

TRAFFIC IMPACT ASSESSMENT



STAGE 1A - STRATHNAIRN TRANSMISSION LINE REALIGNMENT PROJECT

02 February 2024

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Version	2
Reference	21-000393.03

RECIPIENTS

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1 INTRODUCTION

In September 2023, Egis (formerly Calibre) was engaged by Ginninderry to prepare a Traffic Impact Assessment (TIA) report regarding the construction works around the Upper and Lower Tumut 330kV Transmission Line Realignment. This document aims to support the Environmental Impact Statement (EIS) submission which is being prepared. The project consists of moving two overhead TransGrid transmission lines from the Ginninderry development and rerouting them to the new Stockdill substation. The new route removes the lines from within the Ginninderry conservation corridor, and places them in farmland near the Lower Molonglo Water Quality Control Centre (LMWQCC). The location and extent of works can be seen in Figure 1.1, with greater detail provided in APPENDIX A.

This document has been prepared in accordance with the advice provided within the *TCCS Guidelines for Transport Impact Assessment* (Ver 3.1, April 2020). Per Section 2 of this TIA, the construction works are expected to generate less than 10 vehicles per hour during peak hours for all construction stages, and so is considered to have a low impact on traffic performance throughout the road network. As is advised in Section 2.2 of the *TCCS Guidelines*, developments resulting in less than 10 additional vehicle trips in the peak hours don't typically require detailed transport assessment. Given this low expected impact, a simplified format of a TIA has been adopted for this report, with the information provided of similar detail to a Transport Effects Form (TEF) as detailed in the *TCCS Guidelines*.

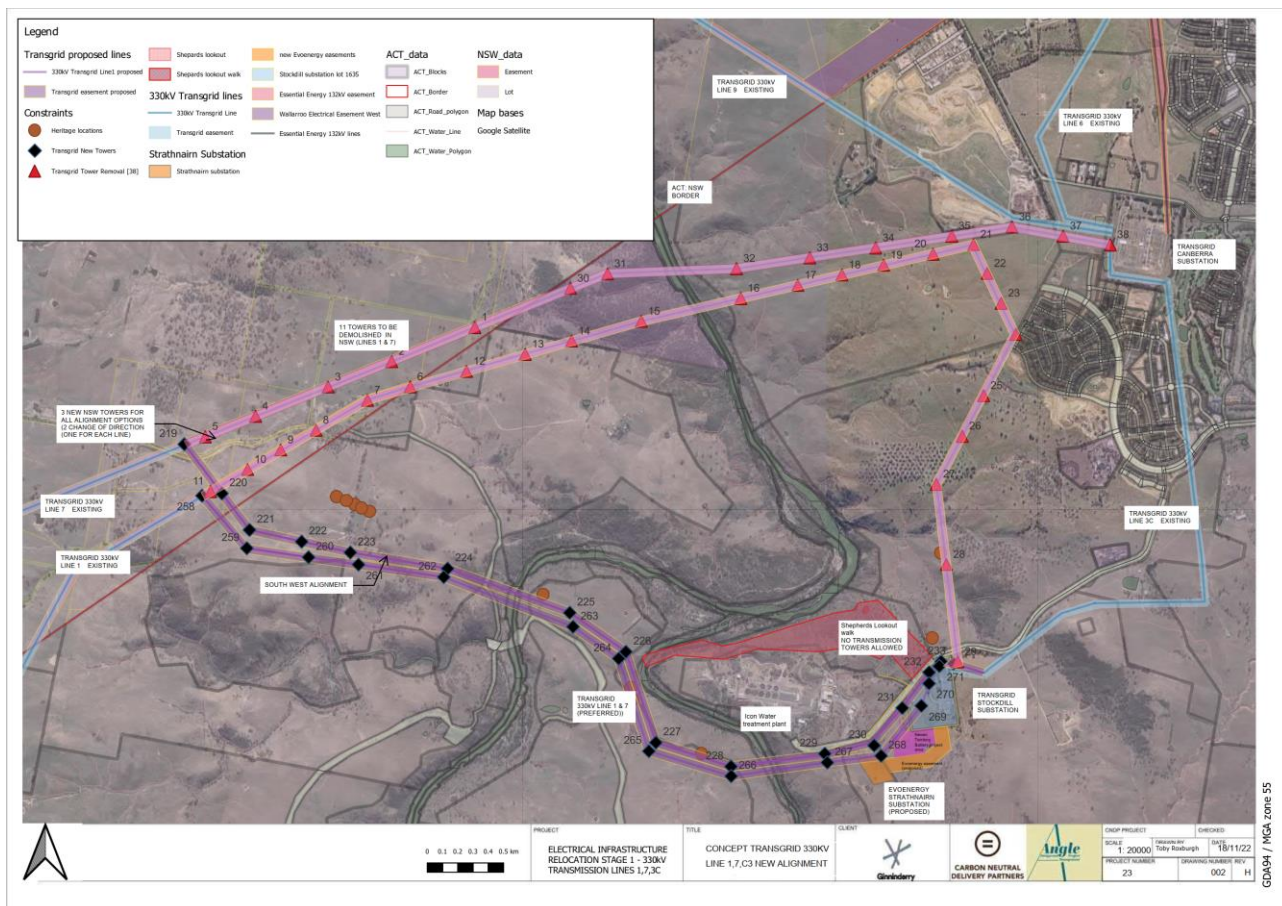


FIGURE 1.1 LOCALITY PLAN

1.1 Objectives

As part of this document, Egis has reviewed and provided commentary in response to several of the EIS requirements outlined in the EIS Scoping Document response provided by EPSDD on the 13th July 2023. The items identified in the EIS Scoping Document which this document provides commentary into are as follows:

- A review of the expected traffic volumes generated by these works during both demolition and construction activities.
- Review and provide commentary on the impacts and suitability of transit routes and access points proposed to service these site locations.
- Provide a quantitative review of the expected traffic congestion which would be expected along the impacted road network due to undertaking these works.

1.2 Technical References

This Traffic Impact Assessment has been prepared in accordance with the requirements of the *TCCS Guidelines for Transport Impact Assessment*. In addition to this guideline, The below listed guides, standards and codes were considered during the preparation of this document:

- EPSDD Estate Development Code (August 2020)
- TfNSW Guide to Traffic Generating Developments (2002) and Updated Surveys (2013)
- Austroads Guide to Traffic Management set
- ACT City Services Heavy Vehicle Conditions and Network information
- ACT Open Data Portal – Road Crash Heat Map (Data from 2012 to 2021)
- Multi-State Class 1 Load Carrying Vehicle Dimension Exception Notice (NHVR, 2023)
- ACT Load Carrying Vehicles Stated Routes and Areas (NHVR, 2020)

In addition to the above-listed documents, the following reports and documents were also referenced during the development of this report:

- Macnamara NH2 EDP2 Development – Traffic Impact Assessment Report (Egis, 2023)
- Canberra Sand and Gravel – Traffic Impact Assessment (Egis, 2022)
- Ginninderry Vehicle Movement Plan (TransGrid, 2023)

2 CONSTRUCTION / DEMOLITION TRAFFIC VOLUMES

Daily construction traffic volumes have been identified for each stage of the proposed works based on the *Ginninderry Vehicle Movement Plan* provided by TransGrid. This plan submitted a proposed breakdown of the required vehicles to be on-site during each week of the program across each of the project stages. A brief summary of the information provided in this section can be seen in Table 2.1 below, with the vehicles on-site being generally separated into light vehicles (LV), delivery heavy vehicles (HV) such as delivery trucks and Agi trucks, and working HV such as cranes, graders, excavators, etc. Greater detail into the vehicle assumptions at each stage is available in Section 2.3 of the *EIS document*.

TABLE 2.1 SUMMARY OF GINNINDERRY VEHICLE MOVEMENT PLAN VOLUMES

Stage	LV Required	Delivery HV Required	Working HV Required
Mobilisation	4	1	5
Access Works	4	1	5
Stringing 3C	7	-	4
Footings	6	2	3
Assembly / Erection	7	-	4
Stringing 1_7	7	-	4
Destringing & Demolition	3	1	3
Demobilisation	4	1	4

Based off this data, the quantity of vehicle movements in and out of the site over the course of the day and during the peak hours was estimated. Given the variable nature of construction sites and the unique requirements for each, there are no standard traffic generation rates available which provide a suitable estimate for the number of vehicle trips each type of construction vehicle would make. As such, the following assumptions have been made based off previously observed construction site traffic around the ACT and NSW.

- 4x4 Utes and other personal worker vehicles (**light vehicle**) – Assumed that an average of 4 trips per vehicle per day will be generated. This assumes that workers will need vehicle trips to arrive and depart from the site, as well as arriving and departing for lunch / meetings once a day. For the peak hour periods, it is assumed that only a single trip will be generated per vehicle.
- Agitator Trucks (**heavy vehicle**) – Assumed that an average of 8 trips per vehicle per day will be generated. This assumes that less than 24m³ of concrete will be poured per day as part of these works, and that each agitator truck will have capacity for 6m³ of concrete. For peak hour periods, it is assumed that a maximum of a single trip will be generated per vehicle, with it considered more likely that deliveries will be scheduled for outside of peak periods.
- Truck and Dog and Truck Trailer Combinations (**heavy vehicle**) – Assumed that an average of 10 trips per vehicle per day will be generated. This allows for 5 deliveries of material / collection of waste to occur over the course of the day per vehicle. For peak hours, it is assumed that a maximum of 2 trips will be generated per vehicle, with it considered more likely that pick-ups and deliveries will be organised outside of peak periods.
- Specialised Construction Vehicles (Cranes, Excavators, Graders, Hiab, etc.) (**heavy vehicle**) – Assumed that the vehicle will remain on site for the duration of the construction activity, and will not journey to and from the site each day. For the purpose of this assessment, it has been conservatively assumed

that a maximum of 1 vehicle trip per day will occur for each of these vehicles at the start and end of the estimated usage period. It is assumed that these vehicles will arrive / depart site outside of peak hour periods, limiting their traffic impact during busy periods for commuter traffic.

