



Traffic Impact Assessment

South Coast Correctional Centre
55 The Links Road, Nowra Hill



Reference: 16.101r01v02
Date: July 2016

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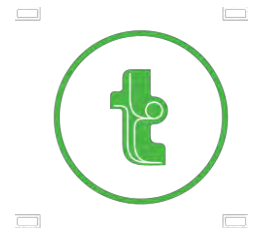


Document Verification

Job Number:	16.101			
Project:	South Coast Correctional Centre 55 The Links Road, Nowra Hill			
Client:	Guymer Bailey Architects			
Revision	Date	Prepared By	Checked By	Signed
v01	06/07/2016	Hadi Bagheri	Paul Corbett	
v02	08/07/2016	Hadi Bagheri	Paul Corbett	

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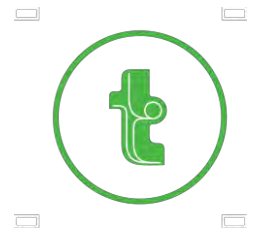


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1. Introduction

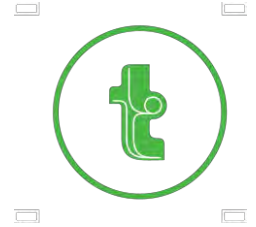
TRAFFIX has been commissioned by Guymer Bailey Architects to undertake a traffic impact assessment of a Master Plan for a proposed expansion of the existing South Coast Correctional Centre (SCCC), located at 55 The Links Road, Nowra Hill. The SCCC is an existing multi-classification correctional centre and accommodates 600 male and female offenders. These are contained within security fencing providing a secure environment for offenders. The development includes a visitor's centre, educational facilities, external recreational areas, staff administration and security facilities, staff and visitor car parking, a buffer zone to adjoining properties and asset protection zones are required for bushfire risk management.

The proposal seeks approval for an expansion of the existing SCCC development to include (but is not limited to), additional minimum, medium and modular security accommodation, industrial building, visits extension, staff amenities and at-grade car park for both staff and visitors. This extension would ensure that the SCCC can accommodate increase in offender numbers from 600 to 960 offenders, which would also require an increase in the number of on-site staff.

The site is located within the Shoalhaven City Council LGA and is to be assessed under the relevant controls of the NSW Governments Department of Justice.

This report should be read in the context of the Review of Environmental Factors (REF) prepared separately. This report is structured as follows:

- ➊ Section 2: Describes the site and its location
- ➋ Section 3: Documents existing traffic conditions
- ➌ Section 4: Describes the proposed development
- ➍ Section 5: Discusses the parking requirements
- ➎ Section 6: Assesses traffic impacts
- ➏ Section 7: Discusses access and internal design aspects
- ➐ Section 8: Presents the overall study conclusions.



2. Location and Site

The SCCC is located approximately 59 kilometres south of Wollongong and approximately 5.5 kilometres south of the Nowra Town Centre. It is also legally known as Lot 464 of DP1058778.

The site is irregular in configuration and has a total area of approximately 110 hectares. Notwithstanding, the SCCC itself occupies a much smaller area in the order of 33 hectares, with the majority of the site being occupied by bushland.

Access to the site is provided via a single internal road which forms the southern leg of a roundabout controlled intersection with The Links Road and Oxford Street, to the north of the site. This provides easy access to Central Avenue to the north and Princes Highway to the east.

The existing SCCC development has maximum and minimum-security facilities for 600 offenders and incorporates but is not limited to the following:

- ② Facilities for education program and industrial activities
- ② A visitor's centre building including reception and clinic areas
- ② External recreation areas
- ② Staff administration and security facilities
- ② A total provision of 291 car spaces including 149 spaces for staff and 142 spaces for visitors
- ② Security fencing
- ② Electronic monitoring systems
- ② A buffer zone to adjoining properties

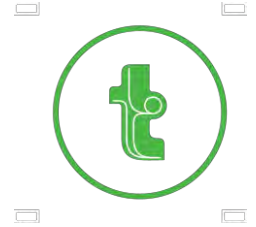
A Location Plan is presented in **Figure 1**, with a Site Plan presented in **Figure 2**.



Figure 1: Location Plan



Figure 2 : Site Plan



3. Existing Traffic Conditions

3.1 Road Hierarchy

The road hierarchy in the locality is shown by **Figure 3** with the following roads of particular interest:

- ② Princes Highway: a RMS State Road (SH 1) that runs in a north-south direction and forms part of an interstate link between Sydney and Melbourne, carrying in the order of 50,000 vehicles per day (vpd) in the vicinity of the site. The Princes Highway is subject to a 70km/h speed zoning within the locality and generally carries two lanes of traffic in either direction within a divided carriageway of width 22 metres.
- ② Central Avenue: a local road that runs in an east-west direction from the Princes Highway in the east and Prosperity Road in the west. It generally carries a single lane of traffic in either direction and is subject to a 60km/h speed zoning. Central Avenue is constructed with a 13.5 metres wide carriageway and permits unrestricted parallel parking along both sides.
- ② Oxford Street: a local road that runs in a north-south direction from Central Avenue in the north and The Links Road to the south. Oxford Street is subject to a 50km/h speed zoning and carries a single lane of traffic in either direction within an undivided carriageway of width 7.5 metres.
- ② The Links Road: a rural road that runs in an east-west direction, that commences at its intersection with Oxford Street. It is subject to a 50km/h speed zoning and carries a single lane of traffic in either direction within an undivided carriageway 7.5 metres width.

It can be seen from Figure 3 that the site is conveniently located with respect to the arterial and local road systems serving the region.

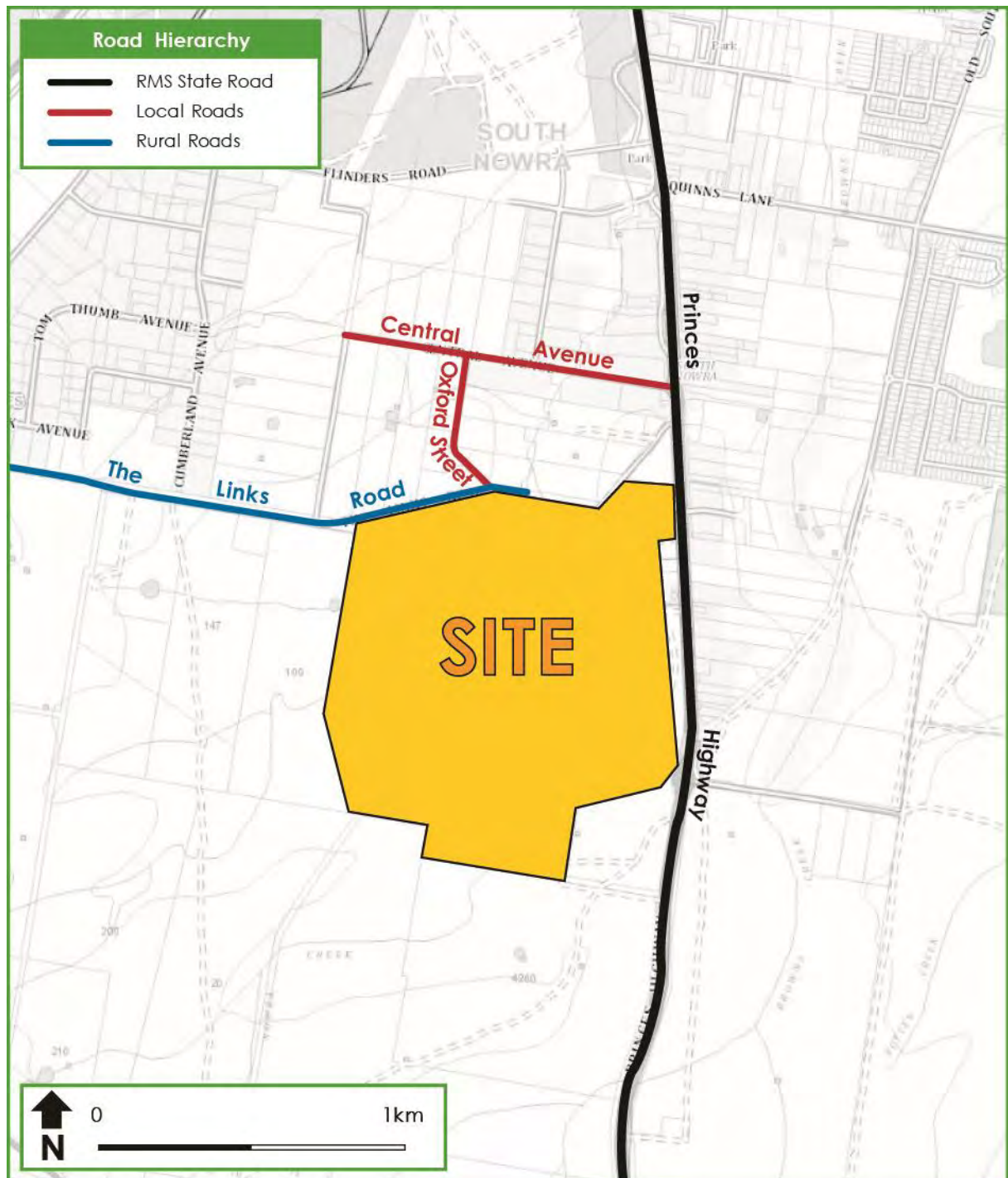


Figure 3: Road Hierarchy



3.2 Key Intersections

The key intersections in the vicinity of the site are shown below and provide an understanding of the existing road geometry and alignment:

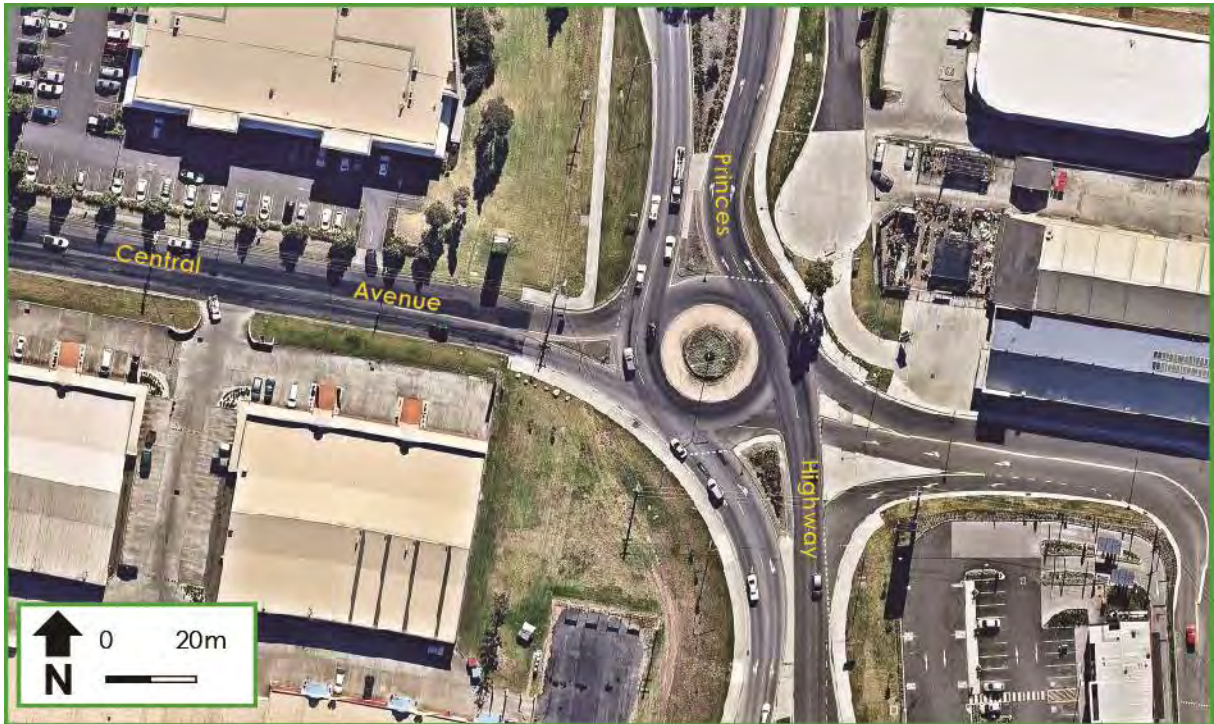


Figure 4: Intersection of Princes Highway / Central Avenue

It can be seen from **Figure 4** that Princes Highway and Central Avenue form a 4-way roundabout controlled intersection to the north-east of the site. This roundabout accommodates two circulating lanes in both the northbound and southbound directions, and a single lane in the eastbound and westbound directions.



Figure 5: Intersection of Central Avenue / Oxford Street

Figure 5 shows that Central Avenue and Oxford Street form a priority controlled T-junction to the north of the site, with Oxford Street forming the 'side street'. All turning movements are permitted at this intersection, which accommodates all development traffic movements to / from Princes Highway.



Figure 6: Intersection of Oxford Street / The Links Road / Site Access

Figure 6 shows that Oxford Street, The Links Road and Site Access roadway form a 4-way roundabout controlled intersection to the north of the site. A single lane is provided for all circulating lanes and approaches. All turning movements are permitted at this intersection, which accommodates all development traffic movements to / from the site.

3.3 Public Transport

The existing bus services that operate in the locality are shown in **Figure 7** overleaf. The subject bus route 732 is provided by Nowra Coaches and operates between Nowra and Bay / Basin loop, servicing such centres as SCCC, Nowra, Huskisson, Hyams Beach and St Georges Basin.

The Bomaderry (Nowra) Railway Station is located approximately 6.8km north of the site and is located between Merroo Street and Railway Street. The railway station is served by CityRail's South Coast Line and provides services to Kiama, where further railway linkages provide services to Sydney's Central Station.

