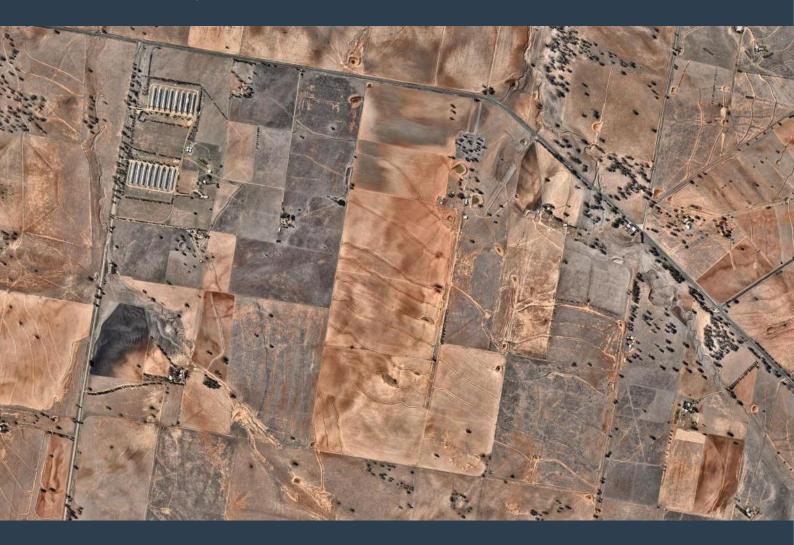


# **Bective Broiler Farm**

Traffic Impact Assessment



19 December 2024



AND USE PLANNING DEVELOPMENT APPROVALS TRANSPORT PLANNING TRAFFIC ENGINEERING PROGAM MANAGEMENT INFRASTRUCTUR



### **DOCUMENT CONTROL**

**Document:** Report Name: Traffic Impact Assessment

PSA Job Number: 1799

Project Name: Bective Broiler Farm

This document has been prepared for:



Contact: Rebecca Lees

AAM Investment Group C/- PSA Consulting

PO Box 10824 Adelaide Street

Brisbane QLD 4000

www.psaconsult.com.au

This document has been prepared by:



Contact: Hannah Richardson

PSA Consulting (Australia) Pty Ltd

PO Box 10824, Adelaide Street, Brisbane QLD 4000

Telephone: +61 7 3220 0288 hannah@psaconsult.com.au www.psaconsult.com.au

### **REVISION HISTORY**

VERSION	DATE	DETAILS	AUTHOR	AUTHORISATION
V3	19 December 2024	Final	Daina Ruth Aliboso	Hannah Richardson

### **GENERAL DISCLAIMER**

The information contained in this document produced by PSA Consulting (Australia) Pty Ltd is for the use of AAM Investment Group C/- PSA Consulting for the purpose for which it has been prepared and PSA Consulting (Australia) Pty Ltd undertakes no duty of care to or accepts responsibility to any third party who may rely upon this document.

All rights reserved. No section or element of this document may be removed from this document, reproduced, electronically stored or transmitted in any form without the written permission of PSA Consulting (Australia) Pty Ltd.



### **TABLE OF CONTENTS**

1.	INTR	RODUCTION	1
	1.1	Report Structure	1
2.	EXIS	STING CONDITIONS	2
	2.1	Existing Site	2
	2.2	Surrounding Road Network	2
		2.2.1 Heavy Vehicle Road Access	3
	2.3	Background Traffic Volumes	4
3.	DEV	VELOPMENT PROFILE	8
	3.1	Development Details	8
	3.2	Traffic Generation and Distribution	9
	3.3	Development Traffic Turning Volumes	11
4.	IMP	PACT ASSESSMENT	14
	4.1	Traffic Impact Assessment	14
	4.2	Road Safety Assessment	18
	4.3	Site Access Assessment	19
		4.3.1 Sight Distance Assessment	19
		4.3.2 Turn Warrant Assessment	20
5.	PAR	RKING AND SERVICING REQUIREMENTS	26
	5.1	Parking Provision	26
	5.2	Servicing Requirement	26
6.	CON	NCLUSION	27
LIS'		OF APPENDICES  X 1 DEVELOPMENT PLANS	
APPE	NDIX	X 2 AUSTRAFFIC TRAFFIC COUNTS	
APPE	NDIX	X 3 SWEPT PATH ANALYSIS	
FIG	UR	RES	
Figure	e 1: Si	Site Locality (Source: TfNSW, PSA)	1
Figure	e 2: De	Development Site Overview (Source: Nearmap, PSA)	2
		Surrounding Road Network (Source: Nearmap, PSA)	
Figure	e 4: He	Heavy Vehicle Haulage Route (Source: TfNSW, PSA)	4
Figure	e 5: Tr	raffic Survey Location (Source: Nearmap, PSA)	5
Figure	e 6: 20	2024 Background Traffic – AM Peak (Source: PSA)	6
Figure	e 7: 20	2024 Background Traffic – PM Peak (Source: PSA)	7
Figure	e 8: Pr	Proposed Site Layout (Source: Bath Stewart & Associates Pty Ltd)	8
Figure	9: De	Development Traffic Movement – AM Peak (Source: PSA)	12
Figure	e 10: E	Development Traffic Movement – PM Peak (Source: PSA)	13
Figure	e 11: 2	2026 Design Traffic – AM Peak (Source: PSA)	14
		2026 Design Traffic – PM Peak (Source: PSA)	



Figure 13: 20	36 Design Traffic – AM Peak (Source: PSA)16
Figure 14: 20	36 Design Traffic – PM Peak (Source: PSA)17
Figure 15: Su	urrounding Development Crash Locations (Source: TfNSW)18
Figure 16: Si	te Access Sight Distance Assessment (Source: Nearmap, PSA)19
	irn Warrant Assessment – Soldiers Settlement Road / Site Access – AM Peak (Source: Austroads,
g	PSA)20
Figure 18: Tu	irn Warrant Assessment – Soldiers Settlement Road / Site Access – PM Peak (Source: Austroads,
J	PSA)20
Figure 19: Tu	ırn Warrant Assessment – Oxley Highway / Soldiers Settlement Road – AM Peak (Source:
J	Austroads, PSA)21
Figure 20: Tu	ırn Warrant Assessment – Oxley Highway / Soldiers Settlement Road – PM Peak (Source:
J	Austroads, PSA)21
Figure 20: Re	ecommended Mitigation Measures (Source: PSA)22
	ooking to North from Recommended Give Way Line (Source: Google Streetview)23
_	AR Design Layout on Rural Road (Source: Austroads)24
_	AL Design Layout on Rural Road (Source: Austroads)
riguio 22. Dr	Layout of Hurat Hoad (Joures: Austrodus)20
<b>TABLES</b>	
Table 1: Surr	ounding Road Network Characteristics (Source: TfNSW, PSA)
	eration Traffic Generation
•	struction Traffic Generation
	mated Trip Distribution (Source: PSA)
	mated Traffic Generation (Source: PSA)11
Table 6: Dire	ctional Split (Source: PSA)11
Table 7: Sou	rce: Uninterrupted Flow Conditions (Source: Austroads)17
Table 8: Surr	ounding Crash Data Locations Characteristics (Source: TfNSW)18
Table 9: Solo	liers Settlement Road / Site Access – Sight Distance Requirements (Source: Austroads)19
	r Parking Requirements (Source: Tamworth DCP)26
	2
LIST OF	ACRONYMS
ASD	Approach Sight Distance
BAL	Basic Left Turn
BAR	Basit Right Turn
DCP	Development Control Plan
MGSD	Minimum Gap Sight Distance
NSW	New South Wales
PSA	PSA Consulting
SISD	Safe Intersection Sight Distance
TfNSW	Transport for New South Wales
TIA	Traffic Impact Assessment

Tamworth Regional Council

TRC



### 1. INTRODUCTION

PSA Consulting (PSA) has been engaged by AAM Investment Group to undertake a Traffic Impact Assessment (TIA) to accompany a Development Application (DA) for the proposed poultry farm development on 2432 Oxley Highway, Bective, NSW. The development site is situated approximately 20km northwest of Tamworth CBD and located within Tamworth Regional Council (TRC) area and therefore traffic advice will be in accordance with the Tamworth Development Control Plan (DCP) 2010. Figure 1 illustrates the locality of the site to the town of Tamworth.

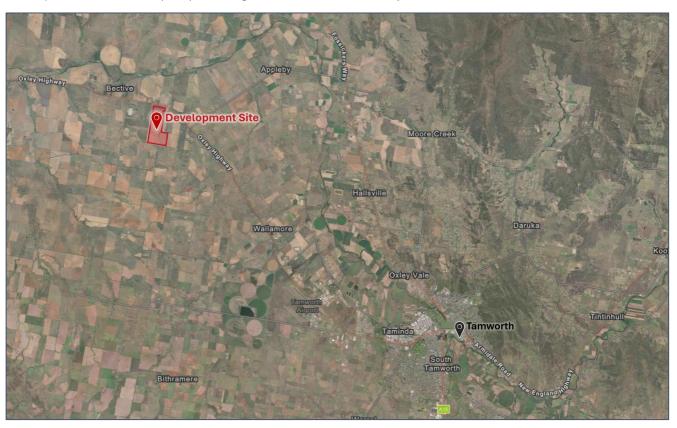


Figure 1: Site Locality (Source: TfNSW, PSA)

#### 1.1 REPORT STRUCTURE

This report addresses the relevant requirements of TRC and includes the following sections:

- Existing Conditions;
- Development Profile;
- Impact Assessment and Mitigation; and
- Parking and Servicing Requirements



### 2. EXISTING CONDITIONS

#### 2.1 EXISTING SITE

The development site is located at Lot 161 DP755319 and is currently vacant rural property. The proposed development involves the construction of an 18 shed broiler farm catering up to 1,236,150 birds along with associated facilities and infrastructure. Full development plans are provided in Appendix 1. Figure 2 shows the development site in relation to the surrounding area and road network.



Figure 2: Development Site Overview (Source: Nearmap, PSA)

#### 2.2 SURROUNDING ROAD NETWORK

The poultry farm is bounded by Oxley Highway to the north. The development has main vehicular access via Soldiers Settlement Road to the south. The surrounding road network and characteristics outlined by the Transport for New South Wales (TfNSW) are described in Table 1 and illustrated in Figure 3.



