

Wahroonga Estate

Report on Traffic Effects of Reduced Dwelling
Numbers

21 January 2010

Prepared for

Johnson Property Group

1 Introduction

This report has been prepared to advise on the traffic implications of reducing the number of new dwellings at the proposed Wahroonga Estate development within lands that surround the Sydney Adventist Hospital on Fox Valley Road at Wahroonga. This was the subject of a detailed transport report prepared by Halcrow in respect of a Concept Plan and rezoning for the site.

The rezoning was approved and gazetted on 18th December 2009 with the approval requiring a reduction in the number of additional dwellings by about 190 dwellings from 690 to 500. Assessment of modified Concept Plan, complying with this reduction will now be processed by the Department of Planning.

This report presents findings of an investigation into this. The investigation involved reforecasting of the increased traffic loads on roads leading to and from the site and then analysis of the effects of this traffic at critical intersections.

It is noted that since the Concept Plan transport report was prepared it was decided to remove a through site road link that would have connected Fox Valley Road to Comenarra Parkway (east). The effect of this was also taken into account in the analysis.

With reference to the letter dated 18th June 2009 from the RTA Sydney Regional Development Advisory Committee, we have excluded analysis of the Pennant Hills Road-The Comenarra Parkway intersection as the Committee determined that no upgrade or reconstruction work was required.

2 Traffic Generation Changes

The reduction in new dwelling numbers from 690 to 500 would result in a reduction of peak hour traffic generation for the site of 91 vehicles per hour. This is on the basis that the omitted dwellings would be privately occupied apartments.

The total traffic generation change for this site would be down from 985 to 894 vehicles during the peak hour.

3 Future Traffic Flows

Appendix A provides diagrams that show the forecast traffic volumes at critical intersections serving the site for the concept plan application analysis and for the reduced dwelling scheme. Comparison of these plots indicates that changes at each intersection would be only minor.

4 Effects on Intersection Operation

Table 1 below compares existing peak hour operation at the critical intersections with the original and with the now modified traffic generation from the Estate added.

Appendix B provides SIDRA plots of the intersection geometry tested for each case with improvements to certain intersections included in the future cases.

Table 1 indicates that the reduction in traffic generation arriving from the omission of 190 units would not materially change traffic conditions on roads leading to and from the Estate and would not result in any significantly lesser need for intersection improvements.

Table 1 – Comparison of Intersection Performance

Intersection	Control	Morning Peak Hour						Evening Peak Hour					
		Existing		Future (2016) – Original Scheme		Future (2016) – Reduced Dwelling Scheme		Existing		Future (2016) – Original Scheme		Future (2016) – Reduced Dwelling Scheme	
		Avg Delay	LoS	Avg Delay	LoS	Avg Delay	LoS	Avg Delay	LoS	Avg Delay	LoS	Avg Delay	LoS
The Comenarra Pwy and Fox Valley Rd	Existing Signals	74	F	-	-	-	-	58	E	-	-	-	-
	Modified Signals	-	-	42	C	43	D	-	-	36	C	36	C
The Comenarra Pwy and Kissing Point Rd	Existing Signals	111	F	-	-	-	-	65	E	-	-	-	-
	Modified Signals	-	-	48	D	47	D	-	-	94	F	83	F
Fox Valley Rd and Pacific Hwy	Existing Signals	20	B	-	-	-	-	74	F	-	-	-	-
	Modified Signals -A	-	-	31	C	30	C	-	-	65	E	62	E
	Modified Signals -B	-	-	35	C	34	C	-	-	23	B	22	B

