road is considered to be a Category 4 road, therefore pre/post-construction condition surveys will be required along with ongoing monitoring and appropriate maintenance as noted above.

3.5.7 Access 7 – M74 Poniel Interchange (North)

This access is served from the M74 Junction 12, Poniel Interchange via the John Dewar & Sons Poniel bonded warehouse access road which also serves the former Dalquhandy OCCS and Douglas West wind farm. Given its former and current uses by HGV traffic it is not anticipated that the access will require upgrading. Access will be provided here to the works area for OHL Poles 97-127.

No new access junction is required.

Access will be provided to the main construction compound and work areas to the north, as noted above, and south for OHL Poles.

3.5.8 Access 8 – M74 Poniel Interchange (South)

This access is as Access 7 above, providing access to the work area for OHL Poles 77 – 96.

3.5.9 Access 9 – Station Road, Douglas

This access will be a new access opening with construction details to be agreed with SLC post planning consent for the OHL works. Access will be provided here to the works area for OHL Poles 55-76.

Site observations confirm that there are no restrictions to visibility to the left (south) or right (north) of the junction. The location of this junction was agreed in consultation with SLC Roads Officers through site visits and written dialogue.

3.5.10 Access 10 – A70 South of Glespin (North)

The access is an existing field access which will be upgraded to provide a suitable layout for the vehicles expected to use it during the works. Construction details to be agreed with SLC post planning consent for the OHL works. Access will be provided here to the works area for OHL Poles 34-54.

Site observations confirm that there are no restrictions to visibility to the left (south) or right (north) of the junction. The location of this junction was agreed in consultation with SLC Roads Officers through site visits and written dialogue.

Drawings 661718-10-05C, 661718-10-10C and 661718-10-15C in **Appendix B** illustrate the indicative temporary access junction layout, HGV swept path analysis and visibility splay.

3.5.11 Access 11 – A70 South of Glespin (South), Glentaggart OCCS

This access utilises the existing priority-controlled junction with the A70 serving the disused Glentaggart OCCS. It is not anticipated that any upgrades will be required to the form or surface construction given its former use.

Site observations confirm that there are no restrictions to visibility to the left (south) or right (north) of the junction. The location of this junction was agreed in consultation with SLC Roads Officers through site visits and written dialogue.

3.5.12 Summary

The location and form of the temporary access 'junctions' for the Kennoxhead OHL works has been agreed in principle with SLC, with specific design details reserved for relevant conditions attached to an emerging planning consent. Extensive consultation has taken place with SLC Road Officers including meetings, written dialogue, (speed) data collection and site visits to derive the layouts described in the sections above and illustrated in the appended drawings.

Notwithstanding the observations made in this TS, traffic management in accordance with the Traffic Signs Manual Volume 8 would be agreed with the Road Officers to provide advance warning of the works access points but also marking of the individual accesses. Junction form has been developed to facilitate access by the vehicles used in the construction of the OHL. Visibility splays have been detailed commensurate with the observed speed limits and verified through speed survey where necessary. With the exception of Access 1, visibilities accord with the prevailing National Speed Limit (60 mph) across the road network that will be used during the construction works. For Access 1, speeds surveys indicated 85th percentile vehicle speeds of 48 mph – thus permitting a relaxation in the required visibility splay. Access 2, opposite Hollandbush Golf Club, is a further exception to the standard form of temporary access, where the use of 3-way temporary traffic signals will be required in combination with further traffic management and a reduction in the permitted speed limit to 30 mph over the nearby section of Coalburn Road to the north and south of the access.

4 CONSTRUCTION TRAFFIC

4.1 Vehicle Classifications

A number of vehicle types will be used for the construction traffic. **Table 4.1** below details each vehicle type with a brief list of example vehicles.

Table 4.1: Typical Construction vehicle classification

Light (LGVs)	Medium (MGVs)	Heavy (HGVs)
Car	Excavator	40 Tonne Truck
Van	Winch Tractor	Low Loader
4x4 Pick-up	Tractor and trailer	Flat Bed
4x4 Transit	7 Tonne Truck	Truck
Welfare Van		Crane

The vehicles and specifications provided above have been identified based on similar projects by scale and type.

Construction machinery and on-site plant, vehicles and generator fuel tanks will be re-fuelled on site.

4.2 LGV and HGV movements

Due to the nature, design and rate of construction of the proposed development, it is anticipated that vehicle movements at any one pole location would be limited to three or four visits per day over the course of the construction period, which will not lead to any noticeable increase in traffic volumes on the surrounding road network.

It is not anticipated that any large-scale forestry will be felled during construction of the proposed development, therefore there will be no additional HGV traffic across the length of the route, and an assessment of effects on the public road network is not required.

4.3 Abnormal Indivisible Loads (AILs)

The proposed development does not require the movement of any abnormal indivisible loads (AILs) to transport plant to any of the relevant sites.

The Road Vehicles (Authorisation of Special Types) General Order 2003 sets out the categories of AILs with regard to weight, width and length. Depending on the size of the plant to be transported different arrangements may be required in terms of temporary traffic management and the management and timing of these movements. In the unlikely event that any movements of AILs will be required these will need to meet the standards and guidelines as set out in the Road Vehicles (Authorisation of Special Types) General Order 2003.

4.4 Project timescale

The proposed development will take approximately 12 months to complete. It is intended that the new OHL will be commissioned by Spring 2024. A preliminary construction programme is detailed in **Table 4.2** below.

Table 4.2: Preliminary Construction programme

Construction Activity	2023								2024		
	M	J	J	A	S	O	N	D	J	F	M
Mobilisation											
Environmental Mitigation											
Access Development											
Pole delivery – assembly – erection											
Wiring Works											
Site Reinstatement											
Demobilisation											

4.5 Origins of Traffic Movements

The origin of traffic movements will depend upon the materials being delivered. It is assumed the majority, if not all of the OHL equipment (including poles, electrical equipment and cabling) will come off the M74 via the Poniel Interchange and into the Construction, Design and Management (CDM) yard located to the west of Douglas West Wind Farm Substation and then re-distributed to the Access Points/Pole Areas.

It is assumed that construction movements for access tracks (requiring stone import) will be delivered from Patersons Quarry south of Boghead. HGVs will route on approved roads and not use roads that are deemed unsuitable by SLC.

Workforce movements are expected to come from various locations around Coalburn. At this stage it is not possible to establish which directions they will be coming from. However, it is likely that the majority of the traffic will be coming off the M74 at Poniel Interchange and go into the CDM for the toolbox talk and then head to their designated work areas for the day.

All the materials will be delivered via standard, road legal articulated and/or rigid vehicles.

4.6 Estimated Trips

Consideration has been given to construction vehicles which would travel on the access route network resulting from the proposed works, based on the outline construction programme in **Table 4.2**. The calculation of vehicle movements have been derived by dividing the total vehicle movements during the busiest month by the average number of working days (assuming a month has 4 weeks and a working week of 5.5 days).

Construction movements have been distributed between May 2023 and March 2024. Two-way traffic movements have been calculated on the supplied dates and vehicle numbers per pole working area provided by SPEN.

Actual timescales may differ for several reasons (bad weather delays or a larger than anticipated construction team is appointed) the assumptions made allow for a robust assessment.

This assessment has been based on a scenario where all road stone is imported from a local quarry via the local road network.

4.7 Construction Traffic Distribution

A construction programme applying trip numbers to each stage of the works on a pole area by pole area basis was prepared by the SPEN/Scottish Power Transmissions engineering team. This trip generation has been assigned to each access point in relation to the relevant work area they serve on a month-by-month basis.

Table 4.3 identifies the HGV trips by access point and route for the construction peak month.