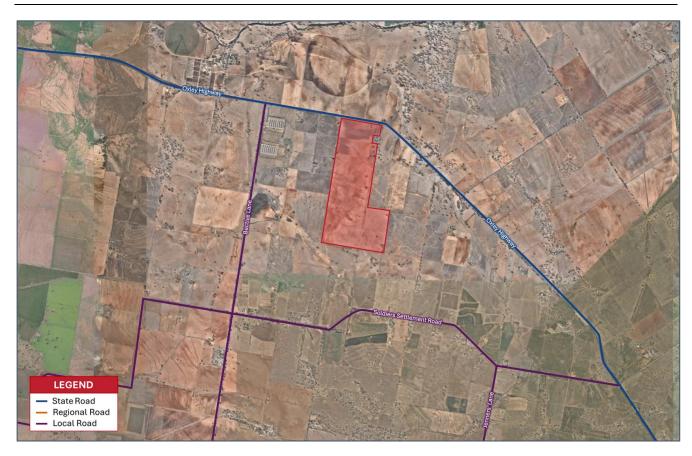


Figure 3: Surrounding Road Network (Source: Nearmap, PSA)

Table 1: Surrounding Road Network Characteristics (Source: TfNSW, PSA)

Road Name	Jurisdiction	Classification / Hierarchy	Cross Section / Geometry	Posted Speed Limit
Oxley Highway	State-controlled	Highway	Sealed two-lane / two-way undivided	100km/hr
Bective Lane	Council-controlled	Local Road	Sealed two-lane / two-way undivided	100km/hr
Soldiers Settlement Road	Council-controlled	Local Road	Sealed two-lane / two-way undivided	100km/hr
Jenners Lane	Council-controlled	Local Road	Sealed two-lane / two-way undivided	100km/hr

### 2.2.1 Heavy Vehicle Road Access

The National Heavy Vehicle Regulator (NHVR) outlines the comprehensive road network restrictions and approved routes for use by heavy vehicles. Oxley Highway is part of 25/26 B-double route which allows up to 26m B-double vehicles. Meanwhile, Bective Lane would need to comply with certain conditions to allow vehicles up to 26m B-double. The heavy vehicle route in the surrounding road network is illustrated in Figure 4.

Soldier Settlement Road is not identified as a B-Double Route and approval from the NHVR will be required prior to use.



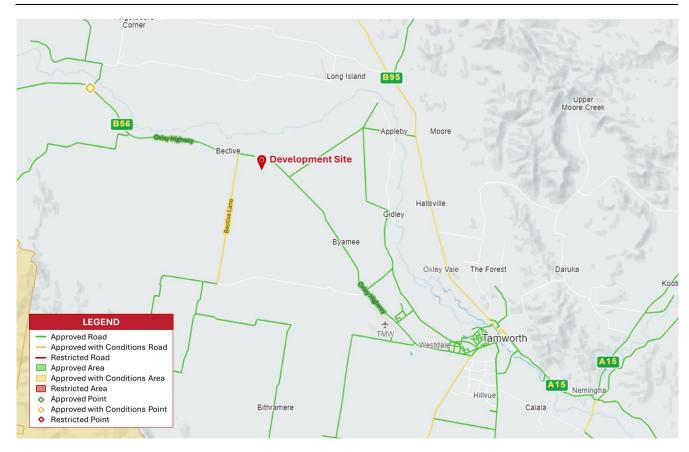


Figure 4: Heavy Vehicle Haulage Route (Source: TfNSW, PSA)

### 2.3 BACKGROUND TRAFFIC VOLUMES

Traffic surveys were undertaken by Austraffic on Wednesday 07 August 2024 during AM and PM peak periods. The traffic surveys were conducted at the following intersections:

- Oxley Highway / Bective Lane
- Oxley Highway / Soldiers Settlement Road
- Soldiers Settlement Road / Jenners Lane

The location of these intersections is shown in Figure 5.





Figure 5: Traffic Survey Location (Source: Nearmap, PSA)

The 2024 peak hour traffic volumes for the assessed intersections are detailed in Appendix 2 while turning movement diagrams is shown in Figure 6 and Figure 7 for AM and PM peak periods, respectively.



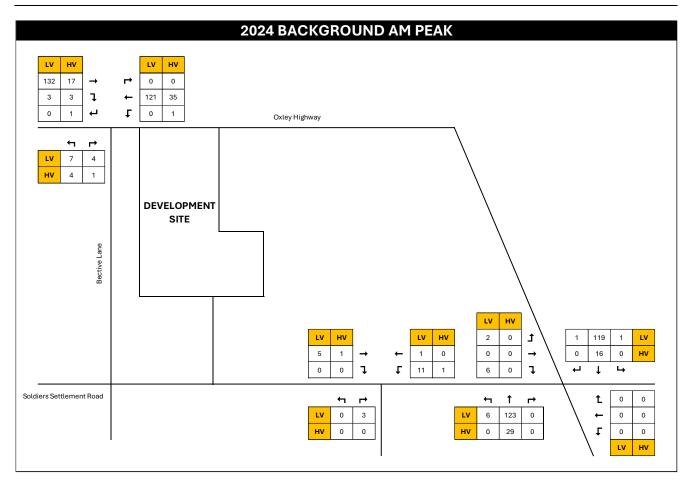


Figure 6: 2024 Background Traffic - AM Peak (Source: PSA)



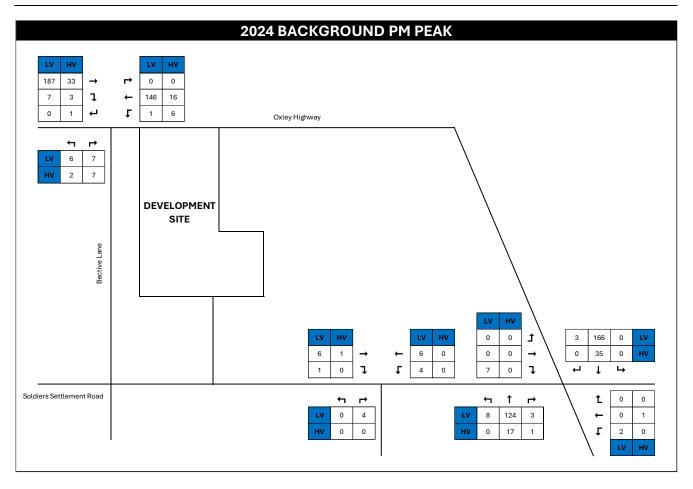


Figure 7: 2024 Background Traffic – PM Peak (Source: PSA)



### 3. DEVELOPMENT PROFILE

### 3.1 DEVELOPMENT DETAILS

The proposed site involves the construction of an 18 shed broiler farm over 174 ha land area which will contain a total of 1, 236, 150 birds as well as associated facilities and infrastructure. The proposed development will run over Lot 161 DP755319. Additionally, ancillary buildings including two caretaker residences will be constructed on site. A site layout of the proposed development is shown in Figure 8. Full development plans are provided in Appendix 1.



Figure 8: Proposed Site Layout (Source: Bath Stewart & Associates Pty Ltd)

As shown in the plan, the primary site access will be from Soldiers Settlement Road via a new driveway and access road with all heavy and light vehicles accessing the site from this location. It is expected that the development will be open for operation in 2026. During operation of the farm, two on-site managers and four full-time staff will work at the site. Contract staff will also be used for assistance. Based on knowledge of peak operations through previous poultry farm assessments conducted by PSA the anticipated additional staff that will be occasionally required on site are proposed to include:

- Ten additional staff on-site approximately 30 days per year to assist with collection and clean out
- Five additional staff on-site approximately 30 days per year to assist with shed set up, placement and vaccination of birds



#### 3.2 TRAFFIC GENERATION AND DISTRIBUTION

Traffic generated by the development has been obtained from AAM. The traffic generation of the proposed farm during operation and construction in detailed in Table 2 and Table 3, respectively.

Table 2: Operation Traffic Generation

Generation	Vehicles / Batch	Vehicles / Annum	Daily Trips
Heavy Vehicles			
Bobcat (cleaning) Deliveries	2	12	0.1
Shed Cleaning Vehicles	36	208	1.1
Bedding Deliveries	29	168	0.9
Propane Deliveries	2	12	0.1
Day-old Chick Deliveries	18	104	0.6
Feed B-double Deliveries	173	1000	5.5
Litter Collection & Removals	50	289	1.6
Broiler Collection	178	1028	5.6
Dead Bird Collection	13	75	0.4
	501	2896	16 daily trips
Light Vehicles			
Staff Vehicles	165	953	6 daily trips

As shown, it is anticipated that the proposed poultry farm will generate approximately 3,900 heavy vehicle trips per year, averaging approximately 16 heavy vehicle trips per day (8 incoming / 8 outgoing) and 6 light vehicle trips (3 incoming / 3 outgoing). While a majority of the heavy vehicles will typically occur during the day, bird collections does occur at night. During the nighttime collection, the heavy vehicles could be up to a maximum of 38 trips (19 incoming / 19 outgoing) on a peak collection night. It is noted that the surrounding traffic on Oxley Highway would be significantly reduced during this nighttime period. It is expected that the development will generate 2 heavy vehicles and 3 lights vehicles during peak periods.



Table 3: Construction Traffic Generation

Generation	Apr 25	May 25	Jun 25	Jul 25	Aug 25	Sep 25	Oct 25	Nov 25	Dec 25	Jan 26	Feb 26	Mar 26	Apr 26	May 26	Jun 26
Heavy Vehicles															
Electrical HV Works	2	8	10	0	0	0	0	0	0	0	0	12	12	0	0
Generator	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
Builders & Installers	42	16	0	42	2	23	23	2	44	2	23	2	0	2	8
Total Trips	44	24	14	42	2	23	23	2	44	2	23	14	12	2	8
Light Vehicles	•						-	•			-		•	•	
Project Manager	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Site Supervisor	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Civil – pads & dam	286	286	286	0	0	0	0	0	0	0	0	0	0	0	0
Electrical HV Works	0	96	96	0	0	0	0	0	0	0	0	104	40	0	0
Solar	0	0	0	0	0	0	0	0	40	40	0	0	0	0	0
Builders & Installers	0	144	394	394	394	394	394	394	394	394	394	394	394	394	252
Concreters	12	12	12	12	12	12	12	12	12	0	0	0	0	0	0
Electricians	0	144	144	144	144	144	144	144	144	144	144	144	144	144	144
Plumber	0	0	72	72	72	72	72	72	72	72	72	72	72	72	72
Total Trips	366	672	1066	756	756	756	756	756	796	730	690	794	730	690	548



The peak vehicular movement during construction of the poultry farm will occur in June 2025, with 14 heavy vehicles and 1, 066 light vehicles, averaging approximately 36 light vehicle trips per day and 1 heavy vehicle per day. Assuming 10% of the daily traffic occurs during peak periods, the construction peak traffic volume is approximately 3 light vehicles and 0.1 heavy vehicle.

Throughout the construction and operations of the poultry farm, the operation peak hour volume represents the worst-case scenario and therefore will be utilised in subsequent analysis to provide conservative estimate of the impact of the generated trips to the external road network, with distribution outlined in Table 4.

Table 4: Estimated Trip Distribution (Source: PSA)

Vehicle Type	AM F	Peak	PM Peak		
	IN %	OUT %	IN %	OUT %	
Light Vehicles	90%	10%	10%	90%	
Heavy Vehicles	90%	10%	10%	90%	

Table 5 outlines the number of vehicles entering and exiting the site during the AM and PM peak hours.

Table 5: Estimated Traffic Generation (Source: PSA)

Vehicle Type	AM F	Peak	PM Peak		
	Entering Development	Exiting Development	Entering Development	Exiting Development	
Light Vehicles	3	0	0	3	
Heavy Vehicles	2	0	0	2	

Based on the surrounding developments, it has been assumed that:

- All heavy vehicles trips will travel either north or south via Soldiers Settlement Road and the Oxley Highway.
- Light vehicle trips either travel to north via Bective Lane to Oxley Highway or travel to south via Soldiers Settlement Road to Oxley Highway. The directional split of generated traffic is detailed in Table 6.