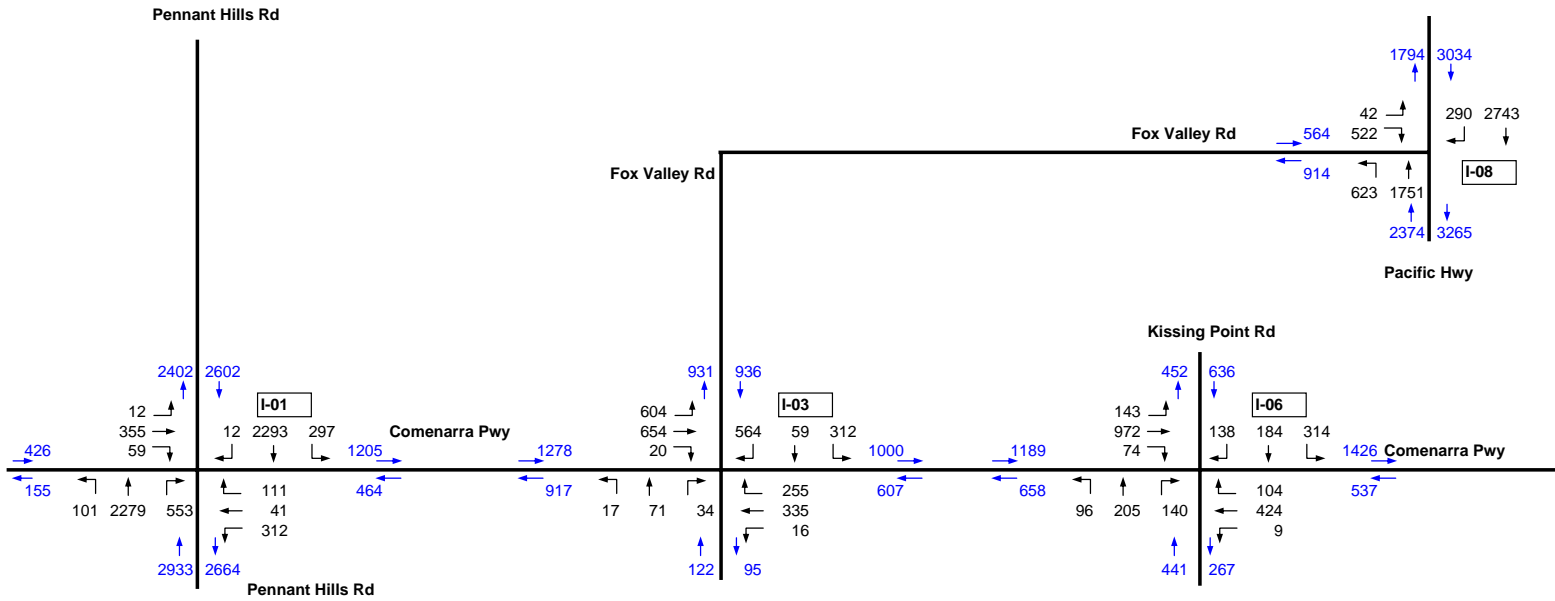
NOTE: Fox Valley Road-Pacific Highway Option B is the tidal flow option.