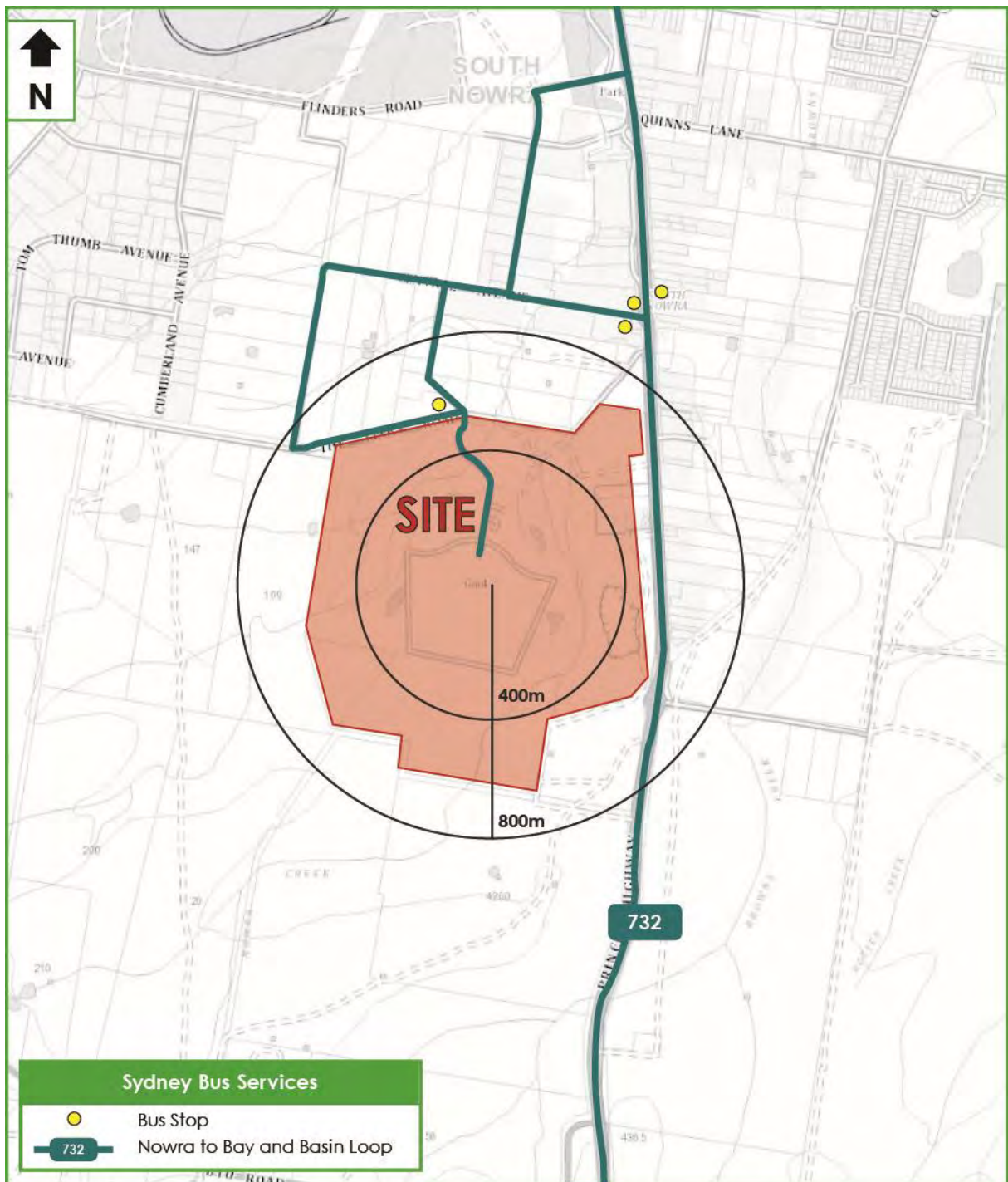
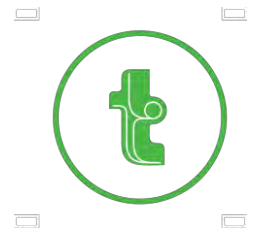


Figure 7: Public Transport



3.4 Existing Site Generation

Neither the *RMS Guide to Traffic Generating Developments (2002)* nor *Technical Direction TDT2013/04a* provide traffic generation rates for correctional centres. Accordingly, as a means of assessing the traffic generation of the existing development, traffic surveys were undertaken of the development access. Taking into account the operational characteristics of the development, the SCCC have confirmed that there are varying times at which peak staff and visitor vehicular trips are generated, being:

- ➊ Staff: Weekday mornings and afternoons (i.e. during staff shift changeovers)
- ➋ Visitors: Saturdays and Sundays

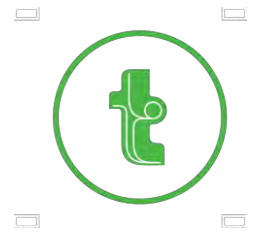
The traffic generation associated with the arrival / departure of staff generally coincides with the typical weekday commuter peak periods of 7:00-9:00am and 4:00-6:00pm and hence, these periods are considered to be critical for purposes of the traffic assessment. In contrast, traffic generation associated with visitors generally only occurs on weekends (outside of typical weekday commuter peaks), with vehicular flows being moderate and uniform over the day due to visitors being given allocated time periods for visits. In this regard, an assessment of the visitor traffic impacts on weekends is not considered to be required.

Having regard for the above, a traffic survey was undertaken on Friday 20th May 2016 between the hours of 5:30am-10:00am and 2:00-6:00pm. A summary of the morning and evening peak period traffic generations are provided below, with detailed survey results included in **Appendix A**

- ➊ 65 veh/hr (63 in, 2 out), which occurred between 6:45-7:45am
- ➋ 68 veh/hr (4 in, 64 out), which occurred between 2:00-3:00pm

Having regard for the above generations and the total number of staff expected on-site during the morning and evening shift changeovers (as discussed in further detail in Section 4), the following staff trip rates were able to be derived:

- ➊ 0.34 trips/hr/staff member for the AM peak period
- ➋ 0.36 trips/hr/staff member for the PM peak period



It is noted that the evening peak period of the development of 2:00-3:00pm has been considered to occur during the typical commuter peak period of 4:00-6:00pm, as this would provide a more conservative approach to the traffic assessment.

3.5 Existing Intersection Operation

For the purposes assessing the traffic impacts of the proposed development, traffic surveys were also undertaken of key intersections in the locality during the AM and PM peak periods on Friday 20th May 2016. The results of these surveys are included in Appendix A and included the following key intersections:

- ② Princes Highway & Central Avenue
- ② Oxford Street & The Links Road

The results of these surveys were analysed using the SIDRA computer program to determine their performance characteristics under existing traffic conditions. The SIDRA model produces a range of outputs, the most useful of which are the Degree of Saturation (DOS) and Average Vehicle Delay per vehicle (AVD). The AVD is in turn related to a level of service (LOS) criteria. These performance measures can be interpreted using the following explanations:

DOS - the DOS is a measure of the operational performance of individual intersections. As both queue length and delay increase rapidly as DOS approaches 1, it is usual to attempt to keep DOS to less than 0.9. When DOS exceeds 0.9 residual queues can be anticipated, as occurs at many major intersections throughout the metropolitan area during peak periods. For intersections controlled by roundabout or give way/stop control, satisfactory intersection operation is generally indicated by a DOS of 0.8 or less.

AVD - the AVD for individual intersections provides a measure of the operational performance of an intersection. In general, levels of acceptability of AVD for individual intersections depend on the time of day (motorists generally accept higher delays during peak commuter periods) and the road system being modelled (motorists are more likely to accept longer delays on side streets than on the main road system).

LOS - this is a comparative measure which provides an indication of the operating performance of an intersection as shown below:



Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way and Stop Signs
A	less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory but accident study required
D	43 to 56	Operating near capacity	Near capacity and accident study required
E	57 to 70	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode	At capacity and requires other control mode
F	More than 70	Unsatisfactory and requires additional capacity.	Unsatisfactory and requires other control mode or major treatment.

A summary of the modelled results is provided in **Table 1** below. Reference should also be made to the SIDRA outputs provided in **Appendix B**, which provide detailed results for all approaches.

Table 1: Existing Intersection Performances

Intersection Description	Control Type	Period	Degree of Saturation	Average Delay	Level of Service
Princes Highway / Central Avenue	Roundabout*	AM	0.056	15.8	B
		PM	0.237	39.8	C
Oxford Street / The Links Road / Site Access	Roundabout*	AM	0.041	9.2	A
		PM	0.003	9.5	A

* Note: Results shown are for movement with the highest delay, in accordance with RMS Guidelines.

It can be seen from Table 1 that the Princes Highway / Central Avenue intersection currently operates satisfactorily under the existing 'base case' scenario, with moderate delays and a Level of Service B and C during the AM and PM peak periods respectively. In addition, the Oxford Street / The Links Road intersection will operate very well, with minimal delays and a Level of Service A during both peak periods. Nevertheless, it is emphasised that the most relevant use of this analysis is to compare the relative change in the performance parameters as a result of the proposed development. This is discussed further in Section 6.



4. Description of Proposed Development

A detailed description of the proposed development is provided in the Review of Environmental Factors prepared separately. In summary, the proposal seeks approval for an expansion of the existing SCCC development to include (but is not limited to):

- ➊ Minimum and medium security accommodation,
- ➋ Modular accommodation,
- ➌ Management accommodation,
- ➍ Industries building,
- ➎ Extension of the entry and visits area,
- ➏ Programs and health and officers post building,
- ➐ At-grade car parking for both staff and visitors, increasing the total provision from 291 spaces to 454 spaces.

The above changes would ensure that the SCCC can accommodate additional offenders, increasing from 600 to 960 offenders. An increase in the number of staff on-site would also be required in response, with **Table 2** below showing the existing and proposed number of staff per shift:

Table 2: Existing & Proposed Staffing Levels - Weekday

Shift	Shift Period	Existing No. Staff	Proposed No. Staff
Morning	6:00am-4:00pm	175	215
Evening	2:00pm-10:00pm	15	23
Overnight	10:00pm-6:00am	13	21

Reference should also be made to the development drawing, prepared by Guymer Bailey Architects, which is provided in **Appendix C**. The parking requirements and traffic impacts of the proposed development are discussed in Sections 5 and 6 respectively.



5. Parking Requirements

5.1 Surveyed Parking Demand of Existing Development

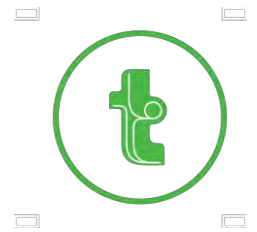
As a means of assessing the adequacy of the existing (and proposed) car parking provisions, an on-site parking survey was undertaken of the staff and visitor car parking areas. These areas are illustrated by **Figure 8** below.



Figure 8: Surveyed Staff and Visitor Car Parks

The parking survey was undertaken over a period of two days to confirm existing staff and visitor demands on both a weekday and weekend. The surveyed days and periods were considered to coincide with the typical peak period associated with staff and visitors and included:

- ② Friday 20th May 2016 between 6:00-10:00am and 2:00-6:00pm
- ② Saturday 21st May 2016 between 5:30am-2:30pm



The detailed parking survey results are included in **Appendix D**, with a summary provided in **Table 3** below:

Table 3: Surveyed Peak Parking Demand of Existing Development

Use	Weekday		Weekend	
	Surveyed Peak Demand	Spare Capacity	Surveyed Peak Demand	Spare Capacity
Staff	126 spaces	23 spaces	90 spaces	59 spaces
Visitors	38 spaces	104 spaces	40 spaces	102 spaces

It is evident from the survey results that the development generated a peak demand for 126 staff parking spaces and 40 visitor parking spaces over both a weekday and weekend. With a peak of 190 staff members on-site during shift weekday changeovers and 600 offenders, the following staff and visitor parking rates can be derived:

- ⑦ 0.66 spaces / staff member;
- ⑦ 0.07 spaces / offender.

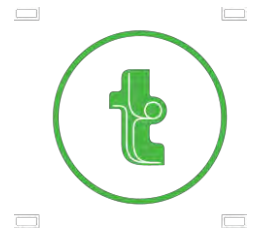
5.2 Parking Requirement of Proposed Development

Table 4 below shows the expected car parking demand of the proposed development, based on application of the above surveyed parking rates.

Table 4: Expected Parking Demand of Proposed Development

Use	Peak No. Persons On-Site	Surveyed Parking Rate	Expected Parking Demand	No. Spaces Proposed
Staff	238 staff *	0.66 spaces / staff member	157	227
Visitors	960 offenders	0.07 spaces / offender	67	227
Totals			224	454

* Note: Maximum number of staff expected on-site during shift changeover as per Table 2.



It can be seen from Table 4 that the proposed development, with 238 on-site staff (at shift changeovers) and 960 offenders, is expected to generate a peak demand for 224 parking spaces comprising 157 staff spaces and 67 visitor spaces. Notwithstanding, it is noted that the Department of Justice requires the proposed development to provide a total of 454 parking spaces comprising 227 spaces for staff and 227 spaces for visitors. In response, the development proposes a total of 454 parking spaces comprising 227 spaces for staff and 227 spaces for visitors. This level of provision therefore satisfies the requirements of the Department of Justice, as well as exceeds the expected staff and visitor parking demands using a survey based assessment.

The proposed car parking provision of 454 spaces will therefore readily accommodate all staff and visitor demands and will ensure that there is spare capacity to accommodate any non-design peaks. The proposed car parking provision is therefore considered acceptable.

