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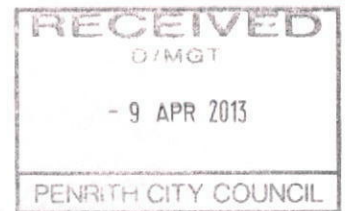
Morgan Stanbury: 0410 561 848

**THOMPSON
STANBURY
ASSOCIATES**

ABN: 79 943 737 368

**TRAFFIC IMPACT STATEMENT
PROPOSED RESIDENTIAL SUBDIVISION
86-94 ANDROMEDA DRIVE
CRANEBROOK**

Ref: 12-153



APRIL 2013

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APPENDICES

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1. INTRODUCTION

The Practice of Thompson Stanbury Associates has been commissioned by the Catholic Diocese of Parramatta to prepare a Traffic Impact Statement accompanying a Development Application to be lodged with Penrith City Council (Council). Development Consent is sought from Council for the subdivision of land to the rear of the Corpus Christi Primary School, Andromeda Drive, Cranebrook, to create 22 residential lots and 1 residue lot.

The purpose of this report is to assess and report on the likely traffic related consequences resulting from the proposed development and to identify appropriate remedial measures, if necessary. To this end, this report:

- Assesses the existing traffic conditions in the immediate vicinity of the site, including existing levels of service for motorists, sight distance and general traffic and pedestrian safety;
- Undertakes an assessment of the proposed road network, including proposed carriageway widths and road alignment within the context of the future traffic demand;
- Identifies the additional traffic that could be expected from the proposed development and assesses the ability of the surrounding road network to safely and efficiently accommodate this additional traffic;

A proposed subdivision plan has been prepared by Whelans Insites Pty Ltd, a reduced scale copy of which is included as **Appendix 1**.

2. **BACKGROUND**

Development Consent was recently granted by Penrith City Council on for the subdivision of land at 86 – 94 Andromeda Drive into two (2) lots, being Lots 100 and 101. Proposed Lot 100 comprises the western portion of the school site and accommodates the existing Parish, school buildings and related infrastructure.

Proposed Lot 101 comprises the eastern portion of the site. This land is surplus to the current and future asset requirements of Corpus Christi Primary School and is intended to be used for a more efficient use.

3. SITE DETAILS

3.1 Site Location

Corpus Christi Primary School is situated on the eastern side of Andromeda Drive, between Barrett Place and Cassar Crescent, Cranebrook. The land that is the subject of this report (hereafter referred to as the 'subject land' or 'subject site') is situated on the southern side of Cassar Crescent, between The Northern Road to the east and the existing buildings with Corpus Christi to the west. This location is shown in the neighbourhood context as **Figure 1**.

3.2 Site Description

The subject land generally forms an east/west orientation, with frontage to The Northern Road at its eastern extremity of approximately 113.5m. It also has frontage to Cassar Crescent of approximately 45m.

3.3 Existing Uses

The land the subject of the current DA is currently vacant.

3.4 Surrounding Uses

Buildings and ancillary infrastructure associated with the Corpus Christi Primary School adjoins the site to the immediate west. Detached residential development adjoins the land to the immediate north and south, which is the predominant built form in the immediate vicinity of the site.

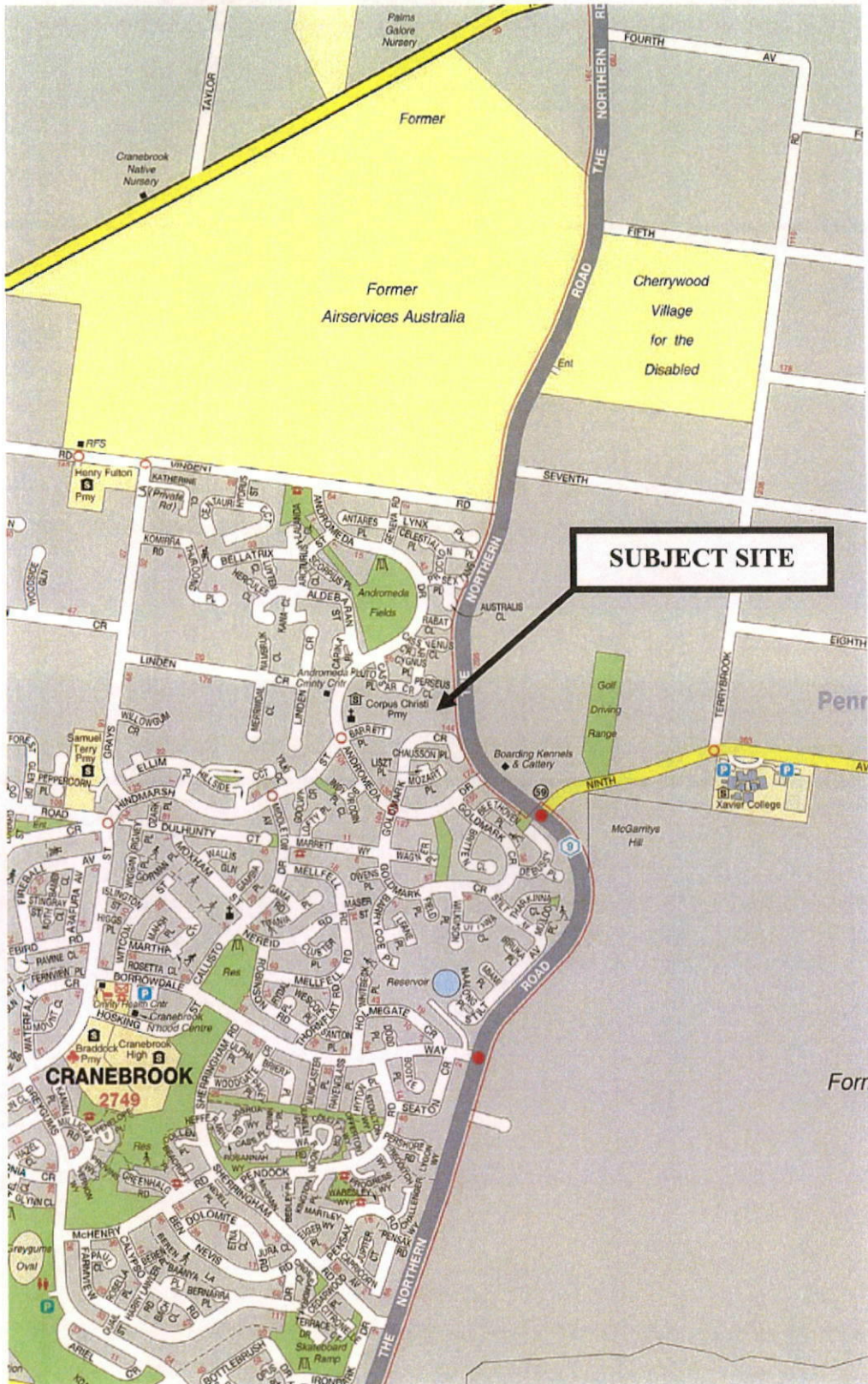


FIGURE 1 – SITE LOCATION

4. **PROPOSED DEVELOPMENT**

4.1 **Residential Subdivision**

The subject Development Application seeks Council approval for the subdivision of Lot 101 situated on the eastern portion of the Corpus Christi Primary School into 22 residential allotments and a residue lot accommodating existing vegetation.