5 Conclusions

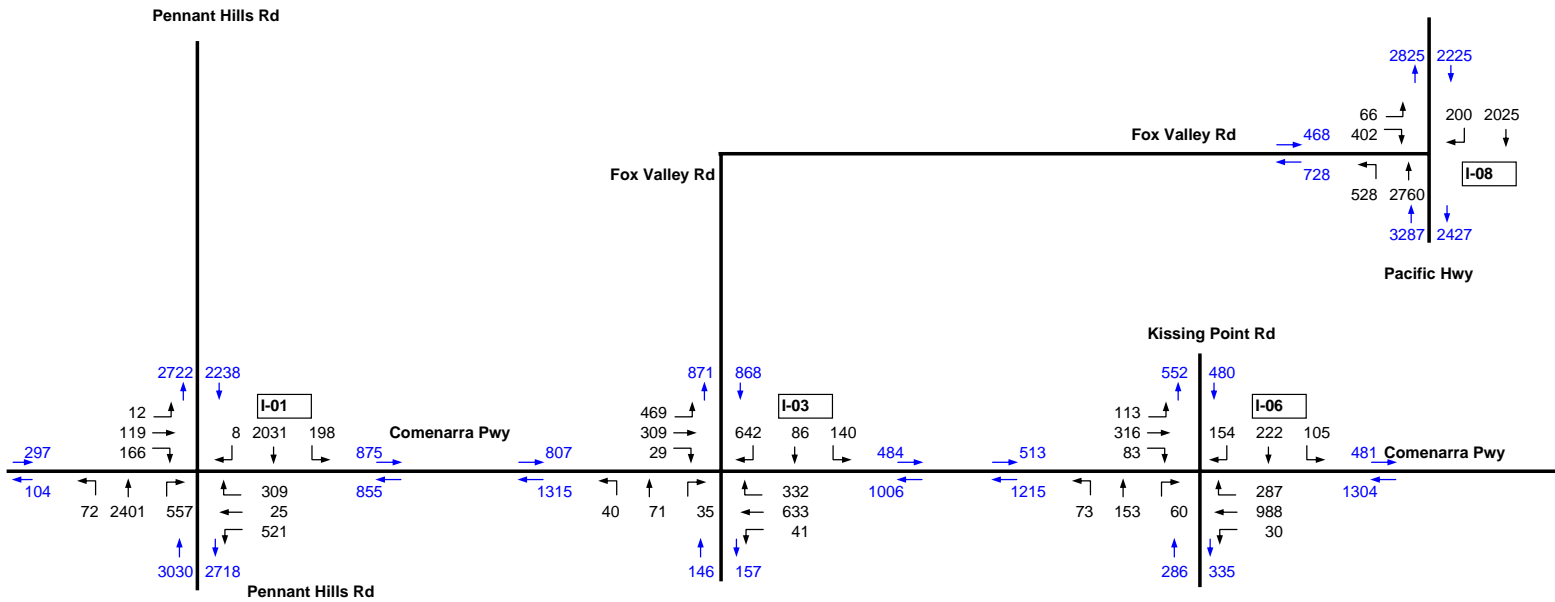
The reduction in the number of additional dwellings by 190 would not materially change traffic conditions and is therefore not considered to be necessary in terms of transport outcomes. Further it is noted to the extent that these dwellings would otherwise have been occupied by persons that lived and worked on the Estate, the removal of these dwellings could be counter productive.

Appendix A Comparison of Forecast Traffic Flows

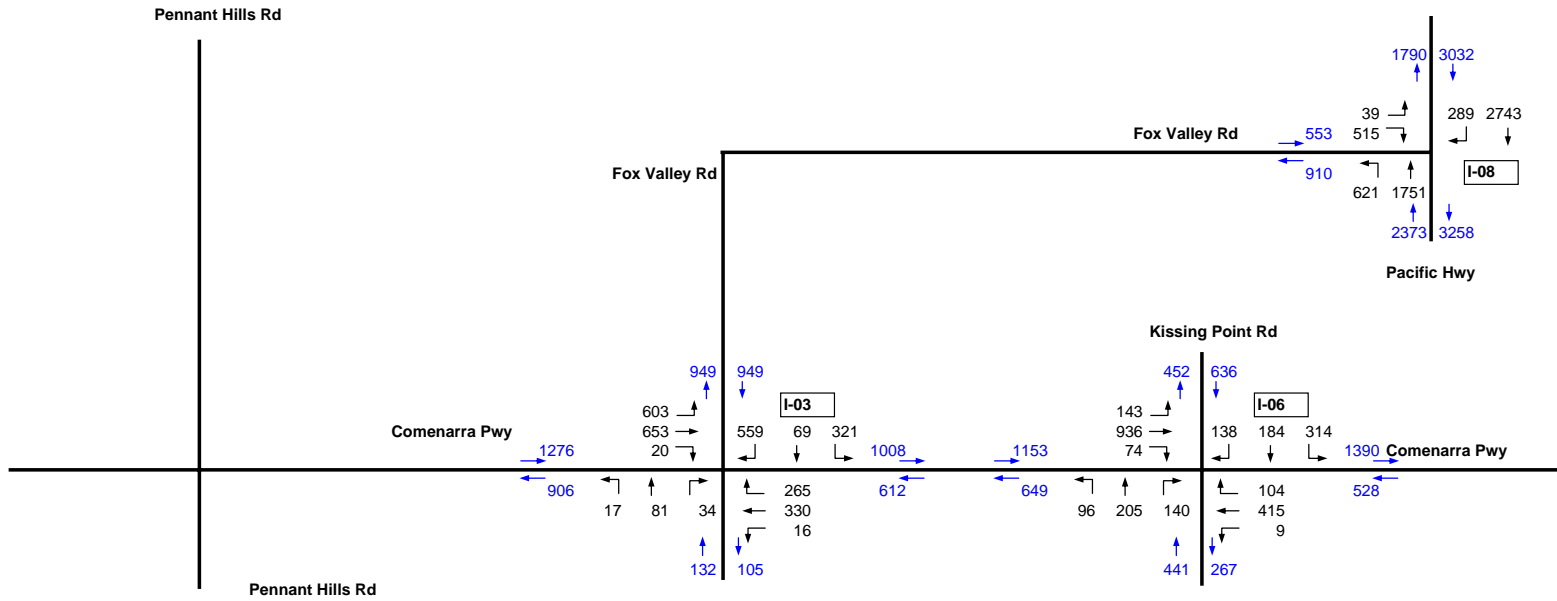
Original Concept Plan
 2016 Post Development Traffic Conditions AM