Table 4.3: Construction Traffic Distribution

Access Point	Routeing	HGVs No. (Two-way)		
		Monthly	Daily	Hourly
1	CDM - Poniel Interchange – B7078 Carlisle Road – Bog Road – Coalburn Road	510	24	2
2	CDM - Poniel Interchange – B7078 Carlisle Road – Bog Road – Coalburn Road	430	20	2
3 & 4	CDM - Poniel Interchange – B7078 Carlisle Road – Bog Road – Coalburn Road	340	16	2
5 & 6	CDM - Poniel Interchange – B7078 Carlisle Road – Bog Road – Coalburn Road – Shoulderigg Road	180	8	2
7 & 8	Poniel Interchange – Private Access Road	1560	70	8
9	Poniel Interchange – Private Access Road – B7078 Carlisle Road – Millbank Interchange – A70 Ayr Road	326	16	2

Access Point	Routeing	HGVs No. (Two-way)		
		Monthly	Daily	Hourly
10	Poniel Interchange – Private Access Road – B7078 Carlisle Road – Millbank Interchange – A70 Ayr Road (Glentagart OCCS Access)	226	10	2
11	Poniel Interchange – Private Access Road – B7078 Carlisle Road – Millbank Interchange – A70 Ayr Road	100	6	2

Appendix A shows the location of access points, proposed routing and construction traffic flows along those routes.

5 SUMMARY & CONCLUSION

Construction of the proposed development will occur over a 11-month construction programme and will require temporary access to numerous work areas along the OHL route via the adjacent local road network.

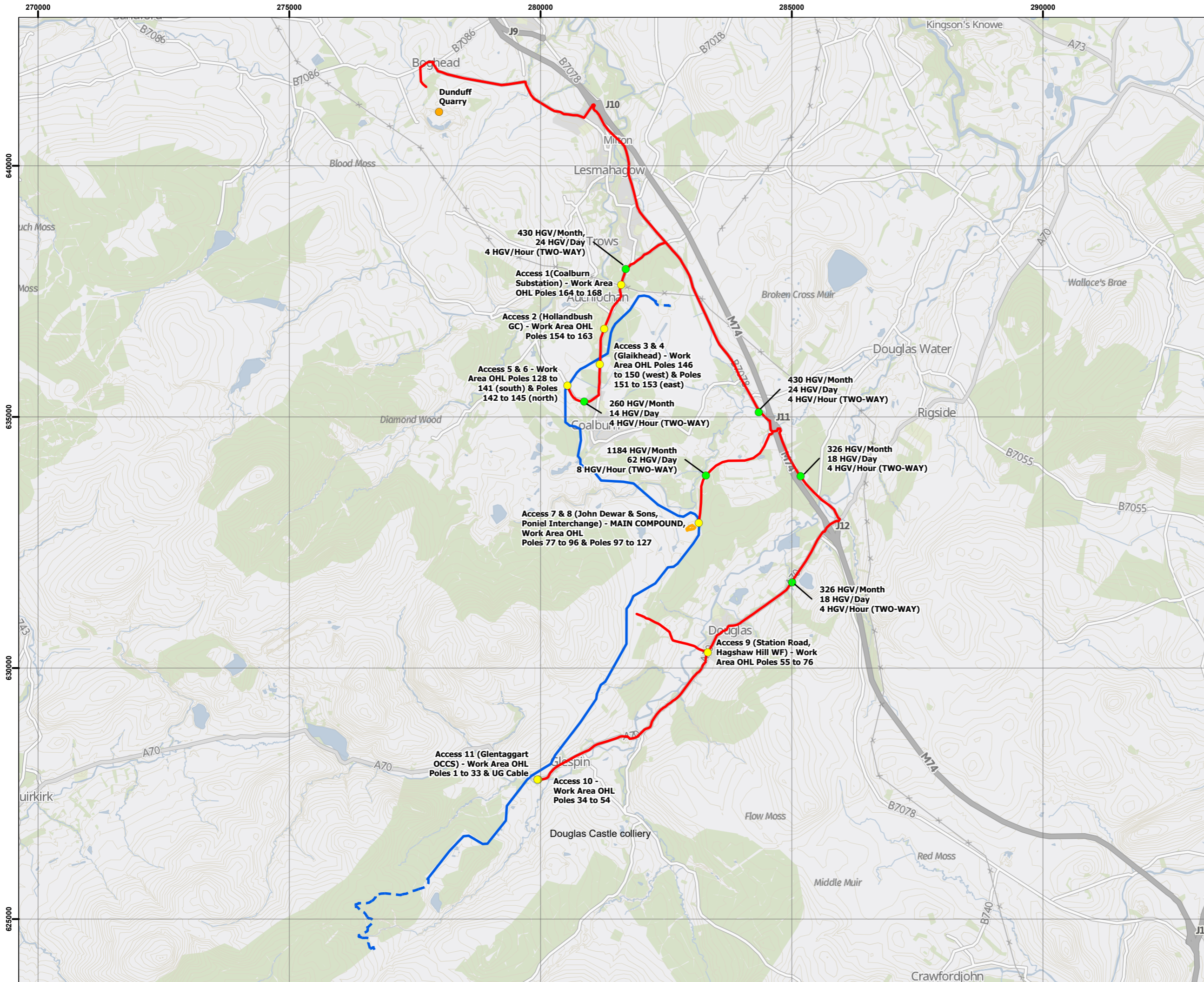
Suitable construction routes have been derived through consideration of the available road network, taking account of road width and condition. The access routes to be used for the OHL construction traffic minimises the need for construction traffic to pass through local settlements and residential areas. The main construction compound is located off the M74 Poniel Interchange in an established industrial area currently used by the John Dewar and Sons distillery/bonded warehouse and as an access route to the former Dalquhandy OCCS and the operational Douglas West Wind Farm. This will be the main muster point for material/equipment deliveries during the works and main offices/welfare facilities for the construction staff. From here smaller material/equipment loads and personnel teams will disperse from this central location to the various working areas.

This TS demonstrates that the estimated peak impacts by construction vehicles and personnel on the local road network **will not be significant**. Additionally, the majority of the roads to be used are capable of accommodating the temporary increase in traffic flows estimated for the duration of the works and where not (e.g. Shoulderigg Road) the applicant acknowledges the need for pre/post construction condition surveys and damage repairs where this is caused by the construction vehicle use.

The means of access to each of the OHL construction working areas has been agreed in principle through extensive consultation with the SLC Roads Officers, with any specific details in terms of their construction reserved as planning conditions to be attached to an emerging planning consent and section 37 consent.



APPENDIX A CONSTRUCTION TRAFFIC ROUTES AND TEMPORARY ACCESS LOCATIONS



- Legend:**
- Proposed OHL Route
 - Proposed 132kV Underground Cable
 - Main Compound
 - Construction Traffic Route
 - Estimated Temporary Increase in HGV Traffic
 - Access
 - Dunduff Quarry