The following areas (**Table 1**) are proposed for each of the lots (excluding the area of any access handle):

Lot No.	Area (m ²)
1	569
2	640
3	688
4	630
5	612
6	612
7	604
8	674
9	999
10	596
11	871
12	1303
13	555
14	555
15	555
16	555
17	555
18	555
19	555
20	555
21	583
22	1022

4.2 **Residential Access**

A new access road (Road No. 1) is proposed to intersect with Cassar Crescent at its south eastern corner, forming a cul-de-sac at its eastern extremity adjacent to The Northern Road. The new access road is proposed with an overall road reserve width of 14m, accommodating a carriageway width of 7m and 2 x 3.5m wide verges.

The subdivision plan included as **Appendix 1** incorporates a concept design of the proposed intersection treatment at the new junction of Cassar Crescent and Road No. 1. Having regard to the existing traffic conditions, in particular sight lines along Cassar Crescent and at the intersection of Andromeda Drive/Cassar

Crescent (see further discussion at Section 5), the proposed concept design involves a north/south priority treatment between Road No 1 and the eastern section of Cassar Crescent. The western leg of the new intersection (Cassar Crescent) will give way to vehicles within the eastern section of Cassar Crescent and proposed Road No. 1. As illustrated in the proposed concept design, this will be achieved through modifications to the existing kerb line, a new continuity line to identify the priority movement, and a new BB line within the western section Cassar Crescent on approach to the new intersection. The intention of the proposed intersection design is to encourage vehicles associated with the proposed development to utilise the eastern section of Cassar Crescent and, subsequently, its eastern intersection with Andromeda Drive where sight distance is more desirable than the intersection of Andromeda Drive and Cassas Crescent (west).

The majority of the proposed residential allotments are provided with direct access to proposed Road No. 1, with the exception of proposed lot 2, 8, 9, and to a lesser extent, lot 22. Proposed lot 2 is provided with an access handle of 4m in width to the south of proposed lot 1. We note that a width of 4m does not allow 2 on-coming vehicles to pass, however, given the access handle serves one dwelling and that traffic volumes will be very low, the proposed 4m width is considered satisfactory.

Lots 8 and 9 are each provided with a 3m wide access handle. Reciprocal rights of carriageway will be provided over Lot 8 and 9, effectively providing a legal right for the owner of Lot 8 to use the access handle within Lot 9, and the owner of Lot 9 to use the access handle within Lot 8. As such, a 6m wide access handle will be available to serve Lots 8 and 9, allowing two on-coming vehicles to safely pass.

Proposed lot 22 situated in the south western corner of the proposed subdivision has a narrow frontage of 5.1m (arc), requiring a relatively short internal driveway of approximately 5.5m in length to access the more regular lot configuration.

4.3 Parking

It is understood that each of the proposed residential allotments are intended to accommodate a detached residential dwelling. The off-street parking provision will therefore be provided as part of the construction of the built form.

Additional parking will also be available within the carriageway of proposed Road No. 1. The 7m wide carriageway width for Road No. 1 allows a moving vehicle to pass a stationary vehicle that may be parked kerbside.

5. EXISTING TRAFFIC CONDITIONS

5.1 Road Network

Cassar Crescent forms a pavement width of approximately 7m within an overall road reservation of 14m. It serves a local residential function serving the adjacent low density residential development as well as 4 short cul-de-sacs that intersect therewith, being Venus Close, Cygnus Place, Perseus Close and Pluto Place. The available carriageway width facilitates one through lane of traffic in conjunction with parallel parking along both kerb alignments where this parking somewhat impedes through vehicular traffic as discussed with respect to the proposed internal subdivision Road No. 1. A speed limit of 50km/h applies.

Consistent with its low order localised residential function, traffic volumes within Cassar Crescent are low, with gap conditions predominating (refer Section 5.2). In this regard, vehicles associated with the existing residential development would have little difficulty in undertaking access movements between the public road and private driveways.

Cassar Crescent intersects with Andromeda Drive at both its north eastern and south western extremity, consistent with its 'crescent function'. Both intersections are under major/minor give-way control, with Cassar Crescent provided with paved surface treatment at these intersections to reinforce its low order residential status in the road hierarchy.

Andromeda Drive is considered to perform a major collector function within the local road hierarchy, providing a north/south link between Vincent Road to the north and The Northern Road to the south. In the vicinity of Cassar Crescent and Corpus Christi Primary School, Andromeda Drive forms a pavement width of 13m with an overall road reserve of 20m, generally providing one kerb-side parking land and one through lane in either direction in conjunction with marked parking lanes along both alignments. A speed limit of 50km/h applies, with school zone 40km/h restrictions applying between 8.00am - 9.30am and 2.30pm - 4.00pm.

Sight distance at Andromeda Drive and its junctions with Cassar Crescent (west) and Cassar Crescent (east) have been assessed by this Practice based on survey information prepared by Whelans Insites. The following table (**Table 2**) presents the outcomes of this assessment, with survey information included as **Appendix 2**.

TABLE 2			
SIGHT DISTANCE ASSESSMENT			
AUSTROADS REQUIREMENT FOR 50km/h = 90m			
Cassar Crescent (West)		Cassar Crescent (East)	
To the East	145m	To the East	125m
To the West	60m	To the West	212m
Complies	No	Complies	Yes

Table 2 identifies that sight distance at the intersection of Andromeda Drive and Cassar Crescent (east) adequately meets minimum AUSTRROADS requirements. At the intersection of Andromeda Drive and Cassar Crescent (west), adequate sight distance is provided to the east for vehicles destined to the south however, sight distance to the west does not meet AUSTRROADS recommendations.

Nevertheless, the concept design at the intersection of Cassar Crescent and proposed Road No.1 has been developed with the intention of encouraging vehicles from the proposed residential subdivision to utilise the intersection of Andromeda Drive and Cassar Crescent (east) where sight distance in both directions more than adequately meets AUSTRROADS criteria.

5.2 Traffic Volumes

Traffic surveys were undertaken by this Practice at Cassar Crescent and its eastern and western intersections with Andromeda Drive. Surveys for the morning period were undertaken between 7.30am-9.30am on Wednesday 6 February, 2013, with surveys for the evening period undertaken between 4.00pm-6.00pm on Monday 4 February, 2013. Morning and afternoon peak hour volumes are represented in **Figure 2** overleaf. **Appendix 3** contains full survey data.