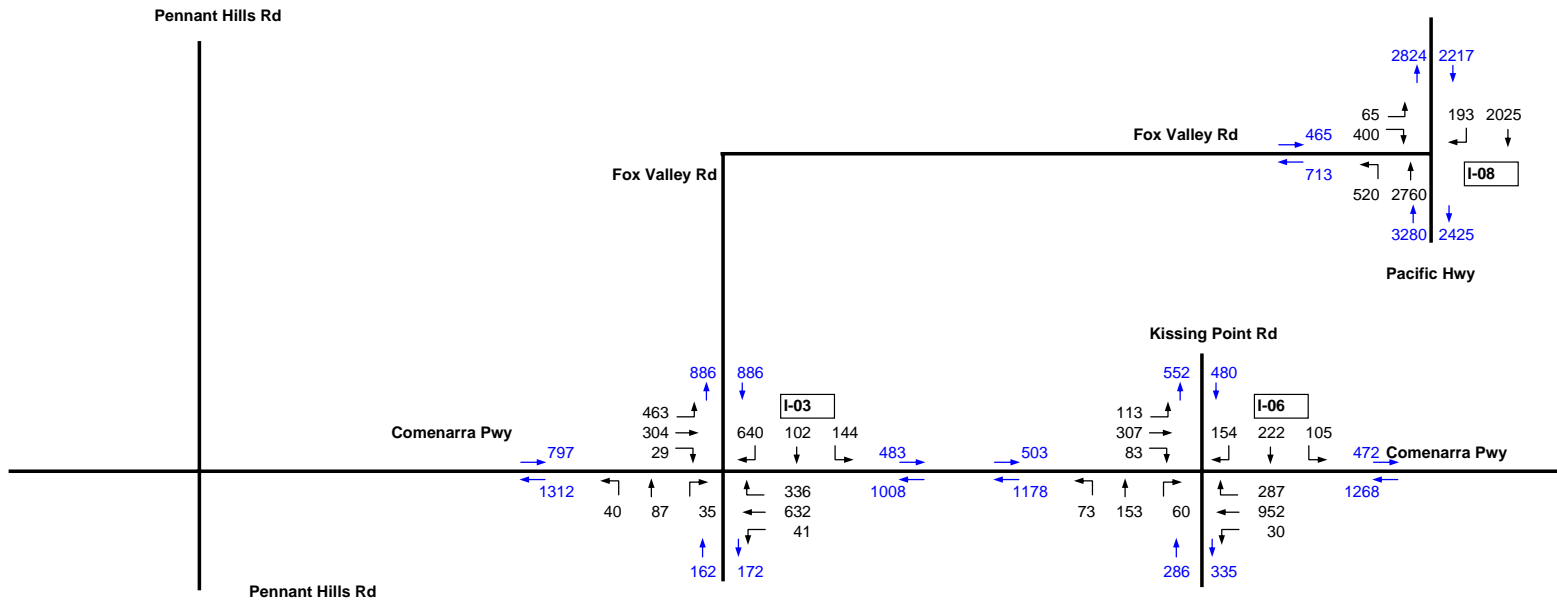
2016 Post Development Traffic Conditions PM