Table 6: Directional Split (Source: PSA)

Direction	AM Peak	PM Peak
Northbound	10%	10%
Southbound	90%	90%

#### 3.3 DEVELOPMENT TRAFFIC TURNING VOLUMES

The peak hour development traffic turning movements during opening year have been calculated based on the assumptions previously outlined and are shown in Figure 9 and Figure 10 for the AM and PM peak period, respectively.



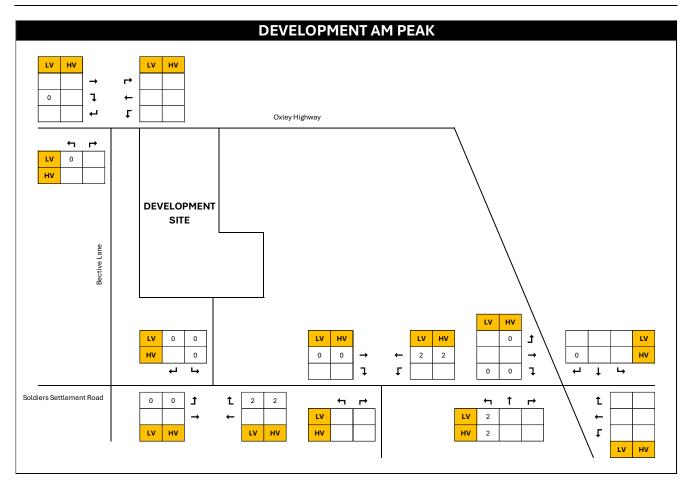


Figure 9: Development Traffic Movement – AM Peak (Source: PSA)



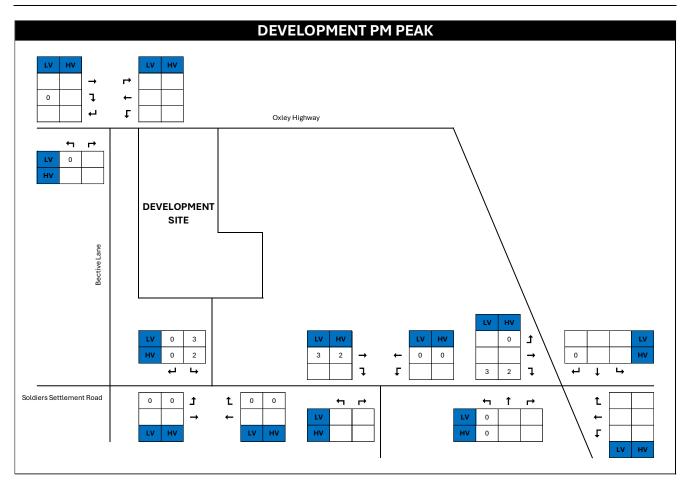


Figure 10: Development Traffic Movement – PM Peak (Source: PSA)



### 4. IMPACT ASSESSMENT

#### 4.1 TRAFFIC IMPACT ASSESSMENT

It is a requirement when analysing traffic impacts to adopt a 10-year design horizon from the year of opening / full operation of the proposed development. The following development parameters have been adopted for the purpose of the assessment:

Existing traffic count: 2024
Year of operation: 2026
10-year horizon: 2036

The calculated background traffic for 2026 and the development traffic provide the design traffic generated from the site as shown in shown in Figure 11 and Figure 12 for AM and PM peak period, respectively.

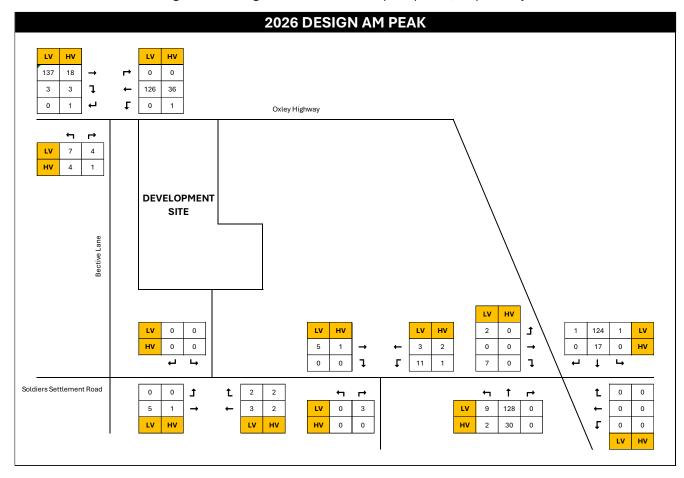


Figure 11: 2026 Design Traffic - AM Peak (Source: PSA)



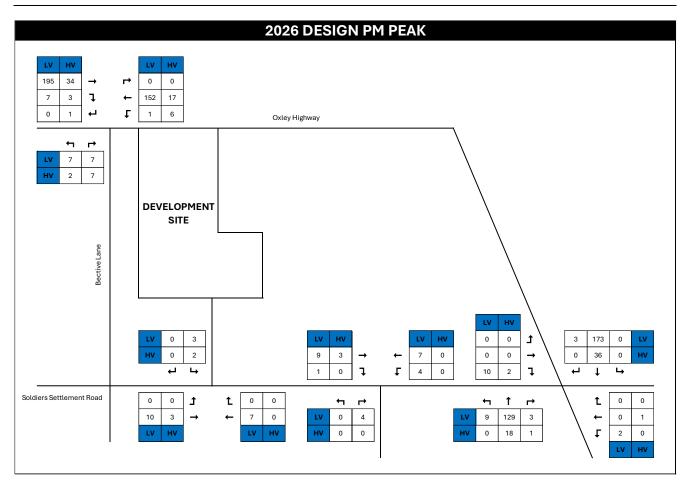


Figure 12: 2026 Design Traffic - PM Peak (Source: PSA)

The calculated background traffic for 2036 and the development traffic provide the design traffic generated from the site as shown in shown in Figure 13 and Figure 14 for AM and PM peak period, respectively.



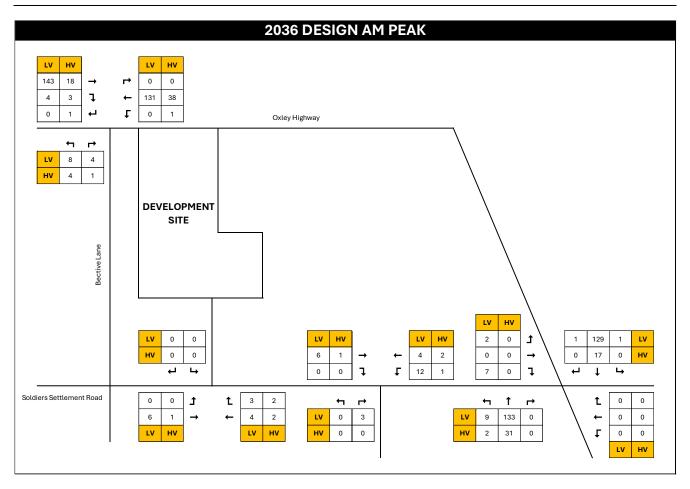


Figure 13: 2036 Design Traffic - AM Peak (Source: PSA)



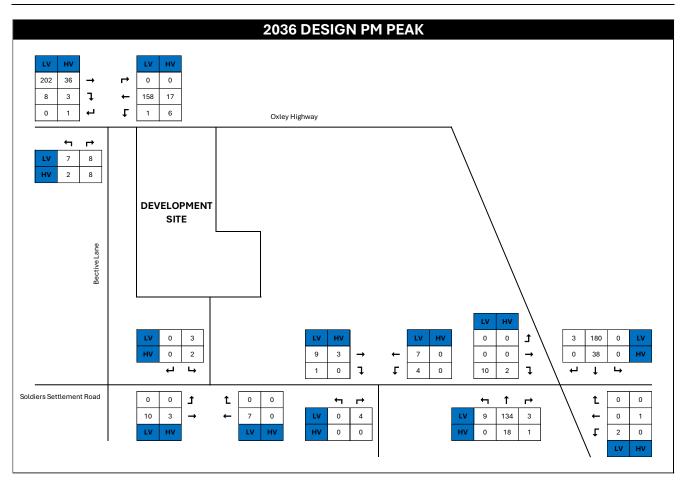


Figure 14: 2036 Design Traffic - PM Peak (Source: PSA)

Austroads Guide to Traffic Management Part 3: Traffic Study and Analysis Methods (2009) lists the intersection capacity – uninterrupted flow conditions for a range of traffic volumes for unsignalised intersections. This is shown in Table 7.

Table 7: Source: Uninterrupted Flow Conditions (Source: Austroads)

<b>Major Road Types</b>	Major Road Flow (vph)2	Minor Road Flow (vph) <sup>3</sup>
Two-Lane	400	250
	500	200
	650	100
Four Lane	1000	100
	1500	50
	2000	25

#### Note:

- 1. Major road is through road i.e. has priority
- 2. Major road design volumes include through and turning movements
- 3. Minor road design volumes include through and turning movements

Figure 13 shows that it is unnecessary to carry out intersection analysis when combinations of major and minor road volumes are less than those outlined in Table 7.



#### 4.2 ROAD SAFETY ASSESSMENT

The vehicle crash history within the vicinity of the development was sourced from the TfNSW LGA view crashes map which occurred within a 5-year period (2018-2022) from this report as shown in Figure 15.



Figure 15: Surrounding Development Crash Locations (Source: TfNSW)

The crash locations identified in Figure 15 have been further analysed by the characteristics of the crashes included in Table 8. This is considered a high crash rate for the low volumes of vehicles using this part of the road network. The multiple occurrences of rear-end crashes along with the off-road crashes and head-on crashes indicate a need for any development generated traffic to be suitably contained within appropriate turning provisions, including ensuring sufficient sight distance is provided at accesses.

Table 8: Surrounding Crash Data Locations Characteristics (Source: TfNSW)

Year	Crash ID	Degree of Crash	Description	Number Injured	Number Killed
2018	1187224	Moderate Injury	Off road left to object	1	-
2019	1199386	Non-casualty (towaway)	Object on road	-	-
2019	1208442	Moderate Injury	Object on road	1	-
2019	1213285	Moderate Injury	Head On	1	-
2019	1221082	Moderate Injury	Off road to right	1	-
2020	1222966	Serious Injury	Rear End	2	-
2020	1223092	Serious Injury	Rear End	2	-
2022	1306409	Non-casualty (towaway)	Right rear	-	-
2022	1312006	Moderate Injury	On road out of control	2	-



#### 4.3 SITE ACCESS ASSESSMENT

#### 4.3.1 Sight Distance Assessment

A desktop safe sight distance assessment has been undertaken for Soldiers Settlement Road / Site Access intersection whereby Soldiers Settlement Road has an unposted speed limit of 100km/hr and therefore the sight distance requirements are for a 110km/hr design speed. The requirements for a design speed of 110km/hr have been highlighted in Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections and are shown in Table 9.

Table 9: Soldiers Settlement Road / Site Access - Sight Distance Requirements (Source: Austroads)

Scenario	ASDª	SISD <sup>b</sup>	MGSD°
Soldiers Settlement Road			
Posted Speed: 100km/h	193m	285m	153m
Design Speed: 110km/h			

<sup>&</sup>lt;sup>a</sup> Approach Sight Distance – Minimum sight distance required from Site access to the Soldiers Settlement Road intersection

Sight distance trianges have been created using the SISD lengths specified in Table 9 and are shown in Figure 16. It has been observed that there is sufficient sight distance in both the east and west on Soldiers Settlement Road Road and therefore no mitigations are necessary for the sight view.