FIGURE 2
PEAK HOUR TRAFFIC VOLUMES
INTERSECTIONS OF ANDROMEDA DRIVE & CASSAR CRESCENT

Legend: AM Peak / PM Peak

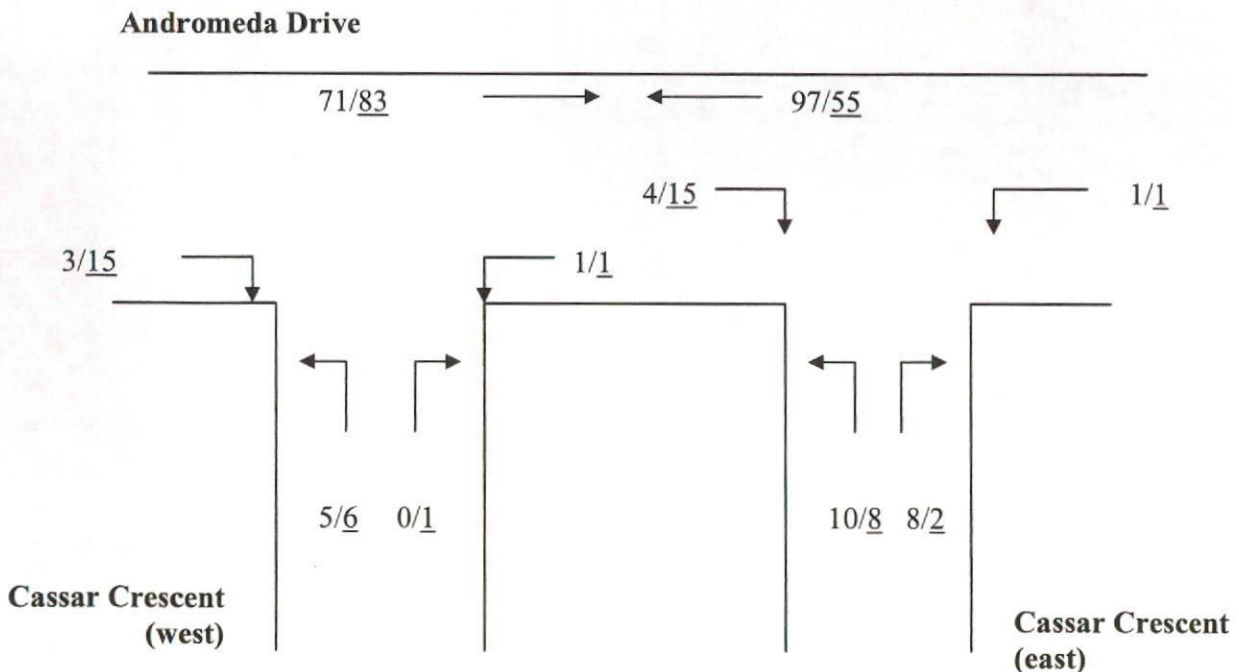


Figure 2 identifies that traffic volumes within the immediate vicinity of the proposed residential subdivision are minimal, particularly within Cassar Crescent.

6. POST DEVELOPMENT TRAFFIC CONDITIONS

6.1 Traffic Generation

The Roads and Maritime Services, in their *Guide to Traffic Generating Developments*, have established traffic generation rates for various land uses based on surveys of similar developments.

It is understood that each proposed allotment will accommodate a detached residential dwelling. The *Guide to Traffic Generating Developments* establishes the following traffic generation rates for detached dwellings:

Daily vehicle trips = 9.0 per dwelling

Weekday peak hour vehicle trips = 0.85 per dwelling.

The proposed residential subdivision, ultimately accommodating 22 detached residential dwellings, could be expected to generate 198 daily vehicle trips and 19 peak hour vehicle trips. It is reasonable to expect that the peak hour vehicle trips would consist of outward movements in the morning peak and inward movements in the evening peak associated with journeys to work and return.

6.2 Trip Assignment

For the purposes of determining the potential impact of the proposed development, it is necessary to assign traffic to/from a particular route. Peak hour traffic movements from residential development are predominantly influenced by the location of major employment centres, key arterial road networks and localized traffic conditions.

The Penrith Central Business District is situated some 8km to the south of the subject land, with the M4 motorway, one of Sydney's most significant east/west connections, also situated to the south. It is therefore our expectation that the majority, say three-quarters, of morning peak hour traffic will be destined to the south, with the remaining quarter destined to the north.

The proposed intersection treatment at Cassar Crescent and proposed Road No. 1 has been designed to encourage vehicles to utilise the eastern most intersection of Andromeda Drive and Cassar Crescent, with vehicles then undertaking either a left or right hand turn. It could be expected, however that a small proportion of traffic from the proposed subdivision will utilise the western intersection of Andromeda Drive and Cassar Crescent.

The following figures (**Figure 3 & 4**) represent a likely trip distribution in the morning and afternoon peak hour periods, based on the concept design proposed as part of this Report for the intersection of Cassar Crescent and Road No. 1.

