Environmental Assessment Report

Department of Education
New P-6 & 7-12 State School at South Ripley

July 2018

Department of Housing and Public Works

Queensland Government

Document history

Version	Date	Status	Key changes made	Author/s	Reviewer/s
1.0	06/07/2018	Draft		JZ	MK / TP
1.1	23/07/2018	Final EAR		JZ	

Abbreviations

AHD	Australian Height Datum
ANEF	Australian Noise Exposure Forecast
ARI	Average Recurrence Interval
AS	Australian Standards
ASS	Acid Sulfate Soils
BCA	Building Code of Australia
CLR	Contaminated Land Register
DoE	Department of Education
DES	Department of Environment and Science
DHPW	Department of Housing and Public Works
DSDMIP	Department of State Development, Manufacturing, Infrastructure and Planning
DTMR	Department of Transport and Main Roads
EMR	Environmental Management Register
EPA	*Environmental Protection Act 1994*
EPBC	*Environmental Protection and Biodiversity Conservation Act 1999* (Cth)
GFA	Gross Floor Area
ICC	Ipswich City Council
NCA	*Nature Conservation Act 1992*
PA	*Planning Act 2016*
PR	*Planning Regulation 2017*
PWD	People with Disability
QDC	Queensland Development Code
SEQRP	South East Queensland Regional Plan
SEQ	South East Queensland
SHS	State High School
SS	State School
SPP	State Planning Policy
VMA	*Vegetation Management Act 1999*

Table of Contents

PART A – EXECUTIVE SUMMARY

1 Infrastructure Proposal

With reference to section 36(3) of the *Planning Act 2016,* the below sets out the matters required as part of the Infrastructure Proposal, and prepared in accordance with the Minister's Guidelines and Rules, Chapter 7—Guidelines for the process for environmental assessment and consultation for making or amending a Ministerial designation.

Matter	Proposal Details	
a) the site description including the location of the premises proposed to be designated;	Real property description:	New allotment within part of current Lot 7030 on SP292763
	Property address:	7001 Parkway Avenue, South Ripley
	Registered owner:	Daleswan Pty Ltd ACN 105650075
	Tenure:	Freehold
	Site area:	14.40ha
	Google Earth co-ordinates:	27º41'44.5" S; 152º48'36.2" E
b) any existing uses on the premises proposed to be designated;	Lot 7030 on SP292763 is currently vacant land with no improvements over the site.	
c) existing uses on adjoining sites;	• Vacant land adjoins the site to the north-eastern boundary. • Detached residential dwellings adjoins the site to the south-eastern boundary along Botany Drive. • Vacant land for future open space adjoins the site to the south-western boundary. • Detached residential dwellings adjoins the site to the north-western boundary along Parkway Avenue.	
d) the type of infrastructure;	6 educational facilities 9 facilities at which an education and care service under the Education and Care Services National Law (Queensland) is operated 10 facilities at which a QEC approved service under the *Education and Care Services Act 2013* is operated	
e) information about the nature, scale and intensity of the infrastructure and each use proposed;	***Drawings at Appendix 4***	
f) the intended outcomes of the proposed uses on the site;	The Department of Education has identified land within the Ripley Providence Master Plan Area for the purposes of a proposed new Primary (P-6) and Secondary (7-12) State School to be co-located and operational for the start of the 2020 calendar year. The proposed new P-6 and 7-12 State Schools will be designed with distinctive building and landscape architecture that will incorporate purpose-designed facilities which respond to local climatic and environmental conditions.	

	The building design solution is to deliver educationally functional, fit for purpose, comfortable, health facilities that inspire student learning and support the delivery of modern curriculum initiatives. The design and construction is to be an appropriate mix of innovation and cost effective solution, which takes into account the character of the site landscape whilst achieving a contemporary architectural style. A life expectancy for the major buildings elements is 50 years and major service systems of 25 years. The schools will become an integral part of the local community infrastructure by providing opportunities for the community to assess school facilities. The school will promote a futures orientation and include development of mutually beneficial and sustainable partnerships with the local community organisations with a particular focus on environmental and sustainable future education.	
g) any anticipated impacts on the surrounding infrastructure network (both state and local);	Nil. Impacts on surrounding infrastructure will be fully explored in the Environmental Assessment Report (EAR).	
h) a list of the applicable state interests as identified by the infrastructure entity and a statement about how they relate to the infrastructure proposal;	ECONOMIC GROWTH	The site is in the Ripley Valley Priority Development Area (PDA).
	CULTURAL HERITAGE	The proposed development is located within an area subject to previous clearing, therefore, the nature of the activity is likely to be classified as 'area previously subject to significant disturbance – Category 4', under the *Aboriginal Cultural Heritage Act 2003* (ACHA), Section 28 Duty of Care Guidelines. Subject to measures set out in paragraph 5.6 – 5.12, under Category 4 of the Duty of Care Guidelines, the proposed activities can proceed without further cultural heritage assessment. It should be noted that any Aboriginal cultural heritage, if found, is protected under the ACHA even if DEHP has not recorded it. Contract documents will include provisions for works to cease and the relevant Aboriginal Party to be contacted if evidence of Aboriginal cultural heritage is encountered during site works.
	WATER QUALITY	The site is in a water resource catchment. A stormwater management plan has been prepared and included in **Appendix 14**.
	ENVIRONMENT AND HERITAGE • MSES – Regulated vegetation (category B) • MSES – Regulated vegetation (wetland) • MSES – Regulated vegetation	The site is mapped as Matters of State Environmental Significance (MSES) containing regulated vegetation of various significance. Aerial imagery shows that the subject site has been cleared of vegetation and is bounded by road. The site is heavily disturbed and contains no environmental values. Nil impacts are anticipated to this interest. It should be noted that these MSES matters were identified by the AMEX Corporation P/L

	(intersecting a watercourse) MSES – High ecological significance wetlands	("the developer") at the time of the PDA development application for the Ripley Valley Secondary Urban Centre East and to be addressed in accordance with the conditions of approval by the developer.
	NATURAL HAZARDS RISK AND RESILIENCE • Flood hazard area – Local Government flood mapping area • Bushfire Prone area – Medium Potential Bushfire Intensity and Potential Impact Buffer	The site is subject to flooding (1 in 100 Floodline) as per the Development Constraints map of the *Ripley Valley Urban Development Area Development Scheme 2011.* The Ipswich City Council (ICC) Major Flood Information and Mapping indicates that the land and surrounding area was not subject to flooding from the January 1974 or 2011 flood event. The south-western part of the site is mapped as a Bushfire Prone Area of Medium Potential Bushfire Intensity and Potential Impact Buffer. Aerial imagery shows that the subject site has been cleared of vegetation and is bounded by road. Nil impacts are anticipated from this interest.
	STRATEGIC AIRPORTS AND AVIATION FACILITIES • Wildlife hazard buffer zone • Height restriction zone	The site is in the 8km wildlife hazard buffer area and 90m height restriction zone. The proposed development will not impact on the functionality of the airport owing to building heights not exceeding 3 storeys. The proposed activities to be undertaken at the new schools are not expected to attract wildlife. Nil impacts are anticipated to this interest.
	Refer to Appendix 7 – State Interest Trigger Maps	
i) a statement about any relevant regional plans and state development areas that are applicable to the site and how they are relevant to the infrastructure proposal;	The relevant regional plan is the South East Queensland Regional Plan. The site is in the Urban Footprint land use category. The site is not included in a state development area.	
	Refer to Appendix 7 – State Interest Trigger Maps	
j) sufficient information to address the requirements of section 36(1) of the Act;	The proposed infrastructure meets the criteria in section 36 of the *Planning Act 2016* as the infrastructure will satisfy budgetary commitments for the supply of infrastructure. Refer to the Capital Statement 2017-18 at: https://s3.budget.qld.gov.au/budget/papers/3/3-Capital-outlays-by-entity.pdf	
k) a proposed consultation strategy	***Refer to Part G – Consultation***	

Education and Training

Project	Statistical Area	Total Estimated Cost $'000	Expenditure to 30-06-17 $'000	**Budget 2017-18 $'000**	Post 2017-18 $'000
Building Future Schools Fund	Various	500,000		**28,000**	472,000

	for the proposed designation that has taken into account the level of impact of the infrastructure proposal and that includes a method for consultation with directly affected landowners, adjoining landowners, and identified Native Title parties, differentiated from general public consultation;	
l)	any other matter the infrastructure entity considers relevant to the request.	Nil impacts are anticipated from the proposal

PART B – INTRODUCTION

In accordance with the requirements of the *Planning Act 2016* (PA), it is proposed to undertake an Infrastructure Designation of land within the Ipswich City Council (ICC) local government area on behalf of the Department of Education (DoE) for two (2) new State Schools within Ripley Providence Estate. The proposed designation applies to land located at Parkway Avenue, South Ripley. The proposed new schools are currently located within the parent allotment described as Lot 7030 on SP292763. Note the current Ripley Providence P-6 & 7-12 State School is a working title and final confirmation on the actual school names will be made at a later date, in consultation with relevant DoE stakeholders.

The master planned community of Providence South Ripley, developed by the Amex Corporation (the developer), is anticipated to accommodate up to 20,000 residents.

The DoE will establish two (2) new State Schools within the Ripley Providence Estate. It is proposed to develop a new individual Primary (P-6) and Secondary (7-12) State School on a co-located site within the Ripley Providence Estate. The following scope of works are proposed for the new Ripley Providence P-6 & 7-12 State Schools:

- full site masterplan;
- delivery of stage 1 works of the master plan by year 2020; and
- delivery of future stage works for both the P-6 and 7-12 State Schools as part of the master plan.

The intention of the proposed master plan development is to deliver Stage 1 works in time for the start of the 2020 calendar year. The new P-6 State School is expected to open with between 300 and 400 students in January 2020 with a predicted peak of approximately 1,200 students within 5 to 8 years of opening. The new 7-12 State School will initially open with the Year 7 and 8 cohorts only and is expected to be between 100 and 200 students. The remaining cohorts from Years 9 to 12 will following from the 2021 to 2025 calendar years with a predicted peak of approximately 1,300 to 1,500 students at year 2025.

Building and Asset Services' (BAS) Town Planning Unit has prepared this Environmental Assessment Report (EAR) to provide information in the assessment of the proposed Ministerial designation of land for community infrastructure.

2 Legislative Context

2.1 The Planning Act 2016

A list of infrastructure is set out in Schedule 5 of the *Planning Regulation 2017* (PR).

The PA prescribes the way in which a designation can be undertaken. Chapter 2, Part 5 of the PA (refer **Appendix 1**) prescribes that a Minister, before designating land for infrastructure, must be satisfied that for development the subject of the proposed designation:

- the infrastructure will satisfy statutory requirements, or budgetary commitments, for the supply of the infrastructure; or
- there is or will be a need for the efficient and timely supply of the infrastructure.

One way in which the requirements for adequate environmental assessment and public consultation may be met is for the assessment of the proposal to be carried out in accordance with the guidelines made by the chief executive under the PA, section 36(3). The applicable guideline is the *Minister's Guidelines and Rules* (July 2017) and is available at http://www.dilgp.qld.gov.au). In particular, Chapter 7—Guidelines for the process for environmental assessment and consultation for making or amending a Ministerial designation outlines the five-step process which includes:

1. Planning and Preparation;
2. Minister's Acknowledgement;
3. Draft Environmental Assessment Report;
4. Consultation and State Interest Review; and
5. Finalise Environmental Assessment.

The EAR has been drafted in accordance with the Chapter 7 of the *Minister's Guidelines and Rules* and has been prepared to generally align with Step 3 of the Guidelines.

The effect of a Ministerial designation is that the use of the site for the described community infrastructure and services may proceed despite the local government's planning scheme.

This designation will be undertaken in accordance with Chapter 2, Part 5 of the PA.

PART C – SITE DETAILS

3 Subject Site

3.1 Property Snapshot

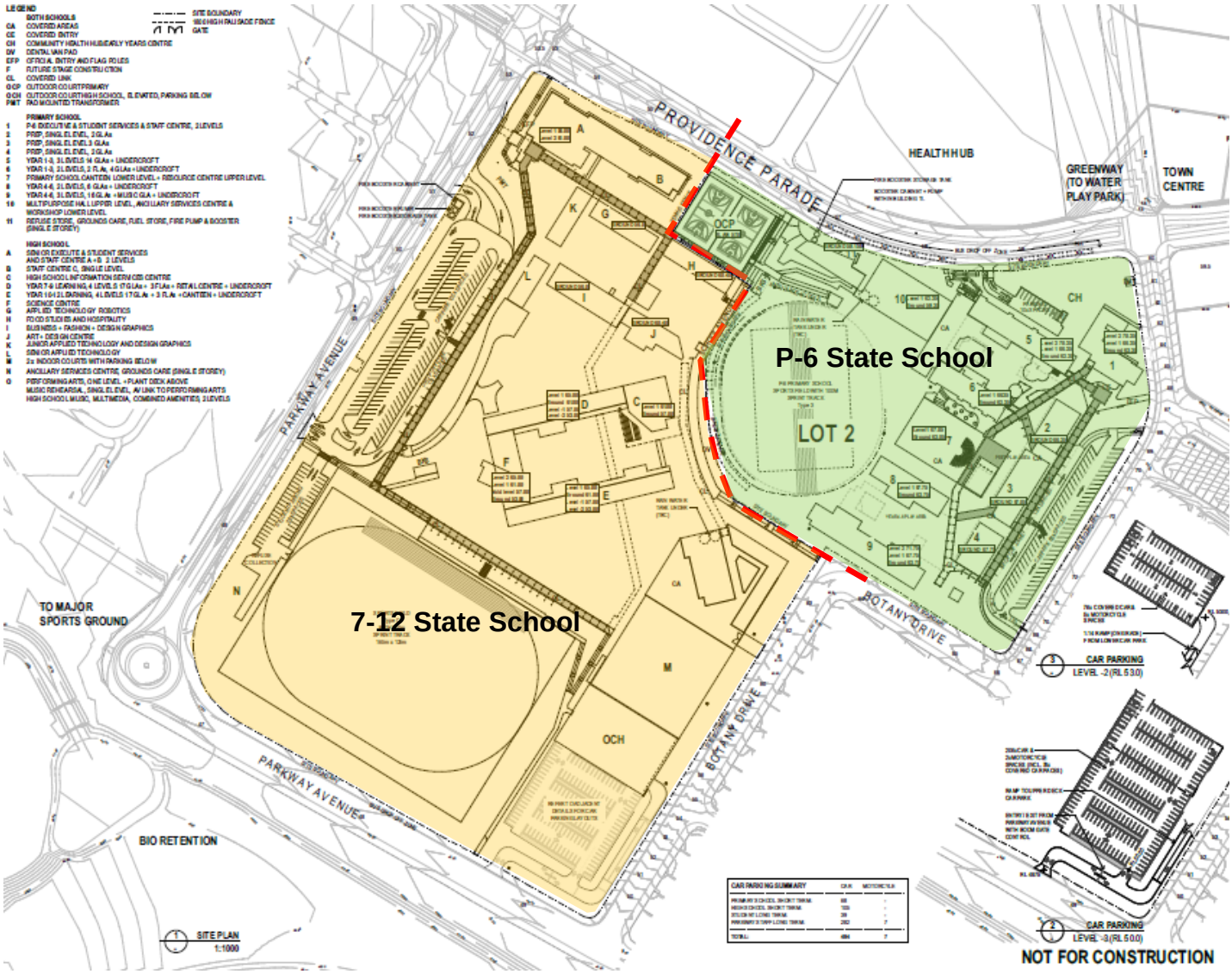
Site Overview	
Street Address	Parkway Avenue, South Ripley
Real Property Description	New Allotment within part of current Lot 7030 on SP292763
Site Area	14.40 hectares
Local Government Authority	Ipswich City Council
Current Land Use	Vacant Land
Regional Plan	South East Queensland Regional Plan

3.2 Ownership and Tenure

The proposed school allotment is currently within part of Lot 7030 on SP292763 which is owned by Daleswan Pty Ltd.

The State of Queensland (represented by the Department of Education) is currently in negotiations with the land owner, and it is expected that the land will be transferred to the ownership of DoE by October 2018.

It is intended that each school will be contained on an individual allotment with the common boundary being the internal road access known as ‘School Avenue’ dividing each campus. This is generally shown in the below illustration:



3.3 Location

The site is located within the ICC local government area. As illustrated in *Figure 1* and *Figure 2*, the site consists of a single allotment with an area of 14.40 hectares. The site is currently unimproved and is vacant land. The site consists of an irregular shaped allotment with a frontage to Providence Parade at the north-east, Botany Drive to the south-east and Parkway Avenue to the south-west and north-west property alignment. At this time, the road infrastructure along the full length of the north-eastern and south-eastern alignment has not yet been fully constructed by the developer.

3.4 Surrounding Land Uses

The site is located within new master plan area and is bounded by road. Directly opposite the site to the north-east is vacant land which will be developed in the future as a Health and Wellbeing Hub and Town Centre. Detached residential dwellings have been developed to the south-eastern and north-western boundary along Botany Drive and Parkway Avenue, respectively. The land to the south-west of the site is vacant land which will be developed as a future open space area.

3.5 Easements and Encumbrances

There are no easements or encumbrances burdening the site.

A copy of the Certificate of Title, Survey Plan and Smart Map is in **Appendix 3** for reference.

Figure 1. Site Context Source: DSDMIP

Figure 2. Aerial of Proposed School Site Source: Google Earth

Figure 3. Proposed School Site Context Source: DSDMIP

3.6 Topography

The subject site has a fall of approximately 20m across the site. The south-eastern corner is the highest point at approximately RL 74m AHD. From this high point, the site grades north, west and south accordingly with the south-western corner (48m AHD) being the lowest point of the site. The site falls in various directions, sloping to the north and north-west to south-west direction, towards south-western corner of the site.

Figure 4. Contours of Proposed School Site Source: RPS

3.7 Socio-Economic Profile

3.7.1 Ipswich City Council Local Government Area Profile

Ipswich is a city and local government area (LGA) in the south-east corner of Queensland, Australia. It is located approximately 30km south-west of Brisbane City. Neighbouring LGAs include Brisbane, Redland, Logan, Scenic Rim, Lockyer Valley and Somerset.

The Ipswich LGA has a resident population of approximately 323,069 persons (at 2016).

3.7.2 South Ripley Profile

South Ripley is a suburb located approximately 10km from the Ipswich CBD. As at the 2016 Australian Census, 712 persons were recorded as residing in South Ripley.

The median age of people in South Ripley is 28 years. Children aged 0–14 made up 28% of the population and people aged 65 and over made up 3.7% of the population, respectively.

Of the families in South Ripley, 52.6% were couple families with children, 37.4% were couple families without children and 10% were one parent families.

4 Infrastructure Characteristics

The below provides a description of the existing infrastructure characteristics relating to the subject site. Further discussion on potential impacts and mitigation measures from the proposed development are discussed in further detail in Part F – Environmental Assessment.

4.1 Road Network

4.1.1 Existing Road Network

The site currently has a frontage to Parkway Avenue and Botany Drive. It is noted that only a portion of the road infrastructure along the school frontage has been constructed with the full length of the north-eastern alignment (to be an extension of Providence Parade) and part of the south-eastern alignment yet to be completed.

Providence Parade links to Ripley Road and onto Centenary Highway to the north. Ripley Road extends in a north-south direction and is the key linkage servicing the greater South Ripley area. Providence Parade will be a two-lane trunk connector road and is the main access road into the Estate from Ripley Road. Parkway Avenue is identified as a trunk connector road.

4.1.2 Existing Public Transport Network

There are limited public transport options servicing the area of South Ripley. It appears that a Translink bus stop (ID 316914) will be available along Ripley Road however currently, there are no Translink buses servicing the site.

The closest train station being Springfield is located approximately 15 kilometres to the north-east of the site.

4.1.3 Existing Active Transport Network

There is an existing footpath provided along the south-western property alignment and continues south-east towards Botany Drive. There are signalised pedestrian crossings on each approach of nearby signalised intersections.

4.2 Services

4.2.1 Water Infrastructure

There is currently no water supply provided to the site. An existing water reticulation main is located within the adjacent Parkway Avenue road reserve.

The proposed school site will have access to water infrastructure and is discussed in section 8.2 of this Report.

4.2.2 Sewer Infrastructure

There is currently no sewer connection provided to the site. An existing sewer main is located within the adjacent Botany Drive road reserve.

The developer is to provide a new sewer connection at the south-west corner of the site. This connection will come from the existing authority infrastructure located across the street near Freedom Crescent.

The proposed school site will have access to sewer infrastructure and discussed in section 8.2 of this Report.

4.2.3 Stormwater Infrastructure

There is currently no stormwater infrastructure provide to the site. There is existing infrastructure within the Botany Drive and Popran Street road reserve including a 525mm stormwater pipe and an undetermined sized pipe along Parkway Avenue which is available for connection.

4.2.4 Electricity Infrastructure

With reference to information obtained from Energex, the proposed school site has access to electricity infrastructure. There is an existing cable (voltage less than 33kV), conduits and transformer located along the Parkway Avenue frontage which is available for connection.

4.2.5 Telecommunications Infrastructure

The proposed school site has access to the NBN infrastructure. There is an existing fibre cable and pits located along the Parkway Avenue and Botany Drive frontage which is available for connection.

PART D – DESIGNATION PROPOSAL

5 Proposed Designation

5.1 Description under the Planning Regulation 2017

The proposal seeks to designate the site as follows:

New P-6 & 7-12 State School at Providence

Parkway Avenue

New allotment within part of current Lot 7030 on SP292763

Pursuant to Chapter 2, Part 5 of the PA, it is proposed to designate the land described above for infrastructure. Ministerial designation is proposed in order to facilitate the efficient allocation of resources and enable the timely supply of the community infrastructure. The proposed community infrastructure is best described in the *Planning Regulation 2017*, Schedule 5, Part 2 as:

6	***educational facilities***
9	***facilities at which an education and care service under the Education and Care Services National Law (Queensland) is operated***
10	***facilities at which a QEC approved service under the Education and Care Services Act 2013 is operated***

5.2 Intent of Designation

The designation affirms the new use of the site as an educational establishment, and will facilitate the immediate planned works at the school and future planned developments on the site consistent with the designation purpose.

Educational and community facilities are defined as community infrastructure under Schedule 5 of the *Planning Regulation 2017*, being assets necessary to support the community and for the public benefit. The proposed community infrastructure will facilitate the efficient and timely supply of infrastructure; and satisfy statutory requirements and budgetary commitments of the State for the supply of community infrastructure.

5.3 Project History

The master planned community of Providence at South Ripley is anticipated to accommodate up to 20,000 residents. In 2016, the Deebing Heights State School (SS) was the first of a number of planned new schools to open in the Ripley area. The Bremer State High School (SHS) currently services the Ripley area and has limited capacity for the forecast growth.

The funding forms part of the *Building Future Schools* program, where the Queensland Government is supporting the master planning of inner-city state schools, delivering new state schools in growth areas across the state, investing in existing school assets and making strategic land acquisitions for the future.

To align with the program, the DoE has made a funding commitment to establish two (2) new State Schools within the Providence Estate at South Ripley. A project value of $109.5 million will be invested

for the immediate delivery of Stage 1 of the master plan to be completed in time for the start of the 2020 calendar year.

5.4 Site Selection

Since 2015, the DoE and the developer have had extensive discussions to determine the most suitable location for development of future educational facilities within the Providence Estate. Initially, the developer had sought development approval for a school site of 6.508 hectares to accommodate a primary school. Subsequently, the DoE required an expanded school site to include the integration of a secondary campus. During 2017, it was agreed to provide an expanded school site with an area of 14.4 hectares, being the proposed site. The expanded school site is of an adequate size to accommodate the buildings, car parking and recreational areas for a new Primary (P-6) and Secondary (7-12) campus.

Figure 5. Original and Amended School Site

Source: RPS Plan of Subdivision

The developer has sought the following PDA approvals in accordance with the *Economic Development Act 2012* (ED Act):

Application Number	Proposal	Status
40/2015 – MAPDA/B	Application to Change PDA Approval	Pending Approval
7566/2017 – MAPDA	Amendment Application – Minor Change to Context Plan	Approved
40/2015 – PDA	Application to Change PDA Approval (DEV2013/438)	Approved
2015/678	Reconfiguring a Lot (New Road and 4 Balance Lots)	Approved
2013/438	Reconfiguring a Lot (with PoD)	Approved
2012/275	Material Change of Use (Secondary Urban Centre East)	Approved

5.5 Proposal Description and Detail

The DoE is proposing to deliver a new P-6 and 7-12 State School within the Providence Estate in South Ripley. The following scope of works are proposed to be delivered through a funding commitment that includes:

- full site masterplan (refer to **Appendix 4**);
- delivery of stage 1, which includes:
  - Learning Precinct consisting of Prep to Year 1-3 General Learning Area (GLA) spaces associated with the P-6 State School;

  - Learning Precinct consisting of Year 7-12 GLA spaces associated with the 7-12 State School;
  - Core facilities to support and service the learning precinct at the P-6 and 7-12 State School consisting of Administration, Information Services, Resource Centre, Science Facilities, Applied Technology, Art Centre, Business and Graphic Arts Facilities, Multi-Purpose Hall, Student Well-Being Facilities such as covered play areas, canteen, amenity blocks, sporting facilities as well as car parking and loading facilities; and
- delivery of the balance of future works for both the P-6 and 7-12 State Schools as part of the master plan including P-6 and 7-12 GLA's, kindergarten centre, staff centre, senior amenities block, special education facility, indoor sport centre, outdoor courts and covered areas.

The proposed schools will operate entirely separate from each other and there will be no facilities to be shared between the campuses.

Landscaping and fencing will be provided along the full school frontage. Landscaping between and around buildings is to incorporate local plant species and take into consideration the heavy wear encountered in the school environment and the impact on the long term viability of planting and grassed areas. The extent of garden beds will be kept to a minimum and pedestrian paths are to be located to suit logical traffic routes. Plant selection is to suit low water usage with the consideration of using artificial grass, instead of turf in areas between buildings, where high pedestrian traffic will occur. The entire school site is to be fenced with a 2.1m high fence for student safety.

5.5.1 School Population

The intention of the proposed master plan development is to deliver Stage 1 works in time for the start of the 2020 calendar year. The new P-6 State School is expected to open with between 300 and 400 students in January 2020 with a predicted peak of approximately 1,200 students within 5 to 8 years of opening. The new 7-12 State School will initially open with the Year 7 and 8 cohorts only and is expected to be between 100 and 200 students. The remaining cohorts from Years 9 to 12 will following from the 2021 to 2025 calendar years with a predicted peak of approximately 1,300 to 1,500 students at year 2025.

The new P-6 State School is to provide for an ultimate school population of approximately 1,200 students with 70 full-time equivalent (FTE) and 10 part-time staff. The new 7-12 State School is to provide for an ultimate school population of approximately 1,500 students with 120 FTE and 20 part-time staff.

5.5.2 Anticipated School Catchment Area

The proposed catchment area for the new Ripley Providence P-6 and 7-12 State Schools has been developed on the likely catchment scenario and based on the equidistant travel by road. At this stage, and for the purposes of the designation, the entire South Ripley area and part of Ripley have been identified as the school catchment areas.

The final catchment boundary will be determined through further consultation between the DoE and local school principal's closer to the school opening date.

5.5.3 Building Design and Height

The external materials proposed for the new school facilities include a mix of lightweight but durable materials such as coloured blockwork, colorbond steel, and powdercoated aluminium. The roof form will generally consist of traditional gable end roofs for GLA and teaching buildings, with an occasional skillion roof for a large covered area. It is proposed to construct the façade of the new buildings with block cladding. The block cladding has been selected in four colours and from the darkest colour to the lightest,

up the site by RLs. The blocks are in bands, like the strata of the earth from which the school arose, but the bands are blurred at their edges with a speckled pattern where the block colours are transitioning from one to the next. The chosen materials are reflected in the surrounding built environment of the school and region, and are cost-effective, practical for their intended function, durable and low maintenance to limit ongoing maintenance and lifecycle costs.

The building design solution is to deliver educationally functional, comfortable, healthy facilities that inspire student learning and support the delivery of modern curriculum initiatives. The design and construction is of an appropriate mix of innovation and cost effective solutions, which take into account the character of the site landscape whilst achieving a contemporary architectural style. A life expectancy for the major buildings elements is 50 years and major service systems of 25 years

From a design perspective, the site has been sensitively stepped, to accommodate the change in levels across the site, rather than have very large changes in levels at the site boundaries. The proposed buildings are designed to typically step with the site to work with the topography.

Typically the school buildings run with their long edge perpendicular to the contours of the land avoiding the need for retaining walls and provides the maximum opportunity for cross ventilation and natural light.

The buildings will range from one (1) to occasionally four (4) storeys with the exception of the prep precinct, in which, buildings have been kept to single storey.

The site is separated by a central shared road curving with the contours of the site and linking Providence Parade to Botany Avenue. This shared road is a major pedestrian circulation route and will provide for emergency and maintenance vehicle access.

5.5.4 Hour of Operation

The new P-6 and 7-12 State Schools will have normal school operating hours between 8:45am until 3:00pm with office and school facilities to be open between 6:00am until 6:00pm. It is noted that school facilities will also be open for student use before and after normal school hours.

The facilities will also have opportunities outside of normal operating hours for the school community and external user groups to potentially utilise the proposed spaces, such as the Multi-purpose Hall and Performing Arts Centre. The hours of operation for external user groups have yet to be determined, however will be at the discretion of the Principal and will also be dependent on the type of use (i.e. one-off recreational use, social sporting clubs).

5.5.5 Site Access and Movement

A number of access points will be provided around the site to allow easy movement of students, family and staff before and after school. During school hours access to the school area will be restricted and visitors are to be vetted by administration staff before proceeding onto the school site.

Each school will have individually dedicated on-site car parking and set-down facilities which will be serviced by five (5) key vehicular access locations. The proposed 7-12 State School short term parking and set-down area at the north-western property alignment has been designed as an all movements access and can accommodate both passenger and service vehicles. The proposed P-6 State School short term parking and set-down area at the south-eastern property alignment has been designed for passenger vehicle movement access only. These areas have been designed to split the car park and pick-up / set down into separate zones. The design of the car parks ensures an efficient movement network that minimises potential internal queuing delays and potential conflicts between vehicles.

Refuse collection arrangements for both schools are to be provided on-site. The refuse collection area for the 7-12 State School is to be provided adjacent to the student car park and sports oval, and the refuse area for the P-6 State School is to be located adjacent to the multi-purpose hall (Building 10). Loading areas for deliveries are also accommodated on-site adjacent to Building L and D. The proposal has been designed to ensure a refuse collection vehicle, Medium Rigid Vehicles (MRV) and Small Rigid Vehicles (SRV) are able to access and manoeuvre to and from these area in a suitable manner.

5.5.6 Vehicle and Bicycle Parking

The proposal consists of three (3) dedicated parking areas within the site. The proposed parking areas will be separated and allocated to each school as per below:

School	Parking Spaces
New P-6 State School	Short Term – 68 car spaces Drop Off Zone – 15 car spaces
New 7-12 State School	Short Term – 105 car spaces Student Parking – 39 car spaces Drop Off Zone – 19 car spaces
Combined Staff Parking Area	282 car spaces and 7 motor cycle spaces

A total of 494 car parking spaces will be provided at the site. It is proposed to provide approximately 48 bicycle spaces for the P-6 School and 60 bicycle spaces for the 7-12 School. A secure facility will be provided for staff bicycle parking within the administration block and student bicycle parking to be located in the vicinity of the entrances of each campus. At this stage, the design and location of these spaces are yet to be determined and will be further developed during detailed design stage.

It is anticipated that a new shared bus drop-off zone will be constructed by the developer along Providence Parade. Providence Parade will be constructed at a width of 24.5m at the location of the bus-set down area. This bus-set down area will be constructed to a width of 4.5m and will provide for up to six (6) bus spaces. It should be noted that there is an existing bus-set down area located at the south-western property alignment along Parkway Avenue which could also be utilised by the school if necessary.

5.5.7 Pedestrian Facilities

There is an existing footpath provided along the Parkway Avenue frontage and continues south-east towards Botany Drive.

A pedestrian footpath will be delivered by the developer along the full school frontage, except the area between the P-6 School car park and road. This is due to the need for additional space to accommodate for turning lanes. A minimum footpath width of 2.0m and 2.5m is to be provided within the road verge of the Providence Parade (unconstructed road), Parkway Avenue at the north-western property alignment and unnamed Road at the south-eastern property alignment (unconstructed road).

It is anticipated that bicycle lanes will be constructed by the developer along part of the school frontage on Providence Parade.

5.6 Designation Process

With reference to the Minister's Guidelines and Rules, this EAR represents Step 2 of the indicative designation process (refer to **Appendix 2**) and is intended to support the consultation and state interest review stage being undertaken with those stakeholders identified in Part G – Consultation of this report. Section 9.2 also includes an approved Community Engagement Plan in which this Infrastructure Designation Proposal will follow.

Once information gathered as part of this stage is collated, the Final EAR (Step 3) will be prepared for consideration by the Minister for Infrastructure, Local Government and Planning.

PART E – LOCAL AND STATE PLANNING PROVISIONS

6 Planning Assessment

In terms of development under the PA, the designation is proposed to be undertaken in accordance with Chapter 2, Part 5 of the Act. The effect of the designation, if made, is that the use of the site for the designated infrastructure and service will be exempt from the local government's planning scheme.

In relation to any building works, these will be accepted development in accordance with Schedule 7, Part 1, item 2 of the PR.

6.1 Local Planning Framework

Where land is not designated for infrastructure, any development involving a material change of use should have regard to the requirements of the relevant planning scheme. Whilst the intended designation will result in development being exempt from assessment against the planning scheme, consideration has still been given to its relevant provisions.

The *Ripley Valley Urban Development Area Development Scheme* (Development Scheme), as adopted by the former Urban Land Development Authority on October 2011, is the relevant development scheme for the site.

6.2 Development Scheme Provisions

The below table provides a summary of the key planning scheme provisions relevant to the site.

Development scheme information	
Development scheme	*Ripley Valley Urban Development Area Development Scheme*
Area classification	Urban Living
Local area plan	N/A
Overlays	Of Concern Regional Ecosystem Flooding (1 in 100 Floodline) Building Height Restriction Area 90m

6.3 Use Definition

With reference to the Development Scheme, Schedule 2 Definitions, the proposal for a new P-6 and 7-12 School is classified under 'Educational Establishment' and defined below.

Educational Establishment: *Premises for systematic training and instruction, including any other ancillary uses. This definition includes prep facilities, primary school, secondary school, college, university, technical institute, academy or other educational centre.*

This term may include residential accommodation and other ancillary uses provided for the employees and the students of such premises.

6.4 Ripley Valley UDA Development Scheme

The Development Scheme is the overarching document that sets out the vision and intent for development within Ripley Valley.

Under Part 3.4 of the Development Scheme, the proposed school site is identified within the Urban Living Zone, as indicated in *Figure 6* below.

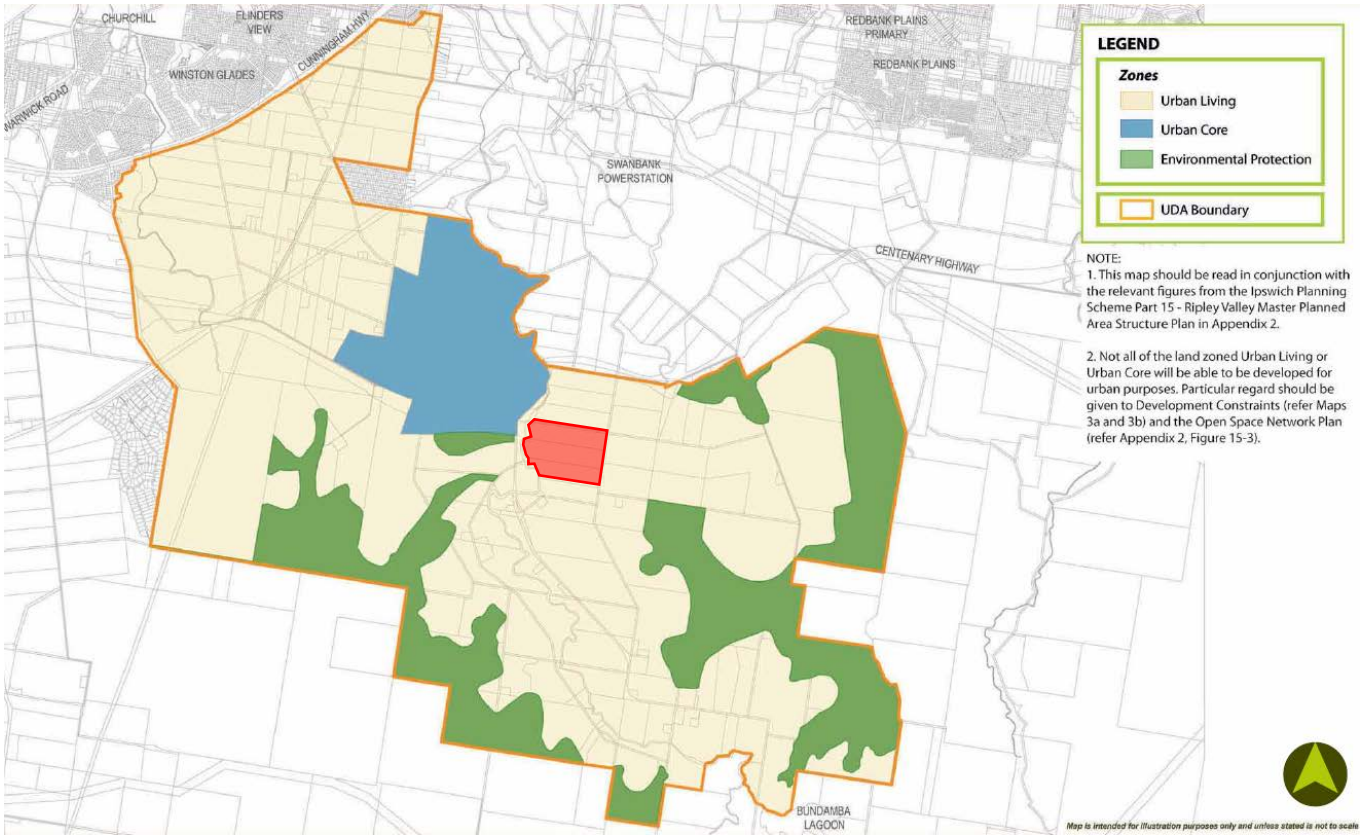


Figure 6. Zone Plan Source: Ripley Valley UDA Development Scheme

With reference to Part 4.4.2, the Urban Living Zone applies to most of the area intended for urban development in the PDA. The majority of the zone is intended to be developed as urban and suburban neighbourhoods focused on identifiable and accessible centres and comprising of a mix of residential development including houses, multiple residential and other residential and live work opportunities through home based business.

The urban living zone is also intended to accommodate a wide range of other non-residential uses.

The other uses include:

- *Secondary centres and neighbourhood centres (generally in accordance with Figure 15-12 in Appendix 2)*
- *A community greenspace network comprising parks, environmental areas and open space corridors along waterways (generally in accordance with Figure 15-3 in Appendix 2)*
- *Local employment areas such as small scale industry and business areas (e.g. service/trade clusters) and local shops (as outlined in section 3.3.4)*
- *Specific facilities and institutions such as educational establishments, child care centres and community facilities (generally in accordance with Figure 15-5 in Appendix 2).*

The UDA-wide criteria provide guidance about the preferred nature and locations for some of these uses, but their actual location, nature and extent will be determined through more detailed planning and the preparation of context plans as outlined in section 3.2.8.

Other than in identified centres, non-residential uses may also be approved in the urban living zone where it is demonstrated to the satisfaction of the ULDA that:

- *The proposed use has approximately vehicular access that will not result in excessive number of vehicles passing through residential areas*
- *The proposed use will cater for the needs of the immediate community and will not compete with or undermine the vitality of the centres hierarchy*
- *Any impacts associated with the use (e.g. noise, dust, emissions) will not affect residential or other sensitives uses.*

The urban living zone may also accommodate interim uses such as:

- *Agriculture*
- *Agriculture supply store*
- *Animal keeping and husbandry*
- *Intensive horticulture*

6.5 Ripley Secondary Urban Centre East Context Plan

The Ripley Secondary Urban Centre East (SUCE) Context Plan as approved on 30 May 2013 (DEV2012/275), was an application to obtain approval which establishes a framework in accordance with the nominated Land Use Areas as identified in the Ripley Valley UDA Development Scheme. The Ripley SUCE Context Plan was developed in accordance with the Development Scheme and provides greater planning details of the land uses, development entitlements and obligations, and provides further guidance for the preparation, approval and implementation of future development applications.

Figure 7. Latest Approved SUCE Context Plan Source: 7566/2017MAPDA

The proposed school site, as illustrated in *Figure 7*, is located within the Community Purpose (School) Land Use Area. The proposed new P-6 and 7-12 State School is considered consistent with the Land Use Area. While the Context Plan is intended to better identify the spatial allocation of land uses beyond the level of detail provided by the Development Scheme, the preparation of a Plan of Development is required in order to provide the necessary level of detail design. A copy of the latest approved Ripley SUCE Master Land Use and Density Plan is contained in **Appendix 5**.

6.6 Plan of Development

A Plan of Development (PoD) and Plan of Subdivision (PoS), as illustrated in *Figure 8*, was approved on 26 March 2014 (DEV2013/438) which directs certain development of land within the Providence Ripley SUCE. As part of Stage 12, the approved PoD nominates a proposed school site of 6.508 hectares.

Figure 8. Approved PoD & PoS

Source: DEV2013/438

The proposed school site has been expanded in order to accommodate a 'superlot' of 14.4 hectares to satisfy the requirements of the DoE for a new primary and secondary school. As a result, the PoD has been amended as shown in *Figure 9* below and is included in **Appendix 6**. It is noted that the PoD nominates the intended land use however does not illustrate site layout requirements or specific design controls for this type of facility.

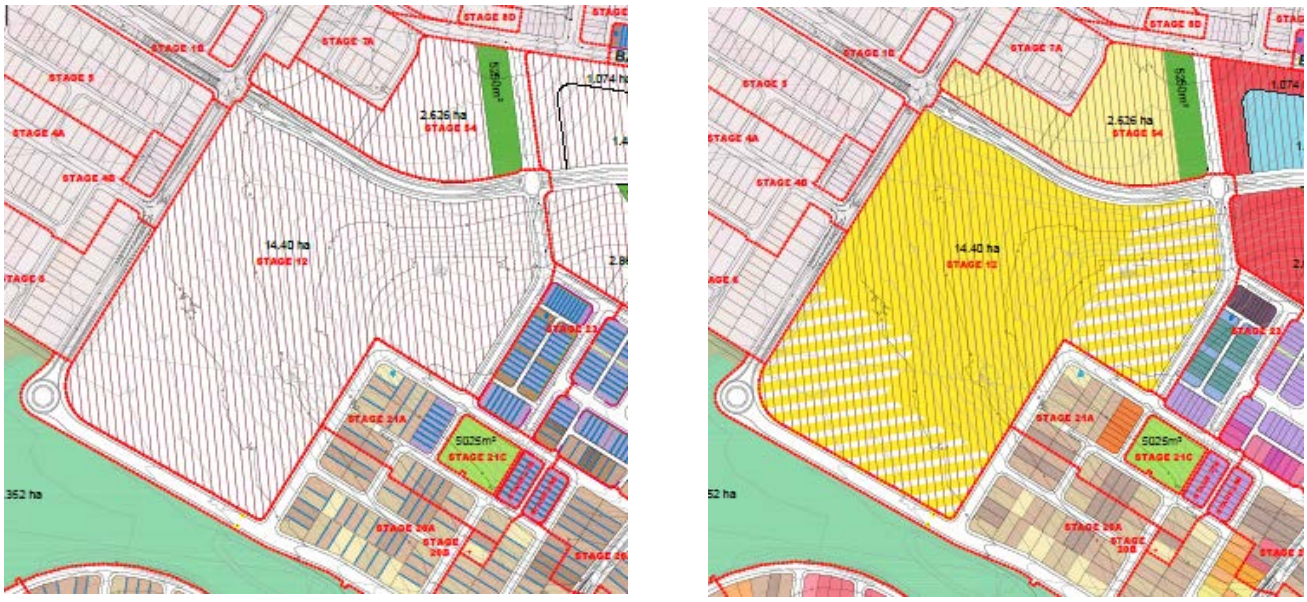


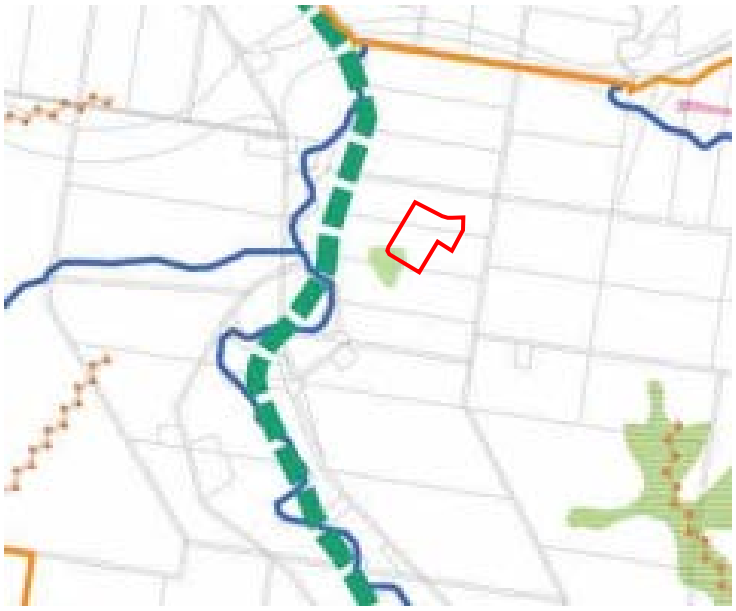
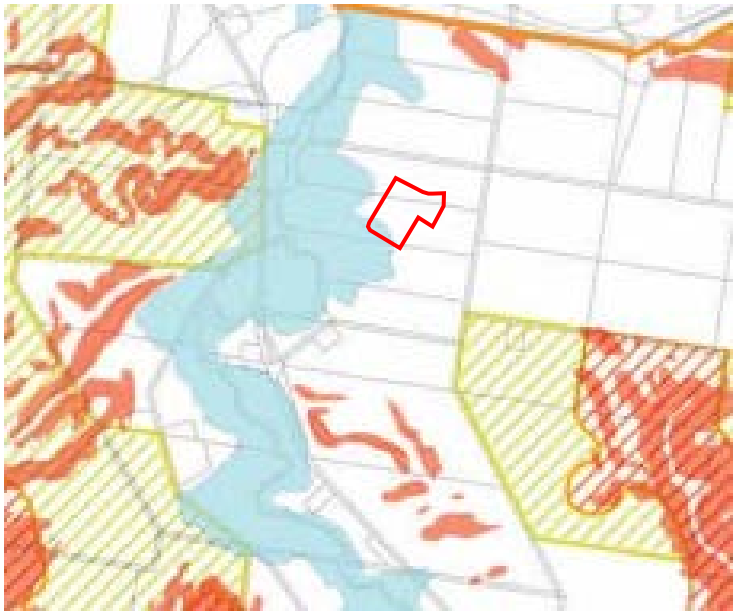
Figure 9. Amended PoD & PoS

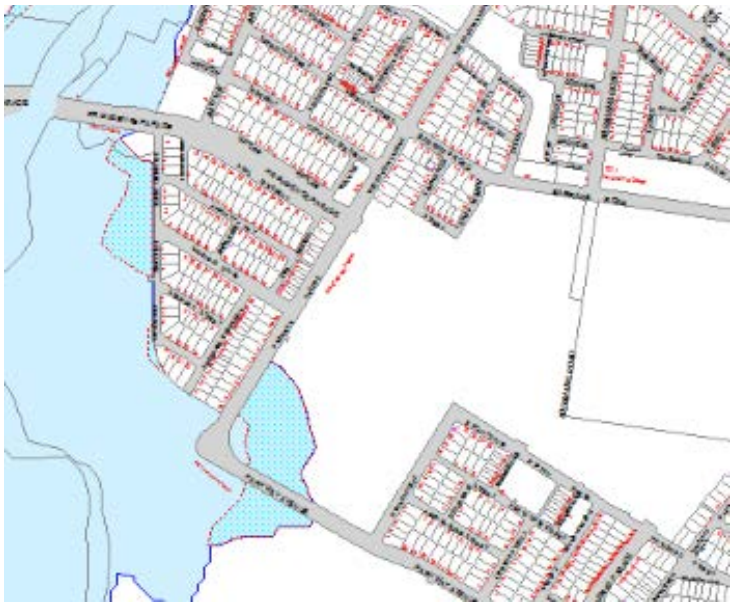
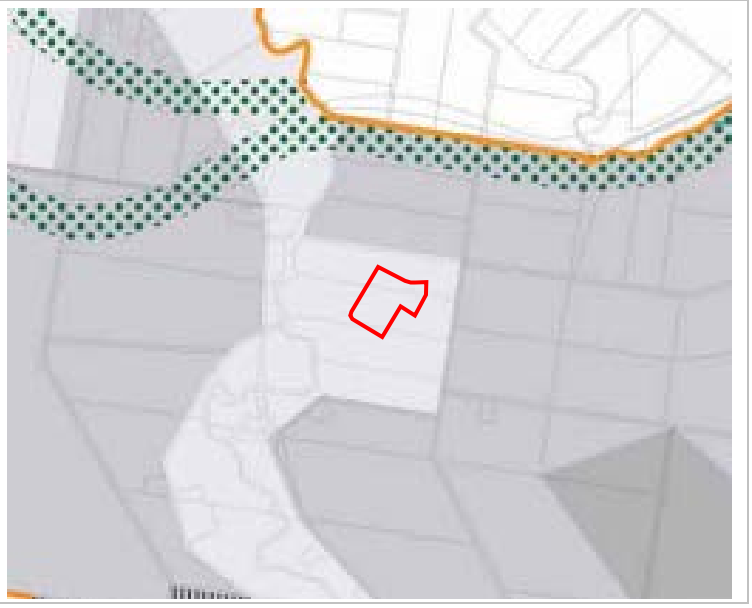
Source: 40/2015 – MAPDA/B

6.7 Development Constraint

The Development Scheme identifies a range of constraints affecting the PDA through the inclusion of development constraints. Where a site is affected by a constraint, additional development limitations may be placed over the property as part of the planning process.

It is noted that the site is affected by the following overlays:

Constraint	Constraint map
Values Constraint • The south-western portion of the site is mapped as 'of Concern Regional Ecosystems'.	
Flood Constraint • The south-western corner of the site is identified within a flood area (1 in 100 Floodline). • The south-western corner of the site is identified as an area subject to further detailed assessment. • The site is not known to be affected by flooding as per the Ipswich City Council Major Flood information and flood map (Refer to **Appendix 11**).	

	
RAAF Base Amberly Constraint • The site is located within the '90m Building Height Restriction Area'.	

6.8 Existing Land Use

The site is currently vacant land with no improvements.

6.9 Proposed Use

The proposed development includes uses that would be defined under the Development Scheme as a new "Educational Establishment" (refer to definition above).

6.10 Level of Assessment

With reference to Table 2 – Level of Assessment under the Development Scheme, an Educational Establishment within the Urban Living Zone is Assessable Development – Permissible Development and therefore requires development approval were statutory approval is not being sought through infrastructure designation.

The effect of the designation is that the use of the site for the purposes of a Primary and Secondary School (designated infrastructure) will be exempt from the Development Scheme.

6.11 Building and Operational Work

The Level of Assessment for Building Work and Operational Work under the Planning Scheme has not been considered because of the following provisions:

- *Planning Regulation 2016*, Schedule 7, Part 1, Building work, Item 2 – Building work by or for the State or a public sector entity

  Building work, other than building work mentioned in section 1 (Building work declared under Building Act), carried out by or for the State or a public sector entity, to the extent the building work complies with the relevant provisions for the building work to be accepted development.
- *Planning Regulation 2016*, Schedule 6, Part 3, Operational work, Item 8 – Operational work by or for public sector entity

  Operational work or plumbing or drainage work (including maintenance and repair work) if the work—
  (a) is carried out by or on behalf of a public sector entity authorised under a State law to carry out the work; and
  (b) is not development state in section 26 of this schedule.

Public sector entity is defined by Schedule 2 of the *Planning Act 2016*:

"public sector entity means—
(a) a department or part of a department; or
(b) other than in chapter 4—a distributor-retailer; or
(c) an agency, authority, commission, committee, corporation (including a government owned corporation), instrumentality, office, or other entity, established under an Act for a public or State purpose.

DoE is considered to be a public sector entity as defined.

For Schedule 4, Table 4, Item 1, the entity must be authorised under a State law to carry out the work—there must be a State law which gives a legal or rightful power to carry out that work. This requires looking at the relevant legislation which gives the State its power and looking at the functions of relevant entities under that legislation.

Section 5(1) of the *Education (General Provisions) Act 2006* (EGPA) establishes the objects of the Act. As per s 5(2) of the EGPA, the objects are to be achieved by, among other things:

"(b) providing for the establishment of State educational institutions, and facilitating their operation as safe and supportive learning environments…"

7 State Planning Framework

7.1 The Planning Act 2016

Under Schedule 2 of the PA, a State interest means an interest that the Minister considers—

- affects an economic or environmental interest of the state or a part of the state' or
- affects the interest of ensuring that the purpose of the Act is achieved.

The State Planning Policy (SPP) is the overarching document which promotes the state's interests in land use planning and development. Under section 8(4) (a) of the PA the SPP has effect throughout Queensland and sits above regional plans and planning schemes in the hierarchy of planning instruments.

7.2 State Planning Policy

The SPP applies to the extent relevant when designating premises for infrastructure. When making or amending a designation, the Planning Minister must have regard to the relevant parts of the SPP as shown in the table below.

Application of the SPP	Who is responsible	Parts of the SPP that are applicable, to the extent relevant						
		Part A, B & C	Part D	Part E: State interest policies	Part E: Assessment benchmarks	Part F	Part G: Appendix 1	Part G: Appendix 2
Designating premises for infrastructure	State and local government	✓	✓	✓	✓	✓	✓	✓

Consideration of how the proposal meets the relevant parts of the SPP are discussed in further detail below:

7.2.1 The Guiding Principles

OUTCOME FOCUSED

Clearly focus on the delivery of outcomes

- *Plans and development outcomes integrate and balance the economic, environmental and social needs of current and future generations in order to achieve ecological sustainability.*
- *Plans express clear performance outcomes for development, supported by a range of acceptable outcomes, where possible.*
- *Innovative and flexible approaches to design and development are supported and encouraged when consistent with a plan's strategic intent.*
- *Decision making ensures that, where acceptable, when outcomes are satisfied by development, then the relevant performance outcome is taken to be satisfied in full. Performance outcomes may still be satisfied, even though an associated acceptable outcome is not met.*
- *Plans and development outcomes support stated objectives, needs and aspirations of the community at the state, regional and local level.*

The proposal seeks to designate the site for the purposes of delivering new educational facilities at South Ripley. The designation considers economic, environmental and social needs of current and future generations through the delivery of the infrastructure.

INTEGRATED

Reinforce the role of local planning schemes as the integrated, comprehensive statement of land use policy and development intentions for a local area

- *Plans coordinate and integrate land use policy for a local area by considering:*
  - *— international agreements, such as the UNESCO world heritage listing of the Great Barrier Reef and Ramsar Convention*
  - *—national, state, regional and local matters, to the extent relevant.*
- *Plans integrate land use, resource management and infrastructure needs and considerations.*
- *Plans support a 15 year supply of land for development.*
- *The zoning of land reflects and responds to the characteristics of the land that constrain its use.*
- *Overlays should be compatible with and not operate either individually or cumulatively to prevent or restrict land from being used for the purpose for which it has been zoned.*
- *Plans include a performance-based assessment of development against a clear hierarchy of policies linked to the achievement of realistic and long-term strategic planning.*

Not applicable as the proposal is for a Infrastructure Designation and not for plan making.

EFFICIENT

Support the efficient determination of appropriate development

- *Plans and assessment processes result in development outcomes that are certain, responsive and performance-based.*
- *Plans regulate development only to the extent necessary to address potential impacts. When applied, plans adopt the lowest appropriate level of assessment required to efficiently and effectively address those impacts.*
- *The level of assessment for development is proportionate to the potential impacts and level of risk of the development being regulated and a plan's strategic intent and purpose of the relevant zone, local plan and/or precinct, for instance development that is:*
  - *—minor, low-risk and that is encouraged or contemplated in a zone should be identified as accepted development*
  - *— consistent and in accordance with the broad intent of a zone and able to be assessed against assessment benchmarks, should be identified as code assessable development*
  - *— contrary to the intent of a zone, requires public input or is unforeseen by a planning scheme, should be identified as impact assessable development and assessed against a broader range of matters.*

The proposal seeks to designate the site for the purposes of providing new educational facilities within a master planned community at South Ripley. The designation forwards the efficient and timely delivery of infrastructure while ensuring that subsequent works on the site can proceed without assessment against the Development Scheme.

POSITIVE

Enable positive responses to change, challenges and opportunities

- *Contemporary information, challenges and community needs and aspirations are reflected through up-to-date plans.*
- *Evidence and objectively assessed needs form a basis for planning that uses the best available knowledge.*

- *Plans are written using clear, concise and positive language to describe what outcomes are sought, required or encouraged in a particular location, rather than what is to be avoided, prevented or discouraged.*
- *Community health and wellbeing, and resilience and adaptability to change (including economic change, social change, and climate change adaptation and mitigation), are promoted in plans and development outcomes.*
- *Plans adopt a performance-based approach to development assessment to allow for innovation and flexibility in how development in a local area can be achieved.*
- *Plans are drafted to ensure that development is assessed on its individual merits.*

Not applicable as the proposal is for an Infrastructure Designation and not for plan making.

ACCOUNTABLE

Promote confidence in the planning system through plans and decisions that are transparent and accountable

- *Plans and development outcomes reflect balanced community views and aspirations based on a clear understanding of the importance of the community's involvement in plan making.*
- *Plans resolve competing state and local interests through using an evidence-based approach, which balances community needs, views and aspirations.*
- *Reasonable, logical and fair development decisions are supported by clear and transparent planning schemes.*
- *Plans only seek to regulate land use and planning outcomes and do not address matters regulated outside of the planning system, for instance building work regulated under the Building Act 1975 (unless permitted).*
- *Obtaining access to planning information is simple and direct, capitalising on opportunities presented by information technology.*

The infrastructure designation process is proposed in accordance with Chapter 2 of the PA. Development of plans and assessment of impacts has had due consideration to relevant state and local plans and mapping. Consultation with relevant State agency stakeholders, political representatives, local government and the community will occur as part of this process.

7.2.2 State Interest Statements

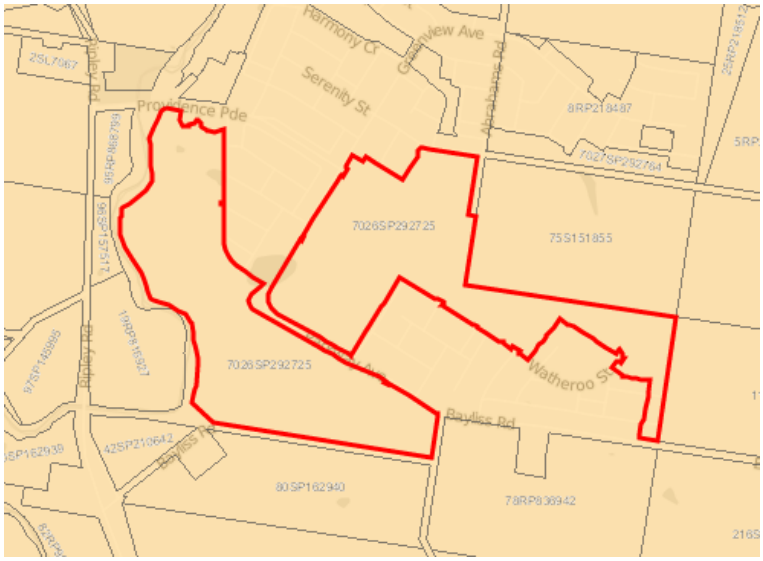
The following table lists the State interests contained in the SPP relevant to the subject site.

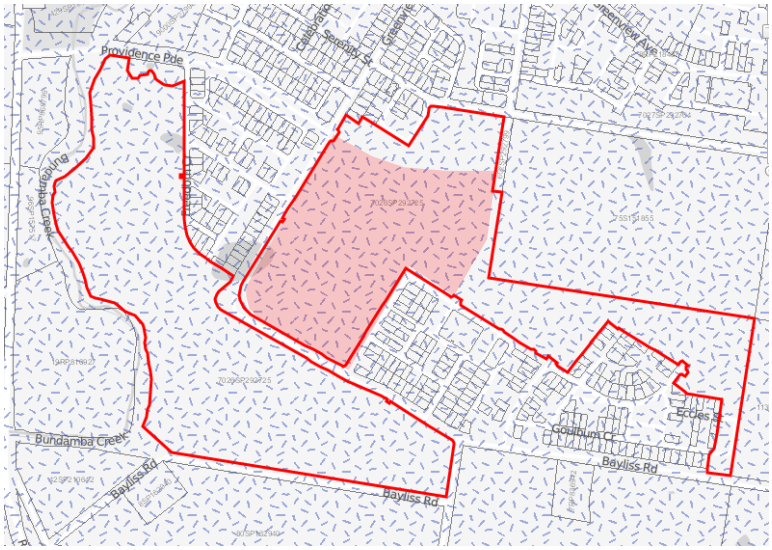
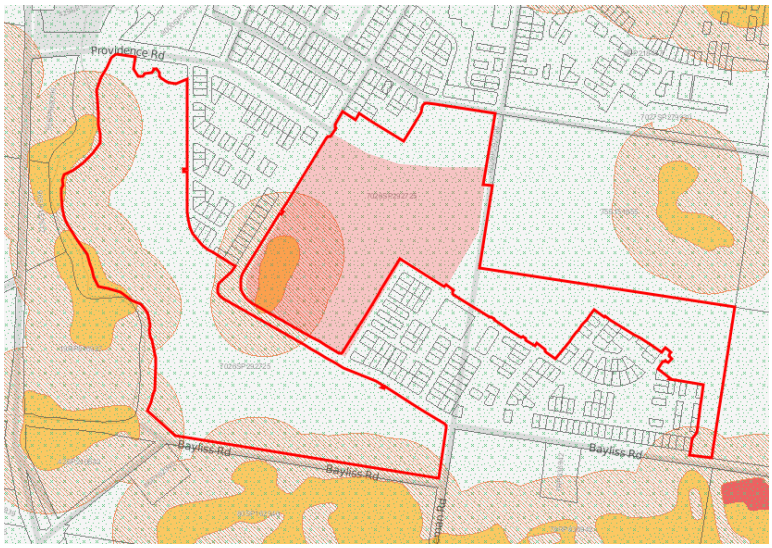
State Planning Policy	Applicability
Planning for Liveable Communities and Housing	
Liveable Communities	N/A
Housing Supply and Diversity	N/A
Planning for Economic Growth	
Agriculture	N/A
Development and Construction	Yes
Mining and Extractive Resources	N/A
Tourism	N/A
Planning for the Environment and Heritage	
Biodiversity	Yes

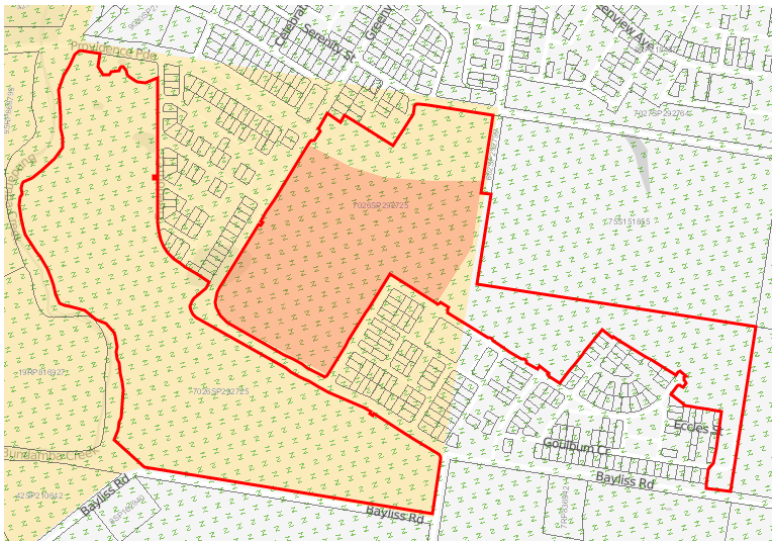
Coastal Environment	N/A
Cultural Heritage	N/A
Water Quality	Yes
Planning for Safety and Resilience to Hazards	
Emissions and Hazardous Activities	N/A
Natural Hazards Risk and Resilience	Yes
Planning for Infrastructure	
Energy and Water Supply	N/A
Infrastructure Integration	N/A
Transport Infrastructure	N/A
Strategic Airports and Aviation Facilities	Yes
Strategic Ports	N/A

7.2.3 SPP Interactive Mapping System

Relevant State interests as identified in section 7.2.2 are further described in the following table, as obtained from the SPP Interactive Mapping System:

State Interest	Mapping Layer
Development and Construction The proposed school site is identified within a Priority Development Area. The proposal involves a new P-6 and 7-12 School which is a compatible land use for the site and will provide community facilities that supports the growing catchment area and associated needs of the community.	

Biodiversity The south-western part of the proposed school site is mapped as containing Matters of State Environmental Significance (MSES), in particular regulated vegetation (category B and intersecting a watercourse) and high ecological significance wetlands. Aerial imagery shows that the proposed school site has been cleared of vegetation and is bounded by road. The site is heavily disturbed and is considered to contain no environmental values. Nil impacts are anticipated to this State interest.	
Water Quality The proposed school site is within the water resource catchments and reference should be made with the SPP, including the SPP Code: Water Quality. A stormwater management plan has been prepared and included in **Appendix 14.** Further details on how the proposed development will manage stormwater impacts are discussed in Part F – Environmental Assessment.	
Natural Hazards Risk and Resilience The proposed school site is mapped as Flood hazard area – Local Government flood mapping. With reference to Section 6.7 of the Report, the proposed school site is mapped within the Flood Constraint Map under the Development Scheme. The Ipswich City Council Major Flood Information and Map has no record of the site being subject to a major flood event. Refer to section 8.6.1 of this Report for further detail. The south-western part of the proposed school site is mapped as Medium Bushfire Hazard and Potential Impact Buffer. Aerial	

imagery shows that the subject site has been cleared of vegetation and is bounded by road. Nil impacts are anticipated from this State interest.	
Strategic Airports and Aviation Facilities The proposed school site is mapped within the Wildlife Hazard Buffer Zone (13km) and Height Restriction Zone (90m). The proposed school and associated activities are not anticipated to be of a height, emit light, or be an attractor of bird or bat wildlife, that would obstruct the safe movement of aircraft.	

7.2.4 Stormwater Management Design Objectives

Information on how the proposal meets the SPP stormwater management design objectives is discussed further in Part F – Environmental Assessment.

7.3 Regional Planning

The Urban Footprint identifies land within which the region's urban development needs to 2041 can be accommodated in a way consistent with the goals, elements and strategies of ShapingSEQ.

The Urban Footprint identifies land that can meet the Region's urban development needs seeks to incorporate the full range of urban uses including housing, industry, business, infrastructure, community facilities and other integral components of well-planned urban environments, such as local areas for sport and recreation and urban open space.

The proposed P-6 and 7-12 School at South Ripley is considered consistent with the intent of the Regional Plan. As a new educational establishment, the proposed school is located in a declared PDA which is an established urbanised area and will provide necessary supporting community infrastructure that supports the existing and future residential community.

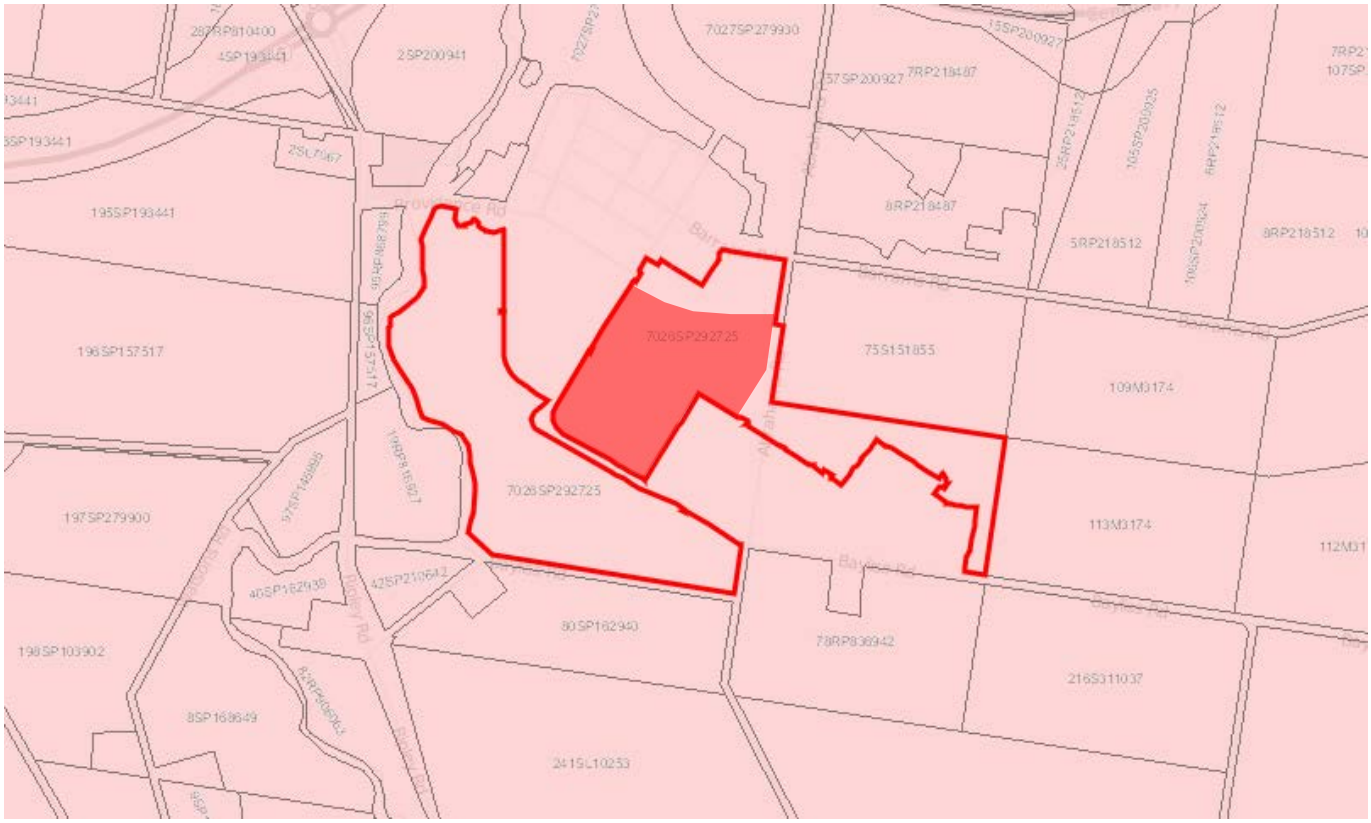


Figure 10. Regional Plan Mapping Source: DSMIP

PART F – ENVIRONMENTAL ASSESSMENT

8 Environmental Assessment

Before designating land for infrastructure, the Minister must be satisfied that adequate environmental assessment, including adequate consultation, has been carried out in relation to the development that is subject to the designation.

The environmental assessment must have regard to—

- all planning instruments that relate to the premises; and
- any assessment benchmarks, other than in planning instruments, that relate to the development that is the subject of the designation or amendment; and
- if the premises are in a State development area under the *State Development Act*—any approved development scheme for the premises under that Act; and
- if the premises are in a priority development area under the *Economic Development Act 2012*—any development scheme for the priority development area under that Act; and
- any properly made submissions made as part of the consultation carried out under section 37; and
- the written submissions of any local government.

This section of the Report provides an environmental assessment of impacts the development or use may generate, and ways in which those environmental impacts are being managed or mitigated. Regard is given to natural and physical resources, as well as short and long term effects and impacts on the environment and community from both the construction and operational phase of the proposal. The range of matters considered includes:

- infrastructure, traffic and transport;
- flora and fauna;
- soils and geology;
- conservation and heritage values;
- natural resources and hazards; and
- health, safety, amenity and social impacts.

Reference should also be made to Part E – Local and State Planning Provisions with regards to mapping relevant to the subject site.

8.1 Road Infrastructure

8.1.1 Site Access and Traffic

Context

The proposed school site is not in proximity to a State-controlled road.

The school site will have a frontage to Providence Parade, Parkway Avenue, Botany Drive and unnamed road at the south-eastern property alignment with the following characteristics:

- Providence Parade –2 Lane Trunk Connector Road with a road reserve width of 24.5m and made up of a 16m carriageway (two 3.5m lanes, two lots of 4.5m parking, bus and cycle priority lanes) and two lots of 4.5m wide verge including two 2m footpaths;

- Parkway Avenue – 2 Lane Trunk Connector Road with a road reserve width of 23.5m and made up of a 15m carriageway (two 3.5m lanes, two lots of 1.5m cycle lane and 2.5m parking lanes) and two lots of 4.25m wide verge including two 1.5m footpaths; and
- Other street frontages – 2 Lane Trunk Connector Road with a road reserve width of 20.5m and made up of a 12m carriageway (two 3.5m lanes, two lots of 2.5m parking bays) and a 5 metre verge including a 2.5m footpath at the school frontage.

It is noted that the full length of Providence Parade at the north-eastern property alignment and the unnamed road at the south-eastern property alignment of the site are yet to be constructed and will be delivered by the developer.

Proposal

The proposal involves development of a new P-6 and 7-12 State School which is expected to accommodate a combined total of 2,700 students.

The new P-6 and 7-12 State Schools will be serviced by five (5) key vehicular accesses including:

- Left-in / Left-out Secondary School Access at the north-western property alignment off Parkway Avenue;
- All movements Secondary School Access at the north-western property alignment off Parkway Avenue;
- Staff Parking Access at the south-western property alignment off Parkway Avenue; and
- Primary School Parking and Set-Down Entry and Exit Access at the south-eastern property alignment.

A traffic report has been prepared and included in **Appendix 12**. It is noted that the traffic impact assessment is based on traffic volumes from the analysis of the Providence Parade / Parkway Avenue / Greenview Road and Providence Parade / unnamed road intersections which was provided by the developer which was submitted to Council in March 2018. The assessment has also adopted the following assumptions:

- Assessment limited to only the proposed vehicular accesses only;
- AM peak hour assessment completed, as the peak afternoon traffic generated by the schools is not expected to coincide with the evening road network peak;
- The ‘base case’ traffic volumes adopted for the three Parkway Avenue vehicle accesses are based on Providence Parade / Parkway Avenue / Greenview Road traffic volumes (i.e. no consideration of Splendid Drive); and
- The ‘base case’ traffic volumes adopted for the two ‘Road 2’ vehicle accesses are based on Providence Parade / ‘Road 2’ traffic volumes (i.e. no consideration of intersecting roads).

The findings of the traffic report concluded:

- turn warrant assessment undertaken for the two (2) secondary school set-down and short term car parking access points to Parkway Avenue as well as for the primary school set-down and short-term car parking access point to unnamed road at the south-eastern property alignment;
- AM peak hour assessment has been completed as the peak afternoon traffic generated by the schools are not expected to coincide with the evening road network peak;
- the traffic generation rates for the primary and secondary school student numbers resulted in a total of 1,182 movements generated in the AM peak hour;
- as per Table 5.2 of the traffic report, the traffic volumes per on-site transport facilities during the AM are described as follows:

School	Set-Down (and Short Term Car Parking	Staff Car Parking	Student Car Parking
7-12 Secondary School	510 vph	30vph	30 vph
P-6 Primary School	552 vph	60 vph	0 vph
Total	1,062 vph	90 vph	30 vph

- a directional distribution adopted for traffic generated by the development assumes an 75% traffic to / from the north and 25% traffic to / from the south;
- the operation of the vehicle accesses has been undertaken using SIDRA Intersection and based on recent surveys, the Peak Flow Factor during the AM peak hour has been reduced to 0.80;
- each of the proposed vehicle accesses are expected to operate within acceptable limits during the AM peak hour; and
- extraordinary on-site events such as school concerts, ceremonies and other events of this nature are expected to be infrequent. It is unlikely that an extraordinary event would occur at the same time at the school site.

Actions and Recommendations

Based on the traffic report, it is recommended that the following minimum turn lane provisions be adopted:

- Left-in / Left-out High School Access – Auxiliary Left-turn Treatment (short);
- All movements High School Access – Channelised Right-turn Treatment (short); and
- Primary School Set-Down Entry – Channelised Right-turn Treatment (short).

In order to accommodate the above turn lane provisions, it is expected that minor road carriageway widening will be required along Parkway Avenue and a significant increase to the proposed width of the unnamed road at the south-eastern property alignment. The DoE will need to discuss with the developer the potential to increase the width of the unnamed road at the south-eastern property alignment to ensure safety of users.

With reference to the traffic report, it is noted that no impacts are expected to the proposed vehicular accesses however due to a significant portion of the road network yet to be constructed and surrounding land to be developed, an assessment of the key intersections within the surrounding external road networks was unable to be completed. It is recommended that an updated assessment be completed once forecast traffic volumes from the most up to date modelling is made available from the developer and to confirm the key intersections can function appropriately with the anticipated traffic generation.

8.1.2 Car Parking

Context

As two (2) new school will be provided, the provision of car parking will be essential to ensure student pick-up and set-down occurs in a safe and efficient manner. The number of car parking spaces should be delivered to service demand as generated by the school which also ensures potential issues, such parking on-street in the surrounding road network, is avoided.

