

## Appendix C

# Amended Traffic and Transport Report

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# Colston Budd Hunt & Kafes Pty Ltd

as Trustee for C & B Unit Trust  
ABN 27 623 918 759

Our Ref: JH/7009/jj

Transport Planning  
Town Planning  
Retail Studies

8 April, 2010

Malbec Properties  
GPO Box 2641  
SYDNEY NSW 2001

**Attention: Ian Coleman**

**Email:** [icoleman@malbec.com.au](mailto:icoleman@malbec.com.au)

Dear Sir,

## **RE: PROPOSED RESIDENTIAL DEVELOPMENT, SOUTH WEST ROCKS**

1. As requested, we are writing in relation to the amended plans for the above development. We have previously prepared a report<sup>1</sup> which was submitted with the Part 3A application. That report assessed a subdivision comprising 318 residential lots.
2. Amended plans have been prepared for the proposed development. The amended plans provide for a residential subdivision of some 271 residential lots, plus a medium density superlot. A layout of the proposed amended development is shown in Figure 1.
3. Access to the development is proposed by an extension of Belle O'Connor Street through an existing Crown road reserve. Council's draft planning controls for the area identify a longer term realignment of this road through an adjacent site. Once the adjacent site is redeveloped, the road could be realigned and your access road could be closed.
4. In addition, a number of matters have been raised in submissions on the proposed development.
5. Our comments in relation to the above matters are set down through the following sections:
  - amended plans;
  - access, internal circulation and layout;
  - traffic generation and effects; and

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<sup>1</sup> Transport Report for Proposed Residential Subdivision, South West Rocks, November 2008.

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- matters raised in submissions.

### Amended Plans

6. Our previous traffic report assessed a residential subdivision comprising 318 residential lots. The amended plans propose 271 residential lots, plus a medium density superlot.
7. Vehicular access is proposed to be provided from an eastern extension of Belle O'Connor Street and a new road connecting north from the site to Phillip Drive. These arrangements are the same as those proposed in the previous plans.

### Access, Internal Circulation and Layout

8. Vehicular access is proposed to be provided via an eastern extension to Belle O'Connor Street (Road 14) on the southern side of the site, and a new road connecting north from the site towards Phillip Drive (northern extension of Road 4). These road connections are essentially the same as proposed and assessed in our previous report.
9. The intersection of the proposed extension to Belle O'Connor Street with the access road to the site to the south and the connection to the sewage treatment works to the north is proposed to be controlled by a roundabout. This roundabout would be provided until Belle O'Connor Street is realigned through the site to the south.
10. In the future, as the site to the south is developed, the realignment of Belle O'Connor Street identified by Council could be constructed. Once this realignment occurs, the access road (the western part of Road 14) could be closed where it is not needed for property access.
11. New internal roads would connect from the extended Belle O'Connor Street for access to the development in three locations (Roads 4a/b, 8a/b and 11).
12. The western connection on Belle O'Connor Street (Roads 4a/b) will provide the main north-south connection through the development to other sites in the release area to the north.
13. In addition to connecting to other parts of the release area to the north, the road connection to the north will provide for a connection through to Phillip Drive, via Waianbar Avenue. This connection would distribute traffic more evenly on the surrounding road network, provide more convenient access to and through the release area and reduce overall vehicle kilometres travelled. It will also improve public access to the beach and coastal foreshore.

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14. Internal roads within the subdivision are proposed to be provided as follows:

- Roads 1, 2, 3, 10, 13
  - 16 metre reserve width;
  - nine metre carriageway; and
  - 3.5 metre verges on both sides.
- Roads 4a, 4b, 8a, 8b
  - 36 metre reserve width;
  - one-way pairs with separate north and southbound carriageways, separated by a swale;
  - six metre carriageway widths;
  - 3.5 metre verges on western side of Roads 4a/8a and eastern sides of Roads 4b/8b; and
  - 17 metre swale separating the carriageways.
- Road 5
  - 17 metre reserve width;
  - nine metre carriageway width;
  - 3.5 metre verge on eastern side; and
  - 4.5 metre verge on western side.
- Road 6 (south of Road 13)
  - 24.5 metre reserve width;
  - 3.5 metre verge on western side;
  - eight metre carriageway;
  - five metre swale; and
  - eight metre open space corridor with bicycle path.
- Road 6 (north of Road 13)
  - 15 metre reserve width;
  - eight metre carriageway; and
  - 3.5 metre verges on both sides.
- Road 7
  - 15.5 metre reserve width;
  - seven metre carriageway; and
  - 3.5 metre verge on western side and five metre verge and swale on eastern side.
- Roads 9, 12 (south)
  - 15 metre reserve width;
  - seven metre carriageway; and
  - four metre verges or swale on both sides.