Reduced Dwelling Scheme
 2016 Post Development Traffic Conditions AM



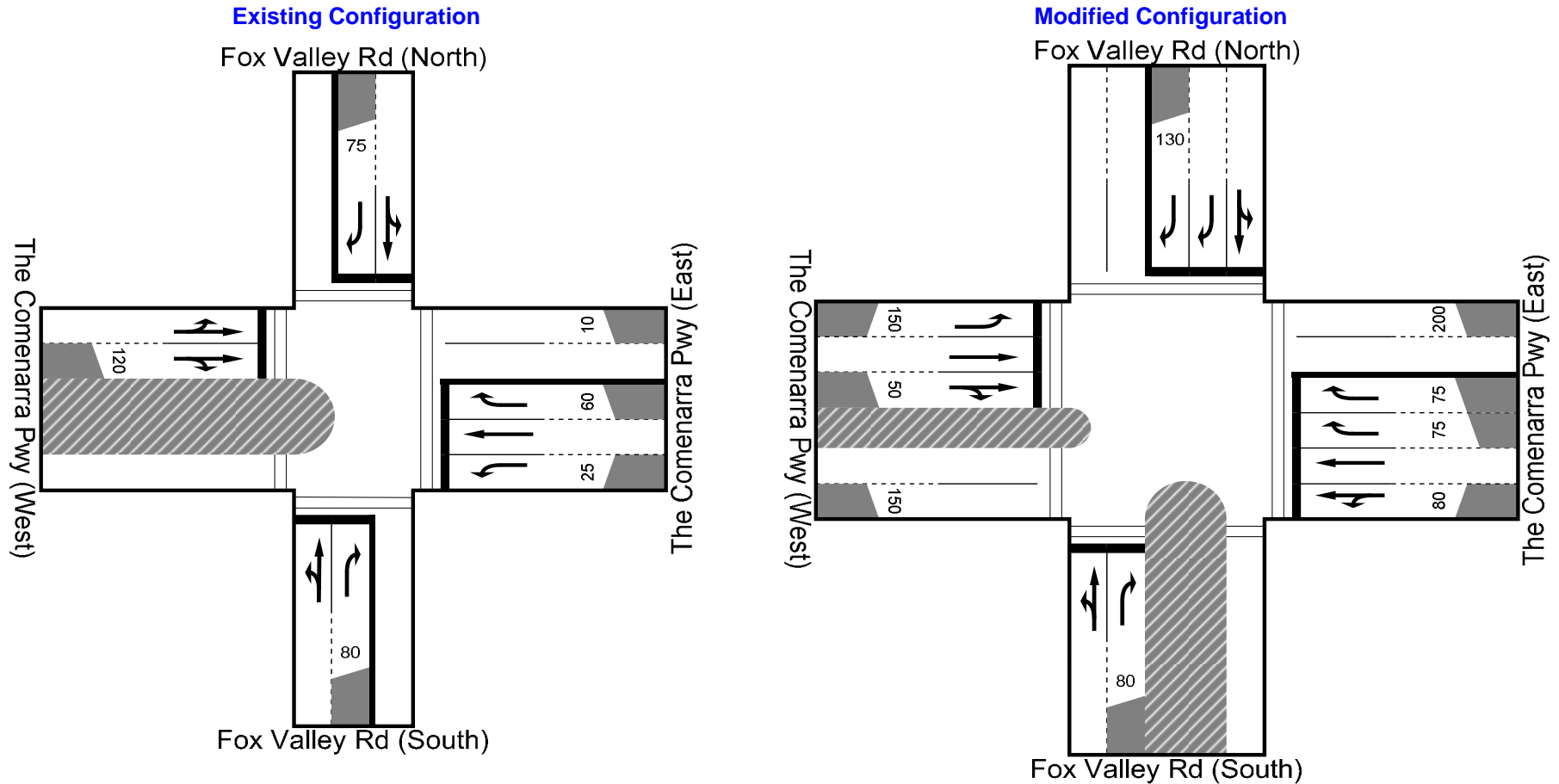
2016 Post Development Traffic Conditions PM