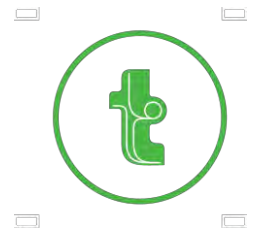
5.3 Accessible Parking

Accessible car parking is required to be provided in accordance with the Department of Justice's requirements, which at a minimum is expected to be in the order of 2.5% of the overall car parking provision. With 454 parking spaces (227 staff and 227 visitor), the proposed development is therefore expected to require a minimum of 12 accessible parking spaces (6 staff and 6 visitor). These shall be provided in accordance with the requirements of AS 2890.6 (2009).

5.4 Servicing

The SCCC have confirmed that the proposed development is expected to generate a moderate increase in demand for service vehicles, with up to 30 vehicles per day being required to access the services building / area, located at the north-eastern corner of the development. These vehicles will range from small courier trucks to large rigid trucks, which could potentially also have a bogie trailer attached.

In response, no changes are proposed to the existing services building / area, which includes a large hardstand that is able to accommodate in the order of 8 service vehicles at any one time. These existing arrangements are expected to readily accommodate the moderate increase in servicing demands resulting from the proposed development and hence, it is considered acceptable that the development rely on the existing servicing facilities.



6. Traffic Impacts

6.1 Trip Generation

As discussed in Section 3.4, traffic surveys were undertaken of the existing development to derive weekday AM and PM peak period traffic generation rates, which could be applied to the proposed development. The surveyed AM and PM peak period traffic generation rates were calculated to be as follows:

- ② 0.34 trips/hr/staff member for the AM peak period
- ② 0.36 trips/hr/staff member for the PM peak period

Application of these rates to the proposed peak number of 238 staff during the AM shift changeover and 236 staff during PM peak shift changeover (as per Table 2), results in the following traffic generation for the proposed development:

- ② 81 veh/hr (79 in, 2 out) during the AM peak period
- ② 85 veh/hr (5 in, 80 out) during the PM peak period

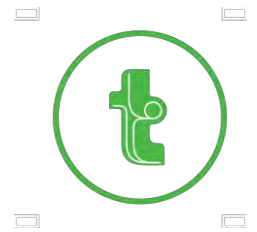
These are not a net increase however as the traffic generation of the existing development, as discussed in Section 3.4, must also be taken in consideration. IN this regard, the net increase as a result of the proposed development will therefore be as follows:

- ② 16 veh/hr (16 in, 0 out) during the AM peak period
- ② 17 veh/hr (1 in, 16 out) during the PM peak period

The above net increases are considered moderate and equate to an increase of only one additional vehicle movement every 3-4 minutes. Notwithstanding, an assessment of the expected traffic distribution and impacts on key intersections has been undertaken, as discussed below.

6.2 Traffic Distribution

The above net increases in development traffic are expected to be distributed as per the below, which have been based on an analysis of existing distributions / turning movements at the key intersection of



Princes Highway / Central Avenue. In this regard, all trips are expected to access the site via Princes Highway, with the following distribution:

- ➊ Inbound: 90% to arrive from the north, with the remaining 10% from the south,
- ➋ Outbound: 55% to depart to the north, with the remaining 45% to the south.

The resultant impact of the above distributions on the operation of key intersections is discussed below.

6.3 Traffic Impacts

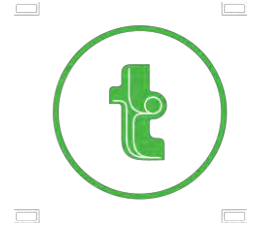
The traffic impacts of the proposed development on the performance of the key intersections of Princes Highway / Central Avenue and The Links Road / Oxford Street / Site Access have been modelled using SIDRA. The results of this modelling are summarised in **Table 5** below, with detailed SIDRA outputs included in Appendix B. Table 5 also shows the existing operation of key intersections, extracted from Table 1, for comparative purposes.

Table 5: Intersection Performances – Existing & Future

Intersection Description	Scenario	Control Type	Period	Degree of Saturation	Movement Delay	Level of Service
Princes Highway / Central Avenue	Existing	Roundabout	AM	0.056	15.8	B
			PM	0.237	39.8	C
	Future	Roundabout	AM	0.361	17.3	B
			PM	0.242	40.2	C
Oxford Street / The Links Road / Site Access	Existing	Roundabout	AM	0.041	9.2	A
			PM	0.003	9.5	A
	Future	Roundabout	AM	0.051	9.2	A
			PM	0.003	9.6	A

* Note: Results shown are for movement with the highest delay, in accordance with RMS Guidelines.

It can be seen from the Table 5 that the proposed development will have negligible impacts on the performance of both the Princes Highway / Central Avenue and Oxford Street / The Links Road / Site Access intersections. Indeed, both intersections will continue to operate with existing Levels of Service, with only minor increases to delays and degree of saturation during both peak periods. Accordingly, the traffic impacts of the development are considered acceptable, with no external upgrades required to support the increased traffic volumes.



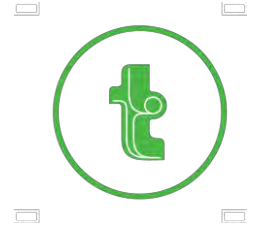
7. Access & Internal Design

7.1 Access

No changes to the access arrangements are considered to be required, nor are proposed as part of this application.

7.2 Internal Design

The internal traffic circulation and parking arrangements had not been assessed at the time this report was prepared, with this assessment to be undertaken at a later date. In any event, it is noted that the proposed internal traffic circulation and parking arrangements shall be reviewed prior to the release of a construction certificate, to confirm that compliance is achieved with the relevant requirements of AS 2890.1 (2004), AS 2890.2 (2002) and AS 2890.6 (2009).



8. Conclusions

In summary:

- ② The application seeks approval for an expansion of the existing South Coast Correctional Centre (SCCC) to include (but is not limited to), additional minimum, medium and modular security accommodation, industrial building, visits extension, staff amenities and at-grade car park for both staff and visitors. This extension would ensure that the SCCC can accommodate an increase in offender numbers from 600 to 960 offenders, which would also require an increase in the number of on-site staff.
- ② The proposed development requires a minimum of 224 parking spaces (157 staff and 67 visitor), based on surveys of the existing development and 454 parking spaces (227 staff and 227 visitor) based on Department of Justice's requirements. In response, the development proposes a total of 454 parking spaces (227 staff and 227 visitor) and therefore satisfies the requirements of the Department of Justice, as well as exceeds the expected staff and visitor parking demands using a survey based assessment. Hence, the proposed car parking provision is considered acceptable and will readily accommodate all staff and visitor demands, and ensure that there is spare capacity to accommodate any non-design peaks.
- ② The proposed development is expected to generate 81 and 85 vehicle trips per hour during the AM and PM peak periods respectively, or a net increase of 16 and 17 vehicle trips per hour during the AM and PM peak periods respectively, when the generation of the existing development is taken into consideration. The SIDRA modelling results confirm that the proposed development will have negligible impacts on the performance of key intersections which will continue to operate with existing Levels of Service and only minor increases to delays during both peak periods. Accordingly, the traffic impacts of the development are considered acceptable, with no external upgrades required to support the increased traffic volumes.
- ② No changes to the access arrangements are considered to be required, nor are proposed as part of this application. The internal traffic circulation and parking arrangements shall be reviewed prior to the release of a construction certificate, to confirm that compliance is achieved with the relevant requirements of AS 2890.1 (2004), AS 2890.2 (2002) and AS 2890.6 (2009).

The assessment satisfactorily demonstrates that the traffic generated by the additional development is supportable.

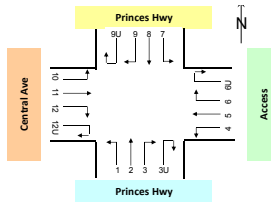


Appendix A

Traffic Survey Results

Job No. : N2386
 Client : Traffic
 Suburb : South Nowra Correction Facility
 Location : 1. Princes Hwy / Central Ave
 Day/Date : Fri, 20th May 2016
 Weather : Fine
 Description : Classified Intersection Count
 : 15 mins Data

Class 1 Class 2
 Lights Heavies

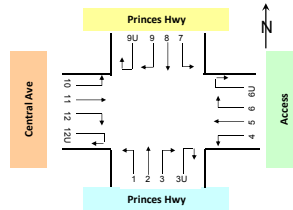


Approach	Princes Hwy												Access											
Direction	Direction 1 (Left Turn)			Direction 2 (Through)			Direction 3 (Right Turn)			Direction 3U (U Turn)			Direction 4 (Left Turn)			Direction 5 (Through)			Direction 6 (Right Turn)			Direction 6U (U Turn)		
Time Period	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total
5:30 to 5:45	8	0	8	80	7	87	1	0	1	3	0	3	0	0	0	2	0	2	3	0	3	0	0	0
5:45 to 6:00	11	0	11	99	3	102	3	0	3	3	0	3	0	0	0	0	0	0	1	1	2	0	0	0
6:00 to 6:15	4	0	4	113	6	119	1	0	1	15	0	15	1	0	1	3	0	3	7	1	8	0	0	0
6:15 to 6:30	14	0	14	163	3	166	2	0	2	9	1	10	0	0	0	4	0	4	5	0	5	0	0	0
6:30 to 6:45	24	0	24	197	6	203	3	0	3	8	2	10	0	0	0	3	0	3	3	0	3	0	0	0
6:45 to 7:00	18	3	21	206	19	225	2	0	2	6	3	9	0	0	0	5	0	5	4	0	4	0	0	0
7:00 to 7:15	11	3	14	146	10	156	1	0	1	6	3	9	0	0	0	1	0	1	6	0	6	0	0	0
7:15 to 7:30	22	1	23	197	14	211	1	0	1	4	3	7	0	0	0	2	0	2	3	1	4	0	0	0
7:30 to 7:45	18	3	21	278	5	283	2	0	2	10	0	10	0	0	0	3	1	4	3	1	4	0	0	0
7:45 to 8:00	26	1	27	321	28	349	2	0	2	12	5	17	0	0	0	2	0	2	1	0	1	0	0	0
8:00 to 8:15	22	1	23	341	14	355	0	0	0	6	1	7	0	0	0	1	0	1	4	0	4	0	0	0
8:15 to 8:30	35	5	40	364	9	373	0	0	0	8	1	9	0	0	0	4	0	4	5	0	5	0	0	0
8:30 to 8:45	33	1	34	286	15	301	2	0	2	7	2	9	1	0	1	1	0	1	1	2	3	0	0	0
8:45 to 9:00	23	3	26	276	13	289	1	0	1	5	3	8	0	0	0	1	0	1	1	2	2	0	0	0
9:00 to 9:15	26	1	27	224	10	234	1	0	1	11	1	12	0	0	0	0	0	0	5	0	5	0	0	0
9:15 to 9:30	25	5	30	220	21	241	2	0	2	6	1	7	0	0	0	6	0	6	5	0	5	0	0	0
9:30 to 9:45	28	2	30	244	20	264	0	0	0	4	3	7	1	0	1	1	0	1	2	0	2	0	0	0
9:45 to 10:00	28	5	33	183	19	202	1	0	1	5	3	8	2	0	2	0	0	0	2	0	2	0	0	0
AM Totals	386	34	420	3,938	222	4,160	25	0	25	128	32	160	5	0	5	39	1	40	61	8	69	0	0	0
14:00 to 14:15	32	5	37	164	12	176	1	0	1	2	3	5	3	0	3	4	0	4	11	0	11	0	0	0
14:15 to 14:30	29	3	32	164	15	179	1	0	1	2	0	2	0	0	0	6	0	6	3	0	3	0	0	0
14:30 to 14:45	31	1	32	203	23	226	2	1	3	2	3	5	0	0	0	2	0	2	7	0	7	0	0	0
14:45 to 15:00	15	5	20	192	16	208	1	0	1	5	2	7	2	0	2	3	1	4	6	0	6	0	0	0
15:00 to 15:15	15	2	17	208	14	222	3	0	3	1	3	4	0	0	0	6	0	6	6	0	6	0	0	0
15:15 to 15:30	16	0	16	190	21	211	2	0	2	7	2	9	0	0	0	1	1	2	7	1	8	0	0	0
15:30 to 15:45	12	2	14	186	11	197	4	0	4	4	0	4	1	0	1	6	0	6	9	0	9	0	0	0
15:45 to 16:00	15	3	18	194	14	208	2	0	2	6	0	6	0	0	0	1	0	1	7	0	7	0	0	0
16:00 to 16:15	15	2	17	165	19	184	5	0	5	3	0	3	0	0	0	1	0	1	5	0	5	0	0	0
16:15 to 16:30	15	0	15	175	8	183	2	0	2	3	0	3	1	0	1	2	0	2	12	0	12	0	0	0
16:30 to 16:45	15	0	15	163	9	172	2	0	2	4	0	4	0	0	0	3	0	3	11	0	11	0	0	0
16:45 to 17:00	8	1	9	164	11	175	2	1	3	2	0	2	1	0	1	1	0	1	7	0	7	0	0	0
17:00 to 17:15	5	0	5	164	4	168	3	0	3	2	0	2	1	0	1	2	0	2	8	1	9	0	0	0
17:15 to 17:30	5	0	5	141	4	145	2	0	2	2	0	2	0	0	0	0	0	10	0	10	0	0	0	0
17:30 to 17:45	1	1	2	152	2	154	1	0	1	2	0	2	2	0	2	2	0	2	4	0	4	0	0	0
17:45 to 18:00	5	1	6	122	8	130	4	0	4	2	0	2	1	0	1	0	0	0	7	0	7	0	0	0
PM Totals	234	26	260	2,747	191	2,938	37	2	39	49	13	62	12	0	12	40	2	42	120	2	122	6	0	0