It is noted that for these vehicle trips per day, vehicle movements between the individual tower locations within the site of works have not been accounted for. This is because these trips are not expected to impact upon public roads, with vehicles instead moving between towers using the easement or temporary tracks. This is based off the advice provided in the *TransGrid Access Works document* (APPENDIX A).

Using these assumptions in conjunction with the *TransGrid Vehicle Movement Plan* document, an estimate of the number of construction vehicles per day (vpd) and vehicles per hour (vph) which would be generated during each stage of works was calculated. The estimated volumes of both light and heavy vehicles generated during each stage can be seen in Table 2.2 below.

TABLE 2.2 MAXIMUM CONSTRUCTION VPD AND VPH PER CONSTRUCTION STAGE

Construction Stage	Maximum Construction (vpd)			Maximum Construction (vph)		
	Total	LV	HV	Total	LV	HV
Mobilisation	30 vph	16 vpd	14 vph	6 vph	4 vph	2 vph
Access Works	30 vph	16 vpd	14 vph	6 vph	4 vph	2 vph
Stringing 3C	32 vph	28 vpd	4 vph	7 vph	7 vph	-
Footings	45 vph	24 vpd	21 vpd	9 vph	6 vph	3 vph
Assembly / Erection	31 vph	28 vpd	3 vph	7 vph	7 vph	-
Stringing 1_7	32 vph	28 vpd	4 vph	7 vph	7 vph	-
Destringing & Demolition	25 vph	12 vpd	13 vph	5 vph	3 vph	2 vph
Demobilisation	30 vph	16 vpd	14 vph	6 vph	4 vph	2 vph
Maximum	45 vph	28 vpd	21 vpd	9 vph	7 vpd	3 vpd

As seen in the table above, the maximum number of vehicle movements expected to be generated by construction / demolition activities is less than 50 vehicles a day, with most stages of construction works only generating around 30 vehicles per day. This correlates to less than 10 vehicles per hour in peak periods. Of these trips, over 50% were expected to be made by light vehicles in all stages.

Given the low quantity of additional trips expected to be generated, the impact of construction vehicle trips on traffic performance is considered minor. These impacts on the wider road network could be mitigated further by scheduling deliveries and start / end times to fall entirely outside of commuter peak periods, which would further reduce construction vehicle movements during the surrounding roads busiest periods.

3 TRAFFIC CONGESTION

According to the construction timeline provided by TransGrid, the construction works are set to run from December 2024 - April 2025. Demolition works are expected to both start and end later, running from May 2025 - August 2025. To determine the expected impact on congestion which the construction traffic will lead to, a review of the 2026 Canberra Strategic Transport Model (CSTM) data and previously completed TIA reports for Parkwood Road (Egis, 2023) and Canberra Sand and Gravel (CSG) development (Egis 2022) was undertaken to identify the base road volumes and performance during this period. Based on the provided advice from TransGrid on the work sites and access track locations, the below five roads have been assumed to be directly impacted by construction traffic and so have been assessed:

- Pro Hart Avenue;
- Stockdill Drive;
- Parkwood Road;
- Uriarra Road; and
- Fairlight Road.

For the roads of Pro Hart Avenue, Stockdill Drive, and Parkwood Road, previous traffic reports have been completed which assessed the performance of intersections along these roads, and as such had calculated the traffic volumes passing through key intersections. For the rural roads of Uriarra Road and Fairlight Road, available CSTM data was utilised to determine traffic volumes.

It is noted that the CSTM data did not extend all the way to Fairlight Road, so a conservative estimate that all the Uriarra Road traffic volumes will utilise this road has been made. In reality, given the land uses present along Fairlight Road and its only other road connection being Mountain Creek Road, not all the vehicles along Uriarra Road would be expected to take this route. However, lacking more accurate data for this area, the worst-case scenario was adopted for this assessment.

These traffic volumes can be seen in Table 3.1. To determine whether these roads are expected to be operating with congestion, the available traffic volumes without construction traffic have been compared against the theoretical vehicle capacity of each of the roads. Capacity for each road was calculated based on the advice provided in *Section 5.1.1* and *Section 6.2.1* of *Austrroads Guide to Traffic Management Part 3: Transport Study and Analysis Methods*. Following this advice, the typical capacity for each road was calculated per hour. These values can also be seen in Table 3.1.

It is noted that for the two traffic reports which vehicle volumes were extracted from, the interim traffic year was utilised. This is assuming the full construction and occupancy of Ginninderry Neighbourhood 1 and Neighbourhood 2, and is assumed to coincide with 2031 traffic volumes. Given that the construction works are planned to occur within 2025, the below volumes likely contain some additional traffic growth to what would be expected from the actual date of construction. However, they do provide high level estimate of how traffic performance is expected to be operating.

TABLE 3.1 ROAD CAPACITY VS FUTURE TRAFFIC VOLUMES WITHOUT CONSTRUCTION TRAFFIC

Road Name	Reference Report	Calculated Traffic Capacity (AGTM P3)– One-way	Predicted AM Peak Volumes – One-way	Predicted PM Peak Volumes – One-way
Pro Hart Avenue	CSG TIA (2031 data)	1,000 vph	1,023 vph	1,070 vph
Stockdill Drive	CSG TIA (2031 data)	1,371 vph	38 vph	40 vph
Parkwood Road	Parkwood TIA (2031 data)	900 vph	595 vph	470 vph
Uriarra Road	2026 CSTM Data	1,253 vph	60 vph	53 vph
Fairlight Road	2026 CSTM Data	783 vph	60 vph	53 vph

From this comparison, it can be seen that all roads except Pro Hart Avenue are operating within their theoretical capacity volumes. As such, these roads can all be expected to operate with acceptable levels of congestion during the construction periods. These roads are also operating with significant spare capacity, and as such the additional 9 vehicles per hour in each of the peak periods resulting from the construction traffic (as advised in Table 2.2 above) is not expected to result in worsening of congestion.

For Pro Hart Avenue, the road is expected to be operating just over the theoretical capacity level in both AM and PM peak periods. This suggests that these roads will be operating with some congestion and delays under the current expected 2031 traffic volumes from the surrounding road network. Given the magnitude of the current volumes, an increase of 9 vehicles (0.8% of total traffic) in each of the peak periods is not expected to significantly worsen the congestion experienced along these roads. It is also noted that these volumes are also considering traffic from the full development of Ginninderry NH1 and NH2, which is not expected to be completed at the time construction activities commence. As such, congestion along the road is actually likely to be improved from the above scenario.

Of the 9 additional vehicles produced by the construction activities, three are expected to be heavy vehicles. Typically, roads are operating with between 2% and 5% heavy vehicle volumes on them in the peak periods. For the roads which are significantly under their capacity, the three additional heavy vehicles are not expected to result in poor performance or extended delays. For Pro Hart Avenue, between 20 and 55 heavy vehicles are already expected to operate along this road. As such, the addition of 3 additional heavy vehicles are not expected to have a major impact on traffic congestion.

The results presented in Table 3.1 are consistent with the expected congestion shown within the 2026 CSTM models, which can be found attached in APPENDIX B.

4 SUITABILITY OF CONSTRUCTION VEHICLE TRANSIT ROUTES

To determine the suitability of each of the identified roads expected to be used during the construction and demolition works, a review of the road conditions and design parameters was undertaken. This review considered whether these roads are listed as official heavy vehicle routes by the ACT Government, as well as the road width, horizontal geometry, pavement strength, and turning movement allowance at intersections to identify whether the roads are suitable for use by vehicles of the size and weight proposed for use in these construction activities.

It should be noted that all the roads and access tracks identified in the sections below are already in use by TransGrid heavy vehicles for the purpose of the initial construction and ongoing maintenance of the current TransGrid assets. An example of the maintenance vehicles typically adopted for works on TransGrid assets can be seen within APPENDIX C.

Given that similar heavy vehicles already use the road network to access existing TransGrid assets, vehicle movement to all the sites identified within APPENDIX A should be achievable. Additional protection and management measures along each of the roads may be required depending on the identified deficiencies present.

As is standard practice, discussions with the relevant ACT and NSW government authorities should be held prior to commencement of heavy vehicle movements along these roads to confirm the suitability of these routes, and determine whether any Temporary Traffic Management (TTM) measures are required to enable the safe movement of these vehicles.