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- Road 11
    - 18.5 metre reserve width;
    - nine metre carriageway; and
    - six metre swale/verge on western side and 3.5 metre verge on eastern side.
  - Road 12 (east)
    - 15 metre reserve width;
    - seven metre carriageway; and
    - 3.5 metre verge on western side and 4.5 metre verge/swale on eastern side.
  - Road 14 (west) (eastern extension of Belle O'Connor Street)
    - 22.75 metre reserve width;
    - 11 metre carriageway; and
    - 5.5 metre verge on southern side and 6.25 metre verge/bicycle path on northern side.
  - Road 14 (east) (eastern extension of Belle O'Connor Street)
    - 21.5 metre reserve width;
    - nine metre carriageway; and
    - 6.5 and six metre verges on northern and southern sides respectively.
15. The above carriageway widths are generally in accordance with Council's Guidelines for Engineering and Subdivision (DCP 36), which suggest carriageway widths of seven metres (access place), nine metres (local street) and 11 metres (collector road).
16. The exceptions are roads 4a/4b and 8a/8b, which provide six metre carriageways. These roads include a drainage swale in the centre and one way carriageways on each side of the swale. The carriageway configurations will cater for traffic volumes on these roads as well as access to individual properties. They are therefore considered to be appropriate for these roads.
17. Reserve widths are also generally in accordance with DCP 36, except where they are wider to include drainage swales and bicycle paths.
18. Pedestrian/cycle connections will be provided from Belle O'Connor Street into the subdivision. Bicycle paths and pedestrian footpaths will also be provided internally, including to the neighbourhood park.
19. Internal roads will be designed to accommodate the swept paths of garbage trucks and furniture delivery vans. A roundabout will be provided at the proposed extension of Belle O'Connor Street where it meets the road connection to the site to the south. Roads 1, 2 and 3 will provide for future connections to the medium density superlot and adjacent site to the west.

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20. As previously discussed, internal roads within the subdivision have been provided in accordance with the principles in Council's Guidelines for Engineering and Subdivision. The principles in Council's guidelines have been developed from AMCORD. Within residential precincts, AMCORD distinguishes two levels of streets, local streets and collector streets.
21. On local streets the residential environment dominates. Traffic speeds and volumes are low and pedestrian/cycle movements encouraged. Vehicle speeds should, as far as possible, be controlled by street length, parked cars, landscaping design, built form and activity along the frontage. Bicycles are generally provided for on-street.
22. Collector streets collect traffic from access streets and generally carry higher traffic flows. A good level of residential amenity and safety is maintained by restricting traffic volumes and vehicle speeds. Vehicle speeds on collector streets are controlled by street alignment, parked cars, street length, intersection design and built form.
23. The adoption of Council's guidelines/AMCORD provides an appropriate framework for the promotion of alternative travel modes to the private car, in particular, improved pedestrian and cyclist facilities.

### Traffic Generation and Effects

24. Traffic generated by the development will have its greatest effects during morning and afternoon peak periods. Surveys undertaken by the RTA indicate that residential subdivisions generate 0.85 vehicles per hour per lot two-way during peak hours.
25. The proposed subdivision will therefore generate some 250 vehicles per hour two-way during the morning and afternoon peak periods. This includes an allowance of some 20 vehicles per hour two-way for the medium density superlot.
26. Our previous report assessed a traffic generation of 270 vehicles per hour two-way at peak times, with similar connections to the external road network. Therefore, the proposed development would generate a similar volume of traffic to that assessed in our previous report.
27. Our previous report concluded that:

*...with the additional development traffic, the intersection of Gregory Street with Belle O'Connor Street and Steve Eagleton Drive would... operate with average delays for the highest delayed movement of less than 15 seconds per vehicle during morning and afternoon peak periods. This represents level of service A/B, a good level of service."*

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*The intersections of Gregory Street with Landsborough Street and Phillip Drive with Waianbar Avenue would... operate with average delays for the highest delayed movement of less than 15 seconds per vehicle during peak periods. This represents level of service A/B, a good level of service.*

*Therefore, the road network will be able to accommodate the additional traffic from the proposed development. Appropriate contributions will be made by the proposed development, as well as other developments in the area, towards works in Council's Section 94 plan.*

28. The roundabout at the intersection of Belle O'Connor Street and the connections to the sewage treatment works and site to the south would operate at level of service A/B, a good level of service, with average delays of less than 15 seconds per vehicle.