Approach	Princes Hwy												Central Ave											
Direction	Direction 7 (Left Turn)			Direction 8 (Through)			Direction 9 (Right Turn)			Direction 9U (U Turn)			Direction 10 (Left Turn)			Direction 11 (Through)			Direction 12 (Right Turn)			Direction 12U (U Turn)		
Time Period	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total
5:30 to 5:45	1	0	1	23	7	30	7	1	8	0	0	0	3	0	3	1	0	1	0	5	5	0	0	0
5:45 to 6:00	0	0	0	33	6	39	4	0	4	0	0	0	8	0	8	0	0	0	10	1	11	0	0	0
6:00 to 6:15	1	0	1	41	10	51	3	0	3	3	0	3	1	0	1	0	0	0	5	4	9	0	0	0
6:15 to 6:30	1	2	3	61	10	71	14	0	14	0	0	0	5	1	6	0	0	0	6	5	11	0	0	0
6:30 to 6:45	5	1	6	94	18	112	24	0	24	1	0	1	7	1	8	1	0	1	9	3	12	0	0	0
6:45 to 7:00	1	0	1	99	14	113	22	0	22	5	1	6	6	1	7	0	0	0	14	9	23	0	0	0
7:00 to 7:15	2	0	2	88	21	109	7	1	8	9	5	14	5	6	11	0	0	0	9	7	16	0	0	0
7:15 to 7:30	4	0	4	108	13	121	8	3	11	7	2	9	8	5	13	1	0	1	9	7	16	0	0	0
7:30 to 7:45	1	0	1	80	17	97	18	1	19	5	2	7	9	1	10	0	0	0	7	5	12	0	0	0
7:45 to 8:00	0	0	0	109	22	131	19	0	19	13	5	18	12	1	13	1	0	1	16	1	17	0	0	0
8:00 to 8:15	0	0	0	113	21	134	17	2	19	16	1	17	7	4	11	0	0	0	12	2	14	0	0	0
8:15 to 8:30	5	1	6	140	13	153	37	1	38	19	3	22	16	0	16	0	0	0	17	4	21	0	0	0
8:30 to 8:45	5	1	6	128	18	146	30	1	31	10	3	13	20	4	24	0	0	0	19	4	23	0	0	0
8:45 to 9:00	2	0	2	118	18	136	39	4	43	13	0	13	28	4	32	1	0	1	17	1	18	0	0	0
9:00 to 9:15	5	0	5	128	19	147	28	2	30	18	1	19	31	4	35	0	0	0	17	2	19	0	0	0
9:15 to 9:30	4	0	4	115	13	128	46	3	49	19	4	23	39	2	41	0	0	0	15	2	17	0	0	0
9:30 to 9:45	3	0	3	153	25	178	42	2	44	27	0	27	42	4	46	0	0	0	20	4	24	0	0	0
9:45 to 10:00	2	0	2	133	16	149	49	0	49	29	4	33	52	4	56	0	0	0	22	3	25	0	0	0
PM Totals	42	5	47	1,764	281	2,045	414	21	435	194	31	225	299	42	341	5	0	5	224	69	293	0	0	0
14:00 to 14:15	13	0	13	245	17	262	39	1	40	27	0	27	68	4	72	1	0	1	35	4	39	0	0	0
14:15 to 14:30	7	0	7	284	26	310	51	5	56	33	1	34	72	3	75	0	0	0	41	3	44	0	0	0
14:30 to 14:45	6	0	6	263	21	284	38	2	40	31	1	32	62	2	64	3	0	3	54	2	56	0	0	0
14:45 to 15:00	5	0	5	283	24	307	42	2	44	25	1	26	86	0	86	3	0	3	59	2	61	0	0	0
15:00 to 15:15	12	0	12	335	24	359	45	1	46	23	0	23	63	3	66	2	0	2	57	0	57	0	0	0
15:15 to 15:30	9	0	9	280	21	301	32	2	34	24	1	25	63	1	64	3	0	3	64	1	65	0	0	0
15:30 to 15:45	14	0	14	288	25	313	43	0	43	24	2	26	56	1	57	4	0	4	65	1	66	0	0	0
15:45 to 16:00	11	0	11	289	18	307	35	0	35	31	1	32	51	1	52	6	0	6	74	1	75	0	0	0
16:00 to 16:15	8	0	8	325	15	340	24	1	25	31	3	34	53	3	56	2	0	2	79	2	81	1	0	1
16:15 to 16:30	4	0	4	304	16	320	38	0	38	19	2	21	45	1	46	4	0	4	59	1	60	0	0	0
16:30 to 16:45	5	0	5	310	14	324	25	1	26	24	0	24	50	1	51	1	0	1	61	1	62	0	0	0
16:45 to 17:00	13	0	13	284	9	293	20	0	20	20	0	20	32	0	32	3	0	3	57	4	61	0	0	0
17:00 to 17:15	3	0	3	300	15	315	15	0	15	25	1	26	35	0	35	6	0	6	66	3	69	0	0	0
17:15 to 17:30	12	0	12	291	8	299	15	0	15	4	0	4	22	0	22	1	0	1	58	1	59	0	0	0
17:30 to 17:45	10	0	10	263	10	273	7	0	7	12	0	12	45	0	45	0	0	0	33	1	34	0	0	0
17:45 to 18:00	4	0	4	255	12	267	3	0	3	5	0	5	14	0	14	3	0	3	11	0	11	0	0	0
PM Totals	136	0	136	4,599	275	4,874	472	15	487	358	13	371	817	20	837	42	0	42	873	27	900	1	0	1

Job No. : N2386
Client : Traffix
Suburb : South Nowra Correction Facility
Location : 1. Princes Hwy / Central Ave

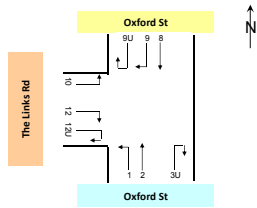
Day/Date : Fri, 20th May 2016
Weather : Fine
Description : Classified Intersection Count
Hourly Summary



Approach	Princes Hwy												Access											
Direction	Direction 1 (Left Turn)			Direction 2 (Through)			Direction 3 (Right Turn)			Direction 3U (U Turn)			Direction 4 (Left Turn)			Direction 5 (Through)			Direction 6 (Right Turn)			Direction 6U (U Turn)		
Time Period	Lights	Heavy's	Total	Lights	Heavy's	Total	Lights	Heavy's	Total	Lights	Heavy's	Total	Lights	Heavy's	Total	Lights	Heavy's	Total	Lights	Heavy's	Total	Lights	Heavy's	Total
5:30 to 6:30	37	0	37	455	19	474	7	0	7	30	1	31	1	0	1	9	0	9	16	2	18	0	0	0
5:45 to 6:45	53	0	53	572	18	590	9	0	9	35	3	38	1	0	1	10	0	10	16	2	18	0	0	0
6:00 to 7:00	60	3	63	679	34	713	8	0	8	38	6	44	1	0	1	15	0	15	19	1	20	0	0	0
6:15 to 7:15	67	6	73	712	38	750	8	0	8	29	9	38	0	0	0	13	0	13	18	0	18	0	0	0
6:30 to 7:30	75	7	82	746	49	795	7	0	7	24	11	35	0	0	0	11	0	11	16	1	17	0	0	0
6:45 to 7:45	69	10	79	827	48	875	6	0	6	26	9	35	0	0	0	11	1	12	16	2	18	0	0	0
7:00 to 8:00	77	8	85	942	57	999	6	0	6	32	11	43	0	0	0	8	1	9	13	2	15	0	0	0
7:15 to 8:15	88	6	94	1,137	61	1,198	5	0	5	32	9	41	0	0	0	8	1	9	11	2	13	0	0	0
7:30 to 8:30	101	10	111	1,304	56	1,360	4	0	4	36	7	43	0	0	0	10	1	11	13	1	14	0	0	0
7:45 to 8:45	116	8	124	1,312	66	1,378	4	0	4	33	9	42	1	0	1	8	0	8	11	2	13	0	0	0
8:00 to 9:00	123	10	133	1,267	51	1,318	3	0	3	26	7	33	1	0	1	7	0	7	11	4	15	0	0	0
8:15 to 9:15	127	10	137	1,150	47	1,197	4	0	4	31	7	38	1	0	1	6	0	6	12	4	16	0	0	0
8:30 to 9:30	117	10	127	1,006	59	1,065	6	0	6	29	7	36	1	0	1	8	0	8	12	4	16	0	0	0
8:45 to 9:45	112	11	123	964	64	1,028	4	0	4	26	8	34	1	0	1	8	0	8	13	2	15	0	0	0
9:00 to 10:00	107	13	120	871	70	941	4	0	4	26	8	34	3	0	3	7	0	7	14	0	14	0	0	0
AM Totals	386	34	420	3,938	222	4,160	25	0	25	128	32	160	5	0	5	39	1	40	61	8	69	0	0	0
14:00 to 15:00	107	14	121	723	66	789	5	1	6	11	8	19	5	0	5	15	1	16	27	0	27	0	0	0
14:15 to 15:15	90	11	101	767	68	835	7	1	8	10	8	18	2	0	2	17	1	18	22	0	22	0	0	0
14:30 to 15:30	77	8	85	793	74	867	8	1	9	15	10	25	2	0	2	12	2	14	26	1	27	0	0	0
14:45 to 15:45	58	9	67	776	62	838	10	0	10	17	7	24	3	0	3	16	2	18	28	1	29	0	0	0
15:00 to 16:00	58	7	65	778	60	838	11	0	11	18	5	23	1	0	1	14	1	15	29	1	30	0	0	0
15:15 to 16:15	58	7	65	735	65	800	13	0	13	20	2	22	1	0	1	9	1	10	28	1	29	0	0	0
15:30 to 16:30	57	7	64	720	52	772	13	0	13	16	0	16	2	0	2	10	0	10	33	0	33	0	0	0
15:45 to 16:45	60	5	65	697	50	747	11	0	11	16	0	16	1	0	1	7	0	7	35	0	35	0	0	0
16:00 to 17:00	53	3	56	667	47	714	11	1	12	12	0	12	2	0	2	7	0	7	35	0	35	0	0	0
16:15 to 17:15	43	1	44	666	32	698	9	1	10	11	0	11	3	0	3	8	0	8	38	1	39	0	0	0
16:30 to 17:30	33	1	34	632	28	660	9	1	10	10	0	10	2	0	2	6	0	6	36	1	37	0	0	0
16:45 to 17:45	19	2	21	621	21	642	8	1	9	8	0	8	4	0	4	5	0	5	29	1	30	0	0	0
17:00 to 18:00	16	2	18	579	18	597	10	0	10	8	0	8	4	0	4	4	0	4	29	1	30	0	0	0
PM Totals	234	26	260	2,747	191	2,938	37	2	39	45	13	62	12	0	12	40	2	42	120	2	122	0	0	0

Approach	Princes Hwy												Central Ave											
Direction	Direction 7 (Left Turn)			Direction 8 (Through)			Direction 9 (Right Turn)			Direction 9U (U Turn)			Direction 10 (Left Turn)			Direction 11 (Through)			Direction 12 (Right Turn)			Direction 12U (U Turn)		
Time Period	Lights	Heavy's	Total	Lights	Heavy's	Total	Lights	Heavy's	Total	Lights	Heavy's	Total	Lights	Heavy's	Total	Lights	Heavy's	Total	Lights	Heavy's	Total	Lights	Heavy's	Total
5:30 to 6:30	3	2	5	158	33	191	28	1	29	3	0	3	17	1	18	1	0	1	21	15	36	0	0	0
5:45 to 6:45	7	3	10	229	44	273	45	0	45	4	0	4	21	2	23	1	0	1	30	13	43	0	0	0
6:00 to 7:00	8	3	11	295	52	347	63	0	63	9	1	10	19	3	22	1	0	1	34	21	55	0	0	0
6:15 to 7:15	9	3	12	342	63	405	67	1	68	15	6	21	23	9	32	1	0	1	38	24	62	0	0	0
6:30 to 7:30	12	1	13	389	66	455	61	4	65	22	8	30	26	13	39	2	0	2	41	26	67	0	0	0
6:45 to 7:45	8	0	8	375	65	440	55	5	60	26	10	36	28	13	41	1	0	1	39	28	67	0	0	0
7:00 to 8:00	7	0	7	385	73	458	52	5	57	34	14	48	34	13	47	2	0	2	41	20	61	0	0	0
7:15 to 8:15	5	0	5	410	73	483	62	6	68	41	10	51	36	11	47	2	0	2	44	15	59	0	0	0
7:30 to 8:30	6	1	7	442	73	515	91	4	95	53	11	64	44	6	50	1	0	1	52	12	64	0	0	0
7:45 to 8:45	10	2	12	490	74	564	103	4	107	58	12	70	55	9	64	1	0	1	64	11	75	0	0	0
8:00 to 9:00	12	2	14	499	70	569	123	8	131	58	7	65	71	12	83	1	0	1	65	11	76	0	0	0
8:15 to 9:15	17	2	19	514	68	582	134	8	142	60	7	67	95	12	107	1	0	1	70	11	81	0	0	0
8:30 to 9:30	16	1	17	489	68	557	143	10	153	60	8	68	118	14	132	1	0	1	68	9	77	0	0	0
8:45 to 9:45	14	0	14	514	75	589	155	11	166	77	5	82	140	14	154	1	0	1	69	9	78	0	0	0
9:00 to 10:00	14	0	14	529	73	602	165	7	172	93	9	102	164	14	178	0	0	0	74	11	85	0	0	0
AM Totals	42	5	47	1,764	281	2,045	414	21	435	194	31	225	299	42	341	5	0	5	224	69	293	0	0	0
14:00 to 15:00	31	0	31	1,075	88	1,163	170	10	180	116	3	119	288	9	297	7	0	7	189	11	200	0	0	0
14:15 to 15:15	30	0	30	1,165	95	1,260	176	10	186	112	3	115	283	8	291	8	0	8	211	7	218	0	0	0
14:30 to 15:30	32	0	32	1,161	90	1,251	157	7	164	103	3	106	274	6	280	11	0	11	234	5	239	0	0	0
14:45 to 15:45	40	0	40	1,186	94	1,280	162	5	167	96	4	100	268	5	273	12	0	12	245	4	249	0	0	0
15:00 to 16:00	46	0	46	1,192	88	1,280	155	3	158	102	4	106	233	6	239	15	0	15	260	3	263	0	0	0
15:15 to 16:15	42	0	42	1,182	79	1,261	134	3	137	110	7	117	223	6	229	15	0	15	282	5	287	1	0	1
15:30 to 16:30	37	0	37	1,206	74	1,280	140	1	141	105	8	113	205	6	211	16	0	16	277	5	282	1	0	1
15:45 to 16:45	28	0	28	1,228	63	1,291	122	2	124	105	6	111	199	6	205	13	0	13	273	5	278	1	0	1
16:00 to 17:00	30	0	30	1,223	54	1,277	107	2	109	94	5	99	180	5	185	10	0	10	256	8	264	1	0	1
16:15 to 17:15	25	0	25	1,198	54	1,252	98	1	99	88	3	91	162	2	164	14	0	14	243	9	252	0	0	0
16:30 to 17:30	33	0	33	1,185	46	1,231	75	1	76	73	1	74	139	1	140	11	0	11	242	9	251	0	0	0
16:45 to 17:45	38	0	38	1,138	42	1,180	57	0	57	61	1	62	134	0	134	10	0	10	214	9	223	0	0	0
17:00 to 18:00	29	0	29	1,109	45	1,154	40	0	40	46	1	47	116	0	116	10	0	10	168	5	173	0	0	0
PM Totals	136	0	136	4,599	275	4,874	472	15	487	358	13	371	817	20	837	42	0	42	873	27	900	1	0	1