4.1 Construction Works

As part of the works completed by TransGrid to prepare for undertaking these construction and demolition works, a plan was prepared which outlined the key access tracks which would need to be constructed / utilised during construction works, and which roads they would connect into. These plans can be seen attached in APPENDIX A. According to the information provided in this plan, construction traffic associated with these works will access the sites via three existing roads. The roads which site access will be provided off are Stockdill Drive, Uriarra Road, and Fairlight Road. Stockdill Drive

From review of the ACT City Services resources regarding heavy vehicle conditions and network within the ACT, it can be seen that Stockdill Drive is able to cater for most heavy vehicle movements, being listed as appropriate for truck and dog combinations, Higher Mass Limit (HML) vehicles, and B-double vehicles. As such, movements of the construction heavy vehicles should be able to occur along this road without the need for temporary traffic management. Stockdill Drive also connects into the wider heavy vehicle network, with vehicles being able to access this road using Drake Brockman Drive. The wider heavy vehicle route through Canberra which can be used to reach Stockdill Drive can be seen in Figure 4.1.

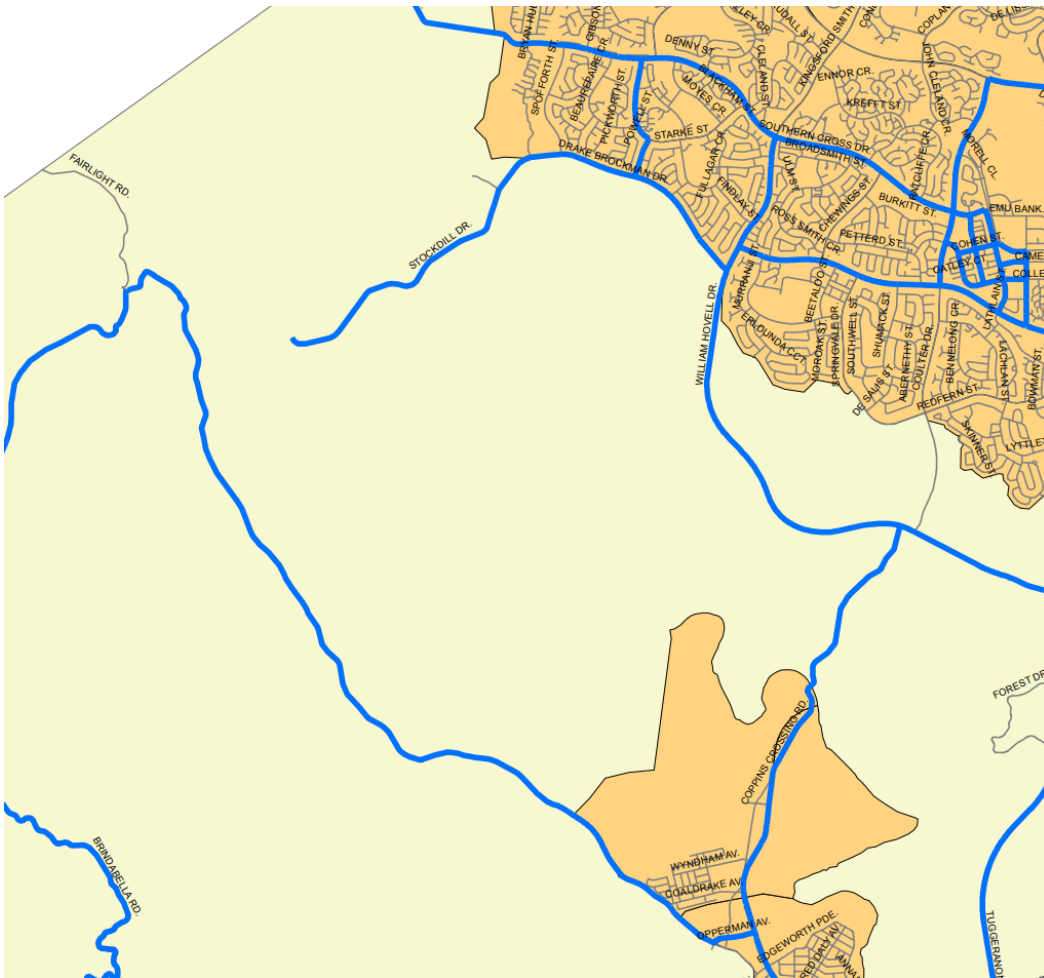


FIGURE 4.1 HIGHER MASS VEHICLE ROUTES MAP – ACT CITY SERVICES (2023)

4.1.1 Uriarra Road

As with Stockdill Drive, Uriarra Road is also listed as being suitable for use by truck and dog combinations, B-double vehicles, and HML vehicles. This can be seen in Figure 4.1 above. Based off this, the road can be concluded to be able for handle the construction vehicles which will be travelling to and from the site without special management or controls in place.

It is noted though that for B-double and HML vehicles, Uriarra Road has the restriction that only vehicles associated with Forestry and livestock traffic are typically permitted to use this road. As such, special permission may be required from ACT City Services to utilise this road for the purpose of the construction vehicles. Discussions with this body would be required prior to the commencement of construction to ensure that usage of this road by the construction vehicles is appropriate.

Connection onto Uriarra Road for heavy vehicles is available from John Gorton Drive, which is an approved route for most heavy vehicles, and does not have the restrictions which Uriarra Road has for B-double and HML vehicles.

4.1.2 Fairlight Road

Fairlight Road is classified as a rural road, connecting Uriarra Road to Mountain Creek Road, and running through both ACT and NSW. The road is paved, however sections of it were noted to be in distress and in poor repair.

For the section within the ACT, it is noted that the road is not classified as a heavy vehicle route for any of the vehicle types. From review of the road geometry, it can be seen that the road varies in width between 4.5m to

6m for 2-way vehicle movements. Road shoulders are also not present, resulting in a restricted carriageway which would make it difficult for heavy vehicles to traverse the road or allow oncoming traffic to pass. There are also several tight horizontal curves present along the road (such as the bridge across Uriarra Creek just north of Uriarra Road, see Figure 4.2) which would likely require heavy vehicles to use both traffic lanes to ensure sufficient space for turning movements.

Due to the narrow road width and tight horizontal curves present along this road, temporary traffic management would be required to manage oncoming vehicles and limit their interaction with any construction vehicle movements. This management would predominantly be required at the connections to the access track, where heavy vehicles would be turning onto or off of Fairlight Road with potentially obstructed sight distance. Traffic management at any location where heavy vehicle turning movements would encroach into the oncoming traffic lane would also need to be considered.

As was mentioned earlier, the existing TransGrid assets in this area are presently maintained using the existing access roads connected to Fairlight Road. Heavy vehicle movements by primary producers for the purpose of transporting livestock and other farming goods would also commonly use Fairlight Road to access the properties within this area. Given the roads existing use by heavy vehicles and low daily traffic volumes (as mentioned in Section 3), the use of this road for access to the sites by construction vehicles is viewed as suitable, provided the required traffic management is in place.

In the event that access to the site via the southern end of Fairlight Road off Uriarra Road is deemed unsuitable, an alternative route to access the sites from the NSW side of Fairlight Road via Mountain Creek Road could be adopted. This route would not be restricted by the horizontal geometry as much, but is not listed as a heavy vehicle route and would still likely need TTM's to be adopted given narrow road widths. It is also noted that Mountain Creek Road is not paved to the south of Fairlight Avenue, which could lead to increased damage to the road from heavy construction vehicles. As with Fairlight Road, Mountain Creek Road is already used by TransGrid maintenance vehicles (such as the Scania Skylift detailed in APPENDIX C), to undertake repairs on the existing assets in the area, so its use for construction activities is viewed as acceptable.

Discussions with relevant ACT and NSW government authorities should be conducted prior to the commencement of construction works to confirm whether any restrictions to heavy vehicle movements would apply along either Fairlight Road or Mountain Creek Road, given they are not officially listed as heavy vehicle routes. A TTM strategy for the selected route will also need to be developed by a suitably qualified persons (having completed the SafeWork NSW training), and approved by the relevant Government entities prior to any vehicle movements occurring along this road.



FIGURE 4.2 HORIZONTAL CURVE RESTRICTION ALONG FAIRLIGHT ROAD

4.2 Demolition Works

In the later stage of the relocation works, the demolition of the current transmission lines will commence. As the TransGrid report does not specify the routes to be used during this stage, reference can be made to the locality plan in Figure 1.1. Construction traffic associated with these works is expected to access the site via four existing roads, notably Stockdill Drive, Parkwood Road, Pro Hart Avenue, and Fairlight Road.

The suitability and constraints for Stockdill Drive and Fairlight Road are the same for the demolition works as they are for the construction works, and so no additional discussion on the use of these roads by heavy vehicles has been included. Assessment of the other two roads is discussed further in the sections below.

4.2.1 Parkwood Road

From review of the ACT City Services resources regarding heavy vehicle conditions and the network within the ACT, it can be seen that Parkwood Road is appropriate for most heavy vehicle movements, being listed as appropriate for truck and dog combinations, HML vehicles, and B-double vehicles. As such, movements of the construction heavy vehicles should be able to occur along this road without needing specific traffic management. This road can be accessed via Southern Cross Drive, which is also noted as suitable for most heavy vehicle movements. This heavy vehicle route and its wider connectivity through the ACT can be seen in Figure 4.1 above.

It is noted that Parkwood Road does extend across into NSW past the Canberra Sand and Gravel site. From the construction and demolition activity plans shown in APPENDIX A however, no development vehicles are expected to travel along this road far enough to cross the border. As such, the section of Parkwood Road within NSW has not been considered further for this assessment.