Appendix B SIDRA Intersection Layouts

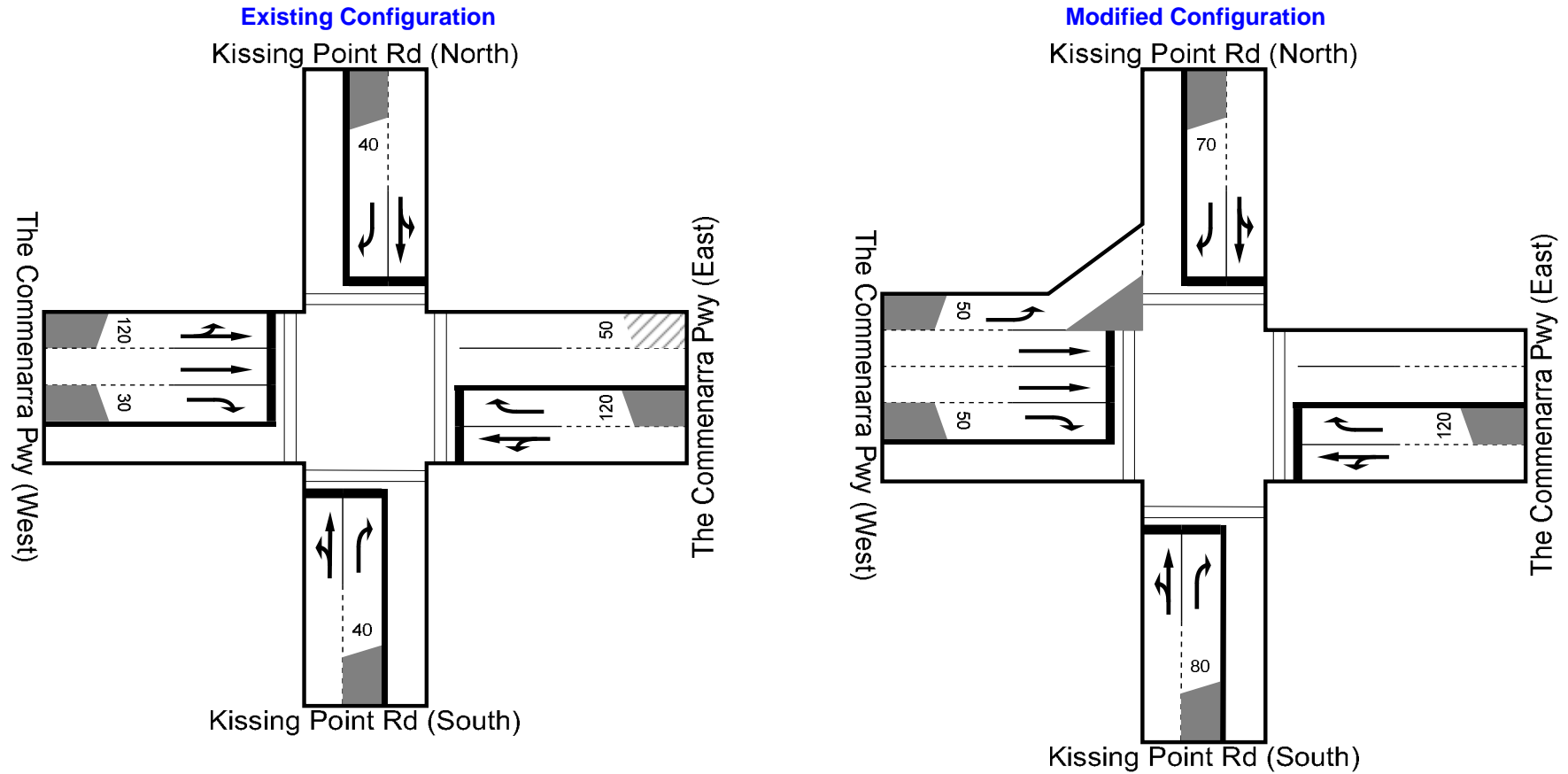
EXISTING / FUTURE FOX VALLEY ROAD / COMENARRA PARKWAY CONFIGURATION

WAHROONGA ESTATE



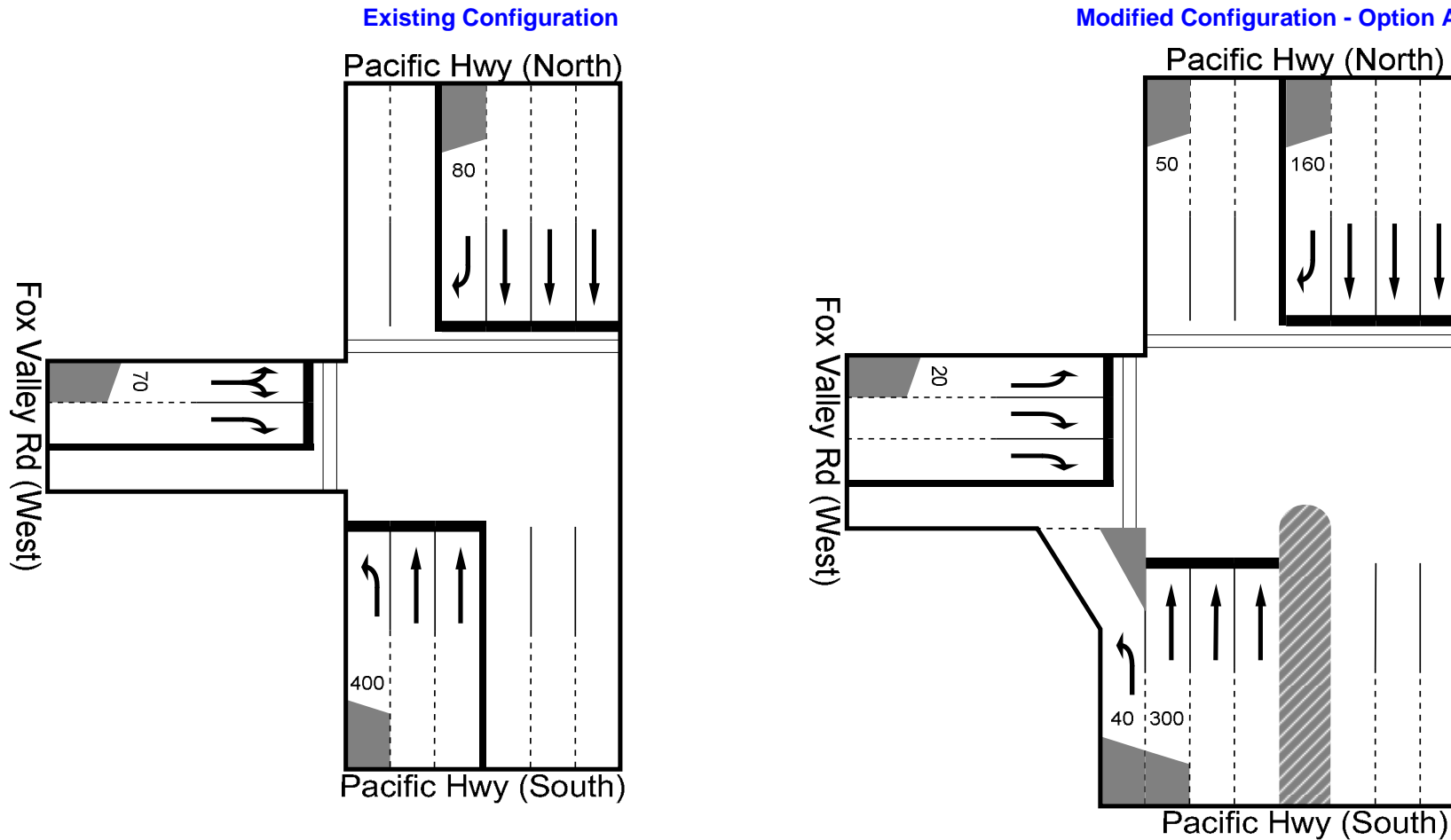
EXISTING / FUTURE KISSING POINT ROAD / COMENARRA PARKWAY CONFIGURATION

WAHROONGA ESTATE



EXISTING / FUTURE FOX VALLEY ROAD / PACIFIC HIGHWAY CONFIGURATION

WAHROONGA ESTATE



FUTURE FOX VALLEY ROAD / PACIFIC HIGHWAY CONFIGURATION

WAHROONGA ESTATE

