

PROPOSED DEVELOPMENT

**782-804 GREENBANK ROAD NORTH MACLEAN QLD
4280 AUSTRALIA**

TRAFFIC IMPACT ASSESSMENT REPORT

Submission to Logan City Council

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TRAFFIC REPORT

782-804 GREENBANK ROAD NORTH MACLEAN

Introduction

Bana Civil & Structural Engineers has been commissioned by Amit Dhaka to prepare a Traffic Impact Assessment (TIA) for the proposed development located at Lot 1 on RP136420, Greenbank Road, North Maclean, Queensland. A site inspection and review of the locality were undertaken to inform this assessment.

The purpose of this report is to investigate potential internal access and design issues, as well as assess potential external traffic impacts of the proposed interim development on the surrounding road network. Access during the interim stage will be obtained directly from Greenbank Road (80 km/h rural collector road), with a permanent internal road network. This report considers the adequacy of the interim access arrangement, on-site circulation for passenger and heavy vehicles, and the implications for traffic operations on the external network.

The assessment has been prepared in accordance with the Logan Planning Scheme 2015, including applicable Transport, Access, Parking and Servicing requirements, the Austroads Guide to Road Design (Part 4A), the Department of Transport and Main Roads (TMR) Road Planning and Design Manual, and relevant provisions of AS2890.1:2004 for access and parking design.

Site Location

The subject site is located at **Lot 1 on RP136420, Greenbank Road, North Maclean**, within the Logan City Council local government area. The site coordinates are approximately -27.7678, 153.0021.

The property is positioned on the **western side of Greenbank Road**, a two-lane undivided rural collector road with a posted speed limit of 80 km/h. The site lies within the North Maclean growth area, which is identified for future urban and industrial development.

The site has a total area of approximately 15,800 m² (1.58 ha). Surrounding land uses are predominantly rural-residential and undeveloped land, with gradual transition towards planned commercial and industrial uses consistent with regional growth objectives.

The site currently gains access directly from Greenbank Road via a rural-style crossover. This interim arrangement will remain in place until the delivery of the future internal road reserve identified in the structure plan, which will ultimately provide permanent access to the development.

Figure 1 below illustrates the subject site in its local and regional context.



Figure 1: Aerial View of the Subject Site and Surrounding Area

Development Proposal

The proposed development seeks approval for the use of the site as a **Warehouse (outdoor storage)** facility for the storage of vehicles, shipping containers, relocatable houses, and trucks. The operational characteristics of the proposal are as follows:

- **Use:** Warehouse (outdoor storage of vehicles, containers, houses, trucks).
- **Surface treatment:** The site will be prepared with a **gravel / crusher dust surface** across each lot to provide all-weather access and manoeuvring.
- **Vehicle access:** Each lot will typically be accessed by **one vehicle per day**, reflecting the long-term storage nature of the use.

Traffic generation

The proposed development is of a **low-intensity nature**, reflecting the long-term storage function of the site. Vehicle movements will be minimal and limited to occasional access for delivery, retrieval, and inspection of stored items.

Estimated trip generation is as follows:

- **Daily trips:** Approximately **4 vehicle trips per day**, based on one vehicle accessing each lot per day.
- **Vehicle types:** The majority of movements will be by **light vehicles (cars/utes)**, with **occasional Medium Rigid Vehicles (MRVs) or Heavy Rigid Vehicles (HRVs)** required for the delivery or removal of shipping containers or relocatable houses. These heavy vehicle trips are expected to be **infrequent and scheduled**.
- **Peak period traffic:** No concentrated peak-hour activity is anticipated. Trips are expected to be **distributed across the day**, resulting in less than **1 vehicle movement per hour on average**.
- **Comparison to background traffic:** Greenbank Road currently carries **several thousand vehicles per day** as part of its role in the district road network. The additional traffic generated by the proposal represents a **negligible increase (<0.5%)** in daily traffic volumes.

The development will generate **very low traffic volumes** which will have **no material impact** on the performance, capacity, or safety of Greenbank Road or the surrounding road network.