The proposal should consider the following with respect to car parking and set-down rates:

- Ipswich City Council Planning Scheme;
- Design Standards for DETE Facilities (DETE - Version 3.0); and
- Planning for Safe Transport Infrastructure at Schools (DTMR April, 2011).

Proposal

A traffic report has been prepared and included in **Appendix 12**. With reference to the car parking requirements, a breakdown of the parking requirements based on each source is detailed below:

School	DoE Requirements	DTMR Requirements	Council Requirements
7-12 Secondary School	215 public spaces (incl. 5 PWD spaces) 15 visitor spaces (incl. 1 PWD space)	91 long-term spaces (incl. 1 PWD space) [1] 100 short-term spaces (incl. 1 PWD space) 20 set-down spaces	65 staff spaces 20 student spaces 15 visitor spaces (incl. 1 PWD space) 15 set-down spaces
P-6 Primary School	156 public spaces (incl. 4 PWD spaces) 10 visitor spaces (incl. 1 PWD space)	77 long-term spaces (incl. 1 PWD space) [1] 80 short-term spaces (incl. 1 PWD space) 16 set-down spaces	55 staff spaces 12 visitor spaces (incl. 1 PWD space) 12 set-down spaces

The proposal consists of three (3) defined parking areas within the site and the car parking quantum proposed to be provided is summarised below:

School	Parking Spaces
P-6 State School	Short Term – 67 car spaces Drop Off Zone – 15 car spaces PWD – 1 space
7-12 State School	Short Term – 103 car spaces Student Parking – 39 car spaces Drop Off Zone – 19 car spaces PWD – 2 spaces
Combined Staff Parking Area	278 car spaces, 4 PWD spaces and 7 motor cycle spaces

A total of 494 car parking spaces will be provided for the development. The proposal meets the car parking requirements in accordance with the relevant guidelines. The number of set-down spaces is considered to provide a suitable to accommodate the demands for each school.

Actions and Recommendations

The proposed parking and set-down provisions are considered suitable to service the demand for the new schools.

8.1.3 Public Transport Infrastructure

Context

As noted in section 4.1.2 of this Report, limited public transport options are available within South Ripley.

It is anticipated that an integrated public transport network will be provided for the Providence Estate however this is not expected to be delivered until the year 2022 and beyond. Providence Parade is identified as a regional and local route with bus stops to be located in the vicinity of the Providence Parade / Parkway Avenue intersection and Providence Parade / unnamed Road (south-eastern property

alignment) intersection. These routes will service the local community and beyond including Ipswich, Springfield and Brisbane.

Apart from the Providence Estate development, there is currently limited development within the South Ripley area. Although the proposed school catchment boundary captures the wider South Ripley area, the new schools are generally intended for the population growth expected for the Providence Estate.

Proposal

As the new schools are located within a new master planned community which is yet to be fully developed, it is difficult to determine the public transport demand for each school until such time, the schools become operational for a period of time. At this stage, it is likely that the use of public transport would not be a prevalent mode of transport as opposed to private vehicles given the new schools are generally intended for residents of Providence Estate. It is however recommended that future public transport mode demands be monitored so facilities are made available for students, where demand warrants.

It is anticipated that a new shared bus drop-off zone along Providence Parade which is yet to be constructed by the developer. Providence Parade will be constructed at a width of 24.5m at the location of the new bus-set down area. This bus-set down area will be constructed to a width of 4.5m and will provide for up to six (6) bus spaces.

Actions and Recommendations

The DoE is to engage with Translink and Council to provide an integrated public transport service during detailed design.

It is recommended the following is undertaken by the DoE:

- school representatives, during the commencement of school, to undertake monitoring of school population travel modes; and
- review and assess public transport demands from the school population.

8.1.4 Active Transport Infrastructure

Context

There is an existing footpath provided along the Parkway Avenue (south-western alignment) frontage of the school and continues south-east towards Botany Drive.

The area outside of the Providence Estate is predominately undeveloped and is likely that students from outside of the Estate will generally travel by private car to the schools.

Proposal

A pedestrian footpath will be delivered by the developer along the full school frontage. A minimum footpath width of 2.0m and 2.5m is to be provided within the road verge of the Providence Parade (unconstructed road), Parkway Avenue at the north-western property alignment and unnamed Road at the south-eastern property alignment (unconstructed road).

It is anticipated that bicycle lanes will be constructed by the developer along the full school frontage.

The proposal will provide approximately 48 bicycle spaces for the P-6 School and 60 bicycle spaces for the 7-12 School. A secure facility will be provided for staff bicycle parking within the administration block and student bicycle parking to be located in the vicinity of the entrances of each campus. At this stage, the design and location of these spaces are yet to be determined and will be further developed during

detailed design stage. There is adequate space for additional bicycle parking facilities to be provided on-site at each school, if warranted.

Actions and Recommendations

The number of bicycle spaces and the usage are to be monitored by school representatives during commencement of the schools.

The proposed works are not considered to have a material impact to the existing active transport infrastructure or network.

8.1.5 Servicing and Manoeuvring

Context

The proposed schools will need due consideration for service vehicles and manoeuvrability within the site.

Proposal

With reference to the traffic report in **Appendix 12**, a swept path assessment has been carried out to ensure all vehicles, including refuse collection vehicles, MRV, SRV, Dental Van and emergency vehicles including a Fire Appliance and ambulance vehicle has appropriate access to, and within, each of the schools.

Actions and Recommendations

The proposal has been designed to ensure all necessary service vehicles are able to access and manoeuvre to and from these area in a suitable manner.

The proposed servicing and manoeuvring arrangements are considered appropriate and is not anticipated to have any impacts on the road network.

8.2 Services Infrastructure

8.2.1 Water Infrastructure

Context

There is currently no water supply provided to the site. An existing water reticulation main is located within the Parkway Avenue road reserve adjacent to the school site.

Proposal

It is proposed to have separate water infrastructure for each school. Both schools will obtain water supply via a new 150mm combined fire / metered portable supply connection from the existing main located adjacent the school site along Parkway Avenue.

It is proposed to provide a separate fire hydrant system for each school. The fire hydrant system design is based on a combination of external and internal hydrants to provide coverage to the buildings. The hydrant system is to be connected to ring main via a single diesel booster pump within a designated enclosure and in close proximity to the fire brigade booster.

All fire hydrants shall be installed in accordance with AS2419.1 and DoE requirements.

Refer to the proposed services plan in **Appendix 10**.

Actions and Recommendations

A flow and pressure test will need to be undertaken to confirm the available performance in the street. If the flow is not adequate, tank storage with dual booster pumps will be required.

The adequacy, capability and location of the existing water infrastructure to service the proposed development will be confirmed prior to the construction phase.

8.2.2 Sewer Infrastructure

Context

There is currently no sewer connection provided to the site. An existing sewer main is located within the adjacent Botany Drive road reserve. The developer is to provide a new sewer connection at the south-west corner of the site towards the secondary school sport oval near Parkway Avenue. This connection will come from the existing authority infrastructure located across the street near Freedom Crescent.

Proposal

It is proposed to have separate sewer infrastructure for each school.

A new sewer main will be constructed at the south-western corner of the site near the sport oval. The proposed secondary school will obtain a new 150mm sanitary drainage line from this main and will extend northwards. A sewer lifting station is to be provided for buildings that cannot connect to the sewer main by gravity and the final location and size will be determined during detailed design.

There are two (2) proposed locations for connection to sewer infrastructure for the new primary school which includes:

- Option 1: Provide a new 150mm sewer connection on the southern boundary of the site on Botany Drive. The new connection will be taken off the existing authority inspection chamber located on Botany Drive. This option will require a sewer lifting station be provided for buildings that cannot connect to the sewer main by gravity. The final location and size of the lifting station will be confirmed during detailed design; or

- Option 2: Provide a new 150mm sewer connection on the northern boundary of the site on Providence Parade. Further investigation will need to be done into the location, size and levels of any existing sewer in Providence Parade to confirm the viability of this option. If levels are favourable, all sanitary drainage from the primary school will connect to the authority infrastructure by gravity (i.e. sewer lifting station will not be required).

Refer to the proposed services plan in **Appendix 10**.

Actions and Recommendations

The adequacy, capability and location of the existing sewer infrastructure to service the proposed development will be confirmed prior to the construction phase.

8.2.3 Stormwater Infrastructure

Context

The subject site is currently undeveloped and is proposed to be developed for the purposes of new schools. The proposed development should have appropriate stormwater management considerations that:

- demonstrates the proposed development would not create an adverse impact on neighbouring properties;
- recommends appropriate strategies to manage flows from the external catchment through the site;
- nominates a lawful point of discharge for the site; and
- identifies an appropriately sized treatment train to meet water quality objectives.

Proposal

The proposed development will increase the site's imperviousness due to additional roof and paved areas and as such, a Stormwater Management Plan has been prepared for the proposed development and included in **Appendix 14**. The outcomes of the stormwater assessment as follows:

Drainage Characteristics

- the subject site straddles two (2) catchment areas and is treated by basin 3 and basin 5;
- the eastern portion of the site grades north, west and south and the north-western portion of the development grades west towards Parkway Avenue. Runoff generated from this area generally grades north (except where land grades south) and is conveyed via road reserves and ultimately discharges to detention basin 5 (located towards the north-western boundary of the Providence Estate);
- the portion of the site that discharges to the south is collected by basin 3 (located within the adjacent allotment to the south-west of the site); and
- the balance of the site grades south-west and runoff generated from this area is conveyed to the south-western corner and collected by a culvert beneath Parkway Avenue.

Proposed Stormwater Drainage

It is proposed to direct all surface runoff to the internal roads and field inlets via overland flow and roof water and runoff generated by a minor storm event be collected by an internal piped stormwater network. Stormwater will be collected from the roof via a new roof water drainage system and discharge into rainwater harvesting tanks, with water from these tanks to be used for irrigation. Surface runoff during a major storm event will traverse through the site and discharge via overland flow. All stormwater water from the site will ultimately discharge to basin 3 and basin 5.

Stormwater Quantity and Quality

With reference to the approved Stormwater Management Plan for the Ripley Valley SUCE Southern and Eastern Precincts, the detention basins have been designed to cater for the increased runoff rates from the overall masterplan development. As the proposed school site has increased in area, there is now a reduction of residential properties within both catchments. It has also been assumed that as these precincts are new developments the external stormwater infrastructure has been sized to cater for a fully developed catchment. Therefore, no stormwater quantity mitigation measures are required to mitigate runoff from the development site. A series of bio-retention basins have been proposed within the detention area. These bio-basins have been sized to accommodate the fully developed precincts. It should be noted that the proposed school area is larger than that seen in the initial master plan therefore as a result there are less residential properties and roadways generating pollutants during storm events. On this basis, it can be assumed that the bio-retention basins that have been created to treat the South and Eastern Catchments have capacity to treat the proposed development. Therefore, no onsite stormwater quality measures are required to treat stormwater runoff from the development site.

Actions and Recommendations

The DoE will ensure the Contractor undertakes the recommendations as noted in the Stormwater Management Plan to ensure appropriate stormwater quality and quantity treatments is achieved as part of the proposed development of the site.

8.2.4 Gas, Electricity and Telecommunications Infrastructure

Context

The site currently has no connections to gas, electricity or telecommunications infrastructure. Delivery of a new school needs to ensure appropriate connections to this infrastructure.

Proposal

As part of the proposed development, new infrastructure will be provided to service each school to include:

- establish a new Energex transformer rated at 1,000kVA to cater for the ultimate load of the school;
- establish new telecommunications infrastructure, via Telstra/ NBN to service the school; and
- establish new reticulated gas connection to service the school.

Actions and Recommendations

The DoE and Contractor to undertake the below during the detailed design phase:

- undertake a Design and Network Planning assessment through Energex to determine electrical requirements to service the school site;
- undertake further discussions with Telstra and NBN services to confirm required telecommunications infrastructure and available connections; and
- confirmation with the relevant utility providers on the capacity of these networks to service the proposed development.

8.3 Flora and Fauna

8.3.1 Vegetation Management Act 1999

Context

The Department of Environment and Heritage Protection (DEHP) regulated vegetation management mapping shows that part of Lot 7030 on SP292763 contains remnant vegetation which is of Concern Regional Ecosystems and Wetland (refer to **Appendix 7**). The SPP Biodiversity Mapping also identifies this part of the site as containing MSES Regulated Vegetation.

As part of the MCU approval, an ecological assessment was undertaken which included an assessment of this regulated vegetation. It was determined that the regulated vegetation was associated with an ephemeral wetland and the ecological values and functions of this wetland area were not sufficient to warrant the retention and incorporation of this feature as part of the Providence Estate.

Proposal

The south-western portion of the site is identified as containing remnant vegetation under the regulated vegetation mapping. The site is heavily disturbed and cleared of vegetation. Given the site is already cleared of vegetation, the proposal will have no impacts to the mapped vegetation.

Where clearing is required for the proposed development, it will be considered "operational works" under the PA. Operational works carried out by or on behalf of a public sector entity authorised under State law to carry out the work is exempt development (PA Section 232 (2) as prescribed under Schedule 4 of the *Planning Regulation 2017*) and therefore development approval is not required for these activities.

Actions and Recommendations

Vegetation that is not required to be cleared for the proposed development should be protected from construction impacts in accordance with the *AS 4970-2009 Protection of Trees on Development Sites*.

8.3.2 Environmental Protection and Biodiversity Conservation Act 1999

Context

The purpose of the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) is to ensure the protection and management of nationally and internationally important flora, fauna, ecological communities and heritage places as defined in the EPBC Act.

Proposal

The EPBC Protected Matters Report (refer **Appendix 8**) identified 2 critically endangered ecological communities; 4 critically endangered, 3 endangered and 3 vulnerable bird species; 1 critically endangered and 6 vulnerable plants; 1 vulnerable reptiles; 1 endangered and 1 vulnerable frog species; 2 endangered and 5 vulnerable mammal species; and a number of migratory species which may be present within a 1km radius of the site.

It is noted that the proposed school site is cleared of vegetation and does not contain a wetland. As such, the proposal is unlikely to impact on any species protected under the EPBC Act.

Actions and Recommendations

The presence of any invasive, declared or pest species (flora or fauna) will be confirmed prior to commencement of construction. If found, these will be removed in accordance with legislative requirements.

8.3.3 Nature Conservation Act 1992

Context

The *Nature Conservation Act 1992* (NCA) protects all plants that are native to Australia. The *Nature Conservation (Wildlife Management) Regulation 2006* regulates the clearing of protected plants in Queensland.

Proposal

The NCA Wildlife Online database shows records of 1 vulnerable species present within a 1km radius of the subject site (refer to **Appendix 8**).

The DES Protected Plants Flora Survey Trigger Map also shows the entire site is not mapped as a 'high risk' area for protected plants (refer to **Appendix 7**). As the site is already cleared of vegetation the proposed development is not anticipated to have any impacts upon any ecological values.

Actions and Recommendations

Trees and other vegetation to be removed should be confirmed and inspected for hollows and nests by a suitably qualified person prior to clearing. If hollows, nests or other potential breeding places are present,

they must be assessed by a suitably qualified person to determine if they are breeding places in accordance with the NCA. If any breeding places are located within the development footprint a Species Management Plan (SMP) must be approved by DEHP prior to impacting on the breeding place. Mitigation measures such as the establishment of nest boxes (or other relevant measures) prior to tree clearing may also be required under the SMP.

Future development under the designation on vegetated areas of the site will require an environmental assessment be undertaken to identify whether further reporting is required by a qualified ecologist to identify flora and fauna values within the site and identify impacts from development, mitigation strategies, and permit requirements under State legislation.

8.3.4 Protected and Vulnerable Areas

Context

The map of referable wetlands is a statewide regulatory map under the *Environmental Protection Regulation 2008*. It identifies the location of wetland protection areas (WPA) in Great Barrier Reef (GBR) catchments and also identifies wetlands of high ecological significance (HES) and general ecological significance (GES) across the state.

As part of the MCU approval, an ecological assessment was prepared which included an assessment of this ephemeral wetland. It was determined that the ecological values and functions of this wetland area were not sufficient to warrant the retention and incorporation as part of the Providence Estate. The mapped HES wetland area further extends to the north-west which is now fully developed as residential dwellings.

Proposal

With reference to the relevant State interest trigger maps in **Appendix 7**, the south-western part of the site is mapped as 'Referable Wetlands' of High Ecological Significance (HES) under the *Environmental Protection Act 1994*.

The entire site is heavily disturbed with no presence of a wetland over the site. As no wetland values exist on site, the proposed development will have no impacts to the mapped wetland area.

Actions and Recommendations

DET will ensure the Contractor, prior to works commencing on site, prepares and implements a Construction Environmental Management Plan to ensure matters such as sediment control, surface water runoff, dust and noise are managed and protects the surrounding environment from nuisance and harm associated with this development.

8.3.5 Koala Conservation

Context

With reference to the relevant State interest trigger maps in **Appendix 7**, the site is mapped as 'Low and Medium Value Rehabilitation' on the Koala Habitat mapping.

Proposal

The proposal relates to state government infrastructure and will involve works that will have a total development footprint of more than 500m^2. As such, the development is to be regulated by the *State Government Supported Infrastructure Koala Conservation Policy 2017*, and requires that a Koala Self-Assessment and Conservation Management Plan be prepared.

A Koala Self-Assessment and Conservation Management Plan is included in **Appendix 15**.

The intended outcomes of the Koala Conservation Policy has been appropriately addressed in the Management Plan. Furthermore, the Management Plan also takes into consideration the koala habitat and connectivity values identified and has been specifically developed for the site and proposed development.

Actions and Recommendations

The Management Plan must be considered in all relevant phases of the project and a copy of the document provided to relevant personnel involved in the project including project managers, principal design consultants, landscape architects and construction contractors.

To ensure adequate records are kept of the implementation of these management strategies, reference should be made to Column 4, Table 3 of the Management Plan. DoE will ensure the Project Manager is responsible in ensuring accurate records are maintained and updated as necessary.

8.3.6 Invasive Species

Context

The *Queensland Biosecurity Act 2014* refers to 'Designated Biosecurity Matter' which includes pest plants and animals. These are further classified as either 'Prohibited' or 'Restricted':

- Prohibited Matter is biosecurity matter not currently present or known to be present in Queensland. It is prohibited because it may have a significant adverse effect on a biosecurity consideration if it did enter Queensland.
- Restricted Matter is biosecurity matter found in Queensland that may have adverse effects on a biosecurity consideration if conditions or restrictions under the Act were not imposed.

Prohibited Plants are listed in Schedule 1 Part 3 and Prohibited Animals are listed in Schedule 1 Part 4 of the *Biosecurity Act 2014*. Restricted Plants and Restricted Animals are also listed in Schedule 2 Part 2 of the *Biosecurity Act 2014*.

Proposal

The Commonwealth EPBC Protected Matter Report as included in **Appendix 8** identified invasive fauna and invasive flora species within 1km radius of the site. It is noted that the proposed school site is currently cleared of vegetation and therefore unlikely that any declared species will be present on the site.

Actions and Recommendations

Prior to works commencing on site, DoE will ensure the Contractor undertakes a site inspection to confirm presence of any pest plants and/ or animals. If found, these will be removed in accordance with legislative requirements.

8.4 Soils and Geology

8.4.1 Geotechnical Conditions

Context

A geotechnical investigation is required to understand site ground conditions and confirm building requirements associated with the proposed development.

Proposal

Appropriate investigations will be undertaken prior to any development works on the site, and will be carried out to establish the nature and type of subsurface material at the site to allow engineering assessment of site classification (AS2870); earthworks recommendations; rock excavatability; groundwater control; and suitable foundation types.

Actions and Recommendations

DoE will ensure the Contractor, as part of detailed design, prepares a Geotechnical Investigation that confirms the ground conditions and informs building requirements.

8.4.2 Erosion Risk

Context

The release of sediments or other contaminants to water is an offence under the *Environmental Protection Act 1994*. All activities that expose soil have the potential to result in release of sediment to waterways or stormwater systems.

Proposal

To minimise the risk of releasing sediment (and other contaminants) to waters during construction and to the meet the General Environmental Duty under the *Environmental Protection Act 1994*, a site erosion and sediment control plan (ESCP) is to be prepared in accordance with the IECA Best Practice Erosion and Sediment Control prior to commencing construction.

Actions and Recommendations

DoE will ensure the Contractor prepares an ESCP that addresses the erosion risks identified for the site, and that the Plan is implemented and monitored throughout the construction phase for the proposed development.

8.4.3 Acid Sulfate Soils

Context

The site is not within a low-lying coastal area. The site is not mapped as being affected by acid sulfate soils (ASS) in any local or state mapping and is also mapped as ‘Extremely Low Probability of Occurrence’ on the Australian Soil Resource Information System’ for the potential for (ASS) to be present.

Proposal

With respect to the school, the topography ranges between 48m AHD to 70m AHD. The proposal will involve earthworks however is not anticipated to result in any disturbance or impacts to land above 5m AHD and below 20m AHD.

Actions and Recommendations

No further actions or recommendations are considered necessary.

However, if potential or actual ASS is identified during construction, an ASS investigation should be carried out and managed in accordance with an ASS management plan. Should development works involve the removal of 100m^3 or more; or filling of 500m^3 or more of the material with an average depth off >0.5m, then the SPP State Interest – Water Quality will be triggered.

8.4.4 Contaminated Land

Context

With reference to **Appendix 9**, the site is not listed on the Environmental Management Register (EMR) or Contaminated Land Register (CLR).

Proposal

The proposed activities to be undertaken at the new school will not involve any EMR activities nor involve uses which could contaminate the land.

Actions and Recommendations

No further actions or recommendations are considered necessary.

8.5 Heritage and Native Title

8.5.1 Historical Heritage

Context

The site is not listed on the Local or State Heritage register. A search of the Australian Government's Australian Heritage Places indicated that the site is not listed on the database.

Proposal

As no heritage values exist on site, the proposed development will have no further impacts.

Actions and Recommendations

No further actions or recommendations are considered necessary.

8.5.2 Cultural Heritage

Context

The *Aboriginal Cultural Heritage Act 2003* (ACHA) requires that a person must exercise Due Diligence and reasonable precaution before undertaking an activity which may harm Aboriginal Cultural Heritage. The ACHA – Duty of Care Guidelines (the Guidelines) was gazetted in April 2004 to provide guidance on actions required to demonstrate compliance with this Act.

Proposal

Search results from the Department of Aboriginal and Torres Strait Islander Partnership (DATSIP) cultural heritage database shows no records of indigenous cultural heritage within 1km of the school site. It should be noted that often the absence of recorded Aboriginal cultural heritage places reflects a lack of previous cultural heritage surveys of the area. Therefore, the database search may not provide a true picture of the Aboriginal cultural heritage values of the area.

The proposed development is to be located within an area subject to previous clearing, therefore, the nature of the activity is likely to be classified as 'area previously subject to significant disturbance – Category 4', under the Aboriginal Cultural Heritage Act 2003, Section 28 Duty of Care Guidelines. Subject to measures set out in paragraph 5.6-5.12, under Category 4 of the Duty of Care Guidelines, the proposed activates can proceed without further cultural heritage assessment.

Actions and Recommendations

No further actions or recommendations are considered necessary.

However it should be noted that any Aboriginal cultural heritage, if found, is protected under the ACHA even if DEHP has not recorded it. Contract documents should include provisions for works to cease and the relevant Aboriginal Party to be contacted if evidence of Aboriginal cultural heritage is encountered during site works.

8.5.3 Native Title

Context

Native title recognises the traditional rights and interests to land and waters of Aboriginal and Torres Strait Islander people in accordance with the *Native Title Act 1993*.

Proposal

The DoE has undertaken a Native Title assessment for the site (including parts of Lot 7001 on SP226966) and concluded that native tile is extinguished (through valid previous grants and vestings of exclusive possession) over the whole of the subject site.

Actions and Recommendations

No further actions or recommendations are considered necessary.

8.6 Natural Hazards

8.6.1 Flooding

Context

The Ripley Valley Development Scheme constraints mapping indicates that the south-western corner of the site is subject to flood (1 in 100 Floodline).

Ipswich City Council's flood overlay mapping identifies the south-western corner of the site as an 'indicative and subject to further detailed assessment' area. The Ipswich City Council Major Flood Information mapping indicates no recorded flooding of the site or the surrounding road network during the January 2011 and 1974 flood events. A copy of the flood report has been obtained from Council and included in **Appendix 11**.

Proposal

With reference to the Council's flood overlay mapping and the master plan contained in **Appendix 4**, the proposal comprises of the following:

- part of the sport field and car parking area associated with the new secondary school is located within the south-western corner of the site;
- no proposed building, except for a grounds keeper shed, are located within the south-western corner of the site;
- the proposed internal road known as 'School Avenue' from emergency vehicle access is not subject to flooding;
- all proposed access points to and from the site are not subject to flooding;
- all existing roads which provide access to and from the site are not subject to flooding; and

- all future roads to be constructed at the north-eastern and south-eastern property alignment are not subject to flooding.

Actions and Recommendations

It is recommended that no buildings are placed within the south-western portion of the site and the use of this area be limited to car parking and oval.

The school administration will be required to develop a school emergency plan and evacuation procedures. All staff will also undertake training to ensure awareness of procedures during any potential flood events.

8.6.2 Bushfire

Context

The site is mapped under State mapping as affected by bushfire hazards.

Proposal

With respect to the school, the south-western part of the site is mapped as a Medium Potential Bushfire and Potential Impact Buffer area. Based on aerial imagery, the entire site is currently vacant and cleared of vegetation. The land surrounding the school is also cleared of vegetation or fully developed for residential uses. The proposed development is unlikely to be impacted by bushfire.

Actions and Recommendations

It is noted the Building Code of Australia (BCA) only requires Classes 1,2 and 3 buildings and Class 10a building to comply with the requirements of *Australian Standard 3959 – Construction of buildings in bushfire prone areas* (AS 3959-2009). Although educational facilities do not fall under the BCA classes, DoE will ensure the Contractor investigates options for the proposal to include construction requirements in accordance with AS 3959-2009. Where budget permits and relevant, DoE will incorporate these elements into the building design.

8.6.3 Landslip

Context

The site is not mapped as affected by landslip.

Proposal

The proposal will involve earthworks to accommodate the new schools however will not result in the creation of any potential landslip areas over the site.

Actions and Recommendations

No further actions or recommendations are considered necessary.

8.7 Socio-Economic Impacts

8.7.1 Socio-economic Profile

Context

Appropriate consideration should be given to the social and economic impacts from the proposed development, which includes matters such as employment opportunities, access to services, quality of education and the demographics profile.

Proposal

The new P-6 and 7-12 School will continue to provide positive socio-economic impacts, including:

- continued long-term educational and associated (i.e. trades) employment opportunities;
- investment of funds from the *Building Future Schools Funds* program for delivery of the master plan and the associated benefits to the economy;
- improved educational facilities that meets the projected population growth;
- meeting the demographic profile and providing the community with access to educational services; and
- focus on delivering quality education, with a curriculum that caters for the varied needs and skills of students.

Actions and Recommendations

No further actions or recommendations are considered necessary.

8.8 Construction Impacts

8.8.1 Construction Management

Context

During development and construction it is essential to minimise impacts to neighbouring residents and the general public. Consideration for the planning of construction works within an operating school environment is paramount.

Proposal

A Construction Environmental Management Plan (CEMP) is to be prepared for the development. The plan will include at a minimum default noise standards detailed in the *Environmental Protection Act 1994*, dust mitigation methods, waste control and erosion and sediment control plans.

Actions and Recommendations

DoE will ensure a CEMP is prepared during detailed design and that the Contractor implements and acts in accordance with the Plan during construction.

8.8.2 Hours of Construction Operation

Context

The site is located in an urban area and construction activities should be within appropriate hours to avoid impacts to nearby residences.

Proposal

Unless otherwise approved in any development approvals and / or statutory permits, works must comply as a minimum with default noise standard detailed in the *Environmental Protection Act 1994* including:

- on a business day or Saturday, before 6.30am or after 6.30pm; or
- on any other day, at any time.

Actions and Recommendations

DoE will ensure the default noise standards are included as part of the Contractor's CEMP.

8.8.3 Bulk Earthworks

Context

It is recognised that the site has a combined gradient of approximately 25m across the site.

It is anticipated that the bulk earthworks will be undertaken by the developer prior to the transfer of title.

Proposal

A proposed bulk earthworks plan and earthworks layout plan has been included in **Appendix 16**.

The extent of works comprises bulk earthworks for the proposed buildings, car parks, access roads, oval and landscaping. The proposed school site will be benched to a number of predetermined levels, which will be prepared by the developer prior to constructing the works. The benched areas will consist of areas of cut and areas of fill. A total of fifteen (15) pads will be created across the site to accommodate for the new school infrastructure.

It is expected that the earthwork's conducted by the developer will conform to the relevant AS Standards and will be certified in accordance with the requirements of Level 1 supervision as set out in AS3798.

A structural engineer report has also been prepared and included in **Appendix 17** for reference. The report outlines the minimum performance standards, design criteria and design standards to be used in the structural engineering design for each new school.

Actions and Recommendations

The DoE will ensure the Contractor undertakes the recommendations as identified in the structural engineering report and to revise the documents as detailed design progresses, where necessary.

For building pads, the ground will need to be compacted to 98% standard compaction. If this has not been provided by the developer, the DoE will need to undertake additional earthworks to bring the building pads up to this level of compaction and this will take the form of removal of some or all of the existing fill material and replacing and recompacting it to the required standards. Alternatively, the existing ground could be retained and concrete piers founding on the rock could be used to proposed slabs and foundations.

8.8.4 Traffic

Context

Traffic associated with construction activities may create nuisance impacts to nearby residences and amenity.

Proposal

Construction traffic access to the site is likely to occur at various locations throughout the site and this will be determined as part of preparation of the CEMP.

Actions and Recommendations

With reference to section 8.8.2, DoE will ensure the hours of construction operation are included as part of the Contractor's CEMP.

The DoE will ensure that the Contractor is to develop a traffic management plan as part of the CEMP.

8.8.5 Air Quality

Context

Construction activities may cause air quality impacts (i.e. dust) to nearby residences and the school population.

Proposal

Potential air quality impacts will be treated with water and/ or appropriate procedures to limit the likelihood of discomfort to any students, staff and neighbouring personnel.

Actions and Recommendations

DoE will ensure appropriate air quality management procedures are included as part of the Contractor's CEMP.

8.8.6 Noise

Context

The school site is located in proximity of sensitive uses in residential dwellings and will likely result in potential noise impacts from construction vehicles and development activities.

Proposal

Potential noise impacts during construction will be identified during detailed design and appropriate mitigation measures included to ensure noise is minimised where possible. As noted in section 8.8.2, DET will ensure the hours of construction operation are included as part of the CEMP and adhered to by the Contractor.

Actions and Recommendations

DoE will ensure the hours of construction operation are included as part of the Contractor's CEMP.

8.8.7 Light

Context

Potential lighting impacts from construction activities to neighbouring properties needs consideration.

Proposal

Unless otherwise approved, construction hours will be limited to the days and hours as specified under the *Environmental Protection Act 1994*, and listed in section 8.8.2 of this Report.

Given the proposed operation times for construction, the proposed works is unlikely to generate any adverse lighting impacts.

Actions and Recommendations

No further actions or recommendations are considered necessary.

8.8.8 Waste

Context

Construction waste and hazardous materials must be appropriately disposed of during construction activities to avoid impacts to the surrounding built and natural environment.

Proposal

Any regulated waste generated during construction will be handled and disposed of appropriately in accordance with the requirements of the *Environmental Protection Act 1994*.

Actions and Recommendations

It is unlikely the activity will generate any regulated waste. Waste that will be generated by the proposed development is to be confirmed during the planning and design stage. Waste management facilities are to be designed and provided, or modified (if existing), in conjunction with a waste management plan if necessary.

8.9 Operational Impacts

8.9.1 Traffic

Context

Traffic associated with the new schools has potential to cause impacts to the continuing operation of the road network, in addition to nearby residences and amenity.

Proposal

With reference to section 8.1 of this report, it is noted that no impacts are expected to the proposed vehicular accesses however due to a significant portion of the road network yet to be constructed and surrounding land to be developed, an assessment of the key intersections within the surrounding external road networks was unable to be completed.

Actions and Recommendations

With reference to section 8.1 of this report, the DoE will need to discuss with the developer the potential to increase the width of the unnamed road at the south-eastern property alignment to ensure safety of users.

8.9.2 Air Quality

Context

The proposed schools will not produce any emissions, gasses or negative air quality impacts.

Proposal

The site is not located adjacent to any high order roads. The proposed development will not generate any emissions, gasses or result in negative air quality impacts to the school population.

Actions and Recommendations

No further actions or recommendations are considered necessary.

8.9.3 Noise

Context

With respect to noise, anticipated impacts to, and from the school, includes:

- surrounding road traffic noise levels; and
- ambient noise levels from the school to nearby residences.

Proposal

An acoustic report has been prepared and included in **Appendix 13**. This assessment considers potential noise impacts that may be caused by the new building to residential areas along the school boundaries and potential local traffic noise impacts on school buildings. Noise generated by the proposed new schools will include:

- Students and teachers in learning centres (GLA) (i.e. science centre, hospitality, art & design, business, fashion & design graphics, applied technology & robotics), library/ resource centre/ information services centre, canteen, and executive and staff buildings;
- Multi-Purpose Hall, Workshop and Music;
- Sports Centre;
- Junior and Senior Applied Technology;
- Performing Arts Centre, and Music Rehearsal;
- Sports Ovals and Multi-purpose courts;
- Car parking, and drop off / pickup zones;
- Grounds Building & Store;
- School bell and PA system; and
- Mechanical Plant.

The noise generated from the new schools can be managed to minimise noise to residences and mechanical plant can be selected to meet the *Environmental Protection Act* and *Environmental Protection Policy* criteria. The findings of the assessment concluded that:

- the school will not experience significant noise from a major state controlled road or railway as the school site at Providence Parade, Ripley is not in a transport noise corridor;
- Executive, Student Services & Staff Centres will experience road traffic noise from Providence Parade and would benefit from air conditioning to enable doors and windows to be kept closed;
- Primary School multi-purpose hall with music and workshop facilities is located along Providence Parade to minimise noise to residences;
- High School indoor sports centre with undercover parking will be naturally ventilated and sport noise is expected to be audible at houses across Botany Drive. The building will have acoustic treatments to reduce reverberant noise levels, has a setback from the site boundary, and will be cut into the ground to assist in reducing noise radiating to the residential area across Botany Drive;
- Applied Technology buildings are located on the western side of the site and the car park provides a reasonable buffer distance to possible future residences across the road to the northwest of the

school site. The buildings will be naturally ventilated and louder activities may be audible at the western boundary at times;

- use of air conditioning for buildings such as the Performing Arts Centre will enable noise to be well contained with suitable façade acoustic design;
- Ovals and Multi-Purpose courts have been located with buffer distances to reduce sport noise to the existing residences;
- The new schools will introduce additional traffic onto roads around the site with staff and parents accessing the school. This will result in an increase in road traffic noise for houses along these roads, particularly during peak drop-off and pick-up time periods. The car parking and drop-off/ pick-up zones have been set into the school site to increase the buffer distance to the nearest residences.

Actions and Recommendations

With reference to the recommendations contained in **Appendix 11**, the following items should be incorporated during the detailed design:

- the buildings be designed to minimise noise radiating to residential boundaries through the use for acoustic absorption to reduce reverberant noise and orientation of openings to re-direct sound where practical;
- the school bell and PA system be designed and sound levels be managed by the school to minimise noise radiating to residences;
- traffic be managed to minimise noise at residences; and
- mechanical plant be selected to achieve the noise criteria at the nearest residences.

8.9.4 Light

Context

The new P-6 and 7-12 State Schools will have normal school operating hours between 8:45am until 3:00pm with office and school facilities to be open between 6:00am until 6:00pm. It is noted that school facilities will also be open for student use before and after normal school hours.

The facilities will also have opportunities outside of normal operating hours for the school community and external user groups to potentially utilise the proposed spaces, such as the Multi-purpose Hall and Performing Arts Centre. The hours of operation for external user groups have yet to be determined, however will be at the discretion of the Principal and will also be dependent on the type of use (i.e. one-off recreational use, social sporting clubs).

Proposal

Security and access lighting shall be provided to serve car parks, internal roadways, main school entries, main school signage, covered walkways, main paths, areas of congregation / covered areas, internal Breezeway corridors, building exit and entry points.

A complete interior and exterior lighting system will be provided. The system will focus on energy efficiency, standardisation (of both luminaries styles and lamp types), ease of procurement and maintenance, conformance with the relevant Australian Standards and the DoE requirements.

In general, the proposed development will seek to deliver:

- interior lighting will comprise of recess mounted linear luminaries, installed to provide illumination levels and glare indices as recommended in the relevant parts of AS1680 unless identified otherwise;

- exit and emergency lighting system will operate from a computer monitored point complying with the BCA and AS2293 and to the toilets/ wet areas in the new buildings;
- exterior lighting will be designed to provide security and amenity lighting necessary to meet the requirements of AS1158.3.1;
- control of spill and obtrusive lighting – including glare control in vehicular access areas and minimisation of spill light into buildings and adjoining properties will be based on AS4282 “Control of the Obtrusive Effects of Outdoor Lighting”;
- lighting along the internal road and along external pathways will be designed and controlled to reduce energy use and spill of light to the surrounding areas;
- no external lighting is proposed for perimeter lighting or building façade lighting; and
- no lighting will be provided to outdoor courts, other than the required security lighting.

Actions and Recommendations

No further actions or recommendations are considered necessary.

8.9.5 Safety and Security

Context

All schools require appropriate safety and security measures and should be prepared in accordance with DoE’s *Security Design Requirements*. The design of the Security System will address the functional, installation and technical upgrade and expandability requirements that provides for future proofing, flexibility and expandability.

Proposal

The security components will be designed as appropriate to suit each building and will include the following systems:

- Electronic security system which is monitored by State Government Security;
- CCTV / Video surveillance system with cameras to be located to provide visual coverage of the main access and egress paths / point, executive services main external entry and areas of congregation;
- PA/Evacuation/Lock Down and Bell System which can be integrated with the Fire Indicator Panel and fire systems; and
- Fire/Smoke Detection and Evacuation Alarm System

Actions and Recommendations

No further actions or recommendations are considered necessary.

8.9.6 Emergency Response Plan

Context

Every educational establishment is required to implement an Emergency Response Plan (ERP) that details how the school will prepare for and respond to disaster or emergency situations. This includes weather, geological, biological or human events that pose risks to life, property or the environment.

As part of the ERP, the school’s Principal assumes the role as the School Response Controller (SRC) and is responsible for making decisions about implementing and actioning the measures in the ERP. A School Response Team (SRT), which includes additional school personnel is also established and will provide necessary assistance to the SRC.

Proposal

Given the school's Principal is the responsible SRC and co-ordinator when an emergency arises, no ERP has been prepared to date for the proposed P-6 and 7-12 State School. As such, on the appointment of the Principal the school will look to prepare and implement an ERP that will generally seek to include procedures relating to:

- evacuation of the facility;
- lockdown of the facility;
- temporary closure of the facility; and
- specific emergencies – response procedures.

Actions and Recommendations

On appointment of the Principal and establishment of the SRC and SRT, the school will prepare and implement an ERP which includes:

- confirmation of SRT and appropriate command and communication procedures;
- preparation of an evacuation route and map;
- evacuation, lockdown, temporary closure and special emergency response procedures;
- key contacts list and school communication details;
- list of students requiring assistance; and
- specialist trained staff.

PART G – CONSULTATION

9 Consultation Engagement

9.1 Stakeholders

The stakeholders relevant for consultation with regards to the proposed designation includes:

Affected Parties

- Ipswich City Council.

State Government Departments

- Department of State Development, Manufacturing, Infrastructure and Planning (DSDMIP), representing relevant State Agencies.

Elected Representatives

- Councillor Kerry Silver (Division 3) – Ipswich City Council;
- Mrs Jo-Ann Miller MP – State Electoral District of Bundamba; and
- Hon Shayne Neumann MP – Federal Electoral Division of Blair.

Stakeholders

- Adjoining landowners; and
- Surrounding landowners.

Native Title Party

- Yuggera Ugarapul People

9.2 Community Engagement Plan

The following community engagement plan has been adopted as part of this Infrastructure Designation process.

Activity	Description	Stakeholder Group	Actions
Prior to public notification			
MP Engagement	Once the Infrastructure Proposal is acknowledged, give notice in writing to the Local Member about the Infrastructure Designation proposal and the engagement process. Offer a meeting.	Local Member (State MP)	Prepare letter Distribute Meet if requested
Email	Email seeking advice about infrastructure requirements.	Ipswich City Council	Email Telephone call
Meeting	If stakeholder requests a meeting, a meeting will be conducted to present the project and discuss matters of interest to	Ipswich City Council	Meet if requested.

	the stakeholder—in particular impacts on local government infrastructure.		
During public notification			
Public notice	Place public notice in local newspaper. Erect Signage at four different locations along frontage at Parkway Avenue and Botany Drive.	Broader community	Prepare and book public notice. Prepare and erect public notice signage.
Update web content	Update DHPW web page with information about the Infrastructure Designation proposal, including the EAR and details about the engagement process.	Broader community	Prepare content update Publish content update
Letters to stakeholders	Prepare letters that outline the Infrastructure Designation proposal and the engagement process. Distribute the letters.	Affected parties and stakeholders	Prepare letter Distribute
Email address and telephone contact	Email: infrastructuredesignation@dilgp.qld.gov.au Phone: 1300 967 433 Submissions during public notification can be made online or by infrastructuredesignation@dilgp.qld.gov.au	Affected parties, stakeholders and broader community	Publish contact information in relevant public notices and letters

9.3 Initial Consultation

Prior to the commencement of the Infrastructure Designation, DoE and BAS representatives undertook initial consultation activities with:

Stakeholder Group	Date	Description
Mrs Jo-Ann Miller MP	19/03/2018	• Provide letter to State Member with information on Infrastructure Designation Proposal.
Ipswich City Council	19/02/2018 12/03/2018 19/03/2018 22/03.2018 28/03/2018	• Provide email correspondence to ICC with information on Infrastructure Designation Proposal; • Correspondence received from ICC; • Meeting with Councillor Silver and ICC Officers; • Discussion between DoE / Project Team and ICC Officers regarding traffic, bus zone and parking.

PART H – CONCLUSION

This EAR has been prepared by BAS, on behalf of DoE, seeking an Infrastructure Designation of land for the proposed new P-6 and 7-12 School, located at Parkway Avenue, South Ripley.

The PA prescribes the way in which a designation can be undertaken. Chapter 2, Part 5 of the PA prescribes that a Minister, before designating land for infrastructure, must be satisfied that for development the subject of the proposed designation:

- the infrastructure will satisfy statutory requirements, or budgetary commitments, for the supply of the infrastructure; or
- there is or will be a need for the efficient and timely supply of the infrastructure.

Educational and community facilities are defined as community infrastructure under Schedule 5, Part 2 of the *Planning Regulation 2017*, being assets necessary to support the community and for the public benefit. The proposed designation as part of this proposal is therefore best described as:

6	***educational facilities***
9	***facilities at which an education and care service under the Education and Care Services National Law (Queensland) is operated***
10	***Facilities at which a QEC approved service under the Education and Care Services Act 2013 is operated***

The designation affirms the new use of the site as an educational establishment, and will facilitate the immediate planned works at the school and future planned developments on the site consistent with the designation purpose. The proposed infrastructure will facilitate the efficient and timely supply of infrastructure; and satisfy statutory requirements and budgetary commitments of the State for the supply of community infrastructure.

The proposed infrastructure will facilitate the efficient and timely supply of infrastructure; and satisfy statutory requirements and budgetary commitments of the State for the supply of community infrastructure.

The assessment provided within the EAR provides key details with respect to the proposed new P-6 and 7-12 School, and has undertaken an assessment of the proposed infrastructure against the relevant statutory frameworks, incorporating local and state assessment criteria and Commonwealth legislation.

PART I – APPENDICES

The following is a list of appendices to this Environmental Assessment Report:

Appendix 1	Extracts from the *Planning Act 2016*
Appendix 2	Designation Flowchart
Appendix 3	Property Information
Appendix 4	Master Plan
Appendix 5	Ripley SUCE Context Plan
Appendix 6	Plan of Development and Plan of Subdivision
Appendix 7	State Interest Trigger Mapping
Appendix 8	EPBC Protected Matters Report & NCA Wildlife Online Report
Appendix 9	CLR & EMR Search
Appendix 10	Service Infrastructure Plans
Appendix 11	ICC Flood Information and Mapping
Appendix 12	Traffic Report
Appendix 13	Acoustic Assessment
Appendix 14	Stormwater Management Plan
Appendix 15	Koala Self Assessment and Management Plan
Appendix 16	Bulk Earthworks Plan
Appendix 17	Structural Engineering Report

Appendix 1

Extracts from Planning Act 2016

Department of Housing and Public Works

Queensland Government

Part 5 Designation of premises for development of infrastructure

35 What is a designation

(1) A ***designation*** is a decision of the Minister, or a local government, (a ***designator***) that identifies premises for the development of 1 or more types of infrastructure that are prescribed by regulation.

(2) A designation may include requirements about any or all of the following—

(a) works for the infrastructure (the height, shape, bulk, landscaping, or location of works, for example);

(b) the use of premises, for example—

(i) vehicular and pedestrian access to, and circulation on, premises; and

(ii) operating times for the use; and

(iii) ancillary uses;

(c) lessening the impact of the works or use (environmental management procedures, for example).

(3) The chief executive may, by notice, require a local government to include a matter in subsection (2) in a designation made by the local government.

Note—

For the effect of a designation on the categorisation of development, see section 44(6)(b).

36 Criteria for making or amending designations

(1) To make a designation, a designator must be satisfied that—

(a) the infrastructure will satisfy statutory requirements, or budgetary commitments, for the supply of the infrastructure; or

(b) there is or will be a need for the efficient and timely supply of the infrastructure.

(2) To make or amend a designation, if the designator is the Minister, the Minister must also be satisfied that adequate environmental assessment, including adequate consultation, has been carried out in relation to the development that is the subject of the designation or amendment.

(3) The Minister may, in guidelines prescribed by regulation, set out the process for the environmental assessment and consultation.

(4) The Minister is taken to be satisfied of the matters in subsection (2) if the process in the guidelines is followed.

(5) However, the Minister may be satisfied of the matters in another way.

(6) Sections 10 and 11 apply to the making or amendment of the guidelines as if the guidelines were a State planning policy.

(7) To make or amend a designation, a designator must have regard to—

(a) all planning instruments that relate to the premises; and

(b) any assessment benchmarks, other than in planning instruments, that relate to the development that is the subject of the designation or amendment; and

(c) if the premises are in a State development area under the State Development Act—any approved development scheme for the premises under that Act; and

(ca) if the premises are in a priority development area under the *Economic Development Act 2012*—any development scheme for the priority development area under that Act; and

(d) any properly made submissions made as part of the consultation carried out under section 37; and

(e) the written submissions of any local government.

37 Process for making or amending designation

(1) This section is about the process for—

(a) making a designation for premises; or

(b) amending a designation for premises, including by amending—

(i) the area of the premises; or

(ii) the type of infrastructure for which the premises were designated.

(2) If the Minister proposes to make or amend a designation, the Minister must give notice of the proposal to the affected parties.

(3) However, the Minister need not give the notice to an owner of premises if—

(a) a notice has already been given to the owner as part of the consultation for an assessment under section 36(2); or

(b) the Minister can not notify the owner after making reasonable efforts.

(4) The notice must invite the affected parties to make submissions about the proposal to the Minister within a period of at least 15 business days after the notice is given.

(5) If, after considering any properly made submissions, the Minister decides not to proceed with the proposal, the Minister must give a decision notice to the affected parties.

(6) If a local government proposes to make or amend a designation, the local government must follow the process in the designation process rules, before the local government makes or amends the designation.

(7) Sections 10 and 11 apply to the making or amendment of the designation process rules as if the designation process rules were a State planning policy.

(8) In this section—

designation process rules means rules made by the Minister and prescribed by regulation.

38 Process after making or amending designation

(1) If, after considering any properly made submissions, the designator decides to make or amend a designation, the designator must publish a gazette notice that states—

(a) that the designation has been made or amended; and

(b) a description of the designated premises; and

(c) the type of infrastructure for which the premises were designated; and

(d) for an amendment—the nature of the amendment.

(2) The designator must give the following things to each affected party and the chief executive—

(a) a copy of the gazette notice;

(b) a notice of any requirements included in the designation under section 35(2);

(c) a notice of how the designator dealt with any properly made submissions.

39 Duration of designation

(1) A designation stops having effect on the day (the ***end day***) that is 6 years after the designation starts to have effect, unless—

(a) on the end day—

(i) a public sector entity owns, or has an easement for the same purpose as the designation over, the designated premises; or

(ii) another entity owns, or has an easement over, the designated premises and construction of the infrastructure for which the premises were designated started before the end day; or

(b) before the end day—

(i) a public sector entity gave a notice of intention to resume the designated premises under the Acquisition Act, section 7; or

(ii) a public sector entity signed an agreement to take designated premises under the Acquisition Act or to otherwise buy the premises; or

(iii) the designator complies with subsection (3).

(2) The designator may extend the duration of a designation, for up to 6 years, by publishing a gazette notice about the extension before the designation stops having effect.

(3) The designator must give notice of the extension of the designation to—

(a) if the Minister is the designator—each of the affected parties and the chief executive; or

(b) if a local government is the designator—the owner of the premises and the chief executive.

(4) If a public sector entity discontinues proceedings to resume designated premises, either before or after the end day, the designation stops having effect on the day when the proceedings are discontinued.

40 Repealing designation—designator

(1) A designator may repeal a designation made by the designator by publishing a gazette notice that states—

(a) that the designation is repealed; and

(b) a description of the designated premises; and

(c) the type of infrastructure for which the premises were designated; and

(d) the reasons for the repeal.

(2) The designator must give a copy of the notice to—

(a) if the Minister is the designator—each of the affected parties and the chief executive; or

(b) if a local government is the designator—the owner of the premises and the chief executive.

(3) Any development started under the designation may be completed as if the designation had not been repealed.

(4) Subject to any requirements under section 35(2), a use of the premises that is the natural and ordinary consequence of the development is taken to be a lawful use.

41 Repealing designation—owner's request

(1) An owner of an interest in designated premises may request a designator to repeal a designation made by the designator on the basis that the designation is causing the owner hardship.

(2) Subsection (1) does not apply if—

(a) the premises are subject to an easement for the infrastructure for which the premises are designated; or

(b) the designation also applies to other premises and relates to a land corridor for the infrastructure; or

(c) the premises are a road.

(3) The request must be in writing, and contain any information that the guidelines made under section 36(3) require.

(4) The designator must, within 40 business days after receiving the request—

(a) repeal the designation, using the process under section 40; or

(b) decide to refuse the request; or

(c) decide to take other action that the designator considers appropriate in the circumstances.

(5) The designator must, within 5 business days after making a decision under subsection (4)(b) or (c), give a decision notice to the owner.

42 Noting designation in planning scheme

(1) This section applies if a local government—

(a) makes, amends, extends or repeals a designation; or

(b) receives a notice about the Minister making, amending, extending or repealing a designation.

(2) The local government must include a note about the making, amendment, extension or repeal in—

(a) the local government's planning scheme; and

(b) any planning scheme that the local government makes before the designation stops having effect.

(3) The note must—

(a) identify the premises that were designated; and

(b) describe the type of infrastructure for which the premises were designated; and

(c) state the day when the designation, amendment, extension or repeal started to have effect.

(4) The local government must include the note in the planning scheme in a way that ensures the other provisions of the scheme that apply to the designated premises remain effective.

(5) To remove any doubt, it is declared that—

(a) the note is not an amendment of a planning scheme; and

(b) a designation is taken to be part of a planning scheme; and

(c) a designation is not the only way that a planning scheme may identify infrastructure; and

(d) a designation does not affect the provisions of a planning scheme that apply to designated premises, even after the designation stops having effect.

Appendix 2

Designation Flowchart

Indicative process

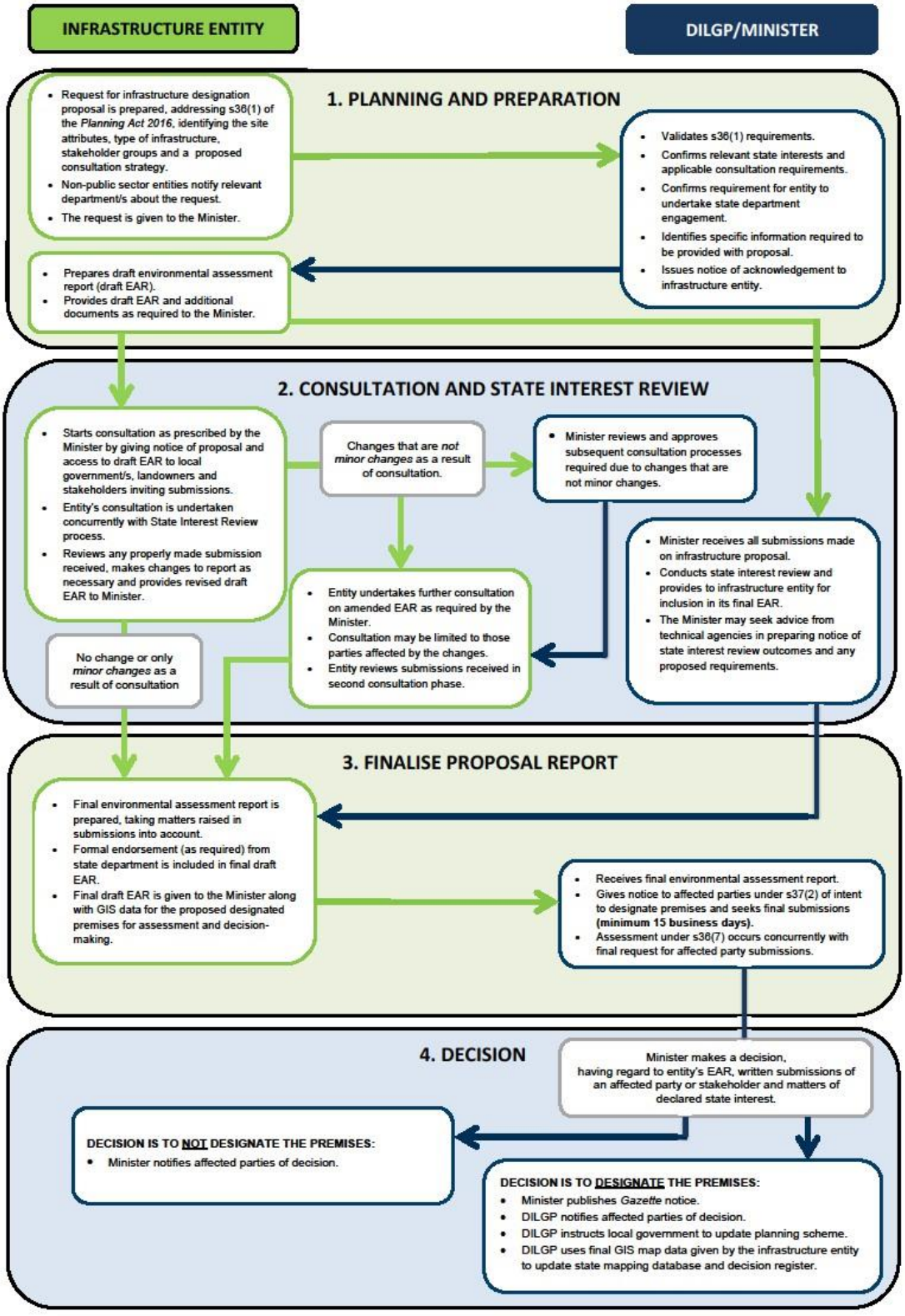


Figure 3: Flow chart of the ministerial designation process under the MGR

Appendix 3

Property Information

CURRENT TITLE SEARCH

NATURAL RESOURCES, MINES AND ENERGY, QUEENSLAND

Request No: 29052964
Search Date: 09/07/2018 14:24 **Title Reference: 51145067**
Date Created: 23/05/2018

Previous Title: 11968182
51114991

REGISTERED OWNER

Dealing No: 718748401 16/05/2018

DALESWAN PTY LTD A.C.N. 105 650 075

ESTATE AND LAND

Estate in Fee Simple

LOT 7030 SURVEY PLAN 292763
Local Government: IPSWICH

EASEMENTS, ENCUMBRANCES AND INTERESTS

1. Rights and interests reserved to the Crown by
   Deed of Grant No. 10034250 (POR 113)
   Deed of Grant No. 10050230 (POR 76)
   Deed of Grant No. 11004126 (POR 79)
   Deed of Grant No. 19515212 (POR 77)
   Deed of Grant No. 19515216 (POR 61)
   Deed of Grant No. 19515217 (POR 62)
   Deed of Grant No. 40072348 (Lot 601 on SP 279926)

2. EASEMENT IN GROSS No 716178087 03/12/2014 at 12:24
   burdening the land
   IPSWICH CITY COUNCIL
   over
   EASEMENT Y ON SP226966

3. EASEMENT IN GROSS No 716657892 29/07/2015 at 13:47
   burdening the land
   IPSWICH CITY COUNCIL
   over
   EASEMENTS I AND J ON SP271865

4. EASEMENT IN GROSS No 716657907 29/07/2015 at 13:48
   burdening the land
   CENTRAL SEQ DISTRIBUTOR-RETAILER AUTHORITY
   over
   EASEMENTS G AND H ON SP271865

5. EASEMENT IN GROSS No 716733663 04/09/2015 at 12:34
   burdening the land
   IPSWICH CITY COUNCIL
   over
   EASEMENT F ON SP271867

EASEMENTS, ENCUMBRANCES AND INTERESTS

6. EASEMENT IN GROSS No 717040641 29/01/2016 at 16:10
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   IPSWICH CITY COUNCIL
   over
   EASEMENT C ON SP279893

7. EASEMENT IN GROSS No 717375022 08/07/2016 at 13:45
   burdening the land
   IPSWICH CITY COUNCIL
   over
   EASEMENT W ON SP279895

8. EASEMENT IN GROSS No 717383417 13/07/2016 at 14:45
   burdening the land
   IPSWICH CITY COUNCIL
   over
   EASEMENTS N, O, P AND Q ON SP279928

9. EASEMENT IN GROSS No 717383423 13/07/2016 at 14:46
   burdening the land
   CENTRAL SEQ DISTRIBUTOR-RETAILER AUTHORITY
   over
   EASEMENT M ON SP279928

10. MORTGAGE No 717538570 27/09/2016 at 09:07
    AUSTRALIA AND NEW ZEALAND BANKING GROUP LIMITED A.C.N. 005 357 522

11. EASEMENT IN GROSS No 717538592 27/09/2016 at 09:20
    burdening the land
    IPSWICH CITY COUNCIL
    over
    EASEMENTS R, S AND T ON SP279929

12. EASEMENT IN GROSS No 717652797 17/11/2016 at 11:41
    burdening the land
    IPSWICH CITY COUNCIL
    over
    EASEMENT E ON SP279963

13. EASEMENT IN GROSS No 718748419 16/05/2018 at 11:05
    burdening the land
    IPSWICH CITY COUNCIL
    over
    EASEMENTS A & B ON SP292763

ADMINISTRATIVE ADVICES

Dealing	Type	Lodgement Date	Status
712590422	VEG NOTICE VEGETATION MANAGEMENT ACT 1999	14/07/2009 08:46	CURRENT

UNREGISTERED DEALINGS - NIL

CURRENT TITLE SEARCH

NATURAL RESOURCES, MINES AND ENERGY, QUEENSLAND

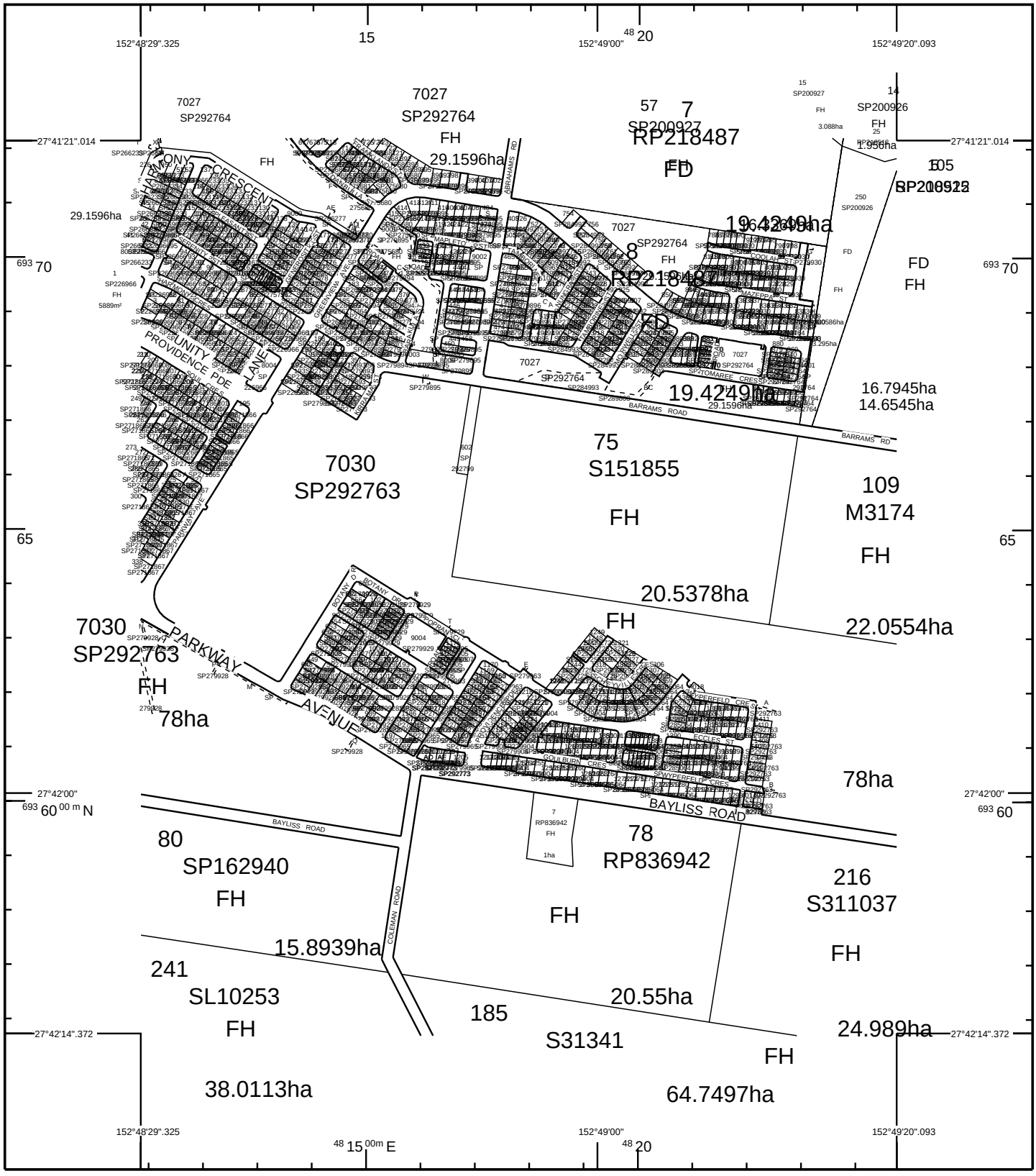
Request No: 29052964
Search Date: 09/07/2018 14:24 **Title Reference: 51145067**
Date Created: 23/05/2018

CERTIFICATE OF TITLE ISSUED - No

Caution - Charges do not necessarily appear in order of priority

** End of Current Title Search **

Requested By: SMIS .



STANDARD MAP NUMBER
9442-13244

0 200 400 600 800 1000 m

HORIZONTAL DATUM:GDA94 ZONE:56 SCALE 1 : 10000

MAP WINDOW POSITION & NEAREST LOCATION

152°48'54".709
27°41'47".693
SOUTH RIPLEY
2.31 KM

SUBJECT PARCEL DESCRIPTION

DCDB

Lot/Plan	7030/SP292763
Area/Volume	78ha
Tenure	FREEHOLD
Local Government	IPSWICH CITY
Locality	SOUTH RIPLEY
Segment/Parcel	63337/802

CLIENT SERVICE STANDARDS

PRINTED (dd/mm/yyyy) 25/06/2018

DCDB 23/06/2018

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GDA

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Based upon an extraction from the Digital Cadastral Data Base

Queensland Government

FINAL 116052-42A (GC/IPW)

Land Title Act 1994 ; Land Act 1994
Form 21 Version 4

SURVEY PLAN

Sheet 1 of 14

TOTAL AREA OF NEW ROADS 6365 m²

For details of Lots 9018, Emts A & B, See Sheet 10.

For details of Lots 1361–1372 & 1408–1411, See Sheet 11.

For details of Lots 1296–1298, 1397–1407, COV'S CA, CB, CC & CD, See Sheet 12.

For Reference Mark, Permanent Mark, MGA Coordinate & Meridian Tables, See Sheet 13.

For Reinstatement Report, see Sheet 14.

Peg placed at all new corners unless shown otherwise.

Original information compiled from SP226966, SP271865, SP271867, SP279928 & SP292725 in the Department of Natural Resources, Mines and Energy.

Subsequent new plan of survey under section 113 of the Survey and Mapping Infrastructure Act (from stations A–E).

Additional reference marks to be placed following road construction (See IS269220).

DIAGRAM A
Scale 1 : 3000

0 375 750 1125 m
0 50 mm 100 mm 150 mm

RPS Australia East Pty Ltd (ACN 140 292 762) hereby certify that the land comprised in this plan was surveyed by the corporation, by Damian James LING, surveying associate, for whose work the corporation accepts responsibility, under the supervision of Robin Gene ANDERSON, cadastral surveyor and that the plan is accurate, that the said survey was performed in accordance with the Survey and Mapping Infrastructure Act 2003 and Surveyors Act 2003 and associated Regulations and Standards and that the said survey was completed on 16/04/2018.

RG Anderson . . . . . Authorised Delegate

18/04/2018 . . . Date

PLAN OF **LOTS 1296-1298, 1361-1372, 1397-1411, 7030, 9018, COV CA IN LOT 1297, COV CB IN LOT 1298, COV CC IN LOT 1401, COV CD IN LOT 1402 & EMTS A & B IN LOT 7030**

Cancelling Lot 7026 on SP292725 & Lot 113 on M3174

LOCAL GOVERNMENT: IPSWICH CITY LOCALITY: SOUTH RIPLEY

Meridian: MGA (Zone 56) Vide meridian table (Sheet 13)

Survey Records NO

Scale: 1 : 7500

Format: STANDARD

SP292763

FINAL 116052-42A (GC/IPW)

Land Title Act 1994 ; Land Act 1994
Form 21B Version 1

718748401

$3564.00
16/05/2018 11:01

BE 400 NT

WARNING : Folded or Mutilated Plans will not be accepted. Plans may be rolled. Information may not be placed in the outer margins.

5. Lodged by
Cooper Grace Ward 131B
GPO Box 834, Brisbane 4001
T: 07 3231 2444 Ref: 1018582 NCS
nicole.smith@cgw.com.au
(Include address, phone number, reference and Lodger Code)

1. Certificate of Registered Owners or Lessees.

I/We DALESWAN PTY LTD
A.C.N. 105 650 075

(Names in full)

*as Registered Owners of this land agree to this plan and dedicate the Public Use Land as shown hereon in accordance with Section 50 of the Land Title Act 1994.

~~*as Lessees of this land agree to this plan.~~

Signature of *Registered Owners ~~*Lessees~~

Daleswan Pty Ltd A.C.N. 105 650 075 by its Attorney Marcus Roy Ford / ~~Neil Lindsay Hawthorne~~ under Power of Attorney No. 717540767 who declares that he has received no notice of revocation of the Power of Attorney.

Rule out whichever is inapplicable

6. Existing / Created

Title Reference	Description	New Lots	Road	Secondary Interests
51114991	Lot 7026 on SP292725	1296–1298, 1361–1372, 1397–1400, 7030 & 9018	New Road	Cov's CA & CB
11968182	Lot 113 on M3174	1401–1411 & 7030	New Road	Cov's CC & CD, & Emts A & B

Mortgage	Lots Fully Encumbered	Lots Partially Encumbered
717538570 (Lot 7026 on SP292725 & Lot 113 on M3174)	1296–1298, 1361–1372, 1397–1411, 7030 & 9018	

Administrative Advice	Lots to be Encumbered
712590422 (Vegetation Notice)	1296–1298, 1361–1372, 1397–1400, 7030 & 9018

Easement	Lots to be Encumbered
716657907 (Emt G on SP271865)	7030
716657907 (Emt H on SP271865)	7030
716657892 (Emt I on SP271865)	7030
716657892 (Emt J on SP271865)	7030
716178087 (Emt Y on SP226966)	7030
716733663 (Emt F on SP271867)	7030
717040641 (Emt C on SP279893)	7030
717375022 (Emt W on SP279895)	7030
717383423 (Emt M on SP279928)	7030
717383417 (Emt N on SP279928)	7030
717383417 (Emt O on SP279928)	7030
717383417 (Emt P on SP279928)	7030
717383417 (Emt Q on SP279928)	7030
717538592 (Emt R on SP279929)	7030
717538592 (Emt S on SP279929)	7030
717538592 (Emt T on SP279929)	7030
717652797 (Emt E on SP279963)	7030

Planning Body Approval.

IPSWICH CITY COUNCIL as Delegate for Economic Development Queensland hereby approves this plan in accordance with the:

Economic Development Act 2012

Dated this 14TH day of MAY 2018

J Hodge #

Authorised Local Government Officer

Insert designation of signatory or delegation

1296–1298, 1361–1372, 1397–1400 & 9018	Por 76
1401–1411	Por 113
7030	Por 61, Por 62 Por 76, Por 77, Por 79, Por 113 & Lot 601 on SP279926
Lots	Orig

7. Orig Grant Allocation :

8. Passed & Endorsed :

By: RPS Australia East Pty Ltd
Date: ~~26/3/18~~ 13/4/18
Signed: RJ Archer
Designation: Cadastral Surveyor

9. Building Format Plans only.

I certify that :
* As far as it is practical to determine, no part of the building shown on this plan encroaches onto adjoining lots or road;
* Part of the building shown on this plan encroaches onto adjoining * lots and road

Authorised Delegate / ~~Cadastral Surveyor/Director~~ * Date
*delete words not required

10. Lodgement Fees :

Survey Deposit	$
Lodgement	$
New Titles	$
Photocopy	$
Postage	$
TOTAL	$

11. Insert Plan Number **SP292763**

Plans with Community Management Statement :
CMS Number :
Name :

4. References :
Dept File :
Local Govt : 40115SSPRVE
Surveyor : 116052 STG 42A

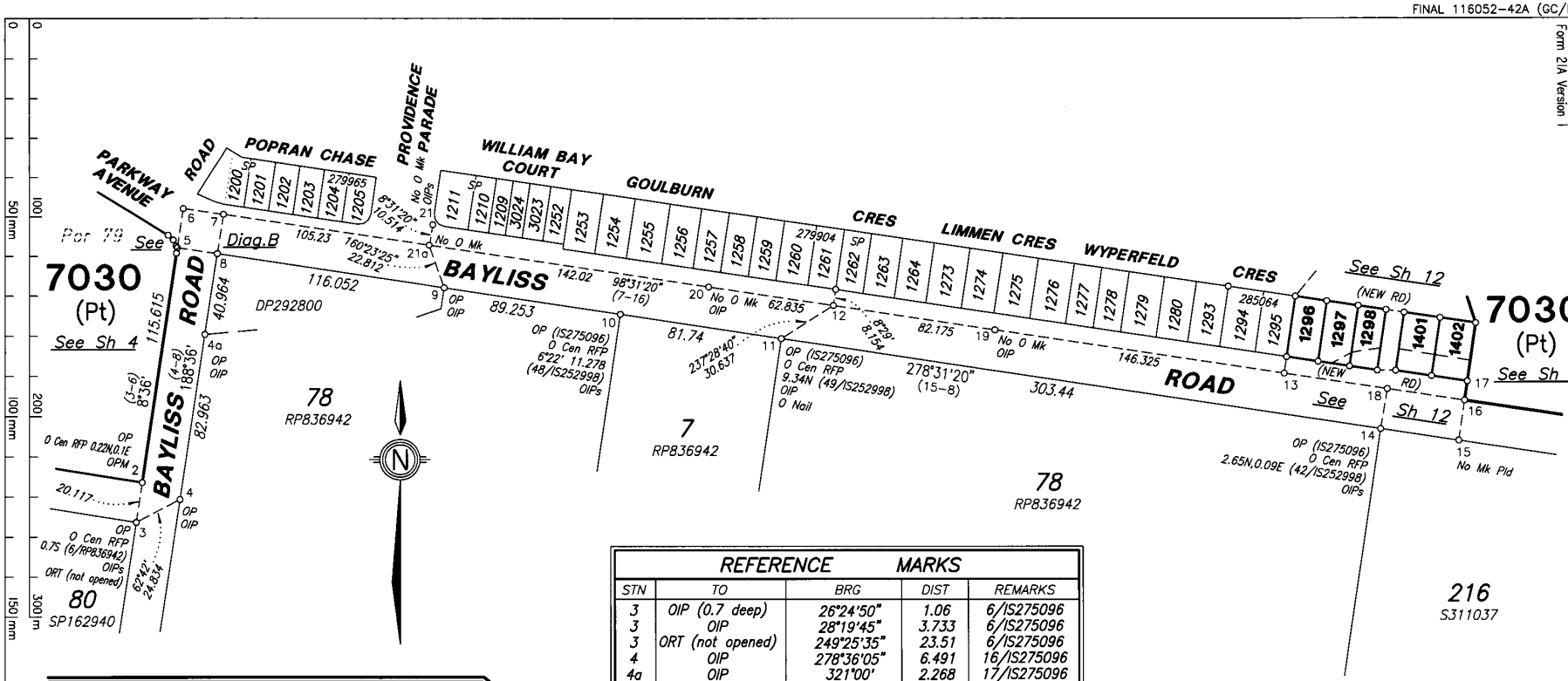
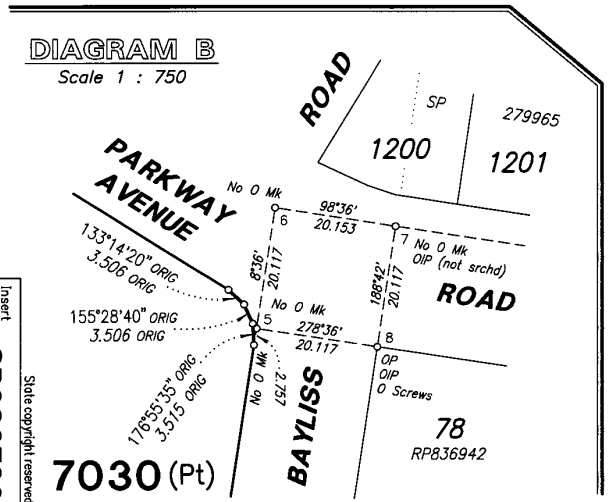


DIAGRAM B

Scale 1 : 750



Insert Plan Number **SP292763**

REFERENCE MARKS

STN	TO	BRG	DIST	REMARKS
3	OIP (0.7 deep)	26°24'50"	1.06	6/IS275096
3	OIP	28°19'45"	3.733	6/IS275096
3	ORT (not opened)	249°25'35"	23.51	6/IS275096
4	OIP	278°36'05"	6.491	16/IS275096
4a	OIP	321°00'	2.268	17/IS275096
7	OIP (not srchd)	188°42'	1.0	23/IS234440
8	OIP	12°37'	1.164	18/IS275096
8	O Screw in Kerb	338°49'40"	11.254	18/IS275096
8	Screw in Kerb	84°13'45"	35.877	18/IS275096
9	OIP	23°30'	1.24	19/IS275096
10	OIP	287°39'	0.976	20/IS275096
10	OIP	286°03'10"	38.849	20/IS275096
11	OIP	8°29'15"	1.19	21/IS275096
11	O Nail in PP	8°29'15"	12.63	21/IS275096
14	OIP	8°40'50"	3.48	25/IS275096
14	OIP	35°20'20"	5.842	25/IS275096
14	OIP	124°05'40"	34.149	25/IS275096
17	Pin	36°43'	1.885	
19	OIP	188°31'20"	2.536	30/IS275096
20	OIP	188°31'20"	8.233	29/IS275096
21	OIP	307°24'30"	0.371	12/IS269209
21	OIP	152°04'	8.163	12/IS269209

PERMANENT MARKS

PM	BRG	DIST	No.	REMARKS
2-OPM	307°19'25"	2.672	195316	37/IS242514

Peg placed at all new corners unless shown otherwise.

