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### 11.1 Haulage Routes and Estimates

BOPL intends to transport ore from the mine sites for treatment at the URGM processing plant, which is located 53km southeast of the project area. Approximately 436,000 t of oxide ore is proposed to be hauled to URGM using 100t capacity quad semi-trailers, each having either 21 or 22 axles depending upon their configuration.

The load on a truck's single axle with four tyres is called an equivalent single axle (ESA). The Department of Planning and Infrastructure (DPI) applies a load limit of 8.2 t to each axle. Based on a fully-loaded quad semi-trailer weight of approximately 160 t, the ESA is approximately 7.62, which is within the 8.2 ESA limit.

The preferred route for transporting ore will be by road train via the existing Grove Hill Road, which is unsealed, then Stuart Highway and Ping Que Road to URGM. The location of the mine sites, URGM processing plant and the proposed transport route are shown in Figure 11.1.

It is proposed that haulage from the mining sites to URGM will occur over a 24 hour throughout the life of the mine. Once relatively wet conditions have begun, all transport along unsealed roads will cease, and recommence when suitable dry conditions are experienced. The travel time between the two mine sites and URGM will be approximately 35 minutes.

Given the proposed haulage route, no additional road infrastructure will need to be constructed. BOPL will be using the existing road network and there will be a thorough care and maintenance component for Grove Hill Road during the operational period.

During the project, personnel will commute to and from the mine sites daily from the Cosmo Village mine camp, which is located approximately 25 km west of the project site. The route taken by mine personnel is expected to be along Fountain Head Road, Mount Wells Road and Grove Hill Road, as illustrated in Figure 11.1.

Site supplies will also be transported from Cosmo Village and Brocks Creek Mine to the mine sites. Vehicles used for commuting between Cosmo Village and the mine sites will be cars and minibuses, with commuting occurring across a 24 hour period throughout the life of the mine.

### 11.2 Impacts

The traffic impact of the Princess Louise and North Point proposal is a component of the overall impact of BOPL operations in the area. BOPL/GBS are setting up the ore processing at URGM to receive a maximum ore rate of 6,000 t/d. Based on 100 t per truck this equals 60 trucks per day into the URGM plant. During the mining of the Princess Louise and North Point pits, there will be up to approximately 45 trucks per day (33 from North Point and 12 from Princess Louise) from both sites.



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The remaining 15 trucks (making the total up to the 60 per day) will be from the other BOPL mines including Zapopan, Rising Tide and Fountain Head mines. It is noted that the actual traffic volumes from each of the mines may change daily, to balance mining rates and meet processing requirements at URGM.

As a result of all the BOPL operations in the area, the overall traffic on the Stuart Highway is expected to rise from 865 to 965 vehicles per day, made up of 655 small vehicles (mainly cars) and 140 heavy vehicles (road trains), the remaining vehicles are towed vehicles (caravans) and trucks up to six axles.

The increase in number of cars is considered to be very minor and is not considered to pose a significant safety or traffic issue for other drivers.

The principal safety concern in regard to the increase in the number of road trains per day will be in relation to road trains turning onto or off Stuart Highway. This will require good visibility of the road trains, particularly at night. The major traffic issue once on the Stuart Highway will be ensuring that adequate overtaking of road trains is provided for cars and small towing vehicles (caravans). These issues are discussed further below.

Road trains will travel laden southwards on the Stuart Highway, and will return unladen northwards. A review shows there is one existing overtaking lane in the southerly direction, and none in the north direction, however there are several areas where passing can be undertaken.

Wind blown dust created by ore haulage will be minimal as the rock is uncrushed. If required, for example during dry weather, the surface of the ore will be wetted prior to departure for URGM.

There will be a significant increase in the number of vehicles and trucks crossing the Adelaide to Darwin railway at Ping Que Road near URGM (Figure 11.1), however this rail crossing is fully signalised and therefore the potential for accidents is expected to be negligible.

In accordance with consultation with the DPI, operations at Princess Louise and North Point will only continue while road conditions on Grove Hill Road are suitable for mine haulage.

