



01 February 2019

City of Vincent
244 Vincent Street
Leederville WA 6007
mail@vincent.wa.gov.au

Attention: Karsen Reynolds

Dear Karsen

351 STIRLING STREET, HIGHGATE WA 6003
APPLICATION NO: 5.2018.260

TRAFFIC SAFETY REPORT – SIGHT LINES FOR PROPOSED DEVELOPMENT

1 INTRODUCTION

BG&E have been requested to provide a Traffic Safety Report addressing the driveway and crossover sightlines for the proposed development of No. 351 Stirling Street, Highgate in the City of Vincent. This report has been prepared in accordance with the R-Codes, City of Vincent Built Form Policy and any applicable Australian Standards, in particular the relevant clause below:

R-Codes

6.2.3 Sight lines

- Design Principle P3: Unobstructed sight lines provided at vehicle access points to ensure safety and visibility along vehicle access ways, streets, rights-of-way, communal streets, crossovers, and footpaths.
- Deemed-to-comply C3: Walls, fences and other structures truncated or reduced to no higher than 0.75m within 1.5m of where walls, fences, other structures adjoin vehicle access points where a driveway meets a public street and where two streets intersect (refer to Figure Series 9).

2 SITE DESCRIPTION

The existing site has a 10.28m wide frontage containing a single driveway along its northern boundary servicing a 3 car tandem driveway to an older style dwelling. A minimum 1.5m wide pedestrian footpath exists along the front boundary. This footpath is offset 300mm away from the boundary along the adjacent northern property at 97 Broome Street, Highgate and widens to 1.8m on the southern side of the driveway where it is directly against the front boundary along 351 Stirling Street. A 1.6m high existing brick and iron fence existing along the front and northern boundaries of the subject site and a solid timber fence of the same height existing along the Stirling Street

Perth Office—

484 Murray Street, Perth WA 6000
GPO Box 2776, Cloisters Square, Perth WA 6850
P / +61 8 6364 3300 E / info@bgeeng.com
bgeeng.com—

BG&E Pty Limited
ABN / 67 150 804 603

boundary of 97 Broome Street, Highgate. Between the footpath and the street exists a 3m average width verge. This verge contains an existing sewer manhole concrete cover on the northern side of the crossover and an existing power pole and verge tree on the southern side of the crossover. The power pole is 4.3m clear from the northern boundary of the subject site. Stirling Street is approximately 10m wide at this location. There is an on-street parking bay in front of 351 Stirling Street between the existing cross over and the cross over to the developed battle-axe property at 349 and 349A Stirling Street to the south.

Figure 1 below is an extract from the Cottage Contour and Feature Survey of the site completed on 11 December 2015, which was submitted as part of the Development Application.

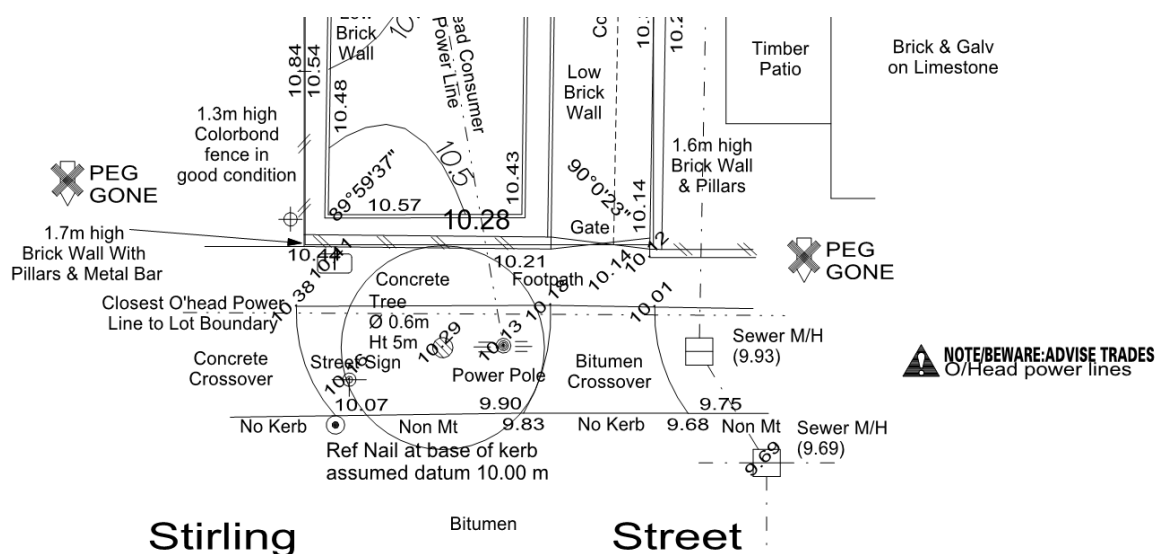


Figure 1: Cottage contour and feature survey extract

3 PROPOSED DEVELOPMENT

The proposed development comprises of 6 dwellings requiring one car bay each, plus a single visitor bay. In total there are 7 car parking spaces provided. The development provides a 4m wide driveway along the northern boundary in the same location as the existing driveway and attempts to utilise the existing crossover. It is understood this has been done in an effort to avoid any impact on the existing power pole and verge tree in front of the property during construction and to retain the existing street car parking bay, which has been seen as beneficial to the development.