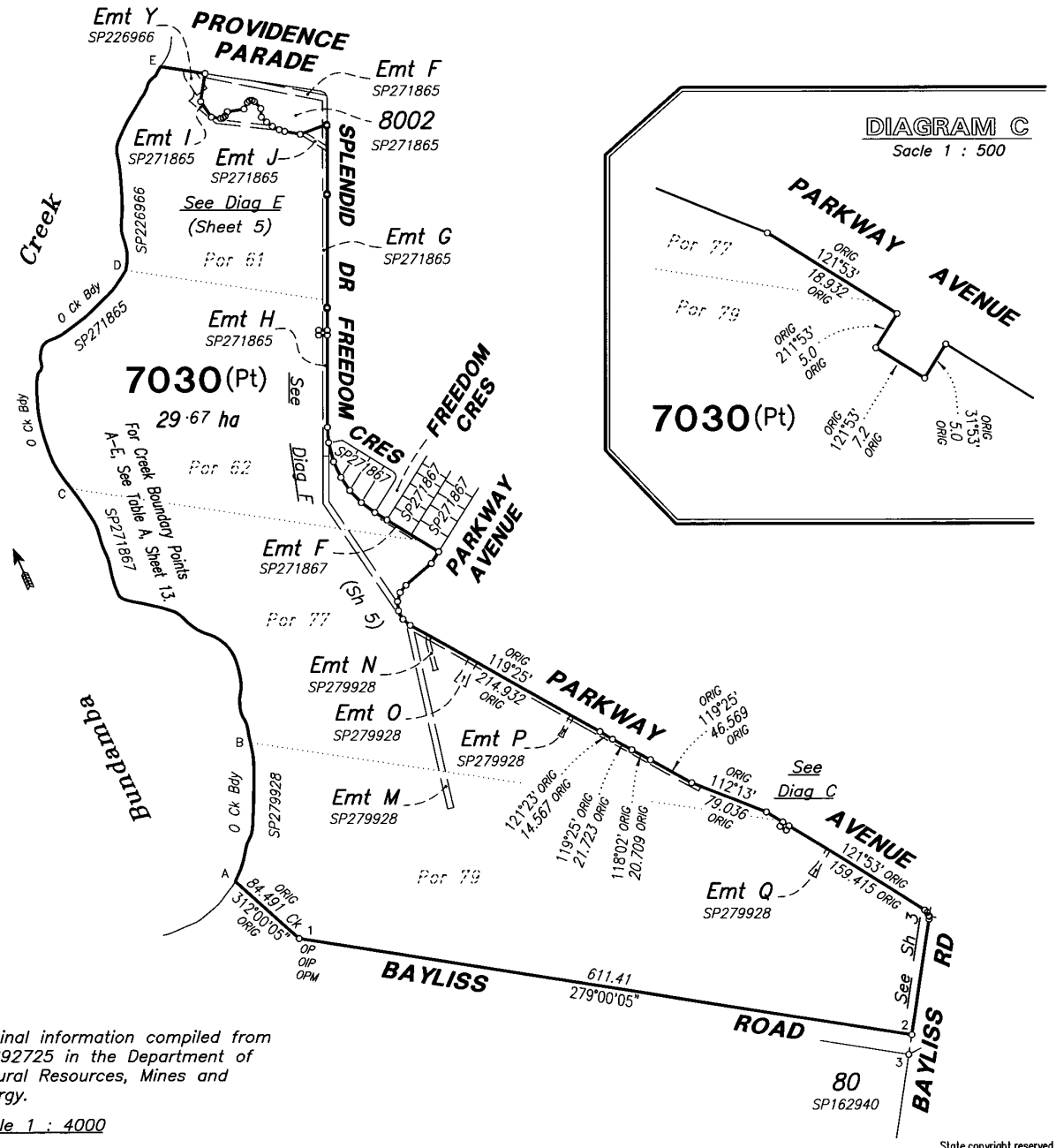
Original information compiled from SP292725 in the Department of Natural Resources, Mines and Energy.

Scale 1 : 2000

ADDITIONAL SHEET

PERMANENT MARKS				
PM	BRG	DIST	No.	REMARKS
1–OPM	293°11'45"	55.177	195325	1/SP292725
2–OPM	307°19'25"	2.672	195316	37/IS242514

REFERENCE MARKS				
STN	TO	BRG	DIST	REMARKS
1	OIP	99°00'05"	2.67	1/SP292725



Original information compiled from SP292725 in the Department of Natural Resources, Mines and Energy.

Scale 1 : 4000

0 200 400 600 m
0 50 mm 100 mm 150 mm

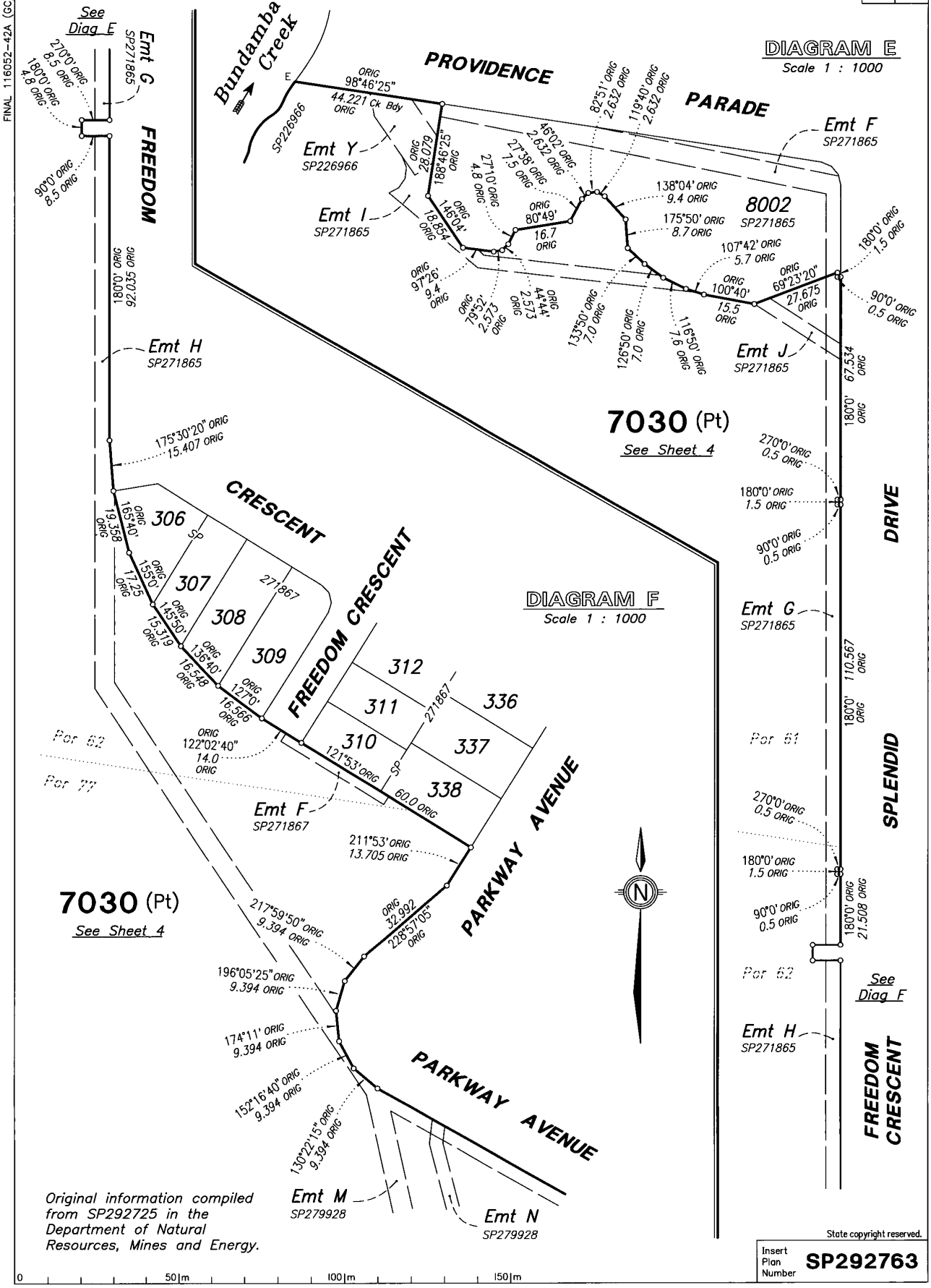
Insert Plan Number **SP292763**

FINAL 116052-42A (GC/IPW)

Land Title Act 1994 ; Land Act 1994
Form 21A Version 1

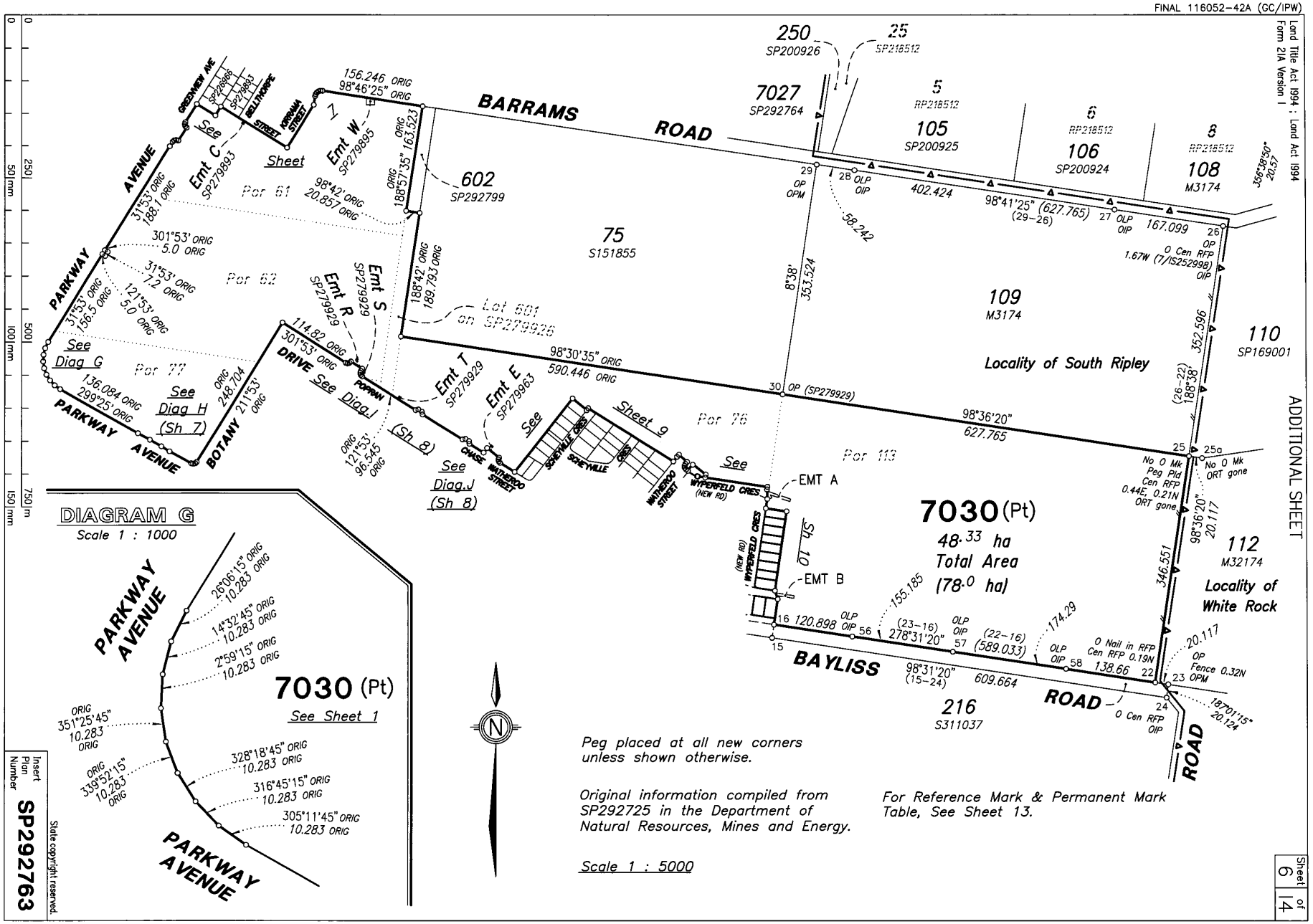
ADDITIONAL SHEET

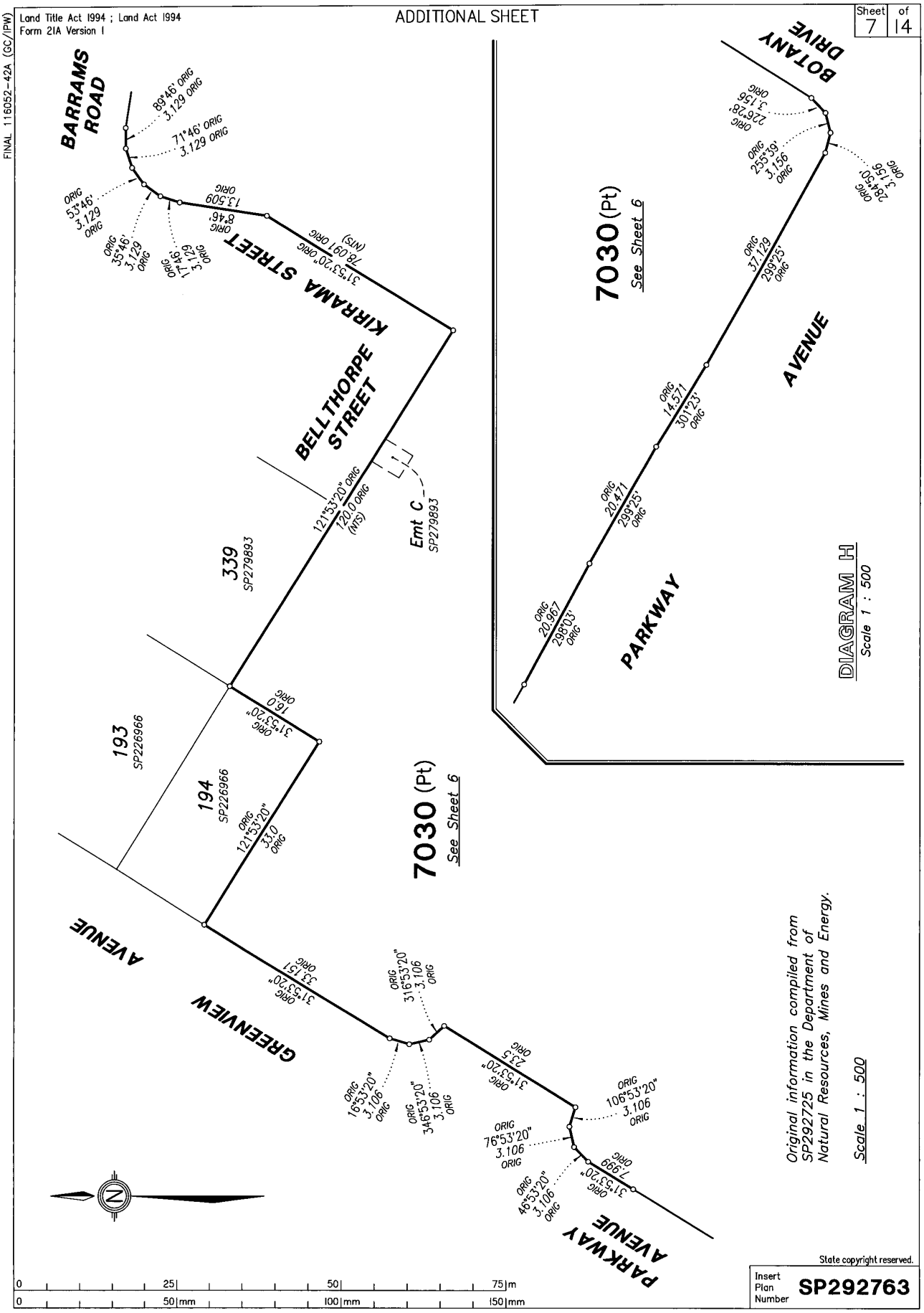
Sheet 5 of 14



Original information compiled from SP292725 in the Department of Natural Resources, Mines and Energy.

Insert Plan Number **SP292763**

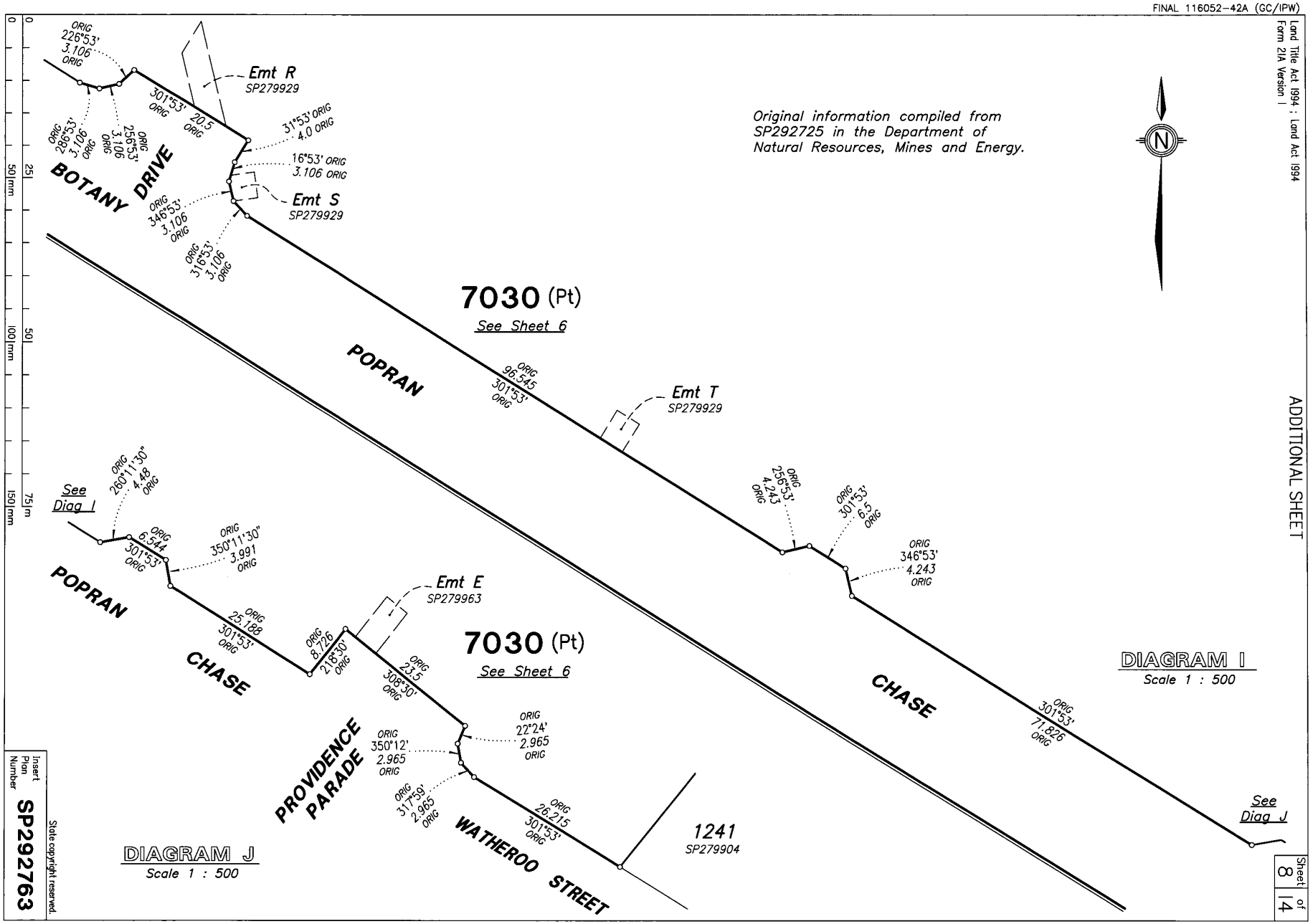

BARRAMS ROAD
BAYLISS ROAD
PARKWAY AVENUE
BOTANY DRIVE
POPPAW
CHASE
WITHERDO STREET
SCHEYVILLE CRES
WYPERFELD CRES (NEW RD)
GREENVIEW AVE
BELLTHORPE STREET
YORKRAIN STREET
602 SP292799
75 S151855
7027 SP292764
250 SP200926
25 SP218512
105 SP200925
106 SP200924
108 M3174
109 M3174
110 SP169001
112 M32174
216 S311037
Locality of South Ripley
Locality of White Rock
7030 (Pt)
48.33 ha
Total Area
(78.0 ha)
DIAGRAM G
Scale 1 : 1000
See Sheet 1
Scale 1 : 5000
Peg placed at all new corners unless shown otherwise.
Original information compiled from SP292725 in the Department of Natural Resources, Mines and Energy.
For Reference Mark & Permanent Mark Table, See Sheet 13.
Insert Plan Number SP292763
State copyright reserved.
ADDITIONAL SHEET
Land Title Act 1994 ; Land Act 1994
Form 21A Version 1
Sheet 6 of 14



Insert Plan Number **SP292763**

Land Title Act 1994 ; Land Act 1994
Form 21A Version 1

ADDITIONAL SHEET



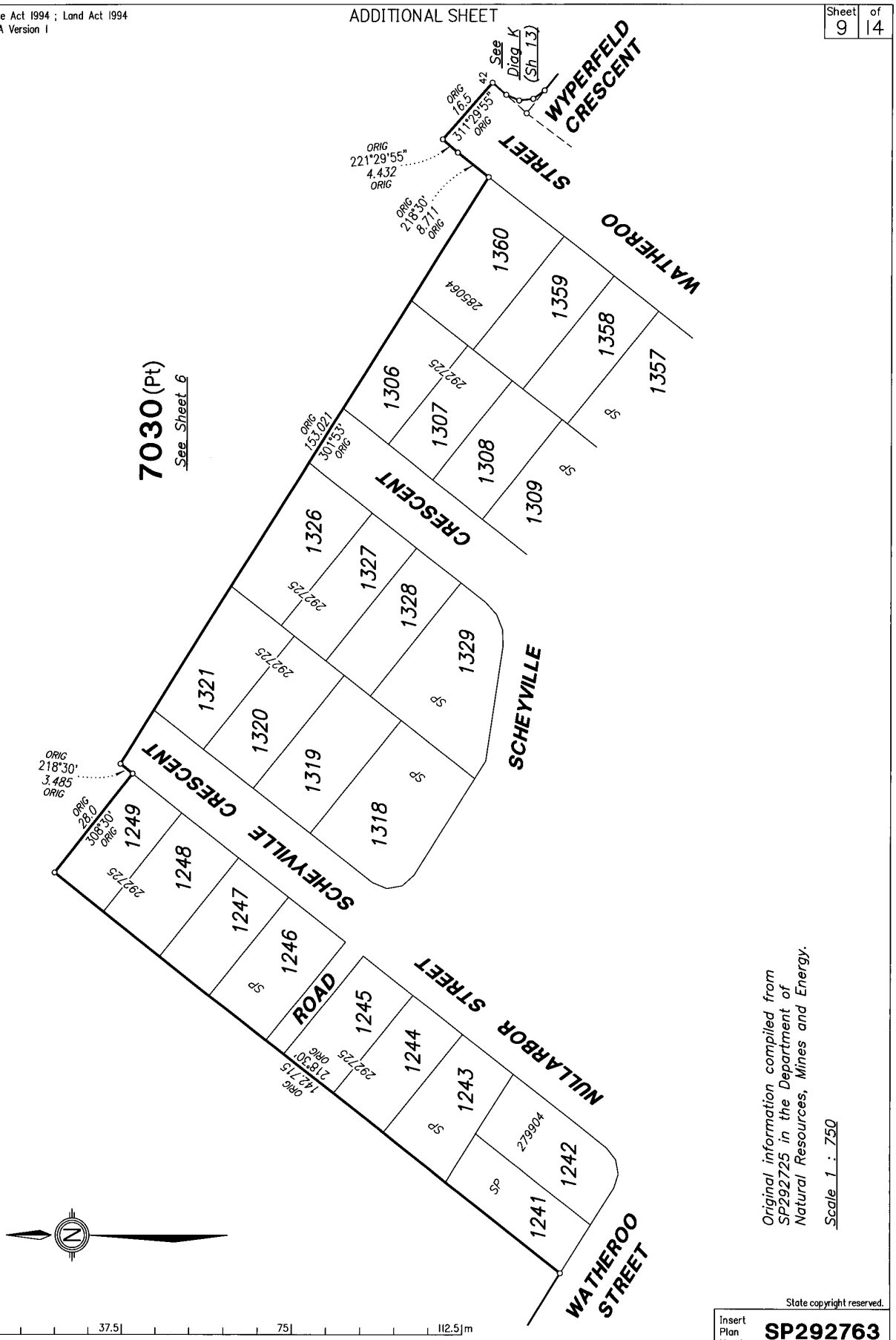
Insert Plan Number **SP292763**

FINAL 116052-42A (GC/IPW)

Land Title Act 1994 ; Land Act 1994
Form 21A Version 1

ADDITIONAL SHEET

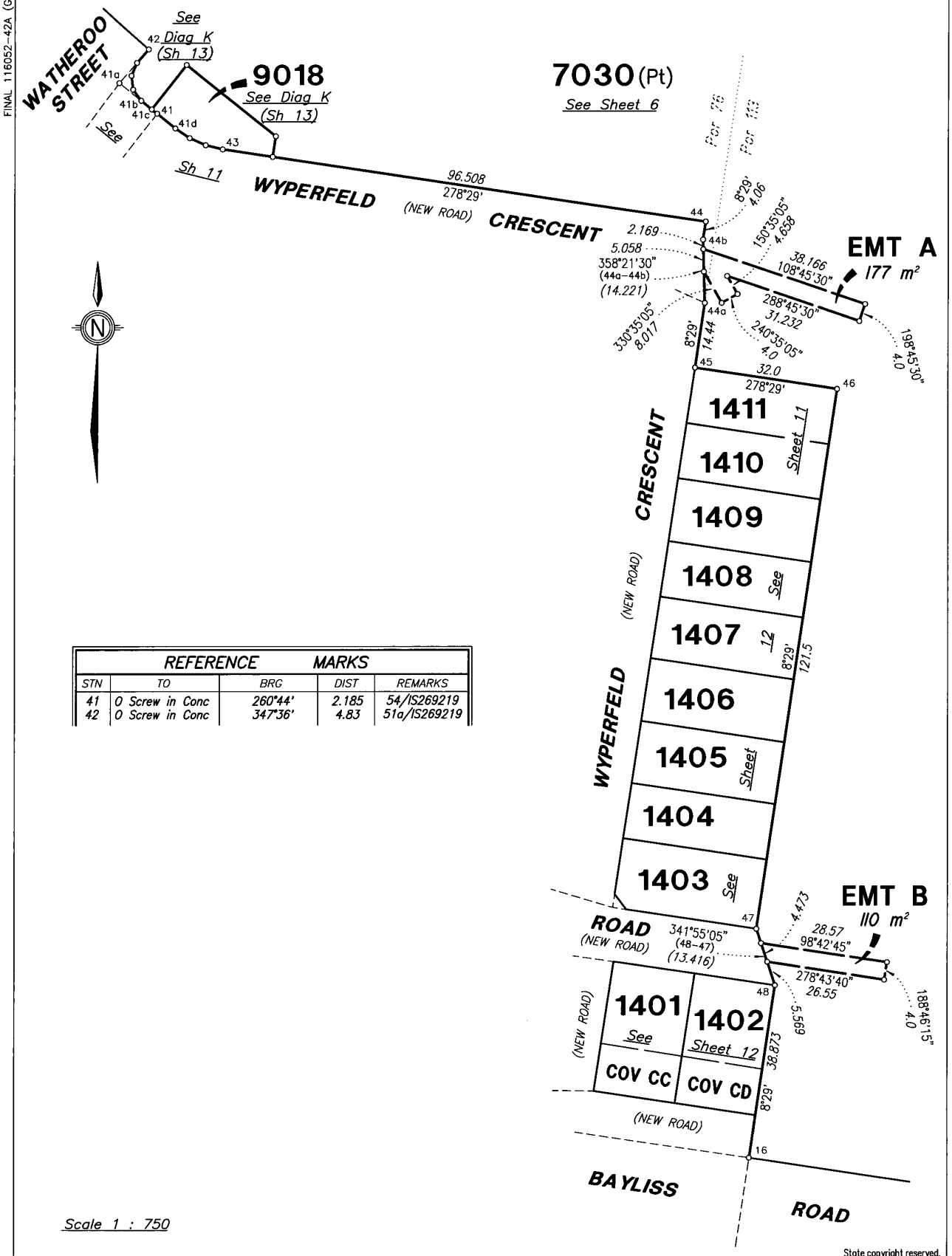
Sheet 9 of 14



Original information compiled from SP292725 in the Department of Natural Resources, Mines and Energy.

Scale 1 : 750

Insert Plan Number **SP292763**



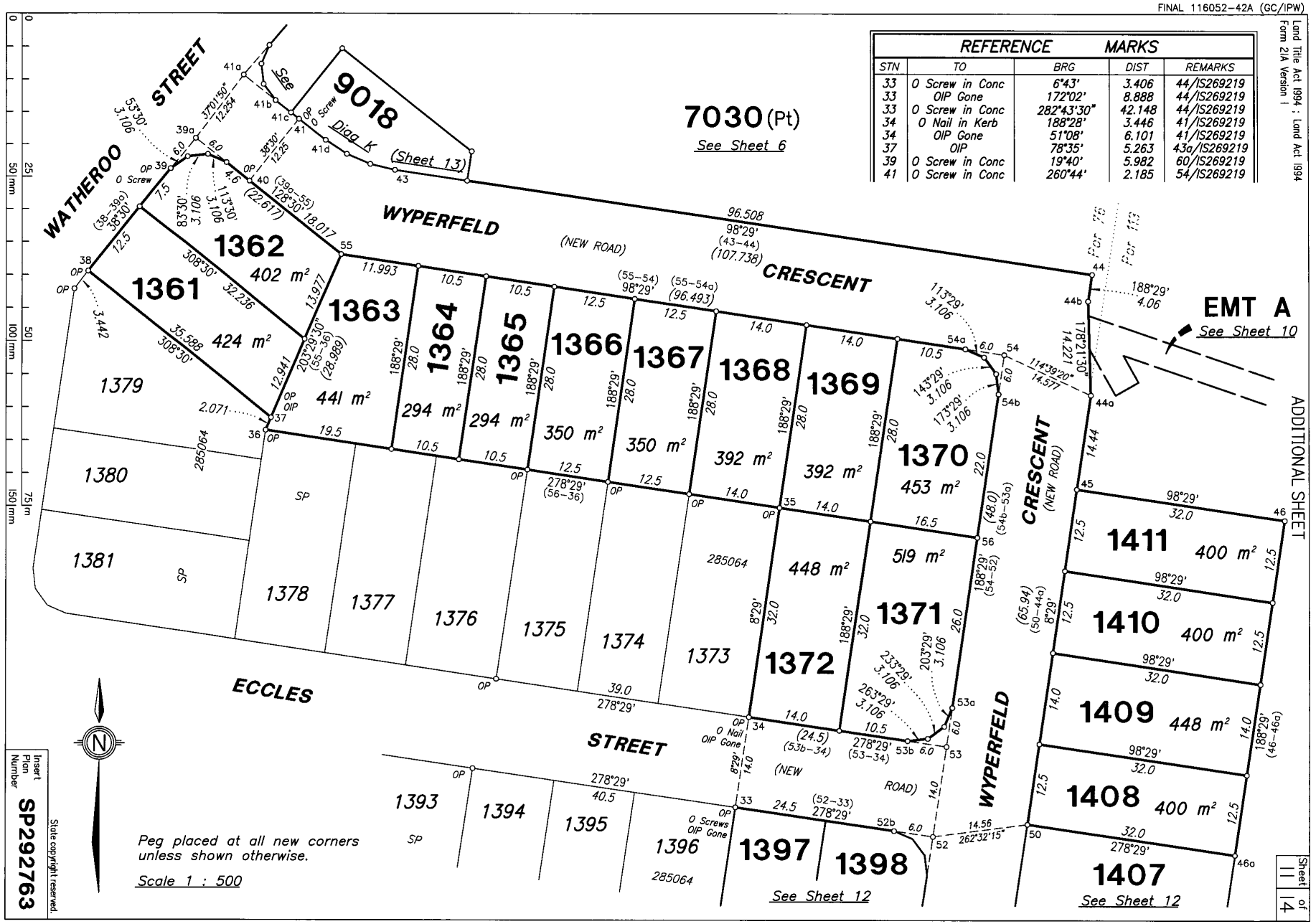
REFERENCE MARKS				
STN	TO	BRG	DIST	REMARKS
41	0 Screw in Conc	260°44'	2.185	54/IS269219
42	0 Screw in Conc	347°36'	4.83	51a/IS269219

Scale 1 : 750

0 37.5 75 112.5 m
0 50 mm 100 mm 150 mm

Insert Plan Number **SP292763**

Land Title Act 1994 ; Land Act 1994
Form 21A Version 1

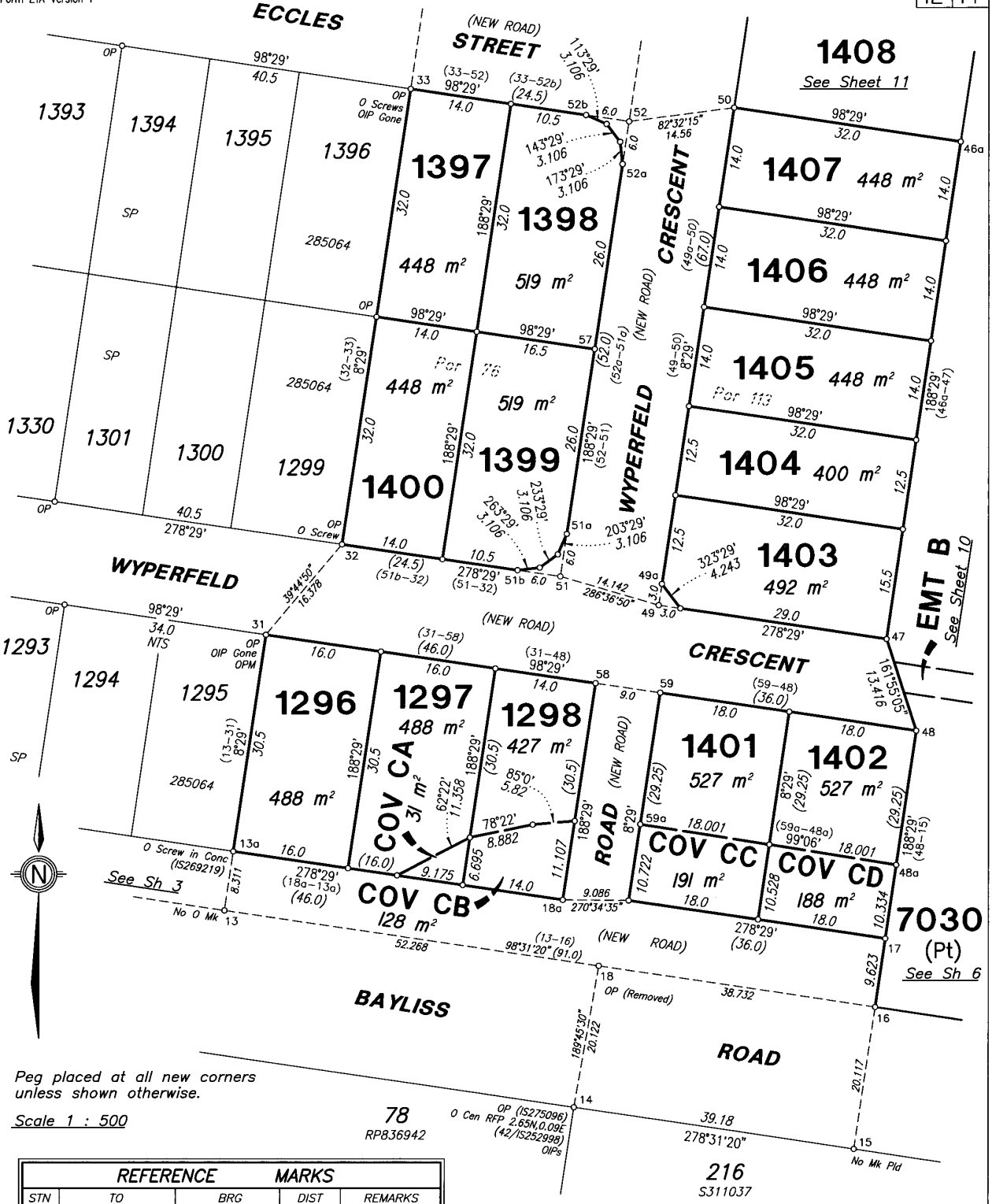


FINAL 116052-42A (GC/IPW)

Land Title Act 1994 ; Land Act 1994
Form 21A Version 1

ADDITIONAL SHEET

Sheet 12 of 14



REFERENCE MARKS

STN	TO	BRG	DIST	REMARKS
13a	Pin	271°20'10"	10.691	
14	OIP	8°40'50"	3.48	25/IS275096
14	OIP	35°20'20"	5.842	25/IS275096
14	OIP	124°05'40"	34.149	25/IS275096
17	Pin	36°43'	1.885	
31	OIP Gone	158°30'20"	13.537	30/IS269219
32	0 Screw in Conc	206°31'	3.252	29/IS269219
33	0 Screw in Conc	6°43'	3.406	44/IS269219
33	OIP Gone	172°02'	8.888	44/IS269219
33	0 Screw in Conc	282°43'30"	42.148	44/IS269219

PERMANENT MARKS

PM	BRG	DIST	No.	REMARKS
31-OPM	87°0'	15.481	201087	30/IS269219

0 25 50 75 m
0 50 mm 100 mm 150 mm

Insert Plan Number **SP292763**

DIAGRAM K

Scale 1 : 200

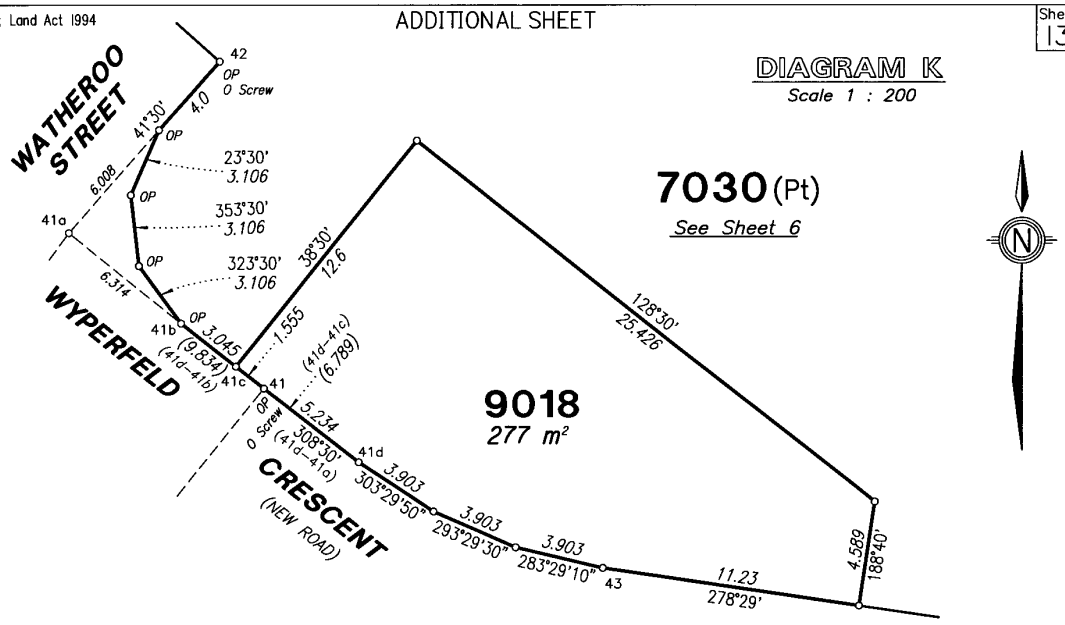


TABLE A
CREEK POINTS

	BRG	DIST	
A	20°49' ORIG	21.894 ORIG	
	12°10' ORIG	17.76 ORIG	
	24°14' ORIG	9.43 ORIG	
	2°45' ORIG	56.39 ORIG	
	359°22' ORIG	17.87 ORIG	
	346°34' ORIG	19.599 ORIG	B
B	351°0' ORIG	20.908 ORIG	
	332°15' ORIG	9.843 ORIG	
	354°20' ORIG	14.144 ORIG	
	7°54' ORIG	10.84 ORIG	
	350°30' ORIG	22.786 ORIG	
	339°50' ORIG	7.88 ORIG	
	319°25' ORIG	23.762 ORIG	
	294°30' ORIG	23.675 ORIG	
	307°37'50" ORIG	29.79 ORIG	
	284°32' ORIG	32.38 ORIG	
	280°05' ORIG	10.5 ORIG	
	288°39' ORIG	11.0 ORIG	
	335°50' ORIG	22.952 ORIG	
	346°54' ORIG	18.955 ORIG	
	336°32' ORIG	12.35 ORIG	
	341°44' ORIG	23.25 ORIG	
	327°20' ORIG	28.786 ORIG	
	323°25' ORIG	15.14 ORIG	C
C	327°26' ORIG	40.353 ORIG	
	340°10' ORIG	15.778 ORIG	
	345°42'10" ORIG	20.532 ORIG	
	354°28' ORIG	27.053 ORIG	
	3°30' ORIG	17.8 ORIG	
	32°10' ORIG	7.12 ORIG	
	354°12' ORIG	12.53 ORIG	
	9°50' ORIG	7.3 ORIG	
	31°30' ORIG	6.0 ORIG	
	62°13' ORIG	20.2 ORIG	
	53°30' ORIG	28.14 ORIG	
	46°30' ORIG	32.872 ORIG	
	35°55' ORIG	29.43 ORIG	D
D	2°0' ORIG	20.3 ORIG	
	344°58' ORIG	20.15 ORIG	
	2°10' ORIG	25.05 ORIG	
	356°17' ORIG	34.0 ORIG	
	351°0' ORIG	20.94 ORIG	
	21°18' ORIG	31.54 ORIG	
	30°40' ORIG	24.96 ORIG	
	22°14' ORIG	25.642 ORIG	
	53°50' ORIG	13.298 ORIG	E

MGA COORDINATES GDA-94

STN	EAST	NORTH	ZONE	P.U.	LINEAGE	METHOD
PM195325	480 908.592	6 936 053.669	56	0.009	Datum	
PM195341	482 827.756	6 935 886.018	56	0.009	Datum	
17	482 227.352	6 935 986.432	56	0.011	Derived	Traverse
44	482 216.103	6 936 185.44	56	0.011	Derived	Traverse

REFERENCE MARKS

STN	TO	BRG	DIST	REMARKS
1	OIP	99°00'05"	2.67	1/SP292725
24	OIP	96°39'	0.932	26/IS275096
25	Pin	212°48'	1.243	
25	ORT gone	348°06'20"	8.65	71/M3174
25a	ORT gone	32°06'20"	1.408	70/M3174
26	OIP	98°41'25"	1.052	7/IS252998
27	OIP	8°41'25"	4.456	6/IS252998
28	OIP	8°41'25"	1.496	5/IS252998
30	Pin	70°25'45"	22.995	
56	OIP	188°31'20"	11.65	40/IS252998
57	OIP	188°31'20"	6.427	39/IS252998
58	OIP	188°31'20"	11.075	38/IS252998

MERIDIAN TABLE

LINE	PLAN BEARING	MGA ZONE 56 BEARING
PM195325-PM19534	94°59'35"	94°59'33"

PERMANENT MARKS

PM	BRG	DIST	No.	REMARKS
1-OPM	293°11'45"	55.177	195325	1/SP292725
2-OPM	307°19'25"	2.672	195316	37/IS242514
23-OPM	206°38'	0.758	195341	36a/IS275096
29-OPM	304°05'	3.987	195337	4/IS252998
31-OPM	87°0'	15.481	201087	30/IS269219

0 10 20 30m
0 50mm 100mm 150mm

Insert Plan Number **SP292763**

Subsequent new plan of survey of a non-tidal boundary (watercourse)

s. 113 *Survey and Mapping Infrastructure Act 2003* (SMIA)

Compiled from registered and authoritative information

s. 112 SMIA

The part of this plan between stations A-E is compiled directly from SP226966, SP271865, SP271867 and SP279928 which were first new plans of survey in relation to the relevant length of the non-tidal boundary pursuant to s. 108 of the Surveying and Mapping Infrastructure Act 2003.

On these first new plans of survey, the top of high bank was adopted as the boundary. Between stations A-B the boundary was compiled using the definition of the non-tidal boundary (watercourse) on SP279928 as the original plan of survey. Between stations B-C the boundary was compiled using the definition of the non-tidal boundary (watercourse) on SP271867 as the original plan of survey. Between stations C-D the boundary was compiled using the definition of the non-tidal boundary (watercourse) on SP271865 as the original plan of survey. Between stations D-E the boundary was compiled using the definition of the non-tidal boundary (watercourse) on SP226966 as the original plan of survey.

Definition of non-tidal watercourse boundary

The boundary of the subject land is the top of the high bank adopted on SP226966, SP271865, SP271867 and SP279928.

Compiled plan

- The location of the boundary at law on SP292763 is consistent with the location of the boundary depicted on SP226966, SP271865, SP271867 and SP279928. This has been confirmed by site inspection.
- The plan is a compiled plan of survey and satisfies requirements in s.112 of the SMIA and standard 4.3 of the Cadastral Survey Requirements.

REINSTATEMENT REPORT

Plans used for reinstatement: SP292725, IS252998, IS269219, SP279929.

The boundaries between stations 13a-31 and 31-42 have been reinstated directly from existing monuments and dimensions agree with the previous surveys (SP292725).

The south side of Bayliss Road (between stations 8 and 24) has been reinstated between original reference marks at stations 8 and 24. The distance measured between these marks is in strong agreement with IS275096. Original occupation and reference marks at stations 9, 10, 11 and 14 were found on-line in agreement with IS275096.

Station 7 is fixed by the connection to station 8 as per IS275096. Station 23 is fixed by the original occupation and permanent mark. Hence the north side of Bayliss Road is reinstated between Stations 7 and 23, with the distance measured between these stations agreeing with IS275096. The line between Stations 7 and 23 is parallel to the south side of Rawlings Road and achieves deed road width, in agreement with IS275096. Original occupation and reference marks at stations 19, 20, 22, 56, 57 and 58 were found on-line.

The east side of Bayliss Road (between stations 3 and 8) has been reinstated directly from existing monuments and dimensions agree with the previous surveys (IS275096).

Station 5 is fixed by the connection to station 8 as per IS275096. Station 3 is fixed by original occupation and iron pins. Hence the west side of Bayliss Road is reinstated between stations 3 and 5, with the distance measured between these stations agreeing with IS275096. The line between stations 3 and 5 is parallel to the east side of Bayliss Road and achieves deed road width, in agreement with IS275096. Original occupation and reference marks at station 2 were found on-line.

The north side of Lot 109 on M3174 (between stations 26-29) and the east side of Lot 109 on M3174 and Lot 7030 (between stations 22-26) have been reinstated directly from existing monuments and dimensions agree with the previous surveys (IS252998).

There is approximately 1.094 metres of excess between stations 22 and 26 compared to deed (M3174), which has been accepted given the age of the original survey. There are no fence lines between stations 30-25 which might be used to determine the alignment of Lot 109's southern boundary. Hence the most appropriate determination of station 25 is achieved by proportioning the excess between Lots 109 and 7030. This fix provides reasonable agreement with original occupation at station 25.

Station 30 is fixed by original occupation found at the corner. The distance between the original occupation at station 30 and station 29 agrees with SP279929. Hence the southern boundary of Lot 109 is reinstated between stations 30 and 25.

Appendix 4

Master Plan

Department of Housing and Public Works

Queensland Government

LEGEND

BOTH SCHOOLS

- **CA** COVERED AREAS
- **CE** COVERED ENTRY
- **CH** COMMUNITY HEALTH HUB/EARLY YEARS CENTRE
- **DV** DENTAL VAN PAD
- **EFP** OFFICIAL ENTRY AND FLAG POLES
- **F** FUTURE STAGE CONSTRUCTION
- **CL** COVERED LINK
- **OCP** OUTDOOR COURT PRIMARY
- **OCH** OUTDOOR COURT HIGH SCHOOL, ELEVATED, PARKING BELOW
- **PMT** PAD MOUNTED TRANSFORMER

SITE BOUNDARY
1800 HIGH PALISADE FENCE
GATE

PRIMARY SCHOOL

- **1** P-6 EXECUTIVE & STUDENT SERVICES & STAFF CENTRE, 2 LEVELS
- **2** PREP, SINGLE LEVEL, 2 GLAs
- **3** PREP, SINGLE LEVEL 3 GLAs
- **4** PREP, SINGLE LEVEL, 2 GLAs
- **5** YEAR 1-3, 3 LEVELS 14 GLAs + UNDERCROFT
- **6** YEAR 1-3, 2 LEVELS, 2 FLAs, 4 GLAs + UNDERCROFT
- **7** PRIMARY SCHOOL CANTEEN LOWER LEVEL + RESOURCE CENTRE UPPER LEVEL
- **8** YEAR 4-6, 2 LEVELS, 6 GLAs + UNDERCROFT
- **9** YEAR 4-6, 3 LEVELS, 16 GLAs + MUSIC GLA + UNDERCROFT
- **10** MULTIPURPOSE HALL UPPER LEVEL, ANCILLARY SERVICES CENTRE & WORKSHOP LOWER LEVEL
- **11** REFUSE STORE, GROUNDS CARE, FUEL STORE, FIRE PUMP & BOOSTER (SINGLE STOREY)

HIGH SCHOOL

- **A** SENIOR EXECUTE & STUDENT SERVICES AND STAFF CENTRE A + B 2 LEVELS
- **B** STAFF CENTRE C, SINGLE LEVEL
- **C** HIGH SCHOOL INFORMATION SERVICES CENTRE
- **D** YEAR 7-9 LEARNING, 4 LEVELS 17 GLAs + 3 FLAs + RETAIL CENTRE + UNDERCROFT
- **E** YEAR 10-12 LEARNING, 4 LEVELS 17 GLAs + 3 FLAs + CANTEEN + UNDERCROFT
- **F** SCIENCE CENTRE
- **G** APPLIED TECHNOLOGY ROBOTICS
- **H** FOOD STUDIES AND HOSPITALITY
- **I** BUSINESS + FASHION + DESIGN GRAPHICS
- **J** ART + DESIGN CENTRE
- **K** JUNIOR APPLIED TECHNOLOGY AND DESIGN GRAPHICS
- **L** SENIOR APPLIED TECHNOLOGY
- **M** 2 x INDOOR COURTS WITH PARKING BELOW
- **N** ANCILLARY SERVICES CENTRE, GROUNDS CARE (SINGLE STOREY)
- **O** PERFORMING ARTS, ONE LEVEL + PLANT DECK ABOVE
  MUSIC REHEARSAL, SINGLE LEVEL, AV LINK TO PERFORMING ARTS
  HIGH SCHOOL MUSIC, MULTIMEDIA, COMBINED AMENITIES, 2 LEVELS

PROVIDENCE PARADE
PARKWAY AVENUE
SCHOOL AVENUE
BOTANY DRIVE
HEALTH HUB
GREENWAY (TO WATER PLAY PARK)
TOWN CENTRE
LOT 2
TO MAJOR SPORTS GROUND
BIO RETENTION

A Level 1 56.00 Level 2 61.00
B
C Level 1 61.00 Ground 57.00
D Level 1 65.00 Ground 61.00 Level -1 57.00 Level -2 53.00
E Level 1 65.00 Ground 61.00 Level -1 57.00 Level -2 53.00
F Level 2 65.00 Level 1 61.00 Void level 57.00 Ground 53.00
G GROUND 56.0
H GROUND 60.40
I GROUND 56.0
J GROUND 60.40
K
L GROUND 56.0
M
N
OCP SLAB 57.0
1 Level 2 70.35 Level 1 66.35 Ground 63.35
2 GROUND 66.35
3 GROUND 67.05
4 GROUND 67.75
5 Level 2 70.35 Level 1 66.35 Ground 62.35
6 Level 1 66.35 Ground 62.35
7 Level 1 67.05 Ground 63.05
8 Level 1 67.75 Ground 63.75
9 Level 2 71.75 Level 1 67.75 Ground 63.75
10 Level 1 62.35 Ground 58.35
11 GROUND 58.150

FIRE BOOSTER CABINET
FIRE BOOSTER PUMP/ FIRE BOOSTER STORAGE TANK
FIRE BOOSTER STORAGE TANK
BOOSTER CABINET + PUMP WITHIN BUILDING 11.
TENNIS FENCE
CARPARK 105x SPACES
DROP OFF ZONE 10x SPACES
STUDENT PARKING 394 SPACES
REFUSE COLLECTION
AMBULANCE ACCESS
BUS DROP OFF ZONE
RAIN WATER TANK UNDER (TBC)
P-6 PRIMARY SCHOOL SPORTS FIELD WITH 100M SPRINT TRACK Type 3
SPORTS FIELD Type C WITH 110m SPRINT TRACK 165m x 125m
REFER TO ADJACENT DETAILS FOR CAR PARKING LAYOUTS
PARKING 10x SPACES
PREP PLAY AREA
YEAR 4-6 PLAY AREA
DROP OFF ZONE 15x SPACES
CARPARK 69x SPACES
76x COVERED CAR & 5x MOTORCYCLE SPACES
1:14 RAMP (ON GRADE) FROM LOWER CAR PARK
206x CAR & 2x MOTORCYCLE SPACES (INCL. 78x COVERED CAR PACES)
RAMP TO UPPER DECK CAR PARK
ENTRY / EXIT FROM PARKWAY AVENUE WITH BOOM GATE CONTROL

CAR PARKING SUMMARY	CAR	MOTORCYCLE
PRIMARY SCHOOL SHORT TERM:	68	-
HIGH SCHOOL SHORT TERM:	105	-
STUDENT LONG TERM:	39	-
PARKWAY STAFF LONG TERM:	282	7
TOTAL:	**494**	**7**

1 - SITE PLAN 1:1000

3 - CAR PARKING LEVEL -2 (RL 53.0)

2 - CAR PARKING LEVEL -3 (RL 50.0)

NOT FOR CONSTRUCTION

NOTES

1. Figured dimensions take precedence over scaled.
2. Figured dimensions are millimetres unless noted otherwise.
3. Check all dimensions on site prior to commencement of work.
4. These designs, drawings and specifications, and copyright thereof, are the property of Blair M Wilson and Associates Pty. Ltd. trading as Wilson Architects, and must not be used, retained or copied without the written authority of Wilson Architects.

Rev	Revision Description	Date	Ver
P8	100% SD ISSUE	21/5/18	
P9	100% SD - UPDATES	24/5/18	
P10	FOR DEVELOPMENT APPROVAL	22/5/18	
P11 - WIP	DD FOR COORDINATION	Work in Progress	

Work in Progress

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Client

DEPARTMENT OF EDUCATION AND TRAINING

Queensland Government

Project

NEW SCHOOLS AT RIPLEY PROVIDENCE

Title

SITE PLAN

Plot Date	Drwn	Chck
5/7/18		

Project No. 5448
Scale 1:1000 at A1
Drawing No. DD-A-100
Revision P11 - W

NOT FOR CONSTRUCTION

LEGEND - SECONDARY SCHOOL

1	MAIN SCHOOL ENTRY
2	SHORT TERM PARKING
3	DROP OFF ZONE
4	SECONDARY ENTRY
5	TEACHER COURT
6	MANUAL ARTS COURTYARD
7	OUTDOOR CAFE AND COURT
8	SCHOOL AVENUE AND SERVICE ACCESS
9	RAINFOREST SEATING COURT
10	MAIN SCHOOL COURT (UPPER)
11	MAIN SCHOOL COURT (LOWER)
12	CAFETERIA
13	LAWN TERRACE
14	OVAL VIEWING
15	OVAL
16	STAFF CARPARK
17	UNDER CARPARK
18	PERFORMING ARTS

IRRIGATION TANKS

LEGEND - PRIMARY SCHOOL

A	FUTURE COMMUNITY HEALTH
B	PARKING
C	ENTRY FORECOURT
D	SHORT TERM PARKING
E	DROP OFF
F	PREP COURTYARD
G	SCHOOL ENTRY
H	UPPER COVERED LINK
I	4-6 COURTYARD
J	PALM COURT
K	1-3 COURTYARD
L	OVAL
M	MAINTENANCE AREA
N	BIN STORE AND MAINTENANCE SHED
O	BIKE STORE

NOTES

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2. Figured dimensions are millimetres unless noted otherwise.
3. Check all dimensions on site prior to commencement of work.
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PROVIDE AS PER ***DETE FACILITIES STANDARDS:***
BINS/BIN ENCLOSURES;
DRINKING FOUNTAINS;
FLAG POLES;
SAND PIT
PLAY STRUCTURES
SEATING:
Primary School: Allow for 100 lineal mtrs
Secondary School: All for 200 lineal mtrs

Rev	Revision Description	Date	Ver
P1	100% SD	31/5/18	JH

Architect

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Client

DEPARTMENT OF EDUCATION AND TRAINING
THE STATE OF QUEENSLAND 2005

Queensland Government

Project

NEW SCHOOLS AT RIPLEY
PROVIDENCE

Title

LANDSCAPE SITE PLAN
SITE PLANS

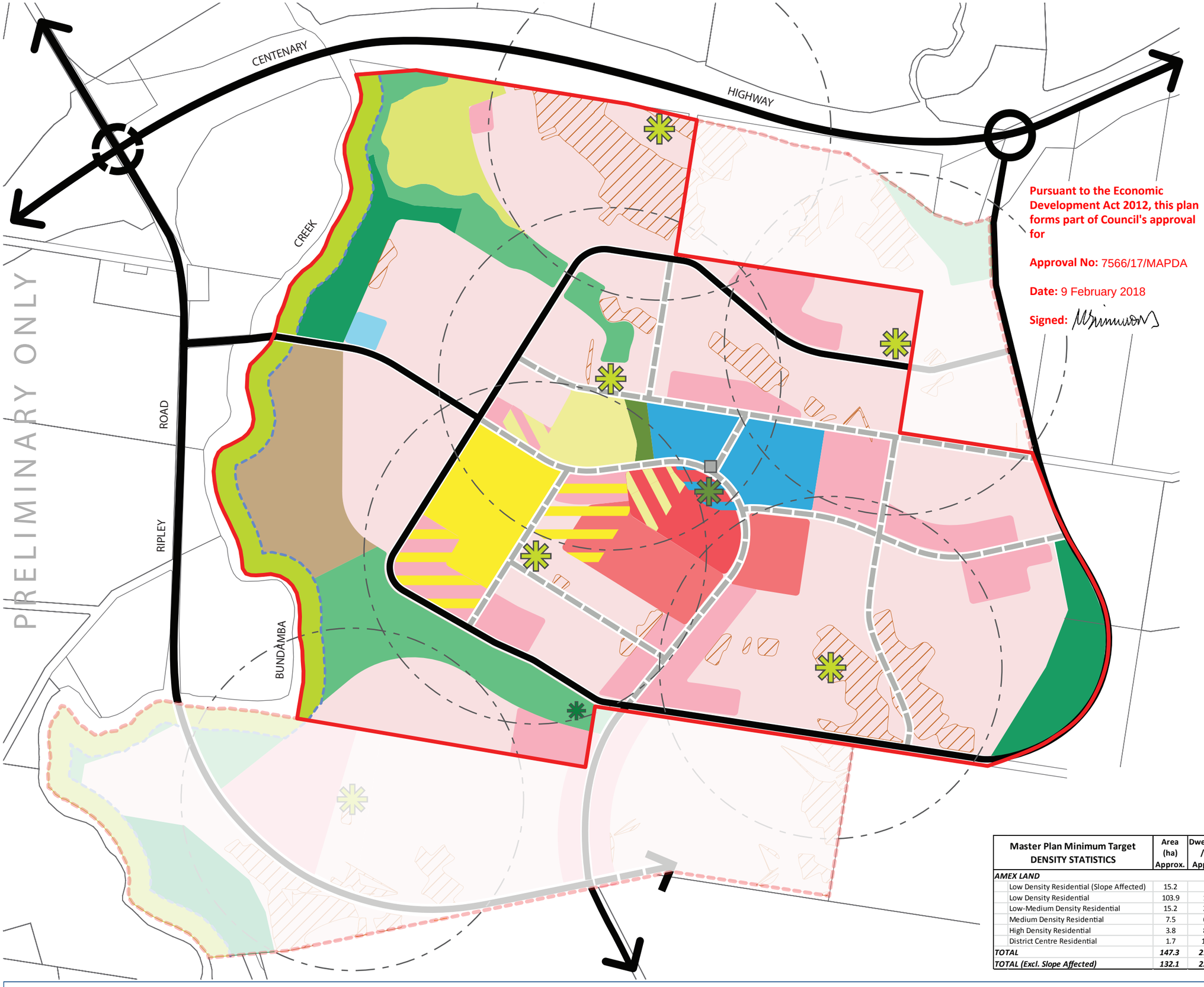
Plot Date 31/5/18		Drwn	Chck
	Project No. 5448		Scale 1:1000 at A1
	Drawing No. SD-L-102		Revision P1

Appendix 5

Ripley SUCE Context Plan

Department of Housing and Public Works

Queensland Government



Pursuant to the Economic Development Act 2012, this plan forms part of Council's approval for

Approval No: 7566/17/MAPDA

Date: 9 February 2018

Signed:

Legend

- Amex Site Boundary
- Non-Amex Site Boundaries
- 400m Walkable Catchment

Land Uses

- Low Density Residential
- Slope Affected Low Density Residential
- Low-Medium Density Residential
- Medium Density Residential
- High Density Residential
- District Centre
- District Centre (Civic Park Sleeving)
- Community Facilities
- Neighbourhood / Sales Centre
- School

Open Space

- Active Recreation Park
- Neighbourhood Recreation Park
- Bundamba Creek Buffer
- Major Sports Park
- District Sports Park
- District Recreation Park
- Civic Park (Recreation)
- Civic Park (Plazas)
- Linear Park & Stormwater Management

Roads

- Major Road Linkages
- Major Road Linkages (possible alternative linkage)
- Minor Road Linkages
- Highway Junction

DISCLAIMER

The Context Plans are intended to guide development within the Secondary Urban Centre East and show the preferred land use designations and structural elements. The Context Plans do not prescribe these designations and structural elements with complete accuracy and the final location will be determined through further detailed design and development applications.

NOTES

The contents of this plan are conceptual. All areas are approximate and subject to relevant studies, survey, engineering and Council approval. The information used in this plan is drawn from the following sources:

Site Boundaries: Ipswich DCDB
Cadastre: Ipswich DCDB
Contours: Cardno

NON-RESIDENTIAL GFA		
Neighbourhood / Sales Centre	Retail	3,000m²
	Commercial	200m²
District Centre	Retail	15,000m²
	Commercial	1,000m²
	Service Industry	5,000m²

LAND BUDGET	AMEX LAND	
	Area (ha)	Percentage
Total Site Area	***225.9***	***100.0%***
Developable Land (inc. local roads & neighbourhood recreation parks)		
Low Density Residential (Slope Affected)	15.2	6.7%
Low Density Residential	103.9	46.0%
Low-Medium Density Residential	15.2	6.7%
Medium Density Residential	7.5	3.3%
High Density Residential	3.8	1.7%
District Centre Residential	1.7	0.7%
Total Developable Area	***147.3***	***65.2%***
Non Residential GFA Area		
Neighbourhood / Sales Centre	0.6	0.3%
District Centre	4.4	1.9%
School	6.5-14.4*	2.9%
Community Centre	2.5-5.0*	1.1%
Health Hub		
Police Station		
Total Non Residential GFA Area	***14.0***	***6.2%***
Total Area of Non Local Roads	***16.1***	***7.1%***
Open Space (neighbourhood recreation parks inc. in developable land)		
Bundamba Creek Buffer	8.5	3.8%
Major Sports Park	10.0	4.4%
District Sports Park	5.5	2.4%
District Recreation Park	9.0	4.0%
Linear Park & Stormwater Management	14.1	6.2%
Civic Park / Plazas	1.5	0.7%
Total Area of Open Space	***48.6***	***21.5%***

* ***Area subject to further investigation of form and function of community facilities and detailed site planning requirements by relevant service provider.***

Master Plan Minimum Target DENSITY STATISTICS	Area (ha) Approx.	Dwellings /ha Approx.	Total Dwellings Approx.	Notes / Assumptions
AMEX LAND				
Low Density Residential (Slope Affected)	15.2	8	122	pre-earthworks slope of >12.5%
Low Density Residential	103.9	16	1662	includes 5x neighbourhood recreation parks & local roads
Low-Medium Density Residential	15.2	25	380	
Medium Density Residential	7.5	60	452	
High Density Residential	3.8	80	304	excludes plaza
District Centre Residential	1.7	100	170	includes residential sleeving of retail (rooftop towers additional)
TOTAL	***147.3***	***21.0***	***3090***	
TOTAL (Excl. Slope Affected)	***132.1***	***22.5***	***2968***	

Ripley Secondary Urban Centre East
Master Land Use & Density Plan

0 100 200 400

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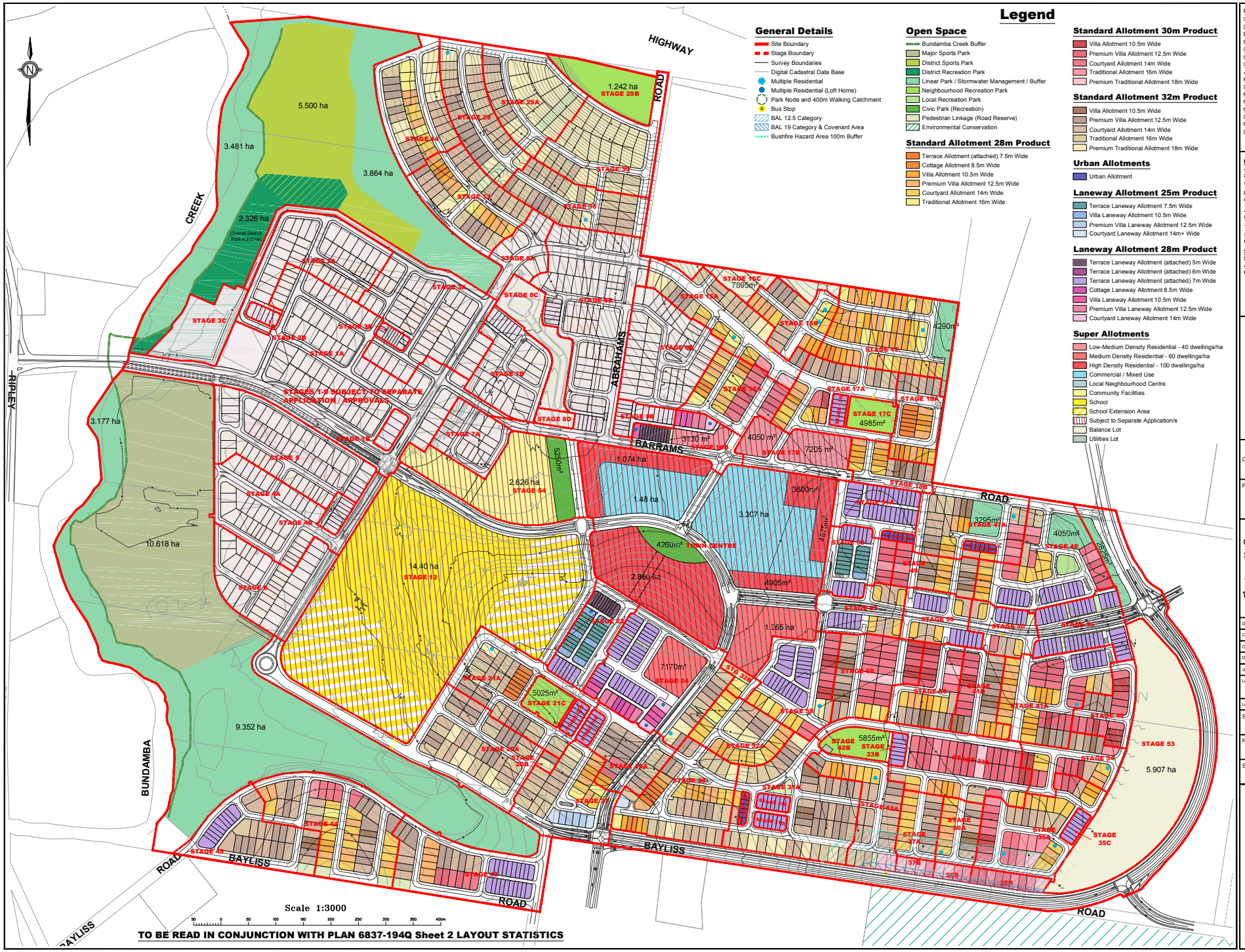
Scale 1:3000@A0 | **Date** July 2017 | **Project No.** 6837-160E

Appendix 6

Plan of Development & Subdivision

Department of Housing and Public Works

Queensland Government



REVISION
C: 14/02/14 Amend further issues
D: 18/12/14 Amend Stages 13,14, 28 & 38
E: 03/06/15 Amend Stages 20 & 21
F: 30/06/15 Amend Stage 20 Boundary
G: 07/08/15 Amend var stages and statistics
H: 04/09/15 Amend Stage 12 & 27 and statistics
I: 26/10/15 Amend Stage 15-19, 26 & 27 and statistics
J: 04/11/15 Add bus stops and amend PMT sites
K: 27/11/15 Amend Stg 15-19 lot mix and statistics
L: 24/06/16 Amend Stg 25, 53-54, TC and statistics
M: 01/07/16 Amend Stages 30-51 and Statistics
N: 10/10/16 Amend Stages 40-51 and Statistics
N1: 27/02/17 Amend Stages 43-45, 17A/B & 18A/B
O: 09/05/17 Amend Stages 33-56
P: 29/06/17 Amend School Site & Balance Suce
Q: 20/11/17 Amend Staging and Lots

Note:
All Lot Numbers, Dimensions and Areas are approximate only, and are subject to survey and Council approval.

Dimensions have been rounded to the nearest 0.1 metres.

Areas have been rounded down to the nearest 5m².

The boundaries shown on this plan should not be used for final detailed engineers design.