FIGURE 3
PEAK HOUR TRAFFIC DISTRIBUTION
INTERSECTION OF CASSAR CRESCENT & PROPOSED ROAD NO. 1

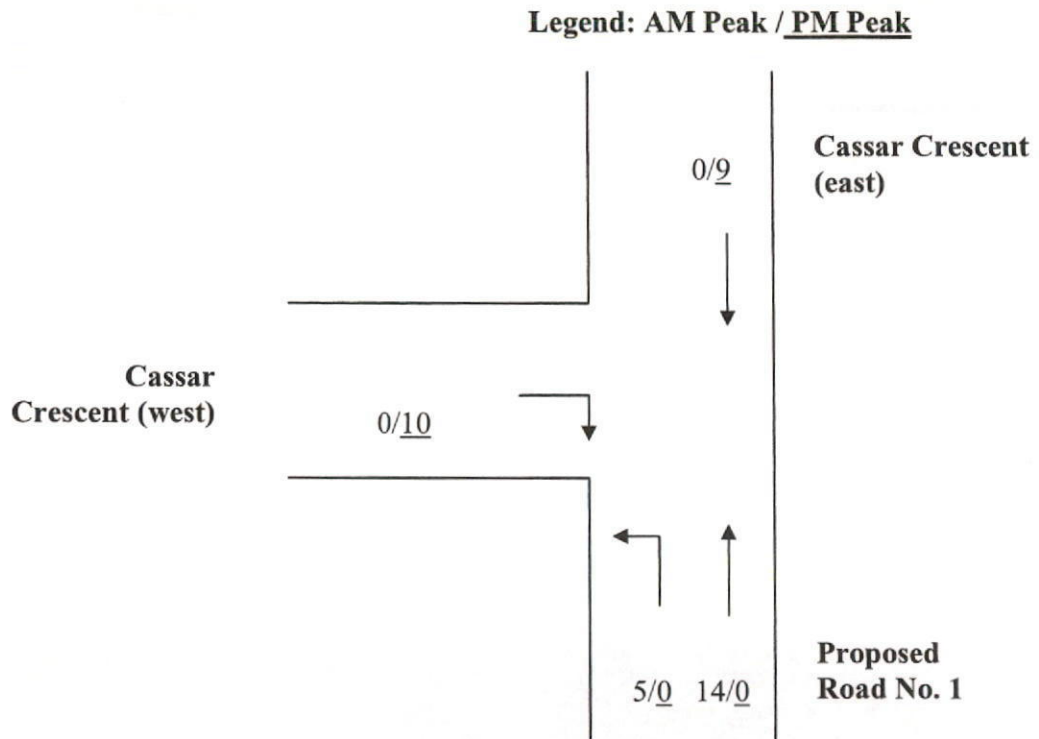
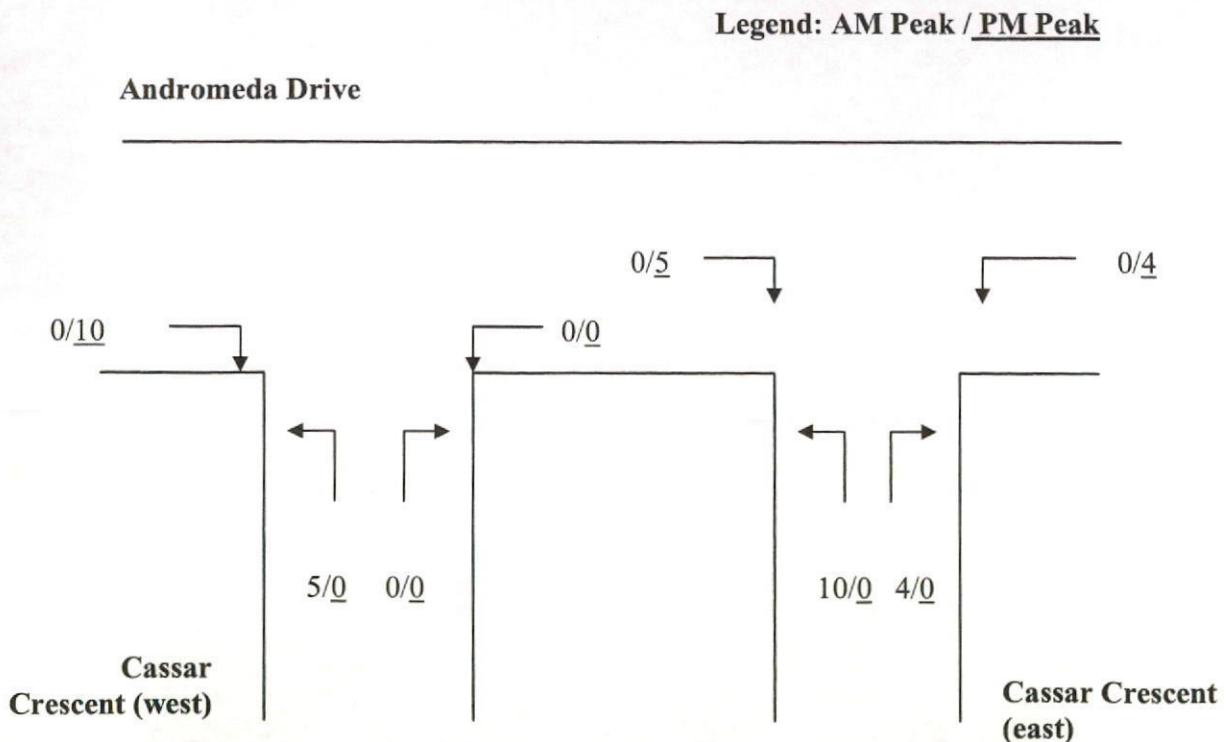


FIGURE 4
PEAK HOUR TRAFFIC DISTRIBUTION
INTERSECTIONS OF CASSAR CRESCENT & ANDROMEDA DRIVE



6.3 Traffic Impact of the Proposed Development

6.3.1 Road No. 1

Road No. 1 is proposed to be constructed with a carriageway width of 7m within an overall road reservation of 14m (i.e. 2 x 3.5m wide verges), according with the existing design characteristics of Cassar Crescent.

Given the low flow volumes anticipated within proposed Road No. 1, vehicles associated with the residential subdivision will have little difficulty undertaking movements between the future public road and the residential driveways.

It is understood that Council has identified a preference for proposed Road No. 1 to solely intersect with the Northern Road, to avoid traffic from the proposed development utilising the local road network. Preliminary enquiries with the Roads and Maritime Services have identified that access to The Northern Road from proposed Road No. 1 would not be supported as such access would be inconsistent with their objective of maintaining the efficiency of the arterial road network. In any event, and as further identified below, the minimal traffic from the proposed development utilising Cassar Crescent is unlikely to result in any adverse consequences.

6.3.2 Environmental Capacity

The proposed 22 lot residential subdivision has been assessed to generate approximately 19 morning and afternoon peak hour vehicle trips. Such a level of additional traffic represents approximately 1 additional vehicle every 3 minutes utilising Cassar Crescent in the morning and afternoon peak. It is highly unlikely that this level of additional traffic will result in any unreasonable impacts on existing traffic conditions.

In support of the above, the Roads & Maritime Services provide environmental capacity performance standards to measure the level of amenity experienced by the general community, not just motorists. The Roads & Maritime Services specify an environmental capacity for local roads of 300 vehicles in both directions in any one hourly period. The existing surveyed peak hourly traffic demands of Cassar Crescent are 49 vehicles in the PM peak. This existing demand, coupled with the additional 19 peak hour vehicles likely to be generated by the proposed development, maintains the identified threshold for local roads of 300 vehicles per hour. In this regard, we reiterate that the proposed development is unlikely to generate any noticeable impacts for traffic flow within Cassar Crescent, nor is the existing residential amenity likely to be noticeably compromised.

6.3.3 Andromeda Drive and Cassar Crescent Intersections

An additional 19 peak hour vehicles utilising the intersections of Andromeda Drive and Cassar Crescent (east and west), are unlikely to have any measurable impact on the operational efficiency of either of these intersections.

The trip distribution exercise presented in Section 6.2 has identified that the majority (say 15) of the 19 morning peak hour vehicle trips could be destined to the employment centres and transport connections to the south, with the remaining 4 vehicles destined to the north. It has been identified that sight lines to the west at the intersection of Andromeda Drive and Cassar Crescent (west), whilst serving existing residential development, are less than desirable. In the interest of encouraging vehicles to utilise the intersection of Andromeda Drive and Cassar Crescent (east), the intersection treatment at Cassar Crescent and Road No. 1 has been designed to provide vehicles leaving the new subdivision with priority treatment to the north, to arrive at the intersection of Andromeda Drive and Cassar Crescent (east).