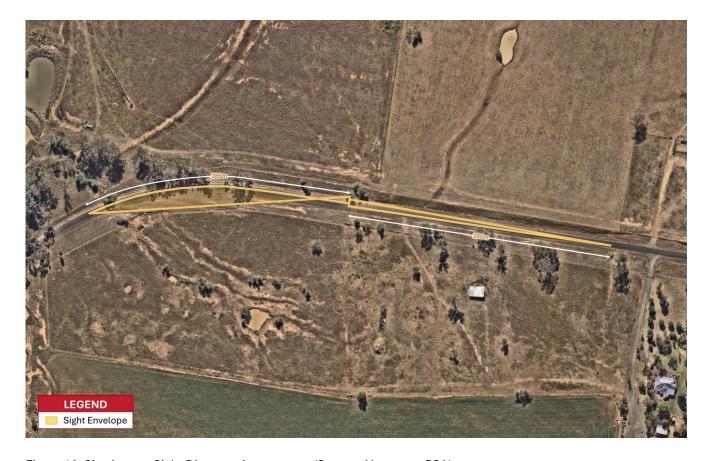


Figure 16: Site Access Sight Distance Assessment (Source: Nearmap, PSA)

<sup>&</sup>lt;sup>b</sup> Safe Intersection Sight Distance – Minimum sight distance required from Soldiers Settlement Road to the intersection

<sup>&</sup>lt;sup>c</sup> Minimum Gap Sight Distance – Minimum sight distance required at the intersection from the Site access to see vehicles on Soldiers Settlement Road



#### 4.3.2 Turn Warrant Assessment

A turn warrants assessment has been undertaken to determine the requirements (or otherwise) for the installation of additional turning lanes at the Soldiers Settlement Road / Site Access and Oxley Highway / Soldiers Settlement Road intersections.

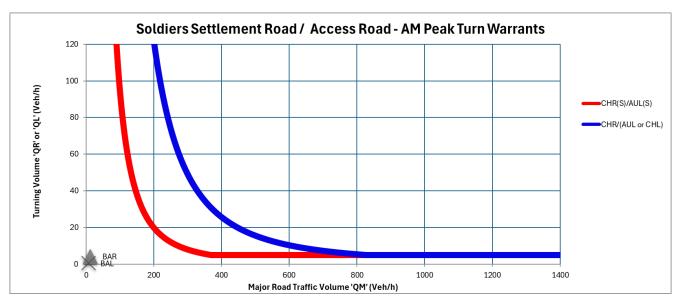


Figure 17: Turn Warrant Assessment - Soldiers Settlement Road / Site Access - AM Peak (Source: Austroads, PSA)

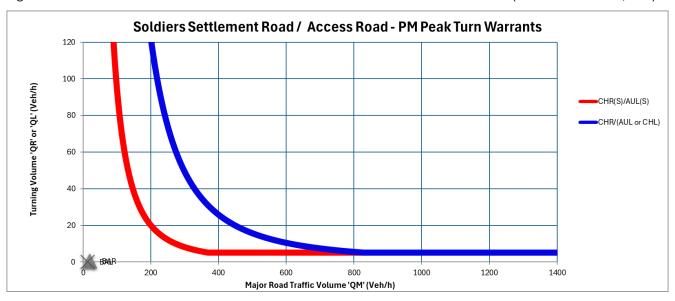


Figure 18: Turn Warrant Assessment - Soldiers Settlement Road / Site Access - PM Peak (Source: Austroads, PSA)

Based on Figure 17 and Figure 18, the traffic volumes travelling from Soldiers Settlement Road / Site Access intersection will trigger the requirement of a Basic Left Turn (BAL) and a Basic Right Turn (BAR) turn treatments during AM and PM peak period. The current intersection configuration can accommodate BAR/BAL turn treatments, and therefore, no additional mitigation measures are necessary.



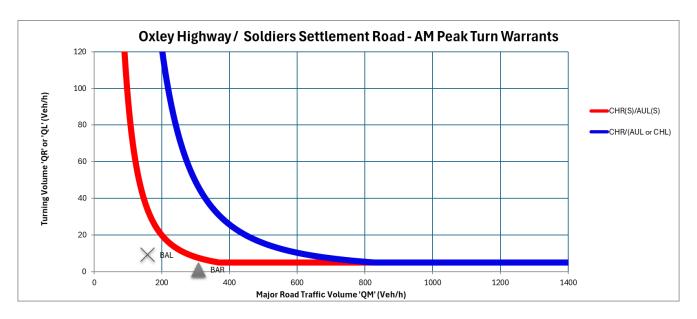


Figure 19: Turn Warrant Assessment – Oxley Highway / Soldiers Settlement Road – AM Peak (Source: Austroads, PSA)

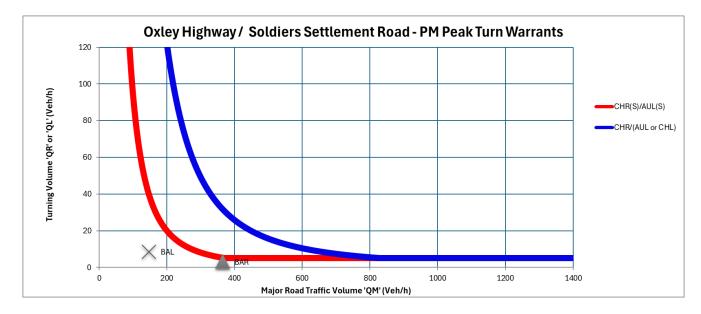


Figure 20: Turn Warrant Assessment – Oxley Highway / Soldiers Settlement Road – PM Peak (Source: Austroads, PSA)

Based on Figure 19 and Figure 20, the traffic volumes travelling from Oxley Highway / Soldiers Settlement Road intersection will trigger the requirement of a Basic Left Turn (BAL) and a Basic Right Turn (BAR) turn treatments during AM and PM peak period. The current intersection configuration can accommodate BAR/BAL turn treatments; however, the required widening of shoulder will extend to Gidley Siding Road. To prevent conflict with vehicle coming from Gidley Siding Road and vehicles turning right to Soldiers Settlement Road, it is recommended to install give way line as illustrated in Figure 21.



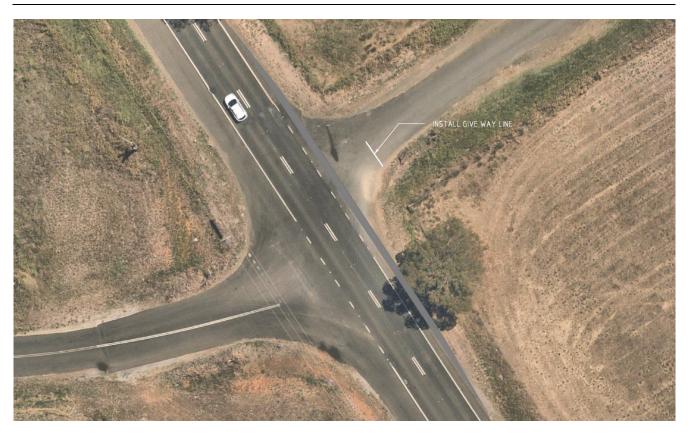


Figure 21: Recommended Mitigation Measures (Source: PSA)

It should be noted that vehicles coming from Gidley Siding Road are low in volume and vehicles at the stopping line have enough visibility to percieve incoming vehicles from north as shown in Figure 22. The treatment is similar to that on Soldiers Settlment Road, albeit slightly faded in the imagery above. Therefore, this mitigation measures is deemed adequate in road safety perspective.

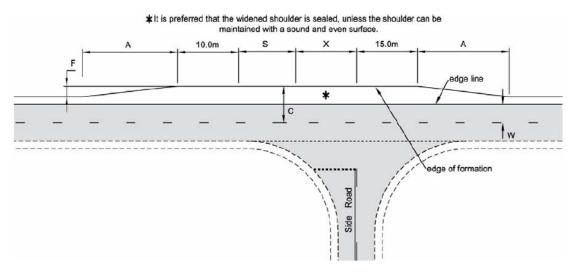




Figure 22: Looking to North from Recommended Give Way Line (Source: Google Streetview)

Figure 23 and Figure 24 illustrates the design layout for Basic Right (BAR) and Basic Left (BAL) turn treatments.





- W= Nominal through lane width (m) (including widening for curves). Width to be continuous through the intersection.
- C = On straights 6.5m minimum
  - 7.0m minimum for Type 1 & Type 2 Road Trains
  - On curves widths as above + curve widening (based on widening for the design turning vehicle plus widening for the design through vehicle)

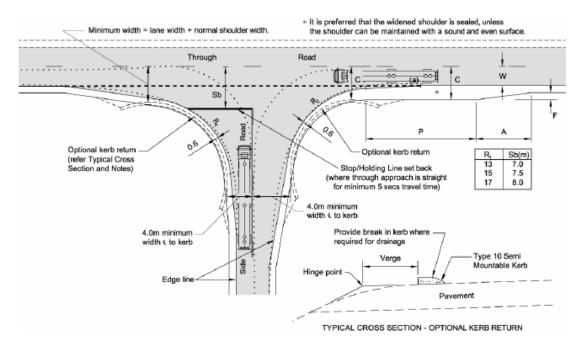
### $A = \underbrace{0.5 \times V \times F}_{3.6}$

Increase length A on tighter curves. Where the design through vehicle is larger than or equal to a 19m semi-trailer, the minimum speed used to calculate A is 80km/h.

- V = Design speed of major road approach (km/h)
- F = Formation/carriageway widening (m)
- S = Storage length to cater for one design turning vehicle (m) (minimum length 12.5rn)
- X = Distance based on design vehicle turning path, typically 10 15m

Figure 23: BAR Design Layout on Rural Road (Source: Austroads)





Design Speed of Major Road Approach (km/h)	Minimum Length of Parallel Widened Shoulder P (m) <sup>(1)</sup>				
50	0				
60	5				
70	10				
80	15				
90	20				
100	25				
110	35				
120	45				
(1) Adjust for grade using the 'Correction to Grade' table in Figure 13.42.					

- W = Nominal through lane width (m) (including widening for curves)
- C = On straights 6.0m minimum
  - On curves 6.0m plus curve widening (based on widening for the design turning vehicle plus widening for the design through vehicle)
- $A = 0.33 \times V \times F$ 3.6
- V = Design speed of major road approach (km/h)
- F = Formation/carriageway widening (m)

Note: Refer to Appendix 13E for dimensions of BAL layouts to suit various articulated vehicles

Figure 24: BAL Design Layout on Rural Road (Source: Austroads)



### 5. PARKING AND SERVICING REQUIREMENTS

### 5.1 PARKING PROVISION

The Tamworth Development Control Plan (DCP) establishes guidelines for on-site parking in connection with various development projects. Specifically minimum on-site parking rates which outline the car parking requirements based on the land use. The proposed development is defined as a poultry farm (agriculture) however, since there is no parking rates associated with these uses, the parking rates for industry has been used for this assessment. Table 10 outlines the required car parking spaces necessary based on the development.

Table 10: Car Parking Requirements (Source: Tamworth DCP)

Land Use	Parking	Comments
Industry	1 space per 75m GFA Or 1 space per 2 employees (whichever is greater)	This requirement may increase when retailing is permitted on-site, or the office space component is in excess of 20% of the floor area. On-site truck parking spaces should be provided for each vehicle present at any one time excluding those vehicles in loading docks. Under no circumstances is the parking or trucks on public roads acceptable.