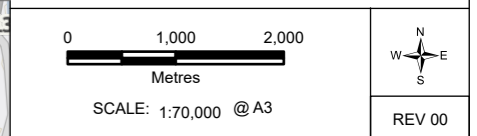


Rev	Date	Description	Drn	Chk	App
00	15/11/2022	First Draft	NH	JH	JH

Kennoxhead Wind Farm Grid Connection

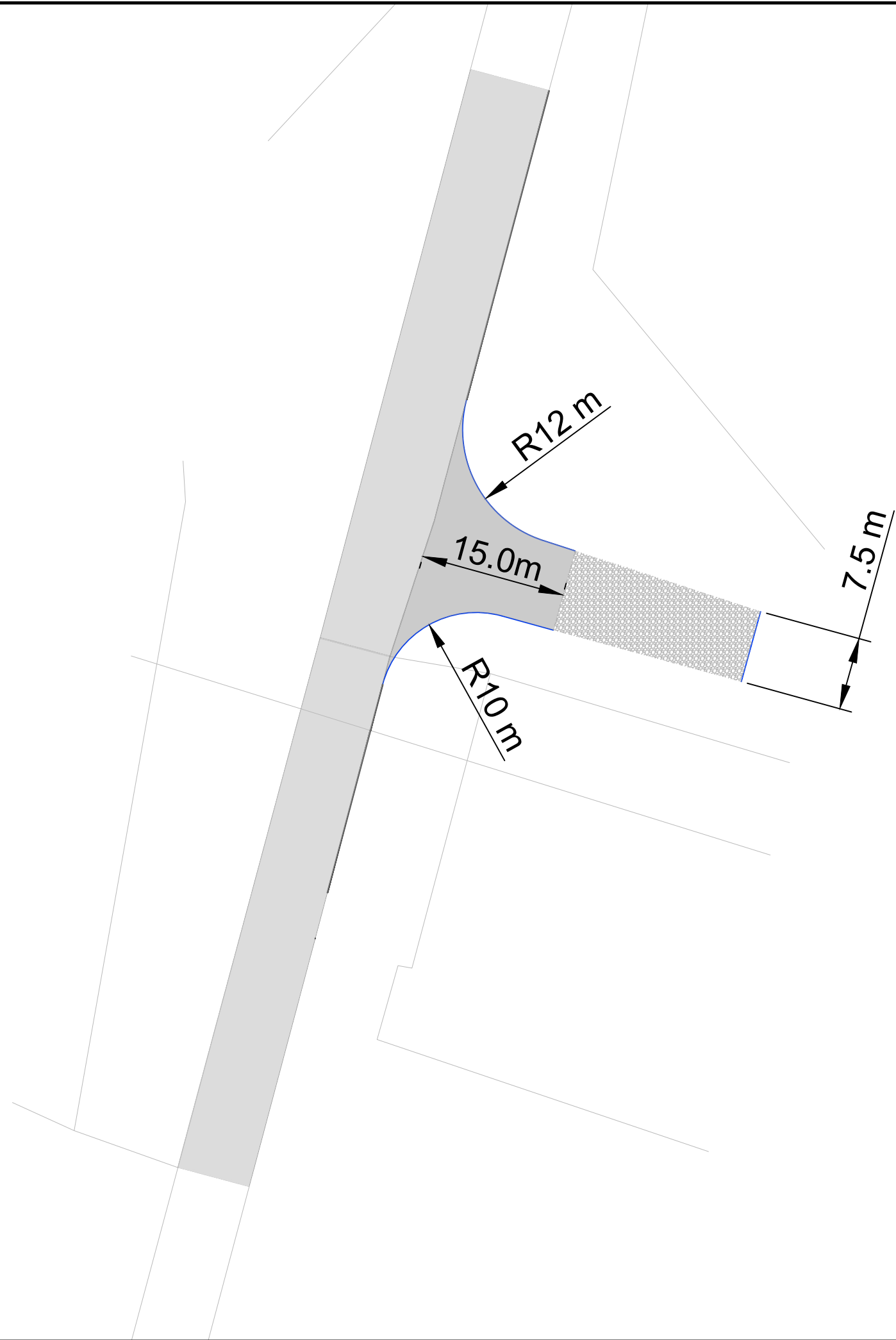


TITLE: **Figure 3.1: Construction Traffic Routes, Access Points and Flows**



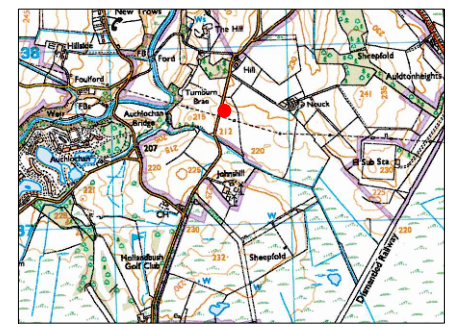


APPENDIX B TEMPORARY CONSTRUCTION ACCESS LAYOUTS – NEW OR (EXISTING) MODIFIED



Legend

- Proposed kerb 125 x 255mm Half Batter PCC with P.C.C. Drop Kerbs 125 x 255mm Half batter to ground level or similar SLC approved
- Existing Carriageway
- Existing edge of carriageway
- Proposed bound surface in accordance with specification in CD 226 Design for New Pavement Construction or similar SLC approved guidance
- Proposed unbound surface



D	20/10/22	Drawing Title Updated	JW	JH	JH
C	04/10/22	Junction layout updated	JW	JH	JH
B	23/11/21	Junction layout updated	JW	JH	JH
A	08/09/21	Junction location updated	JW	JH	JH

Rev.	Date	Amendment	Drawn	Chkd.	Appd.
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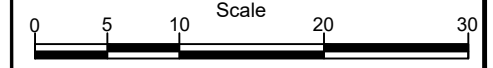
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Coalburn Road
(Substation)**

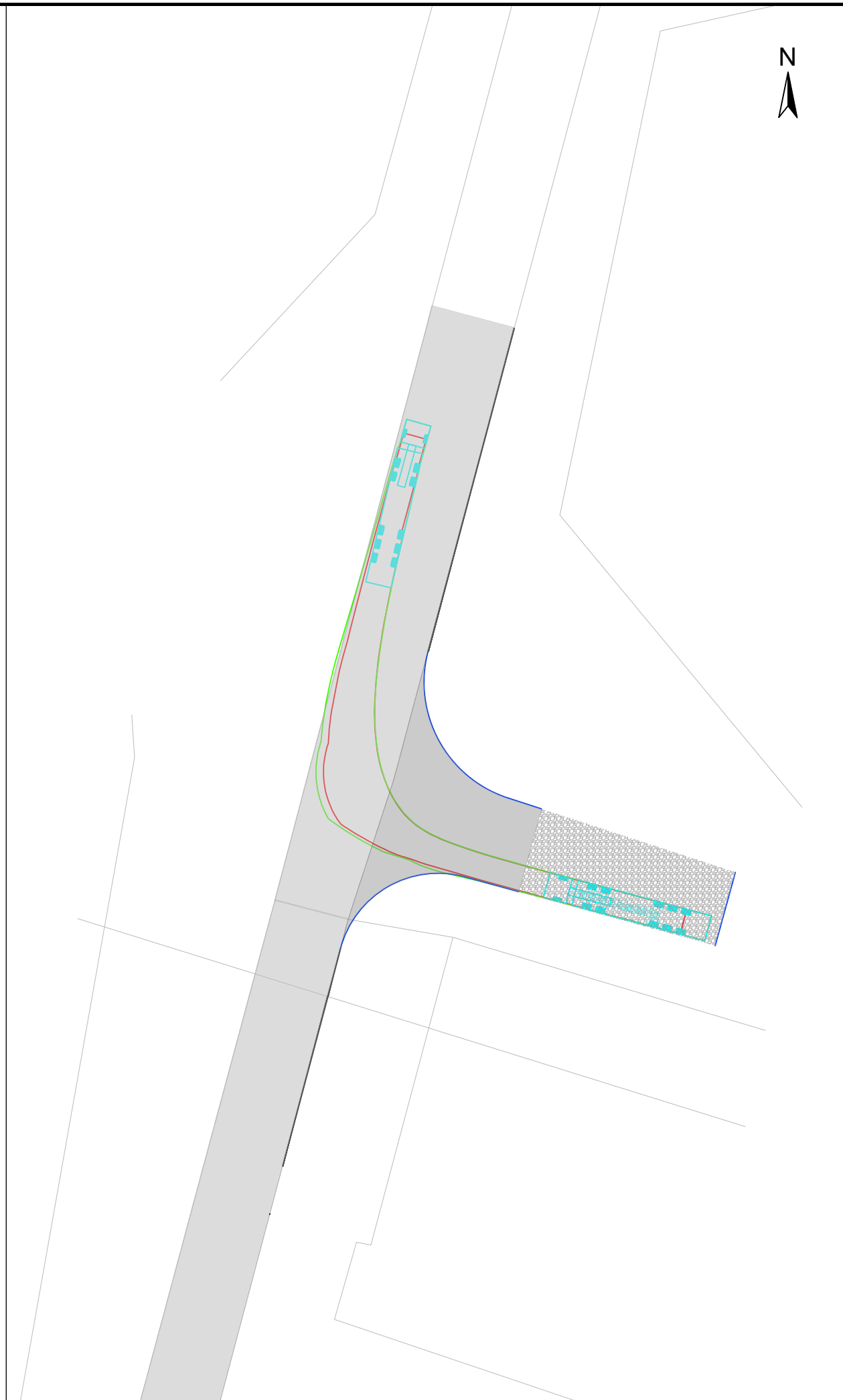
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JW	05/08/21	JH	05/08/21	JH	05/08/21

Scale	Orig Size	Dimensions
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Project No.	Drawing File
661718	

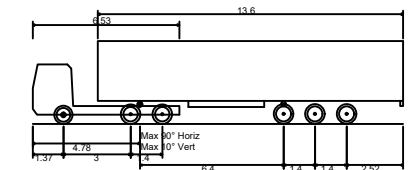
Drawing No.	Rev.
661718-10-01	D





Legend

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- Existing Carriageway
- Existing edge of carriageway
- Proposed bound surface in accordance with specification in CD 226 Design for New Pavement Construction or similar SLC approved guidance
- Proposed unbound surface



Max Legal Length (UK) Articulated Vehicle (16.5m)	16.500m
Overall Length	2.550m
Overall Width	3.681m
Overall Body Height	0.411m
Min Body Ground Clearance	2.500m
Max Track Width	6.00s
Lock to lock time	6.530m

D	22/10/22	Drawing Title Updated	JW	JH	JH
C	04/10/22	Junction layout updated	JW	JH	JH
B	23/11/21	Junction layout updated	JW	JH	JH
A	08/09/21	Junction location updated	JW	JH	JH

Rev.	Date	Amendment	Drawn	Chkd.	Appd.