Access Design (Interim)

For two-lane rural roads with a posted speed of 80 km/h and very low turning volumes, the appropriate access treatment is a Basic Left (BAL) and Basic Right (BAR). At the traffic volumes anticipated for this development, auxiliary treatments such as Auxiliary Left (AUL) or Channelised Right (CHR) are not warranted. The Department of Transport and Main Roads (TMR) Supplement to Austroads Guide to Road Design Part 4A (October 2024) establishes the warrants for turn treatments and confirms that auxiliary or channelised treatments are reserved for locations with higher turn volumes or specific safety risks.

Recommended interim layout (subject to survey):

- **Crossover:** The interim access will be constructed as a rural-style crossover in accordance with Logan City Council standards. Rural access with a pipe culvert crossing must comply with Standard Drawing 8-00396 (or 8-00397, depending on frontage conditions), as outlined in Council's Driveway Fact Sheet¹. Where no kerb and channel exists, the access is instead to be constructed in accordance with

¹ Logan City Council – Driveway Fact Sheet: https://www.logan.qld.gov.au/files/assets/public/v/2/planning-and-building/documents/driveway_fact_sheet.pdf

the IPWEAQ Standard Drawing RS-056, also referenced in the Fact Sheet. In addition, Council's Sealing of Crossovers Policy² requires that where a crossover crosses an existing table drain, a pipe culvert or sealed invert must be installed to preserve stormwater flow capacity.

- **Apron/seal:** Seal the first 10–15 m of the access to reduce gravel carry-out onto Greenbank Road. The remainder of the driveway can be constructed from durable granular pavement.
- **Gate setback:** At present, the site crossover will remain open without a gate, providing direct access to the storage areas. If a security gate is proposed in the future, it should be set back by at least 15–18 m from the edge line of Greenbank Road. This distance allows an Articulated Vehicle (AV, semi-trailer) to clear the live traffic lane while the gate is opened, ensuring no obstruction to through traffic.
- **Grades and drainage:** Maintain a grade of $\leq 2\text{--}3\%$ within the first 6–10 m of the access and ensure surface water runoff does not discharge onto the carriageway.
- **Signage and linemarking:** Treat the access as a minor-road intersection at the hold line. Any associated linemarking or signage should comply with the Manual of Uniform Traffic Control Devices (MUTCD, Queensland) and Logan City Council requirements (to be confirmed through the Operational Works process).

The recommended BAL/BAR treatment with the design measures outlined above will ensure that the interim access arrangement operates safely and effectively for both light and occasional heavy vehicle movements.

Parking Provision

The proposed development is characterised by outdoor storage, which generates minimal on-site parking demand. The following provisions are relevant:

- **Staff parking:** Day-to-day operations are expected to require only a very small number of staff (estimated at two personnel on site at any given time). A small number of informal hardstand spaces will be provided within the site for staff vehicles.
- **Visitor parking:** Given the nature of the use, visitor activity is negligible. Occasional visits for inspection or delivery can be accommodated within the existing hardstand areas without impacting operations.
- **Heavy vehicle standing:** Occasional MRV/HRV access for container will be accommodated on internal gravel hardstand areas. The design allows sufficient room for manoeuvring and temporary standing without the need for vehicles to queue on Greenbank Road.
- **Compliance:** While no formal car parking layout is required at this interim stage, the site can comfortably accommodate several car and truck standing areas within the prepared gravel surface, consistent with AS2890.1:2004 (Off-street Parking) and AS2890.2:2018 (Off-street Commercial Vehicle Facilities) design principles.

² Logan City Council – Sealing of Crossovers Policy:
https://logancity.prelive.opencities.com/files/assets/public/v/1/about-council/our-organisation/policies/policy_sealing_of_crossovers.pdf

The development generates minimal parking demand. The proposed informal on-site hardstand parking and manoeuvring areas are more than adequate to meet operational needs, with no impact on the external road network.

Active and Public Transport

The site is located on Greenbank Road, North Maclean, in a rural setting with an 80 km/h speed environment.