4.2.2 Pro Hart Avenue

For access to the sites off Pro Hart Avenue, it is noted that the section of Pro Hart Avenue between Drake Brockman Drive and Stockdill Drive is listed as a heavy vehicle route, and so should be suitable for use by construction vehicles for this work. To the west of Stockdill Drive, Pro Hart Avenue is not listed as a heavy vehicle route, however the design of the road is set to match the criteria of the road section east of Stockdill

Drive. As such, road width, pavement strength, and turning movements are all assumed to be sufficient to cater for all heavy vehicle movements associated with the construction works.

Depending on the progress of the Ginninderry Neighbourhood development, sections of Pro Hart Avenue may still be under construction while the TransGrid demolition works are underway. In the event of this, discussions will need to be initiated with Ginninderry to ensure that access to their construction site is available and suitably set up to cater for the required heavy vehicle movements associated with demolition works.

5 OVERSIZE / OVERMASS VEHICLE RESTRICTIONS

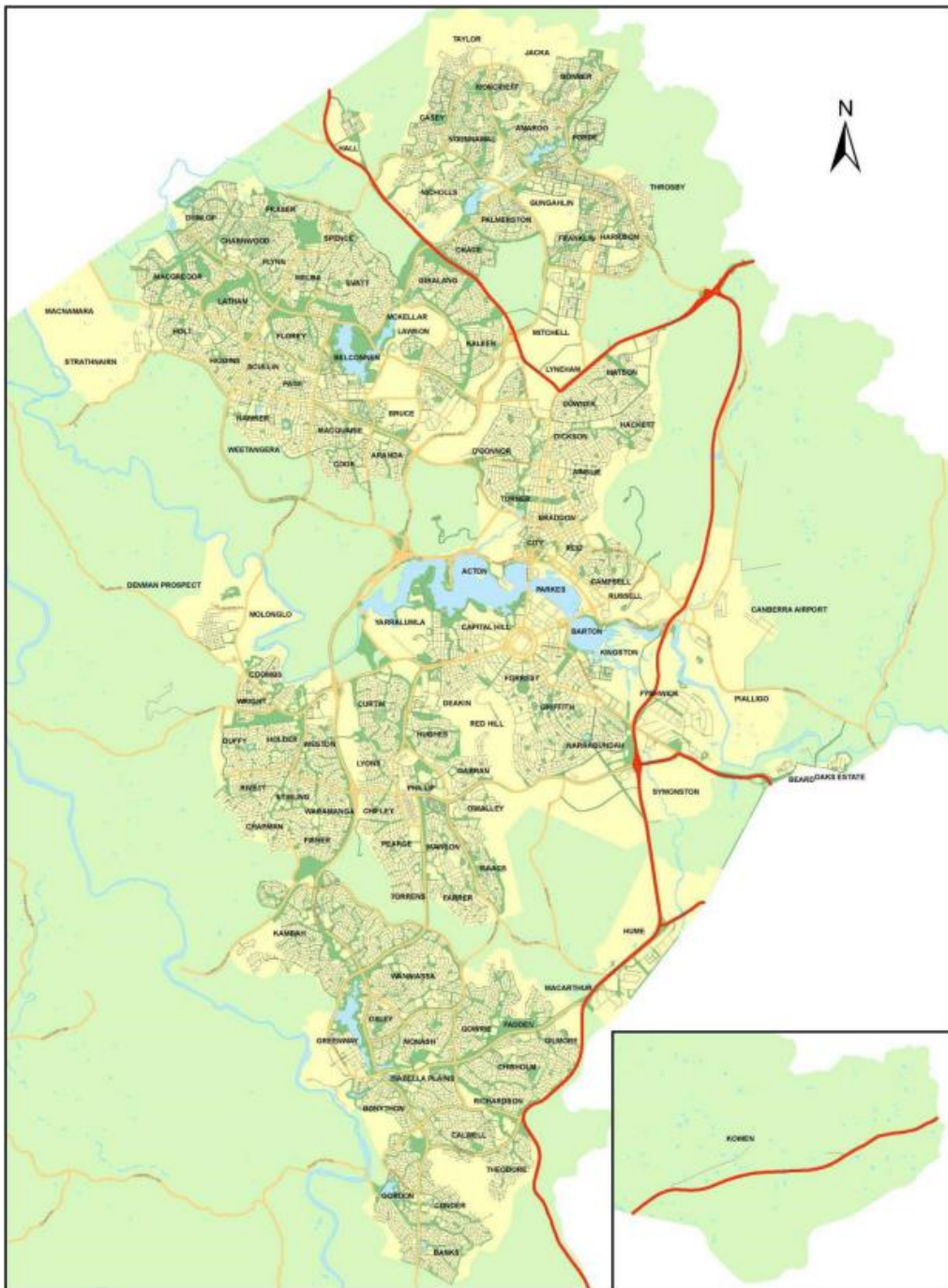
As per advice from TransGrid, it is noted that there is potential for the heavy vehicles associated with the construction and demolition works to be Oversize and Overmass (OSOM) vehicles. As per the National Heavy Vehicle Regulator (NHVR), OSOM vehicles are heavy vehicles which are carrying a large indivisible item. These vehicles do not meet the regulation dimension limits, and so special consideration for these vehicle movements to and from site will be required.

As per the *Multi-State Class 1 Load Carrying Vehicle Dimension Exception Notice (NHVR, 2023)* and the associated *ACT Load Carrying Vehicles Stated Routes and Areas (NHVR, 2020)* documentation, all the OSOM vehicles associated with these works will need to be below the maximum dimension limits and rear overhang limits specified in these documents. The OSOM vehicles may also be required to be accompanied by pilot and escort vehicles, as specified in Part 6 of the *Additional Conditions Booklet* published by Roads ACT.

It is noted that none of the roads which construction traffic is expected to utilise are approved for usage by OSOM vehicles, as can be seen in Figure 5.1 below. Within the ACT, there is only a single specified OSOM route which connects the main interstate approach routes with the key ACT industrial / freight areas such as Hume, Mitchell, and Canberra Airport. As the proposed works fall outside of the approved route, agreement will need to be received from the ACT Government to allow the use of non-approved roads for OSOM vehicles prior to the commencement of any works on-site. Given that the surrounding road network is generally considered suitable for larger heavy vehicles such as B-doubles, the designation of a temporary route for OSOM vehicles should be possible. Further discussion with the heavy vehicle provider will need to be undertaken to confirm the required size, weight, and frequency of the OSOM vehicles for these works, so a route can be selected which minimise damage and disruption to the existing road network.

Any OSOM vehicles will also need to be equipped with suitable warning devices, as specified in the NHVR *Oversize Overmass (OSOM) Vehicles* document. Examples of warning devices could include warning lights, warning flags, and "Oversize" signage on the vehicles.

To ensure all requirements surrounding the transport of OSOM vehicle to and from the site of works are suitably met, further discussions are recommended to occur with relevant ACT Government stakeholders. Confirmation of the sizing and loading of any OSOM vehicles would also likely be required to facilitate these conversations.



Oversize & Overmass Vehicles - Approved Roads

FIGURE 5.1 OSOM APPROVED TRAVEL ROUTES THROUGH THE ACT (NHVR, 2020)

6 EXISTING ROAD SAFETY AND HIGH CRASH AREAS

To identify any key areas where safety concerns are already present, and may be exacerbated by the inclusion of construction vehicles along the roads, an assessment of crash data available on the Open Data Portal was conducted. This crash data maps all the reported incidents which have occurred in the ACT between the 1st January 2012 and the 26th July 2021. The number of reported crashes which have occurred along each of the key roads which construction vehicles will use can be seen in Figure 6.1 and Figure 6.2 below. A brief summary of the total number of crashes along each road is provided in Table 6.1.

TABLE 6.1 CRASH QUANTITIES ALONG KEY ROADS

Road Name	Road Length (km)	Total Crashes	Crashes per year per km
Parkwood Rd / Southern Cross Dr – Between CSG site and Kingsford Smith Dr	4.6km	206	5
Pro Hart Ave / Drake Brockman Dr – From Kingsford Smith Dr to termination	4.7km	69	2
Stockdill Dr – From Pro Hart Ave to termination	3.4km	3	0.1
Uriarra Rd – From Fairlight Rd to John Gorton Drive	12.2km	201	2
Fairlight Rd – From Uriarra Rd to Mountain Creek Rd	4.8km	1	Nil

From these two pictures and the table, it can be seen that Parkwood Road / Southern Cross Drive and Uriarra Road have recorded a significant number of crashes along their length over the 9 years of survey data. For Uriarra Road, the volume of crashes are mostly attributed to the road's length, with crashes typically spread along its length, and no areas of concentrated crashes present along its extent. When considering the number of crashes per year per kilometre, the volume of crashes is not viewed as representative of any safety issues present.

For the Parkwood Road / Southern Cross Drive, the majority of crashes were reported at the Kingsford Smith Street intersection, and the two Starke Street intersections. Given the location and layout of these intersections, it is predicted that most of these crashes are either rear-end crashes at the signals, or due to sight distance limitations causing vehicles to select inappropriate gaps in oncoming traffic at the priority-controlled intersections. The addition of the construction vehicles along this road is not expected to have any impact on this aspect of road safety, and so no worsening of safety is expected to occur due to these additional vehicles being present on the network.