Source Information:
Site boundaries: DTS, RPS Survey
Adjoining information: DCDB
Contours: Cardno

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PROJECT
PROVIDENCE
RIPLEY SUCE

PLAN OF SUBDIVISION CANCELLING LOT 56 ON SP200934, LOTS 58-62 & 75-77 ON S151855, LOT 79 ON SL79, LOTS 109 & 113 ON M3174 AND PART OF ABRAHAMS ROAD

Date	20 NOVEMBER 2017
Comp By	WNW
Checked By	SB / FK
DWG Name	6837-194Q SUCE Master Pro
Job Reference	6837
Local Authority	IPSWICH CITY COUNCIL
Locality	RIPLEY
Scale	1:3000
Sheet	A1
Plan Ref	6837-194
Rev	Q
Sheet No	1 of 6

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YIELD STATISTICS

Allotment Type	Typical Lot Dimensions	Stage 1-9 No. of Lots	Stage 1-9 No. of Dwellings	Proposed Balance Area No. of Lots	Proposed Balance Area No. of Dwellings	TOTAL No. of Lots	TOTAL No. of Dwellings	Dwelling %
Standard Allotment 28m Product								
Terrace Allotment (attached)	7.5m x 28m	—	—	20	20	20	20	0.70%
Cottage Allotment	8.5m x 28m	12	12	13	13	25	25	0.88%
Villa Allotment	10.5m x 28m	27	27	80	80	107	107	3.75%
Premium Villa Allotment	12.5m x 28m	58	58	113	113	171	171	5.99%
Courtyard Allotment	14m x 28m	40	40	127	127	167	167	5.85%
Traditional	16m x 28m	19	19	29	29	48	48	1.68%
Sub Total		**156**	156	**382**	382	**538**	538	18.84%
Standard Allotment 30m Product								
Villa Allotment	10.5m x 30m	3	3	29	29	32	32	1.12%
Premium Villa Allotment	12.5m x 30m	6	6	84	84	90	90	3.15%
Courtyard Allotment	14m x 30m	5	5	78	78	83	83	2.91%
Traditional	16m x 30m	6	6	24	24	30	30	1.05%
Premium Traditional Allotment	18m x 30m	3	3	15	15	18	18	0.63%
Sub Total		**23**	23	**230**	230	**253**	253	8.86%
Standard Allotment 32m Product								
Villa Allotment	10.5m x 32m	—	—	31	31	31	31	1.09%
Premium Villa Allotment	12.5m x 32m	31	31	157	157	188	188	6.58%
Courtyard Allotment	14m x 32m	77	77	226	226	303	303	10.61%
Traditional	16m x 32m	90	90	102	102	192	192	6.73%
Premium Traditional Allotment	18m x 32m	80	80	75	75	155	155	5.43%
Sub Total		**278**	278	**591**	591	**869**	869	30.44%
Urban Lots								
Urban Lots	6.5 - 8.0m x 14m	6	6	24	24	30	30	1.05%
Sub Total		**6**	6	**24**	24	**30**	30	1.05%
Total Standard Allotments		**463**	463	**1227**	1227	**1690**	1690	59.19%
Laneway Allotment 25m Product								
Terrace Laneway Allotment (attached)	7.5m x 25m	—	—	31	31	31	31	1.09%
Villa Laneway Allotment	10.5m x 25m	—	—	7	7	7	7	0.25%
Premium Villa Laneway Allotment	12.5m x 25m	—	—	4	4	4	4	0.14%
Courtyard Laneway Allotment	14m+ x 25m	—	—	3	3	3	3	0.11%
Sub Total		—	—	**45**	45	**45**	45	1.58%
Laneway Allotment 28m Product								
Terrace Laneway Allotment (attached)	5m x 28m	6	6	21	21	27	27	0.95%
Terrace Laneway Allotment (attached)	6m x 28m	26	26	—	—	26	26	0.91%
Terrace Laneway Allotment (attached)	7m x 28m	8	8	284	284	292	292	10.23%
Cottage Laneway Allotment	8.5m x 28m	11	11	3	3	14	14	0.49%
Villa Laneway Allotment	10.5m x 28m	4	4	11	11	15	15	0.53%
Premium Villa Laneway Allotment	12.5m x 28m	4	4	5	5	9	9	0.32%
Courtyard Laneway Allotment	14m x 28m	4	4	3	3	7	7	0.25%
Traditional Laneway Allotment	16m+ x 28m	3	3	—	—	3	3	0.11%
Sub Total		**66**	66	**327**	327	**393**	393	13.77%
Total Laneway Allotments		**66**	66	**372**	372	**438**	438	15.34%
Total Standard & Laneway Allotments		**529**	529	**1599**	1599	**2128**	2128	74.54%
Multiple Residential (Loft Home)		—	3	—	6	—	9	0.32%
Multiple Residential		—	5	—	16	—	21	0.74%
Sub Total		—	8	—	22	—	30	1.05%
Super Allotments								
Low-Medium Density Residential - 40 dwellings/ha		—	—	3	56	3	56	1.96%
Medium Density Residential - 60 dwellings/ha		—	—	2	118	2	118	4.13%
Commerical / Mixed Use / Residential (60-100 dwellings/ha)		—	—	7	523	7	523	18.32%
Local Neighbourhood Centre		1	—	—	—	1	—	0.00%
Community Facilities		—	—	1	—	1	—	0.00%
School		—	—	1	—	1	—	0.00%
Utilities		—	—	1	—	1	—	0.00%
Sub Total		**1**	—	**15**	697	**16**	697	24.41%
TOTAL		**530**	537	**1614**	2318	**2144**	2855	100.00%

Yield does not include balance lot/s that are not for an intended land use

OVERALL LAND USE BUDGET

Land Use	Stage 1-9	Proposed Balance Area	Overall	Overall %
Area of Stage	**41.116 ha**	**187.662 ha**	**228.778 ha**	**100.0%**
Saleable Area				
Residential Lots	22.973 ha	61.388 ha	84.361 ha	36.9%
Balance Lot	—	6.717 ha	6.717 ha	2.9%
Area of Sales & Convenience Centre	0.589 ha	—	0.589 ha	0.3%
School	—	14.404 ha	14.404 ha	6.3%
Community Facilities	—	2.626 ha	2.626 ha	1.1%
Low-Medium Density Residential	—	1.440 ha	1.440 ha	0.6%
Medium Density Residential	—	1.982 ha	1.982 ha	0.9%
High Density Residential	—	5.238 ha	5.238 ha	2.3%
Area of Commercial / Mixed Use	—	4.788 ha	4.788 ha	2.1%
Total Area of Allotments	**23.562 ha**	**98.583 ha**	**122.145 ha**	**53.4%**
Roads				
Trunk / Collector Road	3.607 ha	12.075 ha	15.682 ha	6.9%
Local Road	8.469 ha	26.905 ha	35.374 ha	15.5%
Existing Road (Trunk Roads)	0.663 ha	2.134 ha	2.797 ha	1.2%
Existing Road (Local Roads)	1.213 ha	4.591 ha	5.804 ha	2.5%
Total Area of New Road	**13.952 ha**	**45.705 ha**	**59.657 ha**	**26.1%**
Open Space				
Major Sports Park	—	10.618 ha	10.618 ha	4.6%
District Sports Park	0.157 ha	5.500 ha	5.657 ha	2.5%
District Recreation Park	1.657 ha	2.186 ha	3.843 ha	1.7%
Linear Park / Stormwater Management	1.084 ha	21.155 ha	22.239 ha	9.7%
Neighbourhood Recreation Park	0.500 ha	2.830 ha	3.330 ha	1.5%
Local Recreation Park	0.204 ha	0.118 ha	0.322 ha	0.1%
Civic Park	—	0.949 ha	0.949 ha	0.4%
Utilities	—	0.018 ha	0.018 ha	0.0%
Total Area of Open Space	**3.602 ha**	**43.374 ha**	**46.976 ha**	**20.5%**

NET RESIDENTIAL DENSITY* CALCULATION 2855 DWELLINGS / 136.182 ha = 21 dw/ha

**Includes residential lots, local parks, internal local roads and half the width of external local roads*

REVISION
C: 14/02/14 Amend further issues
D: 18/12/14 Amend Stages 13,14, 28 & 38
E: 03/06/15 Amend Stages 20 & 21
F: 30/06/15 Amend Stage 20 Boundary
G: 07/08/15 Amend var stages and statistics
H: 04/09/15 Amend Stage 12 & 27 and statistics
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CLIENT
AMEX CORPORATION PTY LTD

PROJECT
PROVIDENCE
RIPLEY SUCE

PLAN OF SUBDIVISION CANCELLING LOT 56 ON SP200934, LOTS 58-62 & 75-77 ON S151855, LOT 79 ON SL79, LOTS 109 & 113 ON M3174 AND PART OF ABRAHAMS ROAD

Date	20 NOVEMBER 2017
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Checked By	SB / FK
DWG Name	6837-194Q SUCE Master Pro
Job Reference	6837
Local Authority	IPSWICH CITY COUNCIL
Locality	RIPLEY
Scale	N/A
Sheet	A1
Plan Ref	6837-194
Rev	Q
Sheet No	2 of 6

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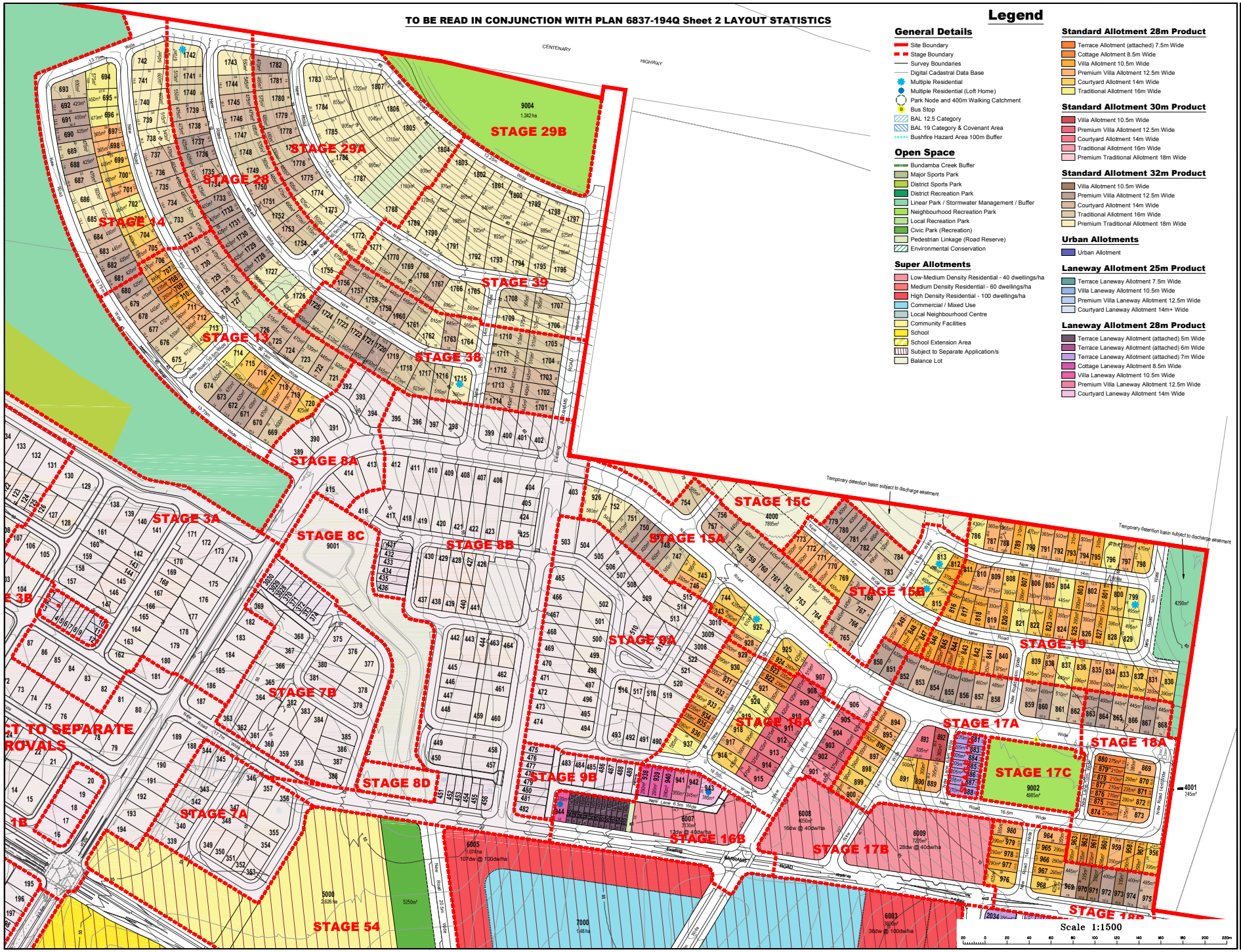
TO BE READ IN CONJUNCTION WITH PLAN 6837-194Q Sheet 2 LAYOUT STATISTICS



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Contours: Cardno

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PLAN OF SUBDIVISION CANCELLING LOT 56 ON SP200934, LOTS 58-62 & 75-77 ON S151855, LOT 79 ON SL79, LOTS 109 & 113 ON M3174 AND PART OF ABRAHAMS ROAD

Date	20 NOVEMBER 2017
Comp By	WNW
Checked By	SB / FK
DWG Name	6837-194Q SUCE Master Pro
Job Reference	6837
Local Authority	IPSWICH CITY COUNCIL
Locality	RIPLEY
Scale	1:1500
Sheet	A1
Plan Ref	6837-194
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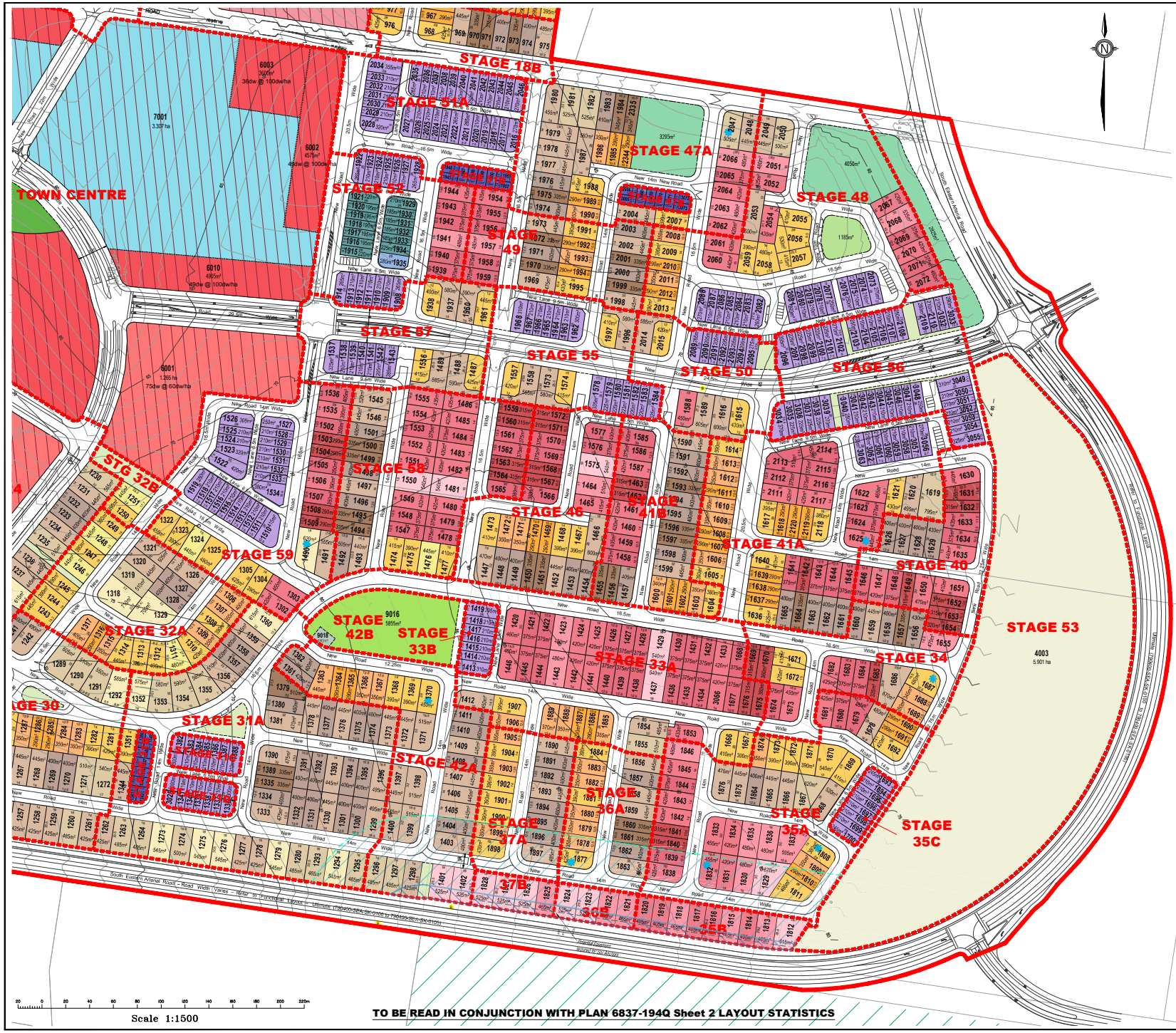

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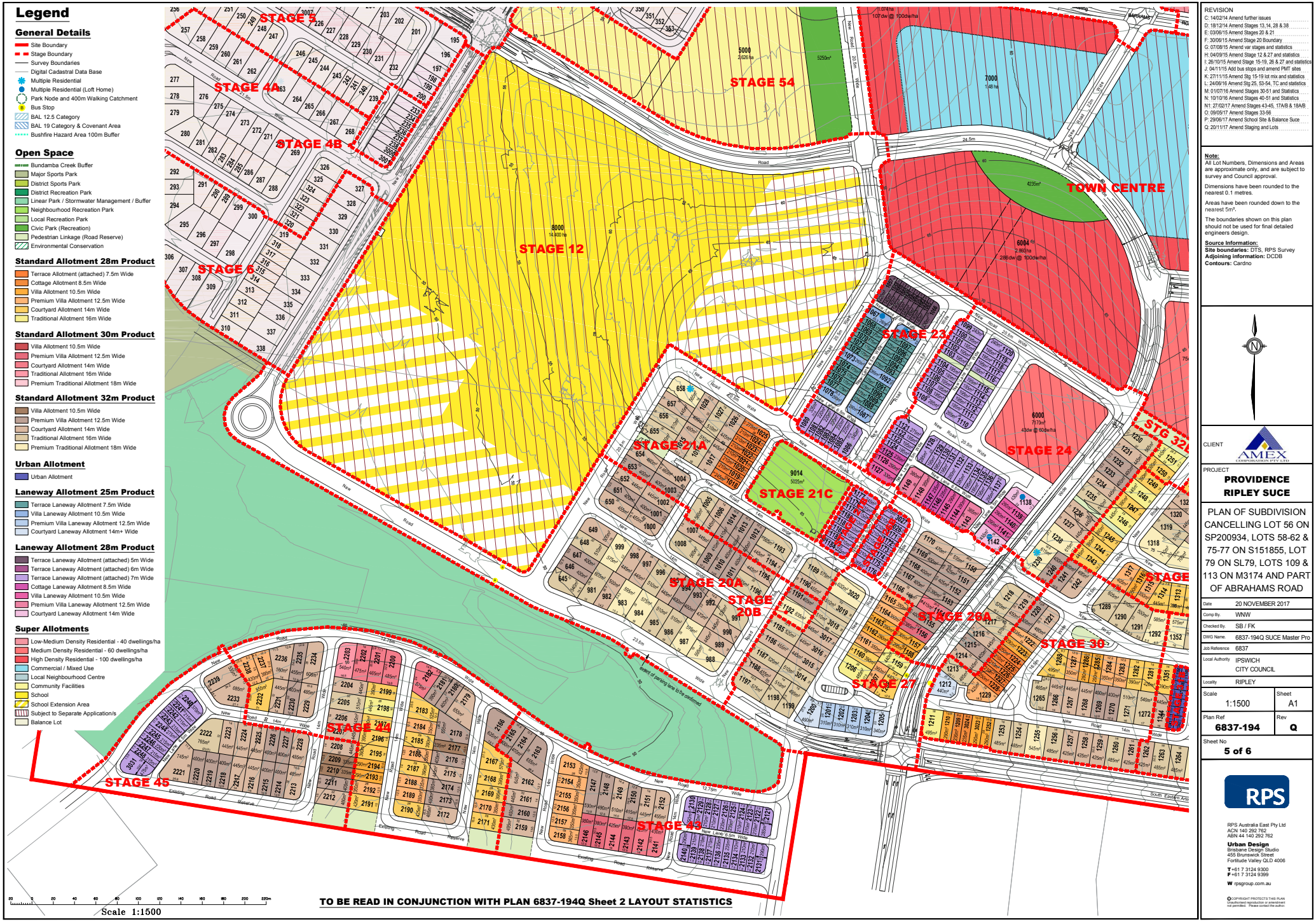

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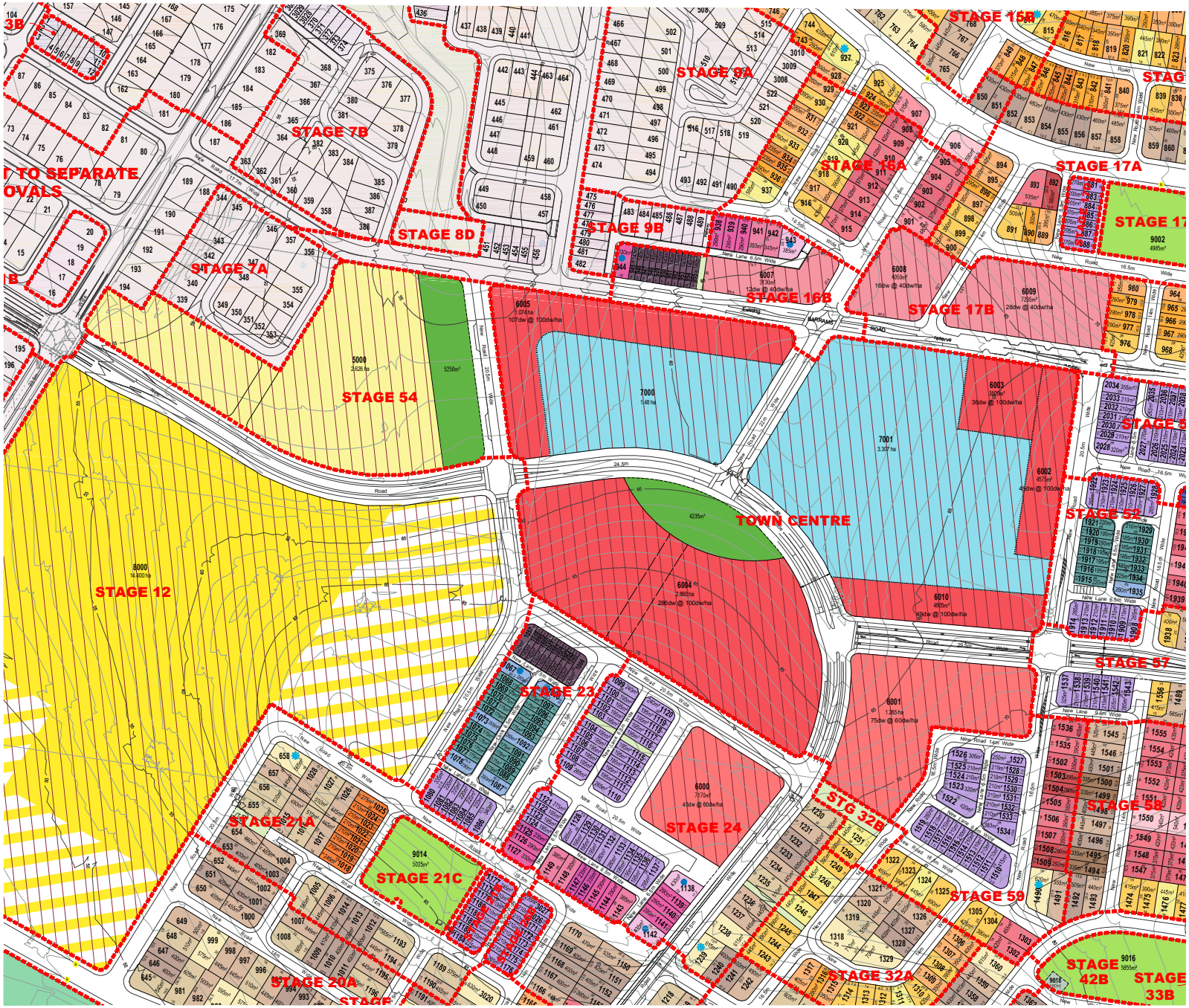

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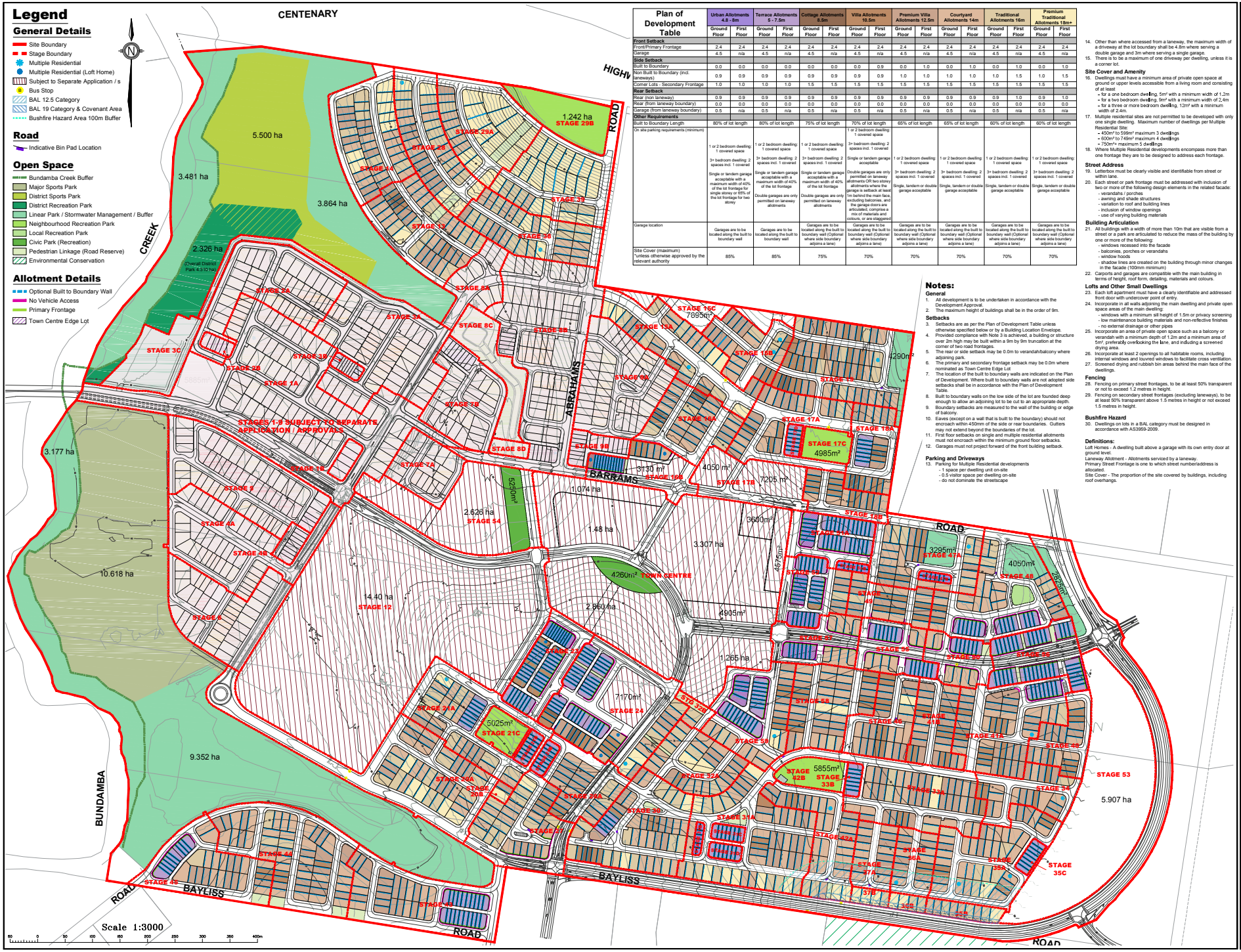

Plan of Development Table

	Urban Allotments 4.8 - 8m		Terrace Allotments 5 - 7.5m		Cottage Allotments 8.9m		Villa Allotments 10.5m		Premium Villa Allotments 12.5m		Courtyard Allotments 14m		Traditional Allotments 16m		Premium Traditional Allotments 18m+	
	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor
Front Setback																
Front/Primary Frontage	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Garage	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a
Side Setback																
Built to Boundary	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0
Non Built to Boundary (incl. laneways)	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.5	1.0	1.5
Corner Lots - Secondary Frontage	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Rear Setback																
Rear (non laneway)	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	0.9	1.0
Rear (from laneway boundary)	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
Garage (from laneway boundary)	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a
Other Requirements																
Built to Boundary Length	80% of lot length		80% of lot length		75% of lot length		70% of lot length		65% of lot length		65% of lot length		60% of lot length		60% of lot length	
On site parking requirements (minimum)	1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single or tandem garage acceptable with a maximum width of 40% of the lot frontage for single storey or 65% of the lot frontage for two storey		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single or tandem garage acceptable with a maximum width of 40% of the lot frontage Double garages are only permitted on laneway allotments		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single or tandem garage acceptable with a maximum width of 40% of the lot frontage Double garages are only permitted on laneway allotments		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single or tandem garage acceptable Double garages are only permitted on laneway allotments OR two storey allotments where the garage is setback at least 1m behind the main face, excluding balconies, and the garage doors are articulated, comprise a mix of materials and colours, or are staggered	1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single, tandem or double garage acceptable		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single, tandem or double garage acceptable		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single, tandem or double garage acceptable		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single, tandem or double garage acceptable	
Garage location	Garages are to be located along the built to boundary wall		Garages are to be located along the built to boundary wall		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)	
Site Cover (maximum) *unless otherwise approved by the relevant authority	85%		85%		75%		70%		70%		70%		70%		70%	

Notes:

General

1. All development is to be undertaken in accordance with the Development Approval.
2. The maximum height of buildings shall be in the order of 9m.

Setbacks

3. Setbacks are as per the Plan of Development Table unless otherwise specified below or by a Building Location Envelope.
4. Provided compliance with Note 3 is achieved, a building or structure over 2m high may be built within a 9m by 9m truncation at the corner of two road frontages.
5. The rear or side setback may be 0.0m to verandah/balcony where adjoining park.
6. The primary and secondary frontage setback may be 0.0m where nominated as Town Centre Edge Lot
7. The location of the built to boundary walls are indicated on the Plan of Development. Where built to boundary walls are not adopted side setbacks shall be in accordance with the Plan of Development Table.
8. Built to boundary walls on the low side of the lot are founded deep enough to allow an adjoining lot to be cut to an appropriate depth.
9. Boundary setbacks are measured to the wall of the building or edge of balcony.
10. Eaves (except on a wall that is built to the boundary) should not encroach within 450mm of the side or rear boundaries. Gutters may not extend beyond the boundaries of the lot.
11. First floor setbacks on single and multiple residential allotments must not encroach within the minimum ground floor setbacks.
12. Garages must not project forward of the front building setback.

Parking and Driveways

13. Parking for Multiple Residential developments
    - 1 space per dwelling unit on-site
    - 0.5 visitor space per dwelling on-site
    - do not dominate the streetscape
14. Other than where accessed from a laneway, the maximum width of a driveway at the lot boundary shall be 4.8m where serving a double garage and 3m where serving a single garage.
15. There is to be a maximum of one driveway per dwelling, unless it is a corner lot.

Site Cover and Amenity

16. Dwellings must have a minimum area of private open space at ground or upper levels accessible from a living room and consisting of at least
    - for a one bedroom dwelling, 5m² with a minimum width of 1.2m
    - for a two bedroom dwelling, 9m² with a minimum width of 2.4m
    - for a three or more bedroom dwelling, 12m² with a minimum width of 2.4m.
17. Multiple residential sites are not permitted to be developed with only one single dwelling. Maximum number of dwellings per Multiple Residential Site:
    - 450m² to 599m² maximum 3 dwellings
    - 600m² to 749m² maximum 4 dwellings
    - 750m²+ maximum 5 dwellings
18. Where Multiple Residential developments encompass more than one frontage they are to be designed to address each frontage.

Street Address

19. Letterbox must be clearly visible and identifiable from street or within lane.
20. Each street or park frontage must be addressed with inclusion of two or more of the following design elements in the related facade:
    - verandahs / porches
    - awning and shade structures
    - variation to roof and building lines
    - inclusion of window openings
    - use of varying building materials

Building Articulation

21. All buildings with a width of more than 10m that are visible from a street or a park are articulated to reduce the mass of the building by one or more of the following:
    - windows recessed into the facade
    - balconies, porches or verandahs
    - window hoods
    - shadow lines are created on the building through minor changes in the facade (100mm minimum)
22. Carports and garages are compatible with the main building in terms of height, roof form, detailing, materials and colours.

Lofts and Other Small Dwellings

23. Each loft apartment must have a clearly identifiable and addressed front door with undercover point of entry.
24. Incorporate in all walls adjoining the main dwelling and private open space areas of the main dwelling:
    - windows with a minimum sill height of 1.5m or privacy screening
    - low maintenance building materials and non-reflective finishes
    - no external drainage or other pipes
25. Incorporate an area of private open space such as a balcony or verandah with a minimum depth of 1.2m and a minimum area of 5m², preferably overlooking the lane, and including a screened drying area.
26. Incorporate at least 2 openings to all habitable rooms, including internal windows and louvred windows to facilitate cross ventilation.
27. Screened drying and rubbish bin areas behind the main face of the dwellings.

Fencing

28. Fencing on primary street frontages, to be at least 50% transparent or not to exceed 1.2 metres in height.
29. Fencing on secondary street frontages (excluding laneways), to be at least 50% transparent above 1.5 metres in height or not exceed 1.5 metres in height.

Bushfire Hazard

30. Dwellings on lots in a BAL category must be designed in accordance with AS3959-2009.

Definitions:

Loft Homes - A dwelling built above a garage with its own entry door at ground level.
Laneway Allotment - Allotments serviced by a laneway.
Primary Street Frontage is one to which street number/address is allocated.
Site Cover - The proportion of the site covered by buildings, including roof overhangs.

REVISION
A: 08/08/13 Amend POD notes & table
B: 14/02/14 Amend to New Layout & Notes
C: 18/12/14 Amend Stages 13,14, 28 & 38
E: 30/06/15 Add Town Centre Edge Lot
F: 07/08/15 Amend var stages and statistics
G: 04/09/15 Amend Stage 12 & 27 and statistics
H: 28/10/15 Amend Stage 15-19, 28 & 27 and statistics
I: 04/11/15 Add bus stops and amend PMT sites
J: 27/11/15 Amend Stg 15-19 lot mix and statistics
K: 24/06/16 Amend Stg 25, 53-54, TC and statistics
L: 01/07/16 Amend Stages 30-51 and Statistics
M: 10/10/16 Amend Stages 40-51 and Statistics
M1: 27/02/17 Amend Stages 43-45, 17A/B & 18A/B
N: 09/05/17 Amend Stages 33-56
O: 13/06/17 Amend School Site & Balance Suce
P: 20/11/17 Amend Staging and Lots

Note:
All Lot Numbers, Dimensions and Areas are approximate only, and are subject to survey and Council approval.

Dimensions have been rounded to the nearest 0.1 metres.

Areas have been rounded down to the nearest 5m².

The boundaries shown on this plan should not be used for final detailed engineers design.

Source Information:
Site boundaries: DTS, RPS Survey
Adjoining information: DCDB
Contours: Cardno

CLIENT
AMEX CORPORATION PTY LTD

PROJECT
PROVIDENCE
RIPLEY SUCE

PLAN OF DEVELOPMENT CANCELLING LOT 56 ON SP200934, LOTS 58-62 & 75-77 ON S151855, LOT 79 ON SL79, LOTS 109 & 113 ON M3174 AND PART OF ABRAHAMS ROAD

Date	20 NOVEMBER 2017
Comp By	WNW
Checked By	SB / FK
DWG Name	6837-194Q SUCE Master Pro
Job Reference	6837
Local Authority	IPSWICH CITY COUNCIL
Locality	RIPLEY
Scale	1:3000
Sheet	A1
Plan Ref	6837-192
Rev	P
Sheet No	1 of 5

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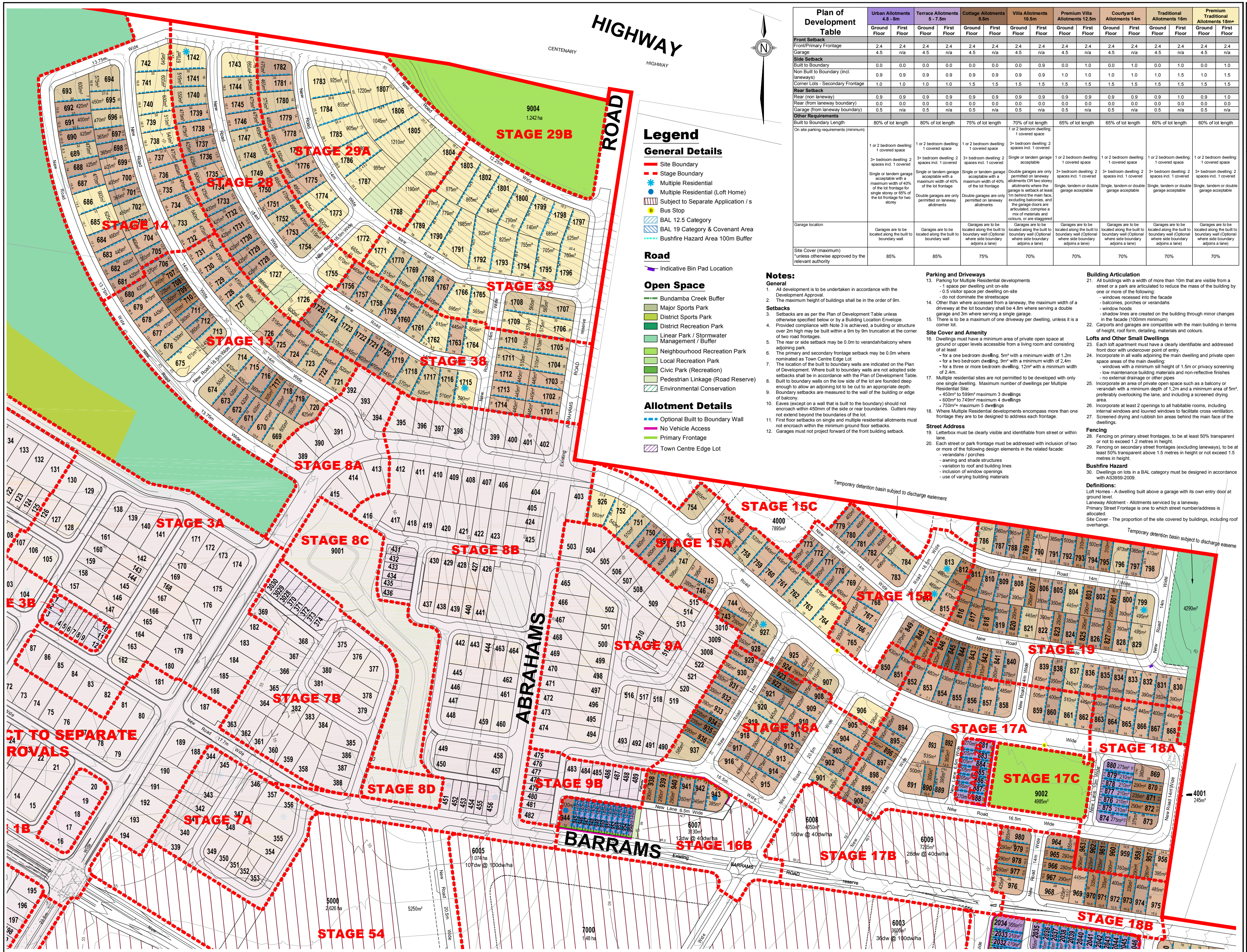

Plan of Development Table

Plan of Development Table	Urban Allotments 4.8 - 8m		Terrace Allotments 5 - 7.5m		Cottage Allotments 8.5m		Villa Allotments 10.5m		Premium Villa Allotments 12.5m		Courtyard Allotments 14m		Traditional Allotments 16m		Premium Traditional Allotments 18m+	
	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor
Front Setback																
Front/Primary Frontage	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Garage	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a
Side Setback																
Built to Boundary	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0
Non Built to Boundary (incl. laneways)	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.5	1.0	1.5
Corner Lots - Secondary Frontage	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Rear Setback																
Rear (non laneway)	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	0.9	1.0
Rear (from laneway boundary)	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
Garage (from laneway boundary)	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a
Other Requirements																
Built to Boundary Length	80% of lot length		80% of lot length		75% of lot length		70% of lot length		65% of lot length		65% of lot length		60% of lot length		60% of lot length	
On site parking requirements (minimum)	1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single or tandem garage acceptable with a maximum width of 40% of the lot frontage for single storey or 65% of the lot frontage for two storey		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single or tandem garage acceptable with a maximum width of 40% of the lot frontage Double garages are only permitted on laneway allotments		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single or tandem garage acceptable with a maximum width of 40% of the lot frontage Double garages are only permitted on laneway allotments		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single or tandem garage acceptable Double garages are only permitted on laneway allotments OR two storey allotments where the garage is setback at least 1m behind the main face, excluding balconies, and the garage doors are articulated, comprise a mix of materials and colours, or are staggered		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single, tandem or double garage acceptable		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single, tandem or double garage acceptable		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single, tandem or double garage acceptable		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single, tandem or double garage acceptable	
Garage location	Garages are to be located along the built to boundary wall		Garages are to be located along the built to boundary wall		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)	
Site Cover (maximum) *unless otherwise approved by the relevant authority	85%		85%		75%		70%		70%		70%		70%		70%	

Legend

General Details

- Site Boundary
- Stage Boundary
- Multiple Residential
- Multiple Residential (Loft Home)
- Subject to Separate Application / s
- Bus Stop
- BAL 12.5 Category
- BAL 19 Category & Covenant Area
- Bushfire Hazard Area 100m Buffer

Road

- Indicative Bin Pad Location

Open Space

- Bundamba Creek Buffer
- Major Sports Park
- District Sports Park
- District Recreation Park
- Linear Park / Stormwater Management / Buffer
- Neighbourhood Recreation Park
- Local Recreation Park
- Civic Park (Recreation)
- Pedestrian Linkage (Road Reserve)
- Environmental Conservation

Allotment Details

- Optional Built to Boundary Wall
- No Vehicle Access
- Primary Frontage
- Town Centre Edge Lot

Notes:

General

1. All development is to be undertaken in accordance with the Development Approval.
2. The maximum height of buildings shall be in the order of 9m.

Setbacks

3. Setbacks are as per the Plan of Development Table unless otherwise specified below or by a Building Location Envelope.
4. Provided compliance with Note 3 is achieved, a building or structure over 2m high may be built within a 9m by 9m truncation at the corner of two road frontages.
5. The rear or side setback may be 0.0m to verandah/balcony where adjoining park.
6. The primary and secondary frontage setback may be 0.0m where nominated as Town Centre Edge Lot
7. The location of the built to boundary walls are indicated on the Plan of Development. Where built to boundary walls are not adopted side setbacks shall be in accordance with the Plan of Development Table.
8. Built to boundary walls on the low side of the lot are founded deep enough to allow an adjoining lot to be cut to an appropriate depth.
9. Boundary setbacks are measured to the wall of the building or edge of balcony.
10. Eaves (except on a wall that is built to the boundary) should not encroach within 450mm of the side or rear boundaries. Gutters may not extend beyond the boundaries of the lot.
11. First floor setbacks on single and multiple residential allotments must not encroach within the minimum ground floor setbacks.
12. Garages must not project forward of the front building setback.

Parking and Driveways

13. Parking for Multiple Residential developments
    - 1 space per dwelling unit on-site
    - 0.5 visitor space per dwelling on-site
    - do not dominate the streetscape
14. Other than where accessed from a laneway, the maximum width of a driveway at the lot boundary shall be 4.8m where serving a double garage and 3m where serving a single garage.
15. There is to be a maximum of one driveway per dwelling, unless it is a corner lot.

Site Cover and Amenity

16. Dwellings must have a minimum area of private open space at ground or upper levels accessible from a living room and consisting of at least
    - for a one bedroom dwelling, $5m^2$ with a minimum width of 1.2m
    - for a two bedroom dwelling, $9m^2$ with a minimum width of 2.4m
    - for a three or more bedroom dwelling, $12m^2$ with a minimum width of 2.4m.
17. Multiple residential sites are not permitted to be developed with only one single dwelling. Maximum number of dwellings per Multiple Residential Site:
    - $450m^2$ to $599m^2$ maximum 3 dwellings
    - $600m^2$ to $749m^2$ maximum 4 dwellings
    - $750m^2$+ maximum 5 dwellings
18. Where Multiple Residential developments encompass more than one frontage they are to be designed to address each frontage.

Street Address

19. Letterbox must be clearly visible and identifiable from street or within lane.
20. Each street or park frontage must be addressed with inclusion of two or more of the following design elements in the related facade:
    - verandahs / porches
    - awning and shade structures
    - variation to roof and building lines
    - inclusion of window openings
    - use of varying building materials

Building Articulation

21. All buildings with a width of more than 10m that are visible from a street or a park are articulated to reduce the mass of the building by one or more of the following:
    - windows recessed into the facade
    - balconies, porches or verandahs
    - window hoods
    - shadow lines are created on the building through minor changes in the facade (100mm minimum)
22. Carports and garages are compatible with the main building in terms of height, roof form, detailing, materials and colours.

Lofts and Other Small Dwellings

23. Each loft apartment must have a clearly identifiable and addressed front door with undercover point of entry.
24. Incorporate in all walls adjoining the main dwelling and private open space areas of the main dwelling:
    - windows with a minimum sill height of 1.5m or privacy screening
    - low maintenance building materials and non-reflective finishes
    - no external drainage or other pipes
25. Incorporate an area of private open space such as a balcony or verandah with a minimum depth of 1.2m and a minimum area of $5m^2$, preferably overlooking the lane, and including a screened drying area.
26. Incorporate at least 2 openings to all habitable rooms, including internal windows and louvred windows to facilitate cross ventilation.
27. Screened drying and rubbish bin areas behind the main face of the dwellings.

Fencing

28. Fencing on primary street frontages, to be at least 50% transparent or not to exceed 1.2 metres in height.
29. Fencing on secondary street frontages (excluding laneways), to be at least 50% transparent above 1.5 metres in height or not exceed 1.5 metres in height.

Bushfire Hazard

30. Dwellings on lots in a BAL category must be designed in accordance with AS3959-2009.

Definitions:

Loft Homes - A dwelling built above a garage with its own entry door at ground level.
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Primary Street Frontage is one to which street number/address is allocated.
Site Cover - The proportion of the site covered by buildings, including roof overhangs.

REVISION
A: 08/08/13 Amend POD notes & table
B: 14/02/14 Amend to New Layout & Notes
C: 18/12/14 Amend Stages 13,14, 28 & 38
E: 30/06/15 Add Town Centre Edge Lot
F: 07/08/15 Amend var stages and statistics
G: 04/09/15 Amend Stage 12 & 27 and statistics
H: 26/10/15 Amend Stage 15-19, 26 & 27 and statistics
I: 04/11/15 Add bus stops and amend PMT sites
J: 27/11/15 Amend Stg 15-19 lot mix and statistics
K: 24/06/16 Amend Stg 25, 53-54, TC and statistics
L: 01/07/16 Amend Stages 30-51 and Statistics
M: 10/10/16 Amend Stages 40-51 and Statistics
M1: 27/02/17 Amend Stages 43-45, 17A/B & 18A/B
N: 09/05/17 Amend Stages 33-56
O: 13/06/17 Amend School Site & Balance Suce
P: 20/11/17 Amend Staging and Lots

Note:
All Lot Numbers, Dimensions and Areas are approximate only, and are subject to survey and Council approval.

Dimensions have been rounded to the nearest 0.1 metres.

Areas have been rounded down to the nearest $5m^2$.

The boundaries shown on this plan should not be used for final detailed engineers design.

Source Information:
Site boundaries: DTS, RPS Survey
Adjoining information: DCDB
Contours: Cardno

CLIENT
AMEX CORPORATION PTY LTD

PROJECT
PROVIDENCE RIPLEY SUCE

PLAN OF DEVELOPMENT CANCELLING LOT 56 ON SP200934, LOTS 58-62 & 75-77 ON S151855, LOT 79 ON SL79, LOTS 109 & 113 ON M3174 AND PART OF ABRAHAMS ROAD

Date	20 NOVEMBER 2017
Comp By.	WNW
Checked By.	SB / FK
DWG Name.	6837-194Q SUCE Master Pro
Job Reference	6837
Local Authority	IPSWICH CITY COUNCIL
Locality	RIPLEY
Scale 1:1500	Sheet A1
Plan Ref **6837-192**	Rev **P**
Sheet No **2 of 5**	

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Plan of Development Table

	Urban Allotments 4.8 - 8m		Terrace Allotments 5 - 7.5m		Cottage Allotments 8.5m		Villa Allotments 10.5m		Premium Villa Allotments 12.5m		Courtyard Allotments 14m		Traditional Allotments 16m		Premium Traditional Allotments 18m+	
	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor
Front Setback																
Front/Primary Frontage	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Garage	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a
Side Setback																
Built to Boundary	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0
Non Built to Boundary (incl. laneways)	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.5	1.0	1.5
Corner Lots - Secondary Frontage	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Rear Setback																
Rear (non laneway)	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	0.9	1.0
Rear (from laneway boundary)	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
Garage (from laneway boundary)	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a
Other Requirements																
Built to Boundary Length	80% of lot length		80% of lot length		75% of lot length		70% of lot length		65% of lot length		65% of lot length		60% of lot length		60% of lot length	
On site parking requirements (minimum)	1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single or tandem garage acceptable with a maximum width of 40% of the lot frontage for single storey or 65% of the lot frontage for two storey		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single or tandem garage acceptable with a maximum width of 40% of the lot frontage Double garages are only permitted on laneway allotments		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single or tandem garage acceptable with a maximum width of 40% of the lot frontage Double garages are only permitted on laneway allotments		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single or tandem garage acceptable Double garages are only permitted on laneway allotments where the garage is setback at least 1m behind the main face, excluding balconies, and the garage doors are articulated, comprise a mix of materials and colours, or are staggered		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single, tandem or double garage acceptable		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single, tandem or double garage acceptable		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single, tandem or double garage acceptable		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single, tandem or double garage acceptable	
Garage location	Garages are to be located along the built to boundary wall		Garages are to be located along the built to boundary wall		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)	
Site Cover (maximum) *unless otherwise approved by the relevant authority	85%		85%		75%		70%		70%		70%		70%		70%	

Notes:

General

1. All development is to be undertaken in accordance with the Development Approval.
2. The maximum height of buildings shall be in the order of 9m.

Setbacks

3. Setbacks are as per the Plan of Development Table unless otherwise specified below or by a Building Location Envelope.
4. Provided compliance with Note 3 is achieved, a building or structure over 2m high may be built within a 9m by 9m truncation at the corner of two road frontages.
5. The rear or side setback may be 0.0m to verandah/balcony where adjoining park.
6. The primary and secondary frontage setback may be 0.0m where nominated as Town Centre Edge Lot
7. The location of the built to boundary walls are indicated on the Plan of Development. Where built to boundary walls are not adopted side setbacks shall be in accordance with the Plan of Development Table.
8. Built to boundary walls on the low side of the lot are founded deep enough to allow an adjoining lot to be cut to an appropriate depth.
9. Boundary setbacks are measured to the wall of the building or edge of balcony.
10. Eaves (except on a wall that is built to the boundary) should not encroach within 450mm of the side or rear boundaries. Gutters may not extend beyond the boundaries of the lot.
11. First floor setbacks on single and multiple residential allotments must not encroach within the minimum ground floor setbacks.
12. Garages must not project forward of the front building setback.

Parking and Driveways

13. Parking for Multiple Residential developments
    - 1 space per dwelling unit on-site
    - 0.5 visitor space per dwelling on-site
    - do not dominate the streetscape
14. Other than where accessed from a laneway, the maximum width of a driveway at the lot boundary shall be 4.8m where serving a double garage and 3m where serving a single garage.
15. There is to be a maximum of one driveway per dwelling, unless it is a corner lot.

Site Cover and Amenity

16. Dwellings must have a minimum area of private open space at ground or upper levels accessible from a living room and consisting of at least
    - for a one bedroom dwelling, 9m² with a minimum width of 1.2m
    - for a two bedroom dwelling, 9m² with a minimum width of 2.4m
    - for a three or more bedroom dwelling, 12m² with a minimum width of 2.4m.
17. Multiple residential sites are not permitted to be developed with only one single dwelling. Maximum number of dwellings per Multiple Residential Site:
    - 450m² to 599m² maximum 3 dwellings
    - 600m² to 749m² maximum 4 dwellings
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18. Where Multiple Residential developments encompass more than one frontage they are to be designed to address each frontage.

Street Address

19. Letterbox must be clearly visible and identifiable from street or within lane.
20. Each street or park frontage must be addressed with inclusion of two or more of the following design elements in the related facade:
    - verandahs / porches
    - awning and shade structures
    - variation to roof and building lines
    - inclusion of window openings
    - use of varying building materials

Building Articulation

21. All buildings with a width of more than 10m that are visible from a street or a park are articulated to reduce the mass of the building by one or more of the following:
    - windows recessed into the facade
    - balconies, porches or verandahs
    - window hoods
    - shadow lines are created on the building through minor changes in the facade (100mm minimum)
22. Carports and garages are compatible with the main building in terms of height, roof form, detailing, materials and colours.

Lofts and Other Small Dwellings

23. Each loft apartment must have a clearly identifiable and addressed front door with undercover point of entry.
24. Incorporate in all walls adjoining the main dwelling and private open space areas of the main dwelling:
    - windows with a minimum sill height of 1.5m or privacy screening
    - low maintenance building materials and non-reflective finishes
    - no external drainage or other pipes
25. Incorporate an area of private open space such as a balcony or verandah with a minimum depth of 1.2m and a minimum area of 5m², preferably overlooking the lane, and including a screened drying area.
26. Incorporate at least 2 openings to all habitable rooms, including internal windows and louvred windows to facilitate cross ventilation.
27. Screened drying and rubbish bin areas behind the main face of the dwellings.

Fencing

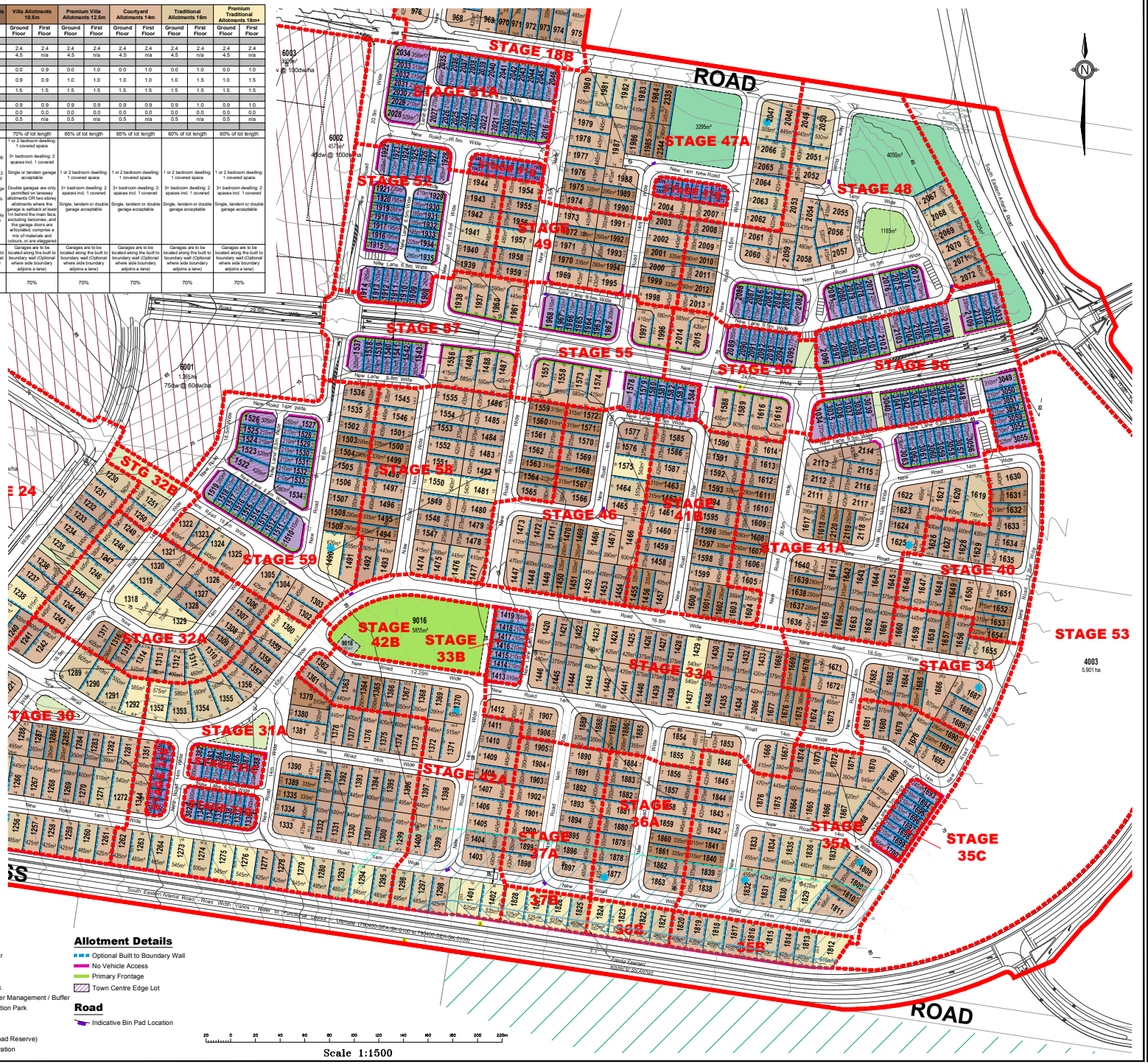
28. Fencing on primary street frontages, to be at least 50% transparent or not to exceed 1.2 metres in height.
29. Fencing on secondary street frontages (excluding laneways), to be at least 50% transparent above 1.5 metres in height or not exceed 1.5 metres in height.

Bushfire Hazard

30. Dwellings on lots in a BAL category must be designed in accordance with AS3959-2009.

Definitions:

Loft Homes - A dwelling built above a garage with its own entry door at ground level.
Laneway Allotment - Allotments serviced by a laneway.
Primary Street Frontage is one to which street number/address is allocated.
Site Cover - The proportion of the site covered by buildings, including roof overhangs.



Legend

General Details

- Site Boundary
- Stage Boundary
- Multiple Residential
- Multiple Residential (Loft Home)
- Subject to Separate Application / s
- Bus Stop
- BAL 12.5 Category
- BAL 19 Category & Covenant Area
- Bushfire Hazard Area 100m Buffer

Open Space

- Bundamba Creek Buffer
- Major Sports Park
- District Sports Park
- District Recreation Park
- Linear Park / Stormwater Management / Buffer
- Neighbourhood Recreation Park
- Local Recreation Park
- Civic Park (Recreation)
- Pedestrian Linkage (Road Reserve)
- Environmental Conservation

Allotment Details

- Optional Built to Boundary Wall
- No Vehicle Access
- Primary Frontage
- Town Centre Edge Lot

Road

- Indicative Bin Pad Location

REVISION

A: 08/08/13 Amend POD notes & table
B: 14/02/14 Amend to New Layout & Notes
C: 18/12/14 Amend Stages 13,14, 28 & 38
E: 30/06/15 Add Town Centre Edge Lot
F: 07/08/15 Amend var stages and statistics
G: 04/09/15 Amend Stage 12 & 27 and statistics
H: 28/10/15 Amend Stage 15-19, 28 & 27 and statistics
I: 04/11/15 Add bus stops and amend PMT sites
J: 27/11/15 Amend Stg 15-19 lot mix and statistics
K: 24/06/16 Amend Stg 25, 53-54, TC and statistics
L: 01/07/16 Amend Stages 30-51 and Statistics
M: 10/10/16 Amend Stages 40-51 and Statistics
M1: 27/02/17 Amend Stages 43-45, 17A/B & 18A/B
N: 09/05/17 Amend Stages 33-56
O: 13/06/17 Amend School Site & Balance Suce
P: 20/11/17 Amend Staging and Lots

Note:
All Lot Numbers, Dimensions and Areas are approximate only, and are subject to survey and Council approval.

Dimensions have been rounded to the nearest 0.1 metres.

Areas have been rounded down to the nearest 5m².

The boundaries shown on this plan should not be used for final detailed engineers design.

Source Information:
Site boundaries: DTS, RPS Survey
Adjoining information: DCDB
Contours: Cardno

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AMEX CORPORATION PTY LTD

PROJECT
PROVIDENCE
RIPLEY SUCE

PLAN OF DEVELOPMENT CANCELLING LOT 56 ON SP200934, LOTS 58-62 & 75-77 ON S151855, LOT 79 ON SL79, LOTS 109 & 113 ON M3174 AND PART OF ABRAHAMS ROAD

Date	20 NOVEMBER 2017
Comp By	WNW
Checked By	SB / FK
DWG Name	6837-194M SUCE Master Pro
Job Reference	6837
Local Authority	IPSWICH CITY COUNCIL
Locality	RIPLEY
Scale	1:1500
Sheet	A1
Plan Ref	6837-192
Rev	P
Sheet No	3 of 5

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Brisbane Design Studio
455 Brunswick Street
Fortitude Valley QLD 4006
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F +61 7 3124 9399
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Plan of Development Table	Urban Allotments 4.8 - 8m		Terrace Allotments 5 - 7.5m		Cottage Allotments 8.5m		Villa Allotments 10.5m		Premium Villa Allotments 12.5m		Courtyard Allotments 14m		Traditional Allotments 16m		Premium Traditional Allotments 18m+	
	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor
Front Setback																
Front/Primary Frontage	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Garage	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a
Side Setback																
Built to Boundary	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0
Non Built to Boundary (incl. laneways)	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.5	1.0	1.5
Corner Lots - Secondary Frontage	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Rear Setback																
Rear (non laneway)	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	0.9	1.0
Rear (from laneway boundary)	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
Garage (from laneway boundary)	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a
Other Requirements																
Built to Boundary Length	80% of lot length		80% of lot length		75% of lot length		70% of lot length		65% of lot length		65% of lot length		60% of lot length		60% of lot length	
On site parking requirements (minimum)	1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single or tandem garage acceptable with a maximum width of 40% of the lot frontage for single storey or 65% of the lot frontage for two storey		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single or tandem garage acceptable with a maximum width of 40% of the lot frontage Double garages are only permitted on laneway allotments		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single or tandem garage acceptable with a maximum width of 40% of the lot frontage Double garages are only permitted on laneway allotments		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single or tandem garage acceptable Double garages are only permitted on laneway allotments OR two storey allotments where the garage is setback at least 1m behind the main face, excluding balconies, and the garage doors are articulated, comprise a mix of materials and colours, or are staggered		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single, tandem or double garage acceptable		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single, tandem or double garage acceptable		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single, tandem or double garage acceptable		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single, tandem or double garage acceptable	
Garage location	Garages are to be located along the built to boundary wall		Garages are to be located along the built to boundary wall		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)	
Site Cover (maximum) *unless otherwise approved by the relevant authority	85%		85%		75%		70%		70%		70%		70%		70%	

Notes:

General

1. All development is to be undertaken in accordance with the Development Approval.
2. The maximum height of buildings shall be in the order of 9m.

Setbacks

3. Setbacks are as per the Plan of Development Table unless otherwise specified below or by a Building Location Envelope.
4. Provided compliance with Note 3 is achieved, a building or structure over 2m high may be built within a 9m by 9m truncation at the corner of two road frontages.
5. The rear or side setback may be 0.0m to verandah/balcony where adjoining park.
6. The primary and secondary frontage setback may be 0.0m where nominated as Town Centre Edge Lot
7. The location of the built to boundary walls are indicated on the Plan of Development. Where built to boundary walls are not adopted side setbacks shall be in accordance with the Plan of Development Table.
8. Built to boundary walls on the low side of the lot are founded deep enough to allow an adjoining lot to be cut to an appropriate depth.
9. Boundary setbacks are measured to the wall of the building or edge of balcony.
10. Eaves (except on a wall that is built to the boundary) should not encroach within 450mm of the side or rear boundaries. Gutters may not extend beyond the boundaries of the lot.
11. First floor setbacks on single and multiple residential allotments must not encroach within the minimum ground floor setbacks.
12. Garages must not project forward of the front building setback.

Parking and Driveways

13. Parking for Multiple Residential developments
    - 1 space per dwelling unit on-site
    - 0.5 visitor space per dwelling on-site
    - do not dominate the streetscape
14. Other than where accessed from a laneway, the maximum width of a driveway at the lot boundary shall be 4.8m where serving a double garage and 3m where serving a single garage.
15. There is to be a maximum of one driveway per dwelling, unless it is a corner lot.

Site Cover and Amenity

16. Dwellings must have a minimum area of private open space at ground or upper levels accessible from a living room and consisting of at least
    - for a one bedroom dwelling, 5m² with a minimum width of 1.2m
    - for a two bedroom dwelling, 9m² with a minimum width of 2.4m
    - for a three or more bedroom dwelling, 12m² with a minimum width of 2.4m.
17. Multiple residential sites are not permitted to be developed with only one single dwelling. Maximum number of dwellings per Multiple Residential Site:
    - 450m² to 599m² maximum 3 dwellings
    - 600m² to 749m² maximum 4 dwellings
    - 750m²+ maximum 5 dwellings
18. Where Multiple Residential developments encompass more than one frontage they are to be designed to address each frontage.

Street Address

19. Letterbox must be clearly visible and identifiable from street or within lane.
20. Each street or park frontage must be addressed with inclusion of two or more of the following design elements in the related facade:
    - verandahs / porches
    - awning and shade structures
    - variation to roof and building lines
    - inclusion of window openings
    - use of varying building materials

Building Articulation

21. All buildings with a width of more than 10m that are visible from a street or a park are articulated to reduce the mass of the building by one or more of the following:
    - windows recessed into the facade
    - balconies, porches or verandahs
    - window hoods
    - shadow lines are created on the building through minor changes in the facade (100mm minimum)
22. Carports and garages are compatible with the main building in terms of height, roof form, detailing, materials and colours.

Lofts and Other Small Dwellings

23. Each loft apartment must have a clearly identifiable and addressed front door with undercover point of entry.
24. Incorporate in all walls adjoining the main dwelling and private open space areas of the main dwelling:
    - windows with a minimum sill height of 1.5m or privacy screening
    - low maintenance building materials and non-reflective finishes
    - no external drainage or other pipes
25. Incorporate an area of private open space such as a balcony or verandah with a minimum depth of 1.2m and a minimum area of 5m², preferably overlooking the lane, and including a screened drying area.
26. Incorporate at least 2 openings to all habitable rooms, including internal windows and louvred windows to facilitate cross ventilation.
27. Screened drying and rubbish bin areas behind the main face of the dwellings.

Fencing

28. Fencing on primary street frontages, to be at least 50% transparent or not to exceed 1.2 metres in height.
29. Fencing on secondary street frontages (excluding laneways), to be at least 50% transparent above 1.5 metres in height or not exceed 1.5 metres in height.

Bushfire Hazard

30. Dwellings on lots in a BAL category must be designed in accordance with AS3959-2009.

Definitions:

Loft Homes - A dwelling built above a garage with its own entry door at ground level.
Laneway Allotment - Allotments serviced by a laneway.
Primary Street Frontage is one to which street number/address is allocated.
Site Cover - The proportion of the site covered by buildings, including roof overhangs.

Legend

General Details

- Site Boundary
- Stage Boundary
- Multiple Residential
- Multiple Residential (Loft Home)
- Subject to Separate Application / s
- Bus Stop
- BAL 12.5 Category
- BAL 19 Category & Covenant Area
- Bushfire Hazard Area 100m Buffer

Road

- Indicative Bin Pad Location

Open Space

- Bundamba Creek Buffer
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- District Recreation Park
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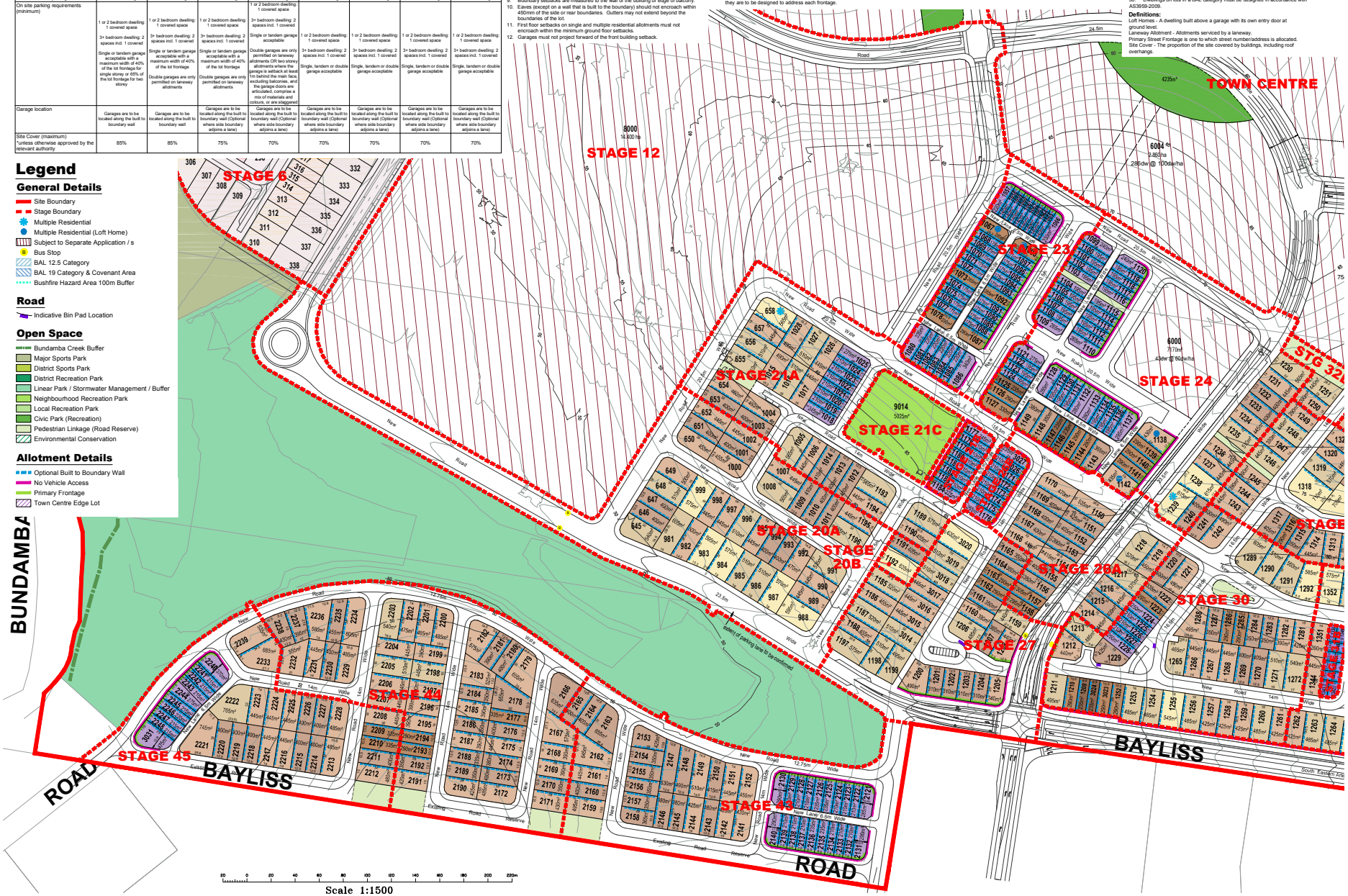
Allotment Details

- Optional Built to Boundary Wall
- No Vehicle Access
- Primary Frontage
- Town Centre Edge Lot



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Note:
All Lot Numbers, Dimensions and Areas are approximate only, and are subject to survey and Council approval.

Dimensions have been rounded to the nearest 0.1 metres.

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Plan of Development Table

	Urban Allotments 4.0 - 8m		Terrace Allotments 5 - 7.5m		Cottage Allotments 8.5m		Villa Allotments 10.5m		Premium Villa Allotments 12.5m		Courtyard Allotments 14m		Traditional Allotments 16m		Premium Traditional Allotments 18m+	
	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor	Ground Floor	First Floor
Front Setback																
Front/Primary Frontage	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Garage	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a
Side Setback																
Built to Boundary	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0
Non Built to Boundary (incl. laneways)	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.5	1.0	1.5
Corner Lots - Secondary Frontage	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Rear Setback																
Rear (non laneway)	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	0.9	1.0
Rear (from laneway boundary)	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
Garage (from laneway boundary)	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a
Other Requirements																
Built to Boundary Length	80% of lot length		80% of lot length		75% of lot length		70% of lot length		65% of lot length		65% of lot length		60% of lot length		60% of lot length	
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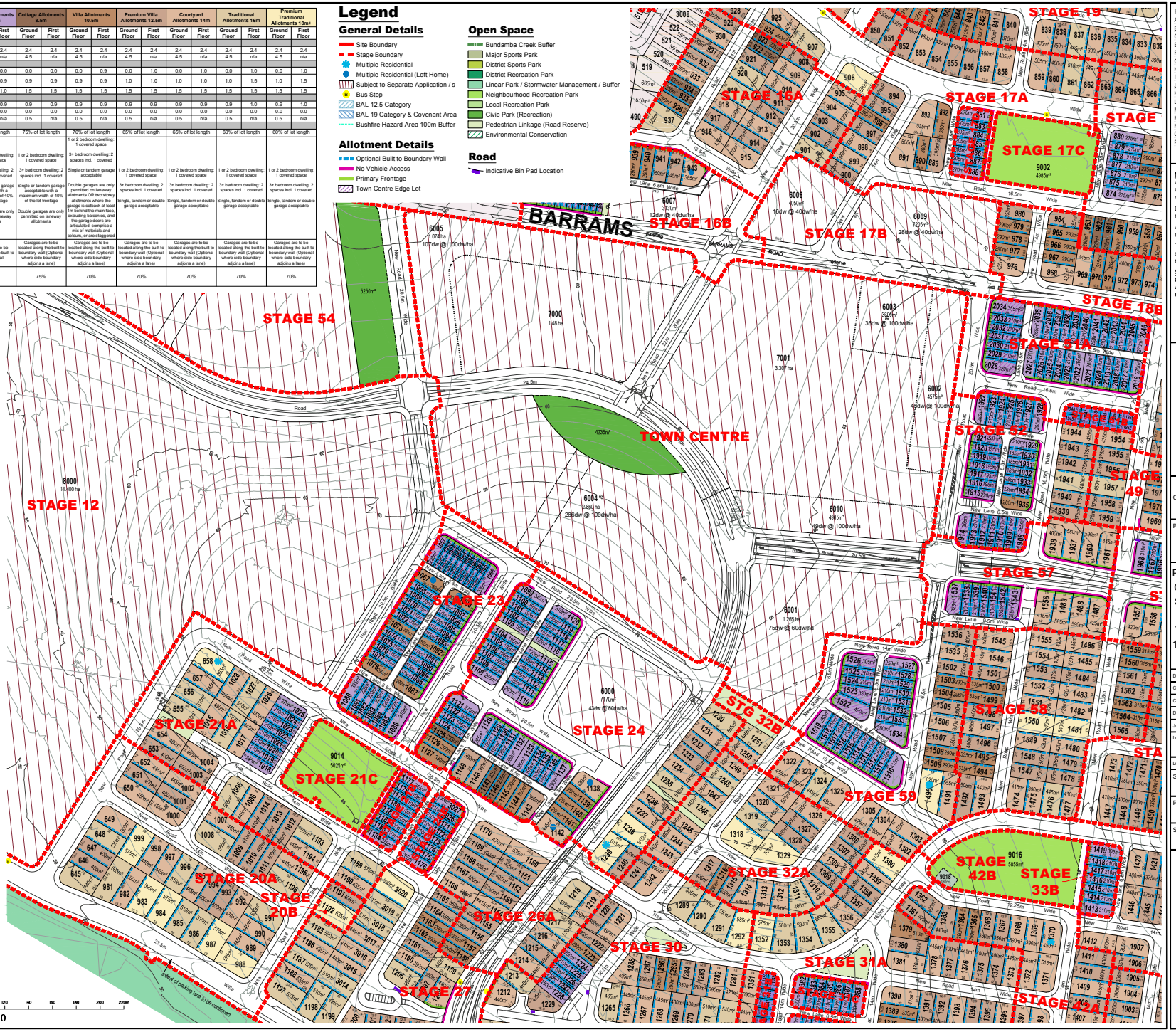

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Checked By	SB / FK
DWG Name	6837-194Q SUCE Master Pro
Job Reference	6837
Local Authority	IPSWICH CITY COUNCIL
Locality	RIPLEY
Scale	1:1500
Sheet	A1
Plan Ref	**6837-192**
Rev	**P**
Sheet No	**5 of 5**

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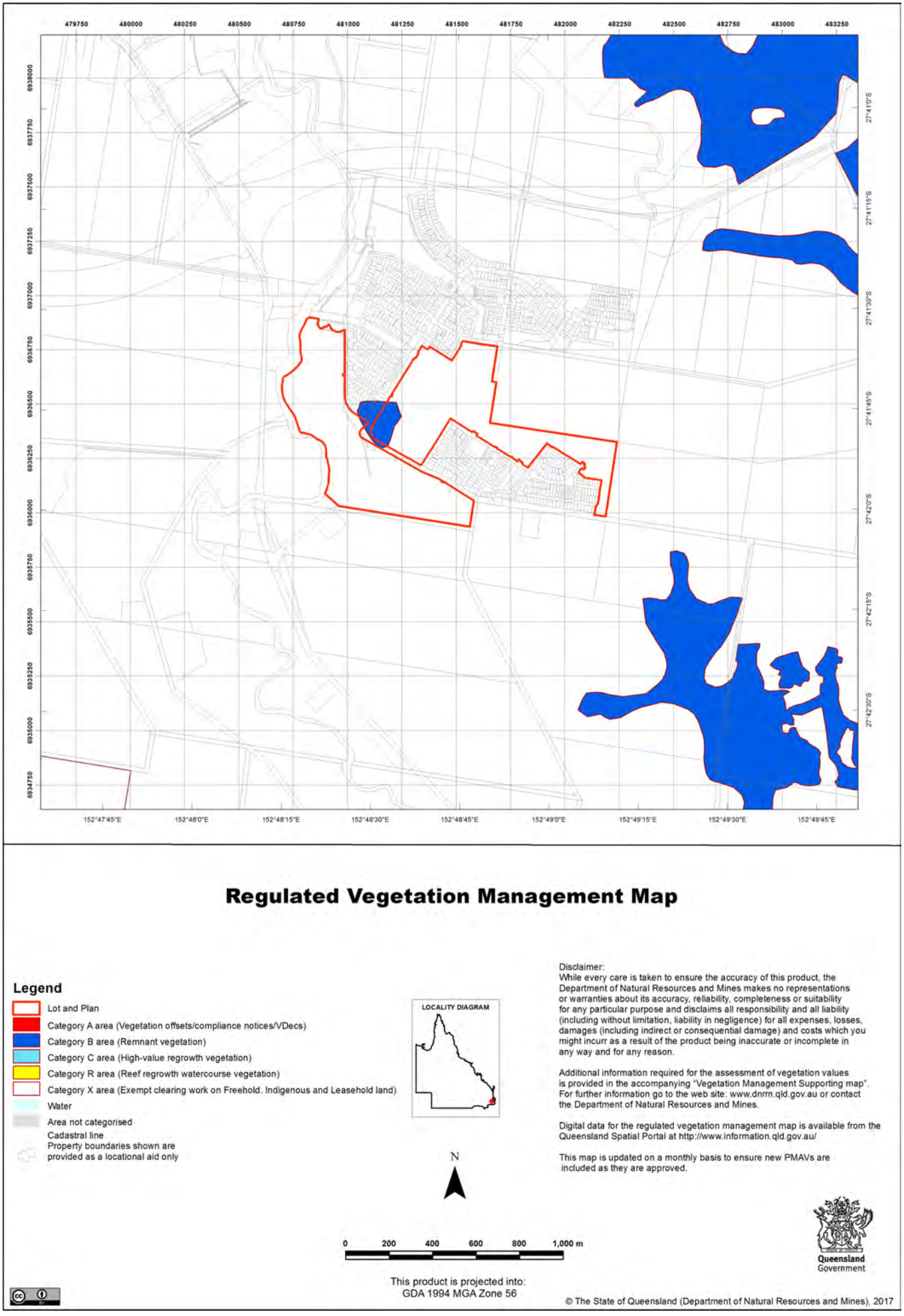
Appendix 7

State Interest Trigger Mapping

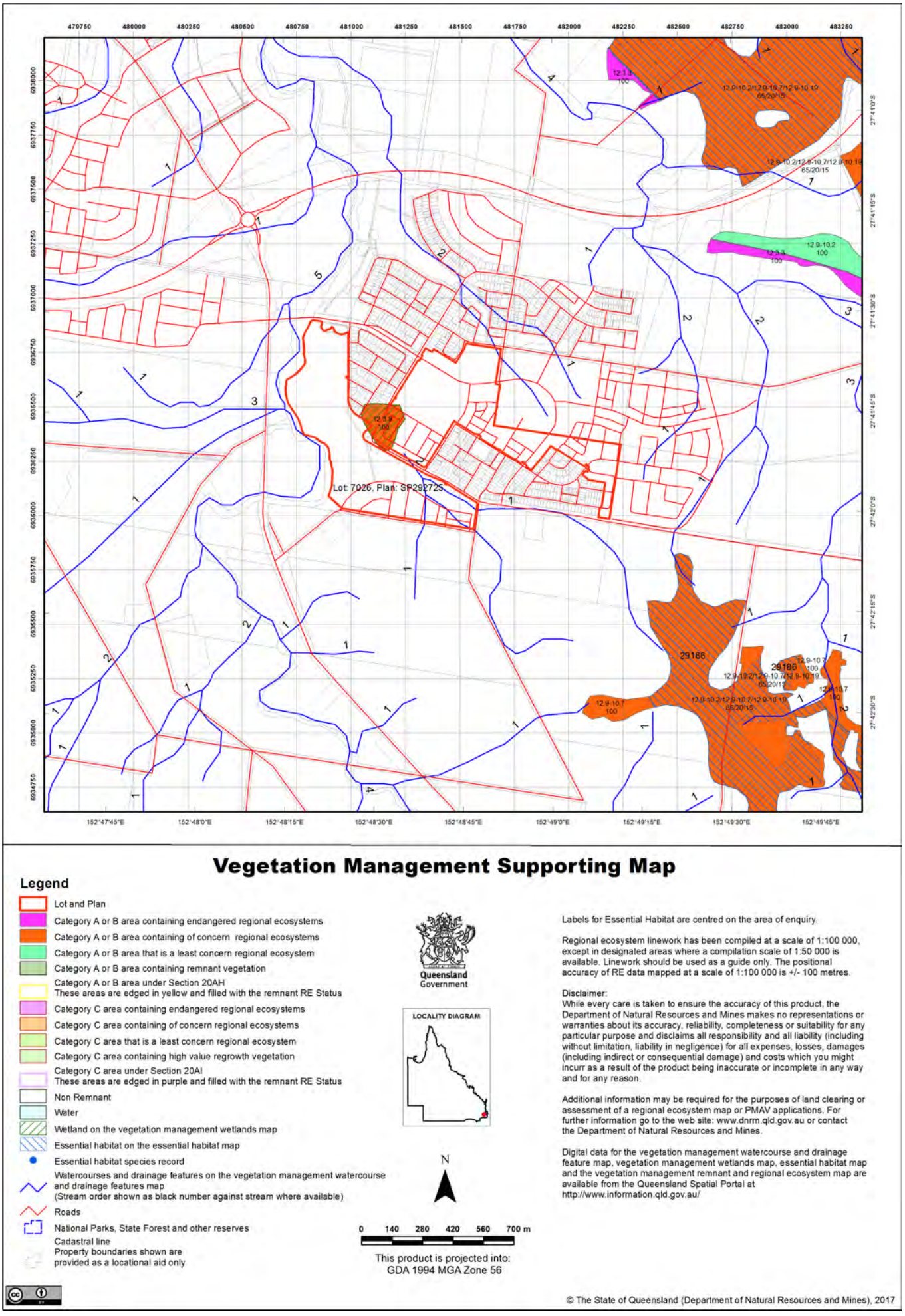
Department of Housing and Public Works

Queensland Government

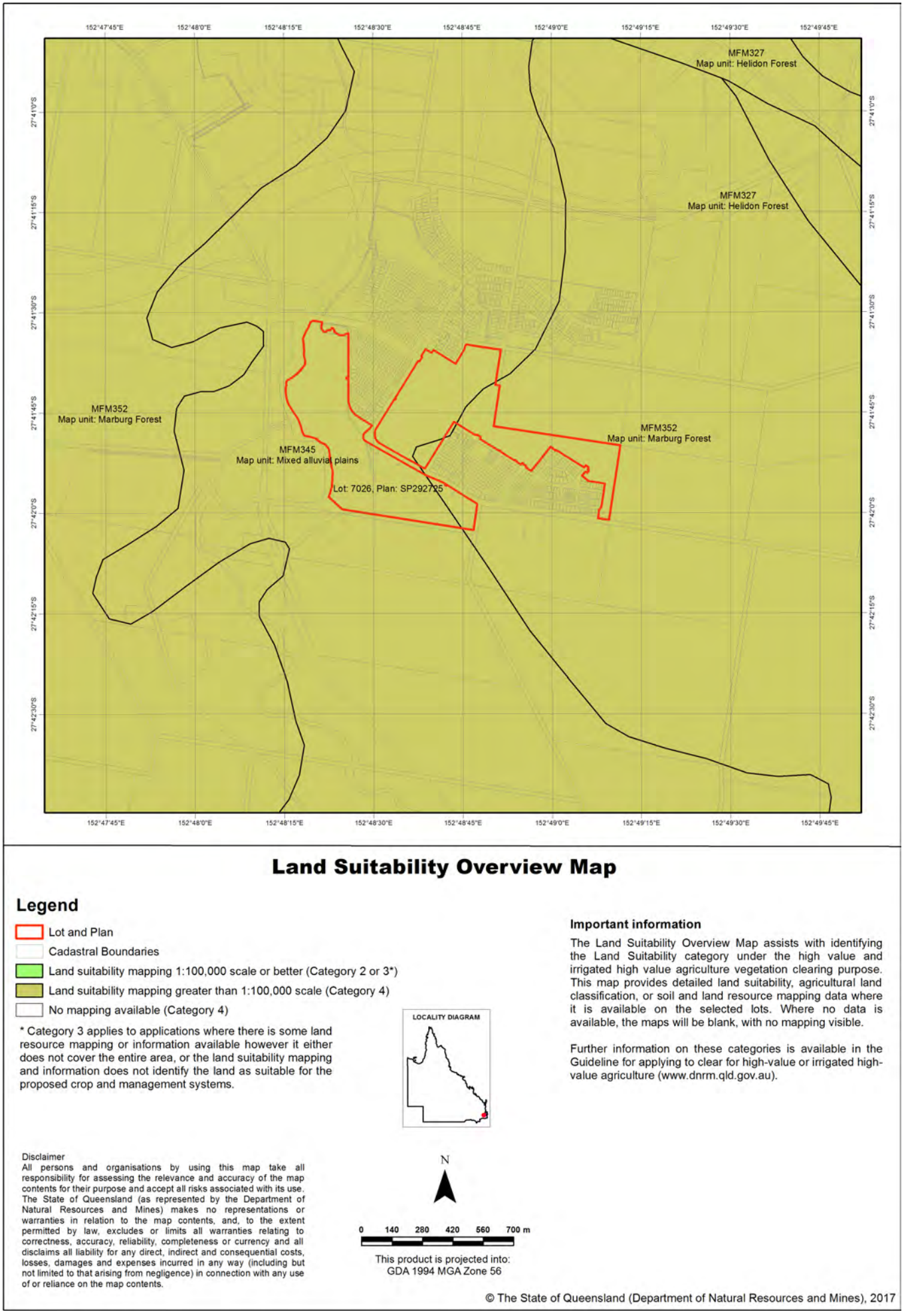
5.1 Regulated vegetation management map



5.2 Vegetation management supporting map



5.3 Land suitability map



Land Suitability Overview Map

Legend

- Lot and Plan
- Cadastral Boundaries
- Land suitability mapping 1:100,000 scale or better (Category 2 or 3*)
- Land suitability mapping greater than 1:100,000 scale (Category 4)
- No mapping available (Category 4)

* Category 3 applies to applications where there is some land resource mapping or information available however it either does not cover the entire area, or the land suitability mapping and information does not identify the land as suitable for the proposed crop and management systems.