Given the priority treatment at the intersection of Cassar Crescent and Road No. 1, our trip assignment has suggested that 14 of the 19 vehicles generated from the proposed development in the morning peak will utilise the eastern intersection with Andromeda Drive. At this intersection, sight distance is more than adequate in both directions. This, coupled with the frequent observed gap conditions in both north and south bound flow, suggests that movements from Cassar Crescent (east) to Andromeda Drive in the morning peak should occur without any unreasonable delay.

It is acknowledged that some vehicles destined to the south in the morning peak will seek to use the western intersection of Andromeda Drive and Cassar Crescent, representing a reduced travel distance. In this regard, our trip assignment has earmarked 5 vehicles to utilise this intersection in the morning peak, undertaking a left hand turn from Cassar Crescent (west) into Andromeda Drive. Sight distance diagrams identify that sight distance to the east at this intersection meets AUSTROADS requirements. In this regard, vehicles destined to the south, undertaking a left hand turn, will be able to do so under suitable sight distance conditions.

Sight distance to the west, at the intersection of Andromeda Drive and Cassar Crescent (west) does not meet AUSTROADS recommendations, effecting right turn movements from Cassar Crescent (west). It is our expectation that with the priority treatment at Cassar Crescent/Road No.1, vehicles destined to the north will utilise the Cassar Crescent (east) intersection to access Andromeda Drive thence the Northern Road, as reflected in our trip assignment. As such, we do not anticipate any traffic associated with the proposed development to contend with the less than desirable sight distance circumstances at the intersection of Andromeda Drive and Cassar Crescent (west).

In the evening peak hour period, the additional traffic from the proposed subdivision has been assessed to undertake either a left hand or right hand turn from Andromeda Drive to either Cassar Crescent (east) or Cassar Crescent

(west). The left turn movements will occur unimpeded and will therefore impose little impact on the operational efficiency of Andromeda Drive. Current traffic conditions on Andromeda Drive are such that frequent gaps of adequate duration are available in south bound traffic flow to allow right turn movements into Cassar Crescent (east) or Cassar Crescent (west) to be undertaken with minimal delay. Sight distance is sufficient at both intersections to allow right turning vehicles to observe oncoming southbound vehicles.

7. CONCLUSION

This Practice has undertaken an assessment of the proposed traffic related implications resulting from a proposed 22 lot residential subdivision of surplus land to the east of Corpus Christi Primary School. Based on our traffic assessment, the following can now be concluded:

- Vehicles associated with the proposed residential subdivision will have little difficulty in undertaking movements between proposed Road No. 1 and private driveway, given the low volumes expected within Road No. 1;
- The proposed private access roads and the associated rights of carriageway will facilitate safe and convenient access for the battle-axe configured lots, being lots 2, 8 and 9;
- The proposed development has been assessed to generate 19 morning and afternoon peak hour vehicles. The existing traffic utilising Cassar Crescent, as well as the additional traffic from the proposed development does not result in the prescribed environmental capacity of Cassar Crescent being exceeded. Accordingly, it is not our expectation that the existing residential amenity will be unreasonably impacted upon associated with 19 additional peak hour vehicles associated with the proposed development;
- Proposed Road No. 1 intersects the south western corner of Cassar Crescent. A concept design has been prepared of this new intersection, providing a north/south priority movement between Cassar Crescent (east) and proposed Road No. 1. The intersection design seeks to encourage vehicles associated with the proposed subdivision to utilise the intersection of Andromeda Drive and Cassar Crescent (east) where sight distance more than adequately meets AUSTROADS recommendations in both directions. With sufficient sight distance and frequent gaps in Andromeda Drive traffic flow, morning and afternoon peak hour movements at the intersection of Andromeda Drive and Cassar Crescent (east) are expected to occur without any significant delay and under relative safety.
- It could be expected that a small proportion of traffic related to the proposed development will utilise the western Cassar Crescent intersection, providing a more direct route for motorists destined to the south. We note that sight distance at the intersection of Andromeda Drive and Cassar Crescent (west) to the east is sufficient to allow motorists to undertake a left hand turn from Cassar Crescent into Andromeda Drive. These movements are expected to occur with minimal delay.

Based on our traffic assessment and the conclusions and recommendations reached herein, we do not consider that there are any traffic related matters that should prevent approval of the subject development application. Accordingly, we recommend that action to Council.

APPENDIX 1

CIVIL WORKS STRATEGY PLAN FOR PROPOSED SUBDIVISION OF LOT 1 DP 1144668 ANDROMEDA DRIVE, CRANEBROOK



Source: Google Earth

LOCALITY DIAGRAM
NTS

SHEET DESCRIPTION	SHEET No.	DRAWING No.
COVER SHEET & LOCALITY SKETCH	1	1117EG P1-1
PLAN AND LONG. SECTION & TYPICAL CROSS SECTIONS	2	1117EG P1-2
CATCHMENT PLAN AND BIORETENTION DETAIL	3	1177EG P1-3

ISSUE FOR D.A.

NO.	DATE	DESCRIPTION	BY
B	24.08.13	ISSUE FOR D.A.	K.G.
A	07.05.13	DRAFT ISSUE	S.W.



NO.	DATE	DESCRIPTION	BY
01	N/A	AHD	N/A
02	N/A	N/A	N/A
03	N/A	N/A	N/A



NO.	DATE	DESCRIPTION	BY
01	18.01.13	C.L.	
02	07.05.13	S.W./K.G.	
03	06.04.13		
04		B.L.	

COVER SHEET AND LOCALITY SKETCH
CIVIL WORKS STRATEGY PLAN
PROPOSED SUBDIVISION OF LOT 1, DP1144668
ANDROMEDA DRIVE, CRANEBROOK

NO.	DATE	DESCRIPTION	BY
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02	07.05.13	S.W./K.G.	
03	06.04.13		
04		B.L.	