### Matters Raised in Submissions

29. In a letter dated 26 October 2009, Council has raised a number of traffic matters. These matters, and our responses, are set out below.

#### **Traffic and Access**

*The Environmental Assessment (EA) and Traffic Impact Study recognizes that the lots in this development will make use of a future link road to the north and south connecting with the existing Council dedicated and maintained public road network at Phillip Drive and Belle O'Connor Street. The study identifies the current level of service under existing conditions for the existing road network. It then describes the corresponding impact of traffic generated by this development only on the road network.*

*The Traffic Impact Study is incomplete as it does not provide the following essential information required in an assessment prepared in accordance with NSW RTA Guide to Traffic Generating Developments:*

- a) *The relationship of the proposed developments with the surrounding development(s) relative to the existing Council road network;*
30. The location of the site relative to surrounding development and the road network is described in paragraphs 2.1 to 2.5 and Figures 1 and 2 of our previous report.
- b) *The impact of traffic noise on lots located off the link road connecting Belle O'Connor Street to Phillip Drive being a future significant collector road.*
31. This matter could be dealt with by conditions of consent requiring appropriate acoustic treatment at the time that applications are made for individual dwellings on these lots.



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- c) *Identification of existing proposals for improvement of the existing road network and hierarchy;*
32. As noted in our previous report, Council's Section 94 plan identifies a series of road and intersection works to cater for new development in the area. The works include road and intersection upgrades along Gregory Street, Landsborough Street, Phillip Drive and Arakoon Road.
- d) *The impact on road safety*
33. See comments below in paragraphs 35 to 37 in relation to point f).
- e) *The annual average daily traffic volumes and historical trends on key adjacent roads;*
34. The RTA's latest published traffic data does not include roads in South-West Rocks. However, based on traffic counts undertaken by ourselves, estimated daily traffic volumes are as follows:
- Gregory Street: some 3,000 to 6,000 vehicles per day;
  - Belle O'Connor Street: some 1,000 to 2,000 vehicles per day; and
  - Phillip Drive: some 1,000 to 1,500 vehicles per day.
- f) *Safety and efficiency of proposed internal road layout;*
35. As noted in our previous report, and above in paragraph 13, the future road connection to Phillip Drive to the north will distribute traffic more evenly on the surrounding road network, provide more convenient access to and through the release area and reduce overall vehicle kilometres travelled. It will also improve public access to the beach and coastal foreshore.
36. Internally, roads within the development will be provided in accordance with the principles in Council's DCP 36 and AMCORD, as discussed in paragraphs 14 to 23. The internal layout provides for low traffic speeds and appropriate provision for pedestrians and cyclists in a local residential environment.
37. Most roads within the development would carry traffic volumes less than 100 vehicles per hour two-way. Internal intersections would not require specific traffic control measures to cater for these low flows. At the main access location to the development, the proposed roundabout at the Belle O'Connor Street extension will provide appropriate intersection control and capacity and will operate at a good level of service A/B, with average delays of less than 15 seconds per vehicle at peak times.
- g) *Impact of generated traffic on key adjacent intersections, streets in the locality of the proposed development, the environment and other major traffic generating development sites in close proximity;*