LOCALITY DIAGRAM

Important information

The Land Suitability Overview Map assists with identifying the Land Suitability category under the high value and irrigated high value agriculture vegetation clearing purpose. This map provides detailed land suitability, agricultural land classification, or soil and land resource mapping data where it is available on the selected lots. Where no data is available, the maps will be blank, with no mapping visible.

Further information on these categories is available in the Guideline for applying to clear for high-value or irrigated high-value agriculture (www.dnrm.qld.gov.au).

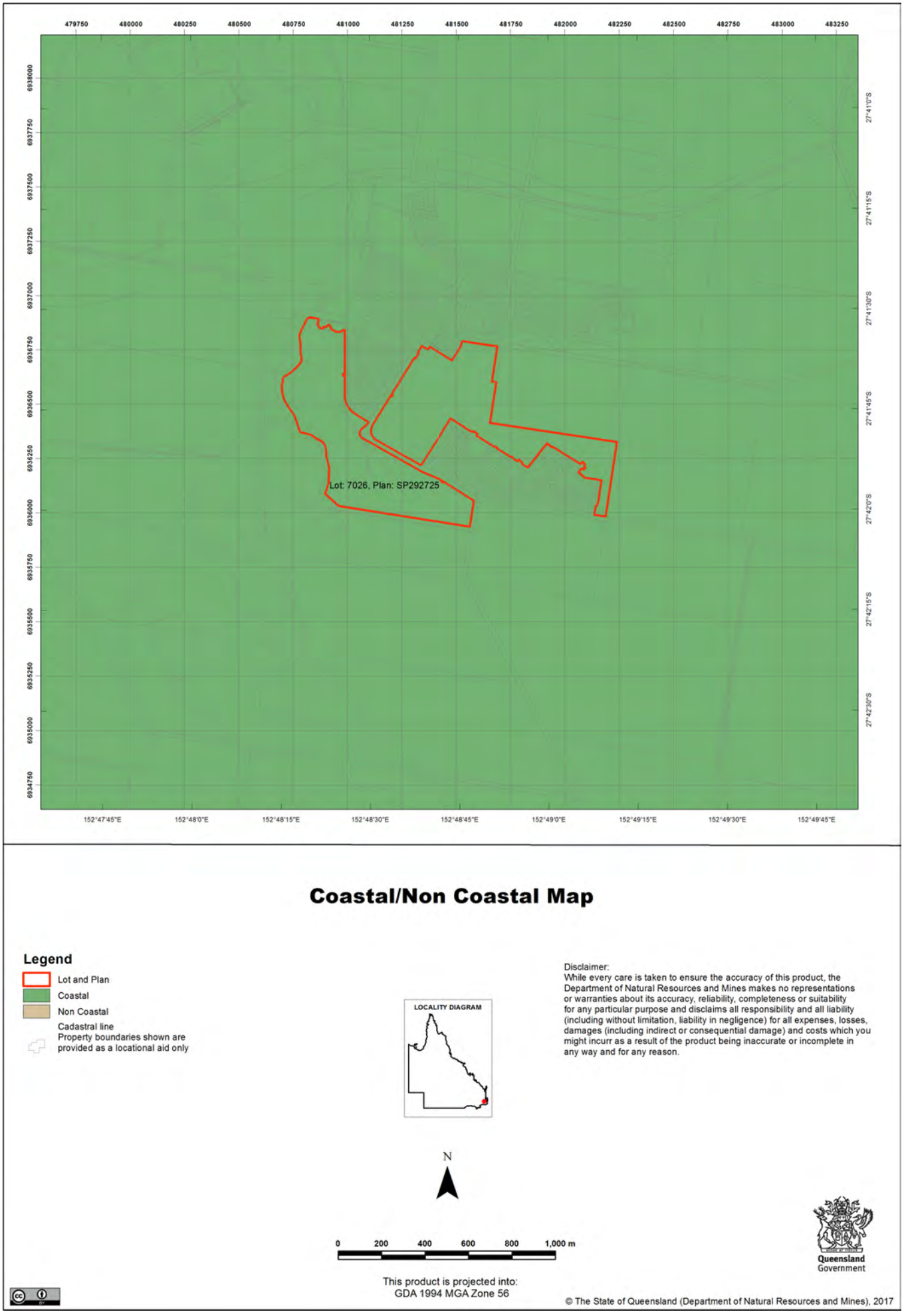
Disclaimer
All persons and organisations by using this map take all responsibility for assessing the relevance and accuracy of the map contents for their purpose and accept all risks associated with its use. The State of Queensland (as represented by the Department of Natural Resources and Mines) makes no representations or warranties in relation to the map contents, and, to the extent permitted by law, excludes or limits all warranties relating to correctness, accuracy, reliability, completeness or currency and all disclaims all liability for any direct, indirect and consequential costs, losses, damages and expenses incurred in any way (including but not limited to that arising from negligence) in connection with any use of or reliance on the map contents.

N

0 140 280 420 560 700 m

This product is projected into:
GDA 1994 MGA Zone 56

5.4 Coastal/non coastal map



5.5 Protected plants map administered by DEHP

Protected Plants Flora Survey Trigger Map

Legend

- Lot and Plan
- High risk area
- Cadastral line
  Property boundaries shown are provided as a locational aid only
- Freeways / motorways / highways
- Secondary roads / streets

LOCALITY DIAGRAM

This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

For further information or assistance with interpretation of this product, please contact the Department of Environment and Heritage Protection at palm@ehp.qld.gov.au

N

0 140 280 420 560 700 m

This product is projected into:
GDA 1994 MGA Zone 56

Disclaimer:
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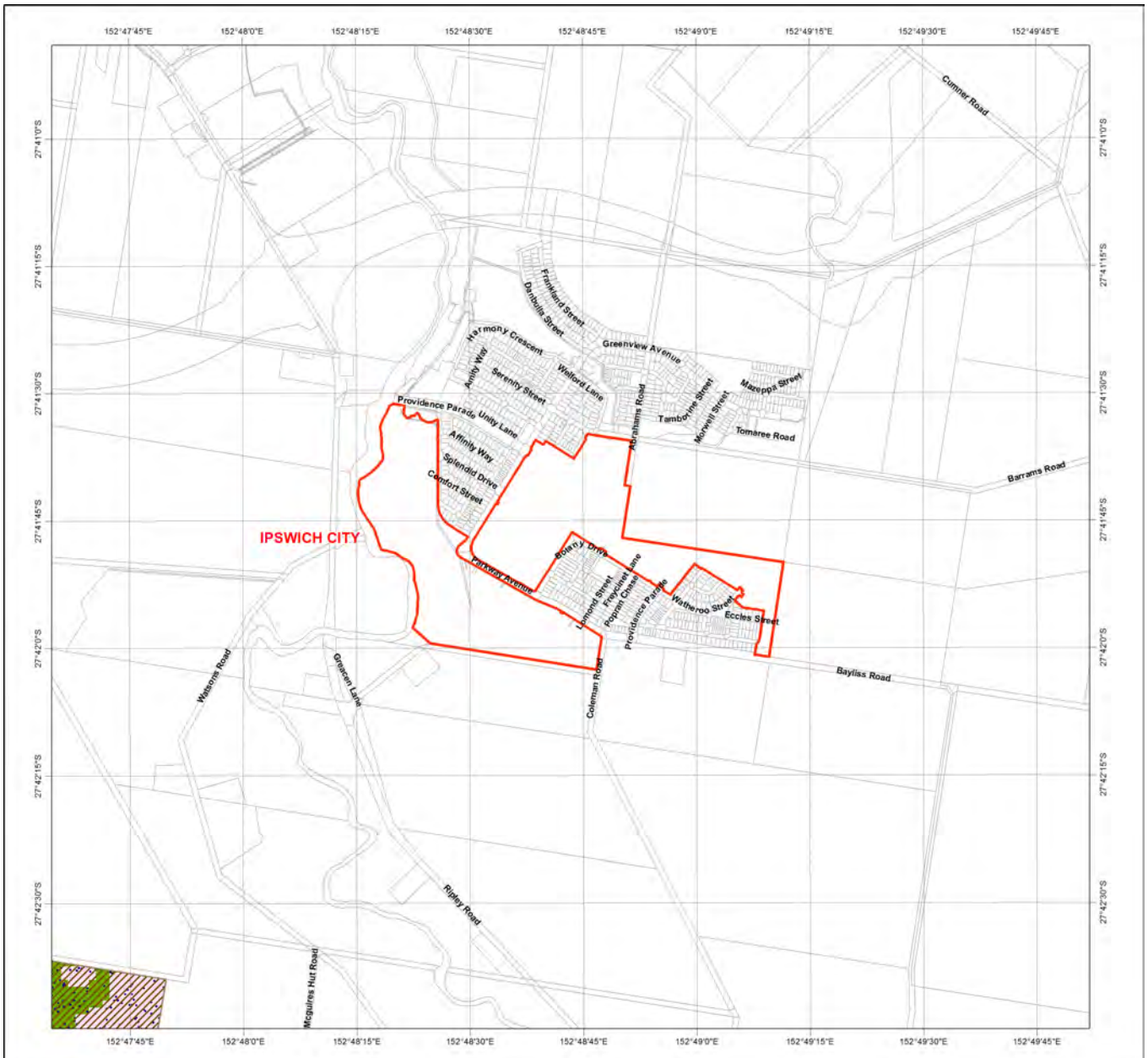
Map requested: (12/12/2017 15:03:39)
Lot: 7026 Plan: SP292725



Koala Conservation in South East Queensland State Planning Regulatory Provisions

- Lot and Plan
- Priority Koala Assessable Development Areas
- Koala Assessable Development Areas
- Outside SPRP Koala Assessable Development Areas

Koala SPRP - Identified Broad-Hectare Areas

- Koala SPRP - Identified Broad-Hectare Areas

Koala SPRP - Habitat Values

Bushland Habitat

- High Value Bushland
- Medium Value Bushland
- Low Value Bushland

Suitable for Rehabilitation

- High Value Rehabilitation
- Medium Value Rehabilitation
- Low Value Rehabilitation

Other Areas of Value

- High Value Other
- Medium Value Other
- Low Value Other
- Generally not suitable
- Water
- Cadastral Boundaries
- Local Government Boundaries

N

0 200 400 600 800 1,000 m

This product is projected into GDA 1994 MGA Zone 56

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In consideration of the State permitting use of this data you acknowledge and agree that the State gives no warranty in relation to the data (including accuracy, reliability, completeness, currency or suitability) and accepts no liability (including without limitation, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of the data. Data must not be used for direct marketing or be used in breach of the privacy laws.

Based on or contains data provided by the State of Queensland 2010.

Note - These maps are not regulatory. Regulatory maps and requirements can be downloaded from the EHP website. Further information in relation to regulatory requirements for development and planning activities should be sought from the relevant Local Government Authority or the Department of Environment and Heritage Protection.

Map requested: (12/12/2017 15:03:33)
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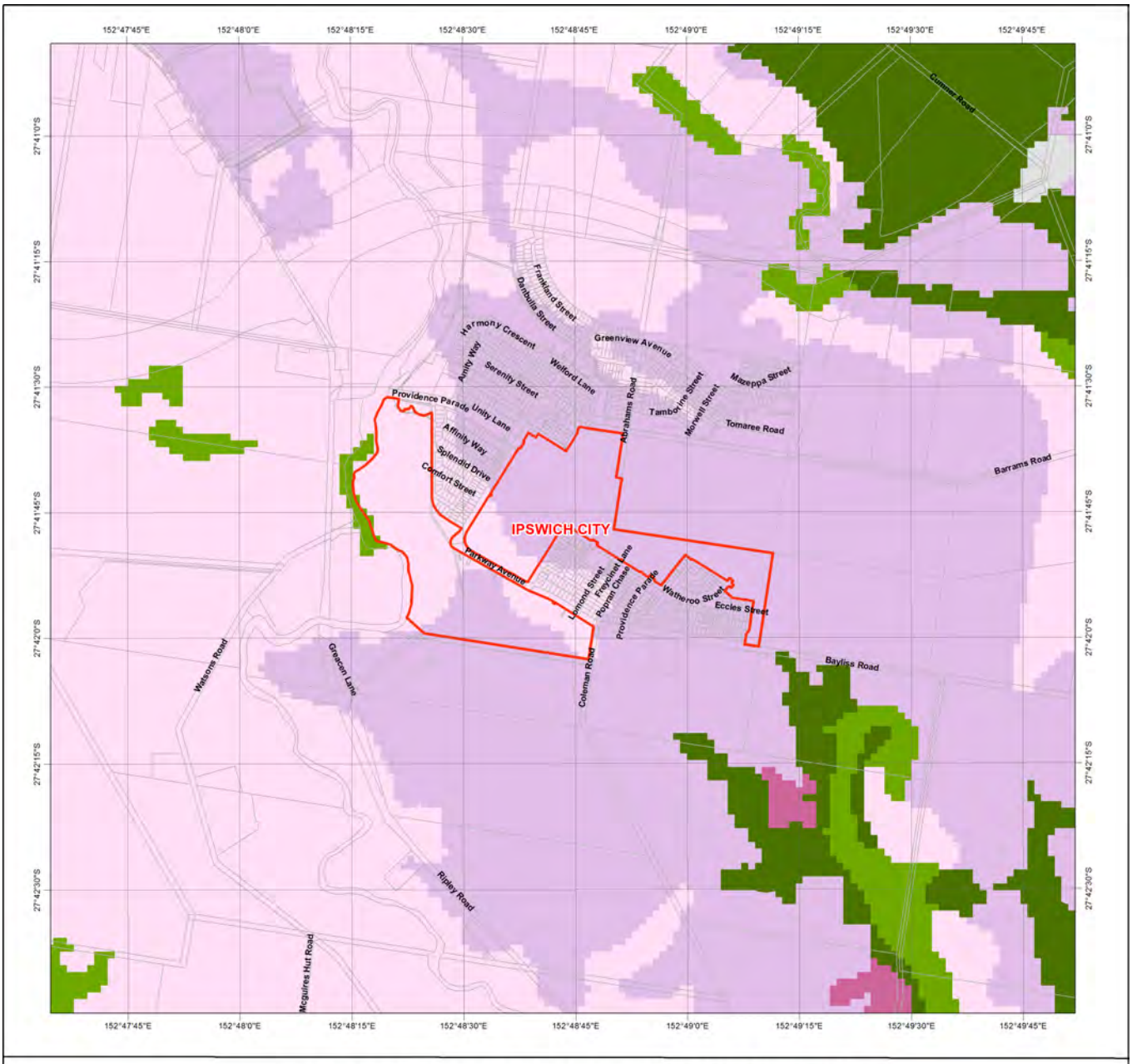

Koala Habitat in South East Queensland

Lot and Plan

Koala SPP - Habitat Values

Bushland Habitat
- High Value Bushland
- Medium Value Bushland
- Low Value Bushland

Suitable for Rehabilitation
- High Value Rehabilitation
- Medium Value Rehabilitation
- Low Value Rehabilitation

Other Areas of Value
- High Value Other
- Medium Value Other
- Low Value Other
- Generally not suitable
- Water

South East Queensland Koala Habitat Values western SEQ
- Bushland Habitat
- Suitable for rehabilitation
- Other areas of value
- Generally not suitable
- Water
- Cadastral Boundaries
- Local Government Boundaries

N

0 200 400 600 800 1,000 m

This product is projected into GDA 1994 MGA Zone 56

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In consideration of the State permitting use of this data you acknowledge and agree that the State gives no warranty in relation to the data (including accuracy, reliability, completeness, currency or suitability) and accepts no liability (including without limitation, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of the data. Data must not be used for direct marketing or be used in breach of the privacy laws.

Based on or contains data provided by the State of Queensland 2010.

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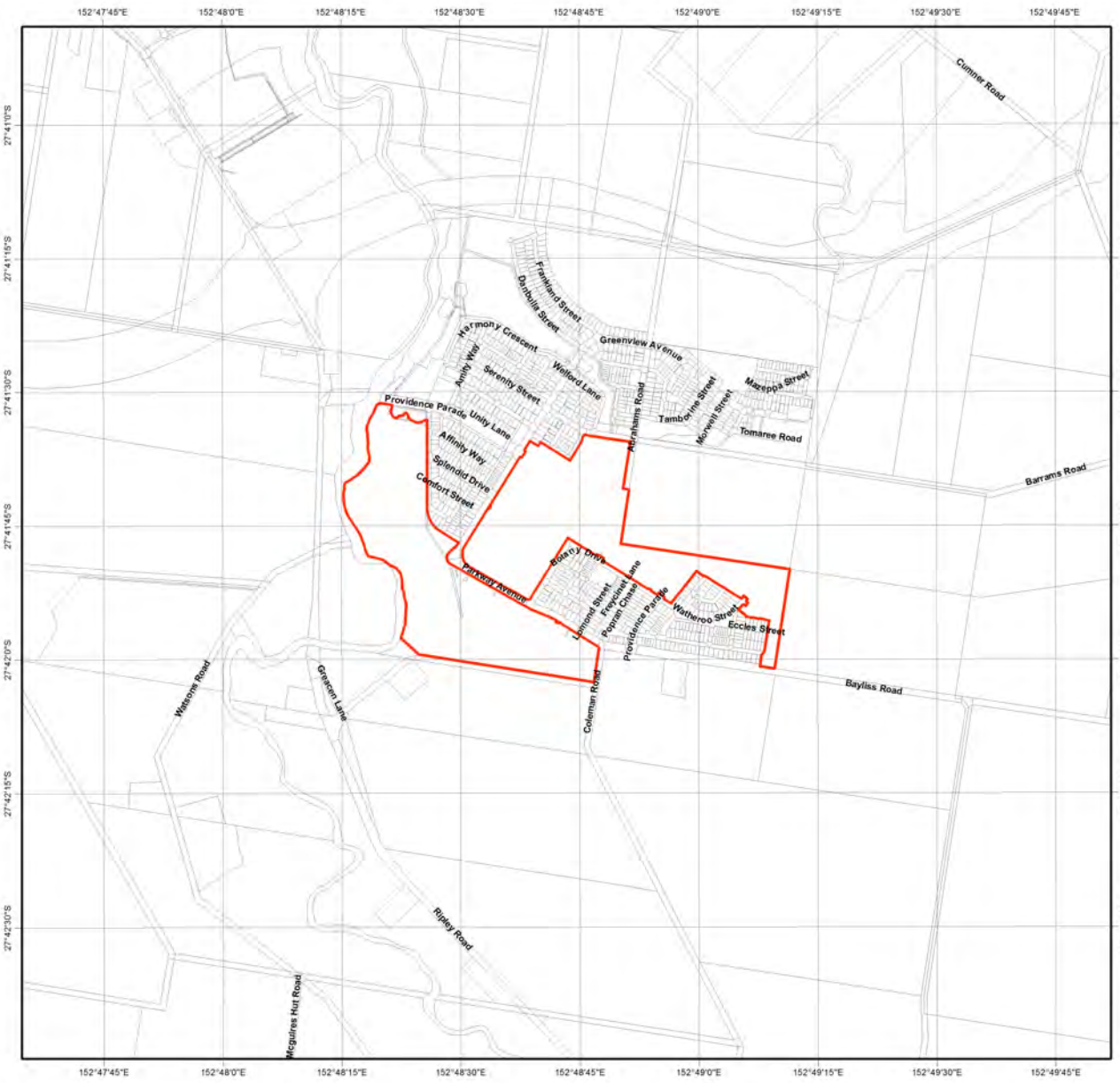


Map of Referable Wetlands
Wetland Protection Areas

Lot and Plan

Cadastral Boundary

Wetland Protection Areas

Wetland

Trigger Area

LOCALITY DIAGRAM

N

Note:
This map shows the location of wetland protection areas which are defined under the Environmental Protection Regulation 2008. Within wetland protection areas, certain types of development involving high impact earthworks are made assessable under Schedule 3 of the Sustainable Planning Regulation 2009.

The Department of State Development Infrastructure and Planning is the State Assessment Referral Agency (SARA) under Schedule 7 of the Sustainable Planning Regulation 2009 for assessable development involving high impact earthworks within wetland protection areas. The Department of Environment and Heritage Protection is a technical agency.

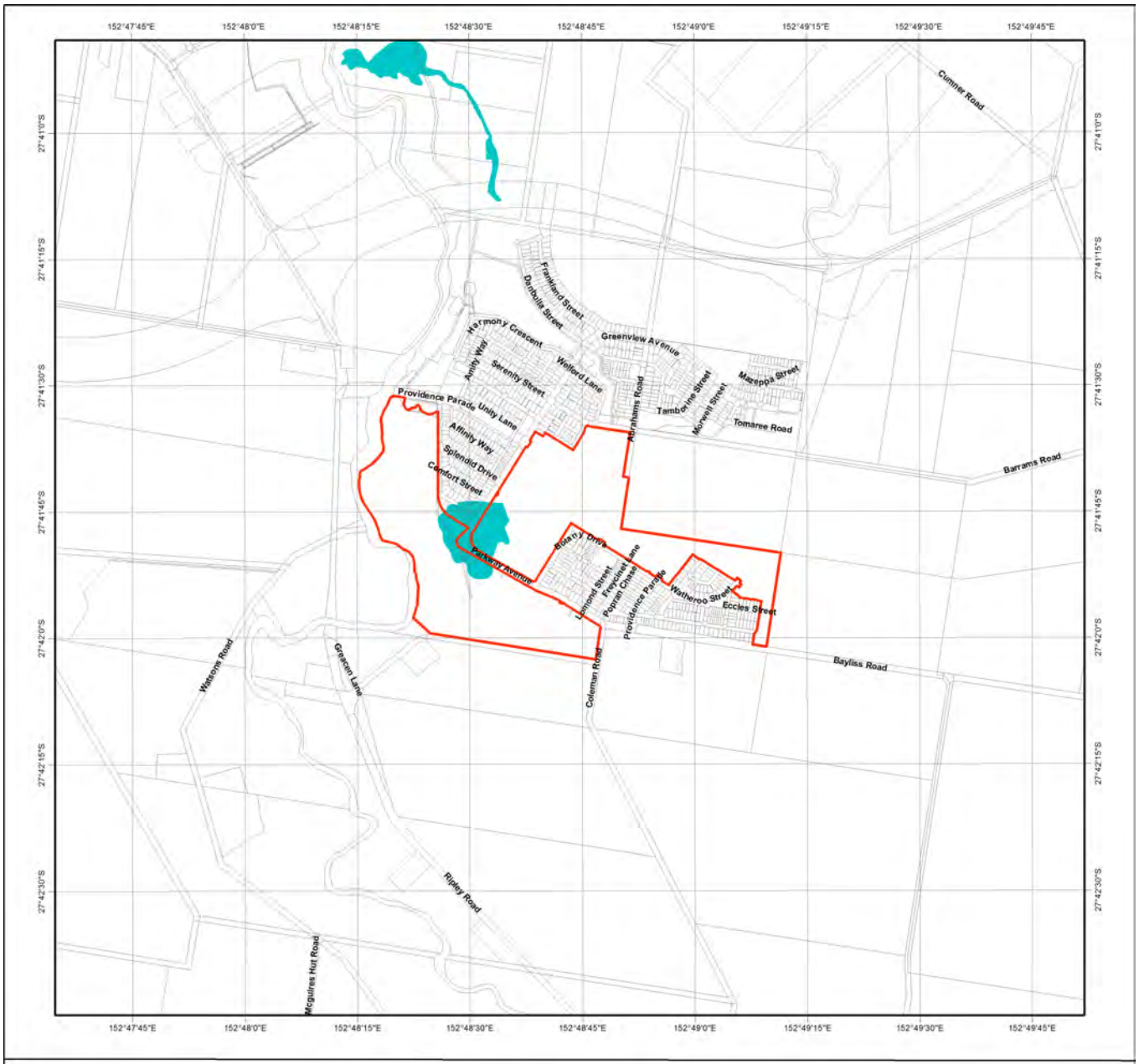
The policy outcome and assessment criteria for assessing these applications are described in the State Development Assessment Provisions (SDAP) *Module 11: Wetlands and wild rivers.*

This map is produced at a scale relevant to the size of the lot on plan identified and should be printed at A4 size in portrait orientation. Consideration of the effects of mapped scale is necessary when interpreting data at a large scale.

For further information or assistance with interpretation of this product, please contact the Department of Environment and Heritage Protection at www.ehp.qld.gov.au or email planning.support@ehp.qld.gov.au.

0 200 400 600 800 1000 m

This product is projected into GDA 1994 MGA Zone 56



Map of Referable Wetlands for the Environmental Protection Act 1994

Lot and Plan
Cadastral Boundary
HES Wetland
GES Wetland

LOCALITY DIAGRAM

N

Note:
This map shows the location of wetlands on the Map of Referable Wetlands which are defined under the Environmental Protection Regulation 2008.

Wetlands are assessed for ecological significance using the environmental values for wetlands in section 81A of the Environmental Protection Regulation 2008. Wetlands are considered either High Ecological Significance (HES) or of General Ecological Significance (GES) for the purposes of the environmental values.

This map is produced at a scale relevant to the size of the lot on plan identified and should be printed at A4 size in portrait orientation. Consideration of the effects of mapped scale is necessary when interpreting data at a large scale.

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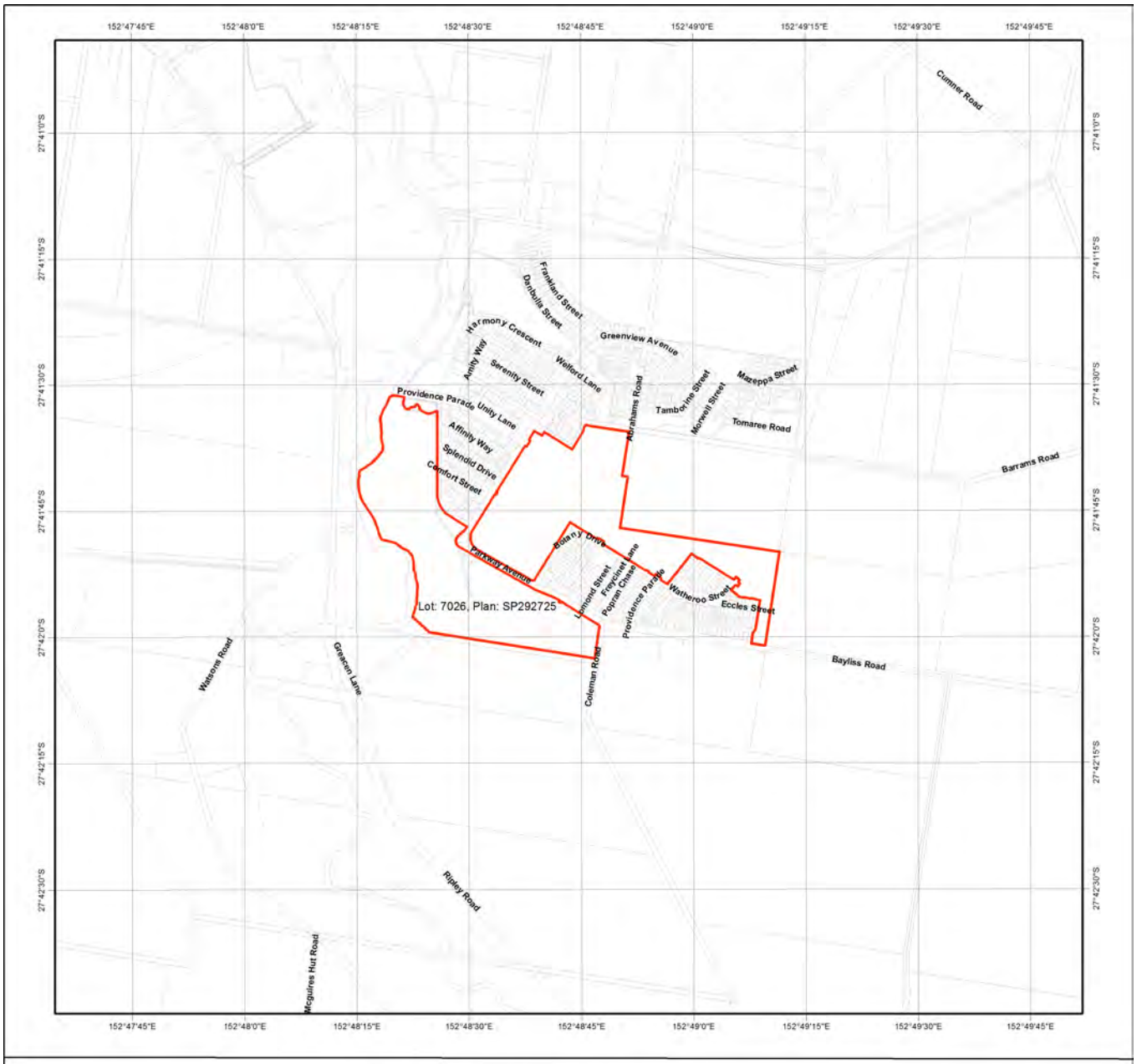
0 200 400 600 800 1000 m

This product is projected into GDA 1994 MGA Zone 56



Coastal Hazard Areas Map
Erosion Prone Area

Legend

- Lot and Plan
- Erosion due to storm impact and long term trends including sediment supply deficit and channel migration
- Erosion from permanent tidal inundation due to sea level rise
- Coastal Management District
- Coastal Building Lines

N

Notes

1. The areas shown on this map are indicative of the extent of erosion and permanent inundation defined by erosion prone area plans declared under the Coastal Protection and Management Act 1995. Only the declared erosion prone area plans should be used for development assessment. To determine the actual position of the erosion prone area a registered surveyor or geotechnical consultant may be required if there is any doubt.

2. Erosion prone area plans for each local government area and a comprehensive description of their determination are available from the Department of Environment and Heritage Protection website at www.ehp.qld.gov.au

Version 7 - October 2016

Disclaimer

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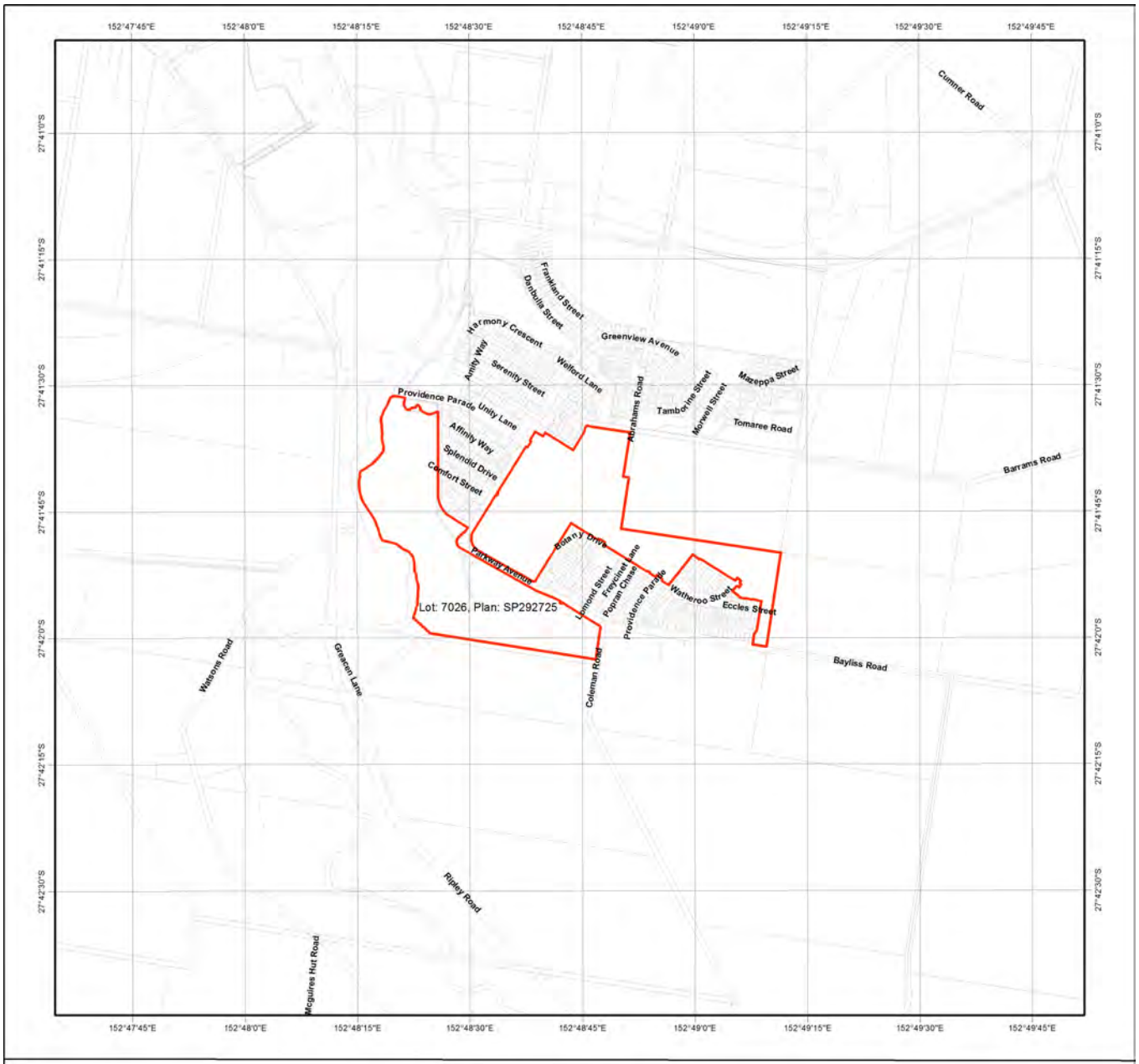
0 200 400 600 800 1000 m

This product is projected into GDA 1994 MGA Zone 56



Coastal Hazard Areas Map
Storm Tide Inundation Area

Legend

- Lot and Plan
- High hazard area (greater than 1.0m water depth)
- Medium hazard area (less than 1.0m water depth)
- Coastal Management District
- Coastal hazard data not available in this area
- Coastal Building Lines

★ **Regional default values for a 100yr ARI inundation level including 0.8m sea level rise.**

N

Notes

1. A default storm tide inundation level of 1.5 m HAT in South East Queensland regional planning area and 2 m HAT for the remainder of Queensland is used where projected storm tide inundation levels have not been determined locally.

2. The high hazard area may coincide with the area of permanent inundation - refer to the Erosion Prone Area map.

3. The map should be used as a guide only. Field surveys are recommended to verify feature boundaries.

Version 4 - July 2015

Disclaimer

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0 200 400 600 800 1000 m

This product is projected into GDA 1994 MGA Zone 56

Appendix 8

EPBC Protected Matters Report and NCA Wildfline Report

Australian Government
Department of the Environment and Energy

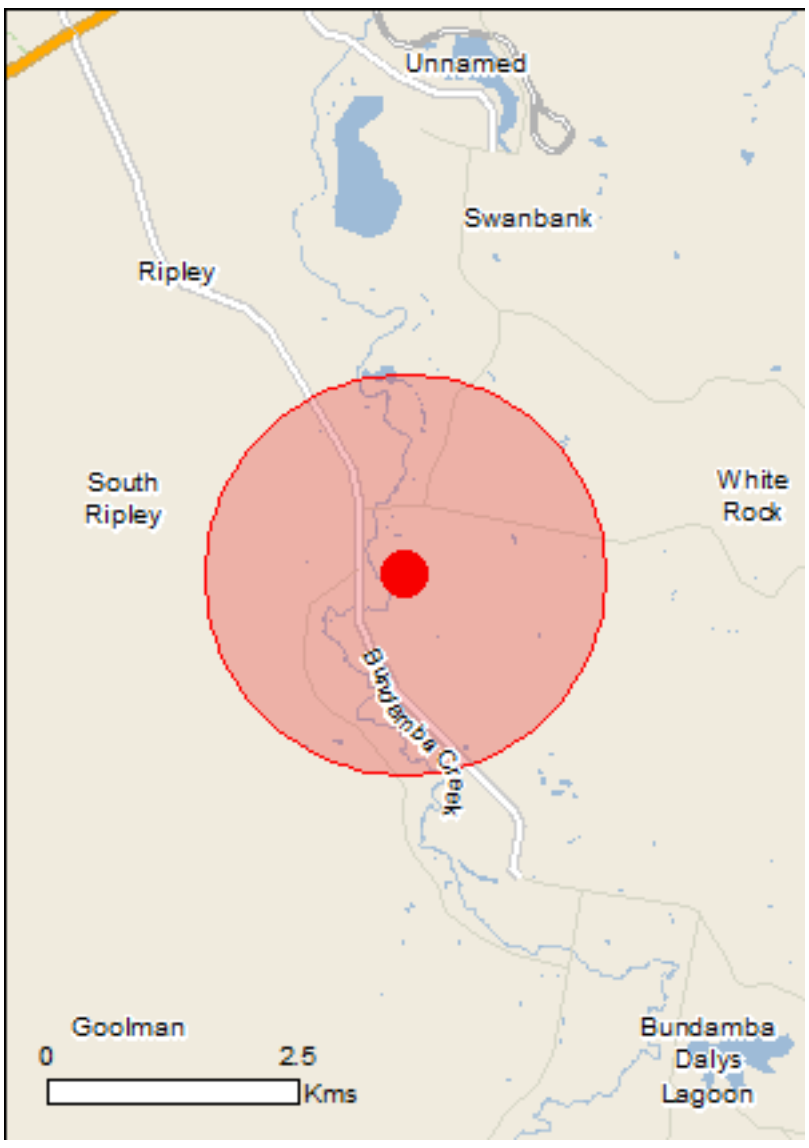
EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

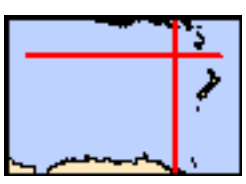
Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

Report created: 11/12/17 17:47:03



Coordinates
Buffer: 2.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	2
Listed Threatened Species:	29
Listed Migratory Species:	16

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	23
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	32
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities		[Resource Information]
For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.		
Name	Status	Type of Presence
Lowland Rainforest of Subtropical Australia	Critically Endangered	Community may occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community may occur within area

Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour may occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Dasyornis brachypterus Eastern Bristlebird [533]	Endangered	Species or species habitat may occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Geophaps scripta scripta Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat may occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Poephila cincta cincta Southern Black-throated Finch [64447]	Endangered	Species or species habitat may occur within area

Name	Status	Type of Presence
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Turnix melanogaster Black-breasted Button-quail [923]	Vulnerable	Species or species habitat likely to occur within area
Insects		
Argynnis hyperbius inconstans Australian Fritillary [88056]	Critically Endangered	Species or species habitat may occur within area
Mammals		
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area
Dasyurus hallucatus Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat may occur within area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat may occur within area
Petauroides volans Greater Glider [254]	Vulnerable	Species or species habitat likely to occur within area
Petrogale penicillata Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat likely to occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Plants		
Bosistoa transversa Three-leaved Bosistoa, Yellow Satinheart [16091]	Vulnerable	Species or species habitat likely to occur within area
Dichanthium setosum bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area
Notelaea ipsviciensis Cooneana Olive [81858]	Critically Endangered	Species or species habitat may occur within area
Notelaea lloydii Lloyd's Olive [15002]	Vulnerable	Species or species habitat likely to occur within area
Samadera bidwillii Quassia [29708]	Vulnerable	Species or species habitat likely to occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area
Reptiles		
Delma torquata Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area

Name	Status	Type of Presence
Furina dunmalli		
Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area
Saiphos reticulatus		
Three-toed Snake-tooth Skink [88328]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Cuculus optatus		
Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
Hirundapus caudacutus		
White-throated Needletail [682]		Species or species habitat known to occur within area
Monarcha melanopsis		
Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus		
Spectacled Monarch [610]		Species or species habitat may occur within area
Motacilla flava		
Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca		
Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons		
Rufous Fantail [592]		Species or species habitat likely to occur within area
Migratory Wetlands Species		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos		
Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii		
Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Numenius madagascariensis		
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area

Name	Threatened	Type of Presence
Pandion haliaetus		
Osprey [952]		Species or species habitat may occur within area
Tringa nebularia		
Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat may occur within area
Anseranas semipalmata		
Magpie Goose [978]		Species or species habitat may occur within area
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba		
Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
Ardea ibis		
Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos		
Pectoral Sandpiper [858]		Species or species habitat may occur within area
Cuculus saturatus		
Oriental Cuckoo, Himalayan Cuckoo [710]		Species or species habitat may occur within area
Gallinago hardwickii		
Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Extra Information

Invasive Species

[Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Lonchura punctulata Nutmeg Mannikin [399]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat likely to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur

Name	Status	Type of Presence within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Cabomba caroliniana Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Eichhornia crassipes Water Hyacinth, Water Orchid, Nile Lily [13466]		Species or species habitat likely to occur within area
Genista monspessulana Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126]		Species or species habitat likely to occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Parkinsonia aculeata Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean [12301]		Species or species habitat likely to occur within area
Parthenium hysterophorus Parthenium Weed, Bitter Weed, Carrot Grass, False Ragweed [19566]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]		Species or species habitat likely to occur within area
Solanum elaeagnifolium Silver Nightshade, Silver-leaved Nightshade, White Horse Nettle, Silver-leaf Nightshade, Tomato Weed, White Nightshade, Bull-nettle, Prairie-berry, Satansbos, Silver-leaf Bitter-apple, Silverleaf-nettle, Trompillo [12323]		Species or species habitat likely to occur within area
Reptiles		
Hemidactylus frenatus Asian House Gecko [1708]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-27.69682 152.80749

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

Department of the Environment
GPO Box 787
Canberra ACT 2601 Australia
+61 2 6274 1111

Queensland Government

Wildlife Online Extract

Search Criteria: Species List for a Specified Point
Species: All
Type: All
Status: All
Records: All
Date: All
Latitude: -27.696
Longitude: 152.80
Distance: 2
Email: annie.jin@hpw.qld.gov.au
Date submitted: Monday 11 Dec 2017 16:46:52
Date extracted: Monday 11 Dec 2017 16:50:02

The number of records retrieved = 17

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	Hylidae	*Litoria rubella*	ruddy treefrog		C		1
animals	birds	Accipitridae	*Elanus axillaris*	black-shouldered kite		C		1
animals	birds	Accipitridae	*Aquila audax*	wedge-tailed eagle		C		1
animals	birds	Anatidae	*Chenonetta jubata*	Australian wood duck		C		1
animals	birds	Ciconiidae	*Ephippiorhynchus asiaticus*	black-necked stork		C		2
animals	birds	Columbidae	*Ocyphaps lophotes*	crested pigeon		C		1
animals	birds	Falconidae	*Falco berigora*	brown falcon		C		1
animals	birds	Maluridae	*Malurus cyaneus*	superb fairy-wren		C		1
animals	mammals	Macropodidae	*Macropus rufogriseus*	red-necked wallaby		C		1
animals	mammals	Macropodidae	*Macropus giganteus*	eastern grey kangaroo		C		1
animals	mammals	Phascolarctidae	*Phascolarctos cinereus*	koala		V	V	7
animals	reptiles	Elapidae	*Cacophis harriettae*	white-crowned snake		C		1
animals	reptiles	Scincidae	*Lampropholis delicata*	dark-flecked garden sunskink		C		1
animals	reptiles	Scincidae	*Lygisaurus foliorum*	tree-base litter-skink		C		1
plants	ferns	Adiantaceae	*Cheilanthes sieberi subsp. sieberi*			C		1/1
plants	higher dicots	Fabaceae	*Erythrina numerosa*			C		1/1
plants	higher dicots	Solanaceae	*Solanum linnaeanum*	apple of Sodom	Y			1/1

CODES

I - Y indicates that the taxon is introduced to Queensland and has naturalised.

Q - Indicates the Queensland conservation status of each taxon under the *Nature Conservation Act 1992.* The codes are Extinct in the Wild (PE), Endangered (E), Vulnerable (V), Near Threatened (NT), Least Concern (C) or Not Protected ( ).

A - Indicates the Australian conservation status of each taxon under the *Environment Protection and Biodiversity Conservation Act 1999.* The values of EPBC are Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Extinct in the Wild (XW) and Vulnerable (V).

Records – The first number indicates the total number of records of the taxon for the record option selected (i.e. All, Confirmed or Specimens).
This number is output as 99999 if it equals or exceeds this value. The second number located after the / indicates the number of specimen records for the taxon.
This number is output as 999 if it equals or exceeds this value.

Appendix 13

CLR & EMR Search

Department of Environment and Heritage Protection (EHP)
ABN 46 640 294 485
400 George St Brisbane, Queensland 4000
GPO Box 2454 Brisbane QLD 4001 AUSTRALIA
www.ehp.qld.gov.au

SEARCH RESPONSE
ENVIRONMENTAL MANAGEMENT REGISTER (EMR)
CONTAMINATED LAND REGISTER (CLR)

Transaction ID: 50425742 EMR Site Id: 181279 12 December 2017
This response relates to a search request received for the site:
Lot: 7026 Plan: SP292725

EMR RESULT

The above site is NOT included on the Environmental Management Register.

CLR RESULT

The above site is NOT included on the Contaminated Land Register.

ADDITIONAL ADVICE

All search responses include particulars of land listed in the EMR/CLR when the search was generated.
The EMR/CLR does NOT include:-

1. land which is contaminated land (or a complete list of contamination) if EHP has not been notified
2. land on which a notifiable activity is being or has been undertaken (or a complete list of activities) if EHP has not been notified

If you have any queries in relation to this search please phone 13QGOV (13 74 68)

Administering Authority

Appendix 10

Service Infrastructure Plans

Department of Housing and Public Works

Queensland Government

ND
BOTH SCHOOLS
COVERED AREAS
COVERED ENTRY
COMMUNITY HEALTH HUB/EARLY YEARS CENTRE
OFFICIAL ENTRY AND FLAG POLES
FUTURE STAGE CONSTRUCTION
COVERED LINK
OUTDOOR COURT PRIMARY
OUTDOOR COURT HIGH SCHOOL, ELEVATED, PARKING BELOW
PAD MOUNTED TRANSFORMER

SITE BOUNDARY
1800 HIGH PALISADE FENCE
GATE

PRIMARY SCHOOL
P-6 EXECUTIVE & STUDENT SERVICES & STAFF CENTRE, 2 LEVELS
PREP, SINGLE LEVEL, 2 GLAs
PREP, SINGLE LEVEL 3 GLAs
PREP, SINGLE LEVEL, 2 GLAs
YEAR 1-3, 3 LEVELS 14 GLAs + UNDERCROFT
YEAR 1-3, 2 LEVELS, 2 FLAs, 4 GLAs + UNDERCROFT
PRIMARY SCHOOL CANTEEN LOWER LEVEL + RESOURCE CENTRE UPPER LEVEL
YEAR 4-6, 2 LEVELS, 6 GLAs + UNDERCROFT
YEAR 4-6, 3 LEVELS, 16 GLAs + MUSIC GLA + UNDERCROFT
MULTIPURPOSE HALL UPPER LEVEL, ANCILLARY SERVICES CENTRE &
WORKSHOP LOWER LEVEL
REFUSE STORE, GROUNDS CARE, FUEL STORE, FIRE PUMP & BOOSTER
(SINGLE STOREY)

HIGH SCHOOL
SENIOR EXECUTE & STUDENT SERVICES
AND STAFF CENTRE A + B 2 LEVELS
STAFF CENTRE C, SINGLE LEVEL
HIGH SCHOOL INFORMATION SERVICES CENTRE
YEAR 7-9 LEARNING, 4 LEVELS 17 GLAs + 3 FLAs + RETAIL CENTRE + UNDERCROFT
YEAR 10-12 LEARNING, 4 LEVELS 17 GLAs + 3 FLAs + CANTEEN + UNDERCROFT
SCIENCE CENTRE
APPLIED TECHNOLOGY ROBOTICS
FOOD STUDIES AND HOSPITALITY
BUSINESS + FASHION + DESIGN GRAPHICS
ART + DESIGN CENTRE
JUNIOR APPLIED TECHNOLOGY AND DESIGN GRAPHICS
SENIOR APPLIED TECHNOLOGY
2 x INDOOR COURTS WITH PARKING BELOW
ANCILLARY SERVICES CENTRE, GROUNDS CARE (SINGLE STOREY)
PERFORMING ARTS, ONE LEVEL + PLANT DECK ABOVE
MUSIC REHEARSAL, SINGLE LEVEL, AV LINK TO PERFORMING ARTS
HIGH SCHOOL MUSIC, MULTIMEDIA, COMBINED AMENITIES, 2 LEVELS

NEW 150mm WATER CONNECTION

150mm WATER SUPPLY FOR PRIMARY SCHOOL. SERVICE PATH TO BE CONFIRMED WITH CIVIL ENGINEER

SEPARATE LOT (SECONDARY SCHOOL)

SEPARATE LOT (PRIMARY SCHOOL)

150mm FIRE SERVICE SUPPLY

FIRE PUMP ROOM AND ON-SITE STORAGE TANKS (PENDING FLOW AND PRESSURE TEST)

100mm DOMESTIC WATER SUPPLY

RAIN WATER HARVESTING TANKS PROVIDED BELOW MULTIPURPOSE HALL FOR IRRIGATION OF SPORTS FIELD

SEWER LIFTING STATION. SIZE AND LOCATION TO BE CONFIRMED

OPTION 2:
INVESTIGATE PROVIDENCE PARADE FOR EXISTING SERVICE LOCATIONS AND LEVELS. PROVIDE A NEW 150mm SANITARY DRAINAGE CONNECTION FOR PRIMARY SCHOOL. CIVIL ENGINEER TO CONFIRM LOCATION AND LEVEL OF EXISTING SEWER INFRASTRUCTURE

OPTION 1:
NEW 150mm SANITARY DRAINAGE CONNECTION @ IL 62.500. CIVIL ENGINEER TO CONFIRM LOCATION AND LEVEL OF EXISTING SEWER INFRASTRUCTURE

INSERT UNDER COVER CARPARKING 1:1000

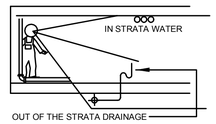
PRELIMINARY
NOT FOR CONSTRUCTION

Title Status:
FREEHOLD

Owners Name:
QUEENSLAND GOVERNMENT

Lot & RPD:
LOT AND RP

Plan Design:



NOTE : SYMBOLS ARE DRAWN IN THE CORRECT POSITION BUT ARE NOT SHOWN TO SCALE

Design: BIM KOLADE
Design Validated: LAMA KHALIFA RPEQ No. 15531
Drawn: BIM KOLADE

NO.	DESCRIPTION	DATE
P3	SKETCH ISSUE	****
P2	SKETCH ISSUE	****
P1	SKETCH ISSUE	****

CLIENT:
DEPARTMENT OF EDUCATION AND TRAINING
Queensland Government

ARCHITECT:

BUILDING SERVICES CONSULTANT
multitech SOLUTIONS
Level 1, 95 Brunswick Street, Fortitude Valley. Q 4006
P.O.Box 204, Fortitude Valley, Q 4006
T: 3394 0100 E: mail@mts.net.au W: www.mts.net.au

PROJECT:
RIPLEY PROVIDENCE STATE SCHOOL- PRIMARY

SERVICE
HYDRAULIC SERVICES

TITLE:
SITE PLAN

SCALE: 1:1000 ORIGINAL SIZE: A1
DATE: MAR 2018
DRAWING NO. 6321 H 100
REVISION P3

H SCHOOLS
RED AREAS
RED ENTRY
MUNITY HEALTH HUB/EARLY YEARS CENTRE
IAL ENTRY AND FLAG POLES
IRE STAGE CONSTRUCTION
RED LINK
DOOR COURT PRIMARY
DOOR COURT HIGH SCHOOL, ELEVATED, PARKING BELOW
MOUNTED TRANSFORMER

ARY SCHOOL
EXECUTIVE & STUDENT SERVICES & STAFF CENTRE, 2 LEVELS
, SINGLE LEVEL, 2 GLAs
, SINGLE LEVEL 3 GLAs
, SINGLE LEVEL, 2 GLAs
R 1-3, 3 LEVELS 14 GLAs + UNDERCROFT
R 1-3, 2 LEVELS, 2 FLAs, 4 GLAs + UNDERCROFT
ARY SCHOOL CANTEEN LOWER LEVEL + RESOURCE CENTRE UPPER LEVEL
R 4-6, 2 LEVELS, 6 GLAs + UNDERCROFT
R 4-6, 3 LEVELS, 16 GLAs + MUSIC GLA + UNDERCROFT
TIPURPOSE HALL UPPER LEVEL, ANCILLARY SERVICES CENTRE &
KSHOP LOWER LEVEL
SE STORE, GROUNDS CARE, FUEL STORE, FIRE PUMP & BOOSTER
LE STOREY)

SCHOOL
OR EXECUTE & STUDENT SERVICES
STAFF CENTRE A + B 2 LEVELS
FF CENTRE C, SINGLE LEVEL
SCHOOL INFORMATION SERVICES CENTRE
R 7-9 LEARNING, 4 LEVELS 17 GLAs + 3 FLAs + RETAIL CENTRE + UNDERCROFT
R 10-12 LEARNING, 4 LEVELS 17 GLAs + 3 FLAs + CANTEEN + UNDERCROFT
NCE CENTRE
IED TECHNOLOGY ROBOTICS
STUDIES AND HOSPITALITY
NESS + FASHION + DESIGN GRAPHICS
+ DESIGN CENTRE
OR APPLIED TECHNOLOGY AND DESIGN GRAPHICS
OR APPLIED TECHNOLOGY
NDOOR COURTS WITH PARKING BELOW
LLARY SERVICES CENTRE, GROUNDS CARE (SINGLE STOREY)
FORMING ARTS, ONE LEVEL + PLANT DECK ABOVE
C REHEARSAL, SINGLE LEVEL, AV LINK TO PERFORMING ARTS
SCHOOL MUSIC, MULTIMEDIA, COMBINED AMENITIES, 2 LEVELS

SITE BOUNDARY
1800 HIGH PALISADE FENCE
GATE

NEW 150mm WATER CONNECTION.
SERVICE PATH TO BE CONFIRMED
WITH CIVIL ENGINEER

150mm FIRE
SERVICE SUPPLY

FIRE PUMP ROOM AND
TANKS (PENDING FLOW
AND PRESSURE TEST)

100mm DOMESTIC
WATER SUPPLY

SEWER LIFTING STATION.
SIZE AND LOCATION TO
BE CONFIRMED

SEPARATE LOT
(SECONDARY SCHOOL)

SEPARATE LOT
(PRIMARY SCHOOL)

RAIN WATER HARVESTING
TANKS PROVIDED BELOW
MULTIPURPOSE HALL FOR
IRRIGATION OF SPORTS FIELD

SEWER TRUNK MAIN PROVIDED
AS PART OF INFRASTRUCTURE
AGREEMENT

150mm SANITARY DRAINAGE LINE
PROVIDED FOR SECONDARY
SCHOOL. SERVICE PATH TO BE
CONFIRMED WITH CIVIL ENGINEER

NEW 150mm SANITARY DRAINAGE CONNECTION.
SEPARATE CONNECTION PROPOSED FOR
SECONDARY SCHOOL.
CIVIL ENGINEER TO CONFIRM

PROVIDENCE PARADE
SCHOOL AVENUE
PARKWAY AVENUE
TANY DRIVE
GREENWAY (TO WATER PLAY PARK)
TOWN CENTRE
HEALTH HUB
BLDG 11
1:200
TO MAJOR SPORTS GROUND
BIO RETENTION
LOT 1
LOT 2
LOT 327
LOT 658
PAD 1 PAD 2 PAD 3 PAD 4 PAD 5 PAD 6 PAD 7 PAD 8 PAD 9 PAD 10 PAD 11 PAD 12 PAD 13 PAD 14 PAD 15
P-6 PRIMARY SCHOOL SPORTS FIELD WITH 100M SPRINT TRACK Type3
SPORTS FIELD Type C WITH 110m SPRINT TRACK 165 x 125m
RAIN WATER TANK UNDER (TBC)
FIRE BOOSTER STORAGE TANK
BOOSTER CABINET + PUMP WITHIN BUILDING 11
FIRE BOOSTER CABINET
BUS DROP OFF ZONE
CARPARK UNDER COURT
RECESSED CARPARKING 12No SPACES
69 COVERED CAR PARKING SPACES
EXTENT OF BUILDING M OVER
EXTENT OF ELEVATED COURT OVER
INSERT UNDER COVER CARPARKING
1:1000
IL 56.796
IL 57.282
IL 57.178
IL 53.408
IL 55.630

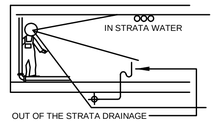
PRELIMINARY
NOT FOR CONSTRUCTION

Title Status:
FREEHOLD

Owners Name:
QUEENSLAND GOVERNMENT

Lot & RPD:
LOT AND RP

Plan Design:



NOTE : SYMBOLS ARE DRAWN IN THE CORRECT POSITION BUT ARE NOT SHOWN TO SCALE

Design: BIM KOLADE
Design Validated: LAMA KHALIFA RPEQ No. 15531
Drawn: BIM KOLADE

NO.	DESCRIPTION	DATE
P3	SKETCH ISSUE	****
P2	SKETCH ISSUE	****
P1	SKETCH ISSUE	****

CLIENT:

DEPARTMENT OF EDUCATION AND TRAINING

Queensland Government

ARCHITECT:

BUILDING SERVICES CONSULTANT

multitech SOLUTIONS
Level 1, 95 Brunswick Street, Fortitude Valley. Q 4006
P.O.Box 204, Fortitude Valley, Q 4006
T: 3394 0100 E: mail@mts.net.au W: www.mts.net.au

PROJECT:
RIPLEY PROVIDENCE STATE SCHOOL- SECONDARY

SERVICE
HYDRAULIC SERVICES

TITLE:
SITE PLAN

SCALE:	DATE:	
1:1000 ORIGINAL SIZE: A1	MAR 2018	
DRAWING NO. 6323 H 100		REVISION P3

Appendix 11

ICC Flood Information and Mapping

Department of Housing and Public Works

Queensland Government

TITLE

Major Flood Information - Map 104

DISCLAIMER: Ipswich City Council Data

While every care is taken by the Ipswich City Council (ICC) to ensure the accuracy of this data, ICC makes no representations or warranties about the accuracy, reliability, completeness or suitability for any particular purpose and disclaim all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which may be incurred as a result of the data being inaccurate or incomplete in any way and for any reason. Based on Data provided with permission of the Council.
Data Release 2

DISCLAIMER: Property Data

While every care is taken by the Ipswich City Council (ICC) and Department of Environment and Resource Management (DERM) to ensure the accuracy of this data, ICC and DERM jointly and severally make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaim all responsibility and all liability (including without limitation, lability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which may be incurred as a result of data being inaccurate or incomplete in any way and for any reason. Based on Data provided with permission of the Department of Environment and Resource Management: Cadastral Data.

LEGEND

- Flood Event January 2011
- Flood Event January 1974
- Both 1974 and 2011 January Flood Events

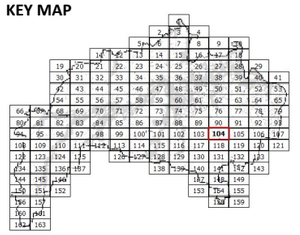
City of Ipswich

IPSWICH CITY COUNCIL
50 South Street / PO Box 191
Ipswich QLD 4305
Tel (07) 3810 6666
Fax (07) 3810 6731

N W E S

Printed Date: 12 Sep 2012 15:46

KEY MAP



MAJOR FLOOD INFORMATION

You have requested data for a property NOT known to be flood affected by the 1974 or 2011 floods.

Disclaimer

Although the statements contained herein are based on information which is believed to be reasonably accurate and reliable, as qualified above, these are not guaranteed. It must be understood that no liability will be accepted for any error or omission, however caused. Ipswich City Council expressly disclaims liability for any loss or damage suffered as a result of placing reliance upon this information (including reliance on its accuracy or completeness). Persons making decisions (including decisions with financial or legal implications) must not rely upon this information and should obtain their own professional advice on these matters.

Contacts

Ipswich City Council

General Enquiries	(07) 3810 6666
Emergencies All Hours	(07) 3810 6666 1300 Ipswich (1300 477942)
Fax	(07) 3810 6731
Email	council@ipswich.qld.gov.au
Customer Service Centre	143 Brisbane Street, Ipswich (top of the Ipswich City Mall)
Postal	PO Box 191 Ipswich QLD 4305 Australia

SES Flood Storm Emergency - Call 132 500

Life Threatening Emergency - Call 000 from a landline or mobile phone.

Emergency Management Queensland
GPO Box 1425
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Appendix 12

Traffic Assessment

Department of Housing and Public Works

Queensland Government

GTAconsultants

Ripley Providence State School Traffic and Transport Impact Assessment Report

Final

Client // Wilson Architects
Office // QLD
Reference // Q147160
Date // 25/06/18

Ripley Providence State School

Traffic and Transport

Impact Assessment Report

Issue: A 25/06/18

Client: Wilson Architects
Reference: Q147160
GTA Consultants Office: QLD

Quality Record

Issue	Date	Description	Prepared By	Checked By	Approved By	Signed
A-Dr	15/06/18	Draft	A. Shetty	T. Williams	S. Manton	-
A	25/06/18	Final	A. Shetty	T. Williams	S. Manton (RPEQ #8352)	

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Table of Contents

Appendices

Figures

Tables

1. Introduction

1.1 Overview

GTA was commissioned by Wilson Architects, on behalf of the Department of Education, Training and Employment (DETE), in February 2018 to assist with the development of the key traffic and transport elements internal to the Ripley Providence State School site. GTA has since been requested to assist with the preparation of traffic and transport elements relating to the draft Environmental Assessment Report (dEAR).

Recent correspondence[1] from the Department of State Development, Manufacturing Infrastructure and Planning (DSDMIP) outlines the elements to be included within the dEAR. These are reproduced within Table 1.1, including direction to the response location within this report.

Table 1.1: Summary of dEAR Requirements

Traffic and Transport Elements Required for the dEAR	Location of Response
Traffic impacts Demonstrate how traffic impacts will be mitigated and managed to ensure the safety and efficiency of the local road network, including: • Anticipated traffic volumes and movements (day to day operations and during extraordinary on-site events) • Proposed arrangements for site access, drop-off/pick-up zones, car parking, appropriate local speed environments and pedestrian crossing facilities.	 Refer to Section 5 of this report Refer to Sections 3 and 4 of this report
Active and Public passenger transport Demonstrate how the design supports safe active and public passenger transport options, and the integration of transport modes, including: • An assessment of the anticipated demand on public passenger transport infrastructure and services based on the anticipated modal split • In consultation with Translink and Ipswich City Council, identify suitable school bus stops, bus waiting and set-down facilities • Identify safe and convenient pedestrian and cyclist linkages that avoid conflict with vehicular traffic • Outline the proposed function of 'School Avenue' and whether this road may create the potential for pedestrian / vehicular conflict In addressing the above, it is recommended that the infrastructure entity has regard to: • Department of Transport and Main Roads' technical guideline, Planning for Safe Transport Infrastructure at Schools (April 2011) • Department of Transport and Main Roads' Public Transport Infrastructure Manual 2015.	 Not completed as part of this assessment Not completed as part of this assessment Refer to Section 2 of this report Refer to Section 3 of this report

On the basis of the above, this report provides details of our review of the key traffic and transport elements internal to the Ripley Providence State School site, a preliminary assessment of traffic impacts and an initial review of the active and public passenger transport considerations.

1.2 High School and Primary School Details

The site is proposed to incorporate facilities for independent High School (7 – 12) and Primary School (P – 6) campuses. It is expected that the schools will accommodate 1,500 high school students and 1,200 primary school students and are scheduled to open in 2020.

[1] Letter dated 23 March 2018 from Steve Conner (Executive Director) of DSDMIP.

The proposed schools are to be located in a greenfield site as shown in Figure 1.1 and will front Parkway Avenue and Providence Parade (the latter of which is yet to be constructed), along with other surrounding local streets.

Figure 1.1: School Site

(Reproduced with Permission from Nearmap)

Staff and student car parking, short-term car parking and set-down facilities are to be provided on-site. These are to be serviced by five key vehicle access locations, summarised as follows:

- A left-in/left-out vehicle access and a full turning movement vehicle access for the High School student parking, short-term parking and set-down facilities via Parkway Avenue (north-south section)
- Separate entry and exit (left out only) vehicle access arrangements for the Primary School via "Road 2"
- A full turning movement vehicle access for the combined High School and Primary School staff car park via Parkway Avenue (east-west section).

The Site Plan provided within Appendix A details the proposed layout for each of the schools.

1.3 Purpose of this Report

This report provides an assessment of the anticipated transport implications of the proposed schools, including consideration of the following:

i suitability of the proposed parking in terms of supply (quantum) and layout
ii service vehicle requirements
iii pedestrian and bicycle requirements
iv the traffic generating characteristics of the proposed development
v suitability of the proposed vehicle access arrangements for the site.

1.4 References

In preparing this report, reference has been made to the following:

- Ipswich City Council (Council) *Planning Scheme 2016*
- Australian/New Zealand Standard, *Parking Facilities, Part 1: Off-Street Car Parking 2890.1:2004 (AS/NZS 2890.1:2004)*
- Australian/New Zealand Standard, *Parking Facilities, Part 6: Off-Street Parking for People with Disabilities 2890.6:2009 (AS/NZS 2890.6:2009)*
- *Design Standards for DETE Facilities (Version 3.0)*
- Department of Transport and Main Roads (TMR) *Planning for Safe Transport Infrastructure at Schools 2011*
- TMR *Guide to Traffic Impact Assessment 2017*
- TMR *Road Planning and Design Manual (RPDM) Volume 3: Part 4A*
- Other documents and data as referenced in this report

2. Active and Public Transport

2.1 Pedestrian Provisions

A summary of the pedestrian provisions within the vicinity of the schools is provided as follows:

- Pedestrian footpaths are located (or are proposed to be located) along each side of all roads within the vicinity of the schools
- Signalised pedestrian crossings on each approach of nearby signalised intersections.

These provisions are expected to provide connectivity for pedestrians from the nearby residential catchments to the proposed schools and vice versa. It is recommended that a pedestrian crossing of Parkway Avenue (north-south section) which comprises a suitable refuge island be considered in the vicinity of Splendid Drive to connect to the nearby residential catchment.

Internal pedestrian pathways, including pedestrian 'zebra' crossings to provide a prioritised path of travel for pedestrians through the car parking and set-down areas, are to be provided for the proposed schools as shown on the site plan in Appendix A. These facilities are expected to be provide a high-level of connectivity within the proposed schools and enhance pedestrian safety at potential conflict points (i.e. car parking and set-down areas).

2.2 Cycling Provisions

The following cycling facilities are provided within the vicinity of the schools:

- Bicycle lanes in both directions along Parkway Avenue
- Bicycle lanes in both directions along Providence Parade (partially constructed)

The *Design Standard for DETE Facilities (Version 3.0)* does not identify rates for the provision of bicycle parking. As such, guidance has been sought from Council's *Planning Scheme 2016* which requires the provision of one bicycle space per 25 students for the High School and Primary School.

Application of this rate to 1,500 high school students and 1,200 primary school students results in a bicycle parking requirement of 60 and 48 spaces, respectively. GTA has been advised by DETE representatives that the design and location of these bicycle parking spaces is to be determined during the Developed Design Stage.

GTA recommends that these bike parking spaces be provided within secure, roofed bike storage enclosures. A 1.8m wide path is to be provided to the enclosure from external cycling paths (path access separate from vehicle access) and a minimum 1.5m wide path from the enclosure to the closest building or covered walkway.

2.3 Public Transport Provisions

The Site Plan does not include any bus provisions on-site. It is understood that bus facilities are to be located on Providence Parade and Parkway Avenue to service the High School and Primary School.

Liaison and co-ordination with Translink and Council is required to provide integrated public transport services (and potentially dedicated school services) which are capable of accommodating the demands of the schools.

3. Car Parking and Set-Down

3.1 Car Parking Provisions

The car parking requirements for the proposed High School and Primary School are based on the *Design Standard for DETE Facilities (Version 3.0)*. Guidance has also been sought from TMR's *Safe Transport Infrastructure at Schools 2011* guidelines and Council's *Planning Scheme 2016*. The car parking requirements based on each of these sources are detailed in Appendix B and summarised in Table 3.1.

Table 3.1: Summary of Car Parking Requirements

School Type	DETE Requirements	TMR Requirements	Council Requirements
High School	215 public spaces (incl. 5 PWD spaces) 15 visitor spaces (incl. 1 PWD space)	91 long-term spaces (incl. 1 PWD space) [1] 100 short-term spaces (incl. 1 PWD space) [1]	65 staff spaces 20 student spaces 15 visitor spaces (incl. 1 PWD space) [1]
Primary School	156 public spaces (incl. 4 PWD spaces) 10 visitor spaces (incl. 1 PWD space)	77 long-term spaces (incl. 1 PWD space) [1] 80 short-term spaces (incl. 1 PWD space) [1]	55 staff spaces 12 visitor spaces (incl. 1 PWD space) [1]

[1] PWD parking requirements are based on Building Code Australia (BCA) requirements with the rate detailed in Table 3.4.

Table 3.2 summarises the car parking quantum which is proposed to be provided for the proposed High School and Primary School.

Table 3.2: Proposed Car Parking Provisions

School Type	Type of Parking	Proposed Parking Quantum
High School	Short-term	103 spaces
	Student	39 spaces
	PWD Parking	2 spaces
Primary School	Short-term	67 spaces
	PWD Parking	1 space
Combined	Staff Parking	278 spaces
	PWD Parking	4 spaces
Site Car Parking Total		**494 spaces**

The proposed school provides car parking provisions in accordance with DETE, TMR, BCA and Council requirements and is considered to be reasonable to accommodate the car parking demands of the High School and the Primary School.

3.2 Set-Down Provisions

The *Design Standard for DETE Facilities (Version 3.0)* does not provide guidance on set-down requirements. As such, guidance has been sought from TMR's *Safe Transport Infrastructure at Schools 2011* guidelines and Council's *Planning Scheme 2016*. The set-down parking requirements based on each of these sources are detailed in Appendix B and summarised in Table 3.3.

Table 3.3: Summary of Set-Down Requirements

School Type	DETE Requirements	TMR Requirements	Council Requirements
High School		20 set-down spaces	15 set-down spaces
Primary School		16 set-down spaces	12 set-down spaces

The proposed set-down provisions are summarised as follows:

- High School 19 spaces
- Primary School 15 spaces.

These proposed provisions are considered to be suitable to accommodate the set-down demands of the High School and the Primary School.

3.2.1 Car Parking and Set-Down Layout

Car parking layouts have been designed in accordance with the requirements of Council's *Planning Scheme 2016*, TMR guidelines and / or relevant Australian Standards. This includes the design of the following elements:

- Bay and aisle widths
- Circulation roads and ramps
- Set-down provisions
- Pedestrian provisions
- Persons with a disability (PWD) car parking.

Details of key elements are provided in Table 3.4. This review indicates that the proposed car parking arrangements are expected to satisfy the statutory requirements.

Table 3.4: Adequacy of Car Park Layout

Design Aspect	Design Element	Statutory Requirement	Proposed Design
Car Parking Bays & Aisles	Staff and Student Parking Bay Width	2.5m (AS2890.1)	2.5m
	Staff and Student Parking Bay Length	5.4m (AS2890.1)	5.4m
	Staff and Student Aisle Width	5.8m (AS2890.1)	5.8m
	Short term parking Bay Width	2.6m (AS2890.1)	2.6m
	Short term parking Bay Length	5.7m (AS2890.1)	5.7m
	Short term parking Aisle Width	5.1m (AS2890.1)	5.4m
Pick-up / Set-down Area	Lane Width	2.5m (TMR Requirement)	2.5m
Parking for Persons with Disabilities	Provision	1 per 100 spaces (BCA)	7 spaces
	PWD bay / adjacent shared bay width	2.4m	2.4m
	PWD bay / adjacent shared bay length	5.4m	5.4m

No information has been provided regarding vertical height clearances within the combined staff car park, which is proposed to be multistorey. It is recommended height clearances be provided in accordance with Australian Standards, including:

- Minimum height clearance of 2.1m within the car park
- Minimum height clearance of 2.5m above PWD car parking spaces
- Minimum height clearance of 2.3m along path of travel to any PWD car parking spaces.

3.3 Service Vehicle Arrangements

Refuse collection arrangements for both proposed schools are to be provided on-site. The refuse collection area for the High School is to be provided adjacent to the student car park and sports oval, and the Primary School refuse area is to be located adjacent to Building 10. Swept path assessments indicate that a refuse collection vehicle can access and manoeuvre to and from these areas in a suitable manner, with results of the assessment provided at Appendix C.

Loading areas for potential deliveries (i.e. woodwork materials and science lab chemicals) is also accommodated on-site for two Medium Rigid Vehicles (MRV). The loading areas are located adjacent to Buildings L and D, with swept path assessments confirming suitable access and manoeuvrability provisions in these loading areas. Results of the swept path assessments are provided at Appendix C.

One van parking bay for a Small Rigid Vehicle (SRV) is provided on-site for Primary School deliveries. The dimensions of this bay accord with the requirements of Australian Standards. A swept path assessment has been completed to confirm accessibility and manoeuvring of a SRV to and from the parking bay, as shown in Appendix C.

3.4 School Avenue

Information provided by the project team indicates that School Avenue is to function as an emergency vehicle access, maintenance vehicle access (i.e. grounds staff) and will also be used by visiting dental and library vans. GTA has undertaken a swept path assessment, provided in Appendix D, which indicates that a Fire Truck is able to access and manoeuvre along School Avenue in a suitable manner. If a vehicle larger than this is required to access School Avenue, GTA will be required to undertake an updated swept path assessment.

The Site Plan does not identify grades for School Avenue. It is recommended that these gradients do not exceed a maximum gradient of 1:20 (5%) as it is expected to also provide pedestrian access.

4. Vehicle Access and Internal Circulation

4.1 Vehicle Access Arrangements

The vehicle access arrangements are generally in accordance with the requirements of Council's *Planning Scheme 2016*, TMR's *Planning for Safe Transport Infrastructure at Schools 2011* and the relevant Australian Standards. This includes design of the following elements:

- Intersection spacings
- Access configuration and lane widths
- Sight distances.

Swept path assessments have been undertaken for relevant design vehicles and are provided in Appendix E for those locations that are currently able to be assessed.

The Site Plan does not identify grades for the vehicle accesses. It is recommended that these gradients be provided in accordance with the relevant Australian Standards as follows:

- A maximum grade of 1:20 (5%) for the initial 6m from the property boundary
- A maximum grade of 1:6 (16.7%) for straight ramps
- A maximum grade of 1:6 (16.7%) for curved ramps, measured along the inside radius of the curve.

For staff car parking areas with boom gate control, it is recommended that these gradients be provided in accordance with the relevant Australian Standards as follows:

- A maximum grade of 1:20 (5%) for the initial 6m from the property boundary
- A maximum grade of 1:20 (5%) for at least 6m prior to the control point (boom gate)
- A maximum grade of 1:10 (10%) within queuing areas.