1117EG

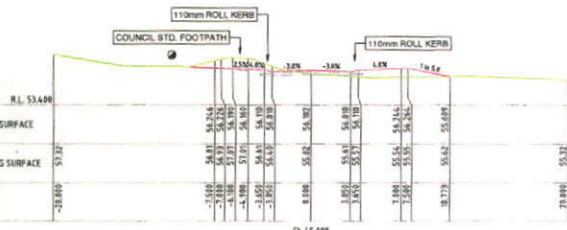
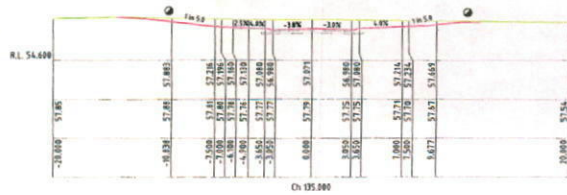
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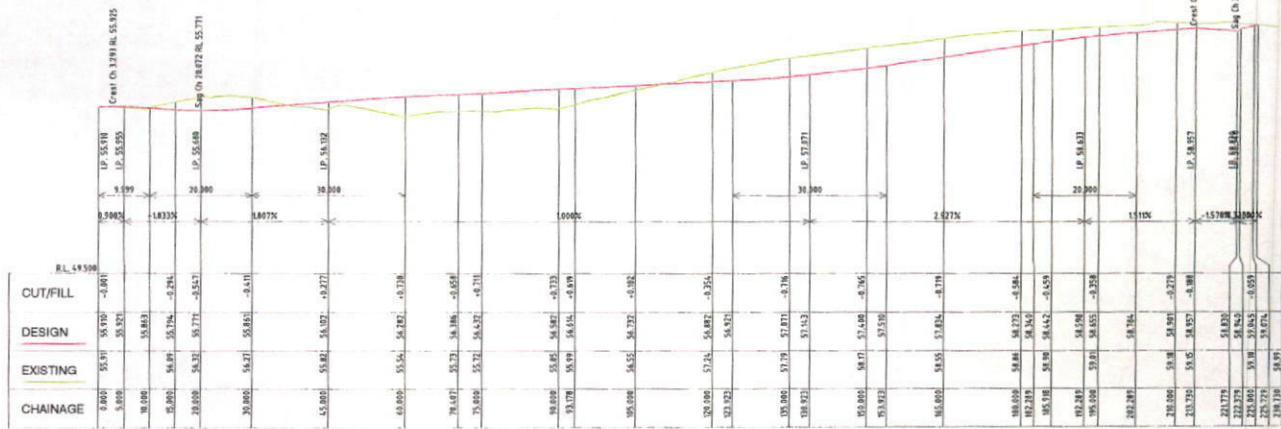
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LOT REGRADING/FILLING - Min. 1% TO VERGE



TYPICAL

CASSAR CRESCENT

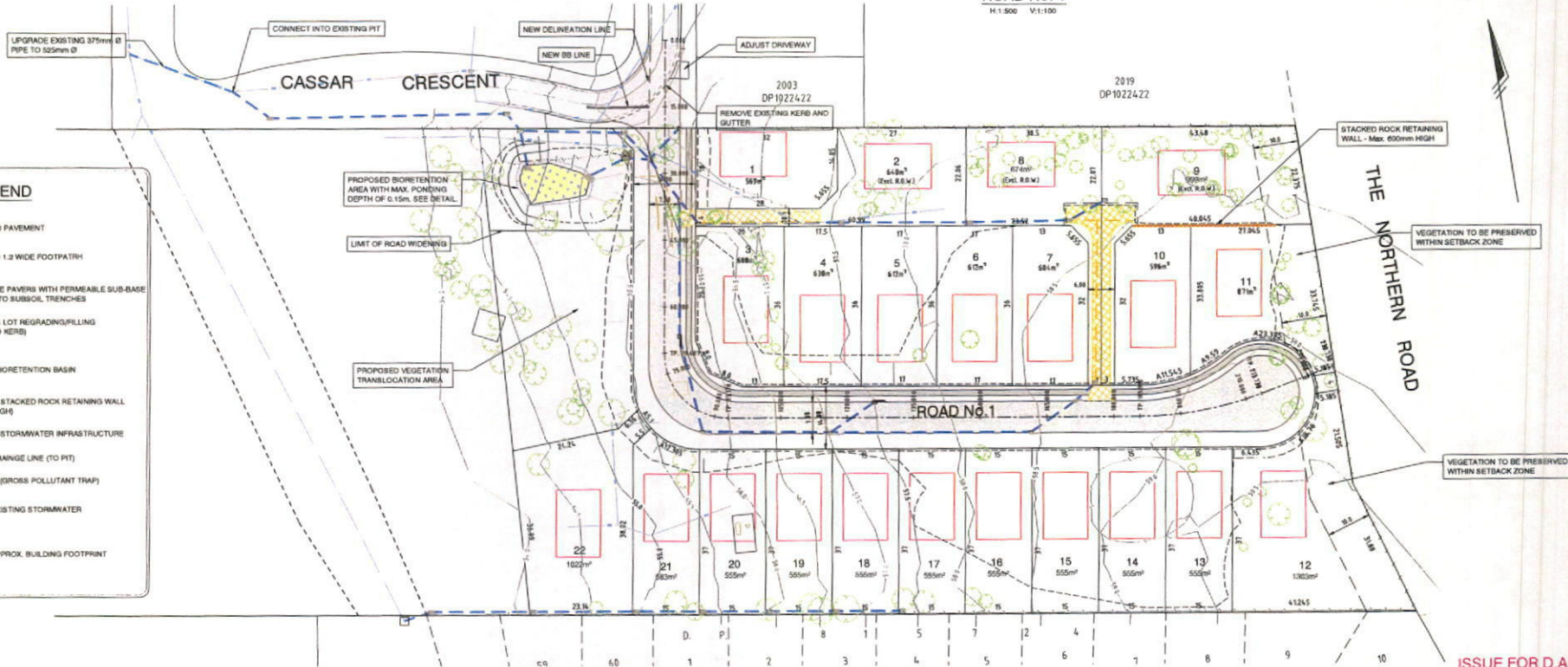


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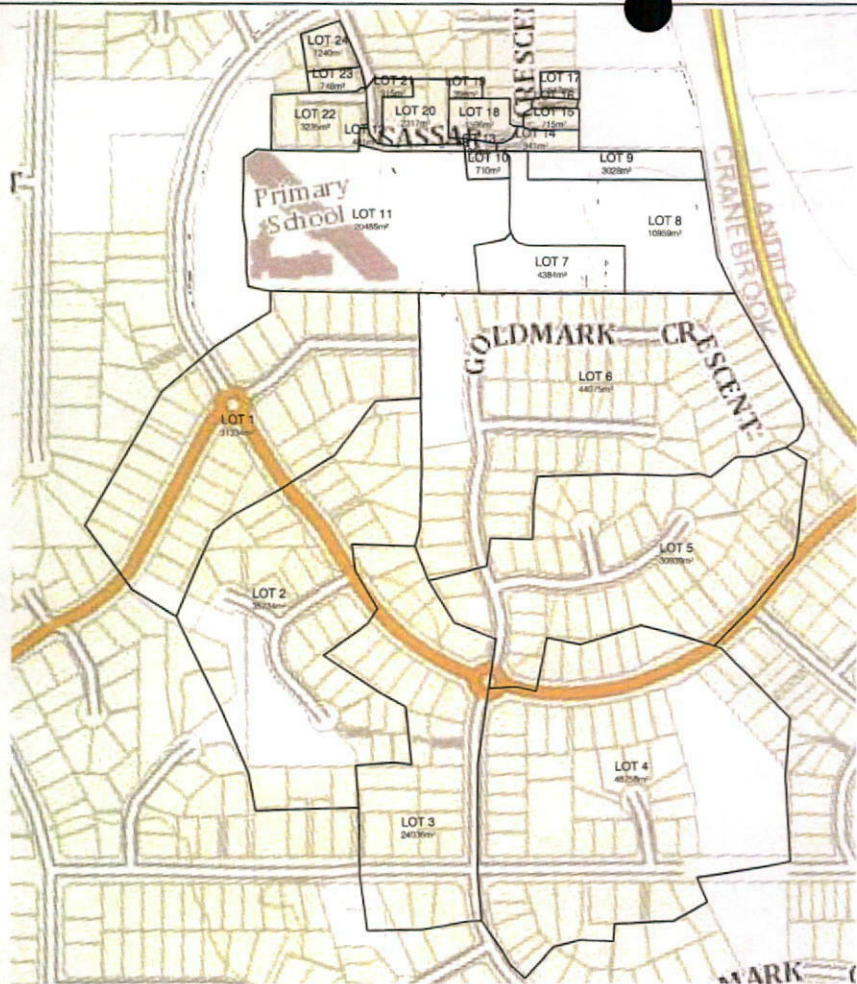
LEGEND