As the main workers area of the farm has a GFA of approximately 500m<sup>2</sup>, 7 car parks would be required to adhere to the DCP. The development site plan contains 10 car parking spaces. Therefore, there is sufficient car parking spaces on the site for parking and manoeuvring.

Furthermore, Table 10 states that on-site truck parking spaces should be provided for each vehicle present at any one time and under no circumstances should parking of trucks be acceptable on public roads.

### 5.2 SERVICING REQUIREMENT

Swept path analysis has been undertaken to examine the ability for vehicle to manoeuvre in and out as well as around the site. The largest anticipated vehicle entering and exiting the development is a B-double. Moreover, swept path analysis has also been undertaken at Oxley Highway / Soldiers Settlement Road to ensure that the current intersection geometry can accommodate turning of B-doubles to the development. Swept path analysis indicates that no conflict was observed during entrance and exit of B-double. Full swept path analysis is included in Appendix 3.



### 6. CONCLUSION

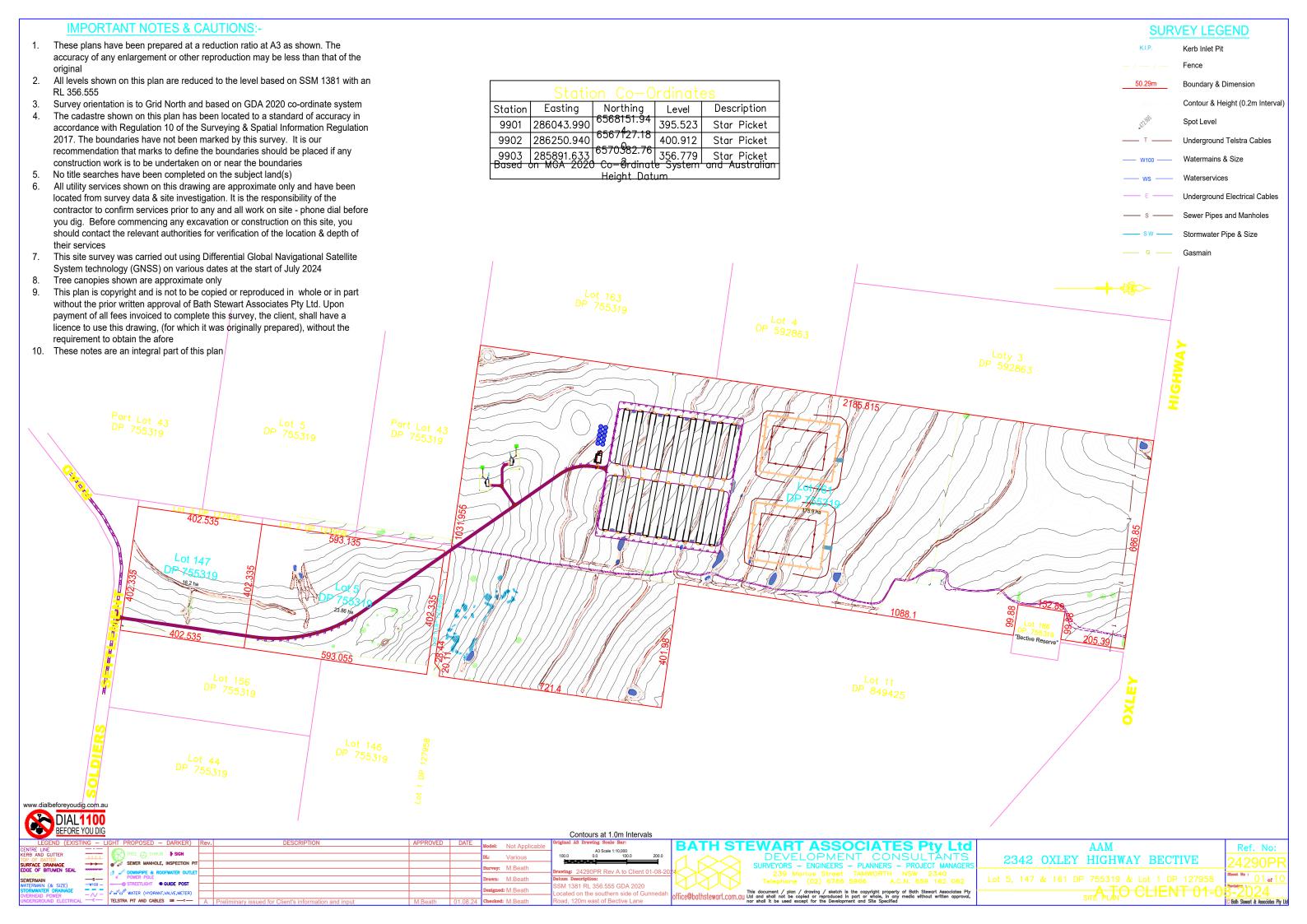
PSA Consulting has been engaged by AAM Invest to undertake a Traffic Impact Assessment (TIA) to accompany a development application for the proposed poultry farm on 2432 Oxley Highway, Bective, NSW. A summary of the findings of the TIA is as follows:

- The proposed development involves the constriction of 18 shed broiler farm which will contain a total of 1,236,150 birds as well as associated facilities and infrastructure.
- The site has an area of approximately 174ha of land and is situated 20km northwest of Tamworth NSW.
- The development has main vehicular access at Soldiers Settlement Road.
- The total peak daily trips generated by the development are calculated to be approximately 36 light vehicle trips per day and 1 heavy vehicle per day with the assumption that 10% of these trips will occur during the peak hour.
- 3 light vehicles will enter in the site during the AM peak hour and 3 light vehicles will exit the site during the PM peak hour.
- 2 heavy vehicles will enter in the site during the AM peak hour and 2 heavy vehicles will exit the site during the PM peak hour.
- A detailed impact assessment was not undertaken due to the traffic generated by the proposed development not anticipating adverse or significant impacts to the existing road network.
- It has been observed that there is sufficient sight distance in both the east and west on Soldiers Settlement Road and therefore no mitigations are necessary for the sight view.
- It is recommended that the access to the site is designed from Soldiers Settlement Road as a Basic Right Turn and Basic Left Turn treatment in accordance with Austroads Guide to Road Design.
- The assessment demonstrated that no works are required at the Oxley Highway/ Soldiers Settlement Road intersection as a Basic Left Turn treatment and Basic Right Turn treatment in accordance with Austroads Guide to Road Design are sufficient to cater for the development trip generation.
- To prevent conflict with vehicle coming from Gidley Siding Road and vehicles turning right to Soldiers Settlement Road, it is recommended to install give way line at Gidley Siding Road.
- In accordance with Tamworth DCP, 7 car parking spaces is required for the development. The development will include 10 car parking spaces. Therefore, there is sufficient car parking spaces on the site for parking and manoeuvring.



## APPENDIX 1 DEVELOPMENT PLANS

AP01





# APPENDIX 2 AUSTRAFFIC TRAFFIC COUNTS

AP02



Period Ches I Ches I Ches Ches Ches	and Grant Gr	man   Grant   Grant	Giant Count	n i Class I Cl	mai Gen Gen Gan Chan Chan Chan Chan Chan Chan Chan Ch	Grand	Chan't Ches I Ches Ches Ches Ches Ches Ches Ches Ches	Garan's Canada C	Total Ches   Che
886.846 0 0 0 0 0									
44.44 1 0 0 1 0									* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
48 48 1 1 1 1 1 1									
045-165 0 0 0 0 0									1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
18.115 5 5 5 5 5									
18.18 1 1 1 1 1									
141.200 0 0 0 0 0									1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
145-246 0 0 0 0 0 246-246 0 0 0 0 0									
241.200 0 0 0 0 0									* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
200.200 0 0 0 0 0									
245.388 0 0 0 0 0									
100.145 0 0 0 0 0									
241.200 0 0 0 0 0									8 0 0 0 0 0 0 0 0 0 0 0 0 0 8 8 MAGE 20
10-10 1 0 0 1 0									
245.450 0 0 0 0 0 405.455 0 0 0 0 0									* * * * * * * * * * * * * * * * * * *
400-415 0 0 0 0 0									
441.488 0 0 0 0 0									
AM-AM 0 0 0 0 0									
141.400 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0									
10.10									
10.4st 1 0 0 0 0									
14.44 1 1 1 1 1									
400.445 2 0 1 2 0									
441.400 0 0 0 0 0							7 2 1 2 2 2 3 3 3 3 3 3 3 3 1		4 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 1 1 1
480.445 1 0 0 1 0				1 0 0 0 0 0 0 0 0			14 0 1 1 1 0 0 1 1 0 0 2 1 0	2 4 4 1 4 4 4 4 4 4 4	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
445.766 0 0 1 0 0					3 4 1 1 1 0 1 1 0 1 0 1		0 1 0 0 0 0 0 0 0 0 0 0		1 0 0 1 1 0 0 1 0 0 0 0 1 0 1 0 1 M
744-746 0 0 0 0 0				0 0 0 0 1 0 0 0 0 0					1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
744.388 t 0 0 0 0							*		2
744-746 2 0 0 1 0					3 3 3 3 3 3 3 3 4 1 3 4 4				1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
							15 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		* * * * * * * * * * * * * * * * * * *
745-886 0 0 1 0 0 846-846 0 0 1 0 0							15131313131313131313		
10.46 1 2 1 2									
Ast. 40 1 2 2 2							N		
***** * 0 0 0 0							20 1 1 0 1 0 0 1 1 1 0 0 1		
445.400 2 0 1 0 1					2 4 1 2 2 2 2 4 4		10 1 0 0 0 0 0 0 0 0 0 0		2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
## ## 2 0 1 0 1 ## ## 1 0 1 2 0 ## ## 1 0 0 0 0							10 4 2 1 0 0 0 0 0 2 1 0 4		
*#E-1000 0 0 0 0 0							38 1 2 1 2 0 0 0 1 0 1 0 1		1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1999-1915 0 0 0 0 0									* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1011.1000 0 0 0 0 0							K 2 2 2 1 1 2 2 2 2 2 2 2 2 4		* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1939-1945 0 0 0 0 0							N 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
1945-1146 1 0 0 0 0							20 2 2 2 2 2 2 2 2 2 2 2 2 2 2		
1166-1166 2 0 1 2 0							0 2 1 1 2 2 2 2 2 2 2 2 2		* · · · · · · · · · · · · · · · · · · ·
							* * * * * * * * * * * * * *		
1141-1244 1 0 0 0 0							4		
00.00									
1241-1248 1 0 2 0 0									
128-126 2 1 2 2 2									
1246-1246 0 1 0 0 0 0									2 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
144-44 2 0 0 0 0				0 0 0 0 0 0 0 0 0 0	2 0 1 1 0 0 0 1 2 0 0 10		1 2 1 1 2 2 2 2 2 2 2 2 2 2		2 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
1241-1222 1 0 1 0 0				0 0 0 0 0 0 0 0 0 0			20 1 1 1 2 2 2 2 1 2 2 2	1 2 2 1 2 2 2 2 2 2 2 2	4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 <b>4 40 100.000 M2</b>
1200-1200 0 0 1 0 0							20 6 3 8 1 0 0 0 0 2 2 0 0 M		* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1345-1466 0 0 1 1 0									1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1888-1815 0 0 0 0 0					2 0 1 0 0 0 0 1 1 0 0 4				* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
144.444 1 1 1 1 1									
100 to 1 1 1 1 1									
1500-1505									
1816-1820 0 0 0 0 0							20 5 3 1 2 2 2 2 2 1 2 1 2 2		* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
18.08.18.08 0 0 0 0 0					2 0 0 0 0 0 0 0 0 0 0 0		20 2 2 1 1 1 2 2 2 2 2 2 2 2 2		
15.65.1666 3 0 0 0 0				0 1 0 0 0 0 0 1 0 1	2 2 1 3 3 3 3 4 1 1 6 8		a 6 2 2 2 1 0 2 2 1 1 1 2		7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1606-1616 2 0 1 0 0							* 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		3 0 0 0 1 C 0 0 0 0 0 0 0 0 0 T 18 188.08 M
1815-1800 0 0 1 0 0				0 0 0 0 1 0 0 0 1 20					* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Det. (300 0 0 0									
1746-1746 0 0 0 0 0									
1746-1860 0 0 0 0 0							20 1 2 1 2 2 2 2 2 2 3 3 4 4		
1846-1845 0 0 0 0 0							2 2 2 2 4 4 4 4 4 4 4 4		
44.44 1 1 1 1 1									
1806-1805 0 0 0 0 0				0 0 0 0 0 0 0 0 0			0 0 1 2 2 0 0 2 0 2 0 0		* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1848-1948 0 0 0 0 0 1848-1848 0 0 0 0 0							46 1 1 8 8 8 8 8 8 1 1 1 8 8 M		* * * * * * * * * * * * * * * * * * *
100.000 1 0 0 0 0									* * * * * * * * * * * * * * * * * * *
1841-1848 0 0 0 0 0 1841-1848 0 0 0 0 0									* * * * * * * * * * * * * * * * * * *
100 MM 1 1 1 1 1 1							1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
1945-3600 0 0 0 0 0 3600-3610 0 0 0 0 0							1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -		
27.00							1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3		
2011.2000 0 0 0 0 0 2011.2000 0 0 0 0 0									
2045-2149 1 0 0 0 0									
21.00-21.00 0 0 0 0									
2006-2006   1									# 0 0 0 0 0 0 0 0 0 0 0 0 0 # 11 PRESENTED BY
21.00.2100 0 0 0 0 0									
21-16-2200 0 0 0 0 0									
2000 2000 0 0 0 0 0									
23-11.2020 0 0 0 0 0 2020-2020 0 0 0 0 0									* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2000.2000 1 0 0 0 0									* * * * * * * * * * * * * * * * * * *
ma.ma									
2000-2015 0 0 0 0 0									
20-01-20-20-2									1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
									* * * * * * * * * * * * * * * * * * *