For the remaining roads, the crash volumes are low enough to not suggest any overarching safety hazards present in the existing road corridor. As such, the addition of the construction vehicles along these roads are not expected to lead to any significant increasing of collision numbers.



Figure 6.1 Crash Data for Construction Work Routes

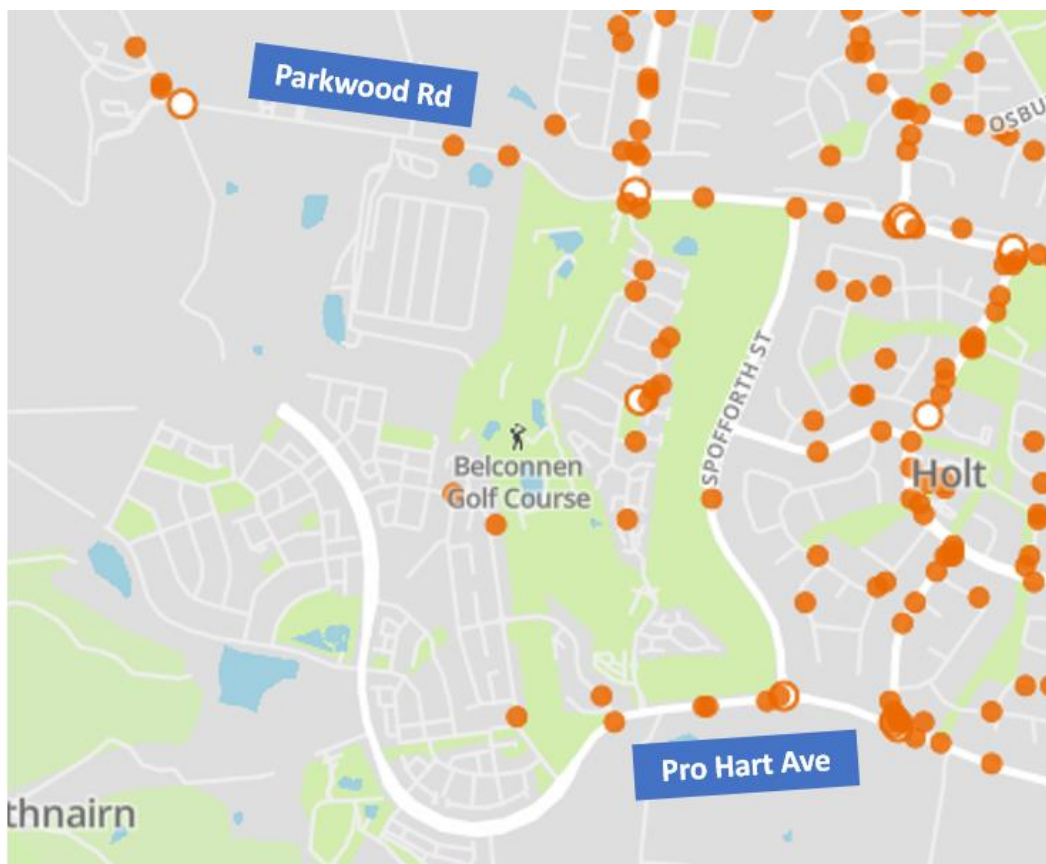


FIGURE 6.2 CRASH DATA FOR DEMOLITION WORK ROUTES

7 CONCLUSION

From the above assessment works, it can be seen that the overall impact of the construction and demolition traffic associated with the Upper and Lower Tumut 330kV Transmission Line Realignment works will be minimal on the surrounding road network. With an expected maximum traffic increase of 45 vehicles per day, and 9 vehicles per hour over the surrounding road network, the overall impact on performance and congestion is expected to be minimal. The key roads which are expected to be utilised by this construction traffic are all expected to be operating with enough spare traffic capacity to effectively handle this increase in vehicles. The one exception is Pro Hart Avenue, which is expected to be operating just over capacity in 2026 conditions, even without the construction traffic. The overall magnitude of increase to the traffic volumes from the construction works are however still expected to be minor, and no worsening in congestion along this road is expected.

For the suitability of the selected roads for use by the construction heavy vehicles, and access to these roads from the wider network, all roads but Fairlight Road are expected to be suitable for use without significant management activities. This has been concluded based on the presence of approved heavy vehicle routes along most of the identified roads, as well as review of road widths and geometry. It is however noted that the new proposed works are set to occur either at or near existing TransGrid assets, which were initially installed and have been maintained by heavy vehicles for the duration of their lifespan. As such, use of all the proposed routes by heavy vehicles during both construction and demolition activities are expected to be achievable, and should lead to minimal disruption and damage to the road network.

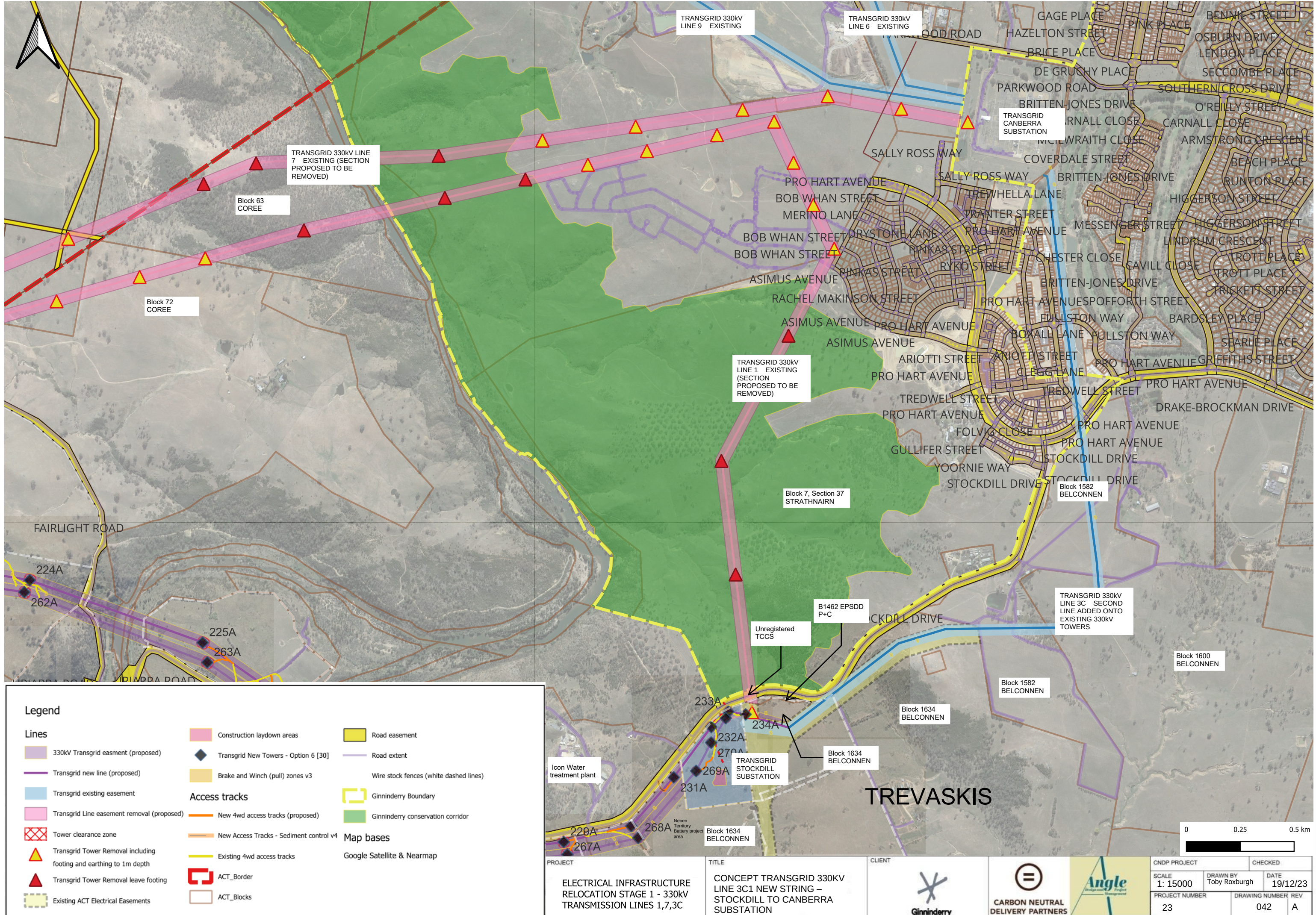
For Parkwood Road, Stockdill Drive, Uriarra Road, and a portion of Pro Hart Avenue, these roads are listed as part of the ACT heavy vehicle route network, and are suitable for use by up to B-double trucks and Higher Mass Limit (HML) vehicles. As such, heavy vehicle movements to, from, and along these roads should be suitable, and will likely not require any specific temporary traffic management (TTM) measures to enable these vehicle movements. As is standard practice, discussions should still be held with ACT City Services and any other relevant agency to confirm these movements are suitable. The routes along Uriarra Road and Pro Hart Avenue are of particular importance to have these discussions for, as restrictions are present along these roads and special agreement may need to be made before the heavy vehicle movements can occur.