- PROPOSED PAVEMENT
- PROPOSED 1.2 WIDE FOOTPATH
- PERMEABLE PAVERS WITH PERMEABLE SUB-BASE DRAINING TO SUBSOIL TRENCHES
- PROPOSES LOT REGRADING/FILLING (Min. 1% TO KERB)
- DENOTES BIORETENTION BASIN
- PROPOSED STACKED ROCK RETAINING WALL (Max. 600 190R)
- PROPOSED STORMWATER INFRASTRUCTURE
- SUBSOIL DRAINAGE LINE (TO PIT)
- G.P.T. UNIT (GROSS POLLUTANT TRAP)
- DENOTES EXISTING STORMWATER
- DENOTES APPROX. BUILDING FOOTPRINT



ISSUE FOR D.A.

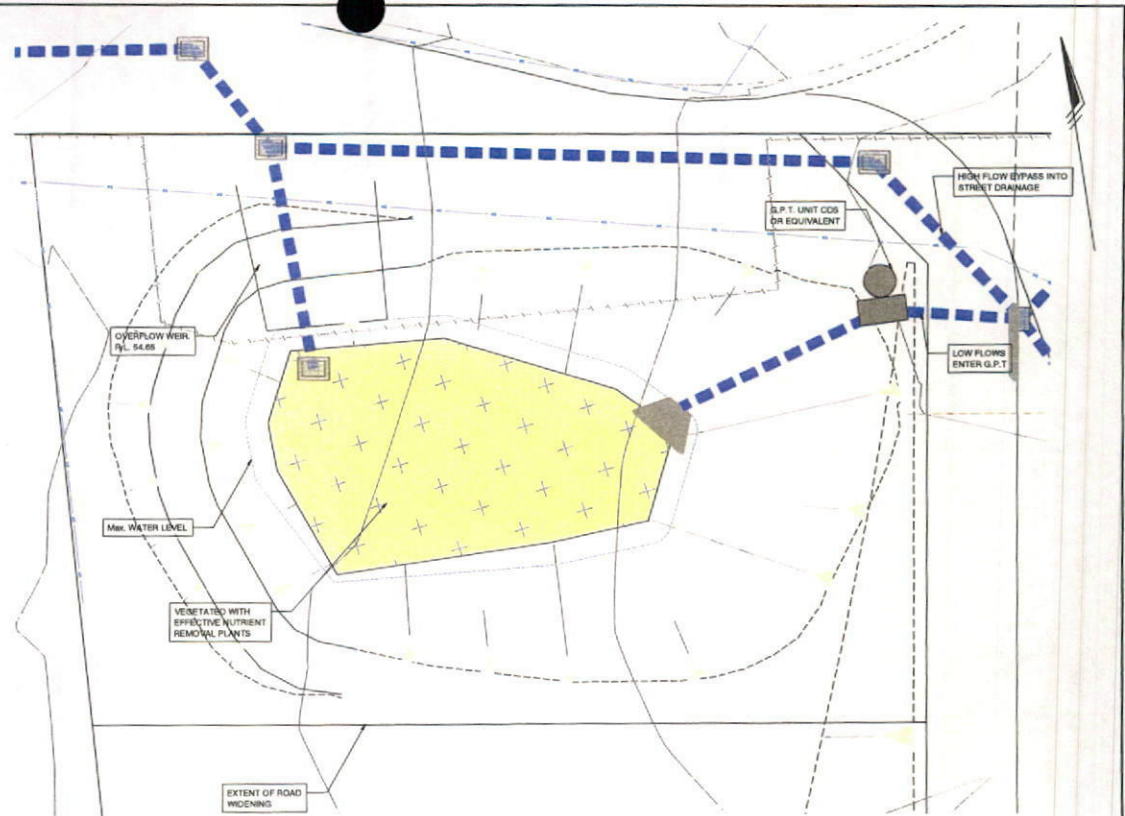
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C	02.04.15	LONG SECTION AMENDED	K.G.																							
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SR/JLG	07.08.15																									
	02.04.15																									
BL																										



Background Source: SkyView

CATCHMENT PLAN

1:2000



BIORETENTION DETAIL

1:100



BIORETENTION TYPICAL SECTION

H:1:500 V:1:100

NO.	DATE	DESCRIPTION	BY
1	18.08.13	ISSUE FOR D.A.	K.G.