	Note
<tbod>3355&lt;</tbod>	6 2 0 1 10 14 14 15 17 2 0 1 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1
 > <	6 2 0 1 10 14 14 15 17 2 0 1 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	6 2 0 1 10 14 14 15 17 2 0 1 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	6 2 0 1 10 14 14 15 17 2 0 1 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1
 >  <th>6 2 0 1 10 14 14 15 17 2 0 1 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1</th>	6 2 0 1 10 14 14 15 17 2 0 1 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	6 2 0 1 10 14 14 15 17 2 0 1 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1
 > > > 	6 2 0 1 10 14 14 15 17 2 0 1 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	6 2 0 1 10 14 14 15 17 2 0 1 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	6 2 0 1 10 14 14 15 17 2 0 1 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	6 2 0 1 10 14 14 15 17 2 0 1 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	6 2 0 1 10 14 14 15 17 2 0 1 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	6 2 0 1 10 14 14 15 17 2 0 1 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	6 2 0 1 10 14 14 15 17 2 0 1 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	6 2 0 1 10 14 14 15 17 2 0 1 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	6 2 0 1 10 14 14 15 17 2 0 1 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	6 2 0 1 10 14 14 15 17 2 0 1 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	6 2 0 1 10 14 14 15 17 2 0 1 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	6 8 0 8 10 10 10 10 20 0 8 1 10 10 20 0 8 1 1 0 8 2 10 11 4 0 8 2 10 10 10 10 10 10 10 10 10 10 10 10 10
	0 0 0 0 10 10 10 10 0 1 1 0 0 0 0 0 0 0
	0 0 0 0 0 0 00 11 00 0 0 0 0 0 0 0 0 0
	0 0 0 8 20 11 20 6 0 1 0 1 7 10 1 0 10 10
	0 0 0 0 g 200 10 20 A 0 0 0 1 0 10 20 A 0 0 0 1 0 10 1 0 20 A 20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	0 0 0 1 26 11 26 21 2 2 2 0 0 0 0 0 0 0
	0 0 0 0 1 200 15 20 7 8 0 0 0 1 300 15 20 7 8 0 0 0 0 0 0 10 10 0 0 8 0 0 8 0 0 0 0
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	0 0 1 0 1 20 14 20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Hard Control (1) (2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	0 0 0 0 0 10 17 15 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	0 0 0 0 8 200 20 12 8 2 0 1 0 1 1 1 0 20 0 0 0 8 200 24 15 8 2 8 0 1 0 1 0 1 0 0 0 20
	0 0 0 0 0 10 10 10 10 0 0 0 0 1 10 10 1
	5 5 5 4 14 25 14 5 2 1 5 3 14 5 1 2 1 8 3 14 5 1 5 24 1
15.00 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	0 0 0 0 10 10 20 18 8 8 1 0 1 0 10 10 2 0 20 0 0 0 1 20 15 10 7 8 1 1 1 15 11 8 0 20
	2 2 2 1 20 1 20 14 15 15 15 1 1 1 1 2 1 2 2 2 20
94. Sept. 1.	8 8 9 1 20 14 15 15 15 15 15 15 15 15 15 15 15 15 15
06.00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 10 10 7 0 2 0 0 10 10 0 0 10
	0 0 0 0 0 16 16 0 7 0 0 1 0 0 1 0 0
100 100 100 100 100 100 100 100 100 100	0 0 0 2 18 20 15 7 3 1 0 1 15 1 0 20 1 0 20 1 0 1 1 1 1 1 1 1 1 1 1 1
	0 8 0 8 300 21 32 7 3 0 8 1 1 0 2 1 0 8 1 0 1 0 8 1 0
3. Mar. 3. J.	0 0 0 0 00 20 20 7 2 1 1 1 0 0 0 0 MA
Man   1   1   1   1   1   1   1   1   1	0 0 0 4 200 14 17 5 2 2 1 1 0 11 2 0 201
	0 0 0 0 0 0 0 00 10 10 10 0 1 0 0 1 0 0 1 0 0 0 0
90 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 10 10 10 10 1 1 1 1 1 1 1 1 1 1
	0 0 0 1 20 06 17 6 1 4 0 0 7 7 6 0 MM
9.500 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	8 8 9 9 2 343 27 21 9 2 6 9 2 4 6 3 9 304
	0 0 0 1 20 20 27 11 2 2 2 2 4 10 4 0 40
	0 0 0 t 10 17 17 10 t 1 t 0 t 1 1 1 1 1 1 1 1 1 1 1 1 1
	** * * * * *** *** *** *** ** * * * *
	2 2 2 2 20 10 11 1 2 2 2 2 2 11 1 2 20 20 20 20 20 20 20 20 20 20 20 20 2
	8 8 8 8 80 11 1 2 8 8 1 8 2 8 80
	0 0 0 0 0 00 0 00 0 0 0 0 0 0 0 0 0 0
	0 0 0 0 10 10 0 0 0 0 0 0 0 0 0 0 0 10 0
	0 0 0 8 10 A 5 2 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	* * * * * * * * * * * * * * * * * * *
	* * * * * * * * * * * * * * * * * * *
	6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0