- **Pedestrian and cycling:** There are no footpaths or cycle lanes in the vicinity. Pedestrian and cyclist activity is negligible, and the development is not expected to generate such trips.
- **Public transport:** No bus services operate along Greenbank Road. The nearest routes are several kilometres away and not within walking distance.
- **Implications:** Given the low-intensity, storage-based nature of the proposal, all trips will be by **private vehicle**, and no active or public transport facilities are required

Sight Distance

The proposed access is located on Greenbank Road (80 km/h rural collector). For safe operation, access points must achieve the Safe Intersection Sight Distance (SISD) requirements of the relevant design standards.

- **Design requirements:**
 - **Austroads / TMR guidance** (GRD Part 4A, TMR RPDM Supplement) indicates an SISD of around **160–180 m** for an 80 km/h speed environment.
 - **Brisbane City Council's TAPS Planning Scheme Policy (PSP)** adopts a reduced SISD of **145 m for 80 km/h**, which provides a conservative benchmark appropriate for local conditions.
- **Existing conditions:** The frontage to Greenbank Road is generally straight and level. A desktop review indicates that at least 145 m sight distance can be achieved in both directions from the proposed access location, as shown in Figure 2.
- **Vegetation management:** Minor roadside vegetation and shrubs near the proposed crossover may encroach into the sight envelope. These areas will be trimmed and maintained to ensure compliance with the 145 m SISD requirement. Works will be confined to verge vegetation and property frontage only, with no impact on the road pavement or drainage.

With minor vegetation trimming, the access will provide a minimum 145 m sight distance in both directions, satisfying the BCC TAPS PSP requirement for 80 km/h and aligning closely with Austroads/TMR guidance. The access is therefore considered safe for light and occasional heavy vehicle use.