1:2000	AHD
NA	1:500
NA	1:100



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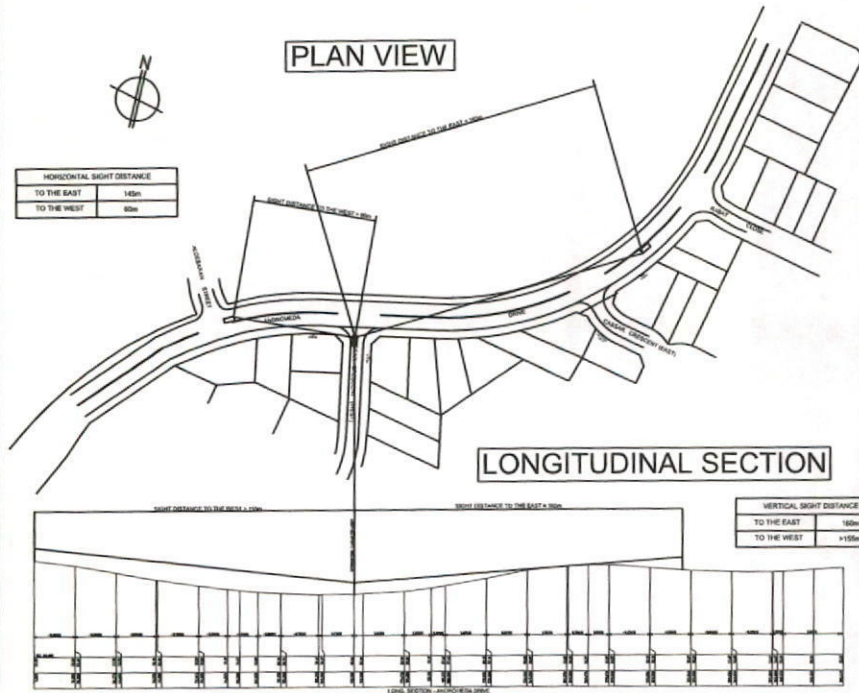
CATCHMENT PLAN & BIORETENTION DETAIL
CIVIL WORKS STRATEGY PLAN
PROPOSED SUBDIVISION OF LOT 1, DP1144668
ANDROMEDA DRIVE, CRANEBROOK

ISSUE FOR D.A.

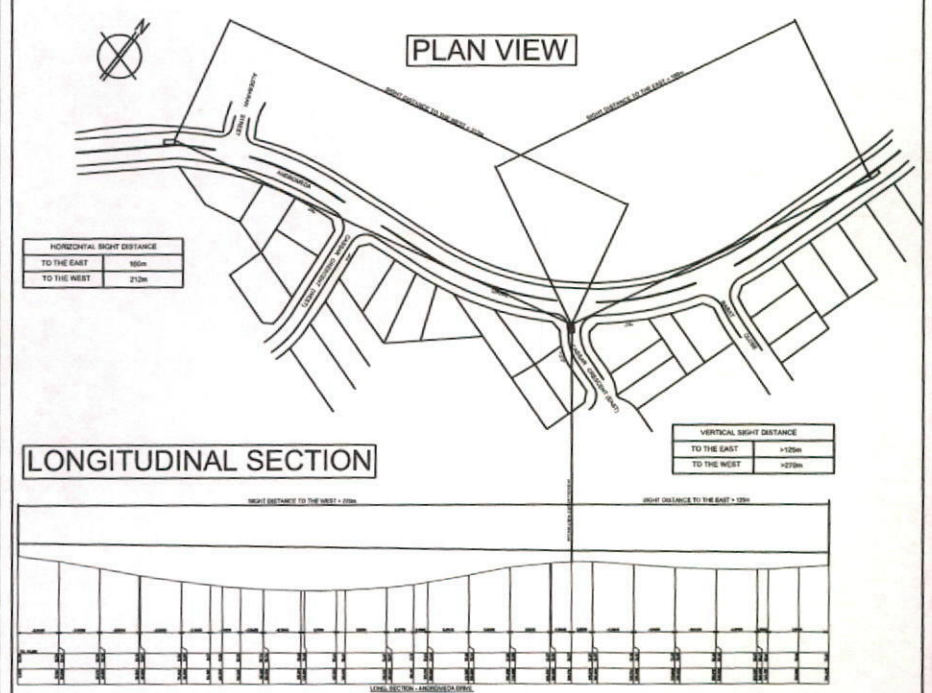
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3 3	A1

APPENDIX 2

CASSAR CRESCENT (WEST)



CASSAR CRESCENT (EAST)

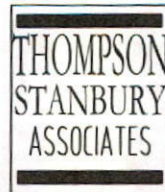


SUMMARY SIGHT DISTANCE TABLE			
AUSTRROADS MINIMUM SIGHT DISTANCE FOR 50KM/H = 90m			
CASSAR CRESCENT (WEST)		CASSAR CRESCENT (EAST)	
TO THE EAST	145m	TO THE EAST	125m
TO THE WEST	60m	TO THE WEST	212m
COMPLIES?	NO	COMPLIES?	YES

- NOTES:**
- THIS PLAN HAS BEEN FORMULATED UTILISING SURVEY PLAN PREPARED BY SITE PLUS.
 - SAFE INTERSECTION SIGHT DISTANCE FOR 50KM/H = 90m (AUSTRROADS GUIDE TO ROAD DESIGN PART 4A: UNSIGNALISED AND SIGNALISED INTERSECTIONS).

THOMPSON STANBURY ASSOCIATES
 Transport Planning, Town Planning
 and Environmental Consultants

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THOMPSON STANBURY ASSOCIATES
 SIGHT DISTANCE DIAGRAM
 CASSAR CRESCENT JUNCTIONS WITH
 ANDROMEDA DRIVE
 CRANEBROOK

HORIZONTAL SCALE: 1: 2500 - VERTICAL SCALE: 1:500 (AT A3)

FILE: 12-153

SUPERSEDES
SHEET/ISSUE

DATE: MARCH 2013

ISSUE

A

SHEET

1

APPENDIX 3

TRAFFIC COUNTS AT: Andromeda Drive junctions with Cassar Crescent
 DATE: Monday (PM)/Wednesday (AM), February 4/6, 2013
 TIME: 7.30 am-9.30 am and 4.00 pm - 6.00 pm
 WEATHER: Fine

Time	Direction of Vehicular Traffic									
	1	2	3	4	5	6	7	8	9	10
7.30-7.45 am	0	1	0	0	7	0	1	0	0	1
7.45-8.00 am	0	2	0	0	8	0	2	1	0	9
8.00-8.15 am	0	2	0	0	12	4	4	1	0	19
8.15-8.30 am	0	0	0	0	29	0	3	0	1	30
TOTAL	0	5	0	0	56	4	10	2	1	65
8.30-8.45 am	1	1	0	0	22	0	1	0	1	31
8.45-9.00 am	0	3	0	0	30	0	1	0	0	37
9.00-9.15 am	1	1	0	1	11	2	2	4	0	14
9.15-9.30 am	1	0	0	0	8	1	4	4	0	15
TOTAL	3	5	0	1	71	3	8	8	1	97
4.00 - 4.15pm	2	1	0	0	7	1	0	0	0	6
4.15 - 4.30pm	2	2	0	0	8	5	0	0	0	8
4.30 - 4.45pm	9	3	1	1	28	1	1	1	1	10
4.45 - 5.00pm	2	0	0	0	22	3	3	1	0	19
TOTAL	15	6	1	1	65	10	4	2	1	43
5.00 - 5.15pm	3	1	0	0	21	5	2	1	0	16
5.15 - 5.30pm	1	0	0	0	26	3	2	0	0	8
5.30 - 5.45pm	2	1	0	0	14	3	2	0	0	16
5.45 - 6.00pm	1	0	0	0	22	4	2	1	0	15
TOTAL	7	2	0	0	83	15	8	2	0	55



Andromeda Drive