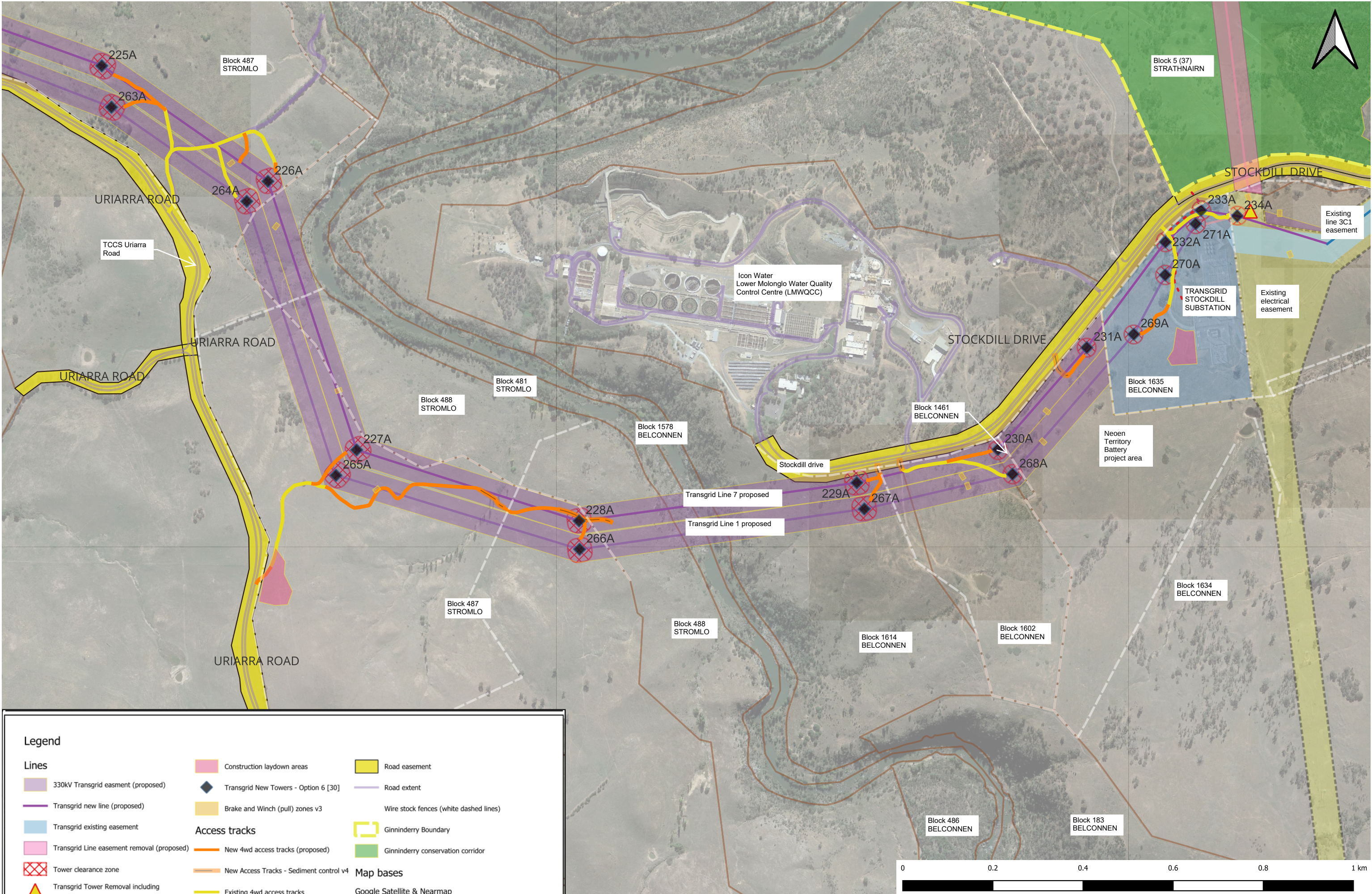
For Fairlight Road, it is noted that the road width and horizontal geometry may be restrictive for allowing the construction heavy vehicle movements to occur. As is standard practice, discussions with relevant government authorities will be required to confirm any conditions associated with the use of this road network. Development of TTM's to allow for heavy vehicles to access sites along Fairlight Road without impacting upon oncoming traffic may also be required, and discussions with someone qualified to undertake traffic control work would be required prior to permitting vehicle movements along this route.

In the event of Oversize and Overmass (OSOM) vehicles being utilised for any of the construction or demolition stages, further restrictions are in place for their movements. It is noted that none of the roads in proximity to the construction works are listed as OSOM approved routes. As such, discussions with relevant government authorities will be required to select suitable temporary routes for these vehicles to utilise which would minimise the damage and disruption to the surrounding road network. Confirmation of the required warning / safety measures for these vehicles would also need to be confirmed. Documentation provided by the National Heavy Vehicle Regulator (NHVR) can provide some advice on potential measures required. It is recommended that the sizing, mass, and frequency of any OSOM vehicles to be used as part of these works be confirmed with TransGrid and any third-party freight company prior to undertaking these discussions,

As part of this assessment, a review of the crash history along all the selected travel routes was also undertaken to identify any areas with existing safety constraints. From this review, it was found that only Uriarra Road and Parkwood Road / Southern Cross Drive had sufficient volume of crashes in a 10-year period to suggest an issue. From review of Uriarra Road, the crashes were noted to be spread along the entire length of the road, and not suggesting any areas of high risk which would need to be managed as part of the construction works. Along Southern Cross Drive, three of the existing intersections were identified as having a high volume of crashes. These crashes are attributed to typical operation of these types of intersection, and the safety issues are not expected to be exacerbated through the addition of the construction traffic volumes.

APPENDIX A : TRANSGRID CONSTRUCTION - PROPOSED ACCESS TRACKS





Legend

Lines

330kV Transgrid easment (proposed)

Transgrid new line (proposed)

Transgrid existing easement

Transgrid Line easement removal (proposed)

Tower clearance zone

Transgrid Tower Removal including footing and earthing to 1m depth

Transgrid Tower Removal leave footing

Existing ACT Electrical Easements

Construction laydown areas

Transgrid New Towers - Option 6 [30]

Brake and Winch (pull) zones v3

New 4wd access tracks (proposed)

New Access Tracks - Sediment control v4

ACT_Border

ACT_Blocks

Road easement

Road extent

Wire stock fences (white dashed lines)

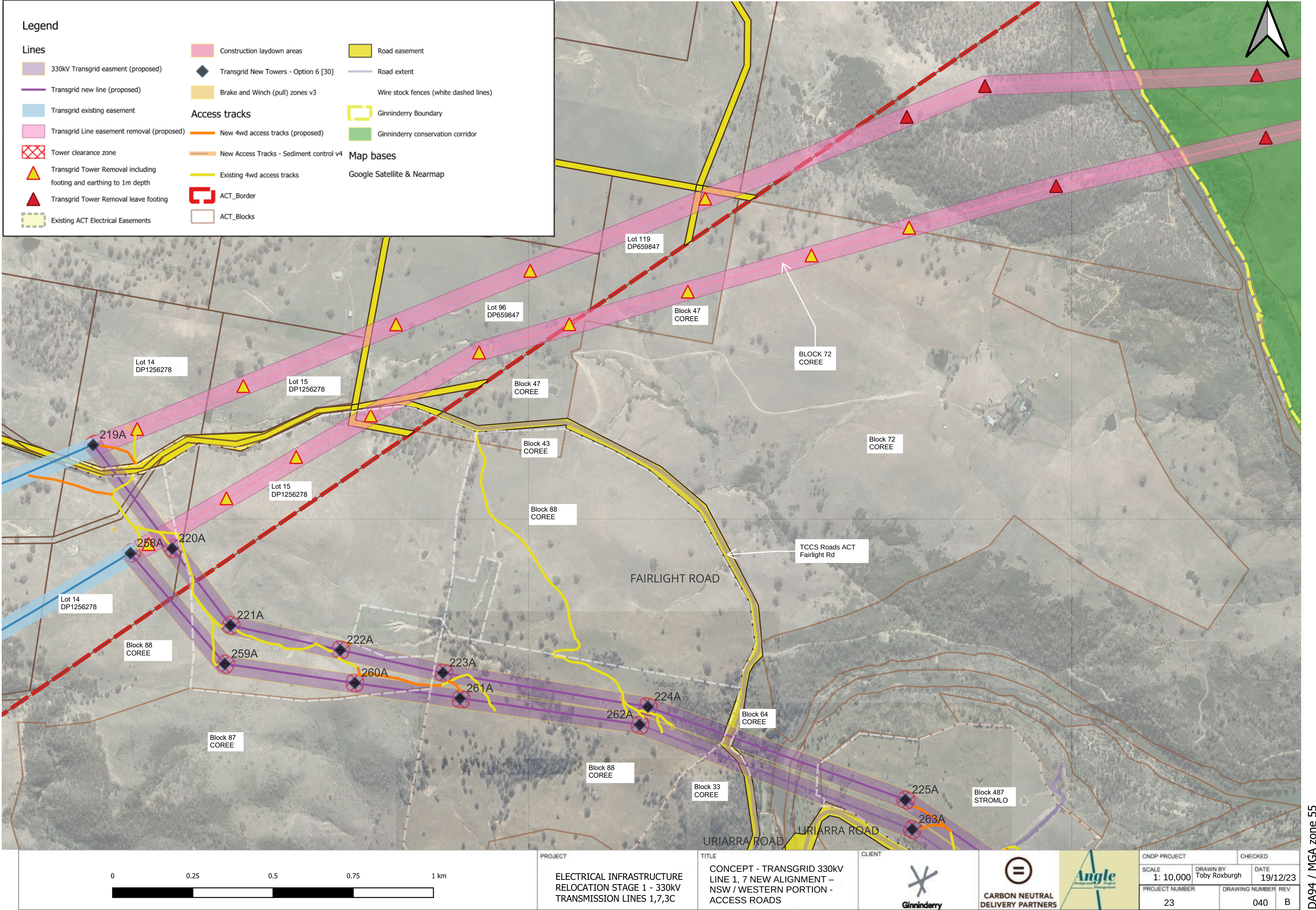
Ginninderry Boundary

Ginninderry conservation corridor

Map bases

Google Satellite & Nearmap

PROJECT	TITLE	CLIENT	CNDP PROJECT		CHECKED	T.R.
ELECTRICAL INFRASTRUCTURE RELOCATION STAGE 1 - 330kV TRANSMISSION LINES 1,7,3C	CONCEPT - TRANSGRID 330kV LINE 1,7 NEW ALIGNMENT - EASTERN PORTION		SCALE 1:7,500	DRAWN BY Toby Roxburgh	DATE 19/12/2023	
			PROJECT NUMBER 23	DRAWING NUMBER 041	REV	M