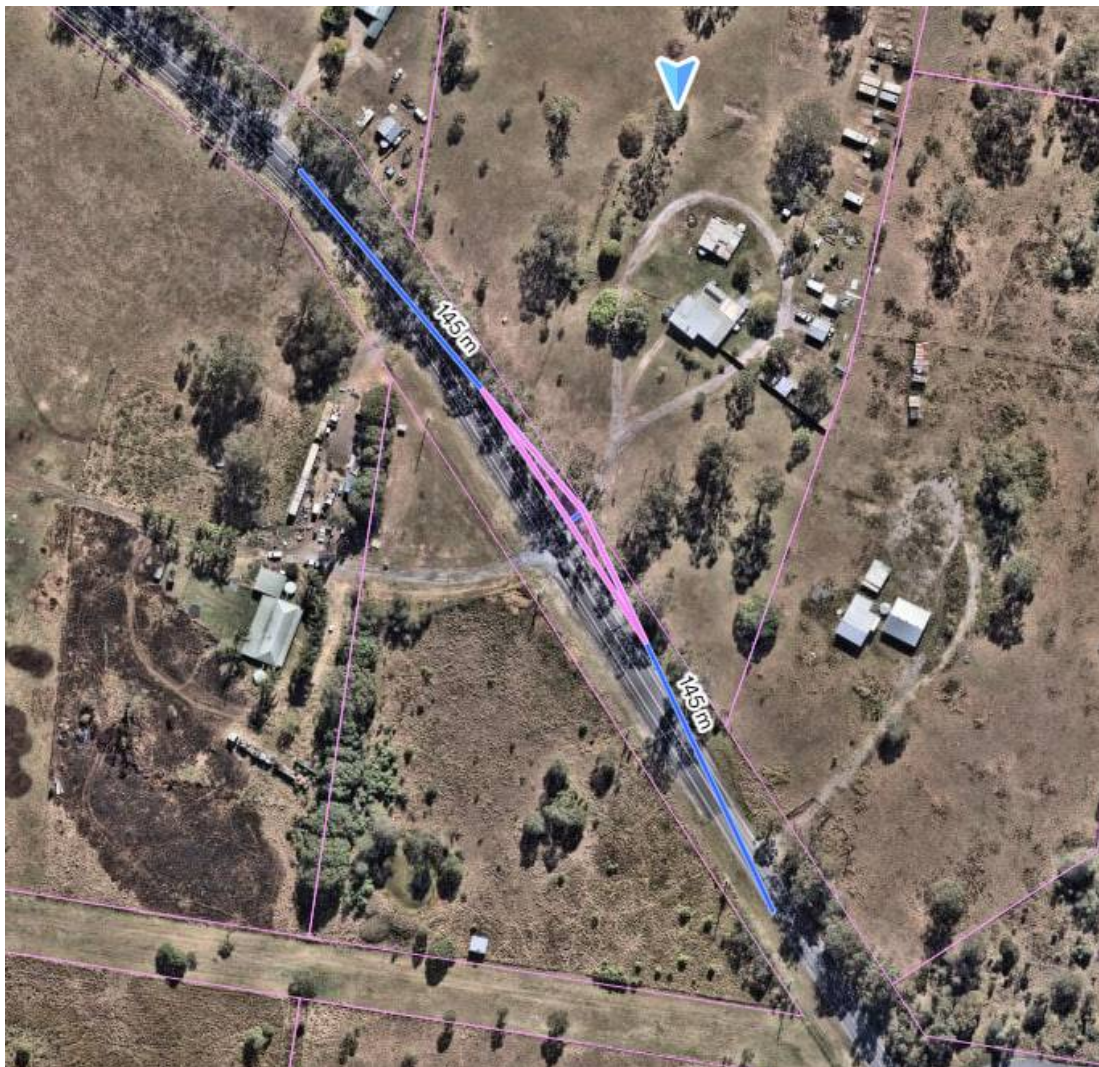


Figure 2: Sight Distance Assessment at Proposed Crossover (145 m each direction on Greenbank Road)



Service Vehicles

The proposed development is for **long-term outdoor storage** and will generate only minimal servicing requirements.

- **Vehicle types:**
 - o The site will be accessed almost exclusively by **light vehicles (AVs)** for storage and inspection purposes.
 - o **B85 passenger cars** (85th percentile design vehicle) have also been tested in swept path analysis to confirm compliance with relevant standards for passenger vehicle access.
- **Access and manoeuvring:**
 - o **Swept path analysis for AV and B85 vehicles** demonstrates that the proposed crossover and internal layout provide safe and efficient access.
 - o **All manoeuvres can be completed in forward gear, with no reversing required onto Greenbank Road.**
- **On-site standing:**
 - o Sufficient gravel hardstand area is available on site to allow vehicles to stand clear of Greenbank Road during loading, unloading, or gate operations (if applicable).

The site provides suitable access and manoeuvring for both **AV and B85 passenger vehicles**, which represent the primary traffic associated with the development. Occasional larger deliveries can be accommodated within the generous internal area, without adverse impacts on Greenbank Road. Swept path diagrams illustrating these movements are provided in Appendix A.

Conclusion

This Traffic Impact Assessment has examined the interim use of the site at Lot 1 on RP136420, Greenbank Road, North Maclean for Warehouse (outdoor storage) purposes. The assessment reviewed traffic generation, access design, sight distance, parking provision, and service vehicle access to ensure that the proposal can be safely and efficiently accommodated within the existing transport network.

The proposed development will generate very low traffic volumes, with around four vehicle trips per day expected. These movements will be spread across the day, resulting in no measurable impact on the capacity or safety of Greenbank Road. A rural-style crossover with a pipe culvert will be provided in accordance with Logan City Council's standard drawings and policies. This treatment ensures compliance with Council's access and drainage requirements while providing a durable and safe entry point to the site.

Sight distance has been assessed for an 80 km/h environment, and a minimum of 145 metres in both directions can be achieved, consistent with the Brisbane City Council TAPS Planning Scheme Policy. Minor vegetation trimming will be undertaken near the crossover to maintain clear sight lines. Within the site, ample gravel hardstand area is available, and swept path analysis for AV and B85 passenger vehicles demonstrates that all manoeuvres can be undertaken in forward gear without the need to reverse onto Greenbank Road.

Parking and servicing demands are minimal given the long-term storage nature of the use. The site layout allows vehicles to stand clear of the road reserve, ensuring that Greenbank Road remains unobstructed at all times. Occasional larger deliveries can also be accommodated within the internal site area without adverse impacts.

In conclusion, the proposed interim development can be safely and efficiently supported on the existing transport network. The access arrangements are consistent with Austroads, TMR, and Logan City Council standards, and no external upgrades are required beyond the provision of the compliant rural crossover.

Appendix A