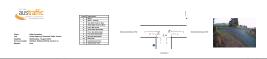
HOUSE V FLOW	Workers .			Bounds.			-	100 T			Water II				Econor.			English Co.			Total Control		Emile Emile	ru			English			Economic Section 1		
Chara 1 Clara	Chan Chan Chan Chan Chan Chan Chan	m I Gass Chan Chan Chan Chan C	nd Com t Chan i Com Green Com	nt Chart Class   Class	na ti Chana ti Chana ti Chana ti I	Test Class Class 2	Green Channel Channel Ch	ma I Ganna I Ganna I Ganna I	Charact Charact Charl	Chen I Greek Chen Com C	ins f Gres Com Com Com f	Gass & Glass & Glass O' Glass	na t Tena Ciara t Ci	Dani Gen Gen d Gen	Charl Care Care C	Chant Chant Com t Chants Inc. Co.	at Gent Ches Ches Co	a Come Come Come Come Come Come Come Come	Date of Case of Tens	Canal Casal Com Com a Chesal Com	Gent Gent Gent Gent Gent Gen	Tend Great Great	Green of Green of Green of Green	Circu V Ciana V Ciana V Ciana	and Great Chart Chart C	ins d Chara Chara d Chara C	Great Cheat Cheat Co	ma V Class 10 Class 1 Class 1	Cana Cana i Cana Cana Cana	Grand Grand Grand	t Ches I Cass I Gass II Gans	1 Inci Cinc Cinc I
\$16.416 0 0										1 1 1 1					1 1 1															1 1 1		1 1 1
88-18 T T					2 0 0 0	2 0 0									1 1 1																	10 1
100.000 0 0																																7 7 7
146-246 0 0					2 1 0 0							0 0 0 0															0 0 0 1				1 0 1 0	4 0 0
100.000 0 0																																
240-340 0 0																																1 1 1
245.246 0 0					2 1 2 2																											4 0 0
240.140 0 0																																1 1 1
200-200 0 0					2 1 2 2																											
100-100 0 0																																4
245-245 0 0																																0 0 0
400-400 0 0																															2 0 0 0	
40-40 0 0					1 1 1 1					1 1 1 1					1 1 1							1 1 1								1 1 1		H 1 1
444-445 0 0					2 2 1 1 2																											
E41.445 0 0			. 3 . 7			* * *																										# · ·
10.00 1 1					0 4 6 0	ca 6 0	0 0 1					0 0 0 0	0 0 0														0 0 0 1		. 20 1 2 0 1			
100.000 1 0			1 0 5 4 6 6	1 1 2	9 7 1 1	- 1 · 1																		1 1 1					* 20 2 3 1 1 * 20 2 3 1 1 1			H
444.744 1 0			1 0 7 11 6 3	1 1 1	1 1 1 1 1	- 1	1 1 1 1		- 1	1 1 1 1					1 1 1		1 1 1 1		0 0 1			1 1 1 1		1 1 1 1		1 1 1 1				1 1 1	1 1 1 1 1	4 1 1
440.340 1 0			0 4 15 3 3		0 4 1 4	1 0			0 0 1		0 0 0 0								0 0 1										4 65 2 2 1 2	0 0 0	1 1 2 2	3a 1 2
244.346 × 0	<del>                                      </del>				1 1 1 1 1					1 1 1 1					1 1 1		1 1 1	+++++++	0 0 1		<del>                                      </del>	<del>           </del>		1 1 1						1 1 1	+ + + + + +	
746.846 6 1			9 80 8 10 3 0			10 t							0 0 0						0 0 2										4 10 4 4 1 4	1 0 0	1 1 1	126 0 0
746.446 2 1			8 00 0 11 0 0 8 00 0 10 0 0		8 8 1 8	68 0 1				1 1 1 1					1 1 1				0 0 2			1 1 1							# 116 7 6 2 8 # 116 3 6 2 8	1 0 0	1 2 0 0	100 0 0
444.444 4 0			10 7 10 2 0		1 1 1																										4 6 9 9	
A44.445 5 0			1 10 1 10 1 0	0 0 0	6 4 2 2	100 0 0																							1 00 5 5 6			186 1 0
AM. 445 4 0				0 0 2	7 4 2 4									1 1 1 1	1 1 1														1 98 7 6 1 1	0 0 1	4 7 4 4	166 1 0
949.1949 4 0			8 7 7 6 2						0 0 1																				1 00 A 6 1 2		8 8 1 8	148 1 0
***-*** 1 0				2 2 2		G			0 0 1	1 1 1 1					1 1 1							1 1 1								1 1 1	1 1 1 1	101 1 1
84E-164E 2 0			4 4 4 2			10 1 1	2 0 0 0																						8 116 10 6 1 2		1 2 1 2	100 1 1
1212-1112 1 0				2 0 2	7 4 6 6	m 2 1																										100 1 1
1222-1122 2 0			a 16 4 1 2			m 2 1	2 0 0 0																						g 116 10 6 3 1	0 0 1	4 2 1 2	146 0 0
1100-1000 5 0			4 30 4 7 1 4																													100 1 1
11.05.0205 4 0			a m 2 4 2 2		2 1 2 1	1 0			0 0 1										0 0 1										4 N 6 7 2 8			188 0 0
11.00.000 2 0														1 0 1 0															. 80 7 7 6 8		7 4 9 9	105 0 0
1240-1240 4 0			4 100 11 2 1 1			100 2 0																							1 30 A A G B	2 4 4	5 5 0 0	114 0 0
1245-1246 4 0						100 1 0			0 0 1																				1 10 7 6 6 8	2 4 4		124 0 0
1248-1246 5 1			4 40 40 6 2 1		1 1 1 1	GE 2 0				1 1 1 1					1 1 1							1 1 1							* N 7 4 2 4	1 8 1	6 6 1 8	100 0 0
1240-1440 1					2 6 0 0	a 1 1									1 1 1														. 16 10 10 1 1		4 4 1 2	124 0 0
1249-1449 4 1			4 4																												1 1 1 1	100 0 0
1345-1445 5 0					2 1 1 1	ma 2 0													0 0 1										e na 7 na 6 2	0 0 1		
1240-1446 5 0						m : :																									4 4 2 4	100 0 0
1406-1606 5 0						00 T			0 0 1																				8 106 A 12 2 1		7 7 8 8	148 0 0
1500-1000 1 0			7 80 11 4 2 8 8 10 5 5 2 8			100 1 0																							# 100 11 10 # 2 # 116 15 10 E 1	4 0 1	1 1 1 7	188 2 1
1848-1848 6 0			4 (3 8 4 4 9			148 A A			0 0 A				0 0 1						0 0 1								0 0 0 1		4 O1 13 0 6 1	8 0 2	2 1 2 2	188 2 1
18.00.1000 F 0			9 CB 6 4 2 0			us 1 0																								2 0 2	5 5 1 7	100 1 0
1846-046 0 0			1 10 1 1 2 2			4 A																							8 10E 7 13 6 2	1 0 2	4 4 2 2	
1841-046 0 0			1 10 A 6 0 2			GR 6 1			0 0 7	1 1 1 1					1 1 1		0 1 0 1		0 0 1			1 1 1							8 100 7 11 A 2 8 100 7 9 8 1	1 1 1	2 A 2 C	101 1 0
1848Oak 7 0			,	0 0 1		sep à 1																							. 100 7 8 1 8	0 0 1	7 4 1 9	140 1 0
1746-1846 7 0 1746-1846 8 0					2 2 2 2	100 1																		1 1 1					. 20 4 4 4 4			# 1 2
1740-1440 0 1					1 1 1 1					1 1 1 1					1 1 1	1 1 1 1 1		1 1 1 1 1				·   ·   ·									1 2 1 2	
1746-1646 8 1					1 1 1 1						0 0 0 0																		4 D 1 4 2 1	0 0 0	1 2 1 2	16 0 0
12.02.02.02					1 1 1 1 1					1 1 1 1					1 1 1			+++++++			<del>                                      </del>	<del>           </del>		1 1 1						1 1 1	1 1 1 1	
1800-1900 3 0										1 0 0 1																			1 10 2 2 0 0			B 0 0
1846-1846 2 0										1 1 1 1					1 1 1									1 1 1 1						1 1 1	1 7 1 2	4
1815.2815 2 0										1 1 1 1																			. 20 1 2 0 0		9 7 1 9	
1945-2045 1 1															1 1 1		1 1 1 1							1 1 1 1							1 1 1 1	15 0 0
2000.2000 0 0															1 1 1				0 0 1												1 1 1 1	18 0 0
2010.2010 1 0					1 1 1 1										1 1 1		1 1 1 1					1 1 1		1 1 1 1						1 1 1	1 1 1 1	0 0 0
200.200 1 0				1 1 1						1 1 1 1		1 1 1			1 1 1			1 1 1 1 1				1111									1 1 1 1	4 1
21.00.2200 1 0									0 0 1																							16 0 0
21.00.2000 0 0						4 1 1	11111			1 1 1 1					1 1 1							1111		1 1 1 1						1 1 1	+ 1 1 1 1 1	1 1 1
21.05.2245 2 0						a 1 0																								0 0 0	0 2 1 0	9 0 0
24.24 1 1															1 1 1									1 1 1 1							+++++	
20.00.000 1 0						4 0 0																									1 1 1 1	
2041.2041 1 0															1 1 1		1 1 1 1					1 1 1		1 1 1 1						1 1 1	1 1 1 1	1 1 1
			4 1 1 1 1 1 1 1 1	1 1 1 1	1 1 1 1 1	-1 -1	1 1 1 1	1 1 1	1 1 2	1 1 1	1 1 1 1		1	1 1 1	1 1 1 1		1 1 2 2	1 1 1 1 1 1 1			1 1 1 1 1 1	1 - 1 - 1 -	1 1 1 1 1 1		1 1 1	1 1 1 1		1 1 1	-1 1 1 1 1 1 1			1 - 1 - 1 -

Period Green Co	ion d Com	Gana di Giana di Giana di Giana	N Chan t Gara + Gara	for the f	Cierca di Chema (Ci	hand Great Grea	of Cheal Cheat	Com a Com to Chen	Garant Ter	of Class t Class i	Clara Clara 6	Chan I Chan I Chan I Chan I	Ches I Care 9 Gara	Cana i Smal	Cinco V Cinco ii Ci	em Gent Gent G	Michigan I Com I Com I	han t Gless t Gless	the Com	a I Class I Ches Co	na i Chan i Cian i Cian	) Ches I Ches I Ches II Ches	n t Chant To	nai Circa 1	Danni Chern Garre e Chen	district of the last of the la	Dent Chest Ches	t Care to Care to	lesi Sesiofat	Peak New Yolana
March   Marc																													: :	848.166 14
600.60E 0																														800.100 17
140.115 0																													: :	100.200 12
141.120 0																														100.200 11
146.200 0		1 1 1 1																												165.245 13
241.241 1																													: :	246.246 41
200.205 0																														200.300 14
245.346 0 246.346 0																													: :	246.146 () 140.466 ()
241.200 0																													- :	100.000 O 100.000 II
141.441 1		1 1 1 1	1 1 1	1 0							0 0	1 1 1 1	1 1 1	1 1															+ 1	100.000 M
441-445 2																														440-440 74 446-441 40
AM-AM 1		1 1 1 1																												400-500 SP
50.55 1									1 :														1 : 1 :							100.100 CB
644.630 0																														100.100 130 110.111 140
E4E-64E 1									1 1																				: :	100.100 100 105.105 100
800.615 0					0 0																									100.700 200
441.445 1			1 1 1	1:1:	0 0		1 0		111	1 0										1111		11111				0 0		1111	+ :	646.766 28 646.766 28 646.766 28
646.760 U	0 0		1 1 1							4 1				4 1								1 1 1				0 0				
7 m . 3 m 0			1 0 0						Ш.	1			1 1 1	11:	1 1					1 1								1 1		7-00-8-00 200 7-00-8-00 200 7-00-8-00 200 8-00-8-00 200
746-746 0		1 1 1 1											1 1 1									1 1 1							- 1	746-846 246 746-846 276
A40.845 0	. :		1 1	1			1 1			1 1					1 1				1 .			1 1 1				0 0		1 1		
844.846 0																										0 0		0 0		8-6.400 20 8-0.400 20 8-0.400 20 8-0.400 20 8-0.400 20
A-61.440 2																														200 - 200
941.440 0																										0 0			1 N	8-15-10-15 200 8-15-10-15 200
*** *** 1																													: :	100.1000 277 105.1005 288
1949-1915 2		1 1 1 1	1 1 1								0 0	1 1 1 1	1 1 1																	1000,1100 200
1941-1965 0																													: :	***************
1846-1146 2																														104.114 24
11.00.1100 0									1 :																					1146 - 1246 - 246 1146 - 1246 - 246
11.00.1105 0																														ma. 1200 200
11.00 0 0 10.00 0 0 10.00 0 0 0 10.00 0 0 10.00 0 0 10.00 0 10									1 .																				: 2	COM. 1245 286 COM. 1246 286 COM. 1246 286 COM. 1246 286 COM. 1246 286 COM. 1246 286 COM. 1246 286
1211.1200 0											0 0																		: :	1215.1216 28
1241-1241 1									1	1 1																		1 1		1245.1345 240
104.00 1																														1040.1460 260
1246-1246 2																														100.100 IN
1245-1250 0 1245-1250 0																														1000.1000 270
1415-1400 0																														1000.1000 274
1446-1446 0				1					111																					100.110 20 100.110 20
1400-1400 0 1400-1400 0 1400-1400 0																														**********
18.00.18.05																														********
1646-1646 0																													: :	100 100 20 100 100 20 100 100 20 100 100 20 100 100 20 100 100 20
1616.1600 0																														1816.1716 330
1646.046 0																														1846-1746 470
Team   Color   Team													1 1 1									1 1 1								040.1800 200 010.1810 20
1740 - Oak 2			1 1 1	1			1 1			1 .	1 1				1 1							1 1 1				0 0				OH.148 20
1741-1440 1									1																	0 0		1 1	: :	C-8.188 CS
44.40																														****
18.00.1808 0									111				1 1 1													0 0			: 1	10.00 .10.00 10.00 10.00 .10.00 20 10.00 .20.00 20
100.000 1																										0 0				10.00 AU 70
1920-1940 0			1 1 1						Ш.	1			1 1 1	11:	1 1								111					1 1		*********
1945-2000 1 2000-2015 1		1 1 1 1																				1 1 1							: :	10.00 E
2010 - 2010 2 2010 - 2020 2 2010 - 2020 2 2010 - 2010 2 2010 - 2010 2 2010 - 2010 2 2010 - 2010 2																		1 1 1												2015.2116 60
20-00-20-00 0 20-01-21-00 0				1 : 1					1 :																	0 0		1 1	: : :	20.00 A
21.00.2115 0																														2100.0000 30
21.00.2100 0			1 1 1		0 0		1 1		11:	1 0			1 1 1					1 1 1	1 : 1 :						1 1 1 1	0 0		1111	: :	21.05.22.05 26 21.05.22.05 26
21.01.2200 1 22.01.2215 1																													: : :	21.00
22-15 . 20-20 0			1 1 1	1.	0 0				111						0 0			1 1 1	1 .			1 1 1				0 0		1111	# 11	2011.2011 24
20-00-20-00 0													1 1 1									1 1 1								201.00
20.00 - 20.00 0			1 1 1							1 .			1 1 1									1 1 1				0 0			- 1	2016 - 2016 20 20 20 20 20 20 20 20 20 20 20 20 20
20-01-20-00 0 20-01-20-00 0									11										1 : :	1 1								1 1 1	: : :	PRPM III
1141.444 1										1 .																				
SEPER S									1	2 4					1 1															
Paren a				100					100	100				100	100	1000	1 1 1	20 20 2	1000	100	100		100	100	2 2 2 2	100	2 2 2	100 PM	- W	