4.2 Turn Lane Requirements

A turn warrant assessment has been undertaken for the two High School set-down and short-term car parking vehicle accesses to Parkway Avenue, as well as for the Primary School set-down and short-term car parking vehicle access to "Road 2". This has been completed in accordance with the methodology outlined in TMR's *RPDM Volume 3: Part 4A*.

The warrants are determined from the design speed (i.e. less than 70 km/hr) and the proportion of total traffic volume with respect to corresponding turn volumes. This assessment is based on the AM peak hour as the peak school traffic generation is expected to coincide with the external road network peak during this time.

As forecast traffic volumes for the external road network have only been provided for the Providence Parade / Parkway Avenue / Greenview Road and Providence Parade / "Road 2" intersections (refer to Section 5.1), GTA is only able to estimate possible turn lane requirements.

A summary of the estimated turn lane requirements is provided in Table 4.1. It is recommended that this assessment be updated to incorporate forecast traffic volumes from the most up to date traffic model, including all roads and intersections surrounding the proposed schools.

Table 4.1: Estimated Turn Lane Requirements

Vehicle Access	Road Name	Right Turn	Left Turn
Left-in / Left-out High School Access	Parkway Avenue (North)		Up to AUL (s)
All movements High School Access	Parkway Avenue (South)	Up to CHR (s) [1]	
Primary School Set-Down Entry	"Road 2"	Up to CHR (full) [1]	

[1] Based on 'Base Case Traffic plus School Traffic' volumes presented within Appendix F

Regardless of the estimates presented within Table 4.1, given the nature of school operations and the need to ensure safety of all users, GTA recommend the following minimum turn lane provisions be adopted:

- Left-in / Left-out High School Access — Auxiliary Left-turn Treatment (short)
- All movements High School Access — Channelised Right-turn Treatment (short)
- Primary School Set-Down Entry — Channelised Right-turn Treatment (short).

In order to accommodate these provisions, it is expected that minor road carriageway widening will be required along Parkway Avenue and a significant increase in the proposed width of 'Road 2'.

4.3 Internal Boom Gate Queuing

An assessment of the anticipated queue length at the boom gates controlling access to the combined staff park was undertaken in accordance with the Austroads Guideline, *Guide to Traffic Management Part 2: Traffic Theory*. Results of the analysis indicate a maximum queue length of four vehicles (or 24m). The proposed Site Plan identifies a queuing provision of approximately 35m from the site boundary (at Parkway Avenue) to the boom gates, and hence is considered adequate.

5. Preliminary Traffic Impact Assessment

5.1 Assumptions and Limitations

In order to complete this traffic impact assessment, GTA has requested the most up to date traffic modelling available for Ripley Providence and surrounds. The purpose is to adopt the most accurate traffic forecasts for all roads and intersections surrounding the school as a significant portion of the road network is yet to be constructed or surrounding land developed. Such an approach would provide consistency and improve confidence in the accuracy of the traffic impacts identified.

However, this was not able to be provided. GTA has instead been provided with traffic volumes from the analysis of the Providence Parade / Parkway Avenue / Greenview Road and Providence Parade / "Road 2" intersections, completed by SLR Consulting and submitted to Council in March 2018. No information has been provided in regard to the other roads or intersections, scenario year modelled[2], peak hours (apart from AM and PM) or how these volumes account for traffic generated by surrounding land uses.

As such, GTA takes no responsibility for the suitability of the 'base case' (i.e. without school development) traffic volumes adopted within this preliminary traffic impact assessment. This preliminary traffic impact assessment has also adopted the following assumptions:

- Assessment limited to only the proposed vehicular accesses only
- AM peak hour assessment completed, as the peak afternoon traffic generated by the schools is not expected to coincide with the evening road network peak
- The 'base case' traffic volumes adopted for the three Parkway Avenue vehicle accesses are based on Providence Parade / Parkway Avenue / Greenview Road traffic volumes (i.e. no consideration of Splendid Drive)
- The 'base case' traffic volumes adopted for the two 'Road 2' vehicle accesses are based on Providence Parade / 'Road 2' traffic volumes (i.e. no consideration of intersecting roads).

It is recommended that this assessment be updated once the forecast traffic volumes from the most up to date traffic modelling are available, including consideration of the key intersections within the surrounding external road network.

5.2 Traffic Generation

5.2.1 Design Rates and Distribution

Traffic generation estimates for the school have been obtained from a range of sources, as outlined in Table 5.1.

[2] Assumed to be at a point in time when surrounding land uses are fully developed

Table 5.1: Traffic Generation Summary

Sources	School Type	Peak Traffic Generation Rate (movements / student)
Road Planning and Design Manual – TMR (2005)	Primary School	0.2
	High School	0.12
Western Australian Planning Commission (2006)	Primary School	0.5
	High School	0.5
Trips and Parking Related to Land Use - NZ (2011)	Primary School	0.7
	High School	0.1
ITE Trip Generation (9th Edition) - USA (2012)	Primary School	0.45
	High School	0.5
TRICS - UK (2013)	Primary School	0.4
	High School	0.3
GTA Generation Database [1]	Primary and High School Combined	0.78
Average / Adopted Rate	**Primary School**	**0.51**
	High School	**0.38**

[1] Average of five integrated primary and high schools (P-12) with over 1,000 students.

An average traffic generation rate from the six sources has been adopted for the purpose of this assessment. Application of these traffic generation rates to the high school and primary school student numbers results in a total of 1,182 movements generated in the AM peak hour.

Based on the results of recent surveys, this traffic generation has been divided across the various on-site transport facilities. A summary is provided in Table 5.2.

Table 5.2: Traffic Volumes per Transport Facility – AM Peak Hour

School	Set-Down (and Short-Term Car Parking)	Staff Car Parking	Student Car Parking
High School	510 vph	30 vph	30 vph
Primary School	552 vph	60 vph	0 vph
Total	**1,062 vph**	**90 vph**	**30 vph**

5.2.2 Distribution

The directional distribution adopted for traffic generated by the proposed development is as follows:

- Traffic to / from the North: 75%
- Traffic to / from the South: 25%.

A review of Council's *Planning Scheme 2016* for the Ripley Valley Neighbourhood indicates that the majority of the urban and residential areas within Ripley are likely to form north of the proposed schools. Furthermore, Ipswich City is located north of the proposed schools and therefore, the majority of school traffic is expected to arrive from and travel back to the north.

It is noted that these distributions are consistent with the assessment completed by SLR Consulting in March 2018. Turning movement diagrams detailing the school generated traffic for the proposed vehicle access locations are provided in Appendix F.

5.3 Operational Impact

5.3.1 SIDRA Intersection

The operation of the vehicle accesses has been assessed using SIDRA Intersection[3] (SIDRA), a computer-based modelling package which calculates intersection performance. The commonly used performance measure is referred to as the *Degree of Saturation, DOS (X),* which represents the flow-to-capacity ratio for the most critical movement on each leg of the intersection. For unsignalised (priority) intersections, an X-value of 0.80 has typically been considered the 'ideal' limit, beyond which queues and delays increase disproportionately.

The SIDRA default settings have typically been adopted for this assessment. However, based on recent surveys, the Peak Flow Factor during the AM peak hour has been reduced to 0.80.

5.3.2 Vehicle Access Performance

The operation of all proposed vehicle access points has been assessed using SIDRA, where the assessment scenario assumes the schools are operating at their peak capacity (i.e. combined total of 2,700 students). Table 5.3 presents a summary of the anticipated future operation of these intersections following the full development of the site. Detailed results of this analysis are provided in Appendix G of this report.

Table 5.3: Vehicle Access Performance – AM Peak Hour

Access Location	Base Case				With Development			
	DOS	Average Delay (sec)	95th Percentile Queue (m)	LOS	DOS	Average Delay (sec)	95th Percentile Queue (m)	LOS
Left-in / Left-out High School Access	0.15	1	1	A	0.24	2	1	A
All movements High School Access	0.15	1	1	A	0.52	5	25	B
Staff Parking Access	0.00	4	1	A	0.08	4	1	A
Primary School Parking and Set-down Entry Access	0.19	1	1	A	0.24	3	7	A
Primary School Parking and Set-down Exit Access	0.19	1	1	A	0.30	3	10	A

The preliminary traffic impact assessment suggests that each of the vehicle accesses are expected to operate within acceptable limits during the AM peak hour. These results can be confirmed once the forecast traffic volumes from the most up to date traffic modelling are available.

[3] Program used under license from Akcelik & Associates Pty Ltd.
SIDRA INTERSECTION adopts the following criteria for Level of Service assessment:

Level of Service (LOS)		Intersection Degree of Saturation, DOS (X)	
		Unsignalised Intersection	Signalised Intersection
A	Excellent	<=0.50	<=0.60
B	Very Good	0.50-0.70	0.60-0.75
C	Good	0.70-0.80	0.75-0.90
D	Acceptable	0.80-0.90	0.90-0.95
E	Poor	0.90-1.00	0.95-1.00
F	Very Poor	>=1.0	>=1.0

5.3.3 Extraordinary Events

Extraordinary on-site events are expected to be infrequent and include occasions such as school ceremonies, school concerts and other events of this nature. It is unlikely that extraordinary events for the High School and the Primary School would coincide.

The typical approach is to control the traffic and transport elements of these types of events through the implementation of a Traffic Management Plan. This approach is considered appropriate for the proposed schools.

6. Conclusion

Based on the analysis and discussions presented within this report, the following conclusions are made:

i The proposed schools are to incorporate 48 primary school and 60 high school bicycle parking spaces on-site, with the design and location of these parking spaces to be determined during the Development Design Stage

ii The proposed supply of 494 car parking spaces meets DETE, TMR and Council requirements and is considered to be reasonable

iii The proposed parking layouts are consistent with the dimensional requirements as set out in the Ipswich City Council *Planning Scheme 2016* and Australian/New Zealand Standard for *Off-Street Car Parking (AS/NZS 2890.1:2004* and *AS/NZS 2890.6:2009)*, subject to confirmation of proposed grades

iv GTA recommends the following minimum turn lane provisions be adopted at the key vehicular access:

- Left-in / Left-out High School Access — Auxiliary Left-turn Treatment (short)
- All movements High School Access — Channelised Right-turn Treatment (short)
- Primary School Set-Down Entry — Channelised Right-turn Treatment (short).

v The proposed schools are expected to collectively generate in the order of 1,182 movements in the AM peak hour

vi The proposed site vehicle access intersections are expected to operate within capacity based on the assessment completed within this report

vii It is recommended that this assessment be updated once the forecast traffic volumes from the most up to date traffic modelling are available.

Appendix A

Ripley Providence State School – Site Plans

LEGEND

BOTH SCHOOLS

- **CA** COVERED AREAS
- **CE** COVERED ENTRY
- **CH** COMMUNITY HEALTH HUB/EARLY YEARS CENTRE
- **DV** DENTAL VAN PAD
- **EFP** OFFICIAL ENTRY AND FLAG POLES
- **F** FUTURE STAGE CONSTRUCTION
- **CL** COVERED LINK
- **OCP** OUTDOOR COURT PRIMARY
- **OCH** OUTDOOR COURT HIGH SCHOOL, ELEVATED, PARKING BELOW
- **PMT** PAD MOUNTED TRANSFORMER

SITE BOUNDARY
1800 HIGH PALISADE FENCE
GATE

PRIMARY SCHOOL

- **1** P-6 EXECUTIVE & STUDENT SERVICES & STAFF CENTRE, 2 LEVELS
- **2** PREP, SINGLE LEVEL, 2 GLAs
- **3** PREP, SINGLE LEVEL 3 GLAs
- **4** PREP, SINGLE LEVEL, 2 GLAs
- **5** YEAR 1-3, 3 LEVELS 14 GLAs + UNDERCROFT
- **6** YEAR 1-3, 2 LEVELS, 2 FLAs, 4 GLAs + UNDERCROFT
- **7** PRIMARY SCHOOL CANTEEN LOWER LEVEL + RESOURCE CENTRE UPPER LEVEL
- **8** YEAR 4-6, 2 LEVELS, 6 GLAs + UNDERCROFT
- **9** YEAR 4-6, 3 LEVELS, 16 GLAs + MUSIC GLA + UNDERCROFT
- **10** MULTIPURPOSE HALL UPPER LEVEL, ANCILLARY SERVICES CENTRE & WORKSHOP LOWER LEVEL
- **11** REFUSE STORE, GROUNDS CARE, FUEL STORE, FIRE PUMP & BOOSTER (SINGLE STOREY)

HIGH SCHOOL

- **A** SENIOR EXECUTE & STUDENT SERVICES AND STAFF CENTRE A + B 2 LEVELS
- **B** STAFF CENTRE C, SINGLE LEVEL
- **C** HIGH SCHOOL INFORMATION SERVICES CENTRE
- **D** YEAR 7-9 LEARNING, 4 LEVELS 17 GLAs + 3 FLAs + RETAIL CENTRE + UNDERCROFT
- **E** YEAR 10-12 LEARNING, 4 LEVELS 17 GLAs + 3 FLAs + CANTEEN + UNDERCROFT
- **F** SCIENCE CENTRE
- **G** APPLIED TECHNOLOGY ROBOTICS
- **H** FOOD STUDIES AND HOSPITALITY
- **I** BUSINESS + FASHION + DESIGN GRAPHICS
- **J** ART + DESIGN CENTRE
- **K** JUNIOR APPLIED TECHNOLOGY AND DESIGN GRAPHICS
- **L** SENIOR APPLIED TECHNOLOGY
- **M** 2 x INDOOR COURTS WITH PARKING BELOW
- **N** ANCILLARY SERVICES CENTRE, GROUNDS CARE (SINGLE STOREY)
- **O** PERFORMING ARTS, ONE LEVEL + PLANT DECK ABOVE
  MUSIC REHEARSAL, SINGLE LEVEL, AV LINK TO PERFORMING ARTS
  HIGH SCHOOL MUSIC, MULTIMEDIA, COMBINED AMENITIES, 2 LEVELS

PROVIDENCE PARADE
PARKWAY AVENUE
SCHOOL AVENUE
BOTANY DRIVE
HEALTH HUB
GREENWAY (TO WATER PLAY PARK)
TOWN CENTRE
LOT 1
LOT 2
TO MAJOR SPORTS GROUND
BIO RETENTION
SPORTS FIELD Type C WITH 110m SPRINT TRACK 165m x 125m
P-6 PRIMARY SCHOOL SPORTS FIELD WITH 100M SPRINT TRACK Type 3
RAIN WATER TANK UNDER (TBC)
REFER TO ADJACENT DETAILS FOR CAR PARKING LAYOUTS
FIRE BOOSTER CABINET
FIRE BOOSTER PUMP/ FIRE BOOSTER STORAGE TANK
FIRE BOOSTER STORAGE TANK
BOOSTER CABINET + PUMP WITHIN BUILDING 11.
BUS DROP OFF ZONE
AMBULANCE ACCESS
CARPARK 105x SPACES
DROP OFF ZONE 70x SPACES
STUDENT PARKING 39x SPACES
REFUSE COLLECTION
PARKING 10x SPACES
CARPARK 68x SPACES
76x COVERED CAR & 5x MOTORCYCLE SPACES
1:14 RAMP (ON GRADE) FROM LOWER CAR PARK
206x CAR & 2x MOTORCYCLE SPACES (INCL. 78x COVERED CAR PACES)
RAMP TO UPPER DECK CAR PARK
ENTRY / EXIT FROM PARKWAY AVENUE WITH BOOM GATE CONTROL
YEAR 1-3 PLAY AREA
PREP PLAY AREA
YEAR 4-6 PLAY AREA

A	Level 1 56.00 Level 2 61.00	
B		
C	Level 1 61.00 Ground 57.00	
D	Level 1 65.00 Ground 61.00 Level -1 57.00 Level -2 53.00	
E	Level 1 65.00 Ground 61.00 Level -1 57.00 Level -2 53.00	
F	Level 2 65.00 Level 1 61.00 Void level 57.00 Ground 53.00	
G	GROUND 56.0	
H	GROUND 60.40	
I	GROUND 56.0	
J	GROUND 60.40	
K		
L		
M		
N	GF 51.50	
OCP	SLAB 57.0	
1	Level 2 70.35 Level 1 66.35 Ground 63.35	
2	GROUND 66.35	
3	GROUND 67.05	
4	GROUND 67.75	
5	Level 2 70.35 Level 1 66.35 Ground 62.35	
6	Level 1 66.35 Ground 62.35	
7	Level 1 67.05 Ground 63.05	
8	Level 1 67.75 Ground 63.75	
9	Level 2 71.75 Level 1 67.75 Ground 63.75	
10	Level 1 62.35 Ground 58.35	
11	GROUND 59.150	

CAR PARKING SUMMARY	CAR	MOTORCYCLE
PRIMARY SCHOOL SHORT TERM:	68	-
HIGH SCHOOL SHORT TERM:	105	-
STUDENT LONG TERM:	39	-
PARKWAY STAFF LONG TERM:	282	7
TOTAL:	**494**	**7**

1 - SITE PLAN 1:1000

3 - CAR PARKING LEVEL -2 (RL 53.0)

2 - CAR PARKING LEVEL -3 (RL 50.0)

NOT FOR CONSTRUCTION

NOTES

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Rev	Revision Description	Date	Ver
P8	100% SD ISSUE	21/5/18	
P9	100% SD - UPDATES	24/5/18	
P10	FOR DEVELOPMENT APPROVAL	22/6/18	

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Client

DEPARTMENT OF EDUCATION AND TRAINING

Queensland Government

Project

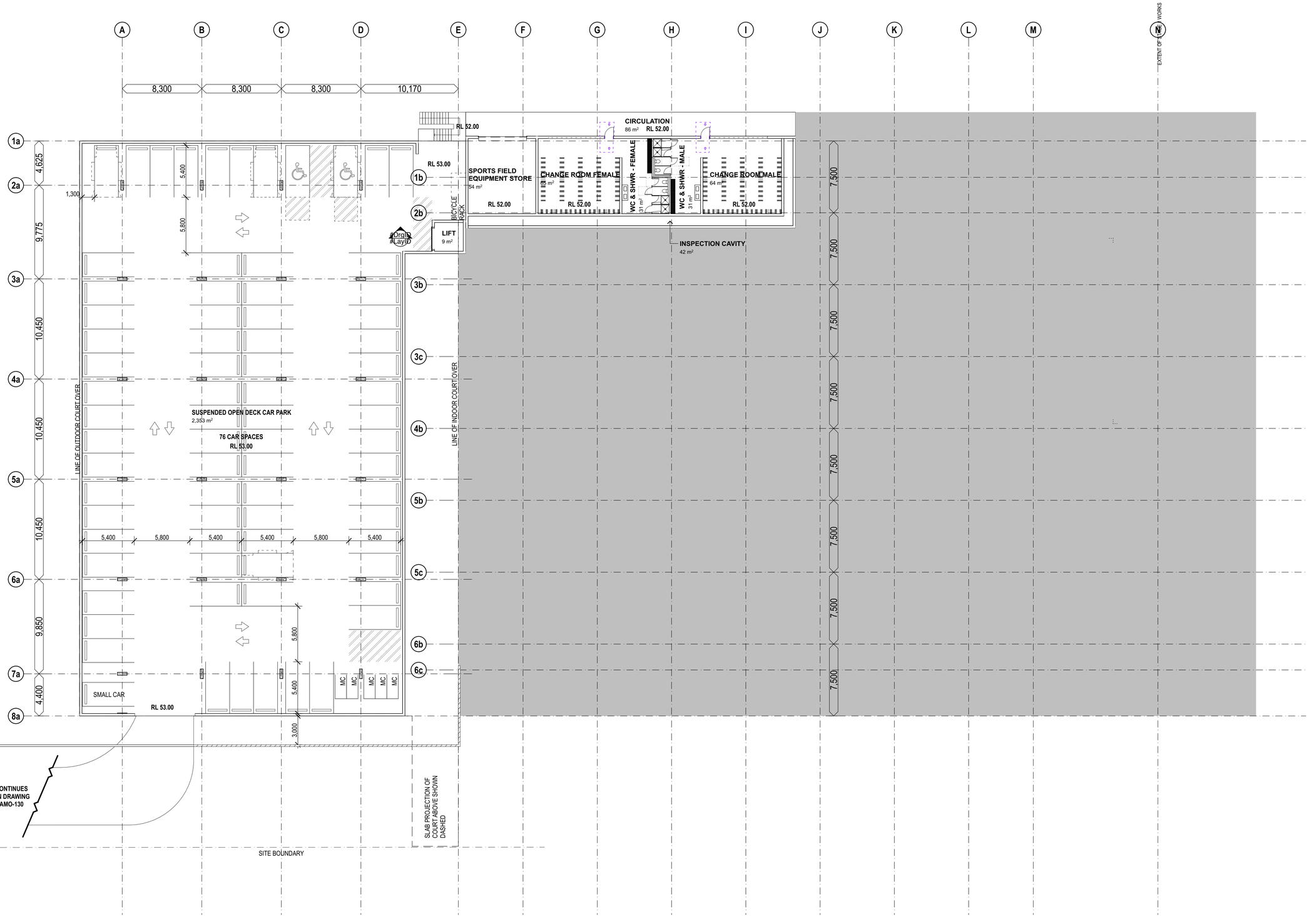
NEW SCHOOLS AT RIPLEY PROVIDENCE

Title

SITE PLAN

Plot Date	Drwn	Chck
22/6/18		

Project No.	Scale
5448	1:1000 at A1
Drawing No.	**Revision**
DD-A-100	P10



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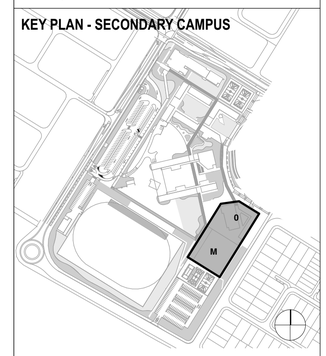
KEY PLAN - SECONDARY CAMPUS



Rev	Revision Description	Date	Ver
P1	100% SD ISSUE	21/5/18	
P2	FOR DEVELOPMENT APPROVAL	22/6/18	

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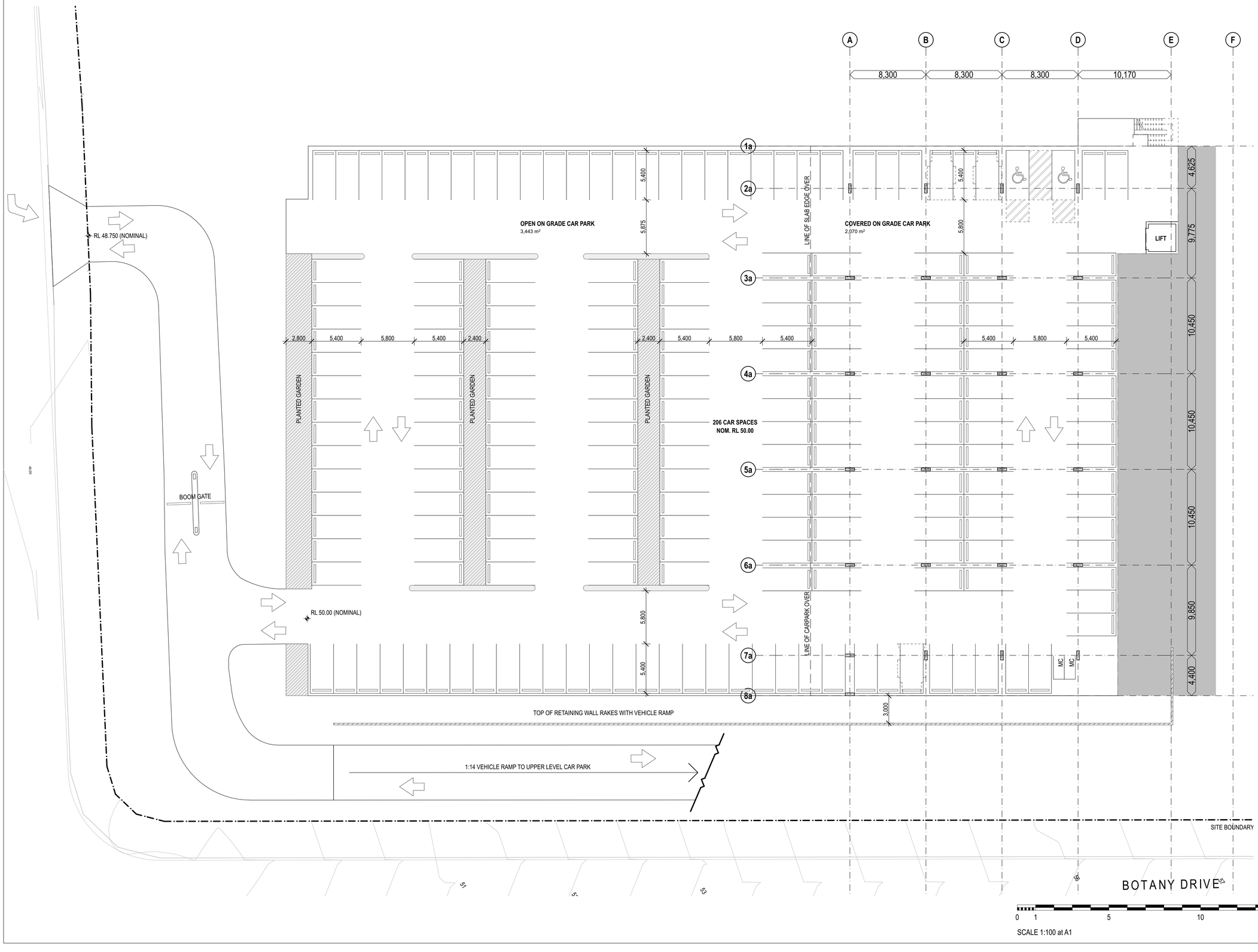
Project

NEW SCHOOLS AT RIPLEY PROVIDENCE

Title

BUILDING M - LEVEL -2

Plot Date	22/6/18	Drwn	MD	Chck	MD
Project No.	5448	Scale	1:200 at A1		
Drawing No.	DD-AMO-131	Revision	P2		



NOTES

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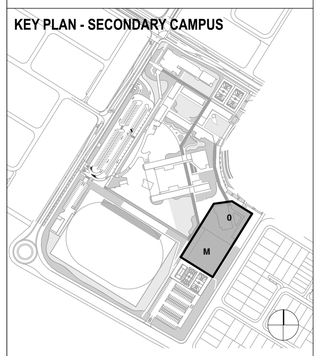
KEY PLAN - SECONDARY CAMPUS



Rev	Revision Description	Date	Ver
P1	FOR DEVELOPMENT APPROVAL	22/6/18	

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Project

NEW SCHOOLS AT RIPLEY PROVIDENCE

Title

BUILDING M - LEVEL -3

Plot Date	22/6/18	Drwn	MD	Chck	MD
Project No.	5448	Scale	1:200 at A1		
Drawing No.	DD-AMO-130	Revision	P1		

Appendix B

DETE, TMR and Council Car Parking Requirements

Car Parking Requirements

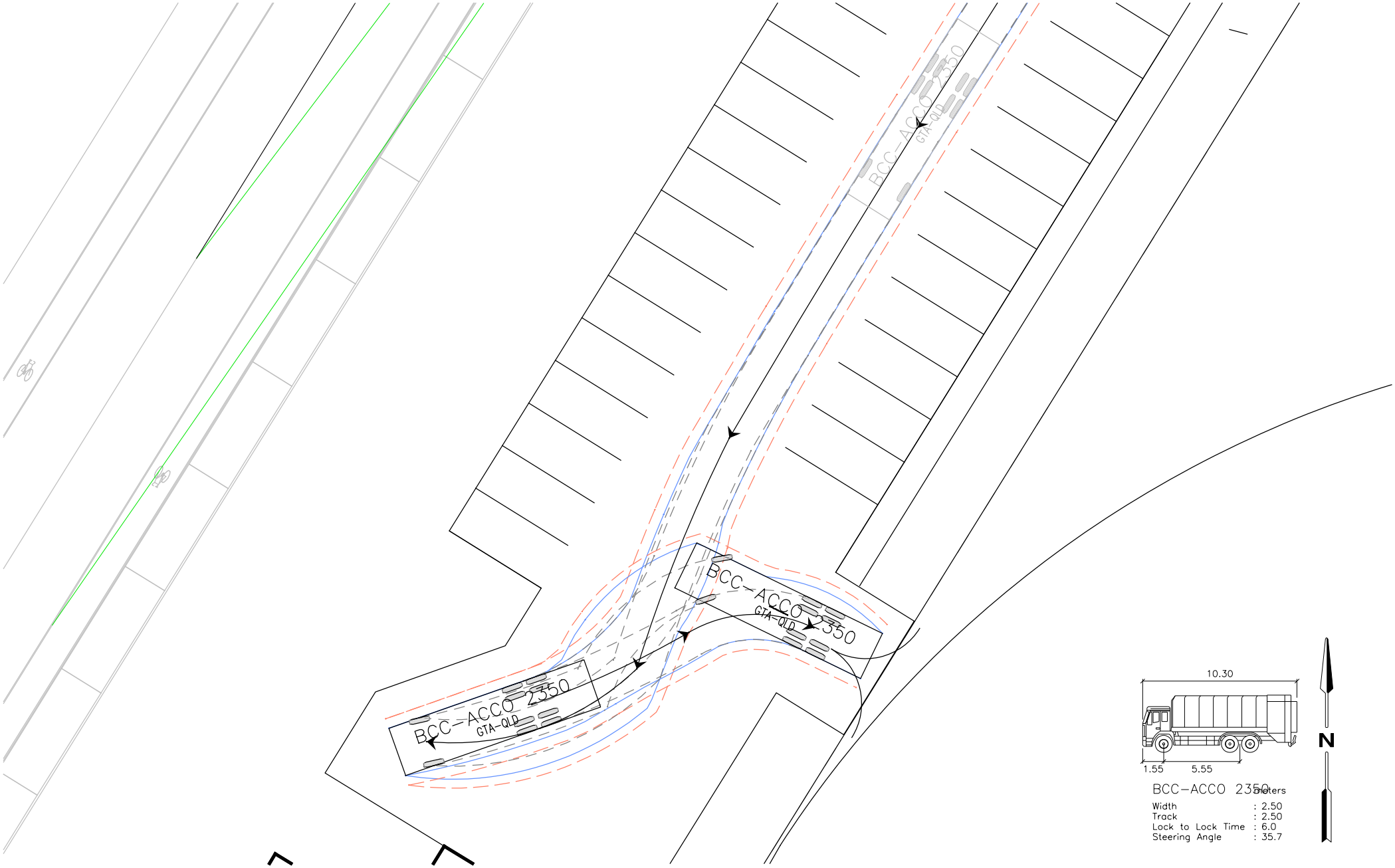
School Type	DETE Requirements	TMR Requirements	Council Requirements
High School	Public car parking provided for 13% of total student numbers Public car parking provided for 10% of year 12 students 2% of car parks to be provided as PWD spaces 15 visitor car spaces to be provided for 7-12 schools, including 1 PWD space. This equates to the following provisions: 215 public spaces, including 5 PWD spaces 15 visitor spaces, including 1 PWD space.	0.7 long-term spaces per staff member 1 short-term space per 15 students 1 PWD space per 100 spaces. This equated to the following provisions: 91 long-term spaces (incl. 1 PWD space) 100 short-term spaces (incl. 1 PWD space)	0.5 spaces per staff member (FTE) 1 space per 10 students in year 12 1 visitor space per 100 students 1 PWD space per 100 spaces. This equates to the following provisions: 65 staff spaces 20 student spaces 15 visitor spaces (incl. 1 PWD space)
Primary School	Public car parking provided for 13% of total student numbers 2% of car parks to be provided as PWD spaces 10 visitor car spaces to be provided for P-6 schools, including 1 PWD space. This equates to the following provisions: 156 public spaces (incl. 4 PWD spaces) 10 visitor spaces (incl. 1 PWD space)	0.7 long-term spaces per staff member 1 short-term space per 15 students 1 PWD space per 100 spaces. This equates to the following provisions: 77 long-term spaces (incl. 1 PWD space) 80 short-term spaces (incl. 1 PWD space)	0.5 spaces per staff member (FTE) 1 visitor space per 100 students 1 PWD space per 100 spaces. This equates to the following provisions: 55 staff spaces 12 visitor spaces (incl. 1 PWD space)

Set-Down Requirements

School Type	DETE Requirements	TMR Requirements	Council Requirements
High School		20% of short-term car parking supply, which equates to the 20 set-down spaces.	10 spaces per 100 students, which equates 15 set-down spaces.
Primary School		20% of short-term car parking supply, which equates to16 set-down spaces.	10 spaces per 100 students, which equates to 12 set-down spaces.

Appendix C

Swept Path Assessment – Service Vehicles



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DESIGN CHECK	T. WILLIAMS
APPROVED BY	S. MANTON
DATE ISSUED	21 JUNE 2018

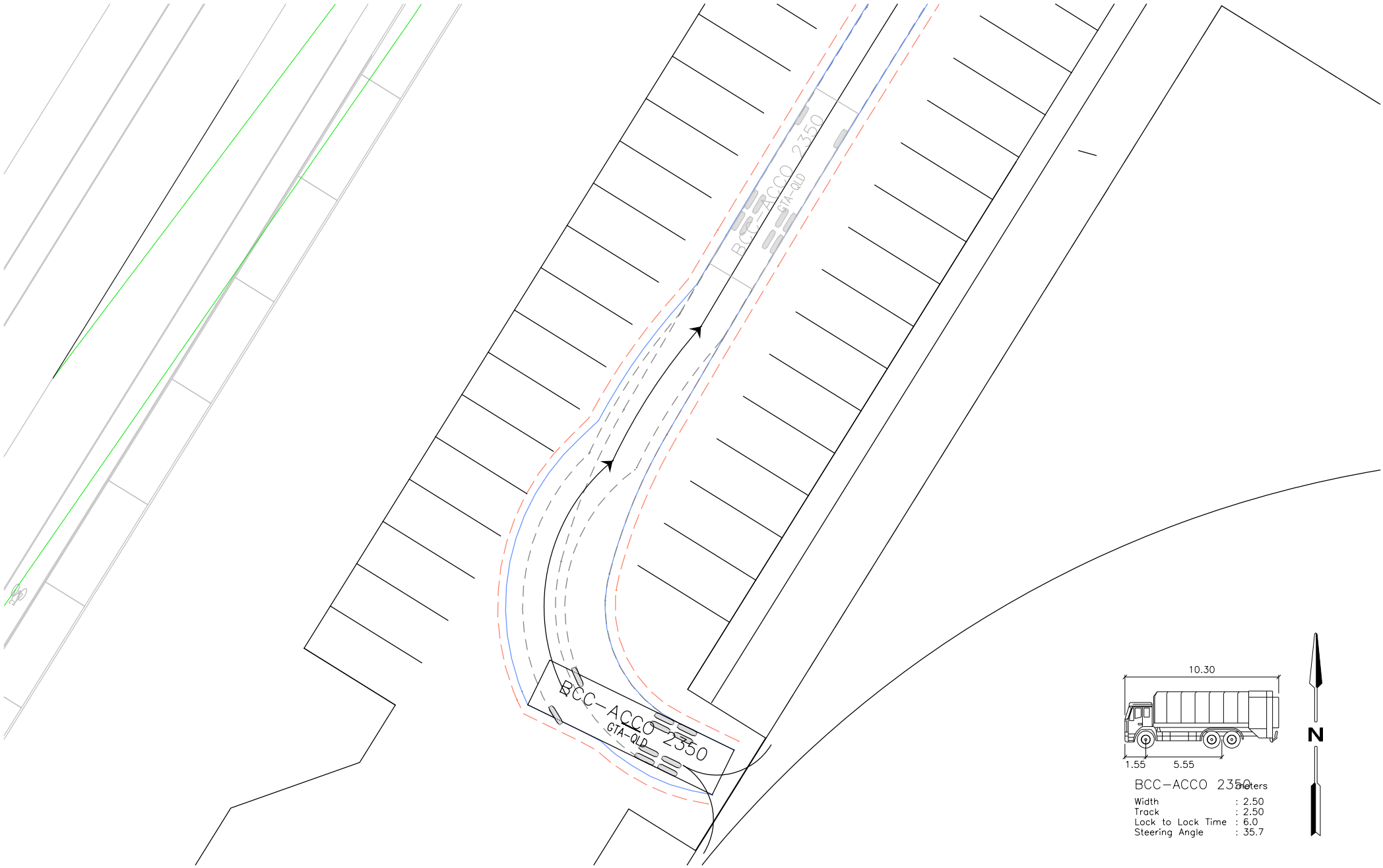
SCALE A4 0 2.5 5 1:250

CAD FILE NO. 180620-Q147160-01P9.dgn

RIPLEY PROVIDENCE STATE SCHOOL HIGH SCHOOL RCV ENTRY

SWEPT PATH ASSESSMENT

DRAWING NO. AT01 - HS RCV Entry SHEET 1 OF 10 ISSUE P1



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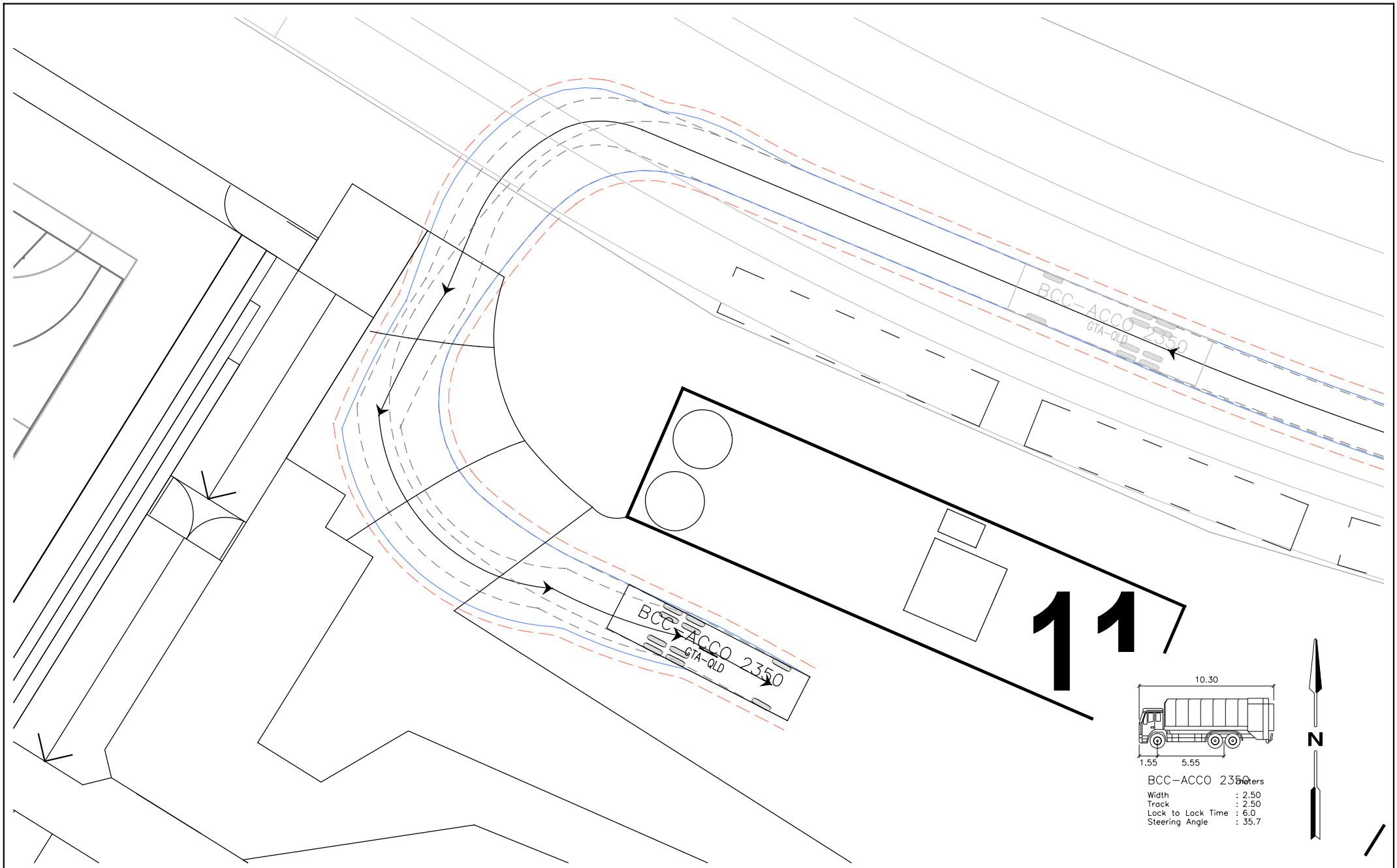
SCALE A4	0 2.5 5 1:250
CAD FILE NO.	180620-Q147160-01P9.dgn

RIPLEY PROVIDENCE STATE SCHOOL
HIGH SCHOOL RCV EXIT

SWEPT PATH ASSESSMENT

DRAWING NO. AT02 - HS RCV Exit SHEET 2 OF 10 ISSUE P1



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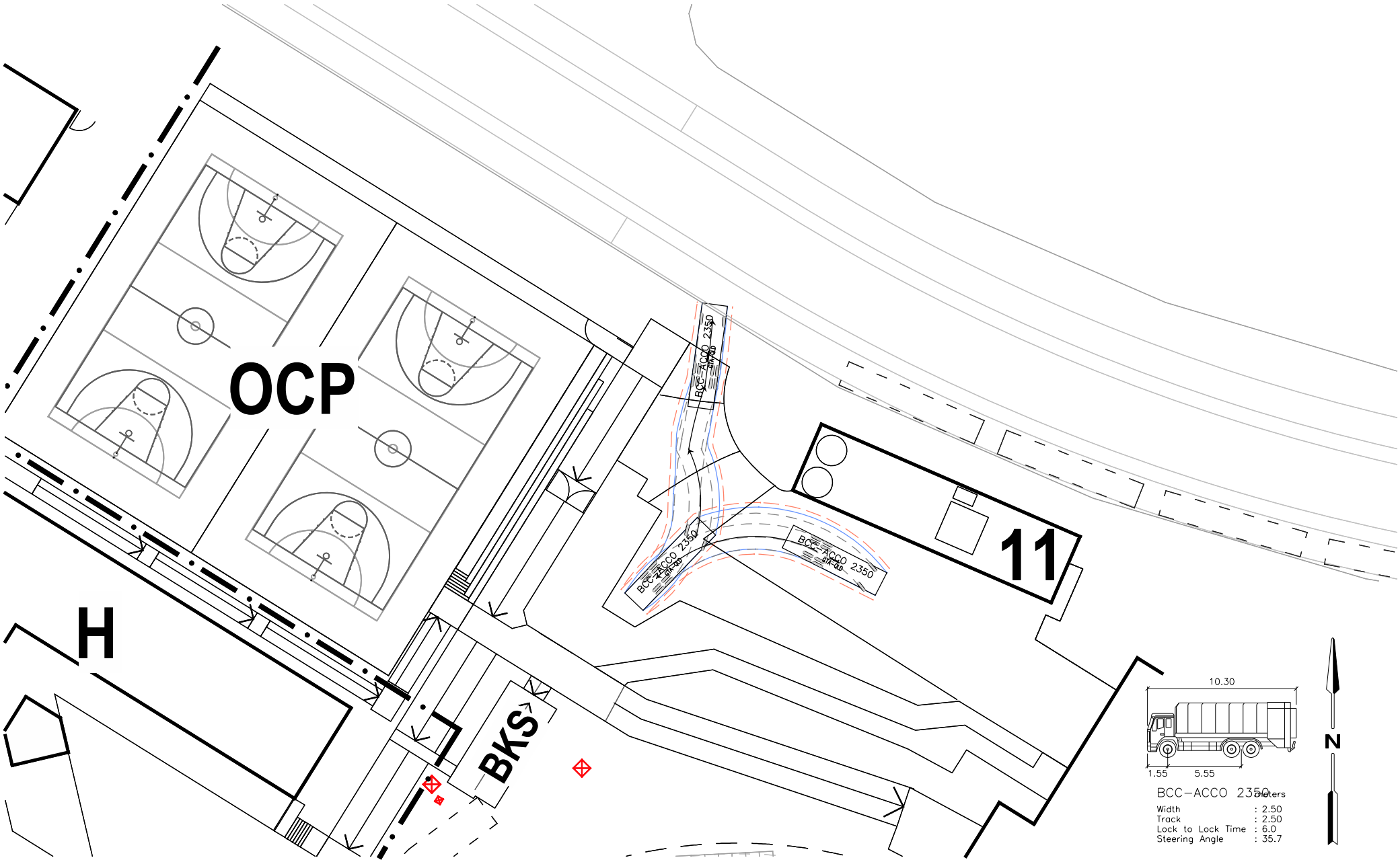
SCALE A4 0 2.5 5 1:250

CAD FILE NO. 180620-Q147160-01P9.dgn

RIPLEY PROVIDENCE STATE SCHOOL PRIMARY SCHOOL RCV ENTRY

SWEPT PATH ASSESSMENT

DRAWING NO. AT03 - PS RCV Entry SHEET 3 OF 10 ISSUE P1



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DATE ISSUED	21 JUNE 2018

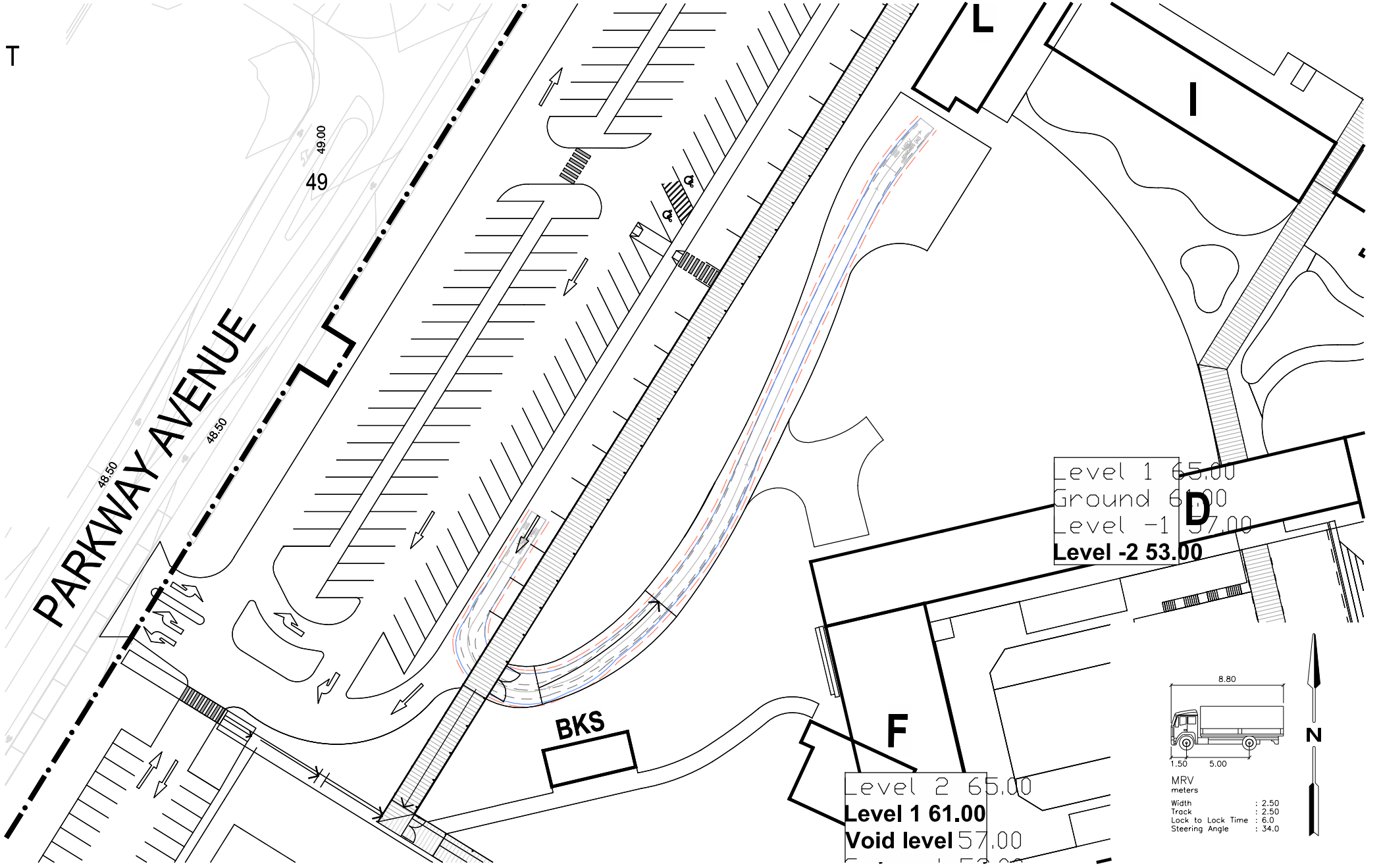
SCALE A4 0 5 10 1:500

CAD FILE NO. 180620-Q147160-01P9.dgn

RIPLEY PROVIDENCE STATE SCHOOL PRIMARY SCHOOL RCV EXIT

SWEPT PATH ASSESSMENT

DRAWING NO. AT04 - PS RCV Exit SHEET 4 OF 10 ISSUE P1



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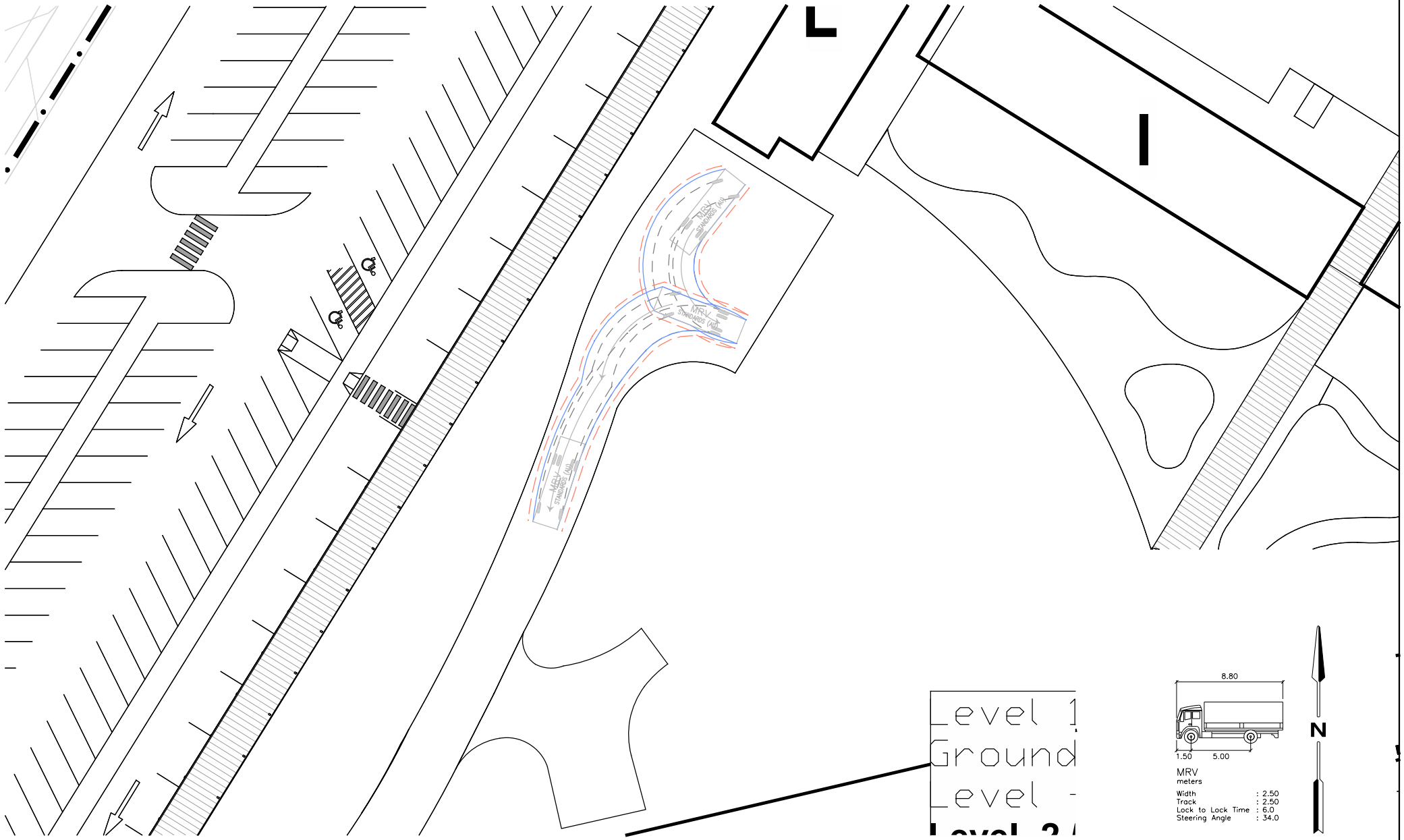
DESIGN CHECK T. WILLIAMS
APPROVED BY S. MANTON
DATE ISSUED 21 JUNE 2018

SCALE A4 0 7.5 15 CUSTOM 750
CAD FILE NO. 180620-Q147160-01P9.dgn

RIPLEY PROVIDENCE STATE SCHOOL
MRV LOADING AREA 1 - ENTRY

SWEPT PATH ASSESSMENT

DRAWING NO. AT05 SHEET 5 OF 10 ISSUE P1



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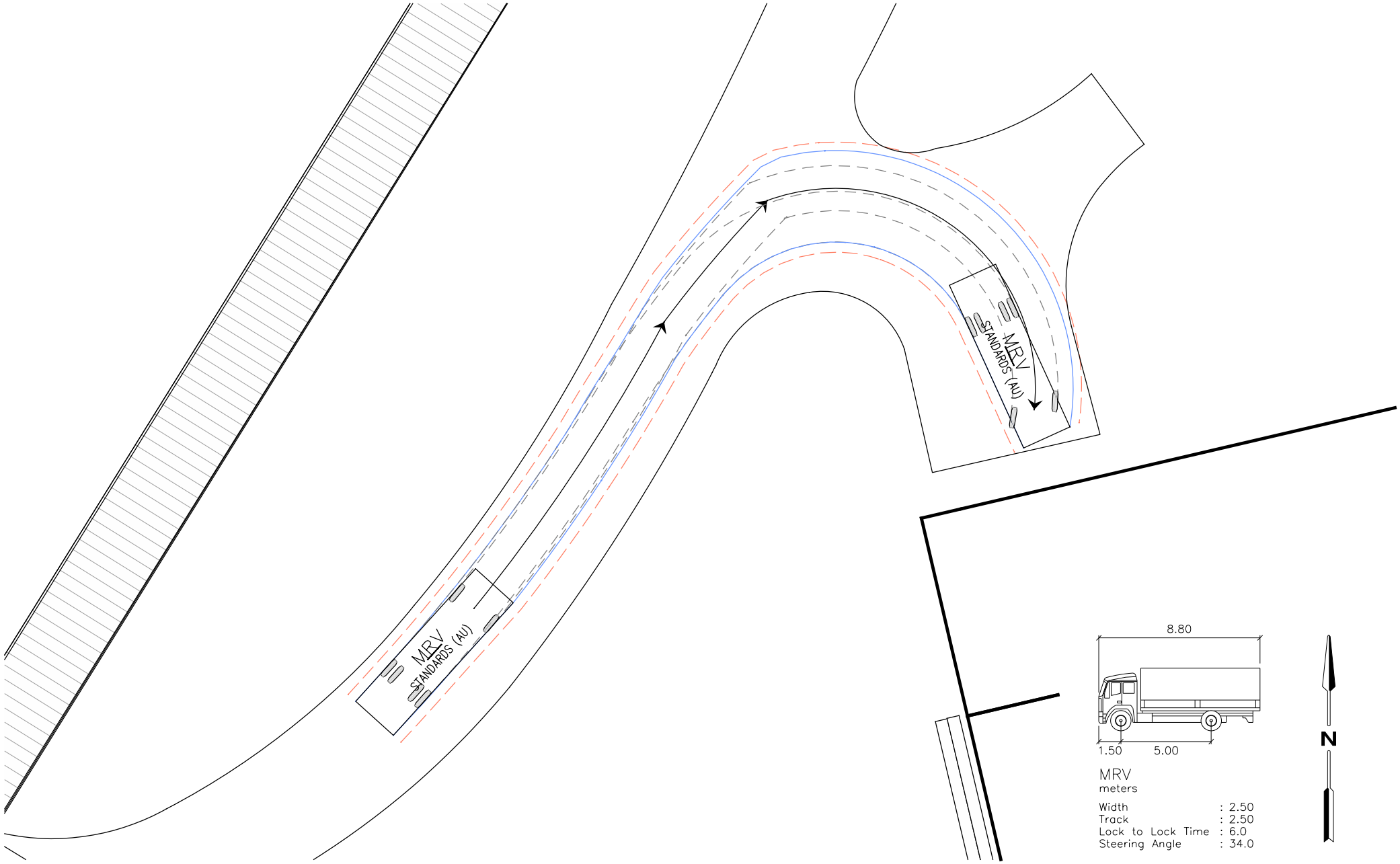
RIPLEY PROVIDENCE STATE SCHOOL
MRV LOADING AREA 1 - EXIT

SWEPT PATH ASSESSMENT

DRAWING NO. AT06 SHEET 6 OF 10 ISSUE P1



MRV
meters

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Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 34.0

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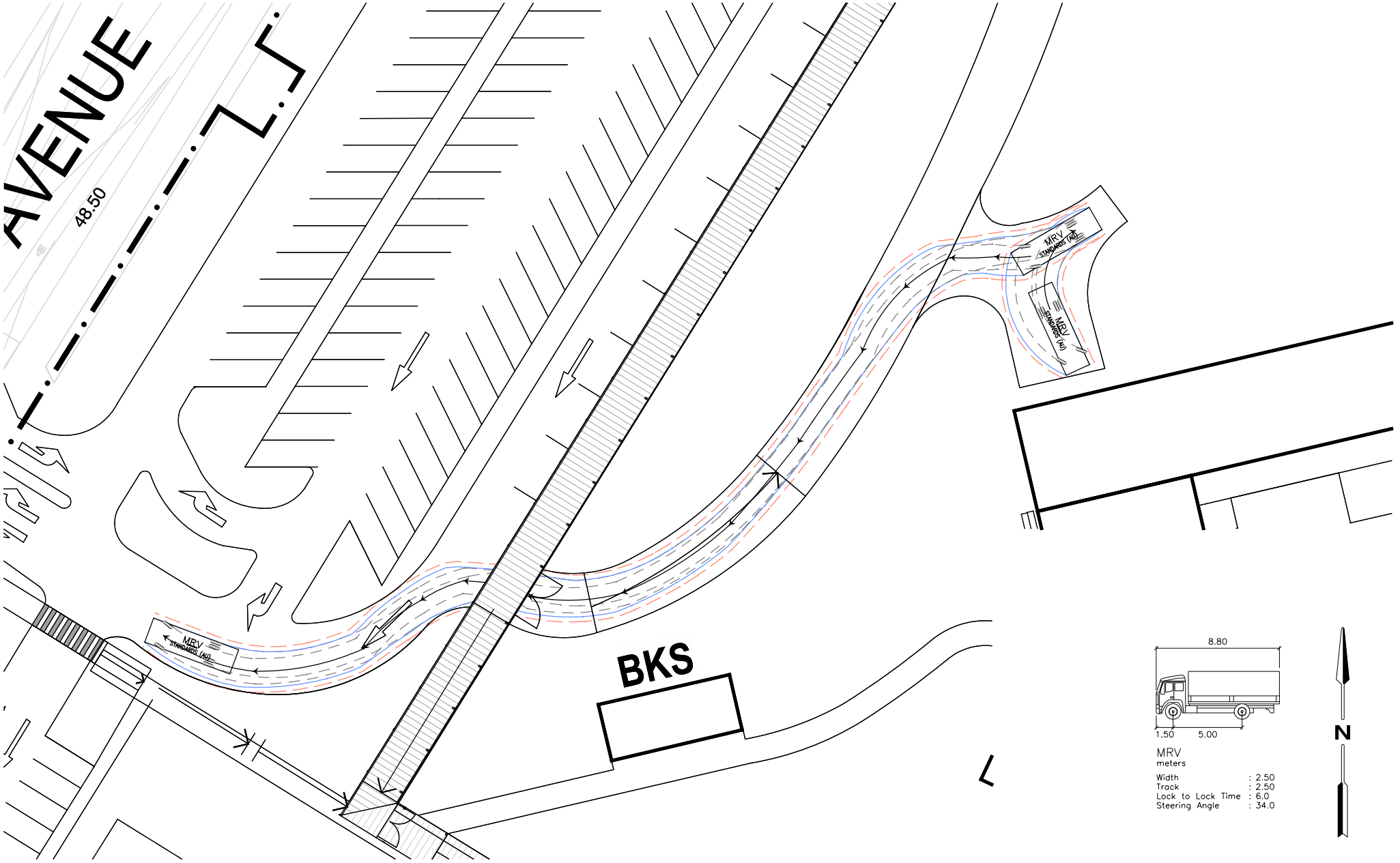
SCALE	A4 — 0 2.5 5 — 1:250
CAD FILE NO.	180620-Q147160-01P9.dgn

RIPLEY PROVIDENCE STATE SCHOOL
MRV LOADING AREA 2 - ENTRY

SWEPT PATH ASSESSMENT

DRAWING NO. AT07 SHEET 7 OF 10 ISSUE P1



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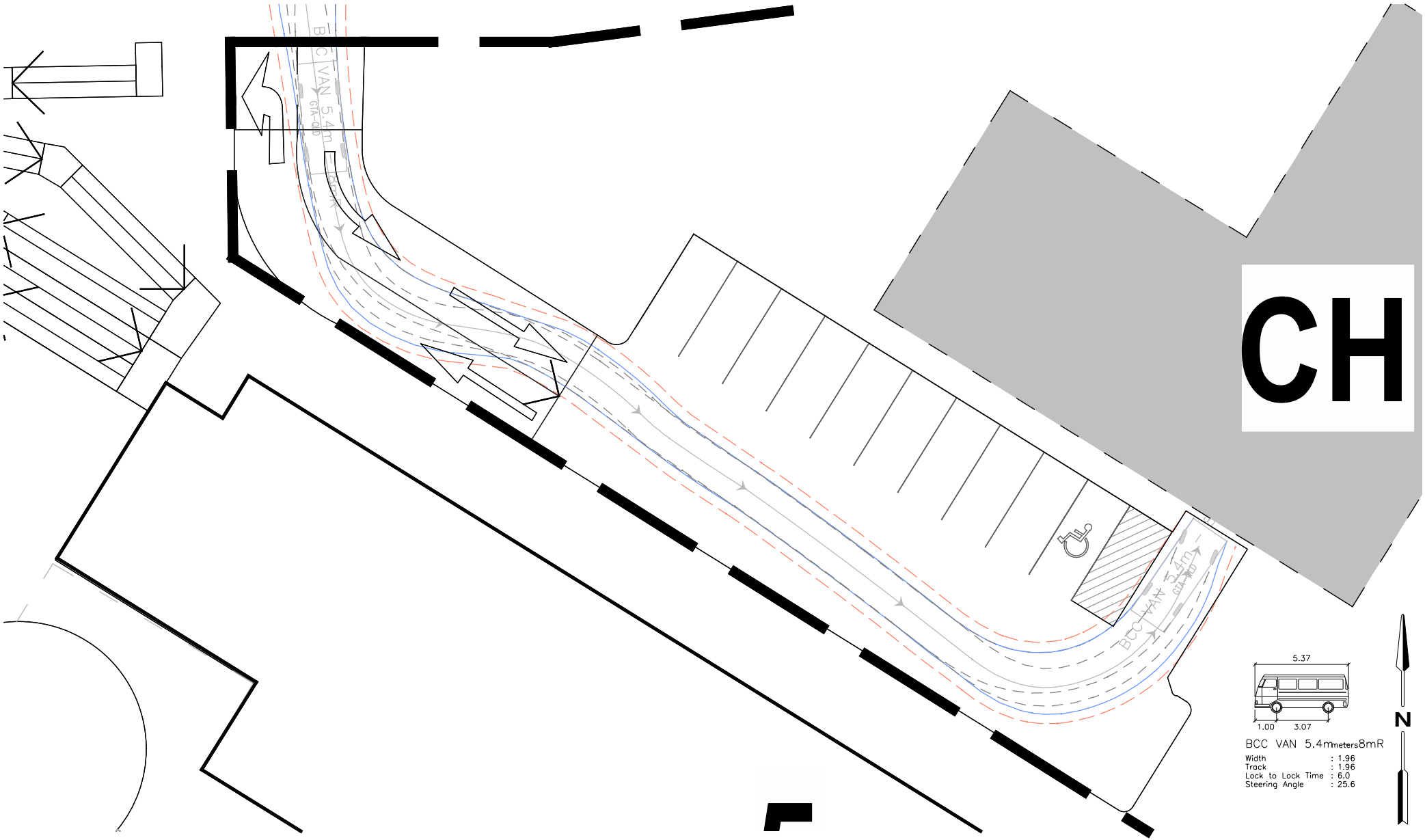
RIPLEY PROVIDENCE STATE SCHOOL
MRV LOADING AREA 2 - EXIT

SWEPT PATH ASSESSMENT

DRAWING NO. AT08 SHEET 8 OF 10 ISSUE P1



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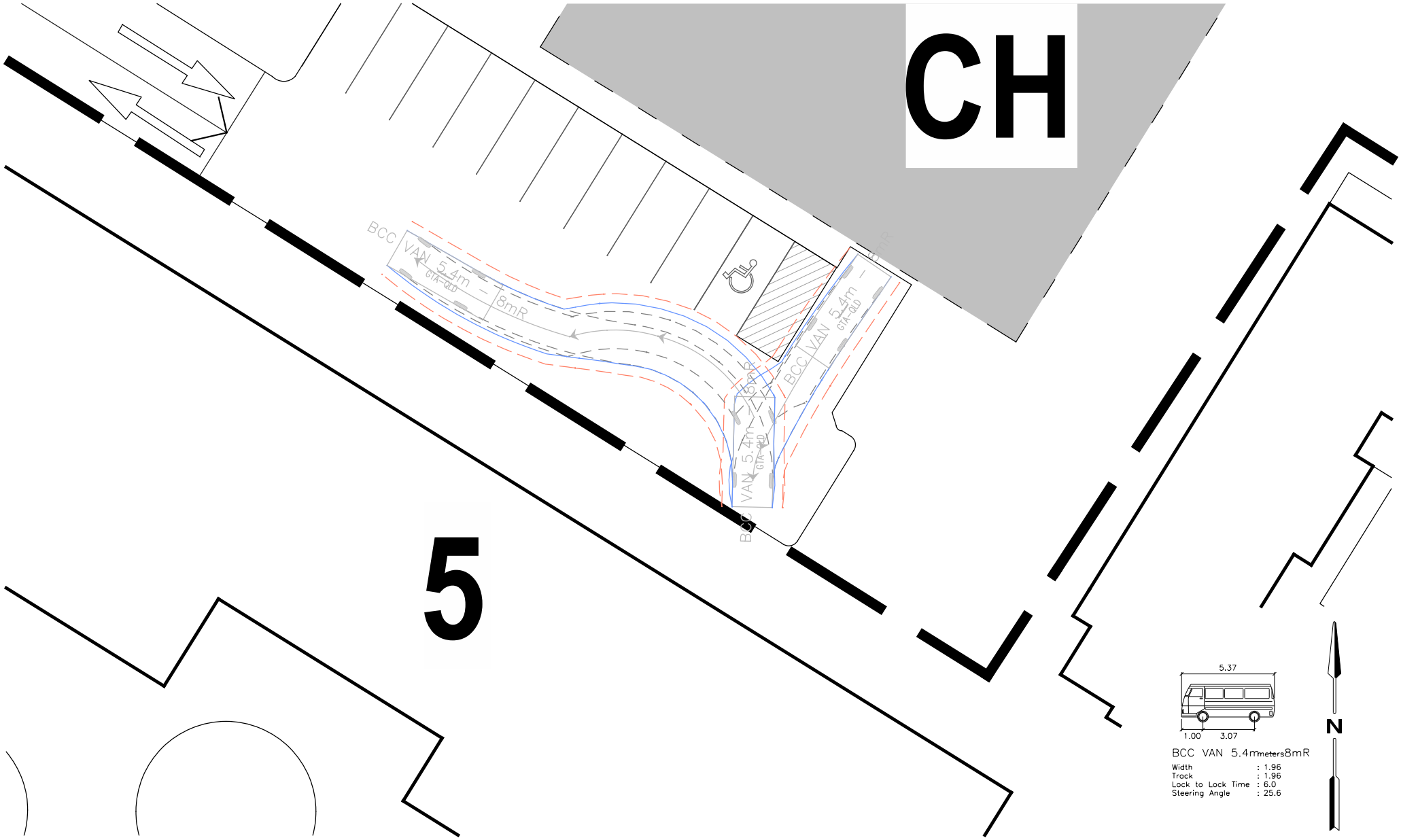
APPROVED BY S. MANTON
DATE ISSUED 22 JUNE 2018

SCALE A4 0 2.5 5 1:250
CAD FILE NO. 180620-Q147160-01P9.dgn

RIPLEY PROVIDENCE STATE SCHOOL
PRIMARY SCHOOL VAN LOADING AREA - ENTRY

SWEPT PATH ASSESSMENT

DRAWING NO. AT09 - Van Entry SHEET 9 OF 10 ISSUE P1



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DATE ISSUED 21 JUNE 2018

SCALE A4 0 2.5 5 1:250
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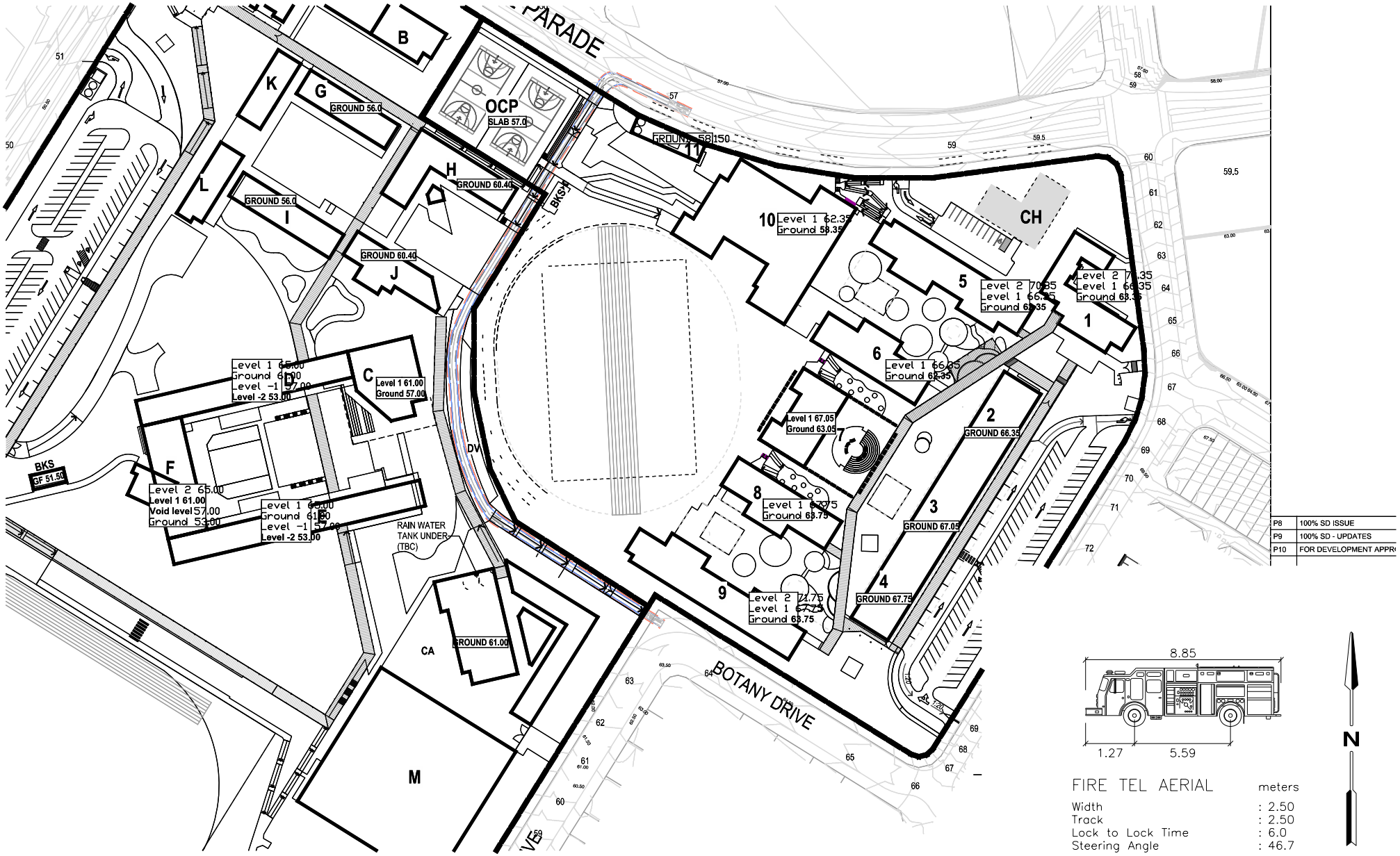
RIPELY PROVIDENCE STATE SCHOOL
PRIMARY SCHOOL VAN LOADING AREA - EXIT

SWEPT PATH ASSESSMENT

DRAWING NO. AT10 - Van Exit SHEET 10 OF 10 ISSUE P1

Appendix D

Swept Path Assessment – School Avenue



P8	100% SD ISSUE
P9	100% SD - UPDATES
P10	FOR DEVELOPMENT APPR

FIRE TEL AERIAL meters

Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 46.7

N

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DESIGN CHECK	T. WILLIAMS
APPROVED BY	S. MANTON
DATE ISSUED	21 JUNE 2018

SCALE A4 0 20 40 CUSTOM 2000

CAD FILE NO. 180620-Q147160-01P9.dgn

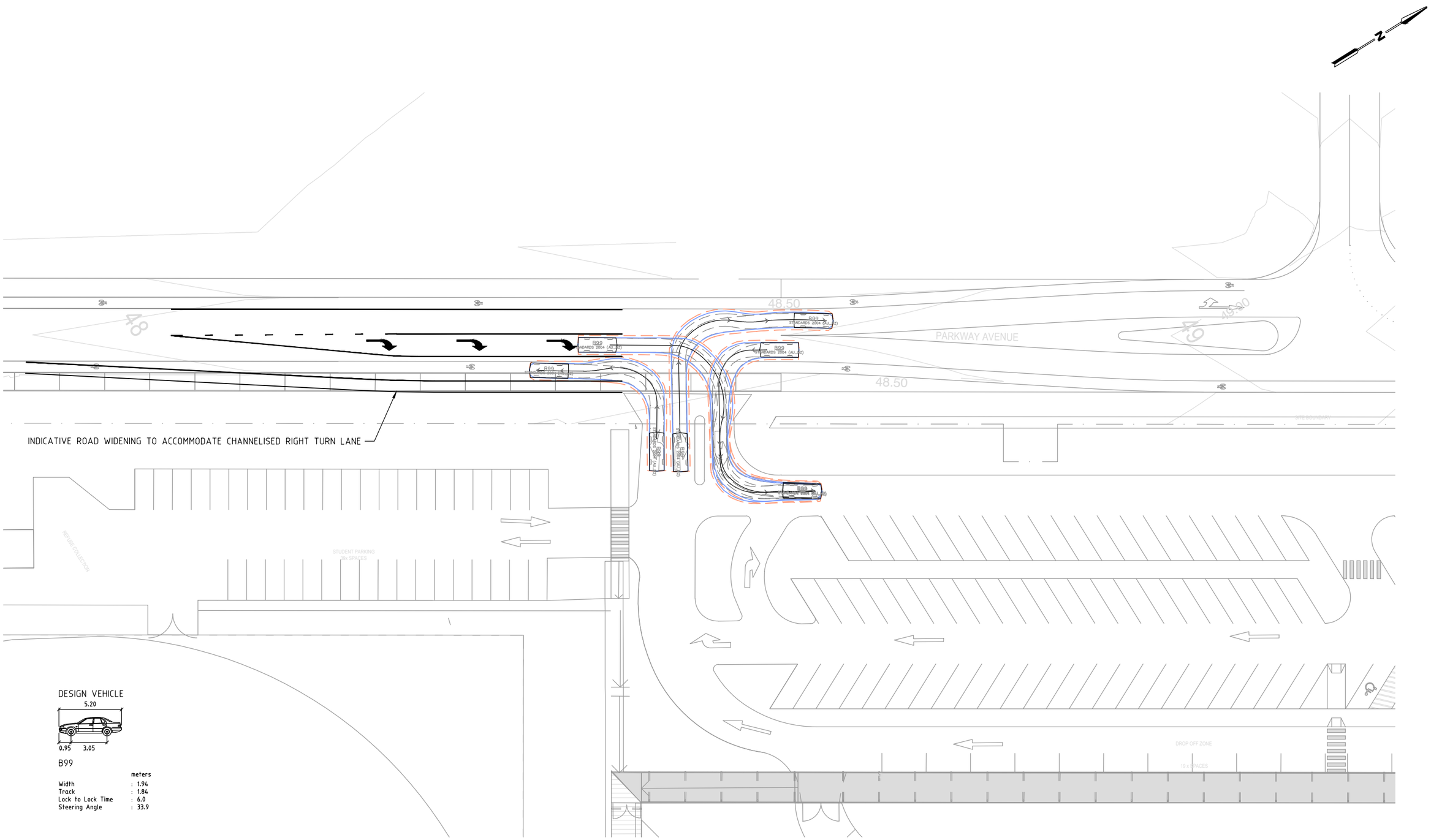
RIPLEY PROVIDENCE STATE SCHOOL
SCHOOL AVENUE - FIRE TRUCK

SWEPT PATH ASSESSMENT

DRAWING NO. AT01 - SCHOOL AVE SHEET 1 OF 1 ISSUE P1

Appendix E

Swept Path Assessment – Vehicle Access



DESIGN VEHICLE

5.20

0.95 3.05

B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

P:\Q147000-147999\Q147160 RIPLEY PROVIDENCE STATE SCHOOL\CAD\180625-Q147160-01P10.DWG PLOTTED BY HENRY TRUONG ON 25/06/2018 AT 11:22