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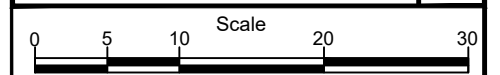
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Articulated HGV (16.5 m)
Access Point 1
(Coalburn Road - Substation)**

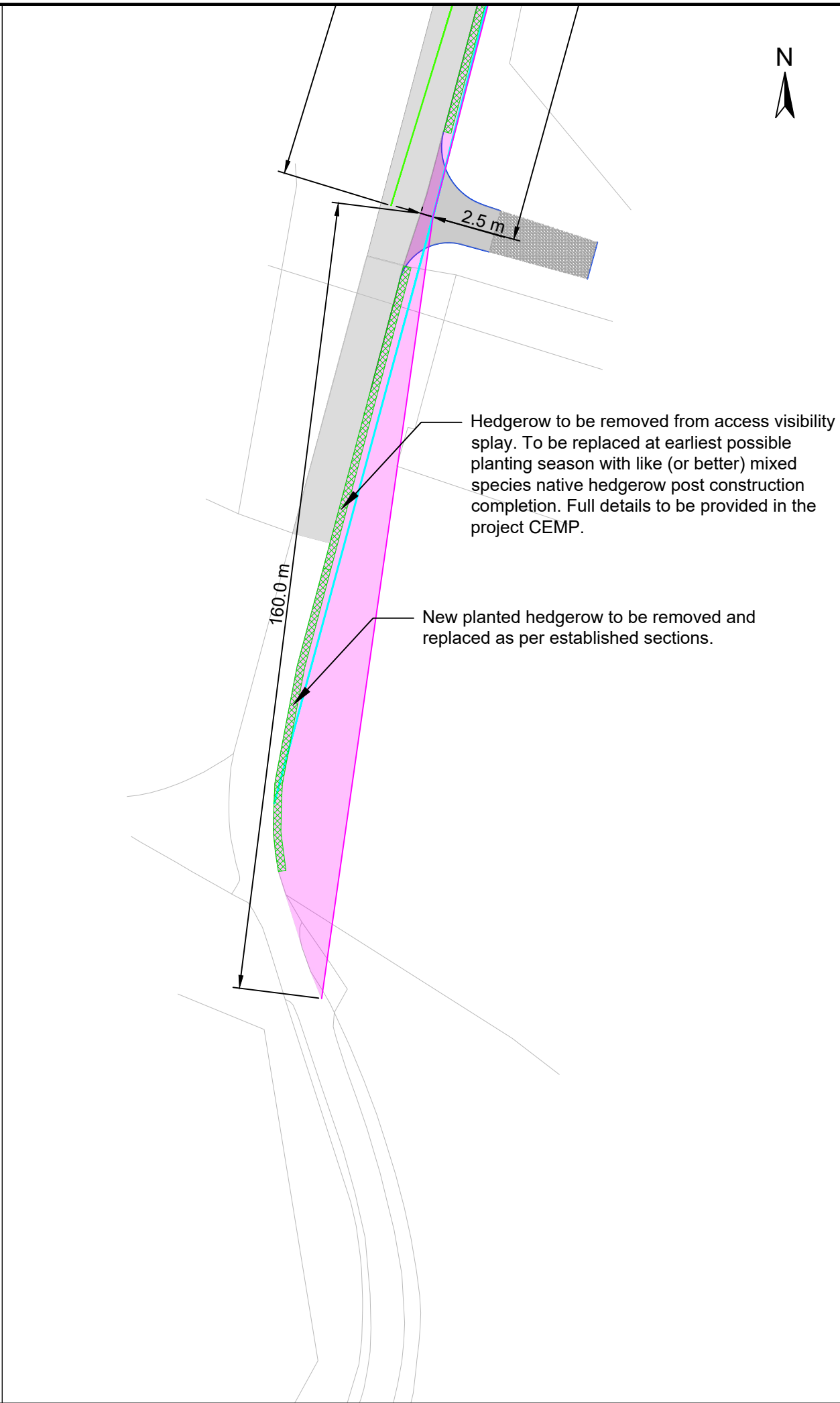
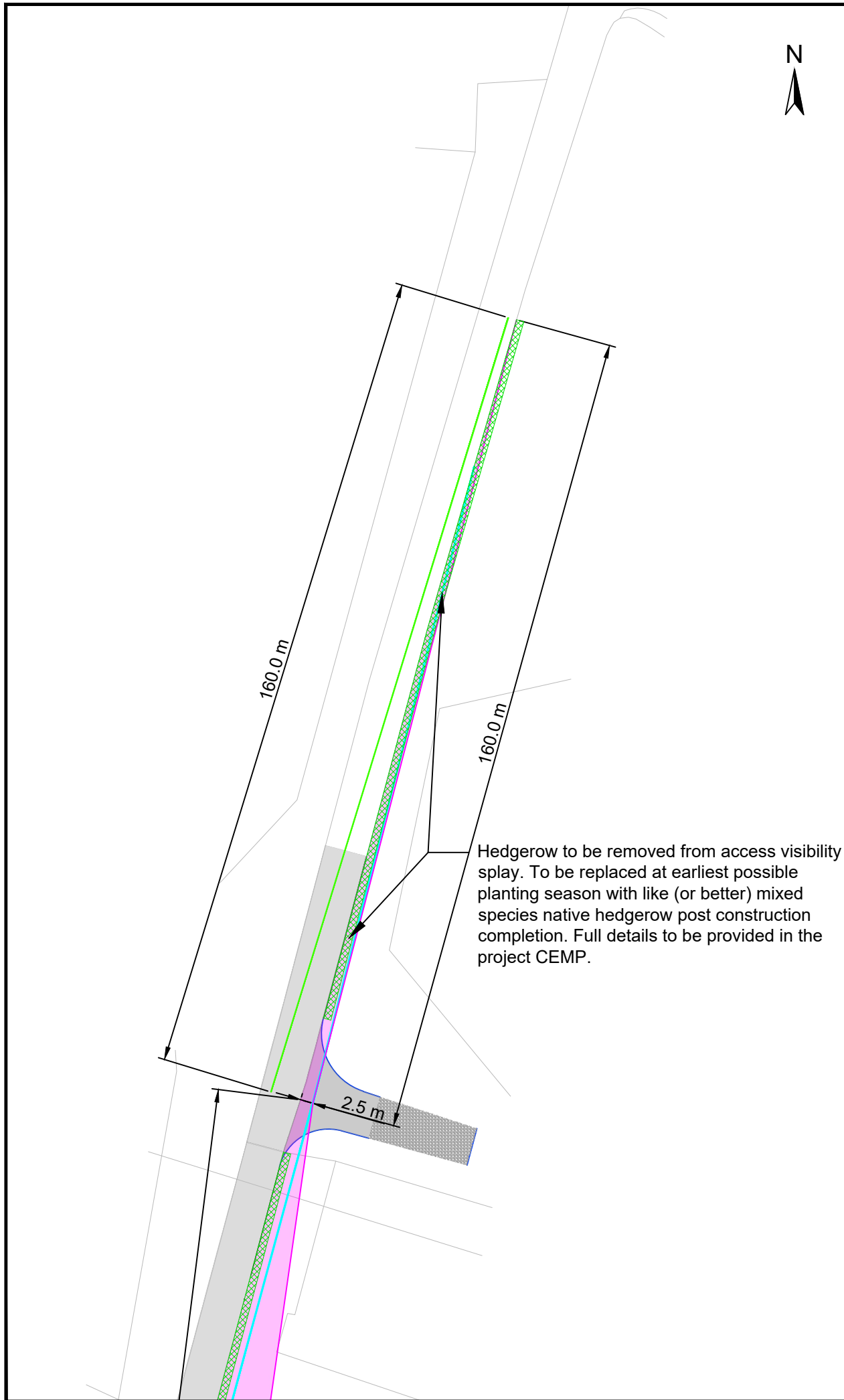
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JW	05/08/21	JH	05/08/21	JH	05/08/21