Job No. : N2386
 Client : Traffix
 Suburb : South Nowra Correction Facility
 Location : 2. Oxford St / The Links Rd
 Day/Date : Fri, 20th May 2016
 Weather : Fine
 Description : Classified Intersection Count
 : 15 mins Data

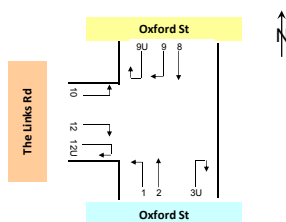


Classifications	Class 1	Class 2
	Lights	Heavies

Approach		Oxford St									
Direction	Time Period	Direction 1 (Left Turn)			Direction 2 (Through)			Direction 3U (U Turn)			Total
		Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	
5:30 to 5:45	0	0	0	0	3	0	3	0	0	0	3
5:45 to 6:00	0	0	0	0	5	0	5	0	0	0	5
6:00 to 6:15	0	0	0	0	0	0	0	0	0	0	0
6:15 to 6:30	0	0	0	0	1	0	1	0	0	0	1
6:30 to 6:45	0	0	0	0	1	0	1	0	0	0	1
6:45 to 7:00	0	0	0	0	0	0	0	0	0	0	0
7:00 to 7:15	0	0	0	0	1	0	1	0	0	0	1
7:15 to 7:30	0	0	0	0	0	0	0	0	0	0	0
7:30 to 7:45	0	0	0	0	1	0	1	0	0	0	1
7:45 to 8:00	0	0	0	0	0	0	0	0	0	0	0
8:00 to 8:15	0	0	0	0	0	0	0	0	0	0	0
8:15 to 8:30	0	0	0	0	1	0	1	0	0	0	1
8:30 to 8:45	0	0	0	0	1	1	2	0	0	0	2
8:45 to 9:00	0	0	0	0	0	0	0	0	0	0	0
9:00 to 9:15	0	0	0	0	3	0	3	0	0	0	3
9:15 to 9:30	0	0	0	0	0	1	1	0	0	0	1
9:30 to 9:45	0	0	0	0	1	0	1	0	0	0	1
9:45 to 10:00	0	0	0	0	1	2	3	0	0	0	3
AM Totals	0	0	0	0	19	4	23	0	0	0	23
14:00 to 14:15	0	0	0	0	15	0	15	0	0	0	15
14:15 to 14:30	0	0	0	0	14	0	14	0	0	0	14
14:30 to 14:45	0	0	0	0	19	0	19	0	0	0	19
14:45 to 15:00	0	0	0	0	16	0	16	0	0	0	16
15:00 to 15:15	0	0	0	0	11	0	11	0	0	0	11
15:15 to 15:30	0	0	0	0	8	0	8	0	0	0	8
15:30 to 15:45	0	0	0	0	3	0	3	0	0	0	3
15:45 to 16:00	0	0	0	0	30	0	30	0	0	0	30
16:00 to 16:15	0	0	0	0	12	0	12	0	0	0	12
16:15 to 16:30	0	0	0	0	8	0	8	0	0	0	8
16:30 to 16:45	0	0	0	0	3	0	3	0	0	0	3
16:45 to 17:00	0	0	0	0	3	0	3	0	0	0	3
17:00 to 17:15	0	0	0	0	2	0	2	0	0	0	2
17:15 to 17:30	0	0	0	0	2	0	2	0	0	0	2
17:30 to 17:45	0	0	0	0	7	0	7	0	0	0	7
17:45 to 18:00	0	0	0	0	1	0	1	0	0	0	1
PM Totals	0	0	0	0	154	0	154	0	0	0	154

Approach		Oxford St									The Links Rd								
Direction	Time Period	Direction 8 (Through)			Direction 9 (Right Turn)			Direction 9U (U Turn)			Direction 10 (Left Turn)			Direction 12 (Right Turn)			Direction 12U (U Turn)		
		Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total	Lights	Heavies	Total
5:30 to 5:45	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 to 6:00	2	0	2	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0
6:00 to 6:15	2	0	2	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0
6:15 to 6:30	11	0	11	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 to 6:45	16	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 to 7:00	19	0	19	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
7:00 to 7:15	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 to 7:30	12	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 to 7:45	19	1	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 to 8:00	15	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 to 8:15	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 to 8:30	8	0	8	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
8:30 to 8:45	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 to 9:00	4	0	4	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
9:00 to 9:15	7	0	7	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
9:15 to 9:30	2	1	3	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
9:30 to 9:45	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 to 10:00	6	2	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM Totals	146	4	150	1	0	1	1	0	1	8	0	8	0	0	0	0	0	0	0
14:00 to 14:15	1	0	1	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0
14:15 to 14:30	1	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
14:30 to 14:45	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 to 15:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 to 15:15	1	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
15:15 to 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 to 15:45	0	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0
15:45 to 16:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00 to 16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15 to 16:30	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30 to 16:45	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45 to 17:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00 to 17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15 to 17:30	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
17:30 to 17:45	0	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0
17:45 to 18:00	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
PM Totals	12	0	12	4	0	4	1	0	1	5	0	5	0	0	0	0	0	0	0

Day/Date : Fri, 20th May 2016
Weather : Fine
Description : Classified Intersection Count
: Hourly Summary



Approach	Oxford St											
Direction	Direction 1 (Left Turn)			Direction 2 (Through)						Direction 3U (U Turn)		
Time Period	Lights	Heavies	Total	Lights	Heavies	Total				Lights	Heavies	Total
5:30 to 6:30	0	0	0	9	0	9				0	0	0
5:45 to 6:45	0	0	0	7	0	7				0	0	0
6:00 to 7:00	0	0	0	2	0	2				0	0	0
6:15 to 7:15	0	0	0	3	0	3				0	0	0
6:30 to 7:30	0	0	0	2	0	2				0	0	0
6:45 to 7:45	0	0	0	2	0	2				0	0	0
7:00 to 8:00	0	0	0	2	0	2				0	0	0
7:15 to 8:15	0	0	0	1	0	1				0	0	0
7:30 to 8:30	0	0	0	2	0	2				0	0	0
7:45 to 8:45	0	0	0	2	1	3				0	0	0
8:00 to 9:00	0	0	0	2	1	3				0	0	0
8:15 to 9:15	0	0	0	5	1	6				0	0	0
8:30 to 9:30	0	0	0	4	2	6				0	0	0
8:45 to 9:45	0	0	0	4	1	5				0	0	0
9:00 to 10:00	0	0	0	5	3	8				0	0	0
AM Totals	0	0	0	19	4	23				0	0	0
14:00 to 15:00	0	0	0	64	0	64				0	0	0
14:15 to 15:15	0	0	0	60	0	60				0	0	0
14:30 to 15:30	0	0	0	54	0	54				0	0	0
14:45 to 15:45	0	0	0	38	0	38				0	0	0
15:00 to 16:00	0	0	0	52	0	52				0	0	0
15:15 to 16:15	0	0	0	53	0	53				0	0	0
15:30 to 16:30	0	0	0	53	0	53				0	0	0
15:45 to 16:45	0	0	0	53	0	53				0	0	0
16:00 to 17:00	0	0	0	26	0	26				0	0	0
16:15 to 17:15	0	0	0	16	0	16				0	0	0
16:30 to 17:30	0	0	0	10	0	10				0	0	0
16:45 to 17:45	0	0	0	14	0	14				0	0	0
17:00 to 18:00	0	0	0	12	0	12				0	0	0
PM Totals	0	0	0	154	0	154				0	0	0

Approach	Oxford St									The Links Rd								
Direction	Direction 8 (Through)			Direction 9 (Right Turn)			Direction 9U (U Turn)			Direction 10 (Left Turn)			Direction 12 (Right Turn)			Direction 12U (U Turn)		
	lights	Heavy	Total	lights	Heavy	Total	lights	Heavy	Total	lights	Heavy	Total	lights	Heavy	Total	lights	Heavy	Total
Time Period																		
5:30 to 6:30	18	0	18	1	0	1	0	0	0	4	0	4	0	0	0	0	0	0
6:45 to 7:45	31	0	31	1	0	1	0	0	0	4	0	4	0	0	0	0	0	0
8:00 to 7:00	48	0	48	1	0	1	0	0	0	3	0	3	0	0	0	0	0	0
6:15 to 7:15	54	0	54	1	0	1	0	0	0	1	0	1	0	0	0	0	0	0
6:30 to 7:30	55	0	55	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
6:45 to 7:45	58	1	59	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
7:00 to 8:00	54	1	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 to 8:15	52	1	53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 to 8:30	48	1	49	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
7:45 to 8:45	33	0	33	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
8:00 to 9:00	22	0	22	0	0	0	1	0	1	1	0	1	0	0	0	0	0	0
8:15 to 9:15	23	0	23	0	0	0	1	0	1	2	0	2	0	0	0	0	0	0
8:30 to 9:30	17	1	18	0	0	0	1	0	1	2	0	2	0	0	0	0	0	0
8:45 to 9:45	15	1	16	0	0	0	1	0	1	2	0	2	0	0	0	0	0	0
9:00 to 10:00	17	3	20	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0
AM Totals	146	4	150	1	0	1	1	0	1	8	0	8	0	0	0	0	0	0
14:00 to 15:00	4	0	4	1	0	1	1	0	1	1	0	1	0	0	0	0	0	0
14:15 to 15:15	4	0	4	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0
14:30 to 15:30	3	0	3	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
14:45 to 15:45	2	0	2	1	0	1	0	0	0	2	0	2	0	0	0	0	0	0
15:00 to 16:00	2	0	2	1	0	1	0	0	0	2	0	2	0	0	0	0	0	0
15:15 to 16:15	1	0	1	1	0	1	0	0	0	1	0	1	0	0	0	0	0	0
15:30 to 16:30	3	0	3	1	0	1	0	0	0	1	0	1	0	0	0	0	0	0
15:45 to 16:45	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00 to 17:00	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15 to 17:15	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30 to 17:30	3	0	3	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0



Appendix B

SIDRA Outputs

MOVEMENT SUMMARY

Site: 2 [AM EX Oxford Street - The Links Road]

Oxford Street / The Links Road
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Oxford Street											
1	L2	1	0.0	0.004	5.7	LOS A	0.0	0.1	0.03	0.61	52.4
1a	L1	2	0.0	0.004	4.5	LOS A	0.0	0.1	0.03	0.61	52.8
3u	U	1	0.0	0.004	9.2	LOS A	0.0	0.1	0.03	0.61	53.2
Approach		4	0.0	0.004	6.0	LOS A	0.0	0.1	0.03	0.61	52.8
NorthWest: Oxford Street											
29a	R1	61	0.0	0.041	7.2	LOS A	0.2	1.3	0.03	0.64	52.2
29b	R3	1	0.0	0.041	8.1	LOS A	0.2	1.3	0.03	0.64	52.2
29u	U	1	0.0	0.041	9.2	LOS A	0.2	1.3	0.03	0.64	52.4
Approach		63	0.0	0.041	7.3	LOS A	0.2	1.3	0.03	0.64	52.2
West: The Links Road											
10b	L3	1	0.0	0.002	4.8	LOS A	0.0	0.1	0.04	0.64	52.1
12	R2	1	0.0	0.002	8.1	LOS A	0.0	0.1	0.04	0.64	52.8
12u	U	1	0.0	0.002	9.2	LOS A	0.0	0.1	0.04	0.64	53.0
Approach		3	0.0	0.002	7.4	LOS A	0.0	0.1	0.04	0.64	52.6
All Vehicles		71	0.0	0.041	7.2	LOS A	0.2	1.3	0.03	0.64	52.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Organisation: TRAFFIX | Processed: Wednesday, 6 July 2016 2:29:59 PM