Access tracks

New 4wd access tracks (proposed)

Road easement

Road extent

Map bases

Google Satellite & Nearmap

00.250.50.751 km

PROJECT

ELECTRICAL INFRASTRUCTURE
RELOCATION STAGE 1 - 330kV
TRANSMISSION LINES 1,7,3C

TITLE

CONCEPT - TRANSGRID 330kV
LINE 1, 7 NEW ALIGNMENT –
NSW / WESTERN PORTION -
ACCESS ROADS

CLIENT

CARBON NEUTRAL
DELIVERY PARTNERS

CNDP PROJECT

SCALE
1: 10,000

PROJECT NUMBER
23

CHECKED

DRAWN BY
Toby Roxburgh

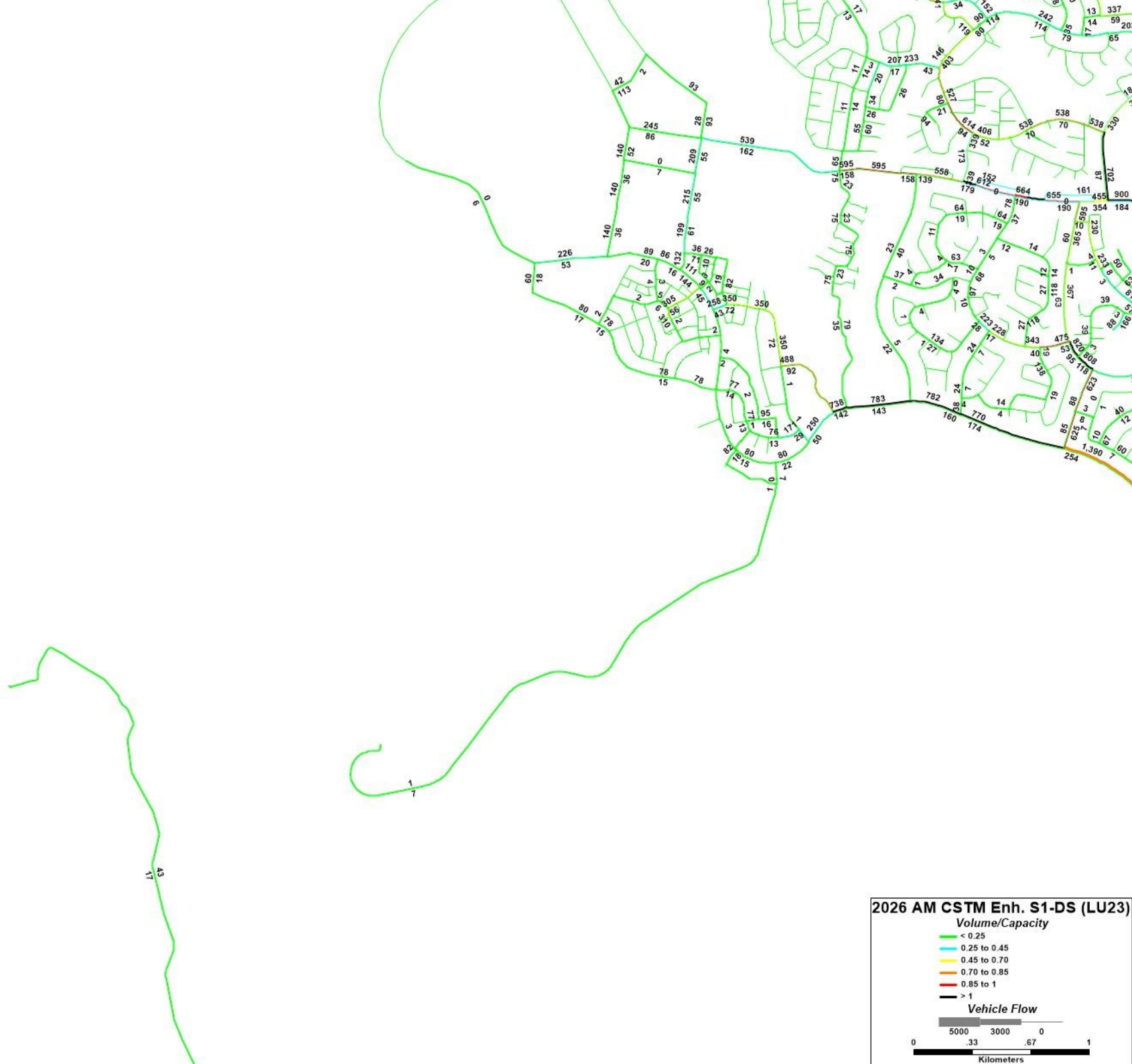
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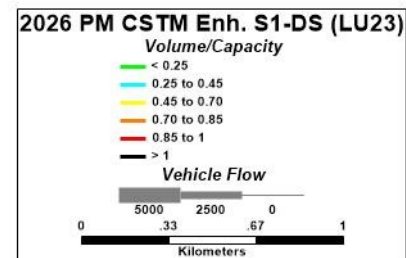
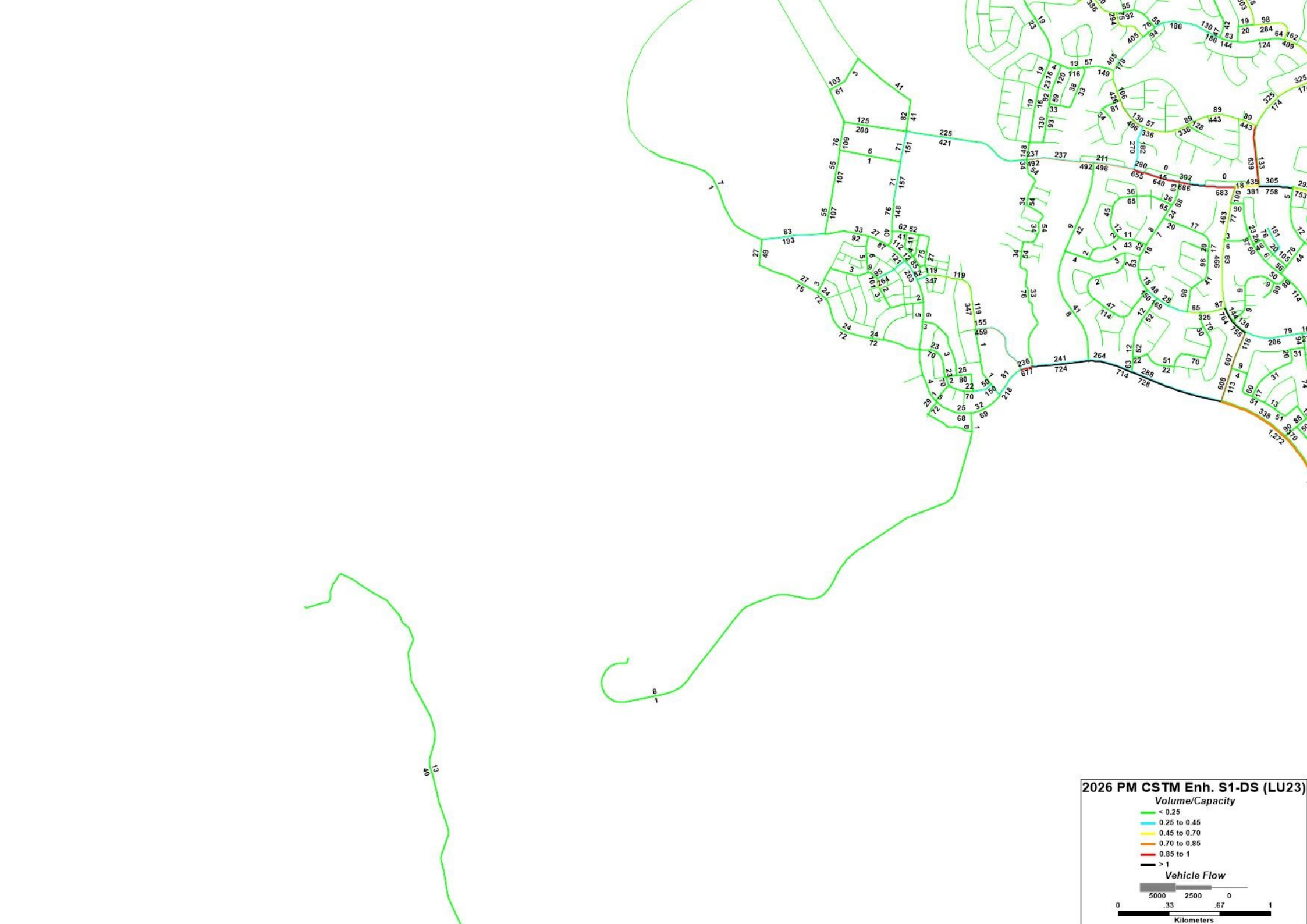
DATE
19/12/23