Scale	Orig Size	Dimensions
1:500	A3	METRES

Project No. 661718	Drawing File
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Drawing No. 661718-10-06	Rev. D
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Legend

- Proposed kerbline
- Existing edge
- Existing Carriageway
- Proposed Bound Surfacing
- Proposed Unbound Surfacing
- Visibility Splay 2.5m x 160m
- Visibility area to be clear of obstructions
- Forward Visibility 160m
- Visibility Splay 2.5m x 120m
- Hedgerow

Rev.	Date	Amendment	Drawn	Chkd.	Appd.
E	22/10/22	Drawing Title Updated	JW	JH	JH
D	04/10/22	Junction Layout updated	JW	JH	JH
C	02/09/22	Hedgerow and notes updated	JW	JH	JH
B	24/08/22	Junction layout and Visibility Splay updated	JH	JW	JH
A	26/04/22	Junction layout and Visibility Splay updated	JW	JH	JH

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Project Title
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Drawing Title
**Visibility Splay
 2.5m x 160m & 2.5m x 120m
 Access Point 1
 (Coalburn Road - Substation)**

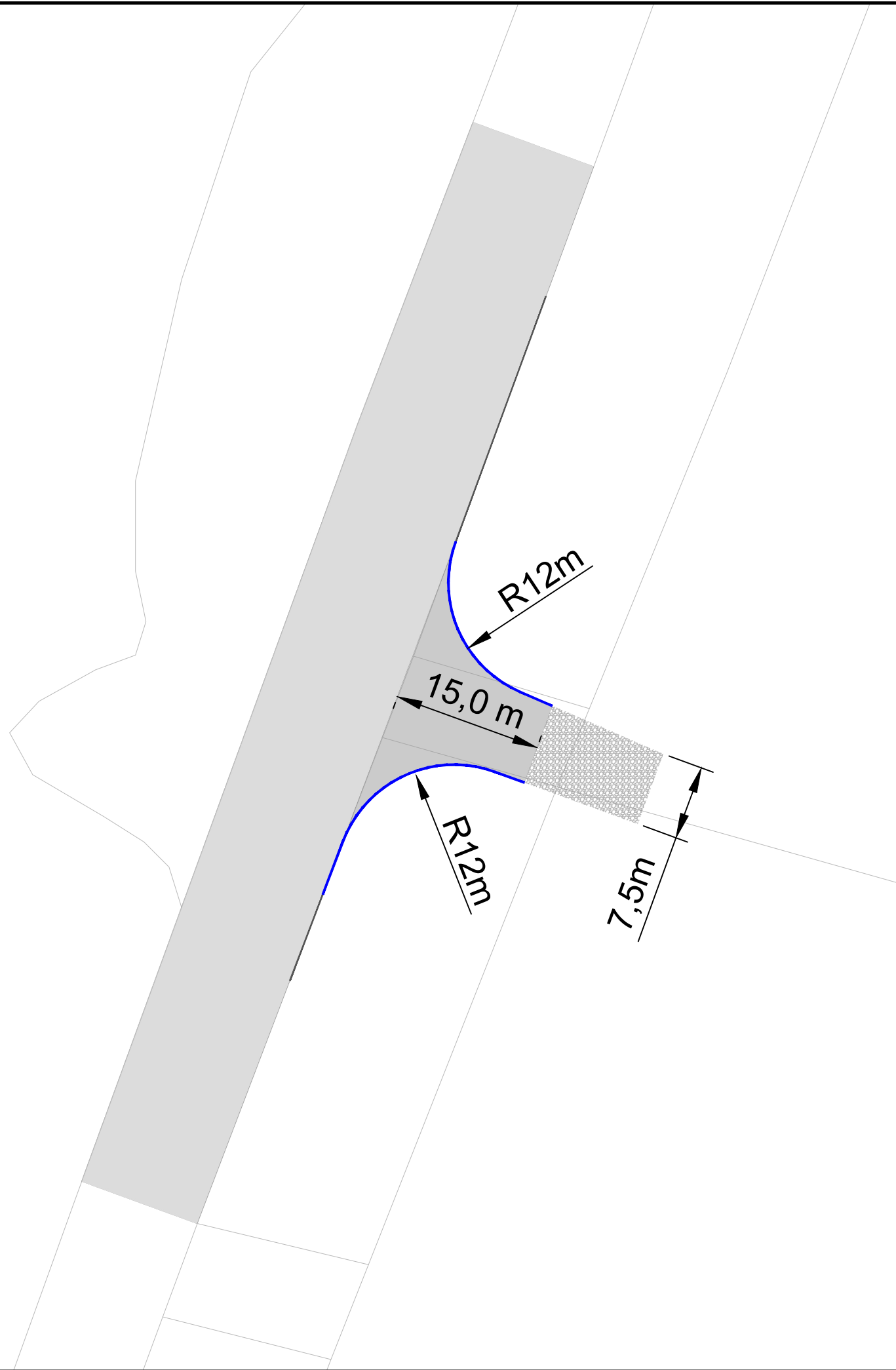
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Scale	Orig Size	Dimensions
1:1000	A3	METRES

Project No. 661718 Drawing File

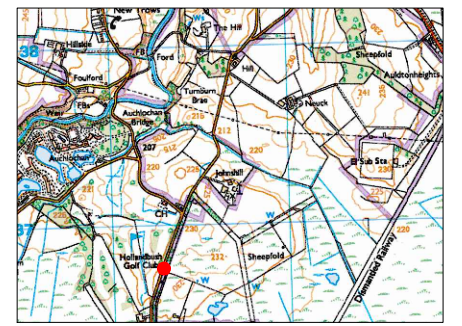
Drawing No. 661718-10-21 Rev. E

Scale 0 10 20 40 60



Legend

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- Existing Carriageway
- Existing edge of carriageway
- Proposed bound surface in accordance with specification in CD 226 Design for New Pavement Construction or similar SLC approved guidance
- Proposed unbound surface



C	22/10/22	Drawing Title Updated	JW	JH	JH
B	22/04/22	Junction Layout Updated	JW	JH	JH
A	23/11/21	Junction Layout Updated	JW	JH	JH

Rev.	Date	Amendment	Drawn	Chkd.	Appd.
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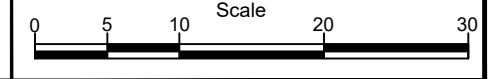
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Coalburn Road
(Opposite Hollandbush Golf Course)**