Project: \\192.168.3.1\tdata\Synergy\Projects\16\16.101\Modelling\16.101s01v03.sip7

MOVEMENT SUMMARY

Site: 2 [PM EX Oxford Street - The Links Road]

Oxford Street / The Links Road
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Oxford Street											
1	L2	1	0.0	0.050	5.7	LOS A	0.2	1.6	0.03	0.54	53.5
1a	L1	67	0.0	0.050	4.5	LOS A	0.2	1.6	0.03	0.54	53.9
3u	U	1	0.0	0.050	9.2	LOS A	0.2	1.6	0.03	0.54	54.4
Approach		69	0.0	0.050	4.6	LOS A	0.2	1.6	0.03	0.54	53.9
NorthWest: Oxford Street											
29a	R1	4	0.0	0.005	7.2	LOS A	0.0	0.2	0.03	0.66	51.9
29b	R3	1	0.0	0.005	8.1	LOS A	0.0	0.2	0.03	0.66	51.9
29u	U	1	0.0	0.005	9.2	LOS A	0.0	0.2	0.03	0.66	52.1
Approach		6	0.0	0.005	7.7	LOS A	0.0	0.2	0.03	0.66	51.9
West: The Links Road											
10b	L3	1	0.0	0.003	5.1	LOS A	0.0	0.1	0.21	0.59	51.6
12	R2	1	0.0	0.003	8.5	LOS A	0.0	0.1	0.21	0.59	52.4
12u	U	1	0.0	0.003	9.5	LOS A	0.0	0.1	0.21	0.59	52.6
Approach		3	0.0	0.003	7.7	LOS A	0.0	0.1	0.21	0.59	52.2
All Vehicles		79	0.0	0.050	5.0	LOS A	0.2	1.6	0.04	0.55	53.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [AM EX Princes Highway - Central Avenue]

Princes Highway / Central Avenue
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
SouthEast: Princes Highway											
21a	L1	131	6.5	0.621	5.3	LOS A	5.7	42.0	0.61	0.64	55.2
23a	R1	1451	4.8	0.621	9.5	LOS A	5.7	42.0	0.62	0.66	55.3
23b	R3	4	0.0	0.621	11.7	LOS A	5.6	40.9	0.65	0.68	33.2
23u	U	44	21.4	0.621	13.3	LOS A	5.6	40.9	0.65	0.68	56.6
Approach		1629	5.4	0.621	9.2	LOS A	5.7	42.0	0.62	0.66	55.3
East: Hingy Jack's Private Access											
4b	L3	1	0.0	0.056	7.7	LOS A	0.2	1.5	0.61	0.83	52.0
5	T1	8	0.0	0.056	9.1	LOS A	0.2	1.5	0.61	0.83	46.6
6	R2	14	15.4	0.056	14.5	LOS B	0.2	1.5	0.61	0.83	48.0
6u	U	1	0.0	0.056	15.8	LOS B	0.2	1.5	0.61	0.83	8.7
Approach		24	8.7	0.056	12.4	LOS A	0.2	1.5	0.61	0.83	45.0
North: Princes Highway											
7	L2	13	16.7	0.297	5.0	LOS A	2.0	15.5	0.37	0.46	52.0
7a	L1	594	13.1	0.297	4.5	LOS A	2.0	15.5	0.37	0.49	56.9
9	R2	113	3.7	0.297	9.6	LOS A	1.9	14.9	0.39	0.58	54.2
9u	U	74	17.1	0.297	12.0	LOS A	1.9	14.9	0.39	0.58	55.2
Approach		793	12.2	0.297	6.0	LOS A	2.0	15.5	0.38	0.51	56.5
West: Central Avenue											
10	L2	67	14.1	0.356	11.0	LOS A	1.7	13.3	0.80	0.94	50.0
11	T1	1	0.0	0.356	10.5	LOS A	1.7	13.3	0.80	0.94	20.5
12a	R1	79	14.7	0.356	14.9	LOS B	1.7	13.3	0.80	0.94	53.5
12u	U	1	0.0	0.356	17.3	LOS B	1.7	13.3	0.80	0.94	51.2
Approach		148	14.2	0.356	13.1	LOS A	1.7	13.3	0.80	0.94	51.9
All Vehicles		2595	8.0	0.621	8.5	LOS A	5.7	42.0	0.56	0.63	55.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [PM EX Princes Highway - Central Avenue]

Princes Highway / Central Avenue
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
SouthEast: Princes Highway											
21a	L1	106	10.9	0.467	5.9	LOS A	3.8	28.4	0.69	0.71	55.1
23a	R1	879	8.1	0.467	10.1	LOS A	3.8	28.4	0.70	0.73	55.1
23b	R3	8	12.5	0.467	12.6	LOS A	3.5	26.8	0.71	0.76	33.1
23u	U	19	44.4	0.467	14.8	LOS B	3.5	26.8	0.71	0.76	56.1
Approach		1013	9.1	0.467	9.7	LOS A	3.8	28.4	0.70	0.73	54.9
East: Hingy Jack's Private Access											
4b	L3	2	0.0	0.237	13.0	LOS A	0.9	6.8	0.87	0.95	48.5
5	T1	19	5.6	0.237	17.0	LOS B	0.9	6.8	0.87	0.95	40.6
6	R2	23	0.0	0.237	21.0	LOS B	0.9	6.8	0.87	0.95	43.3
6u	U	1	100.0	0.237	39.8	LOS C	0.9	6.8	0.87	0.95	8.0
Approach		45	4.7	0.237	19.5	LOS B	0.9	6.8	0.87	0.95	41.3
North: Princes Highway											
7	L2	32	0.0	0.700	6.7	LOS A	8.4	62.8	0.80	0.69	50.3
7a	L1	1326	7.5	0.700	6.8	LOS A	8.5	62.5	0.81	0.72	55.9
9	R2	196	5.4	0.700	12.5	LOS A	8.5	62.5	0.83	0.78	52.8
9u	U	121	2.6	0.700	14.6	LOS B	8.5	62.5	0.83	0.78	54.4
Approach		1675	6.8	0.700	8.1	LOS A	8.5	62.8	0.81	0.73	55.6
West: Central Avenue											
10	L2	306	2.7	0.914	24.0	LOS B	11.6	83.4	0.96	1.41	43.7
11	T1	8	0.0	0.914	24.1	LOS B	11.6	83.4	0.96	1.41	18.4
12a	R1	229	3.2	0.914	27.9	LOS B	11.6	83.4	0.96	1.41	48.7
12u	U	1	0.0	0.914	30.9	LOS C	11.6	83.4	0.96	1.41	43.5
Approach		545	2.9	0.914	25.6	LOS B	11.6	83.4	0.96	1.41	45.8
All Vehicles		3278	6.8	0.914	11.7	LOS A	11.6	83.4	0.80	0.84	53.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [AM EX +FU Oxford Street - The Links Road]

Oxford Street / The Links Road
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Oxford Street											
1	L2	1	0.0	0.004	5.7	LOS A	0.0	0.1	0.03	0.61	52.4
1a	L1	2	0.0	0.004	4.5	LOS A	0.0	0.1	0.03	0.61	52.8
3u	U	1	0.0	0.004	9.2	LOS A	0.0	0.1	0.03	0.61	53.2
Approach		4	0.0	0.004	6.0	LOS A	0.0	0.1	0.03	0.61	52.8
NorthWest: Oxford Street											
29a	R1	78	0.0	0.051	7.2	LOS A	0.2	1.6	0.03	0.64	52.2
29b	R3	1	0.0	0.051	8.1	LOS A	0.2	1.6	0.03	0.64	52.2
29u	U	1	0.0	0.051	9.2	LOS A	0.2	1.6	0.03	0.64	52.4
Approach		80	0.0	0.051	7.3	LOS A	0.2	1.6	0.03	0.64	52.2
West: The Links Road											
10b	L3	1	0.0	0.002	4.8	LOS A	0.0	0.1	0.04	0.64	52.1
12	R2	1	0.0	0.002	8.1	LOS A	0.0	0.1	0.04	0.64	52.8
12u	U	1	0.0	0.002	9.2	LOS A	0.0	0.1	0.04	0.64	53.0
Approach		3	0.0	0.002	7.4	LOS A	0.0	0.1	0.04	0.64	52.6
All Vehicles		87	0.0	0.051	7.2	LOS A	0.2	1.6	0.03	0.64	52.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 **Site: 2 [PM EX +FU Oxford Street - The Links Road]**

Oxford Street / The Links Road
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Oxford Street											
1	L2	1	0.0	0.062	5.7	LOS A	0.3	2.0	0.03	0.54	53.5
1a	L1	85	0.0	0.062	4.5	LOS A	0.3	2.0	0.03	0.54	53.9
3u	U	1	0.0	0.062	9.2	LOS A	0.3	2.0	0.03	0.54	54.4
Approach		87	0.0	0.062	4.6	LOS A	0.3	2.0	0.03	0.54	53.9
NorthWest: Oxford Street											
29a	R1	5	0.0	0.005	7.2	LOS A	0.0	0.2	0.03	0.65	51.9
29b	R3	1	0.0	0.005	8.1	LOS A	0.0	0.2	0.03	0.65	52.0
29u	U	1	0.0	0.005	9.2	LOS A	0.0	0.2	0.03	0.65	52.2
Approach		7	0.0	0.005	7.6	LOS A	0.0	0.2	0.03	0.65	52.0
West: The Links Road											
10b	L3	1	0.0	0.003	5.2	LOS A	0.0	0.1	0.24	0.58	51.6
12	R2	1	0.0	0.003	8.5	LOS A	0.0	0.1	0.24	0.58	52.3
12u	U	1	0.0	0.003	9.6	LOS A	0.0	0.1	0.24	0.58	52.6
Approach		3	0.0	0.003	7.8	LOS A	0.0	0.1	0.24	0.58	52.1
All Vehicles		98	0.0	0.062	4.9	LOS A	0.3	2.0	0.04	0.55	53.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: \\192.168.3.1\data\Synergy\Projects\16\16.101\Modelling\16.101s01v03.sip7

MOVEMENT SUMMARY

Site: 1 [AM EX +FU Princes Highway - Central Avenue]

Princess Highway / Central Avenue
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
SouthEast: Princes Highway											
21a	L1	133	6.3	0.630	5.4	LOS A	5.9	42.8	0.63	0.65	55.2
23a	R1	1451	4.8	0.630	9.6	LOS A	5.9	42.8	0.65	0.67	55.2
23b	R3	4	0.0	0.630	11.9	LOS A	5.8	42.3	0.67	0.69	33.2
23u	U	44	21.4	0.630	13.6	LOS A	5.8	42.3	0.67	0.69	56.5
Approach		1632	5.4	0.630	9.4	LOS A	5.9	42.8	0.65	0.67	55.2
East: Hingy Jack's Private Access											
4b	L3	1	0.0	0.057	7.7	LOS A	0.2	1.5	0.61	0.83	52.0
5	T1	8	0.0	0.057	9.1	LOS A	0.2	1.5	0.61	0.83	46.5
6	R2	14	15.4	0.057	14.6	LOS B	0.2	1.5	0.61	0.83	47.9
6u	U	1	0.0	0.057	15.9	LOS B	0.2	1.5	0.61	0.83	8.7
Approach		24	8.7	0.057	12.5	LOS A	0.2	1.5	0.61	0.83	44.9
North: Princes Highway											
7	L2	13	16.7	0.302	5.0	LOS A	2.0	15.9	0.37	0.46	52.0
7a	L1	594	13.1	0.302	4.5	LOS A	2.0	15.9	0.38	0.49	56.9
9	R2	127	3.3	0.302	9.6	LOS A	2.0	15.2	0.39	0.58	54.2
9u	U	74	17.1	0.302	12.0	LOS A	2.0	15.2	0.39	0.58	55.1
Approach		807	12.0	0.302	6.0	LOS A	2.0	15.9	0.38	0.51	56.4
West: Central Avenue											
10	L2	67	14.1	0.361	11.1	LOS A	1.7	13.5	0.80	0.95	49.9
11	T1	1	0.0	0.361	10.5	LOS A	1.7	13.5	0.80	0.95	20.5
12a	R1	79	14.7	0.361	15.0	LOS B	1.7	13.5	0.80	0.95	53.4
12u	U	1	0.0	0.361	17.3	LOS B	1.7	13.5	0.80	0.95	51.1
Approach		148	14.2	0.361	13.2	LOS A	1.7	13.5	0.80	0.95	51.9
All Vehicles		2612	7.9	0.630	8.6	LOS A	5.9	42.8	0.57	0.64	55.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [PM EX + FU Princes Highway - Central Avenue]