GTA consultants
www.gta.com.au

Melbourne	03 9851 9600
Sydney	02 8448 1800
Brisbane	07 3113 5000
Canberra	02 6243 9400
Adelaide	08 8334 3600
Gold Coast	07 5510 4814
Townsville	07 4722 2765
Perth	08 6169 1000

nearmap.com

PRELIMINARY PLAN
FOR DISCUSSION PURPOSES ONLY
SUBJECT TO CHANGE WITHOUT NOTIFICATION

WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

DESIGNED A. SHETTY
DESIGN CHECK T. WILLIAMS
APPROVED BY S. MANTON
DATE ISSUED 25 JUNE 2018

SCALE A3 0 2.5 5 10 1:500
CAD FILE NO. 180625-Q147160-01P10.DWG

RIPLEY PROVIDENCE STATE SCHOOL
HIGH SCHOOL ALL MOVEMENTS ACCESS

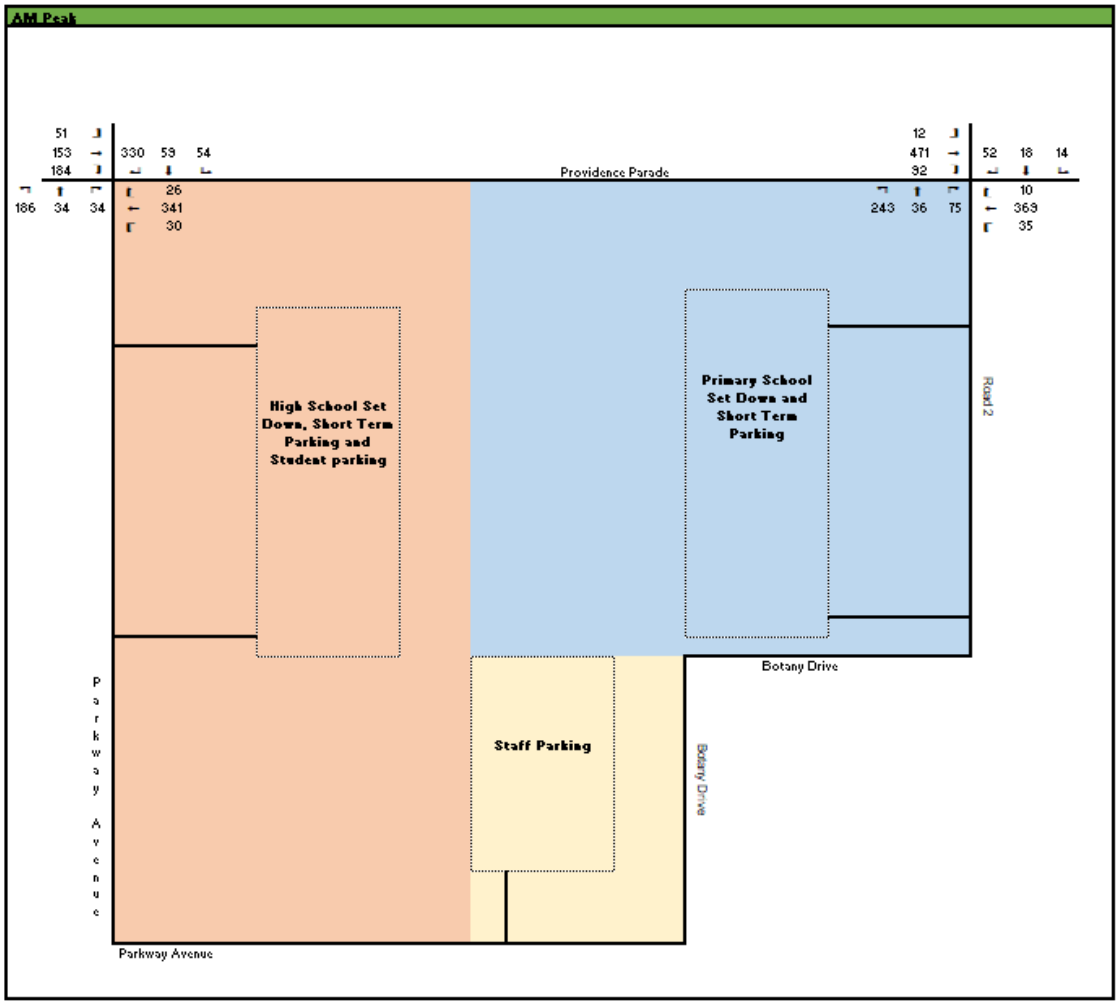
SWEPT PATH ASSESSMENT

DRAWING NO. AT02 - HS - PARKING SHEET 1 OF 1 ISSUE P10

Appendix F

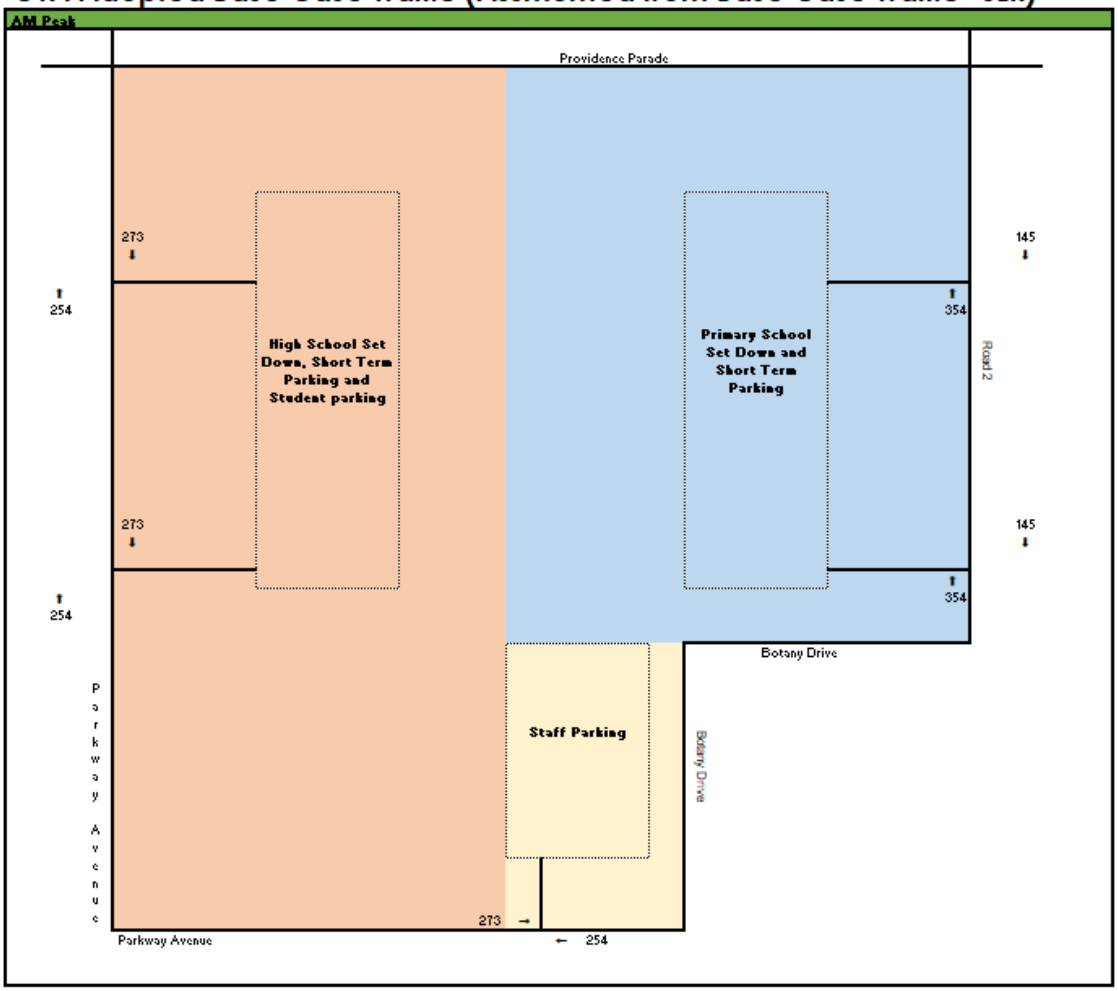
Traffic Movement Diagrams

Base Case Traffic - SLR



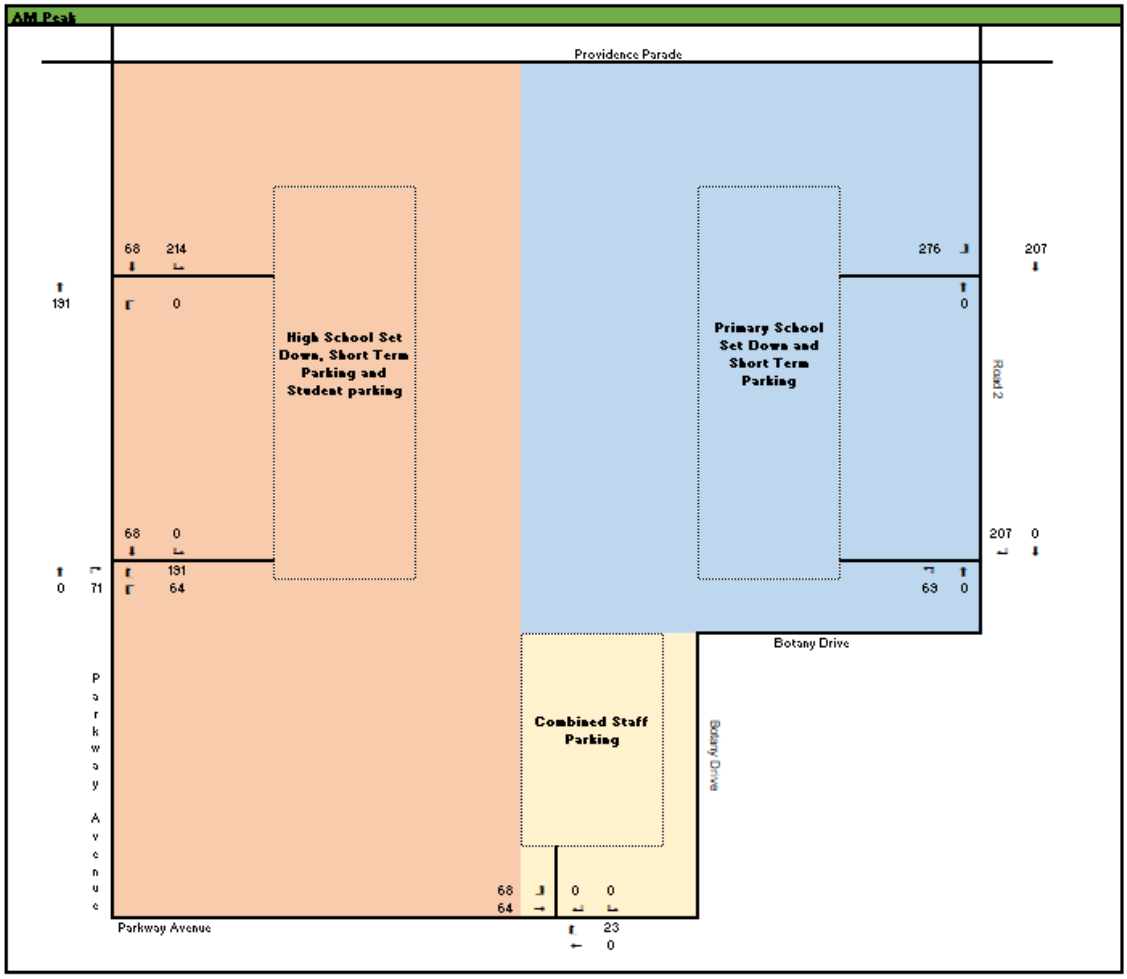
Note: Excludes traffic assumed to be generated by the Ripley Providence State School.

GTA Adopted Base Case Traffic (Assmumed from Base Case Traffic -SLR)

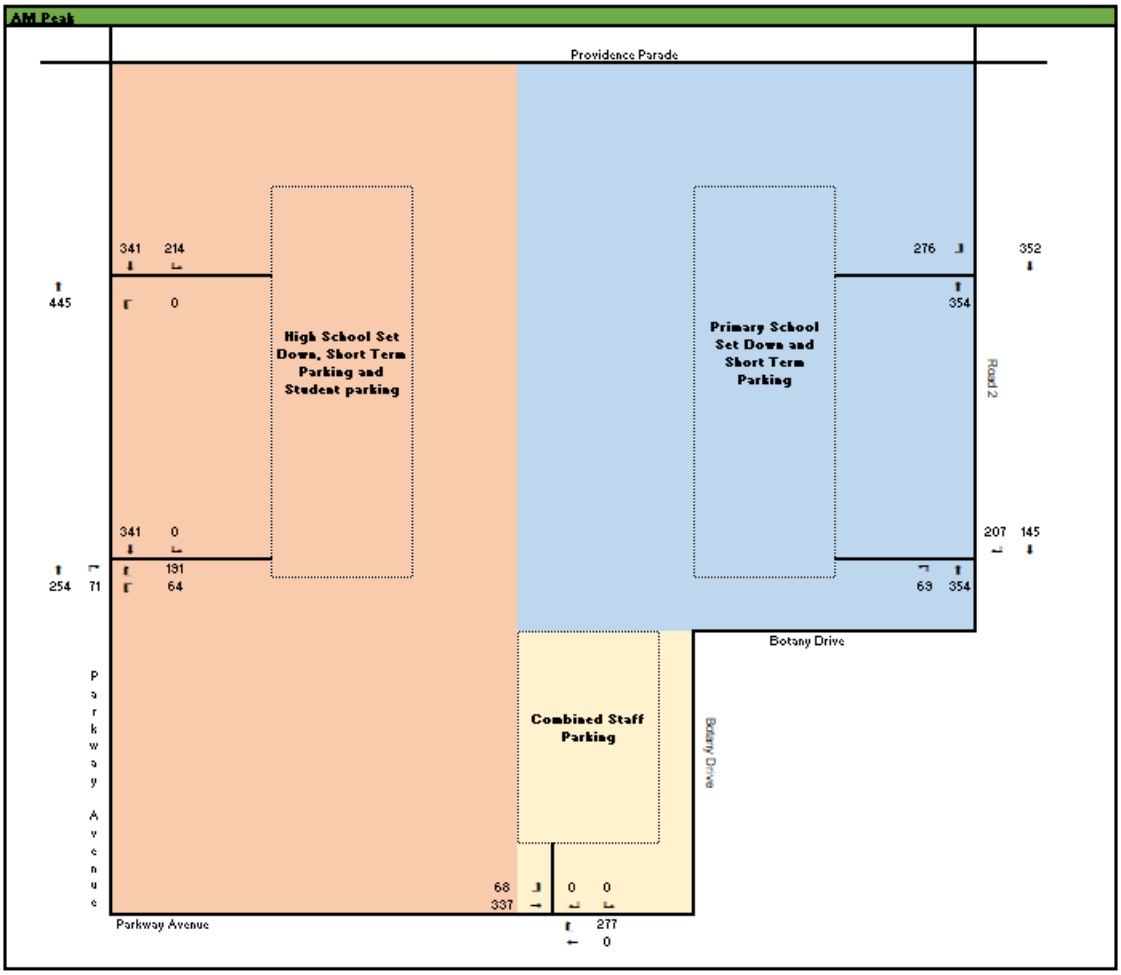


Note: Due to limited available information, no consideration has been had for intersection of Splendid Drive or other intersecting roads. This is to be confirmed and updated once the forecast traffic volumes from the most up to date traffic modelling is available.

School Generated Traffic - GTA



Base Case Traffic + School Traffic - GTA



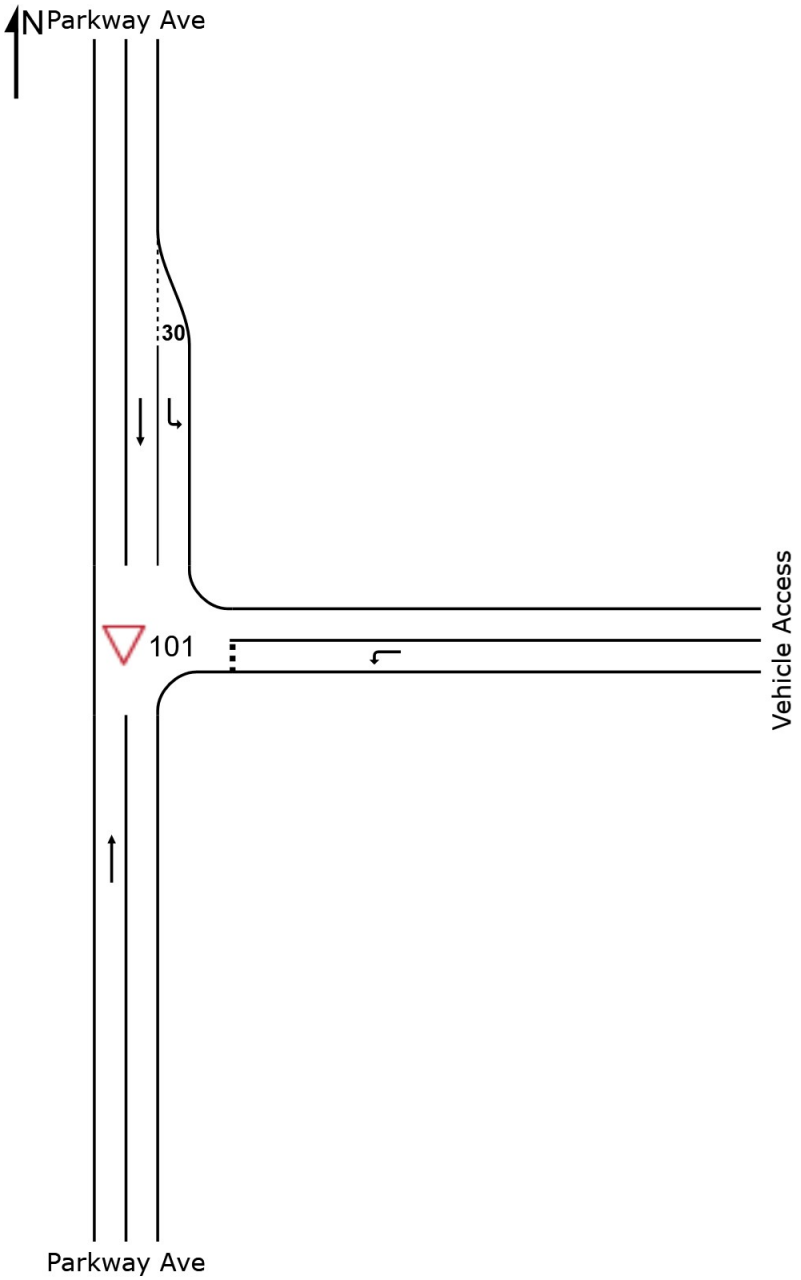
Appendix G

SIDRA Results

SITE LAYOUT

Site: 101 [Base Case Traffic + School Generated Traffic]

High School Left-in/Left-out Car Park AM Peak
Giveway / Yield (Two-Way)



MOVEMENT SUMMARY

Site: 101 [Base Case Traffic + School Generated Traffic]

High School Left-in/Left-out Car Park AM Peak
Giveway / Yield (Two-Way)

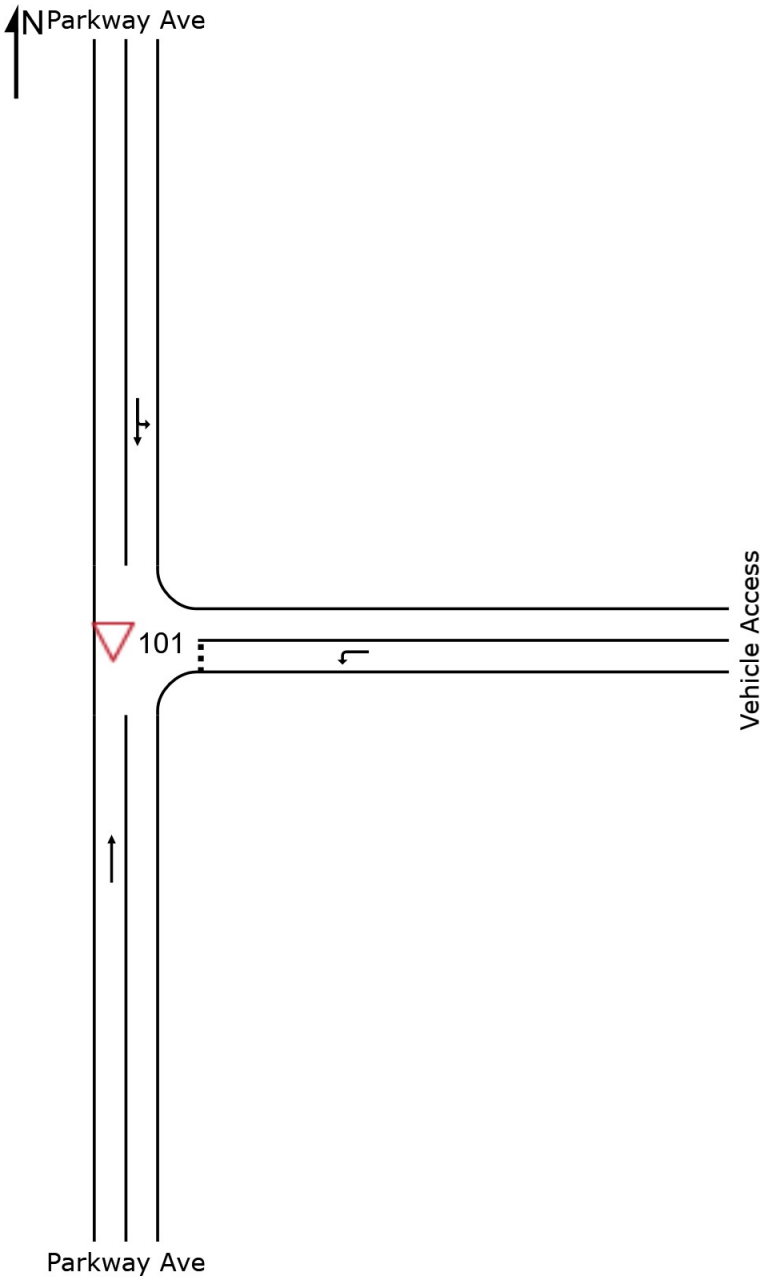
Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Parkway Ave											
2	T1	468	0.0	0.240	0.0	LOS A	0.0	0.0	0.00	0.00	59.9
Approach		468	0.0	0.240	0.0	NA	0.0	0.0	0.00	0.00	59.9
East: Vehicle Access											
4	L2	1	0.0	0.001	6.7	LOS A	0.0	0.0	0.39	0.52	52.4
Approach		1	0.0	0.001	6.7	LOS A	0.0	0.0	0.39	0.52	52.4
North: Parkway Ave											
7	L2	268	0.0	0.144	5.6	LOS A	0.0	0.0	0.00	0.58	53.6
8	T1	359	0.0	0.184	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		626	0.0	0.184	2.4	NA	0.0	0.0	0.00	0.25	57.1
All Vehicles		1096	0.0	0.240	1.4	NA	0.0	0.0	0.00	0.14	58.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
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.

SITE LAYOUT

Site: 101 [Base Case Traffic]

High School Left-in/Left-out Car Park AM Peak
Giveway / Yield (Two-Way)



MOVEMENT SUMMARY

Site: 101 [Base Case Traffic]

High School Left-in/Left-out Car Park AM Peak
Giveway / Yield (Two-Way)

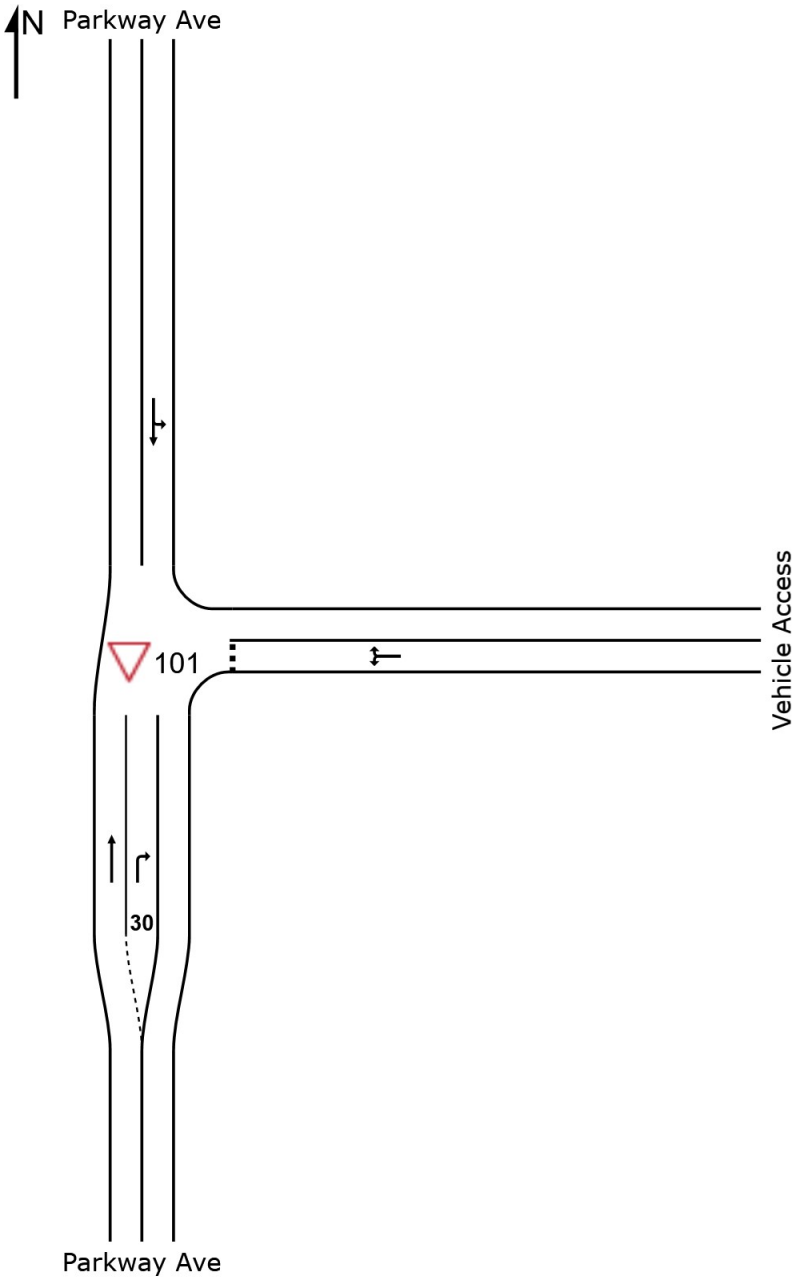
Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Parkway Ave											
2	T1	267	0.0	0.137	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		267	0.0	0.137	0.0	NA	0.0	0.0	0.00	0.00	60.0
East: Vehicle Access											
4	L2	1	0.0	0.001	6.4	LOS A	0.0	0.0	0.34	0.51	52.6
Approach		1	0.0	0.001	6.4	LOS A	0.0	0.0	0.34	0.51	52.6
North: Parkway Ave											
7	L2	1	0.0	0.148	5.6	LOS A	0.0	0.0	0.00	0.00	58.3
8	T1	287	0.0	0.148	0.0	LOS A	0.0	0.0	0.00	0.00	59.9
Approach		289	0.0	0.148	0.0	NA	0.0	0.0	0.00	0.00	59.9
All Vehicles		557	0.0	0.148	0.0	NA	0.0	0.0	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
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.

SITE LAYOUT

Site: 101 [Base Case Traffic + School Generated Traffic]

High School Parking All Movements Access AM Peak
Giveway / Yield (Two-Way)



MOVEMENT SUMMARY

Site: 101 [Base Case Traffic + School Generated Traffic]

High School Parking All Movements Access AM Peak
Giveway / Yield (Two-Way)

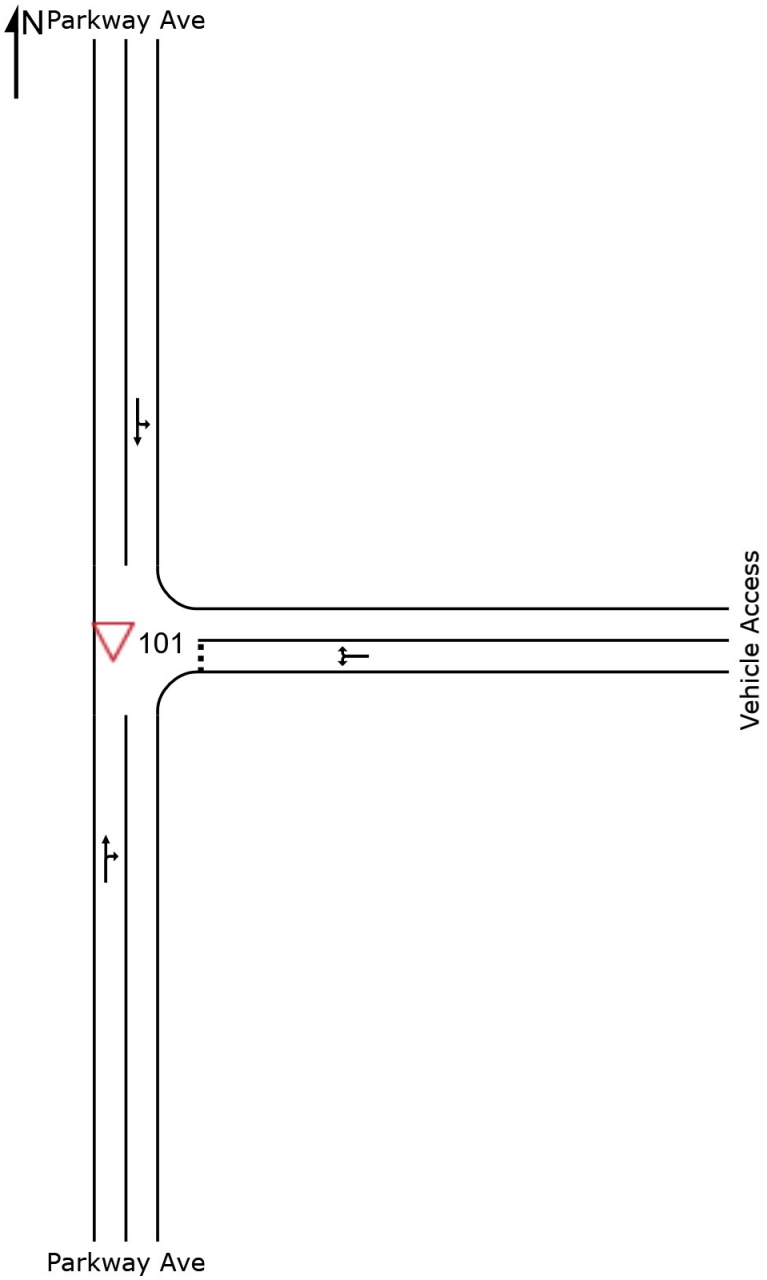
Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Parkway Ave											
2	T1	267	0.0	0.137	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
3	R2	89	0.0	0.067	6.7	LOS A	0.3	2.3	0.43	0.61	52.0
Approach		356	0.0	0.137	1.7	NA	0.3	2.3	0.11	0.15	57.8
East: Vehicle Access											
4	L2	80	0.0	0.517	9.4	LOS A	3.5	24.5	0.67	0.96	48.1
6	R2	239	0.0	0.517	14.6	LOS B	3.5	24.5	0.67	0.96	47.7
Approach		319	0.0	0.517	13.3	LOS B	3.5	24.5	0.67	0.96	47.8
North: Parkway Ave											
7	L2	1	0.0	0.185	5.6	LOS A	0.0	0.0	0.00	0.00	58.3
8	T1	359	0.0	0.185	0.0	LOS A	0.0	0.0	0.00	0.00	59.9
Approach		360	0.0	0.185	0.0	NA	0.0	0.0	0.00	0.00	59.9
All Vehicles		1035	0.0	0.517	4.7	NA	3.5	24.5	0.24	0.35	54.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
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.

SITE LAYOUT

Site: 101 [Base Case Traffic]

High School Parking All Movements Access AM Peak
Giveway / Yield (Two-Way)



MOVEMENT SUMMARY

Site: 101 [Base Case Traffic]

High School Parking All Movements Access AM Peak
Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	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: Parkway Ave											
2	T1	267	0.0	0.138	0.0	LOS A	0.0	0.1	0.00	0.00	60.0
3	R2	1	0.0	0.138	6.6	LOS A	0.0	0.1	0.00	0.00	57.7
Approach		269	0.0	0.138	0.0	NA	0.0	0.1	0.00	0.00	59.9
East: Vehicle Access											
4	L2	1	0.0	0.003	6.4	LOS A	0.0	0.1	0.36	0.56	52.5
6	R2	1	0.0	0.003	7.5	LOS A	0.0	0.1	0.36	0.56	52.0
Approach		3	0.0	0.003	7.0	LOS A	0.0	0.1	0.36	0.56	52.3
North: Parkway Ave											
7	L2	1	0.0	0.148	5.6	LOS A	0.0	0.0	0.00	0.00	58.3
8	T1	287	0.0	0.148	0.0	LOS A	0.0	0.0	0.00	0.00	59.9
Approach		289	0.0	0.148	0.0	NA	0.0	0.0	0.00	0.00	59.9
All Vehicles		560	0.0	0.148	0.1	NA	0.0	0.1	0.00	0.01	59.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
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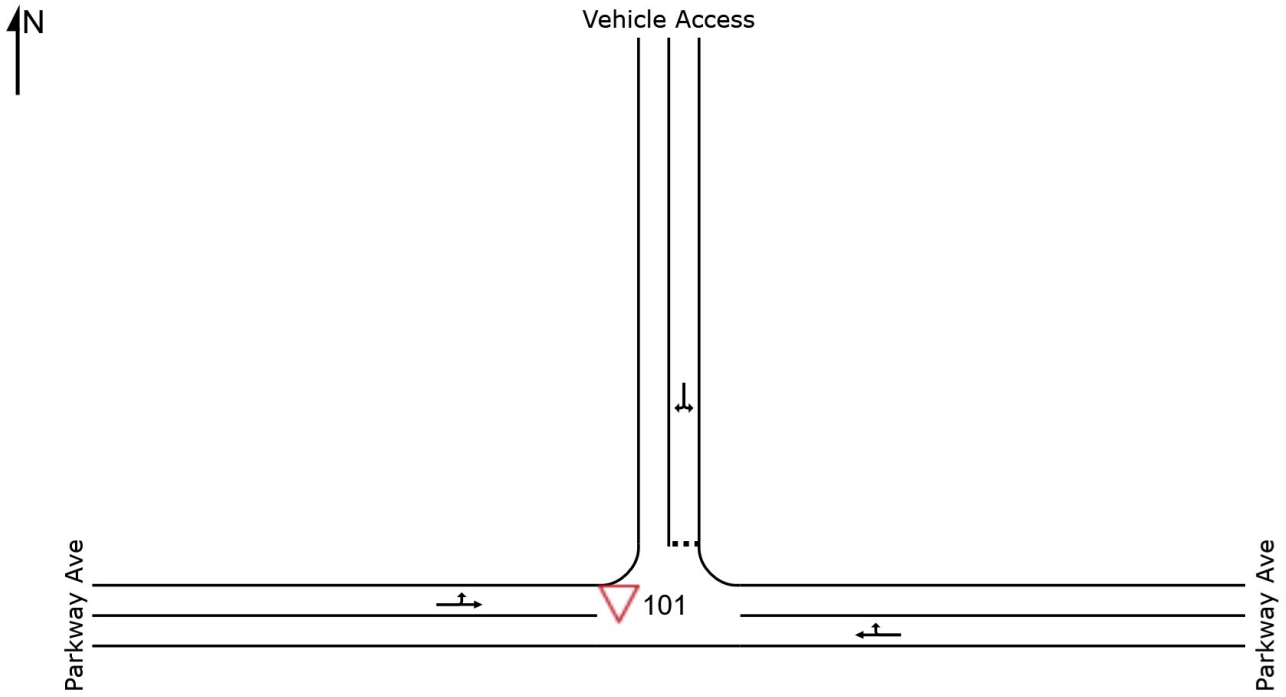
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101 [Base Case Traffic]

Staff Parking AM Peak
Giveway / Yield (Two-Way)



Organisation: GTA CONSULTANTS | Created: 21 June 2018 10:22:24 AM
Project: P:\Q14700-14799\Q147160 Ripley Providence State School\Modelling\181113 - SIDRA\1. 181113-Q147160-Parkway Ave & Staff Parking.sip7

MOVEMENT SUMMARY

Site: 101 [Base Case Traffic]

Staff Parking AM Peak
Giveway / Yield (Two-Way)

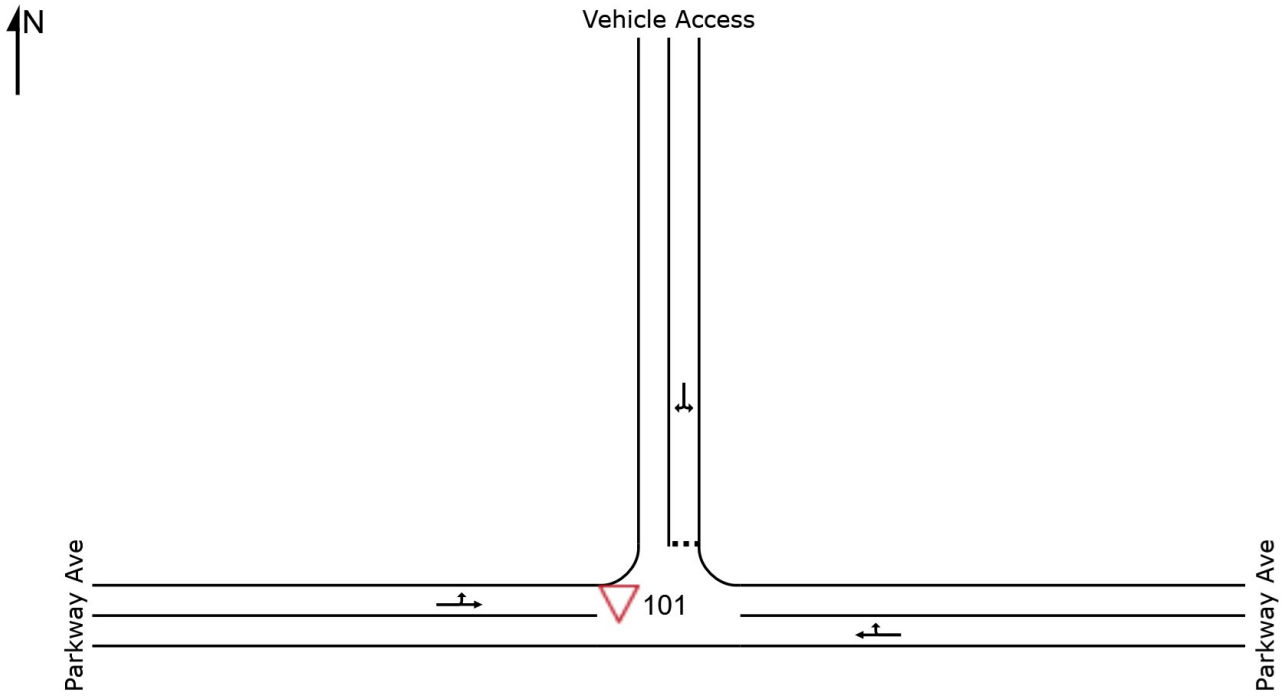
Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Parkway Ave											
5	T1	1	0.0	0.001	0.0	LOS A	0.0	0.0	0.02	0.30	57.4
6	R2	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.02	0.30	55.3
Approach		2	0.0	0.001	2.7	NA	0.0	0.0	0.02	0.30	56.3
North: Vehicle Access											
7	L2	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.01	0.58	53.6
9	R2	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.01	0.58	53.1
Approach		2	0.0	0.001	5.5	LOS A	0.0	0.0	0.01	0.58	53.3
West: Parkway Ave											
10	L2	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.00	0.30	55.9
11	T1	1	0.0	0.001	0.0	LOS A	0.0	0.0	0.00	0.30	57.4
Approach		2	0.0	0.001	2.8	NA	0.0	0.0	0.00	0.30	56.6
All Vehicles		6	0.0	0.001	3.7	NA	0.0	0.0	0.01	0.39	55.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
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.

SITE LAYOUT

Site: 101 [Base Case Traffic + School Generated Traffic]

Staff Parking AM Peak
Giveway / Yield (Two-Way)



Organisation: GTA CONSULTANTS | Created: 21 June 2018 10:23:00 AM
Project: P:\Q14700-14799\Q147160 Ripley Providence State School\Modelling\181113 - SIDRA\1. 181113-Q147160-Parkway Ave & Staff Parking.sip7

MOVEMENT SUMMARY

Site: 101 [Base Case Traffic + School Generated Traffic]

Staff Parking AM Peak
Giveway / Yield (Two-Way)

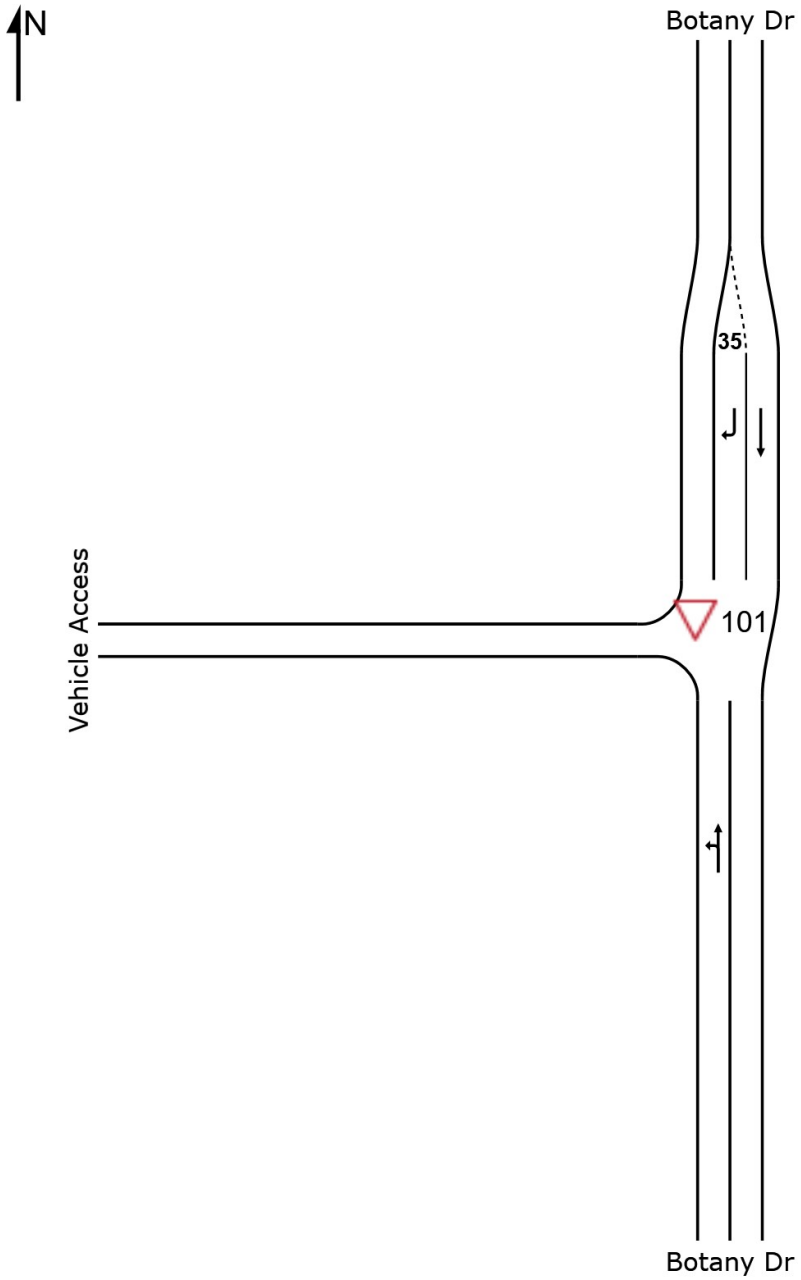
Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Parkway Ave											
5	T1	1	0.0	0.019	0.4	LOS A	0.1	0.6	0.25	0.54	54.5
6	R2	29	0.0	0.019	5.9	LOS A	0.1	0.6	0.25	0.54	52.6
Approach		30	0.0	0.019	5.7	NA	0.1	0.6	0.25	0.54	52.6
North: Vehicle Access											
7	L2	1	0.0	0.002	5.7	LOS A	0.0	0.0	0.16	0.54	53.2
9	R2	1	0.0	0.002	5.9	LOS A	0.0	0.0	0.16	0.54	52.7
Approach		3	0.0	0.002	5.8	LOS A	0.0	0.0	0.16	0.54	52.9
West: Parkway Ave											
10	L2	85	0.0	0.080	5.5	LOS A	0.0	0.0	0.00	0.33	55.6
11	T1	67	0.0	0.080	0.0	LOS A	0.0	0.0	0.00	0.33	57.1
Approach		152	0.0	0.080	3.1	NA	0.0	0.0	0.00	0.33	56.2
All Vehicles		185	0.0	0.080	3.6	NA	0.1	0.6	0.04	0.37	55.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
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.

SITE LAYOUT

Site: 101 [Base Case Traffic + School Generated Traffic]

Primary School Parking Entry AM Peak
Giveway / Yield (Two-Way)



MOVEMENT SUMMARY

Site: 101 [Base Case Traffic + School Generated Traffic]

Primary School Parking Entry AM Peak
Giveway / Yield (Two-Way)

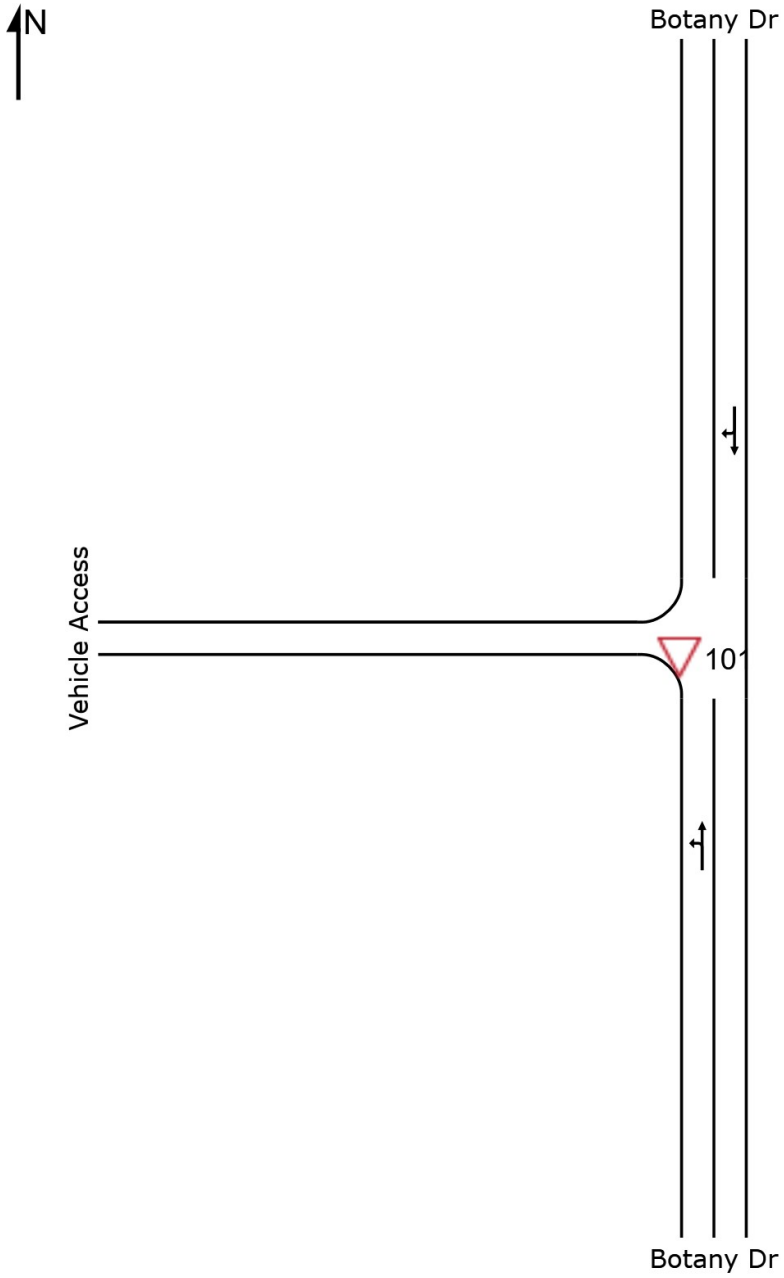
Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Botany Dr											
1	L2	86	0.0	0.238	5.6	LOS A	0.0	0.0	0.00	0.11	57.4
2	T1	373	0.0	0.238	0.0	LOS A	0.0	0.0	0.00	0.11	58.9
Approach		459	0.0	0.238	1.1	NA	0.0	0.0	0.00	0.11	58.6
North: Botany Dr											
8	T1	153	0.0	0.078	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
9	R2	259	0.0	0.227	7.7	LOS A	1.1	7.4	0.53	0.74	51.3
Approach		411	0.0	0.227	4.8	NA	1.1	7.4	0.33	0.47	54.2
All Vehicles		870	0.0	0.238	2.9	NA	1.1	7.4	0.16	0.28	56.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
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.

SITE LAYOUT

Site: 101 [Base Case Traffic]

Primary School Parking Entry AM Peak
Giveway / Yield (Two-Way)



MOVEMENT SUMMARY

Site: 101 [Base Case Traffic]

Primary School Parking Entry AM Peak
Giveway / Yield (Two-Way)

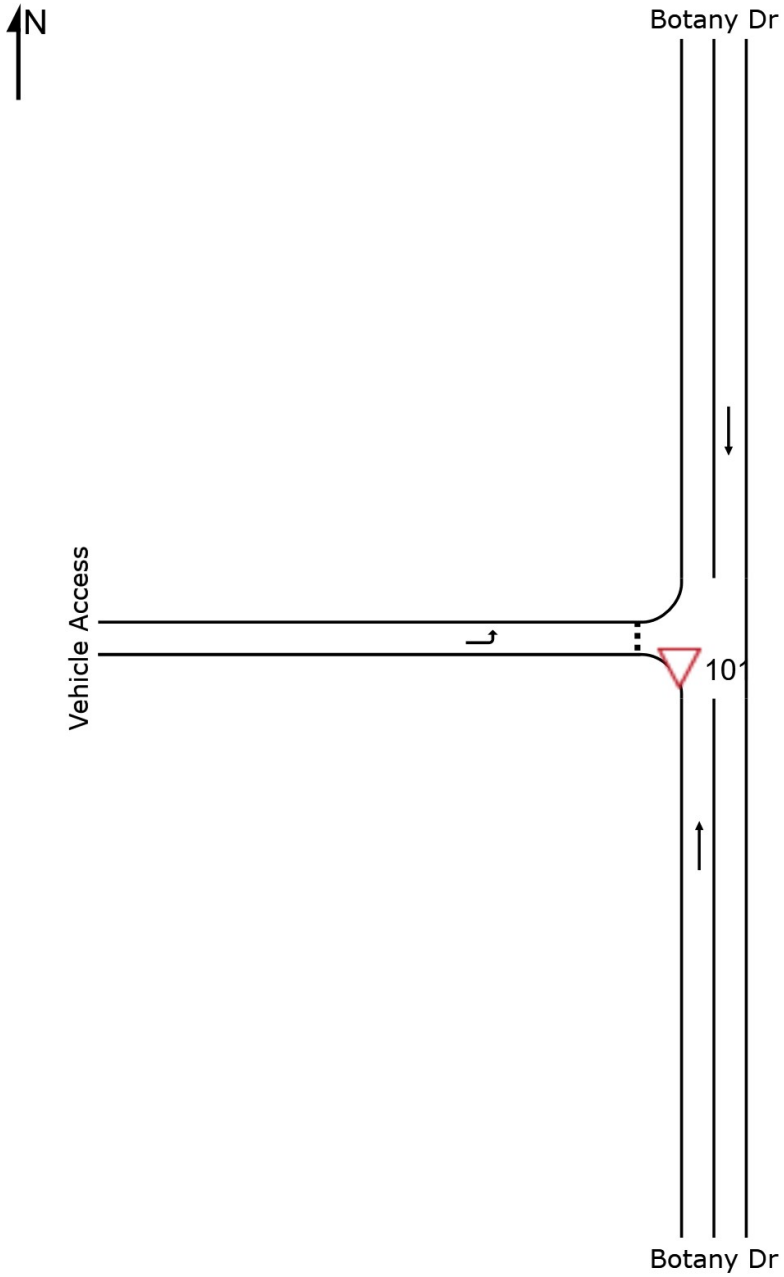
Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Botany Dr											
1	L2	1	0.0	0.192	5.6	LOS A	0.0	0.0	0.00	0.00	58.3
2	T1	373	0.0	0.192	0.0	LOS A	0.0	0.0	0.00	0.00	59.9
Approach		374	0.0	0.192	0.0	NA	0.0	0.0	0.00	0.00	59.9
North: Botany Dr											
8	T1	153	0.0	0.078	0.0	LOS A	0.0	0.1	0.01	0.00	59.9
9	R2	1	0.0	0.078	7.1	LOS A	0.0	0.1	0.01	0.00	57.5
Approach		154	0.0	0.078	0.1	NA	0.0	0.1	0.01	0.00	59.9
All Vehicles		527	0.0	0.192	0.0	NA	0.0	0.1	0.00	0.00	59.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
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.

SITE LAYOUT

Site: 101 [Base Case Traffic + School Generated Traffic]

Primary Parking Exit AM Peak
Giveway / Yield (Two-Way)



MOVEMENT SUMMARY

Site: 101 [Base Case Traffic + School Generated Traffic]

Primary Parking Exit AM Peak
Giveway / Yield (Two-Way)

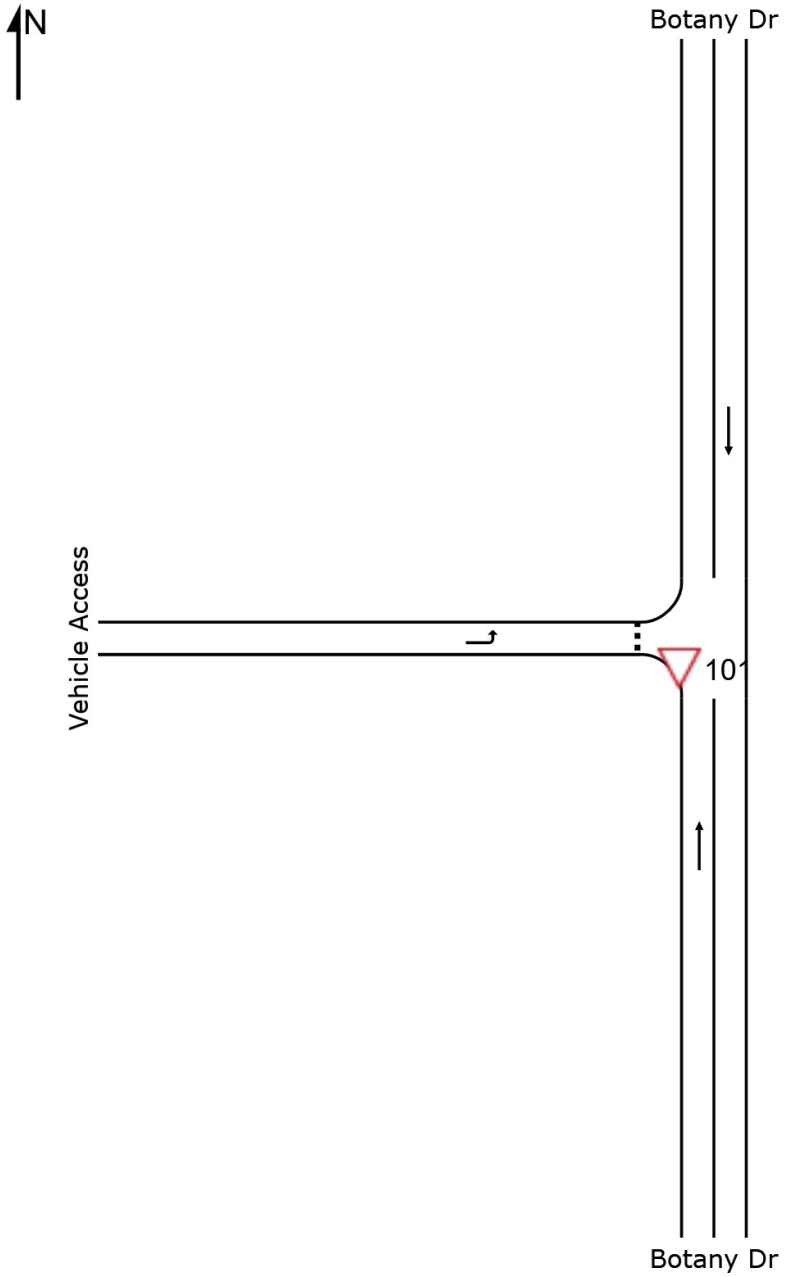
Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Botany Dr											
2	T1	373	0.0	0.191	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		373	0.0	0.191	0.0	NA	0.0	0.0	0.00	0.00	60.0
North: Botany Dr											
8	T1	153	0.0	0.078	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		153	0.0	0.078	0.0	NA	0.0	0.0	0.00	0.00	60.0
West: Vehicle Access											
10	L2	345	0.0	0.299	7.2	LOS A	1.4	9.5	0.48	0.69	52.1
Approach		345	0.0	0.299	7.2	LOS A	1.4	9.5	0.48	0.69	52.1
All Vehicles		870	0.0	0.299	2.9	NA	1.4	9.5	0.19	0.27	56.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
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.

SITE LAYOUT

Site: 101 [Base Case Traffic]

Primary Parking Exit AM Peak
Giveway / Yield (Two-Way)



MOVEMENT SUMMARY

Site: 101 [Base Case Traffic]

Primary Parking Exit AM Peak
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	OD Mov	Demand Flows Total veh/h	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: Botany Dr											
2	T1	373	0.0	0.191	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		373	0.0	0.191	0.0	NA	0.0	0.0	0.00	0.00	60.0
North: Botany Dr											
8	T1	153	0.0	0.078	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		153	0.0	0.078	0.0	NA	0.0	0.0	0.00	0.00	60.0
West: Vehicle Access											
10	L2	1	0.0	0.001	6.7	LOS A	0.0	0.0	0.39	0.53	52.4
Approach		1	0.0	0.001	6.7	LOS A	0.0	0.0	0.39	0.53	52.4
All Vehicles		526	0.0	0.191	0.0	NA	0.0	0.0	0.00	0.00	60.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
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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Appendix 13

Acoustic Assessment

Department of Housing and Public Works

Queensland Government

Acoustics Noise Vibration
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www.acousticsnv.com.au
ABN: 23102422446

19 June 2018
Ref: 0200 Ripley SS & SHS AIA Rpt 01

Attention: Michelle Duvall

Wilson Architects
564 Boundary Street
Spring Hill QLD 4000

Dear Michelle,

RE: PIPLEY PROVIDENCE STATE PRIMARY & STATE HIGH SCHOOL – NEW SCHOOL SITE

– ACOUSTIC IMPACT ASSESSMENT

This report presents the results of the acoustic impact assessment undertaken by Acoustics Noise Vibration for the proposed new Ripley Providence State Primary and State High School.

INTRODUCTION

Education Queensland (QEd) proposes to build a new State Primary and State High School at Ripley Providence. Figure 1 shows the location of the buildings on the school site. The buildings are proposed to be delivered in stages. This report provides comments on all stages.

Review of DSDIP Interactive noise mapping shows the school site on Providence Drive, Ripley is not in a transport noise corridor, and should not experience significant road traffic noise from a major State controlled road or railway.

NOISE SENSITIVE RECEPTORS

The school site is located in a developing area and is bounded by Providence Parade, Botany Drive, Parkway Avenue, and a road to the northwest. It is expected that Providence Parade may become a busy road as the area develops. The nearest residential areas are located to the southeast of the school site across Botany Drive, the northwest across the un-named road, and it is expected that other residential development will occur in the future across the other roads surrounding the school site. Figure 2 shows the school and surrounding uses. The houses along these boundaries would experience local and distant traffic noise, and suburban sounds.

This assessment considers potential noise impacts that may be caused by the new building on residential areas along the school boundaries and potential local traffic noise impacts on school buildings.

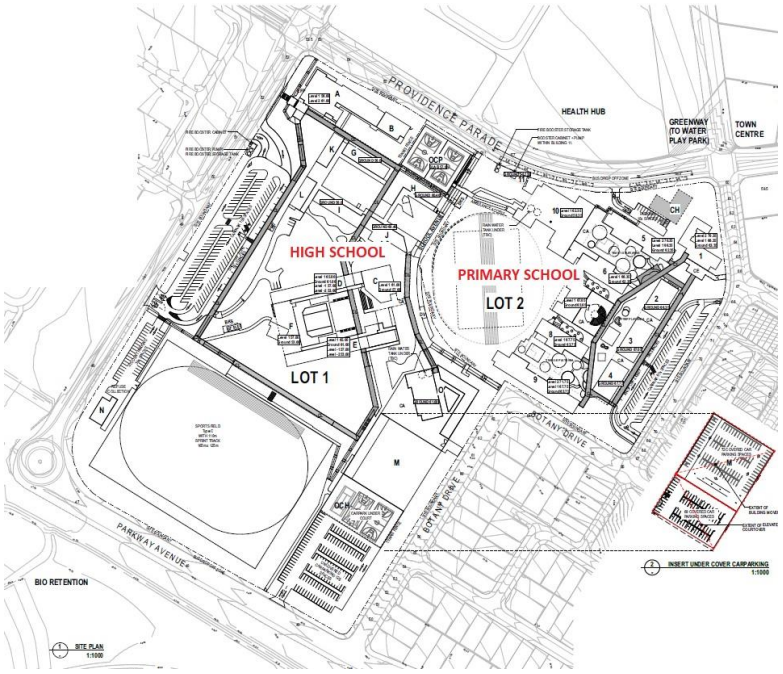

Figure 1 Site Plan

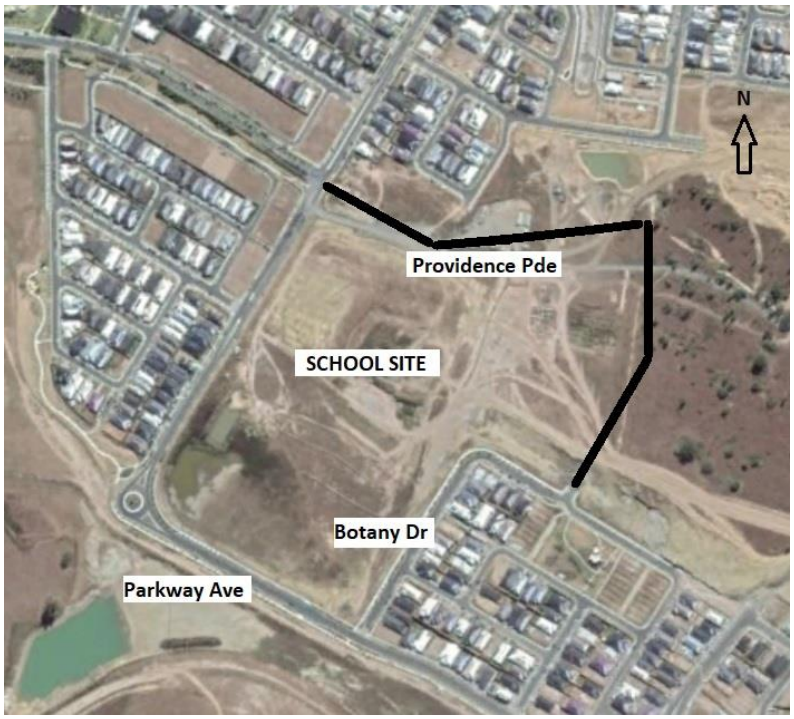

Figure 2 Locality Plan (Source: Google Earth)

NOISE CRITERIA

Noise matters are dealt with using Ipswich City Council and Queensland Government criteria set out in the Environmental Protection Act. The Council criteria reflect the Environmental Protection Act criteria.

The *Environmental Protection Act* section *440U Air Conditioning Equipment* – sets criteria of BG + 5dB(A), 7am to 10pm, and BG + 3dB(A) from 10pm to 7am. Section *440W Indoor Venues* sets the criteria of BG + 5dB(A), 7am to 10pm, and BG + 3dB(A) from 10pm to Midnight, and "inaudible" from Midnight to 7am. However 440W notes that the 7am – 10pm criteria do not apply if the "building is, or is part of, an educational institution, and the use of the building as an indoor venue is organized by or for the educational institution for non-commercial purposes of the institution". The *Environmental Protection (Noise) Policy* sets acoustic quality objectives for residential and other uses. The external acoustic objective for a dwelling is 50dB(A) for day and evening periods. These can be used to set upper limits for noise criteria developed using the Environmental Protection Act.

NOISE ASSESSMENT

The building layout for the new Schools is shown in Figure 3. The school facilities will include:

- Executive, Student Services and Staff offices;
- Library/ Resource Centre;
- Information Services Centre;
- Prep, Yr 1- 12 General Learning Areas (GLA);
- Canteen;
- Multi-Purpose Hall, workshop lower level, Music GLA and Music practice;
- Grounds care and store;
- Applied Technology & Robotics (ATR);
- Hospitality & Food Studies;
- Business, Fashion & Design Graphics (BFG);
- Science Centre;
- Art and Design;
- Amenities;
- Junior Applied Technology (JAT);
- Senior Applied Technology (SAT);
- Indoor Sports Centre;
- Performing Arts Centre (PAC), and Music Rehearsal;
- Ovals;
- Multi-purpose courts;
- Car parking, service roads, and drop-off/ pick-up zone.

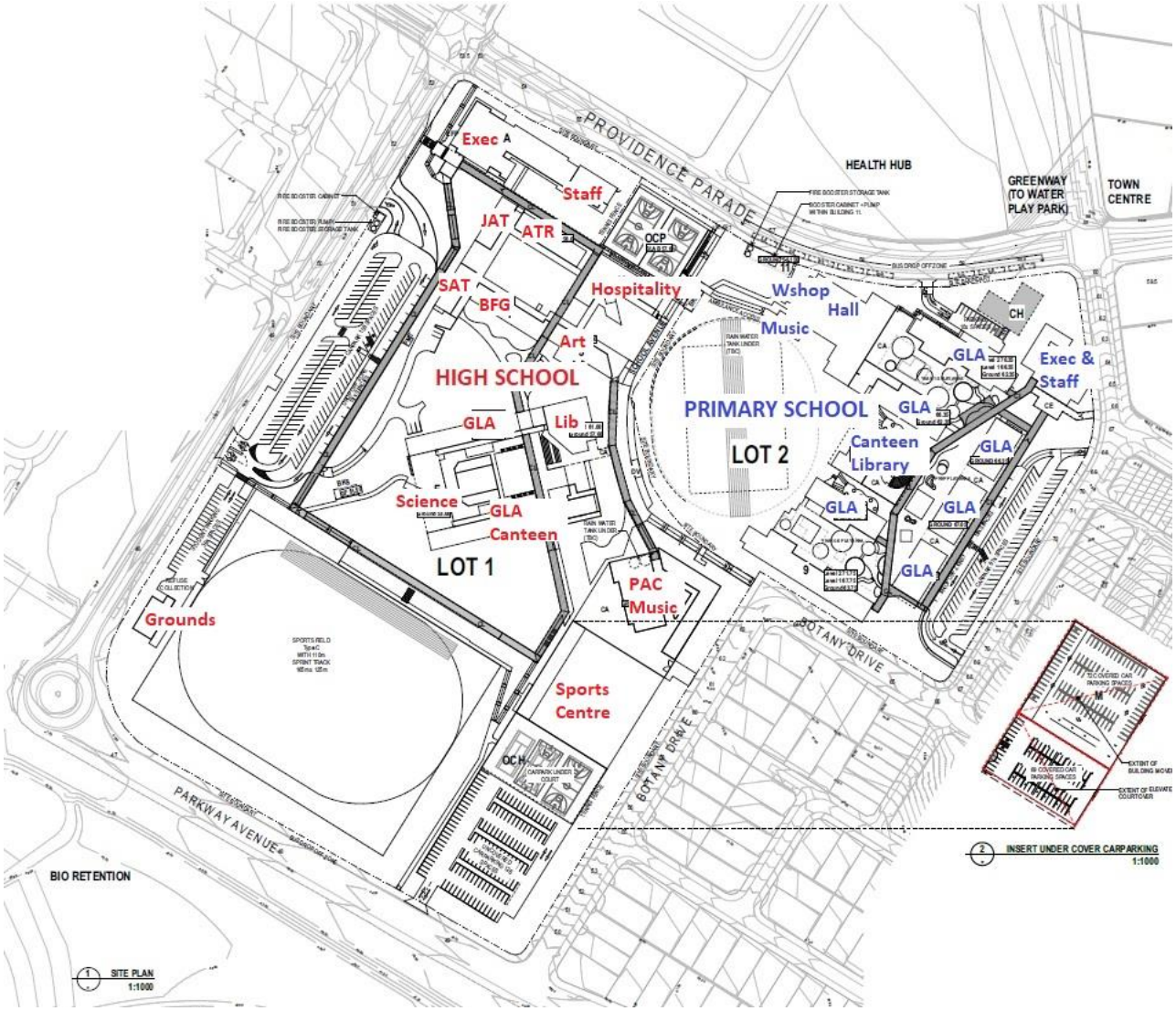

Figure 3 Building Layout for Primary & High School

Noise generated by the new school will include:

- Students and teachers in learning centres (GLA) (ie. science centre, hospitality, art & design, business, fashion & design graphics, applied technology & robotics), library/ resource centre/ information services centre, canteen, and executive and staff buildings;
- Multi-Purpose Hall, Workshop and Music;
- Sports Centre;
- Junior and Senior Applied Technology;
- Performing Arts Centre, and Music Rehearsal;
- Sports Ovals and Multi-purpose courts;
- Car parking, and dropoff/ pickup zones;

- Grounds Building & Store;
- School bell and PA system; and
- Mechanical Plant.

Learning Spaces (GLA), Library/ Resource Centre/ Information Services Centre, Canteen, and Executive and Staff buildings

Noise from students and staff using these spaces is not expected to be significant at residences along the school boundaries due to the low noise levels generated and the significant buffer distances.

The Executive, Student Services & Staff Centres will experience noise from Providence Parade and would benefit from air conditioning to enable doors and windows to be kept closed.

Primary School Multi-Purpose Hall, Workshop & Music building, High School Sports Centre

The multi-purpose hall will be used for sports and has a stage for performances. The hall will have acoustic treatments to reduce reverberant noise levels and is located along Providence Parade providing a large buffer distance to existing residences along Botany Drive. The building will be naturally ventilated and sport and music sound is expected to be audible at premises across Providence Parade. These may be commercial premises, which would be less sensitive to school noise. The workshop will be used for maintenance work and is oriented to direct noise towards the primary school oval. The music practice room and GLA are located on the oval side of the hall and have a significant buffer distance to existing residences along Botany Drive.

The indoor sports centre with undercover parking will be naturally ventilated and sport noise is expected to be audible at houses across Botany Drive. The building will have acoustic treatments to reduce reverberant noise levels, has a setback from the site boundary, and will be cut into the ground to assist in reducing noise radiating to the residential area across Botany Drive.

Junior and Senior Applied Technology

The applied technology buildings will be used for design and fabrication of construction pieces. Noise sources will include hand tools, power tools and machinery. Acoustic treatments will be provided to the workshops and preparation rooms to reduce reverberant noise levels. The buildings are located on the western side of the site and the car park provides a reasonable buffer distance to possible future residences across the road to the northwest of the school site. The buildings will be naturally ventilated and louder activities may be audible at the western boundary at times.

Performing Arts Centre, Music Rehearsal Buildings

The PAC will be used for music, dance and drama lessons and performances. The Music Rehearsal building will include GLA's for lessons and rehearsal spaces. The buildings will have acoustic treatments to achieve suitable reverberation times which will reduce noise levels. The PAC will be air conditioned and parts of the Music Rehearsal building will be air conditioned allowing doors and windows to be closed. The Music /GLA building is located between these buildings and Botany Drive which will control music levels. These features will minimise sound radiating to the residences along Botany Drive.

Ovals and Multi-Purpose courts

These outdoor spaces will be used for a range of sporting and school activities. The Ovals have been located with good buffer distances to the existing residences to the northwest and southeast. The Primary School multi-purpose courts are located along Providence Parade, and have a reasonable buffer distance to future development on the other side of the parade. The High School multi-purpose courts are set back from the southeast boundary of the school site. The sound of sport activities is expected to be audible at the nearest residential areas, however the buffer distances will assist in reducing noise levels.

Car parking, drop-off/ pick-up zone

The new schools will introduce additional traffic onto roads around the site with staff and parents accessing the school. This will result in an increase in road traffic noise for houses along these roads, particularly during peak drop-off and pick-up time periods. The car parking and drop-off/ pick-up zones have been set into the school site to increase the buffer distance to the nearest residences.

Grounds Building & Store

This building will be used by the grounds keeper to maintain the school buildings and grounds. Noise sources may include occasional workshop noise and mowing equipment. The building has been located on the southwest side of the school site with a buffer distance to existing residences across the road. Noisy activities should be managed to minimise noise radiating to the site boundary.

School Bell and PA system

Noise from the school "bell" and PA system will be audible at the nearest residences, however the buffer distances provided around the perimeter of the school buildings will reduce noise levels. The use of a PA system with speakers located at multiple points around the school will enable announcements to be made at a reduced level while maintaining a clear message. The school should manage PA system levels to minimise sound radiating to the nearest residences.

Mechanical Plant

Plant associated with air conditioning and ventilation for the new school buildings should be selected to meet the noise criteria provided in this report, at the nearest residences. The condenser plant should be located to take advantage of shielding provided by school buildings where practical. Plant noise will be reduced by the buffer distances to residences.

CONCLUSIONS

It is concluded that the school noise can be managed to minimise noise to residences and mechanical plant can be selected to meet the Environmental Protection Act and Environmental Protection Policy criteria. Findings include:

- The school will not experience significant noise from a major state controlled road or railway as DSDIP Interactive noise mapping shows the school site at Providence Parade, Ripley is not in a transport noise corridor;

- The Executive, Student Services & Staff Centres will experience road traffic noise from Providence Parade and would benefit from air conditioning to enable doors and windows to be kept closed;

- The Primary School multi-purpose hall with music and workshop facilities is located along Providence Parade to minimise noise to residences;

- The High School indoor sports centre with undercover parking will be naturally ventilated and sport noise is expected to be audible at houses across Botany Drive. The building will have acoustic treatments to reduce reverberant noise levels, has a setback from the site boundary, and will be cut into the ground to assist in reducing noise radiating to the residential area across Botany Drive;

- The Applied Technology buildings are located on the western side of the site and the car park provides a reasonable buffer distance to possible future residences across the road to the northwest of the school site. The buildings will be naturally ventilated and louder activities may be audible at the western boundary at times;

- Use of air conditioning for buildings such as the Performing Arts Centre will enable noise to be well contained with suitable façade acoustic design;

- The Ovals and Multi-Purpose courts have been located with buffer distances to reduce sport noise to the existing residences;

- The new schools will introduce additional traffic onto roads around the site with staff and parents accessing the school. This will result in an increase in road traffic noise for houses along these roads, particularly during peak drop-off and pick-up time periods. The car parking and drop-off/ pick-up zones have been set into the school site to increase the buffer distance to the nearest residences.

RECOMMENDATIONS

It is recommended that:

- the buildings be designed to minimise noise radiating to residential boundaries through the use for acoustic absorption to reduce reverberant noise and orientation of openings to re-direct sound where practical;
- the school bell and PA system be designed and sound levels be managed by the school to minimise noise radiating to residences;
- traffic be managed to minimise noise at residences;
- mechanical plant be selected to achieve the noise criteria at the nearest residences.

Yours sincerely,
Acoustics Noise Vibration

David Borgeaud
Principal Acoustics Engineer

Appendix 14

Stormwater Management Plan

Department of Housing and Public Works

Queensland Government

BORNHORST + WARD
CONSULTING ENGINEERS
CIVIL AND STRUCTURAL

SITE BASED STORMWATER MANAGEMENT PLAN

FOR THE PROPOSED
RIPLEY PROVIDENCE SCHOOL

LOCATED AT
PROVIDENCE PARADE, RIPLEY, QLD, 4306

PREPARED FOR
QUEENSLAND GOVERNMENT
DEPARTMENT OF EDUCATION AND TRAINING

JUNE 2018

BORNHORST + WARD
CONSULTING ENGINEERS
CIVIL AND STRUCTURAL

Bornhorst & Ward Project No. 17513

If you have any queries regarding this report please contact Zara Wellington-Hacker

Revision	Date	Description	Author	Rev.	App.
A	June 2018	For Information	CP	ZW	RG

File Name: \\BWJobs\Jobs\2017\17513\07_REPORTS\DESIGNREPORTS\SWMP\SITE BASED STORMWATER MANAGEMENT PLAN.docx

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Level 4, 67 Astor Terrace, Spring Hill, Qld 4000
Ph. (07) 3013 4699 / mail@bornhorstward.com.au
A.B.N. 78 010 151 354

CONTENTS

LIST OF FIGURES

APPENDICES

1. INTRODUCTION

Bornhorst and Ward has been commissioned to investigate and report on the stormwater requirements pertaining to the proposed Ripley Providence Junior and Senior Schools located at Providence Parade, Ripley, QLD, 4306 (Lot 7030 on SP292763). The proposal consists of the construction of a new primary and secondary school. Plans of the proposed development can be seen in Appendix A.