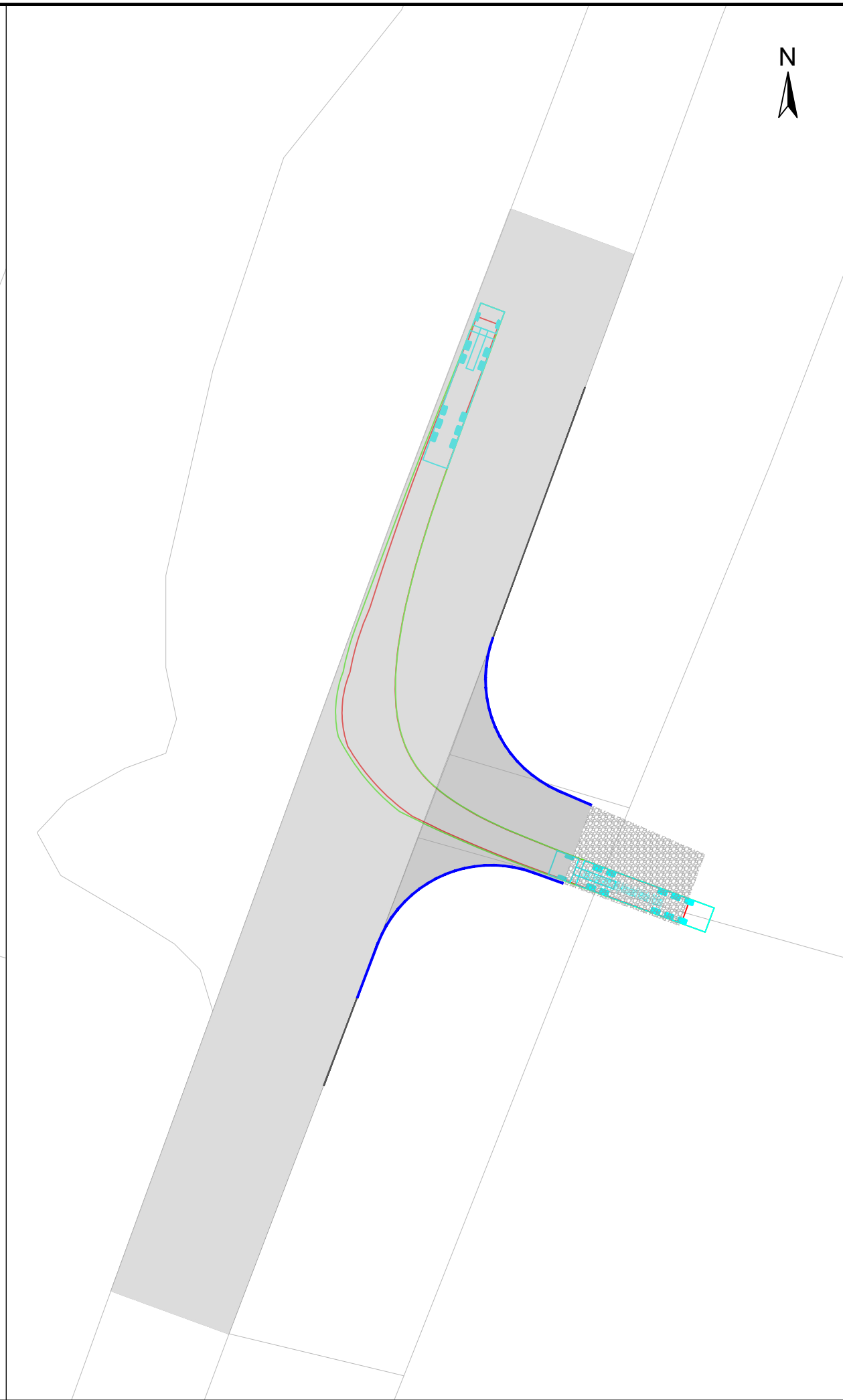
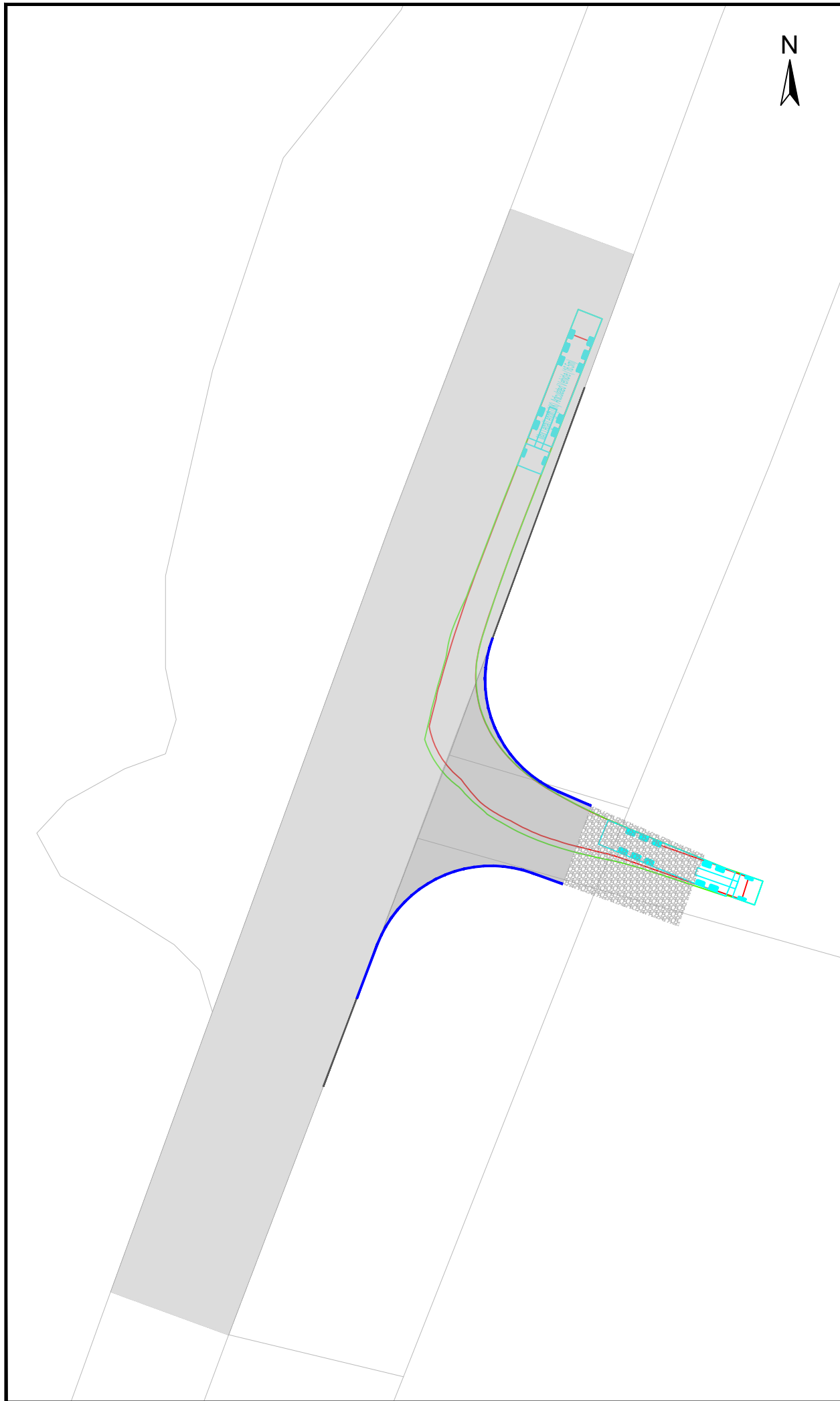
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JW	05/08/21	JH	05/08/21	JH	05/08/21

Scale	Orig Size	Dimensions
1:500	A3	METRES

Project No. 661718	Drawing File
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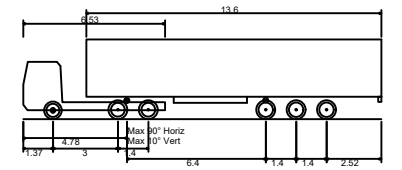
Drawing No. 661718-10-02	Rev. C
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Legend

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- Existing Carriageway
- Existing edge of carriageway
- Proposed bound surface in accordance with specification in CD 226 Design for New Pavement Construction or similar SLC approved guidance
- Proposed unbound surface



Max Legal Length (UK) Articulated Vehicle (16.5m)	16.500m
Overall Length	2.550m
Overall Width	3.681m
Overall Body Height	0.411m
Min Body Ground Clearance	2.500m
Max Track Width	6.00s
Lock to lock time	6.530m
Kerb to Kerb Turning Radius	

Rev.	Date	Amendment	Drawn	Chkd.	Appd.
C	22/10/22	Drawing Title Updated	JW	JH	JH
B	22/04/22	Junction layout and SPA updated	JW	JH	JH
A	23/11/21	Junction layout updated	JW	JH	JH



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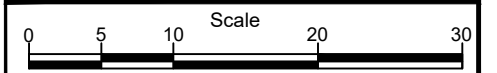
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**Swept Path Analysis
Articulated HGV (16.5m)
Access Point 2
(Coalburn Road Opposite of Hollandbush Golf Course)**