Princes Highway / Central Avenue
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
SouthEast: Princes Highway											
21a	L1	106	10.9	0.468	5.9	LOS A	3.8	28.5	0.69	0.71	55.1
23a	R1	879	8.1	0.468	10.1	LOS A	3.8	28.5	0.70	0.73	55.1
23b	R3	8	12.5	0.468	12.6	LOS A	3.6	26.9	0.71	0.76	33.1
23u	U	19	44.4	0.468	14.8	LOS B	3.6	26.9	0.71	0.76	56.1
Approach		1013	9.1	0.468	9.8	LOS A	3.8	28.5	0.70	0.73	54.9
East: Hingy Jack's Private Access											
4b	L3	2	0.0	0.242	13.2	LOS A	1.0	7.0	0.88	0.95	48.4
5	T1	19	5.6	0.242	17.2	LOS B	1.0	7.0	0.88	0.95	40.4
6	R2	23	0.0	0.242	21.2	LOS B	1.0	7.0	0.88	0.95	43.1
6u	U	1	100.0	0.242	40.2	LOS C	1.0	7.0	0.88	0.95	8.0
Approach		45	4.7	0.242	19.7	LOS B	1.0	7.0	0.88	0.95	41.2
North: Princes Highway											
7	L2	32	0.0	0.707	6.9	LOS A	8.8	65.1	0.81	0.71	50.3
7a	L1	1326	7.5	0.707	7.1	LOS A	8.8	65.1	0.82	0.73	55.9
9	R2	197	5.3	0.707	12.8	LOS A	8.7	64.5	0.84	0.79	52.7
9u	U	121	2.6	0.707	14.9	LOS B	8.7	64.5	0.84	0.79	54.3
Approach		1676	6.8	0.707	8.3	LOS A	8.8	65.1	0.83	0.74	55.5
West: Central Avenue											
10	L2	316	2.7	0.944	29.3	LOS C	14.2	101.9	0.98	1.55	41.4
11	T1	8	0.0	0.944	29.4	LOS C	14.2	101.9	0.98	1.55	17.6
12a	R1	238	3.1	0.944	33.2	LOS C	14.2	101.9	0.98	1.55	46.9
12u	U	1	0.0	0.944	36.2	LOS C	14.2	101.9	0.98	1.55	41.0
Approach		563	2.8	0.944	30.9	LOS C	14.2	101.9	0.98	1.55	43.8
All Vehicles		3297	6.8	0.944	12.8	LOS A	14.2	101.9	0.81	0.88	53.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

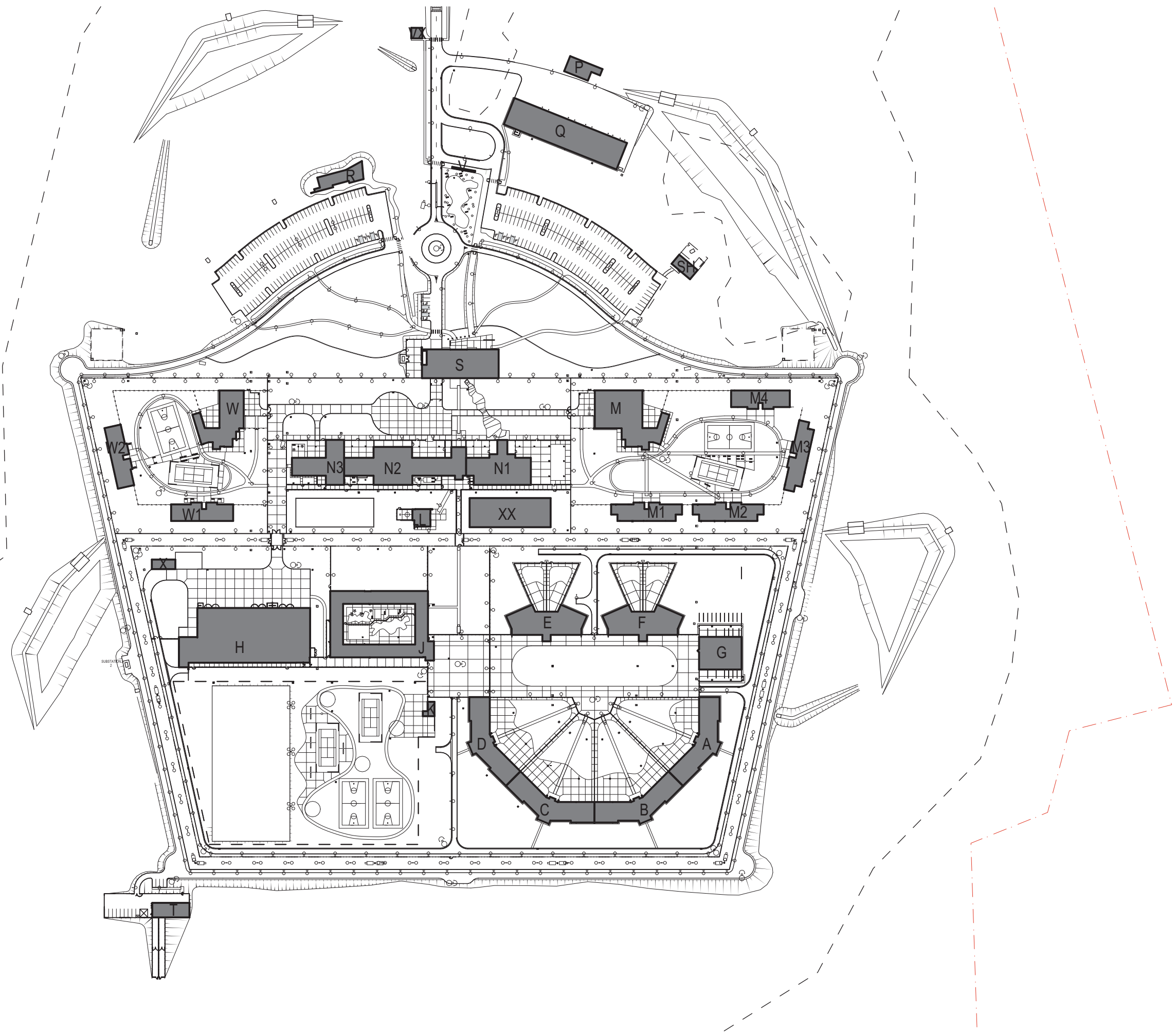
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

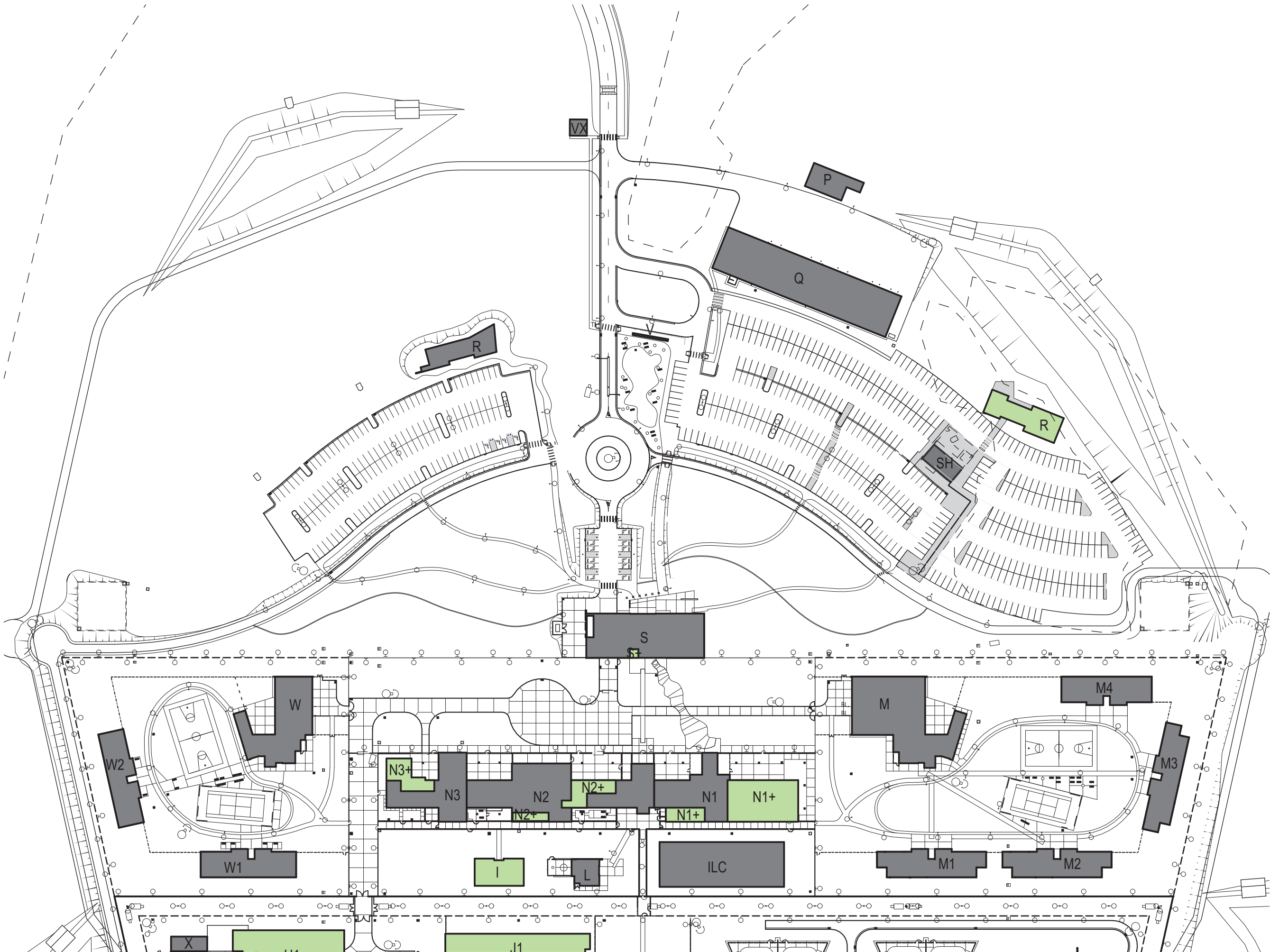


Appendix C

Development Drawings

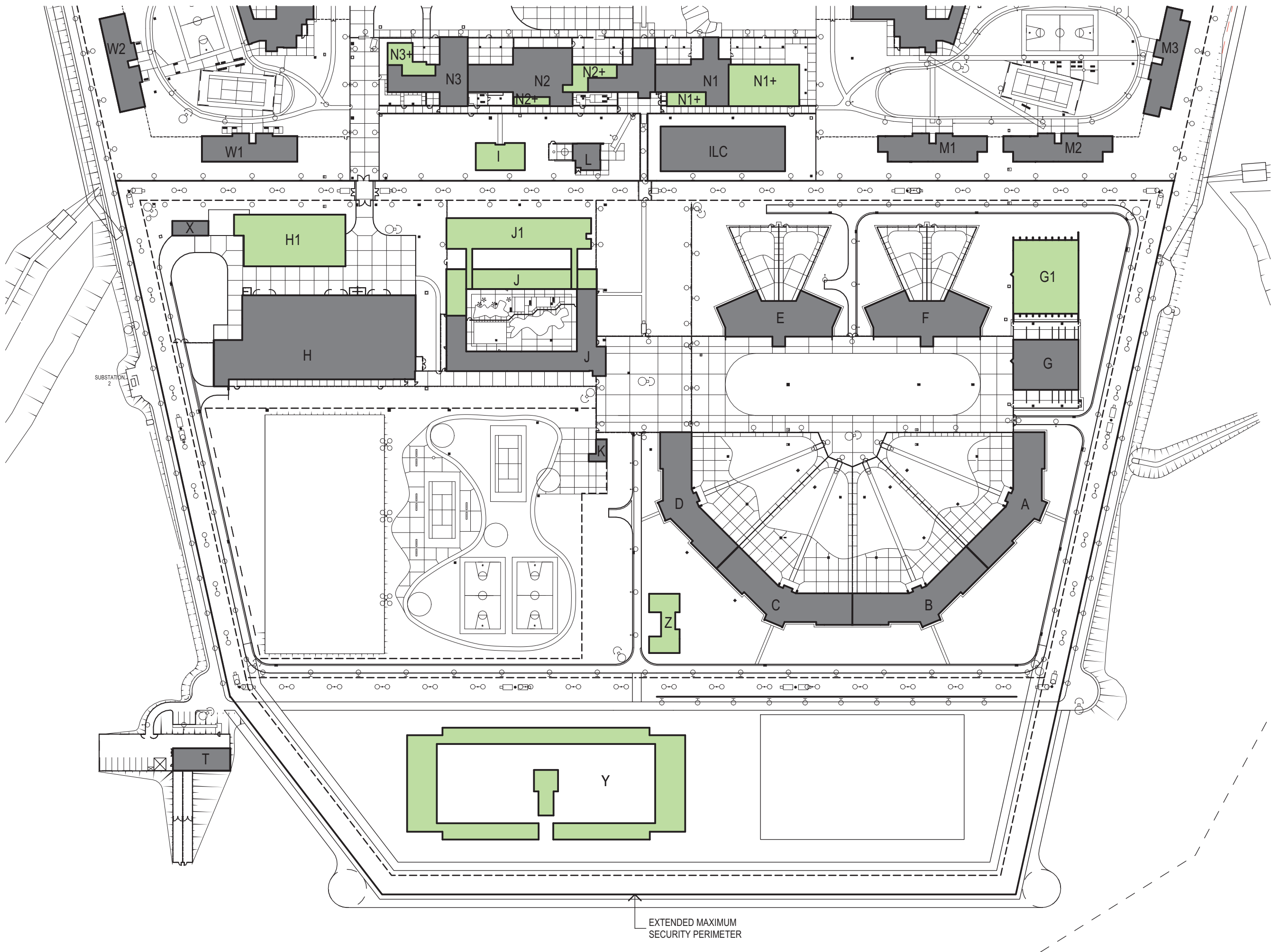
EXISTING SITE PLAN LEGEND	
CODE	BUILDING
A	MAX SEC ACCOMM
B	MAX SEC ACCOMM
C	MAX SEC ACCOMM
D	MAX SEC ACCOMM
E	MAX SEC ACCOMM
F	MAX SEC ACCOMM
G	PROTECTION/ MANAGEMENT
H	MAINTENANCE/ WORKSHOP
J	PROGRAM
K	GYM
L	CHAPEL
M	WORKSHOP/ COMMUNITY
N1	VISITS
N2	RECEPTION
N3	CLINIC
P	MAINTENANCE
Q	STORE/ LAUNDRY/ KITCHEN
S	GATEHOUSE
SH	SHINE FOR KIDS
T	RESPONSE & TRANSPORT UNIT
V	BUS STOP
VX	STAFF AMENITIES
W	WORKSHOP/ COMMUNITY
X	RECYCLING/ WORM FARM
XX	STAFF AMENITIES