MANUFACTURES MANUFACTURES	En storit.  Worston IX	Microsoft Microsoft	80 (00.00 T)	MATERIAL DE MATERI
### Green # Gr	20 Class   Cla	2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	See	1 Tank (Start   Start   Start
##-148 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				* * * * * * * * * * * * * * * * * * *
144-145 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				
166.266 0 0 0 0 0 0 0 0 0				
186-88 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				8
200.300 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				
200.200 0 0 0 0 0 0 0 0 0 0				8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
245.545 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0
245-245 2 0 0 2 0 0 2 2 0 0				
AM-AM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0
ANI.455 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0
48.48 1 0 0 1 0 0 1 1 0 0				8
Kell-Rest 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
\$45.445 0 0 0 0 0 0 0 0 0 0 0				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Editor 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
6.61.761 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				
4M-3M 1 0 0 0 0 0 0 0 0 0 0				
\$46.346 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0 4 5 10 10 10 10 10 10 10 10 10 10 10 10 10
741.465 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0
746-846 0 0 0 0 0 0 0 0 0 0				0 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
##.## 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
860.466 0 0 0 0 0 0 0 0 0 0 0				0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
******* * * * * * * * * * * * *				0 7 8 10 10 10 10 10 10 10 10 10 10 10 10 10
\$46.466 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				8 4 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
******* * * * * * * * * * * * * *				0 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1881-1188 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				6 4 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
**************************************				4 4 5 7 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
1181.088 1 1 1 1 1 1 1 1 1 1 1 1				0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
				0 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1146-1266 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				
1215-1215 2 2 2 2 2 2 2 2 2 2 2 2				
120E-120E 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0 4 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1
1141-145 0 0 0 0 0 0 0 0 0 0 0				0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1380-1488 0 0 0 0 0 0 0 0 0 0				0 4 5 5 6 6 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6
1848-1848 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1				0 4 5 5 6 5 5 6 5 5 6 5 5 6 5 5 5 5 5 5 5
144.444 2 0 0 0 0 0 0 0 0 0				0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
**************************************				0 4 6 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1545-966 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0 H 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1600-1600 0 0 0 0 0 0 0 0 0 0 0				6 M
15.611564 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1444-014 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0
Hall-Car 2 2 2 2 2 2 2 2 2 2 2 2				0 . 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1788-1888 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
THE SEE S C C C C C C C C C C C C C C C C				
140.000 1 1 1 1 1 1 1 1 1 1 1 1				8 2 4 5 5 6 7 7 8 7 7 8 7 7 7 8 7 7 8 7 7 8 7 8 7
1881-1888 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1848-1848 2 0 0 0 0 0 0 0 0 0 0				
1981-2008 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
19.06 .3050 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0
200-200 1 0 0 1 0 0 1 1 0 0				
24:45,24:55 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
10st. From . 10st				
24 46 26 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4				* * * * * * * * * * * * * * * * * * *
2+00-3000 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0
200 200 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
2011-2016 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				0
2041-2144 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				



Note: 1 1 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			Camp   Camp		# Chan't Chan't Chan Chan't Ch		
88 484 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	1 1 0 0 0 0 0 0 0 0 0 0 0 0 0			0 0 0 0 0 0 0 0 0 0 0 0 0			1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
146.546 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0							* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Hada 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8							* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
28.38							* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Marie   2   0   0   0   0   0   0   0   0   0							* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
MA-MA 2 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0							* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Marie   Mari							* ************************************
44-44 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0							* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
84.48 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0							* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Marie   Mari							* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
94-544							# 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
76-M4 2 3 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					2 2 3 4 4 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6		
HAMAN	1	· · · · · · · · · · · · · · · · · · ·				· · · · · · · · · · · · · · · · · · ·	* * * * * * * * * * * * * * * * * * *
Maria   Mari							* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
14. 14. 14. 14. 14. 14. 14. 14. 14. 14.							1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
148-(488 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						0	* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
HIGHNA 2 C C C C C C C C C C C C C C C C C C							* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
111-1111							* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
144-04 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1		0	0		0	** *** *** *** *** *** *** *** *** ***
148-148 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0							* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
144-144							* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Hands 1 2 2 3 3 3 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5							* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
HILLING B. C.							1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Man-rate 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0							1
144.488	1	• • • • • • • • • • • • • • • • • • •	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
MARCON							1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Maria   Mari							* 0 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
143-143 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0							* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Marie   Mari							* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
144_488							* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
MARIANO							* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Median 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0							* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Market   M	· · · · · · · · · · · · · · · · · · ·					* * * * * * * * * * * * * * * * * * *	* * * * * * * * * * * * * * * * * * *
Mariana   1	3         4         5         5         6	* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0	0			* 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
HMC-104 5 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8							
					0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		* * * * * * * * * * * * * * * * * * *



Test Prince	No. of Street,				BOOKEN .			EXCHANGE EXCHANGE			Workers			Entrart .			TOTAL IN		Water and the		E	280			Record 124				Esta for
000.100 0 0	Const Const Const Cons	2 0 0	2 0 4	Com t Chan i Mars Green Chan t Ci		O O O O O	0 0 0 0	0 2 2 0	0 0 0 0 0		Sant Sant Sant Sant Sant	0 0 0 0 0	e o o o o		 	2 0 0 0	Dann   Green # Green # Green 10 Green 1		 o o o o	Care to Chan t Tana Green	Conn. i Conn.	on a constituent		0 0 0 0	0 0 0 0	0 0 0 0 0	s o o	Omn Green C	Const Green Ches & Const Const Ches & Const Const Const
6M-1M 0 0															 				 										
160-360 0 0															 				 										
100.200 0 0															 				 										
146.246 0 0															 				 										
241.245 0 0						1 1 1 1					1 1 1 1				 		1 1 1 1		 										
240.500 0 0 240.500 0 0															 				 										
100.400 0 0 101.405 0 0															 				 										
10-10 1 0 10-10 1 0															 				 										
40.400 0 0															 				 									0 0 0	
40.40 0 0										: : : :					 			1 1 1 1	 										
541-545 0 0 541-546 0 0		1 1 1													 				 										
641.645 0 0 641.646 0 0															 				 								: : :		
646-646 0 0 646-748 0 0				2 2 2 2 2											 				 										
441.741 0 0				1 2 2 2 2		0 0 0 0									 			0 0 0 1	 									0 0 0	0 0 0 0 0 0 0 0
646.746 0 0			: : :	2 2 2 2 2											 			1 1 1	 		1 1 1 1 1 1 1								
144.446 0 0 744.446 0 0				2 2 2 2 2											 			0 8 5 0	 	0 0 7 0							8 14 1 8 17 1	2 2 2	
746-846 0 0															 				 										
AM. AM. 1 1		1 1 1	1111								1 1 1 1				 0 9 0 0		1 1 1 1		 1 1 1			1 1 1		1 1 1 1	1 1 1 1				
841.445 0 0 841.446 0 0			: : :	3 0 0 0 0											 				 								8 15 0		0 0 0 0 0 0 0 0
101.101 1 1		0 0 0		2 2 2 2 1		0 0 0 0		0 0 0 0							 		1 1 1 1 1	0 1 1 0	 1 1 1 1						1 1 1 1		8 13 0 8 13 0	0 0 1	
******** * *															 				 									0 0 1	
945.1945 0 0															 				 										
1241.1115 0 0				1 1 1 1 1											 				 								1 1 1		
1000 - 1000   3															 				 										
1166-1266 0 0															 				 										
11.00.000 0 0															 				 										
1240-1240 0 0		1 1 1				1 1 1									 1 1 1 1		1 1 1 1		 										
12M-12M 1 0															 				 	0 0 0							1 1 1		
1245-1246 0 0		1 1 1													 				 										
1245-1245 2 0															 				 										
1245-1445 0 0															 			0 0 2 1	 								1 0 2		
1444.4648 0 0															 				 								1 4 1		
1446-1646 0 0															 				 										
1486-1486   0   0   0   0   0   0   0   0   0				1 1 0 0 1			0 0 0 0						1 1 1 0 0		 			0 1 1 0	 0 0 1 0	0 0 7 1			0 0 1				8 20 1 8 17 1	0 0 0	
15.00 - 10.00 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0													2 10 1 1 0		 				 	0 0 4 2			0 0 2				4 20 1		0 1 0 0 0 0 1 2
144.04 1 0			: : :												 				 								8 15 0		
1680-0188 1 0			1 1								1 1 1 1 1				 				 					1 1 1 1					
100   100						1 1 1									 				 1 1 1 1	0 0 0 0			1 1 1				1 1 1		
1744.4848 0 0			: : :			0 0 0 0									 				 	0 0 4 2	1 1 1 1 1 1 1						8 18 0		
1746-1646 0 0															 				 	0 0 4 1	2 0 0 0 0 0						8 15 0		0 1 0 0 0 0 1 0
101.001 1 1			: : :												 				 										
1848-1848 0 0		1 1 1	1111								1 1 1 1				 1 1 1		1 1 1 1		 1 1 1	1 1 1		1 1 1	1 1 1	1 1 1 1	1 1 1 1				
1011-2015 2 2		1 0 0													 0 1 0 0				 									0 0 0	0 0 0 0 0 0 0 0
1944-2645 0 0 2044-2645 0 0															 				 										0 0 0 0 0 0 0
2015-2115 0 0															 				 									0 0 0	
20.00.00			: : :												 1 1 1 1				 1 1 1 1										
11 M - 13 M   0   0		1 1 1				1 1 1 1									 				 										
21.01.22.00 0 0			: : :																 				0 0 0						0 0 0 0 0 0 0
20.00.2100 2 0 20.00.2100 2 0 21.00.2000 2 0			: : :												 				 										
20-11-23-15 0 0			: : :												 				 										
2245.2245 0 0															 1 1 1		1 1 1 1		 1 1 1					1 1 1					
2000.000 0 0		1 .   .   .				1 - 1 - 1 - 1					1 - 1 - 1 - 1 - 1				 				 1 . 1 . 1 . 1		1 - 1 - 1 - 1 - 1 - 1	1111					1 - 1 - 1		



## APPENDIX 3 SWEPT PATH ANALYSIS

AP03