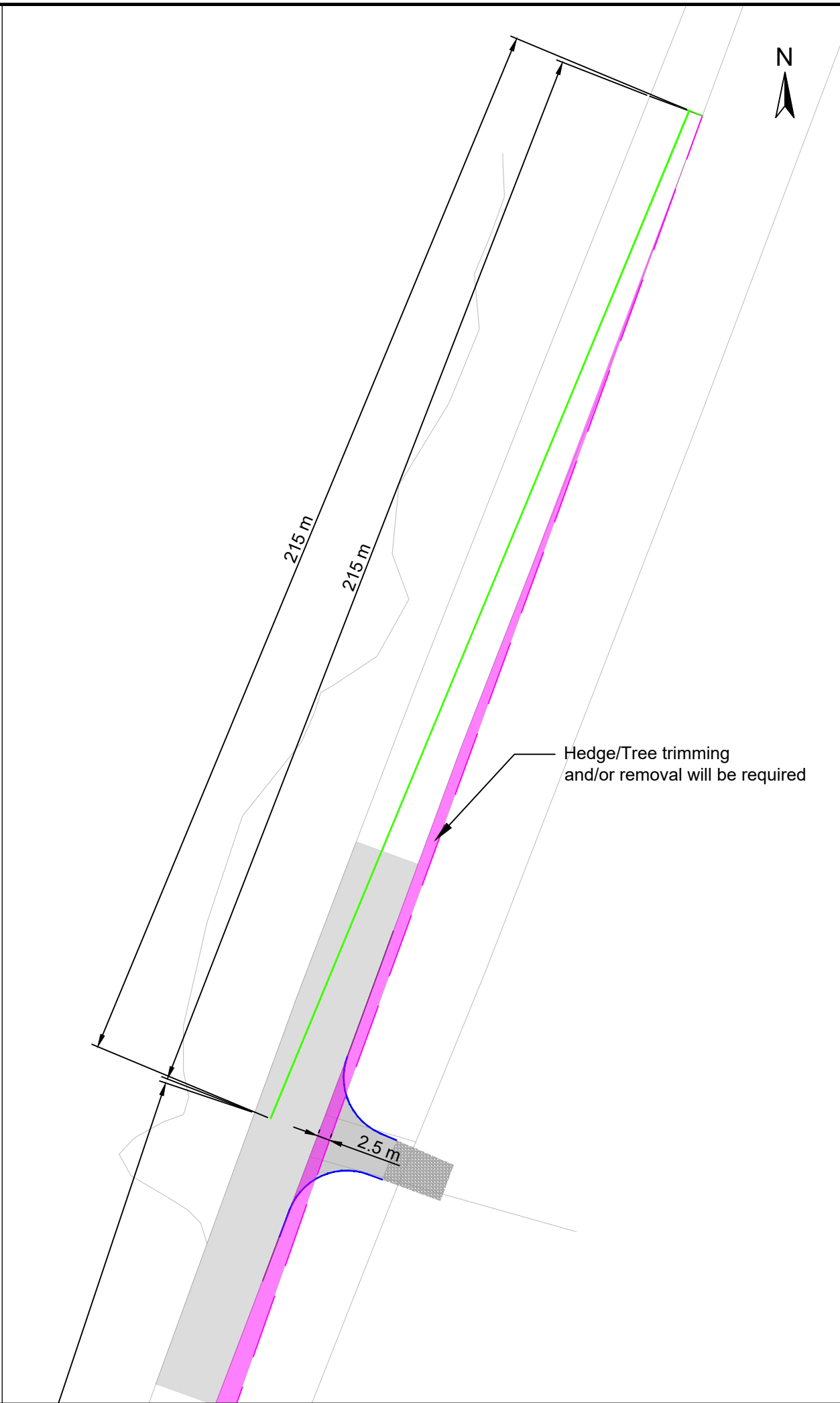
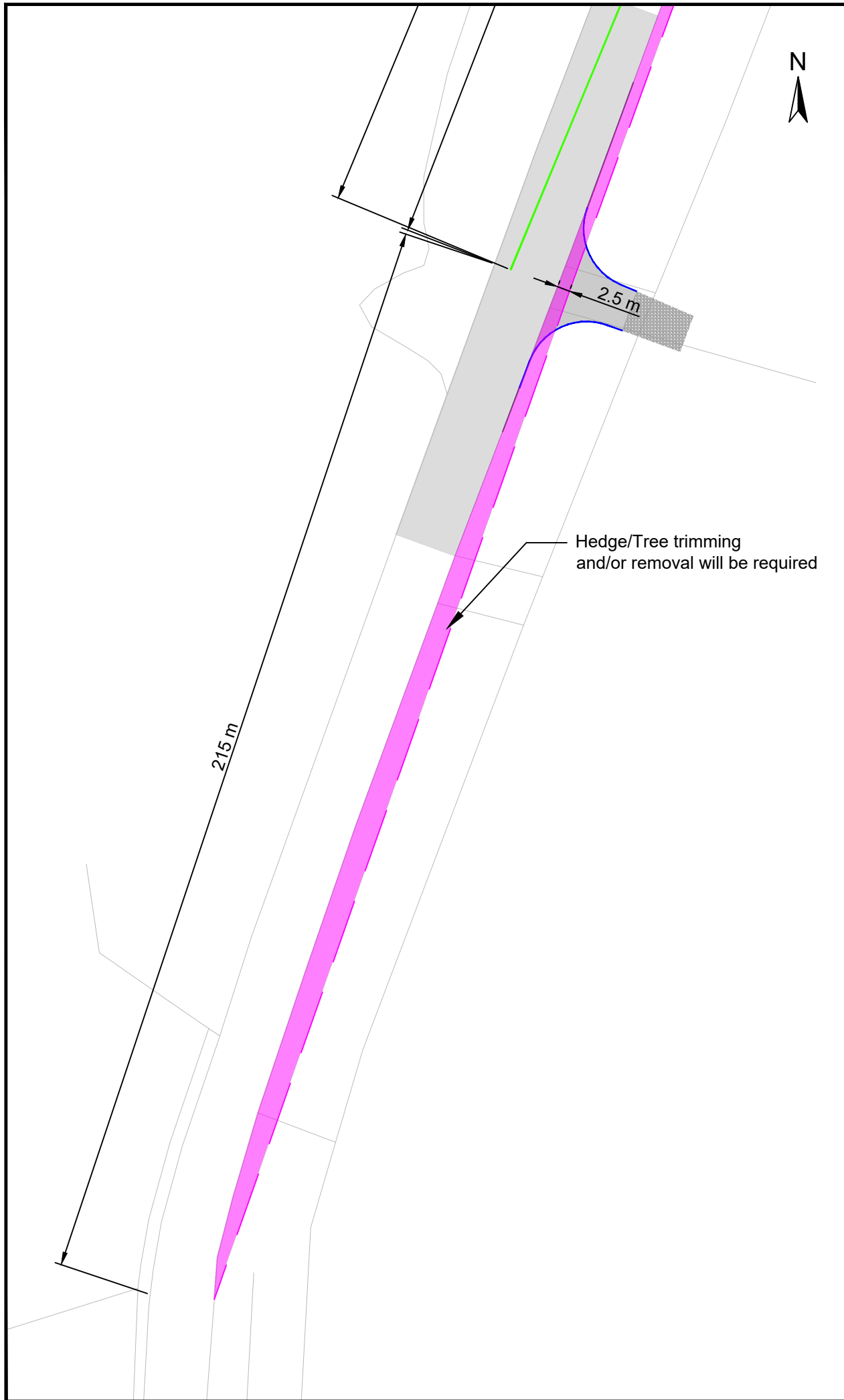
Drawn	Date	Checked	Date	Approved	Date
JW	05/08/21	JH	05/08/21	JH	05/08/21

Scale	Orig Size	Dimensions
1:500	A3	METRES

Project No. 661718 Drawing File

Drawing No. 661718-10-07 Rev. C





Legend

- Proposed kerbline
- Existing edge
- Existing Carriageway
- Proposed Bound Surfacing
- Proposed Unbound Surfacing
- Visibility Splay 2.5m x 215m
- Visibility area to be clear of obstructions
- Forward Visibility 215 m

Rev.	Date	Amendment	Drawn	Chkd.	Appd.
C	22/10/22	Drawing Title Updated	JW	JH	JH
B	22/04/22	Junction layout and Visibility Splay updated	JW	JH	JH
A	23/11/21	Junction layout updated	JW	JH	JH

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Drawing Title

Visibility Splay
2.5m x 215m
Access Point 2
(Coalburn Road - Opposite Hollandbush Golf Club)