REV
B

APPENDIX B : 2026 CSTM DATA

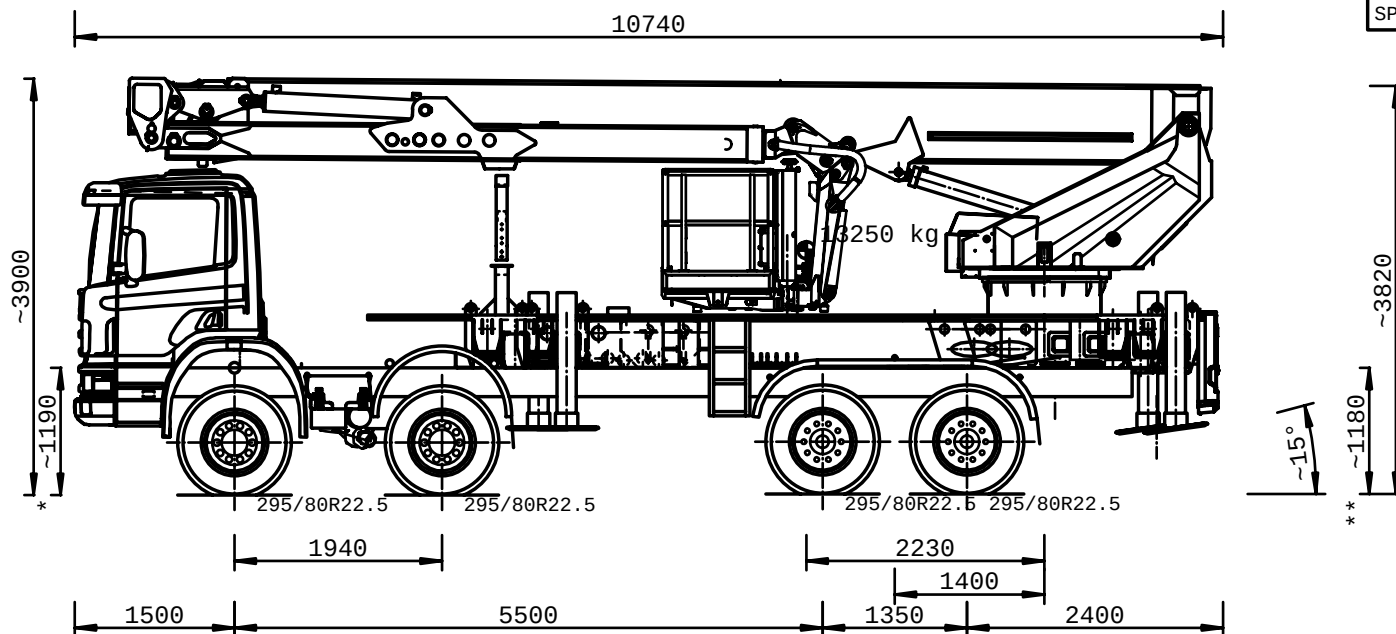




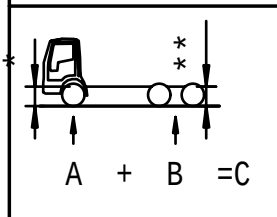


APPENDIX C : SKYLIFT S46 XDT (43T)

NOTE1: Runko pieniHDT muutettuna, muut S46XDT
NOTE2: Pedin paikka EI vakio
REMARKS: PRELIMINARY
SPECIAL OPTION: OUTREACH DIAGRAM: Uusi



PRELIMINARY



WEIGHT CALCULATION	Front	Rear	Total
KG	Axle	Axle	weight
Skylift	1770	11480	13250
Chassis	6540	4080	10620
Counter weight	-120	420	300
Persons	150		150
Vehicle	8340	15980	24320
Allowed	17000	26000	43000

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Änderungen vorbehalten
Sous reserve de modification

HANDLING ON CAD SYSTEM ONLY

Valmistaja pidättää oikeuden muutoksiin
Reservatjon för ändringar

1:50	BRONTO SKYLIFT S 46 XDT
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(A3)

(A3)	SCANIA
CODE:	

DRAWN	JaT	2006-08-09
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B	P124CB/8*8HZ/5500
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APP'V'D



LAYER

DWG NUMBER	
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F0045750

REV

rev	description
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date

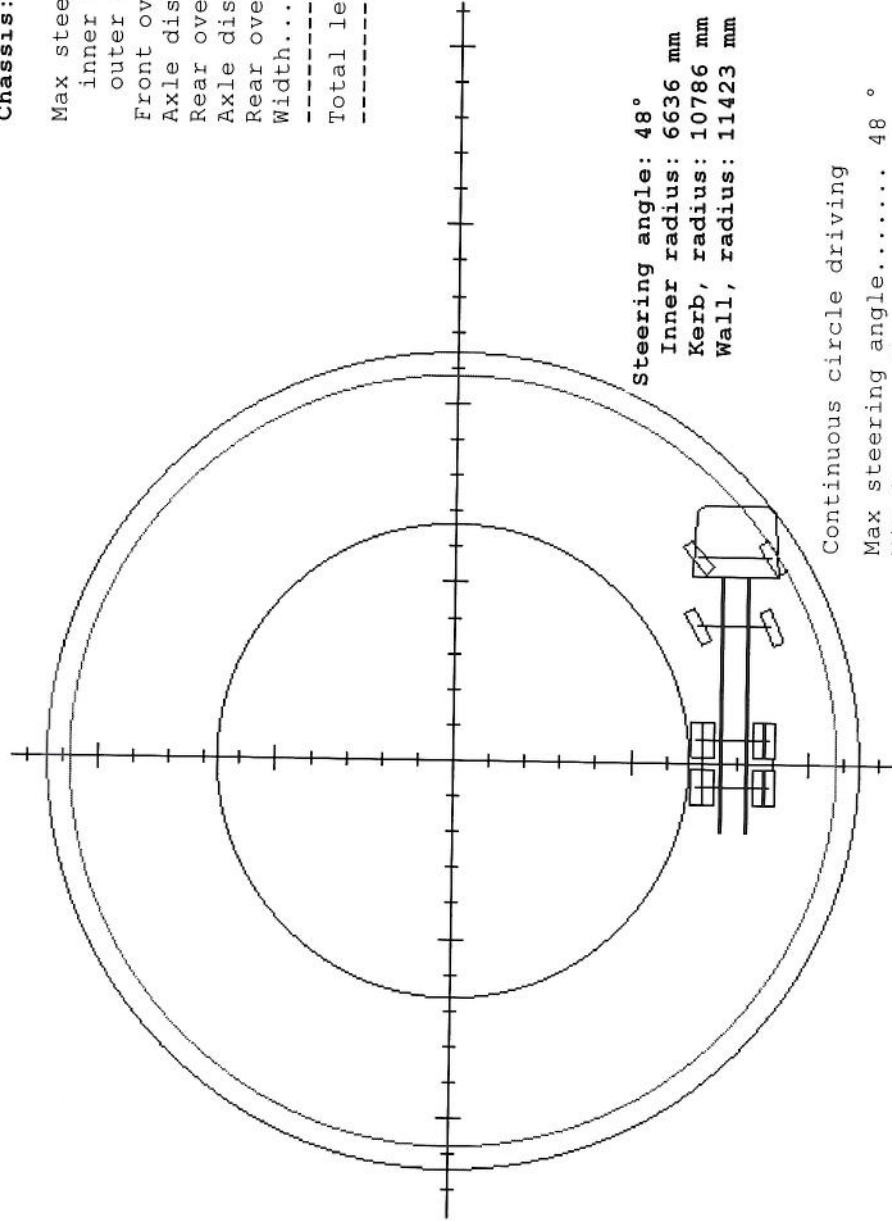
name

BRONTO SKYLIFT OY AB FINLAND

BRONTOCAD

Chassis: LB8X4MNB

Max steering angle:	
inner wheel.....	48 °
outer wheel.....	34.1 °
Front overhang.....	1458 mm
Axle distance.....	5100 mm
Rear overhang.....	2600 mm
Axle distance theor.....	5778 mm
Rear overhang theor.....	1922 mm
Width.....	2500 mm
Total length.....	9158 mm



Steering angle: 48°
 Inner radius: 6636 mm
 Kerb, radius: 10786 mm
 Wall, radius: 11423 mm

Continuous circle driving

Max steering angle.....	48 °
Min inner radius.....	6636 mm
Min track radius.....	10786 mm
Min outer radius.....	11424 mm