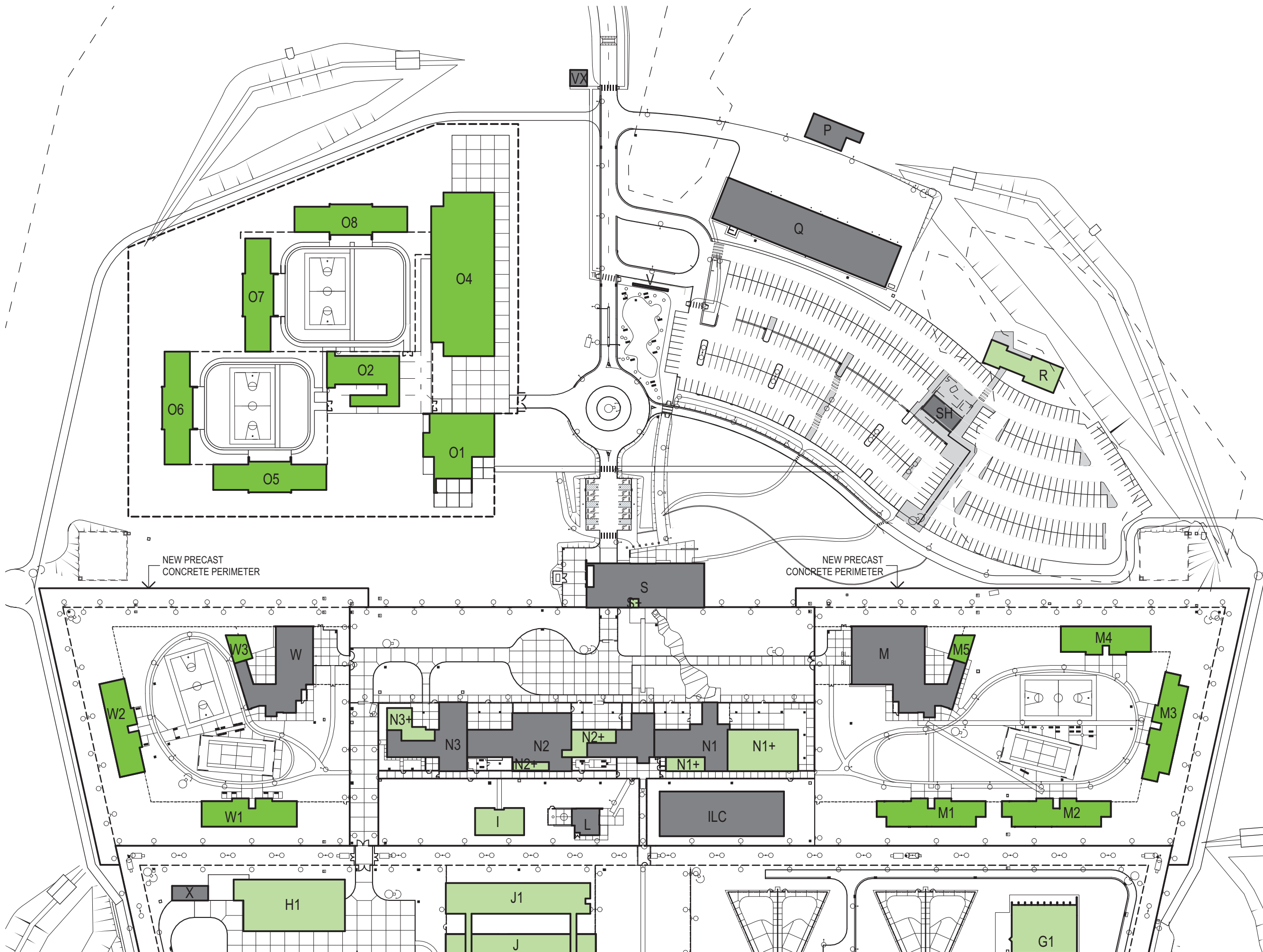
EXISTING SITE PLAN LEGEND	
CODE	BUILDING
A	MAX SEC ACCOMM
B	MAX SEC ACCOMM
C	MAX SEC ACCOMM
D	MAX SEC ACCOMM
E	MAX SEC ACCOMM
F	MAX SEC ACCOMM
G	PROTECTION/ MANAGEMENT
H	MAINTENANCE/ WORKSHOP
ILC	INTERACTIVE LEARNING CENTRE
J	PROGRAM
K	GYM
L	CHAPEL
M	WORKSHOP/ COMMUNITY
N1	VISITS
N2	RECEPTION
N3	CLINIC
P	MAINTENANCE
Q	STORE/ LAUNDRY/ KITCHEN
S	GATEHOUSE
SH	SHINE FOR KIDS
T	RESPONSE & TRANSPORT UNIT
V	BUS STOP
VX	STAFF AMENITIES
W	WORKSHOP/ COMMUNITY
X	RECYCLING/ WORM FARM

STAGE 1 SITE PLAN LEGEND	
CODE	BUILDING
G1	MANAGEMENT
H1	INDUSTRIES
I	AVL
J	PROGRAMS
J1	PROGRAMS
N1+	VISITS EXPANSION
N2+	CELLS
N3+	CLINIC EXPANSION
R	STAFF AMENITIES
S+	KEYS & RADIOS ADDITION
Y	MAX SEC ACCOMM
Z	SATELLITE CLINIC & METHADONE



EXISTING SITE PLAN LEGEND	
CODE	BUILDING
A	MAX SEC ACCOMM
B	MAX SEC ACCOMM
C	MAX SEC ACCOMM
D	MAX SEC ACCOMM
E	MAX SEC ACCOMM
F	MAX SEC ACCOMM
G	PROTECTION/ MANAGEMENT
H	MAINTENANCE/ WORKSHOP
ILC	INTERACTIVE LEARNING CENTRE
J	PROGRAM
K	GYM
L	CHAPEL
M	WORKSHOP/ COMMUNITY
N1	VISITS
N2	RECEPTION
N3	CLINIC
P	MAINTENANCE
Q	STORE/ LAUNDRY/ KITCHEN
S	GATEHOUSE
SH	SHINE FOR KIDS
T	RESPONSE & TRANSPORT UNIT
V	BUS STOP
VX	STAFF AMENITIES
W	WORKSHOP/ COMMUNITY
X	RECYCLING/ WORM FARM

STAGE 1 SITE PLAN LEGEND	
CODE	BUILDING
G1	MANAGEMENT
H1	INDUSTRIES
I	AVL
J	PROGRAMS
J1	PROGRAMS
N1+	VISITS EXPANSION
N2+	CELLS
N3+	CLINIC EXPANSION
R	STAFF AMENITIES
S+	KEYS & RADIOS ADDITION
Y	MAX SEC ACCOMM
Z	SATELLITE CLINIC & METHADONE



EXISTING SITE PLAN LEGEND	
CODE	BUILDING
A	MAX SEC ACCOMM
B	MAX SEC ACCOMM
C	MAX SEC ACCOMM
D	MAX SEC ACCOMM
E	MAX SEC ACCOMM
F	MAX SEC ACCOMM
G	PROTECTION/ MANAGEMENT
H	MAINTENANCE/ WORKSHOP
ILC	INTERACTIVE LEARNING CENTRE
J	PROGRAM
K	GYM
L	CHAPEL
M	WORKSHOP/ COMMUNITY
N1	VISITS
N2	RECEPTION
N3	CLINIC
P	MAINTENANCE
Q	STORE/ LAUNDRY/ KITCHEN
S	GATEHOUSE
SH	SHINE FOR KIDS
T	RESPONSE & TRANSPORT UNIT
V	BUS STOP
VX	STAFF AMENITIES
W	WORKSHOP/ COMMUNITY
X	RECYCLING/ WORM FARM

STAGE 1 SITE PLAN LEGEND	
CODE	BUILDING
G1	MANAGEMENT
H1	INDUSTRIES
I	AVL
J	PROGRAMS
J1	PROGRAMS
N1+	VISITS EXPANSION
N2+	CELLS
N3+	CLINIC EXPANSION
R	STAFF AMENITIES
S+	KEYS & RADIOS ADDITION
Y	MAX SEC ACCOMM
Z	SATELLITE CLINIC & METHADONE

STAGE 2 SITE PLAN LEGEND	
CODE	BUILDING
M1	MED SEC ACCOMM (UPGRADE)
M2	MED SEC ACCOMM (UPGRADE)
M3	MED SEC ACCOMM (UPGRADE)
M4	MED SEC ACCOMM (UPGRADE)
M5	PROGRAMS ROOMS
O1	MIN SEC ENTRY & VISITS
O2	MINSEC PROG. CLINIC & AVL
O4	MINSEC INDUSTRIES
O5	MIN SEC ACCOMM
O6	MIN SEC ACCOMM
O7	MIN SEC ACCOMM
O8	MIN SEC ACCOMM
W1	MED SEC ACCOMM (UPGRADE)
W2	MED SEC ACCOMM (UPGRADE)
W3	PROGRAMS ROOMS



Appendix D

Parking Survey Results

Client Traffic
Location Off Street Parking_Zone A
Date Fri, 20th May 2016
Description South Nowra Correctional Facility Parking Survey



Side of the Street	Parking Restriction	Time Restrictions	Available Spaces	6:00	7:00	8:00	9:00	10:00	14:00	15:00	16:00	17:00	18:00
Zone A Parking													
	Disabled		4	0	0	1	1	2	4	4	4	4	3
	Reserved correctional officers		9	3	4	4	4	4	5	4	4	4	4
	No Restriction	Open Parking	126	13	45	90	106	112	110	80	35	24	15
	Bikes			0	0	0	1	1	1	1	1	0	0
	Total		139	16	49	95	112	119	120	89	44	32	22
	% Capacity			12%	35%	68%	81%	86%	86%	64%	32%	23%	16%

Client Traffix
Location Off Street Parking_Zone B
Date Fri, 20th May 2016
Description South Nowra Correctional Facility Parking Survey



Side of the Street	Parking Restriction	Time Restrictions	Availble Spaces	6:00	7:00	8:00	9:00	10:00	14:00	15:00	16:00	17:00	18:00
Zone B Parking													
	Disabled		4	0	0	0	0	0	0	0	0	0	0
	No Restriction	Open Parking	138	17	24	30	32	38	35	11	7	2	1
	Total		142	17	24	30	32	38	35	11	7	2	1
	% Capacity			12%	17%	21%	23%	27%	25%	8%	5%	1%	1%

Client Traffix
Location Off Street Parking_Zone C
Date Fri, 20th May 2016
Description South Nowra Correctional Facility Parking Survey



Side of the Street	Parking Restriction	Time Restrictions	Availble Spaces	6:00	7:00	8:00	9:00	10:00	14:00	15:00	16:00	17:00	18:00
Zone C Parking													
	Disabled		1	1	1	2	1	1	1	1	1	1	1
	Reserved for Management		5	1	0	3	5	5	5	4	1	0	0
	Open Area Side of BLD		4	2	1	1	0	0	1	0	1	1	1
	Total		10	4	2	6	6	6	7	5	3	2	2
	% Capacity			40%	20%	60%	60%	60%	70%	50%	30%	20%	20%

Client Traffic
Location Off Street Parking_Zone A
Date Sat, 21st May 2016
Description South Nowra Correctional Facility Parking Survey



Side of the Street	Parking Restriction	Time Restrictions	Available Spaces	5:30	6:30	7:30	8:30	9:30	10:30	11:30	12:30	13:30	14:30
Zone A Parking													
	Disabled		4	0	0	1	2	2	1	1	1	4	4
	Reserved correctional officers		9	5	5	4	4	4	5	5	5	5	4
	No Restriction	Open Parking	126	11	15	37	62	64	63	62	63	73	65
	Bikes			1	1	1	1	1	1	1	1	1	0
	Total		139	17	21	43	69	71	70	69	70	83	73
	% Capacity			12%	15%	31%	50%	51%	50%	50%	50%	60%	53%

Client Traffix
Location Off Street Parking_Zone B
Date Sat, 21st May 2016
Description South Nowra Correctional Facility Parking Survey



Side of the Street	Parking Restriction	Time Restrictions	Availble Spaces	5:30	6:30	7:30	8:30	9:30	10:30	11:30	12:30	13:30	14:30
Zone B Parking													
	Disabled		4	0	0	0	0	1	2	1	1	0	0
	No Restriction	Open Parking	138	1	1	1	17	23	32	19	39	29	13
	Total		142	1	1	1	17	24	34	20	40	29	13
	% Capacity			1%	1%	1%	12%	17%	24%	14%	28%	20%	9%

Client Traffix
Location Off Street Parking_Zone C
Date Sat, 21st May 2016
Description South Nowra Correctional Facility Parking Survey



Side of the Street	Parking Restriction	Time Restrictions	Available Spaces	5:30	6:30	7:30	8:30	9:30	10:30	11:30	12:30	13:30	14:30
Zone C Parking													
	Disabled		1	1	1	1	1	1	1	1	1	1	1
	Reserved for Management		5	4	2	4	4	4	4	4	4	4	3
	Open Area Side of BLD		4	1	1	1	1	1	1	1	2	3	2
	Total		10	6	4	6	6	6	6	6	7	8	6
	% Capacity			60%	40%	60%	60%	60%	60%	60%	70%	80%	60%