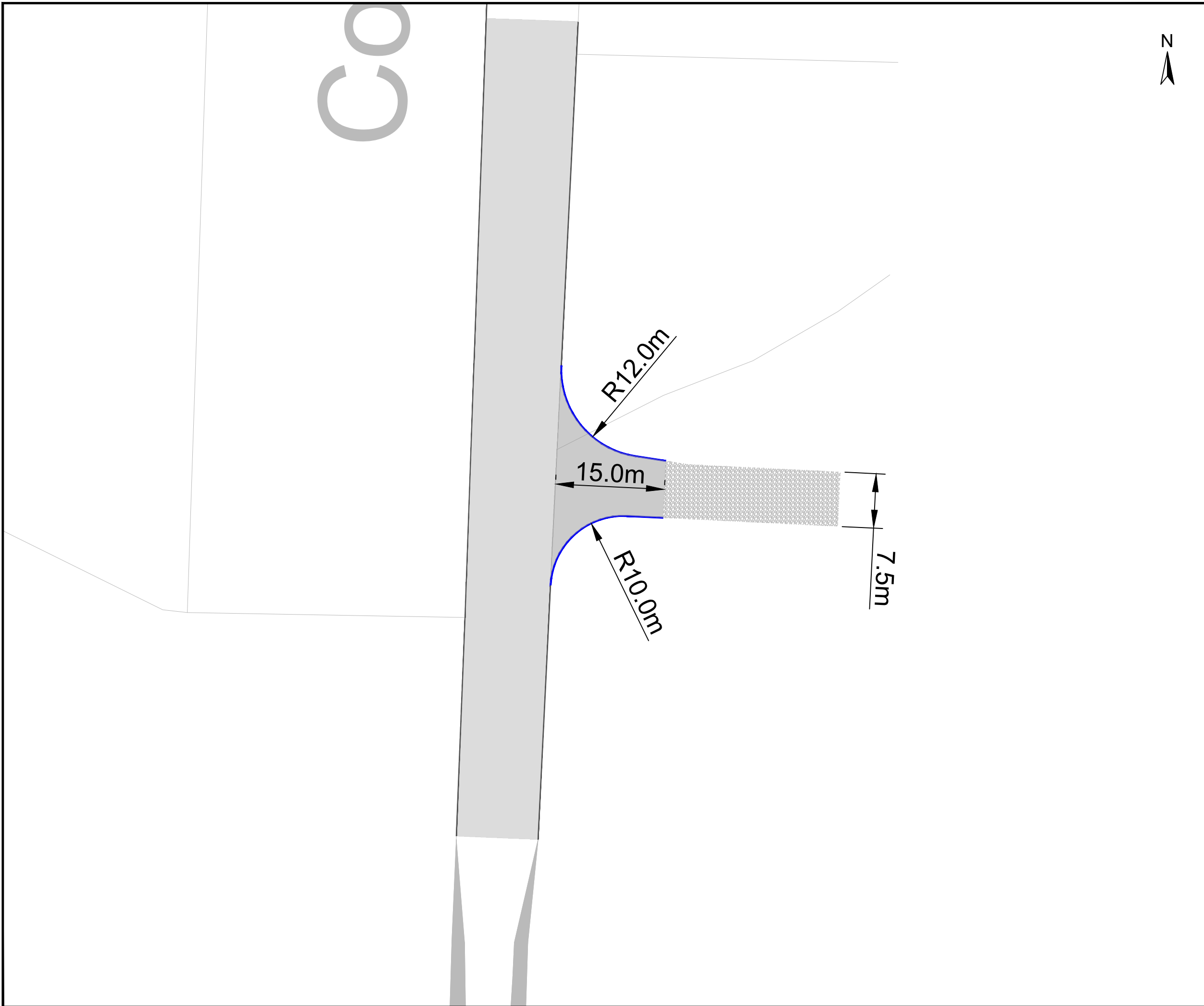
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Project No. 661718 Drawing File

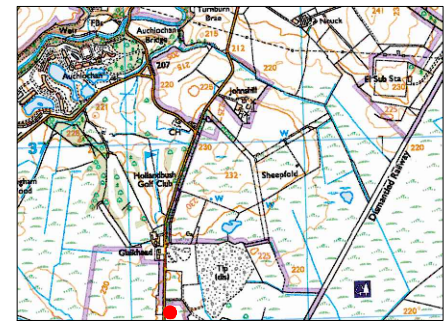
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Legend

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- Existing Carriageway
- Existing edge of carriageway
- Proposed bound surface in accordance with specification in CD 226 Design for New Pavement Construction or similar SLC approved guidance
- Proposed unbound surface



E	22/10/22	Drawing Title Updated	JW	JH	JH
D	04/10/22	Junction layout updated	JW	JH	JH
C	22/04/22	Junction layout updated	JW	JH	JH
B	23/11/21	Junction layout updated	JW	JH	JH
A	08/09/21	Junction location updated	JW	JH	JH

Rev.	Date	Amendment	Drawn	Chkd.	Appd.
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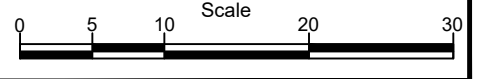
Drawing Title
**Access Point 3
Coalburn Road (East)
(South of Glaikhead)**

Drawn	Date	Checked	Date	Approved	Date
JW	05/08/21	JH	05/08/21	JH	05/08/21

Scale	Orig Size	Dimensions
1:500	A3	METRES

Project No. 661718	Drawing File
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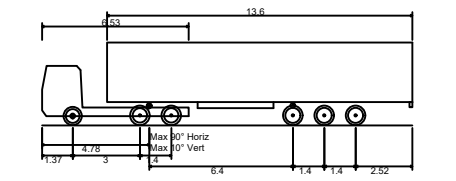
Drawing No. 661718-10-03	Rev. E
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Legend

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- Existing Carriageway
- Existing edge of carriageway
- Proposed bound surface in accordance with specification in CD 226 Design for New Pavement Construction or similar SLC approved guidance
- Proposed unbound surface



Max Legal Length (UK) Articulated Vehicle (16.5m)	16.500m
Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.681m
Min Body Ground Clearance	0.411m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.530m

E	22/10/22	Drawing Title Updated	JW	JH	JH
D	04/10/22	Junction layout and SPA updated	JW	JH	JH
C	22/04/22	Junction layout and SPA updated	JW	JH	JH
B	23/11/21	Junction layout updated	JW	JH	JH
A	08/09/21	Junction Location updated	JW	JH	JH

Rev.	Date	Amendment	Drawn	Chkd.	Appd.



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Drawing Title

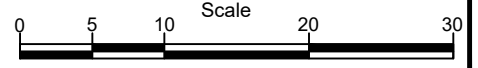
**Swept Path Analysis
Articulated HGV (16.5m)
Access Point 3
(Coalburn Road (East) South of Glaikhead)**

Drawn	Date	Checked	Date	Approved	Date
JW	05/08/21	JH	05/08/21	JH	05/08/21

Scale	Orig Size	Dimensions
1:500	A3	METRES

Project No.	Drawing File
661718	

Drawing No.	Rev.
661718-10-08	E



Coalburn Road

215.0m



2.5m

215.0m



2.5m

224.9m

- Legend**
- Proposed kerbline
 - Existing edge
 - Existing Carriageway
 - Proposed Bound Surfacing
 - Proposed Unbound Surfacing
 - Visibility Splay 2.5m x 215m
 - Visibility area to be clear of obstructions

E	22/10/22	Drawing Title Updated	JW	JH	JH
D	04/10/22	Junction layout and Visibility Splay updated	JW	JH	JH
C	22/04/22	Junction layout and Visibility Splay updated	JW	JH	JH
B	23/11/21	Junction layout updated	JW	JH	JH
A	08/09/21	Junction location updated	JW	JH	JH

Rev.	Date	Amendment	Drawn	Chkd.	Appd.
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Project Title

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Drawing Title

Visibility Splay
2.5m x 215m
Access Point 3
(Coalburn Road (East) - South of Glaikhead)

Drawn	Date	Checked	Date	Approved	Date
JW	05/08/21	JH	05/08/21	JH	05/08/21

Scale	Orig Size	Dimensions
1:1000	A3	METRES

Project No.	Drawing File
661718	

Drawing No.	Rev.
661718-10-13	E