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38. The matters are discussed above in paragraphs 24 and 28 and in our previous report in paragraphs 3.19 to 3.27. We also note that Council has had a previous traffic study undertaken for the subject site, as well as adjacent sites, which recommended a series of road and intersection works to cater for development of these sites. Appropriate contributions will be made by this and other developments in the area under Council's Section 94 plan toward road and intersection works.
- h) Safety and efficiency of access between the site and adjacent road network.*
39. These matters are discussed in paragraphs 35 to 38.
- i) Development Traffic Calming Principles for the internal roads in the proposed development.*
40. As discussed above, the internal road layout has been provided in accordance with the principles in Council's DCP 36 and AMCORD. This provides an appropriate framework for low traffic speeds and appropriate provision for pedestrians and cyclists in a local residential environment. The street widths and urban design principles provide for slower vehicle speeds and appropriate residential and pedestrian amenity.
- j) The impact of the development on the proposed collector road number 6 located within the 7(b) Environmental Protection Zone, having regard to the provisions contained in Clause 66 of Kempsey Local Environmental Plan 1987 and provisions contained in the Local Environmental Study (S7.8) Traffic and Transport Management. In particular, there is no assessment of the means proposed to ensure the road is designed to minimize the impact on threatened species, with the LES recommending no road be permitted through the 7(b) land.*
41. The traffic effects of the proposed road connection to the north are discussed above in paragraph 13 and in our previous report in paragraphs 3.8 and 3.19 to 3.27. Matters associated with threatened species are being addressed by other study team members.

### **Road Layout**

Attention is drawn to the following deficiencies in the proposed road layout which further highlights the need for a DCP:

- a) It is inappropriate to locate a future intersection (southern access point) off the existing made and dedicated Belle O'Connor Street at the junction of the existing right of carriageway to accommodate what will become a collector road, given the expected significant traffic volumes and adverse site constraints such as insufficient sight distance, being located on a horizontal curve. This road will service this development and a future 460 lot subdivision immediately to the north as well as the existing and future Seascope Grove development to*

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*the south, and will act as a road connecting residents in Spencerville/Jerseyville and beyond to the main beach and residents in Arakoon to the existing Bi Lo shopping centre.*

42. As previously discussed in paragraph 37, this roundabout will have appropriate capacity to cater for the traffic volumes which will use it, and will operate at a good level of service. The roundabout will be designed and provided in accordance with appropriate standards. The staging of access arrangements to the development is discussed in paragraphs 9, 10 and 13.
- b) *There is no mention in the EA of how this development intends to contribute its share to the provision of the northern link road (including intersection work at Phillip Drive). The EA has identified a future road link to the north of this site linking to existing Phillip Drive. This development will make use of any future road to the north as it will provide direct access for the residents of this development to the main beach and entertainment precinct in Livingstone Street.*
43. The road connection to the north will be constructed to the extent of the site boundary. Future extension of this road to the north will be undertaken in association with development of adjacent sites. As noted above in paragraph 38, appropriate contributions toward road and intersection works will be made by the proposed development, as well as other developments in the area, under Council's Section 94 plan.
- c) *The existing South West Rocks Section 94 Plan Traffic and Transport component's work schedule does not contain work for provision of new roads (including intersections and ancillary work) that are shared by this and other developments in the locality, which may be appropriate to include in any VPA.*
44. The new site roads and intersections identified in the development plans will be constructed as part of the proposed development.
- d) *Proposed lots 1 to 11 inclusive have dual access. Council has been approached another property owner to have this existing right of carriageway dedicated as public road fronting these lots to the existing made section of Belle O'Connor Street. This again highlights the non-coordinated approach by different developers and the need for a DCP setting down principles to coordinate transport and traffic arrangements between competing developments.*
45. We understand that this matter has been superseded by the amended plans. All of the lots within the subdivision have access from roads within the subdivision, and do not rely on the right of way for access. However, the proposed development does not preclude the right of way becoming a public road in the future. We understand that Council is preparing a DCP.

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- e) *Whilst access is available to a future dedicated public road along the eastern frontage (proposed road 1), there is no legal access to the current right of carriageway through Crown land that services Council's Sewage Treatment Works. There is nothing in the EA limiting physical and legal access to this right of carriageway.*
46. Access to the site using the right of way is not proposed.
- f) *Inadequate provision has been made for turning of service vehicles (garbage trucks, furniture vans etc) base upon current lot layout and provision for temporary turning where internal roads end at staged boundaries and where there is no through road access.*
47. Provision will be included, at the western ends of Roads 1, 2 and 3, for garbage trucks and furniture vans to turn around. At stage boundaries, temporary turning facilities will also be provided.
48. We trust the above provides the information you require. Finally, if you should have any queries, please do not hesitate to contact us.

Yours faithfully,  
COLSTON BUDD HUNT & KAFES PTY LTD



J Hollis  
Director





Subdivision layout and staging