During the recent review period of the development application the City of Vincent has responded to the applicant advising that the solid fence to the north of the proposed driveway interferes with the sightlines. The City of Vincent proposed the following solutions:

- Set back the driveway 1.5m from the northern boundary;
- Contact homeowners of the northern property (97 Broome Street, Highgate) to request a modification to the fence; or
- Provide a Traffic Safety Report advising that the sightlines meet the design principle of Clause 6.2.3.

Regarding the first option, it is understood from the applicant that setting the driveway back 1.5m would result in a driveway that impacts on the existing power pole (approaches closer than 0.5m as allowed in the R-Codes) and the proposed visitor parking bay on the opposite side of the driveway.

Regarding the second option, the applicant has advised that the owner of northern property at 97 Broome Street has been contacted and is willing to work with the applicant on a modification to their fence. However the owner is not comfortable with a reduction in the fence height to 0.75m within 1.5m from each corner for privacy and security concerns as it is the backyard of the property (as the property faces Broome Street). The owner was open to a permeable see through fence above 0.75m height within 1.5m from the corner however we understand that this modification cannot be provided as a condition to approval and that it would need to be constructed prior to the Development Application being approved. Considering that the entire 15m length northern boundary fence is in poor condition, this means that the full fence would require replacement prior to the Development Application approval. The applicant has advised that this is not feasible at this stage of the project.

Therefore BG&E has been requested to assess the proposed arrangement and make recommendations if required to meet the design principles of Clause 6.2.3 of the R-Codes. This report details the recommendations.

4 RECOMMENDATIONS

4.1 Deemed-to-comply arrangement

BG&E has reviewed the requirements of Clause 6.2.3 of the R-Codes and in particular requirement C3 in the Deemed-to-comply provision. This requirement refers to Figure Series 9 (reproduced in Figure 2 below) in which a 1.5m x 1.5m truncation in a fence will provide adequate sight lines with zero offset between the fence and the driveway. Note that R-Codes do not make reference to the size of the truncation being dependent on which side of the driveway it is located. Therefore it is considered that the required truncation size is the same regardless of the side of the driveway that it is located.

Figure 9a – Locations of truncations or reduced fence height

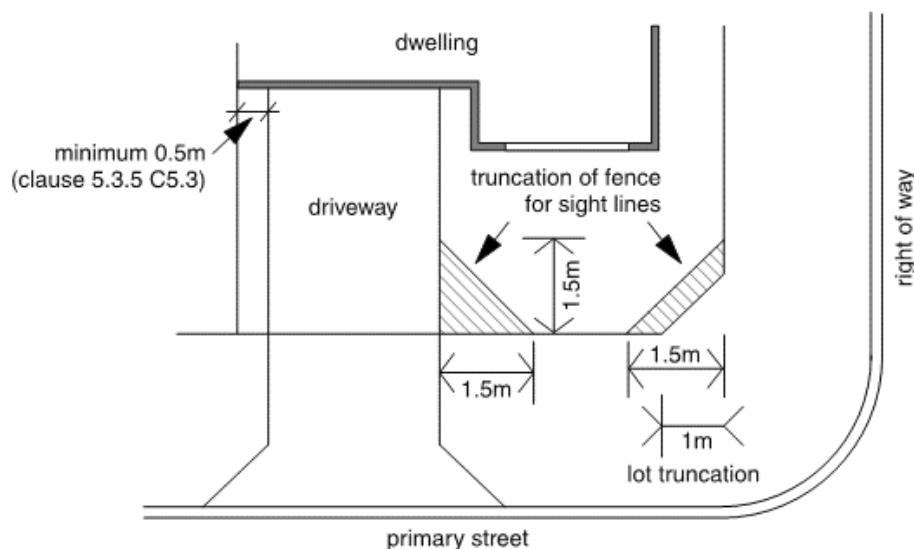


Figure 2: R-Codes Figure Series 9

BG&E has investigated what sight distance is available in the deemed-to-comply arrangement considering a vehicle exiting forwards, with the truncation on the right side of the driveway. This is shown in Figure 3 below. This figure represents the minimum sight distance that would be compliant, based on a 1.8m width footpath and minimum allowable 3.0m width driveway. The vehicle is assumed

to be located centrally on the driveway with the driver eye location 1.0m from the right edge of the driveway. As shown the resulting sight distance is 3.1m. It is noted that the sight distance would be reduced if a narrower 1.5m wide footpath was used, which would be in accordance with the City of Vincent continuous path of travels minimum width requirements.