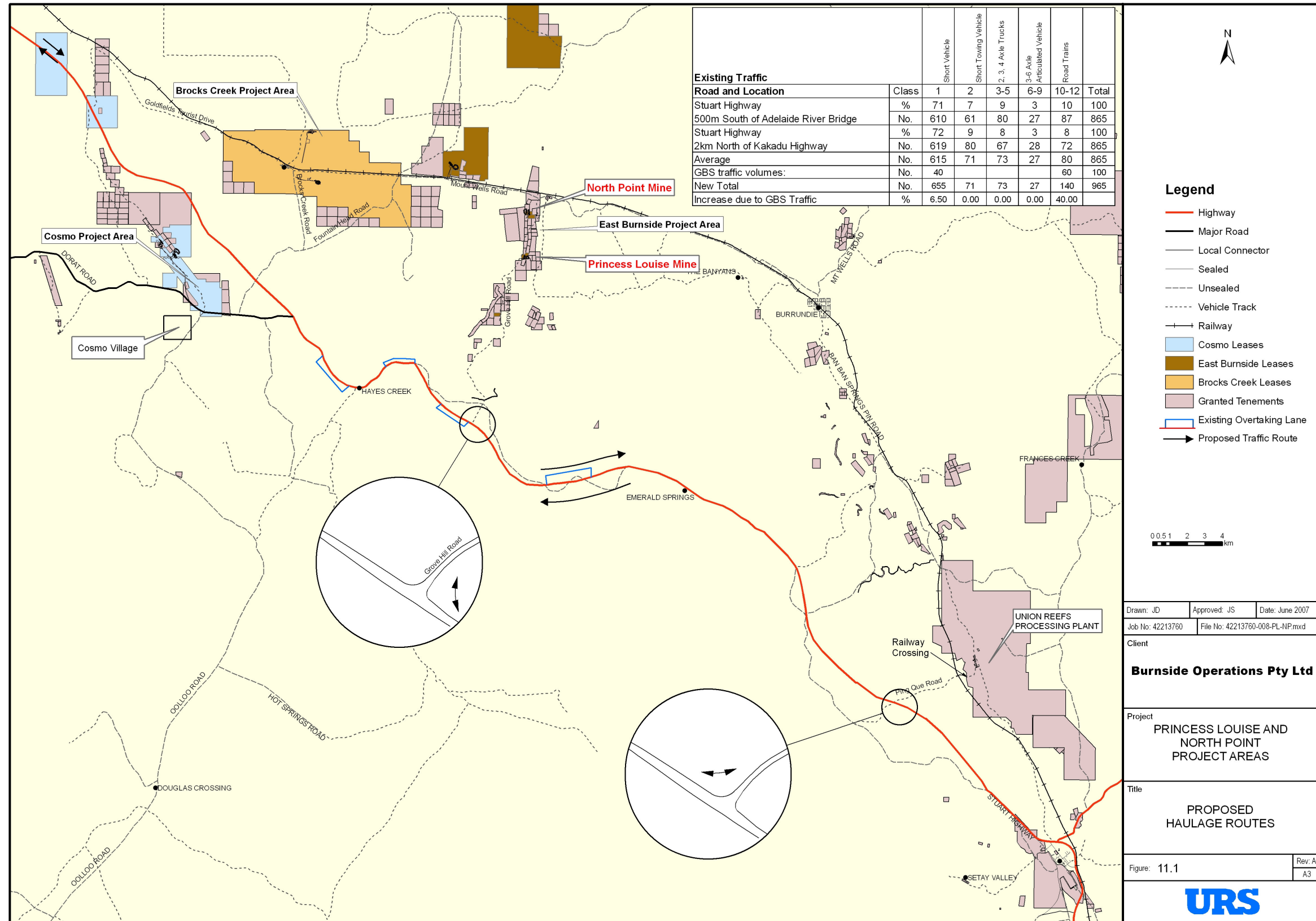
### 11.3 Management of Impacts

To maximise road train visibility, particularly at night, the quad semi-trailers will be fitted with high visibility reflective tape, which will be visible at night from vehicles in both directions.

The intersection of the Stuart Highway and Ping Que Road is being reviewed (Figure 11.1). The possible proposed upgrade includes improvement of turning lanes onto and off the Stuart Highway, and protection of the road shoulders from cracking and wear. The proposed upgrade will be designed in accordance with AustRoads, Australian and DPI standards. BOPL are currently in discussion with DPI to finalise the road construction plans.

DPI are reviewing the need for further overtaking lanes along the highway based on the traffic volumes. Any new overtaking lanes will be constructed and maintained by DPI.





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 Client  
**Burnside Operations Pty Ltd**  
 Project  
**PRINCESS LOUISE AND NORTH POINT PROJECT AREAS**  
 Title  
**PROPOSED HAULAGE ROUTES**  
 Figure: 11.1    Rev: A  
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Signage along the existing road infrastructure, is considered to be adequate. However, new signage will be added at the proposed intersection upgrade areas. Any new signage will be installed as per DPI guidelines.

BOPL will negotiate a usage agreement for the gravel sections of Grove Hill Road with DPI. This agreement is likely to include at least upgrading works, maintenance requirements, dust control and traffic management issues.

AAPA certificates were obtained for road upgrade works on 13 November 2006. The certificates obtained are C2006/119 and C220/120. These certificates indicate that there are no known sacred sites in the areas proposed to be disturbed. However it is noted that a cultural heritage site has been marked on Certificate C2006/120, which pertains to the Ping Que Road Intersection. This area will not be disturbed by the proposed development.

### 11.4 Commitments

*BOPL commits to ensuring all quad semi-trailers are fitted with high visibility reflective tape as per AS1906.1 and other Australian Standards.*

*BOPL commits to finalising discussions with DPI regarding Stuart Highway and Ping Que Road intersections upgrades.*

*BOPL commits to negotiating and implementing a usage agreement for Grove Hill Road with DPI, during mining operations.*