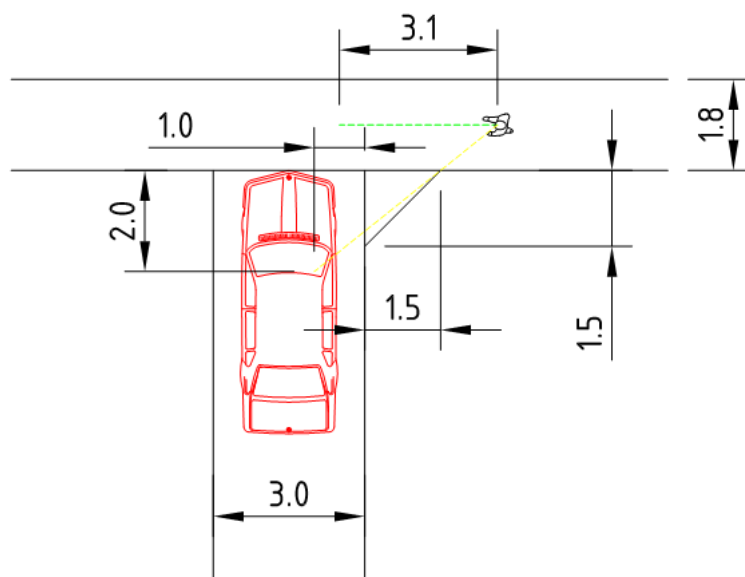


Figure 3: Deemed-to-comply arrangement with vehicle exiting forwards and truncation on right side of driveway

4.2 Proposed arrangement

In the proposed arrangement it is recommended that the driveway be setback from the northern boundary a minimum of 0.5m (for the first 3m from the front boundary) to meet the intent of Clause 5.3.5 C5.3 and to provide general good practice in driveway design. This was used as the starting point to compare sight distances with the deemed-to-comply arrangement discussed in section 4.1.

The proposed arrangement is shown in Figure 4 below. The footpath width and 0.3m offset between the property boundary of 97 Broome St (to the left of the driveway) and the footpath is as per the existing arrangement. The proposed driveway width is 3.5m.

As shown due to the additional width of the driveway, the 0.3m offset between the footpath and the property boundary and fence being on the left side of the driveway, the resulting sight distance to pedestrians on the footpath is 3.1m. This matches the sight distance in the deemed-to-comply arrangement.

It is acknowledged that the sight distance calculation is based on the driver eye location being 1.0m offset from the right side of the driveway meaning the vehicle is not central to the 3.5m wide driveway. Based on this BG&E additionally recommends that a sign within the property is required. This sign should be positioned within the 0.5m setback a distance of 1.0m from front boundary facing existing vehicles, as to not interfere with the sight lines to pedestrians. The sign must state “Watch for Pedestrians” and will encourage drivers to exit at slow speeds and utilise the full driveway width to maximise the sight line to oncoming pedestrians.

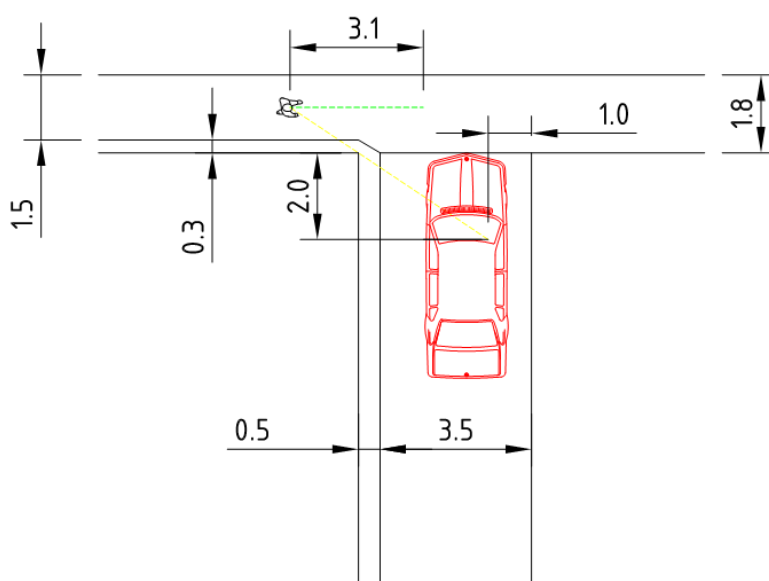


Figure 4: 351 Stirling Street proposed arrangement sight distances

Additional measures including the use of convex mirrors and realignment of the footpath were considered. However this is not considered to be required to meet sight distance requirements.

4.3 Other considerations

4.3.1 Sight distance to on-road vehicles

The sight distances to on-road vehicles has not been considered as part of this investigation. However based on the relatively wide road (approximately 10m) and the width of the verge, it is considered unlikely that there would be any issues.

5 CONCLUSION

BG&E demonstrated that provided the recommendations in this report are adhered to, i.e. a 0.5m lateral shift of the driveway away from the boundary and the inclusion of a traffic sign stating “Watch for Pedestrians” in the location stated in this report, then the equivalent pedestrian stopping distance is achieved equal to the scenario from the Deemed-to-comply provision in Clause 6.2.3. This report confirms that with the two previously stated additional requirements to the current design that no modifications to the fence is required to meet the design Principle of Clause 6.2.3. which requires unobstructed sight lines provided at vehicle access points to ensure safety and visibility of the footpath.

Yours faithfully
for BG&E Pty Limited

Alan Madigan
Senior Civil Engineer CPEng