This document reports on the existing and proposed stormwater infrastructure required as part of the proposed development as well as the stormwater quantity and quality management required for the site. The engineering requirements for this proposal shall be in accordance with Engineering Best Management Practices, Ipswich City Council Planning Scheme, the Queensland Urban Drainage Manual (QUDM 2013) and the State Planning Policy 2017.

This report outlines the preliminary design methodology and calculations in support of a Development Application and should be read in conjunction with other documents issued by the consultant team.

2. EXISTING AND PROPOSED SITE CHARACTERISTICS

2.1 LOCATION AND EXISTING FEATURES

The development site, located at Providence Parade, Ripley has the following characteristics:

- The proposed Junior and Senior School are each on their own lot and are separated by an internal road call School Ave. The total area of the development is 14.43ha;
- Parkway Avenue is located to the west of the development site and extends along the southern property boundary;
- Providence Parade will be extended to form the northern property boundary.
- The existing Botany Drive, Botany Drive and a street that is yet to be named will form the remainder of the eastern boundary;
- The site is located within a priority development area;
- Currently, the site is surrounded by residential lots to the east and west, with future plans for residential and community use areas to the north;
- A stormwater wetland area which has detention and treatment characteristics is located south of the site;
- The closest waterway is Bundamba Creek, located approximately 300m west from the development site;
- A stormwater easement is located south of the site along Parkway Avenue;
- The site is currently undeveloped and appears to contain a sediment basin;
- The current site entrance is from Parkway Avenue and Botany Drive.

Refer to Figure 1 for locality details.

Figure 1: Locality Plan

2.2 PROPOSED DEVELOPMENT

The proposal consists of:

- Material change of use from a rural area to a school zone;
- The development requires construction of internal roads, school buildings, civil infrastructure and sporting fields;
- Vehicle access to the site will be from Parkway Avenue and from the street that is yet to be named;
- Pedestrian access will be available from multiple locations along it site boundary.

Refer to the development drawings in Appendix A for further information.

2.3 TOPOGRAPHY AND CATCHMENT CHARACTERISTICS

In 2014 Cardno completed a report for the fully developed 'Southern and Eastern' precincts of the Ripley development. Within this report the precincts have been divided into catchment zones which are detained and treated by a series of detention and treatment zones. The proposed development site straddles catchments 3C and 4 which are treated by basins 3 and 5 respectively. For more information refer to the Cardno Stormwater Management Plan for the Ripley Valley Secondary Urban Centre East – Southern and Eastern Precincts. An extract of the catchments of the overall precincts can be seen in Appendix C of this report.

The topography and site characteristics of the site are as follows:

- There is a high point approximately RL 74m AHD located in the un-named street on the eastern side of the development. From this high point the eastern portion of the site grades north, west and south accordingly.
- The north western portion of the development grades west towards Parkway Ave.

- Runoff from generated from both of the above mentioned areas, generally grades north and is conveyed via road reserves to ultimately discharge to detention basin 5.
- The portion of the site that discharges south is collected by basin 3.
- The remaining site area bound by the bend of Botany Drive and Botany Drive, Parkway Ave along both the southern and western property boundaries, grades south west at an approximate grade of 7%.
- Runoff generated in the above area is conveyed to the south western corner of the site is then collected by a culvert beneath Parkway Avenue and discharges to a stormwater detention zone;
- There is no external catchment associated with the development site.

For further information refer to the catchment plan located in Appendix C.

2.4 EXISTING FLOODING CONDITIONS

Information obtained from the ICC Major Flood Information mapping indicates no recorded flooding occurred within the site during the January 2011 and 1974 floods. Flood modelling completed by BMT WMB in 2017 for Providence East indicates that the developed overall Providence subdivision will reduce the impact of flood effects. However, information obtained from the ICC Flooding and Urban Catchment Flow Paths overlay indicates that the site lies below the adopted flood regulation line.

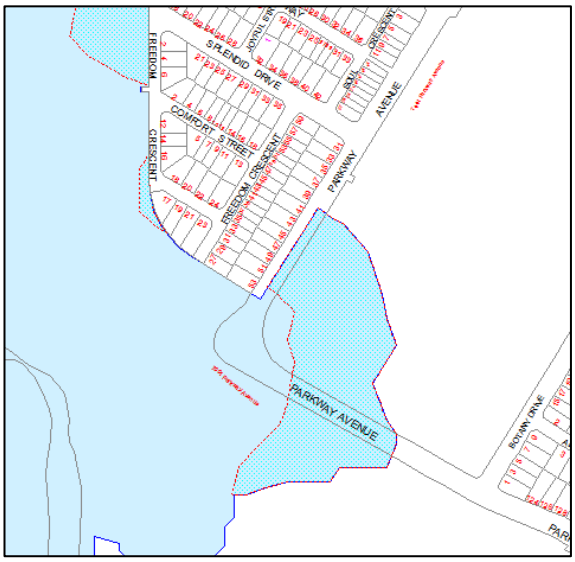

Figure 2: Brisbane City Council Interactive Flood Map

As the extent of flooding is uncertain, it is recommended that no buildings are placed within the area and the use of the affected area is limited to carparks and school oval, as per current plans. For more information refer to the 2017 BMT WMB Flooding and Stormwater Management Assessment for Providence East.

3. EXISTING AND PROPOSED STORMWATER INFRASTRUCTURE

3.1 EXISTING INFRASTRUCTURE

A Dial Before You Dig Investigation and review of available as constructed drawings has been completed of the site and its surrounding area. The following stormwater infrastructure was noted:

- An existing 525mm stormwater pipe is located within the Botany Drive and Popran Street road reserves;
- An existing stormwater pipe of undetermined size is located within the Parkway Avenue road reserve;
- As this is a new development area it is assumed that stormwater infrastructure has been built for a fully developed catchment.

As constructed plans of the existing stormwater infrastructure can be found in Appendix C of this report.

3.2 PROPOSED STORMWATER DRAINAGE

The proposed stormwater infrastructure for the development site will consist of:

- Surface runoff within the development will be directed to the internal roads and field inlets via overland flow;
- Roof water and runoff generated by minor storm events (<Q10) will be collected by an internal piped stormwater network;
- Major events(>Q10) will traverse through the site and discharge and overland flow;
- Ultimately the development will maintain similar catchments as outlined within the Cardno Report, therefore the northern portion of the site will continue to grade north. It is proposed that there are five stormwater piped connections located in Providence Parade and the un-named street to service the northern catchment. This can be seen in drawing DA010 in Appendix B, catchments B, C, D G (internal catchments coloured orange, yellow, blue and grey respectively)
- As previously discussed the above mentioned catchment will ultimately discharge to basin 5 for stormwater quantity mitigation and stormwater treatment.
- That site area as described by catchments A, E, F and H (internal catchments coloured green, light blue, pink and darker orange respectively) will continue to grade to the south. It is proposed that a stormwater connection will be located in Botany Drive (servicing catchment A) and 5 stormwater connections are proposed for Parkway Avenue to service the remaining southern internal catchments.
- The above catchment will ultimately discharge to basin 3 for stormwater quantity and quality treatment.
- Refer to sections 4 and 5 of this report for further details regarding stormwater quantity and quality.

Refer to the proposed engineering drawings located in Appendix B.

4. STORMWATER QUANTITY

In accordance with the Ipswich City Council Implementation Guideline 24, several design elements were identified in relation to stormwater management issues. The proposal must ensure that the following issues and objectives are considered and addressed as part of the Stormwater Management Plan and associated design:

1. The development maintains the natural hydrologic behaviour of catchments.
2. Flood control and mitigation measures are adopted where necessary to avoid the creation of nuisance flow/flood hazard situations as a result of the development.
3. Protect and/or enhance downstream environments, including social, environmental and economic values, by appropriately managing the quality and quantity of stormwater runoff.

As a result of the proposed development, the peak discharge from the site to the lawful points of discharge, located at the southern culvert and across the property boundary in Providence Parade, will be increased for all storm events. However as documented in the masterplan and reported on in the Cardno Report the site area was originally a larger residential subdivision with a smaller area presumably for the school. As previously discussed, Figure 1 of Cardno's report shows that the development site straddles catchment 3C and 4, refer to the existing catchment plan located within Appendix C. The portion of the site within 3C discharges south to detention basin 3 while runoff captured within catchment 4 discharges north and is ultimately captured by detention basin 5. Section 5 of Cardno's Stormwater Management Plan confirms that the detention basins have been designed to cater for the increased runoff rates from the overall masterplan development. As the proposed Providence School has increased in area, there is now a reduction of residential properties within both catchments. It has also been assumed that as these precincts are new developments the external stormwater infrastructure has been sized to cater for a fully developed catchment. Therefore, no stormwater quantity mitigation measures are required to mitigate runoff from the development site.

For more information refer to the DA001 within Appendix B indicating the extents of the Providence School compared to the existing masterplan for the South and Eastern Precincts.

5. STORMWATER QUALITY

5.1 CONSTRUCTION PHASE

As a result of the proposed development, contaminants will be generated during the construction phase. A comprehensive Erosion and Sediment control plan including the construction process will be prepared during the detailed design. This is to be kept on site during the construction phase and will be in accordance with the State Planning Policy 2017and ICC Planning Scheme.

5.2 OPERATIONAL PHASE

The following extract from the document describes when a development is considered high risk, under the Implementation Guide No. 24 Table 4.1 of the ICC City Plan 2016:

a) A material change of use for an urban purpose:

i. Includes newly constructed road (previously unformed road) exceeding 30m in total length
ii. Greater than 2500m^2 of land.
iii. 6 or more additional dwellings (attached or unattached).
iv. Located within an identified sensitive receiver area.
v. Consists of 300m^2 or more uncovered impervious car park area including parking bays and circulation driveways for high pollutant generators such as Business Use - Fast Food Premises and Business Use - Service Station.
vi. Consists of 600m^2 or more uncovered impervious car park area including parking bays and circulation driveways for all other uses.

b) Reconfiguring a lot for urban purposes:

- *i. Includes newly constructed road exceeding 30m in total length*
- *ii. Would result in 6 or more residential allotments or that provides for 6 or more dwellings.*
- *iii. Involves greater than 2500m2 of land and will result in six or more lots.*
- *iv. Located within an identified sensitive receiver area.*
- *v. Is associated with operational work disturbing greater than 2500m^2 of land.*

c) Operational works for an urban purpose:

- *i. Disturbing greater than 2500m2 of land.*
- *ii. Located within an identified sensitive receiver area.*

As the proposed development is for a material change of use that involves greater than 2500m^2 of land the ICC city plan requirements for water quality are applicable to the proposed development. However, as discussed within the Cardno Stormwater Management Plan for the South and East Precincts, a series of bioretention basins have been proposed within the detention area. These bio basins have been sized to accommodate the fully developed precincts. It should be noted that the proposed school area is larger than that seen in the initial master plan therefore as a result there are less residential properties and roadways generating pollutants during storm events. On this basis, it can be assumed that the bioretention basins that have been created to treat the South and Eastern Catchments have capacity to treat the proposed development. Therefore, no onsite stormwater quality measures are required to treat stormwater runoff from the development site.

For more information, refer to the stormwater management plan completed for the 'Ripley Valley Secondary Urban Centre East - Southern and Eastern Precincts' completed by Cardno in 2014. The catchment plan from the above mentioned report can be seen in Appendix C. Refer to sketch DA001 of Appendix B to see the changes of the extents from the original masterplan.

6. SUMMARY

This Engineering Report has demonstrated that the proposed development located at Providence Parade, Ripley can be developed in accordance with Engineering Best Management Practice, ICC guidelines and the State Planning Policy 2017. The following points summarise the findings and recommendations:

- The proposed development is generally as proposed in the Masterplan, and catered for by 'regional' treatments measures.
- The Cardno masterplan stormwater management report shows the site straddles two catchments. The northern portion of the development grades north, while the southern portion grades to the south western corner.
- It is proposed that stormwater is discharged to the associated basins for each catchment.
- Minor Flows will be conveyed through the internal drainage system, while major flows will be conveyed through the internal road network and site via overland flow;
- No water quantity or quality measures are proposed as these have already been considered within the master plan for the region as noted in the Cardno stormwater management plan;
- There is potential for flooding to occur at the south-western site corner. As such, no buildings should be placed within this area as a precaution.

APPENDIX A

DEVELOPMENT DRAWINGS

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LEGEND

BOTH SCHOOLS

CA	COVERED AREAS
CE	COVERED ENTRY
CH	COMMUNITY HEALTH HUB/EARLY YEARS CENTRE
EFP	OFFICIAL ENTRY AND FLAG POLES
F	FUTURE STAGE CONSTRUCTION
CL	COVERED LINK
OCP	OUTDOOR COURT PRIMARY
OCH	OUTDOOR COURT HIGH SCHOOL, ELEVATED, PARKING BELOW
PMT	PAD MOUNTED TRANSFORMER

SITE BOUNDARY
1800 HIGH PALISADE FENCE
GATE

PRIMARY SCHOOL

1	P-6 EXECUTIVE & STUDENT SERVICES & STAFF CENTRE, 2 LEVELS
2	PREP, SINGLE LEVEL, 2 GLAs
3	PREP, SINGLE LEVEL 3 GLAs
4	PREP, SINGLE LEVEL, 2 GLAs
5	YEAR 1-3, 3 LEVELS 14 GLAs + UNDERCROFT
6	YEAR 1-3, 2 LEVELS, 2 FLAs, 4 GLAs + UNDERCROFT
7	PRIMARY SCHOOL CANTEEN LOWER LEVEL + RESOURCE CENTRE UPPER LEVEL
8	YEAR 4-6, 2 LEVELS, 6 GLAs + UNDERCROFT
9	YEAR 4-6, 3 LEVELS, 16 GLAs + MUSIC GLA + UNDERCROFT
10	MULTIPURPOSE HALL UPPER LEVEL, ANCILLARY SERVICES CENTRE & WORKSHOP LOWER LEVEL
11	REFUSE STORE, GROUNDS CARE, FUEL STORE, FIRE PUMP & BOOSTER (SINGLE STOREY)

HIGH SCHOOL

A	SENIOR EXECUTE & STUDENT SERVICES AND STAFF CENTRE A + B 2 LEVELS
B	STAFF CENTRE C, SINGLE LEVEL
C	HIGH SCHOOL INFORMATION SERVICES CENTRE
D	YEAR 7-9 LEARNING, 4 LEVELS 17 GLAs + 3 FLAs + RETAIL CENTRE + UNDERCROFT
E	YEAR 10-12 LEARNING, 4 LEVELS 17 GLAs + 3 FLAs + CANTEEN + UNDERCROFT
F	SCIENCE CENTRE
G	APPLIED TECHNOLOGY ROBOTICS
H	FOOD STUDIES AND HOSPITALITY
I	BUSINESS + FASHION + DESIGN GRAPHICS
J	ART + DESIGN CENTRE
K	JUNIOR APPLIED TECHNOLOGY AND DESIGN GRAPHICS
L	SENIOR APPLIED TECHNOLOGY
M	2 x INDOOR COURTS WITH PARKING BELOW
N	ANCILLARY SERVICES CENTRE, GROUNDS CARE (SINGLE STOREY)
O	PERFORMING ARTS, ONE LEVEL + PLANT DECK ABOVE MUSIC REHEARSAL, SINGLE LEVEL, AV LINK TO PERFORMING ARTS HIGH SCHOOL MUSIC, MULTIMEDIA, COMBINED AMENITIES, 2 LEVELS

PROVIDENCE PARADE
HEALTH HUB
GREENWAY (TO WATER PLAY PARK)
TOWN CENTRE
SCHOOL AVENUE
BOTANY DRIVE
PARKWAY AVENUE
TO MAJOR SPORTS GROUND
BIO RETENTION
LOT 1
LOT 2
SITE BOUNDARY
FIRE BOOSTER CABINET
FIRE BOOSTER PUMP/ FIRE BOOSTER STORAGE TANK
FIRE BOOSTER STORAGE TANK
BOOSTER CABINET + PUMP WITHIN BUILDING 11.
CARPARK 198 SPACES
DROP OFF ZONE 70 SPACES
STUDENT PARKING 39 SPACES
REFUSE COLLECTION
BUS DROP OFF ZONE
AMBULANCE ACCESS
TENNIS FENCE
RAIN WATER TANK UNDER (TBC)
P-6 PRIMARY SCHOOL SPORTS FIELD WITH 100M SPRINT TRACK Type 3
SPORTS FIELD Type C WITH 110m SPRINT TRACK 165m x 125m
PARKING 10x SPACES
DROP OFF ZONE
CARPARK 674 SPACES
YEAR 1-3 PLAY AREA
PREP PLAY AREA
YEAR 4-6 PLAY AREA
CARPARK UNDER COURT
UNCOVERED CARPARKING 126 SPACES
72 COVERED CAR PARKING SPACES
69 COVERED CAR PARKING SPACES
EXTENT OF BUILDING M OVER
EXTENT OF ELEVATED COURT OVER

A Level 1 56.00 / Level 2 61.00
B
C Level 1 61.00 / Ground 57.00
D Level 1 65.00 / Ground 61.00 / Level -1 57.00 / Level -2 53.00
E Level 1 65.00 / Ground 61.00 / Level -1 57.00 / Level -2 53.00
F Level 1 57.00 / Ground 53.00
G GROUND 56.0
H GROUND 60.40
I GROUND 56.0
J GROUND 60.40
K
L
M
N
O GROUND 61.00
OCP SLAB 57.0
11 GROUND 58.150
10 Level 1 62.35 / Ground 58.35
CH
5 Level 2 70.35 / Level 1 66.35 / Ground 62.35
1 Level 2 70.35 / Level 1 66.35 / Ground 63.35
6 Level 1 66.35 / Ground 62.35
2 GROUND 66.35
7 Level 1 67.05 / Ground 63.05
3 GROUND 67.05
8 Level 1 67.75 / Ground 63.75
4 GROUND 67.75
9 Level 2 71.75 / Level 1 67.75 / Ground 63.75
OCH

BKS GF 51.50

1 - SITE PLAN 1:1000

2 - INSERT UNDER COVER CARPARKING 1:1000

NOT FOR CONSTRUCTION

NOTES

1. Figured dimensions take precedence over scaled.
2. Figured dimensions are millimetres unless noted otherwise.
3. Check all dimensions on site prior to commencement of work.
4. These designs, drawings and specifications, and copyright thereof, are the property of Blair M Wilson and Associates Pty. Ltd. trading as Wilson Architects, and must not be used, retained or copied without the written authority of Wilson Architects.

Rev	Revision Description	Date	Ver
P8	100% SD ISSUE	21/05/2018	
P9	100% SD - UPDATES	24/05/2018	

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Client

Queensland Government

DEPARTMENT OF EDUCATION AND TRAINING

Project

NEW SCHOOLS AT RIPLEY PROVIDENCE

Title

SITE PLAN

Plot Date 24/05/2018		Drwn	Chck
	Project No. 5448		Scale 1:1000 at A1
	Drawing No. SD-A-100		Revision P9

APPENDIX B

ENGINEERING DRAWINGS

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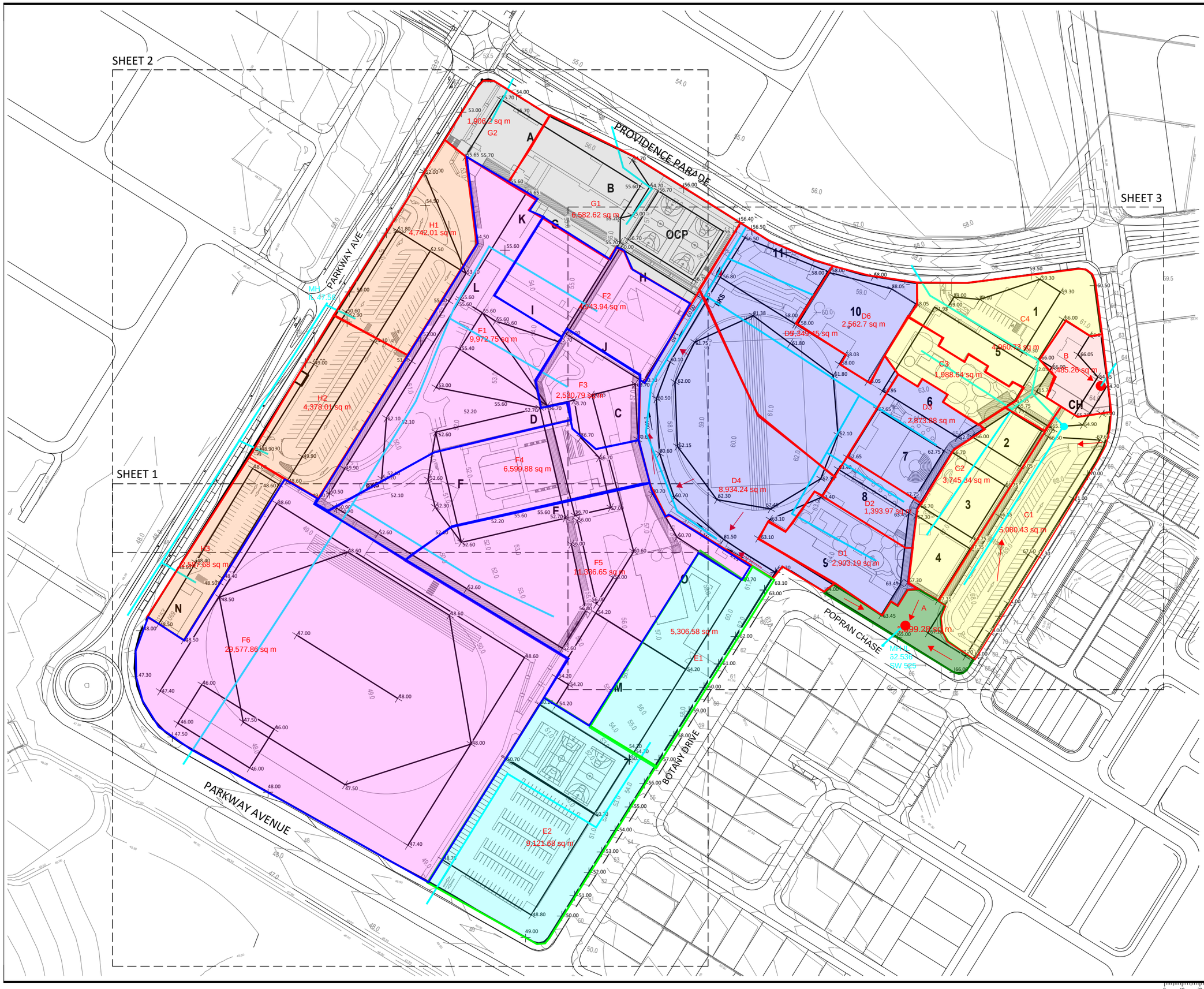

REV	DATE	DESCRIPTION	DWN	DES	CHK	APP
P2	16.05.18	REVISED BUILDING LAYOUT		RG		
P1	27.03.18	EARTHWORK UPDATE	MW	RG		

ASSOCIATED CONSULTANTS

WilsonArchitects
ARCHITECTURE | LANDSCAPE | INTERIOR DESIGN

APPROVED	CHECKED
RPEQ	
DATE	DATE

LEGEND

NORTHERN CATCHMENTS: B, C, D, G

SOUTHERN CATCHMENTS: A, E, F, H

PROJECT NORTH

DIMENSIONS IN METRES EXCEPT WHERE SHOWN OTHERWISE. CULVERT AND PIPE SIZES IN MILLIMETRES — A1 UNREDUCED, A3 REDUCED

SCALES — UNREDUCED / REDUCED

0 10 20 30 40 50m — 1 : 1000 / 1 : 2000

STATUS

PRELIMINARY

BORNHORST + WARD
CONSULTING ENGINEERS
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CLIENT

Queensland Government
Department of Education and Training

PROJECT

RIPLEY PROVIDENCE NEW PRIMARY AND SECONDARY SCHOOL

SUBJECT

EARTHWORKS OVERALL LAYOUT

PROJECT No.	DRAWING No.	REVISION
17513	DA010	P2

0 10 20 30 40 50 100 ORIGINAL SIZE A1

CENTENARY HIGHWAY

DEVELOPMENT SITE

B5 B4B B4A B1b B1a B2c B2b B2a B3c B3a B3b B6c B6b B6a 7b B7a B7b 7a 6c 6b

1 2 3 3a 3b 3c 4 5 6 6a 7

N

LEGEND

- Site Boundary
- Stage Boundary
- 19 Stage ID
- Catchment Boundary
- 4 Catchment Label
- 7a Detention Basin
- B3a Proposed Bioretention Basin
- B1a Bioretetion Subject to Previous Approval

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PROJECT
Ripley Providence, New Primary and Secondary School

SUBJECT
Extents of the Proposed School Vs catchment plan of existing Master Plan

PROJECT No.
17513

DRAWING No.
DA001

REVISION
-

0 10 20 30 40 50

ORIGINAL SIZE A3

APPENDIX C

EXISTING STORMWATER AND CONTOUR INFORMATION

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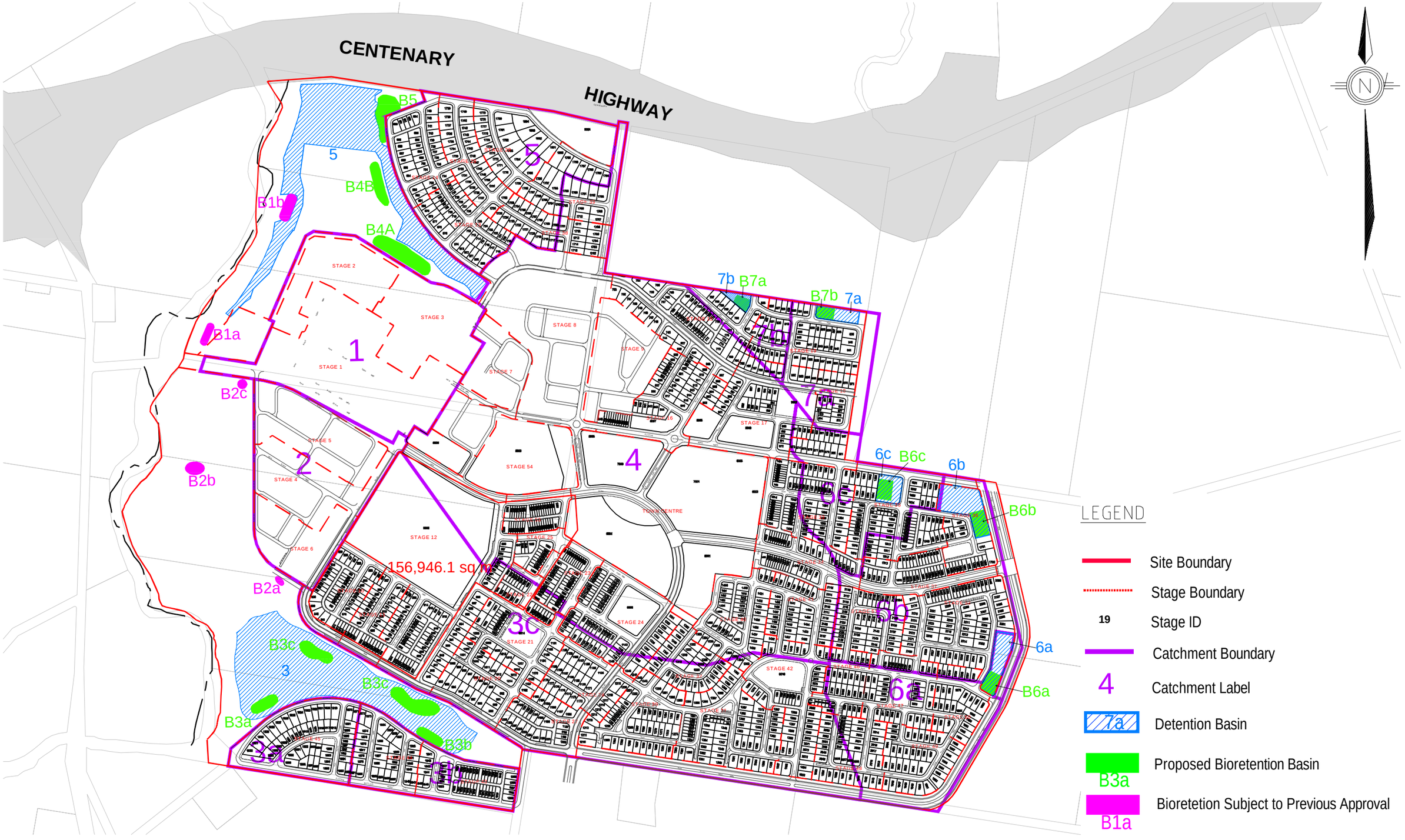


LEGEND

- Site Boundary
- Stage Boundary
- 19 — Stage ID
- Catchment Boundary
- 4 — Catchment Label
- 7a — Detention Basin
- B3a — Proposed Bioretention Basin
- B1a — Bioretetion Subject to Previous Approval

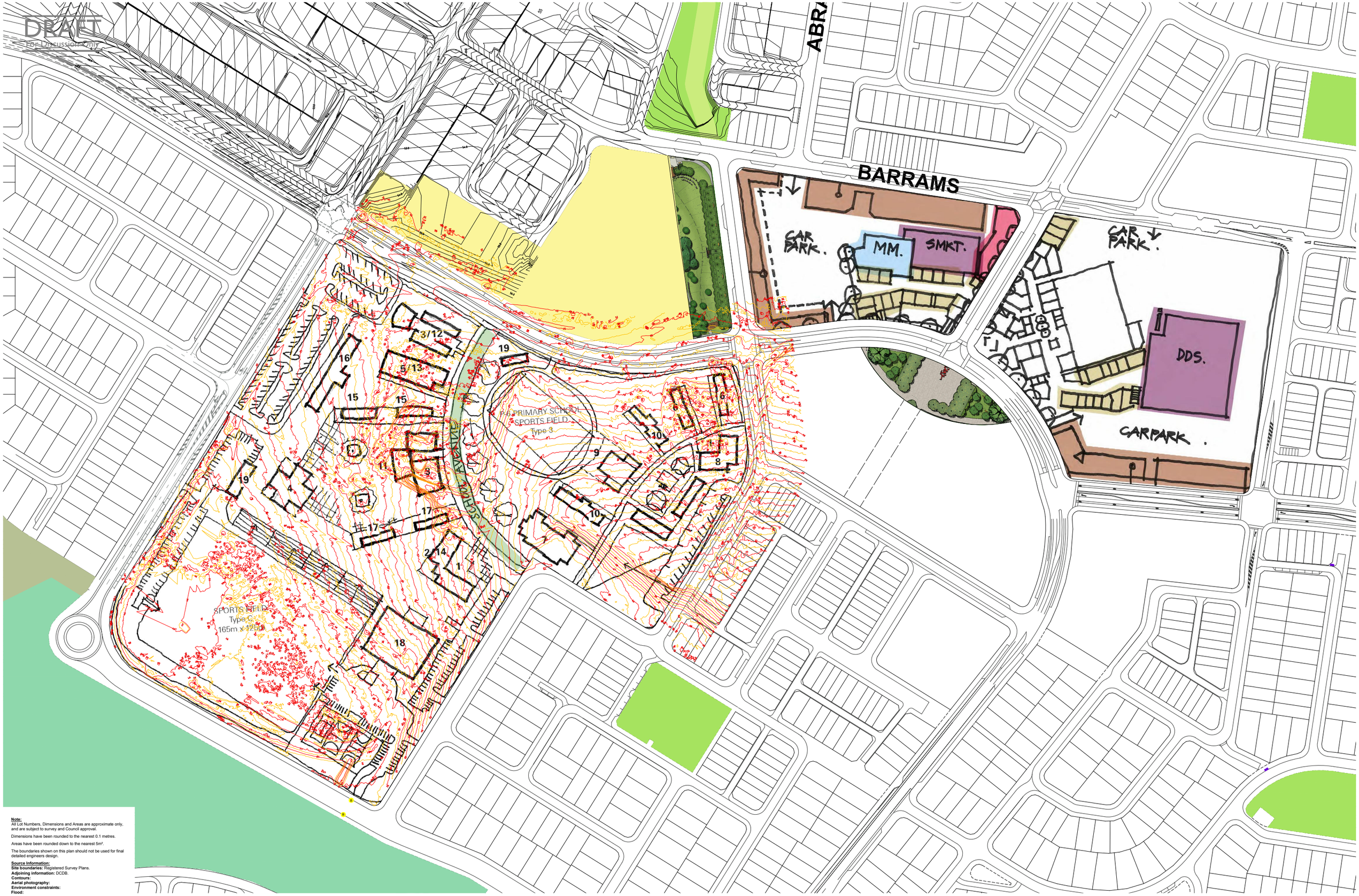
80 0 80 160 240 320 400m

Scale 1:8,000 (A3)

FIGURE 1

STORMWATER MANAGEMENT MEASURES

DRAFT
For Discussion Only



Note:
All Lot Numbers, Dimensions and Areas are approximate only, and are subject to survey and Council approval.

Dimensions have been rounded to the nearest 0.1 metres.

Areas have been rounded down to the nearest 5m².

The boundaries shown on this plan should not be used for final detailed engineers design.

Source Information:
Site boundaries: Registered Survey Plans.
Adjoining information: DCDB.
Contours:
Aerial photography:
Environment constraints:
Flood:

Scale 1 : 1000 @ A0
0 5 10 20 30 40 50 60

Plan Ref **6837-291**

Date: 25 January 2018
Client: Amex
Dwg Name: 6837-290
Drawn By: JLS
Checked By: SB

RIPLEY PROVIDENCE STATE COLLEGE P-12 CAMPUS - OPTION TWO

AMEX - PROVIDENCE

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RPS

Appendix 15

Koala Conservation and Management Plan

Department of Housing and Public Works

Queensland Government

KOALA SELF-ASSESSABLE MANAGEMENT PLAN

RIPLEY PROVIDENCE PRIMARY AND SECONDARY STATE SCHOOL
PARKWAY AVENUE, SOUTH RIPLEY
FOR

DEPARTMENT OF EDUCATION

APRIL 2018

PN: 84074
SN: TBA

DOCUMENT CONTROL

Koala Self-Assessable Management Plan

Project: Ripley Providence Primary and Secondary State School Project number: 84074

Site: Parkway Avenue, South Ripley Site number: TBA

Version	Date	Status	Key changes	Author/s	Reviewer/s	Approver
Rev 0	18/04/2018	Initial Issue	-	Annie Jin	Norman WONG	Norman WONG

TABLE OF CONTENTS

1.0 INTRODUCTION

The *State Government Supported Community Infrastructure Koala Conservation Policy 2017* (The Policy) regulates the planning and delivery of all Queensland Government supported infrastructure projects, as listed under Schedule 5 of the *Planning Regulation 2017*, within the South East Queensland Koala Protection Area (SEQKPA)[1] which result in:

- The clearing of native vegetation that will result in a total cleared area of less than 500m^2
- A new building and any reasonably associated infrastructure with a total development footprint of less than 500m^2
- An extension to an existing building and any reasonably associated infrastructure if the extension results in a total development footprint of less than 500m^2
- Extracting gravel, rock or sand from an area of less than 5000m^2
- Excavating or filling an area of less than 5000m^2

This Koala Self-Assessment and Management Plan, details actions that must be implemented in order to meet the requirements and outcomes of The Policy. The responsibilities of Government supported Community Infrastructure providers under The Policy are:

- Self-assess their obligations under this policy and in accordance with any associated guidelines;
- Maintain accurate records of self-assessment appropriate for assessment and reporting purposes;
- Provide access to those records and any other relevant information used in the self-assessment of infrastructure requirements under the policy for the purposes of an annual review and assessment process;
- Provide environmental offsets as specified in the Environmental Offsets Offset Policy; and
- Where offsets are provided by planting new koala trees, ensure plantings are secured in a way consistent with section 29 of *Environmental Offsets Act 2014*.

This management plan provides strategies to address the objectives and intended outcomes of The Policy, taking into consideration the Koala habitat and connectivity values as determined under Schedule 2 of The Policy. This management plan must be considered in all relevant phases of the project and a copy of the document must be provided to relevant people involved in the project including project managers, principal design consultants, landscape architects and construction contractors. Records to demonstrate implementation of measures are to be kept

[1] The SEQKPA includes the following local government areas:

- Sunshine Coast Regional Council
- Moreton Bay Regional Council
- Brisbane City Council
- Redland City Council
- Ipswich City Council
- Logan City Council
- Gold Coast City Council
- Noosa Shire Council

2.0 SITE DESCRIPTION AND PROPOSED DEVELOPMENT

2.1 SITE DESCRIPTION

The site is located within the parent Lot 7026 on SP292725 within Ipswich City Council local government area, suburb of South Ripley. It is excepted that the school site will use approximately 14 hectares of the land. The proposed school site is bound by Parkway Avenue to the south and west, residential areas to the east and vacant land to the north.

The proposed school site is currently vacant.

2.2 PROPOSED DEVELOPMENT

The Department of Education is proposing to purchase the site and construct a new state high school.

3.0 COMMUNITY INFRASTRUCTURE ASSESSMENT

The proposed works will have a total development footprint of more than 500 square metres (m^2), therefore, the development is regulated by The Policy and requires assessment against the criteria listed in Table 1 of that Policy with consideration given to the Koala Habitat in South East Queensland Map (SEQ) (State Planning Policy (SPP) Mapping).

Criteria	Outcome
1. Site design must avoid clearing Non-Juvenile Koala Habitat Trees (NJKHTs) in areas of bushland habitat, high value rehabilitation habitat, and medium value rehabilitation, with any unavoidable clearing minimised and offset: - The size and other characteristics of the offset must be as required by the Environmental Offset Policy; and - Where an offset is delivered as a land-based offset, the site must be secured as a legally secured offset area as defined by Section 29 of the *Environmental Offsets Act 2014*.	• The site is mapped as a mixture of 'Medium Value Rehabilitation' and 'Low Value Rehabilitation' habitat for koalas. Offsets are required for mapped 'Medium Value Rehabilitation' habitat for koalas under the *Environmental Offsets Act 2014* if clearing of NJKHTs is required. • An ecologist should be requested to undertake a survey to identify vegetation to be removed and confirm the number of NJKHTs to be removed (if any). Advice should also be sought on the presence of koalas or evidence of their presence and recommendations regarding planting (location and species) opportunities. • Based on the results of the survey, the design should be altered where practicable to reduce vegetation impacts, particularly on NJKHTs. • An offset (proponent driven, financial settlement offset or combination) must be delivered if any NJKHTs are impacted. The offset shall be delivered in accordance with the Queensland *Environmental Offsets Policy* (current version: 1.4, July 2017). • The following must be met for a proponent driven offset: o To establish three new koala habitat trees for every one 'non-juvenile' tree removed. o The site is within the koala coast which crosses local government boundaries. In which case, the relevant assessment manager, local authority, Minister or State agency may determine an appropriate location for the offset within the Koala Coast (in consultation with the relevant local authority); o A land-based offset site must be considered an equivalent replacement of the habitat values lost at the impact site within the local government area. o Koala habitat trees to be established as an offset must be reflective of the species that are endemic to the site and be planted at densities that will produce a mature density reflective of the regional ecosystems present on the site. • For financial settlement offsets required by the State, the financial settlement payment amount must be calculated in accordance with the Financial Settlement Offset Calculation Methodology in Appendix 4 of the offsets policy. The web-based Financial Settlement Offset Calculator

	(https://environment.ehp.qld.gov.au/offsets-calculator/?calculate=financial) may be used to support this calculation • Works shall not commence prior to agreement from the Department of Environment and Science in Criteria Outcomes consideration of offset delivery timeframes.
2. Site design provides safe Koala-movement opportunities, including Koala-movement infrastructure, as appropriate to the development type and habitat connectivity values of the site determined by reference to the factors for consideration in Schedule 3 of the Community Infrastructure Policy.	3. 'Medium Value Rehabilitation' habitat is located immediately to the north, west and east of the site with areas overlapping the school site. 4. Koala movement opportunities may be possible between the site and surrounding areas. Attached Koala-sensitive Design Guideline (KSD) provides appropriate measures to help avoid and minimise the impacts of development on koala movement and dispersal. The guideline also provides information on what is needed to manage risks to koalas on site and provide safe koala movement opportunities. 5. Fencing surrounding the school should be considered to be koala friendly (if not already) to allow koala to move through the site and into the bushland areas. In the meantime, a small number of timber poles (at least 125 mm in width or diameter) against the northern, western and eastern fence are recommended to be positioned at an angle to the fence to assist koalas to leave the site (refer to example below) and enter the high value bushland habitat area.  Figure 1: Koala-friendly fencing additions (source: KSD Guideline - Department of Environment and Science) 6.
7. Native vegetation clearing is undertaken as sequential clearing and under the guidance of a Koala spotter where the native vegetation is a NJKHT.	• Trees to be retained should be clearly marked and signs erected to avoid accidental clearing. • Gold Coast City Council local government area is within District A Koala Habitat under *Nature Conservation (Koala) Conservation Plan 2017.* Tree clearing in this area should be carried out in compliance with sequential clearing conditions meaning all of the following:

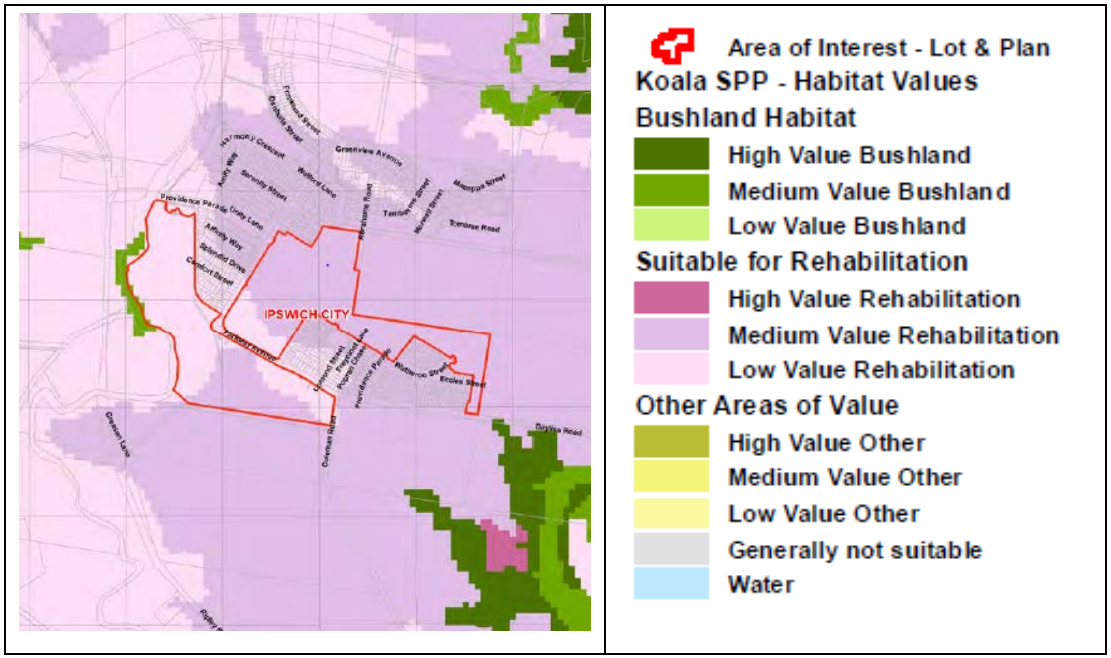
	a) clearing of the koala habitat trees is carried out in a way that ensures koalas on the area being cleared (the clearing site) have enough time to move out of the clearing site without human intervention, including, in particular, for clearing sites with an area of more than 3ha, by— i. carrying out the clearing in stages; and ii. ensuring not more than the following is cleared in any 1 stage— A. for a clearing site with an area of 6ha or less—50% of the site's area; B. for a clearing site with an area of more than 6ha—3ha or 3% of the site's area, whichever is the greater; and iii. ensuring that between each stage and the next there is at least 1 period of 12 hours starting at 6p.m. on a day and ending at 6a.m. on the following day during which no trees are cleared on the site; b) clearing of the koala habitat trees is carried out in a way that ensures, while the clearing is carried out, appropriate habitat links are maintained within the clearing site and between the site and its adjacent area, to allow koalas living on the site to move out of the site; c) no koala habitat tree in which a koala is present, and no koala habitat tree with a crown overlapping a tree in which a koala is present, is cleared.
8. During construction phases: • Measures are taken in construction practices to not increase the risk of death or injury to Koalas; and • Native vegetation that is cleared and, in an area, intended to be retained for safe Koala movement opportunities is progressively restored and rehabilitated.	• In case of vegetation clearing, the measures described in this report are to be implemented during the construction phase including: - Vegetation that does not require removal must be clearly identified and protected from construction activities; - Immediately prior to any vegetation clearing activity on the site (and no more than 24 hours before clearing commences), a QPWS licenced fauna spotter/catcher in possession of a valid Rehabilitation Permit, must inspect vegetation for the presence of Koalas and other fauna. The QPWS fauna spotter/catcher must continue to monitor vegetation for fauna for the duration of clearing activities; - Vegetation should be cleared towards areas of mature vegetation that may be suitable as refuge to allow fauna in residence time to move from the proposed development portion of the site; and - Vegetation should be cleared towards areas of mature vegetation that may be suitable as refuge to allow fauna in residence time to move from the proposed development portion of the site.
9. Landscaping activities provide food, shelter and movement opportunities for Koalas consistent with the site design (if applicable).	• Landscaping included in project designs to consider the inclusion of Koala habitat tree species (including any species from the genus Eucalyptus, Corymbia, Angophora, Lophostemon and Melaleuca);

	• Advice should be sought from the appointed ecologist regarding optimal planting location and species. Planting across the site may provide a connection between the mapped areas of bushland habitat; • The provision of offsets for the removal of NJKHT's on the site is required under the Qld Environmental Offset Policy.

4.0 KOALA HABITAT AND CONNECTIVITY VALUE ASSESSMENT

This section has been prepared to in accordance with Schedule 2 of The Policy, using the Koala Habitat in SEQ Map. The figure below is an excerpt from the Koala Habitat in SEQ Map which indicates the site is mapped as a mixture of 'Medium Value Rehabilitation' and 'Low Value Rehabilitation' for Koalas.

The table below has been developed to determine the habitat connectivity values of the site, taking into account factors described under Schedule 2 of The Policy:



The Site's location with regards to the following:		
Criteria	Condition Assessment	Management Strategy
a. areas of vegetation that are a koala habitat type—with particular focus on bushland habitat, high value rehabilitation habitat, and medium value rehabilitation habitat	Part of the proposed development portion of the site is mapped as 'High Value Rehabilitation' habitat for koala. The site is surrounded by areas of 'High Value Rehabilitation' for koalas; however, the site has been cleared.	Prior to the commencement of construction, prepare a Construction Management Plan (CMP) which addresses the requirements of the Environmental Checklist Report prepared for the site by BAS Town Planning and Environment Team. Vegetation removal should be avoided and limited to minimum areas required for development. The design and development layout should be altered where possible to allow for the retention of as much native vegetation, particularly NJKHTs.

b. areas that are remnant or regulated regrowth regional ecosystems where koalas are known to occur	None identified (attached Vegetation Management Report)	The site does not support areas of mapped regulated vegetation and is cleared.
c. areas of ecological significance	None identified	Prior to the commencement of construction, prepare a Construction Management Plan (CMP) which addresses the requirements of the Environmental Checklist Report prepared for the site by BAS Town Planning and Environment Team.
d. waterway and ecological corridors.	Ecological corridor exists on east side of the site.	Extra care such as erosion and sediment control measures should be in place to ensure there are no impacts on these environmental values as the result of the proposed development.
The attributes of the site, including the following:		
Criteria	Condition Assessment	Management Strategy
a. presence of koalas	The site is currently vacant and there are 4 records indicating the presence/observation of koala on the site.	Before work begins, identify the contact details of: - The nearest qualified veterinary clinic that has experience in handling and treating Koalas. The practice must have a valid Rehabilitation Permit, issued under the *Nature Conservation Act 1992* by Department of Environment and Science, and must comply with established standards for the rehabilitation and release of Koalas; and - A QPWS licensed fauna spotter/catcher. If a Koala (or other fauna) is present on the site: - The tree in which a Koala is present cannot be cleared, and no tree with a crown overlapping the tree can be cleared; - Works are to cease, and the Koala is to be allowed to move away from the development site of its own accord; - No clearing is to be undertaken for a period of at least 12 hours (starting at 6pm on a day and finishing at 6 am on the following day);

		- The QPWS fauna spotter/catcher must be consulted regarding further actions required for any Koala identified on the site; and - The QPWS fauna spotter/catcher must be consulted regarding any actions required in regard to the relocation of any other resident fauna species; and - If a Koala is injured, the QPWS fauna spotter/catcher is to provide direction on how the animal is to be taken to the veterinary practice identified.
b. condition of the habitat	Low	All management measures listed in Section 3 of this report should be implemented prior to vegetation clearing on site. vegetation clearing should be carried out in compliance with sequential clearing conditions and towards the site boundary and vegetated areas as detailed in Section 3.
c. the presence of any of the following on the site: i. waterway and ecological corridors ii. areas that are remnant or regulated regrowth regional ecosystems where koalas are known to occur.	Identified on the western portion of the site.	Prior to the commencement of construction, prepare a Construction Management Plan (CMP) which addresses the requirements of the Environmental Checklist Report prepared for the site by BAS Town Planning and Environment Team. Extra care such as erosion and sediment control measures should be in place to ensure there are no impacts on these environmental values as the result of the proposed development.
Any factors which diminish the site's habitat connectivity value for koala movement, including:		
Criteria	Condition Assessment	Management Strategy
a. edge effects and other indirect impacts of development on ecological features	The areas of the site along the northern, western and southern boundaries are vegetated and connected to koala habitats surrounding the site.	All management measures listed in Section 3 of this report should be implemented prior to vegetation clearing on site. vegetation clearing should be carried out in compliance with sequential clearing conditions and towards the site boundary and vegetated areas as detailed in Section 3.
b. the presence of infrastructure and services, such as roads, which present barriers for koala movement and dispersal.	Vegetation on site is connected to the surrounding bushland habitats	

ATTACHMENT A - Site Information

– Aerial Photos

- Title

CURRENT TITLE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 27546155
Search Date: 11/12/2017 16:42 **Title Reference: 51114991**
Date Created: 28/09/2017

Previous Title: 51104093

REGISTERED OWNER

Dealing No: 718285603 20/09/2017

DALESWAN PTY LTD A.C.N. 105 650 075

ESTATE AND LAND

Estate in Fee Simple

LOT 7026 SURVEY PLAN 292725
Local Government: IPSWICH

EASEMENTS, ENCUMBRANCES AND INTERESTS

1. Rights and interests reserved to the Crown by
   Deed of Grant No. 10050230 (POR 76)
   Deed of Grant No. 11004126 (POR 79)
   Deed of Grant No. 19515212 (POR 77)
   Deed of Grant No. 19515216 (POR 61)
   Deed of Grant No. 19515217 (POR 62)
   Deed of Grant No. 40072348 (Lot 601 on SP 279926)

2. EASEMENT IN GROSS No 716178087 03/12/2014 at 12:24
   burdening the land
   IPSWICH CITY COUNCIL
   over
   EASEMENT Y ON SP226966

3. EASEMENT IN GROSS No 716657892 29/07/2015 at 13:47
   burdening the land
   IPSWICH CITY COUNCIL
   over
   EASEMENTS I AND J ON SP271865

4. EASEMENT IN GROSS No 716657907 29/07/2015 at 13:48
   burdening the land
   CENTRAL SEQ DISTRIBUTOR-RETAILER AUTHORITY
   over
   EASEMENTS G AND H ON SP271865

5. EASEMENT IN GROSS No 716733663 04/09/2015 at 12:34
   burdening the land
   IPSWICH CITY COUNCIL
   over
   EASEMENT F ON SP271867

EASEMENTS, ENCUMBRANCES AND INTERESTS

6. EASEMENT IN GROSS No 717040641 29/01/2016 at 16:10
   burdening the land
   IPSWICH CITY COUNCIL
   over
   EASEMENT C ON SP279893

7. EASEMENT IN GROSS No 717375022 08/07/2016 at 13:45
   burdening the land
   IPSWICH CITY COUNCIL
   over
   EASEMENT W ON SP279895

8. EASEMENT IN GROSS No 717383417 13/07/2016 at 14:45
   burdening the land
   IPSWICH CITY COUNCIL
   over
   EASEMENTS N, O, P AND Q ON SP279928

9. EASEMENT IN GROSS No 717383423 13/07/2016 at 14:46
   burdening the land
   CENTRAL SEQ DISTRIBUTOR-RETAILER AUTHORITY
   over
   EASEMENT M ON SP279928

10. MORTGAGE No 717538570 27/09/2016 at 09:07
    AUSTRALIA AND NEW ZEALAND BANKING GROUP LIMITED A.C.N. 005 357 522

11. EASEMENT IN GROSS No 717538592 27/09/2016 at 09:20
    burdening the land
    IPSWICH CITY COUNCIL
    over
    EASEMENTS R, S AND T ON SP279929

12. EASEMENT IN GROSS No 717652797 17/11/2016 at 11:41
    burdening the land
    IPSWICH CITY COUNCIL
    over
    EASEMENT E ON SP279963

ADMINISTRATIVE ADVICES

Dealing	Type	Lodgement Date	Status
712590422	VEG NOTICE VEGETATION MANAGEMENT ACT 1999	14/07/2009 08:46	CURRENT

UNREGISTERED DEALINGS - NIL

CERTIFICATE OF TITLE ISSUED - No

CURRENT TITLE SEARCH

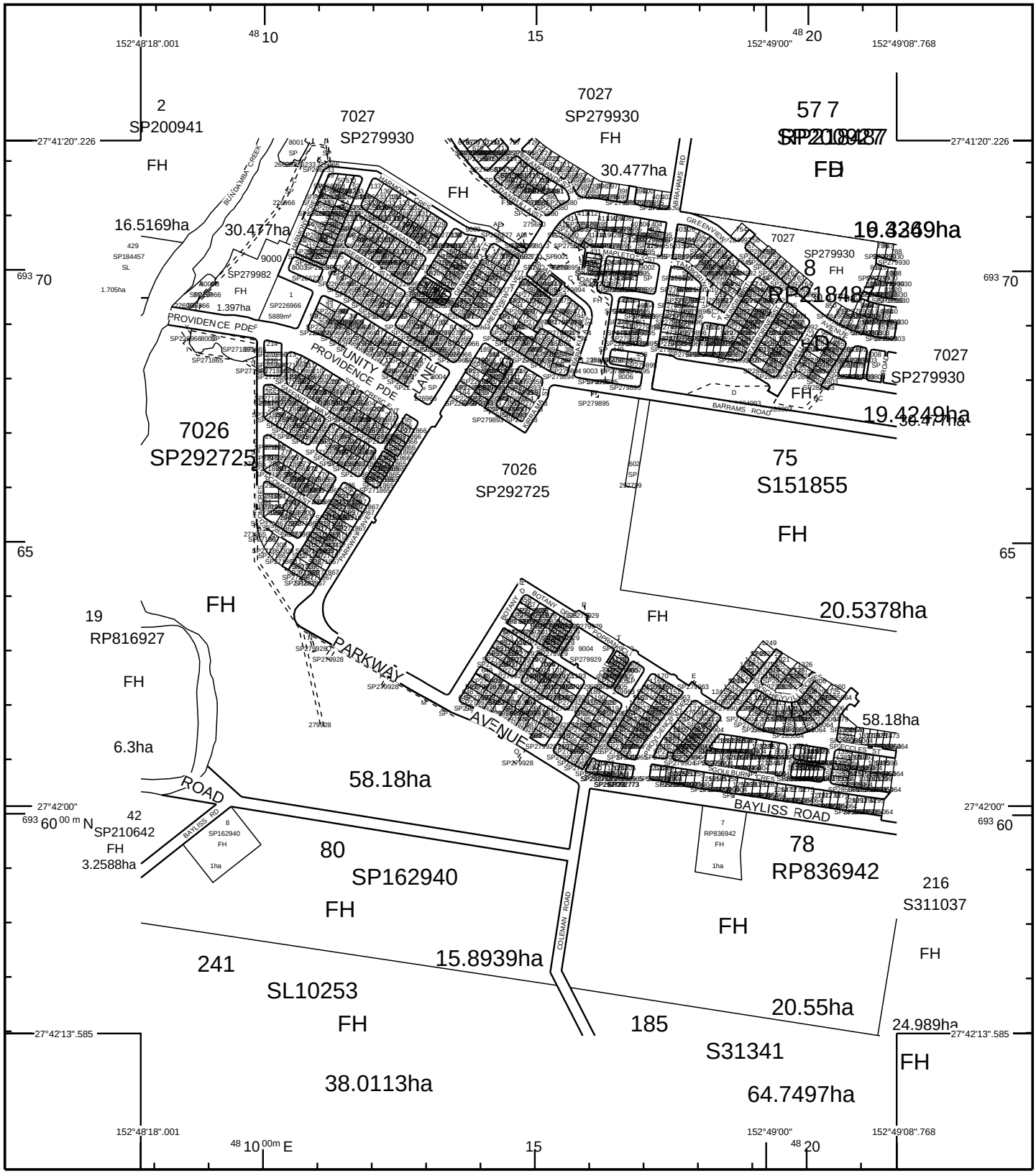
DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 27546155
Search Date: 11/12/2017 16:42 **Title Reference: 51114991**
Date Created: 28/09/2017

Caution - Charges do not necessarily appear in order of priority

** End of Current Title Search **

Requested By: SMIS .



STANDARD MAP NUMBER
9442-13311

0 200 400 600 800 1000 m

HORIZONTAL DATUM:GDA94 ZONE:56 SCALE 1 : 10000

MAP WINDOW POSITION & NEAREST LOCATION

152°48'43".385
27°41'46".905
SOUTH RIPLEY
2.44 KM

SUBJECT PARCEL DESCRIPTION

DCDB

Lot/Plan	7026/SP292725
Area/Volume	58.18ha
Tenure	FREEHOLD
Local Government	IPSWICH CITY
Locality	SOUTH RIPLEY
Segment/Parcel	63337/754

CLIENT SERVICE STANDARDS

PRINTED (dd/mm/yyyy) 11/12/2017

DCDB 09/12/2017

Users of the information recorded in this document (the Information) accept all responsibility and risk associated with the use of the Information and should seek independent professional advice in relation to dealings with property.

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For further information on SmartMap products visit http://nrw.qld.gov.au/property/mapping/blinmap

GDA

SmartMap

An External Product of SmartMap Information Services

Based upon an extraction from the Digital Cadastral Data Base

Queensland Government


BARRAMS ROAD
ABRAHAMS ROAD
JOYFUL STREET
AFFINITY WAY
COMFORT STREET
PARKWAY AVENUE
POPRAN CLOSE
HEATHCOTE STREET
ABERCROMBIE STREET
LOMOND STREET
POPRAN CHASE
PROVIDENCE PARADE
KALBARRI LANE
GULBURN CRESCENT
© State of Queensland 2017
Google earth
Tour Guide
2003
27°41'35.73" S 152°48'29.01" E elev 49 m eye alt 987 m

WENSLEY ROAD
A5
CENTENARY HIGHWAY
BULLA STREET
PROVIDENCE
AMITY WAY
PARADE
PARKWAY AVENUE
ABRAHAMS ROAD
Abrahams Rd
BARRAMS ROAD
Barrams Rd
CUMNER ROAD
Cumner Rd
BAYLISS ROAD
Bayliss Rd
WATSONS ROAD
RIPLEY ROAD
Watson Rd
Ripley Rd
© State of Queensland 2017
Google earth
Tour Guide
2003
Imagery Date: 7/1/2017 27°40'43.40" S 152°47'28.16" E elev 52 m eye alt 4.90 km

Legend

General Details

- Site Boundary
- Stage Boundary
- Multiple Residential
- Multiple Residential (Loft Home)
- Subject to Separate Application / s
- Bus Stop
- BAL 12.5 Category
- BAL 19 Category & Covenant Area
- Bushfire Hazard Area 100m Buffer

Road

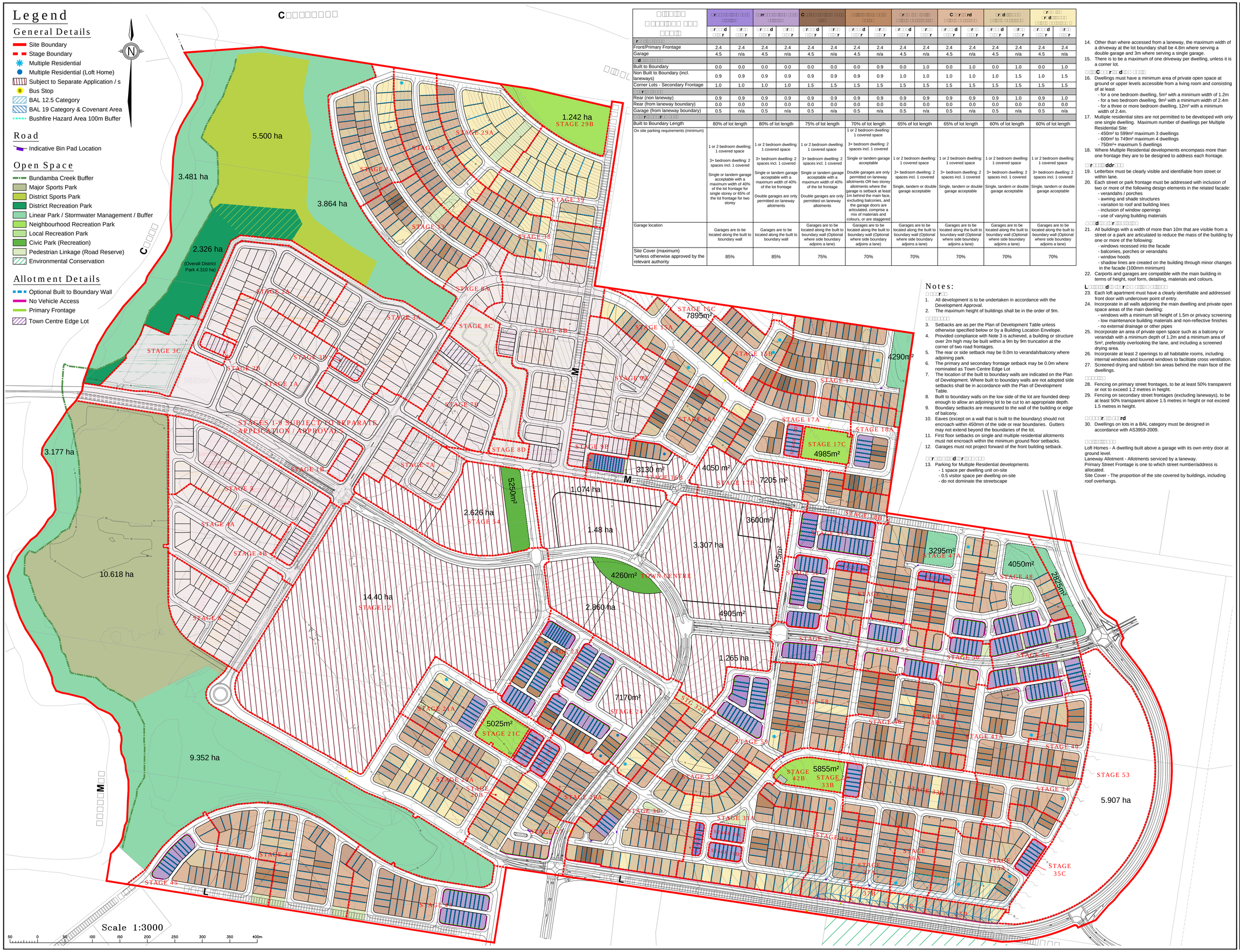
- Indicative Bin Pad Location

Open Space

- Bundamba Creek Buffer
- Major Sports Park
- District Sports Park
- District Recreation Park
- Linear Park / Stormwater Management / Buffer
- Neighbourhood Recreation Park
- Local Recreation Park
- Civic Park (Recreation)
- Pedestrian Linkage (Road Reserve)
- Environmental Conservation

Allotment Details

- Optional Built to Boundary Wall
- No Vehicle Access
- Primary Frontage
- Town Centre Edge Lot



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□r□□□□□□□□																
Front/Primary Frontage	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Garage	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a	4.5	n/a
□d□□□□□□□																
Built to Boundary	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0
Non Built to Boundary (incl. laneways)	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.5	1.0	1.5
Corner Lots - Secondary Frontage	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
□□r□□□□□□																
Rear (non laneway)	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	0.9	1.0
Rear (from laneway boundary)	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
Garage (from laneway boundary)	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a	0.5	n/a
□□□r□□□□r□□ □□□																
Built to Boundary Length	80% of lot length		80% of lot length		75% of lot length		70% of lot length		65% of lot length		65% of lot length		60% of lot length		60% of lot length	
On site parking requirements (minimum)	1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single or tandem garage acceptable with a maximum width of 40% of the lot frontage for single storey or 65% of the lot frontage for two storey		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single or tandem garage acceptable with a maximum width of 40% of the lot frontage Double garages are only permitted on laneway allotments		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single or tandem garage acceptable with a maximum width of 40% of the lot frontage Double garages are only permitted on laneway allotments		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single or tandem garage acceptable Double garages are only permitted on laneway allotments OR two storey allotments where the garage is setback at least 1m behind the main face, excluding balconies, and the garage doors are articulated, comprise a mix of materials and colours, or are staggered		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single, tandem or double garage acceptable		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single, tandem or double garage acceptable		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single, tandem or double garage acceptable		1 or 2 bedroom dwelling: 1 covered space 3+ bedroom dwelling: 2 spaces incl. 1 covered Single, tandem or double garage acceptable	
Garage location	Garages are to be located along the built to boundary wall		Garages are to be located along the built to boundary wall		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)		Garages are to be located along the built to boundary wall (Optional where side boundary adjoins a lane)	
Site Cover (maximum) *unless otherwise approved by the relevant authority	85%		85%		75%		70%		70%		70%		70%		70%	

Notes:

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1. All development is to be undertaken in accordance with the Development Approval.
2. The maximum height of buildings shall be in the order of 9m.

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3. Setbacks are as per the Plan of Development Table unless otherwise specified below or by a Building Location Envelope.
4. Provided compliance with Note 3 is achieved, a building or structure over 2m high may be built within a 9m by 9m truncation at the corner of two road frontages.
5. The rear or side setback may be 0.0m to verandah/balcony where adjoining park.
6. The primary and secondary frontage setback may be 0.0m where nominated as Town Centre Edge Lot
7. The location of the built to boundary walls are indicated on the Plan of Development. Where built to boundary walls are not adopted side setbacks shall be in accordance with the Plan of Development Table.
8. Built to boundary walls on the low side of the lot are founded deep enough to allow an adjoining lot to be cut to an appropriate depth.
9. Boundary setbacks are measured to the wall of the building or edge of balcony.
10. Eaves (except on a wall that is built to the boundary) should not encroach within 450mm of the side or rear boundaries. Gutters may not extend beyond the boundaries of the lot.
11. First floor setbacks on single and multiple residential allotments must not encroach within the minimum ground floor setbacks.
12. Garages must not project forward of the front building setback.

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13. Parking for Multiple Residential developments
    - 1 space per dwelling unit on-site
    - 0.5 visitor space per dwelling on-site
    - do not dominate the streetscape
14. Other than where accessed from a laneway, the maximum width of a driveway at the lot boundary shall be 4.8m where serving a double garage and 3m where serving a single garage.
15. There is to be a maximum of one driveway per dwelling, unless it is a corner lot.

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16. Dwellings must have a minimum area of private open space at ground or upper levels accessible from a living room and consisting of at least
    - for a one bedroom dwelling, 5m² with a minimum width of 1.2m
    - for a two bedroom dwelling, 9m² with a minimum width of 2.4m
    - for a three or more bedroom dwelling, 12m² with a minimum width of 2.4m.
17. Multiple residential sites are not permitted to be developed with only one single dwelling. Maximum number of dwellings per Multiple Residential Site:
    - 450m² to 599m² maximum 3 dwellings
    - 600m² to 749m² maximum 4 dwellings
    - 750m²+ maximum 5 dwellings
18. Where Multiple Residential developments encompass more than one frontage they are to be designed to address each frontage.

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19. Letterbox must be clearly visible and identifiable from street or within lane.
20. Each street or park frontage must be addressed with inclusion of two or more of the following design elements in the related facade:
    - verandahs / porches
    - awning and shade structures
    - variation to roof and building lines
    - inclusion of window openings
    - use of varying building materials

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21. All buildings with a width of more than 10m that are visible from a street or a park are articulated to reduce the mass of the building by one or more of the following:
    - windows recessed into the facade
    - balconies, porches or verandahs
    - window hoods
    - shadow lines are created on the building through minor changes in the facade (100mm minimum)
22. Carports and garages are compatible with the main building in terms of height, roof form, detailing, materials and colours.

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23. Each loft apartment must have a clearly identifiable and addressed front door with undercover point of entry.
24. Incorporate in all walls adjoining the main dwelling and private open space areas of the main dwelling:
    - windows with a minimum sill height of 1.5m or privacy screening
    - low maintenance building materials and non-reflective finishes
    - no external drainage or other pipes
25. Incorporate an area of private open space such as a balcony or verandah with a minimum depth of 1.2m and a minimum area of 5m², preferably overlooking the land, and including a screened drying area.
26. Incorporate at least 2 openings to all habitable rooms, including internal windows and louvred windows to facilitate cross ventilation.
27. Screened drying and rubbish bin areas behind the main face of the dwellings.

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28. Fencing on primary street frontages, to be at least 50% transparent or not to exceed 1.2 metres in height.
29. Fencing on secondary street frontages (excluding laneways), to be at least 50% transparent above 1.5 metres in height or not exceed 1.5 metres in height.

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30. Dwellings on lots in a BAL category must be designed in accordance with AS3959-2009.

□□□□□□□□□

Loft Homes - A dwelling built above a garage with its own entry door at ground level.
Laneway Allotment - Allotments serviced by a laneway.
Primary Street Frontage is one to which street number/address is allocated.
Site Cover - The proportion of the site covered by buildings, including roof overhangs.

REVISION

A: 08/08/13 Amend POD notes & table
B: 14/02/14 Amend to New Layout & Notes
C: 18/12/14 Amend Stages 13,14, 28 & 38
E: 30/06/15 Add Town Centre Edge Lot
F: 07/08/15 Amend var stages and statistics
G: 04/09/15 Amend Stage 12 & 27 and statistics
H: 26/10/15 Amend Stage 15-19, 26 & 27 and statistics
I: 04/11/15 Add bus stops and amend PMT sites
J: 27/11/15 Amend Stg 15-19 lot mix and statistics
K: 24/06/16 Amend Stg 25, 53-54, TC and statistics
L: 01/07/16 Amend Stages 30-51 and Statistics
M: 10/10/16 Amend Stages 40-51 and Statistics
M1: 27/02/17 Amend Stages 43-45, 17A/B & 18A/B
N: 09/05/17 Amend Stages 33-56
O: 13/06/17 Amend School Site & Balance Suce
P: 20/11/17 Amend Staging and Lots

□□□□□

All Lot Numbers, Dimensions and Areas are approximate only, and are subject to survey and Council approval.

Dimensions have been rounded to the nearest 0.1 metres.

Areas have been rounded down to the nearest 5m².

The boundaries shown on this plan should not be used for final detailed engineers design.

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□□□□□□□□d□r□□□DTS, RPS Survey
□d□□□□□□□□r□□□□□DCDB
C□□□□□r□□Cardno

CLIENT

AMEX CORPORATION PTY LTD

PROJECT

PROVIDENCE
RIPLEY SUCE

PLAN OF DEVELOPMENT CANCELLING LOT 56 ON SP200934, LOTS 58-62 & 75-77 ON S151855, LOT 79 ON SL79, LOTS 109 & 113 ON M3174 AND PART OF ABRAHAMS ROAD

Date	20 NOVEMBER 2017
Comp By.	WNW
Checked By.	SB / FK
DWG Name.	6837-194Q SUCE Master Pro
Job Reference	6837
Local Authority	IPSWICH CITY COUNCIL
Locality	RIPLEY
Scale	1:3000
Sheet	A1
Plan Ref	6837-192
Rev	P
Sheet No	1 of 5

RPS

RPS Australia East Pty Ltd
ACN 140 292 762
ABN 44 140 292 762

Urban Design
Brisbane Design Studio
455 Brunswick Street
Fortitude Valley QLD 4006

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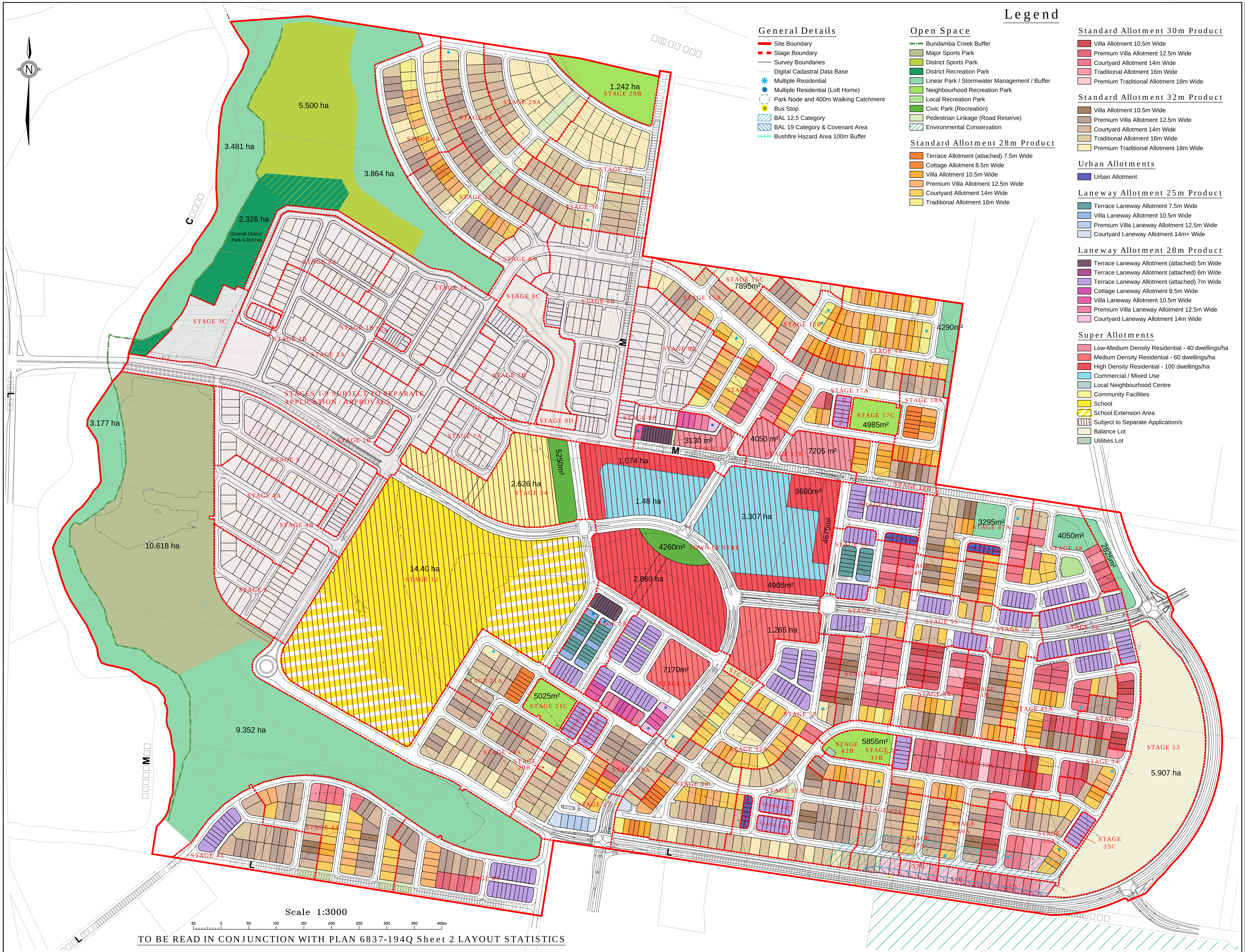
F +61 7 3124 9399

W rpsgroup.com.au


Legend
General Details
Site Boundary
Stage Boundary
Survey Boundaries
Digital Cadastral Data Base
Multiple Residential
Multiple Residential (Loft Home)
Park Node and 400m Walking Catchment
Bus Stop
BAL 12.5 Category
BAL 19 Category & Covenant Area
Bushfire Hazard Area 100m Buffer
Open Space
Bundamba Creek Buffer
Major Sports Park
District Sports Park
District Recreation Park
Linear Park / Stormwater Management / Buffer
Neighbourhood Recreation Park
Local Recreation Park
Civic Park (Recreation)
Pedestrian Linkage (Road Reserve)
Environmental Conservation
Standard Allotment 28m Product
Terrace Allotment (attached) 7.5m Wide
Cottage Allotment 8.5m Wide
Villa Allotment 10.5m Wide
Premium Villa Allotment 12.5m Wide
Courtyard Allotment 14m Wide
Traditional Allotment 16m Wide
Standard Allotment 30m Product
Villa Allotment 10.5m Wide
Premium Villa Allotment 12.5m Wide
Courtyard Allotment 14m Wide
Traditional Allotment 16m Wide
Premium Traditional Allotment 18m Wide
Standard Allotment 32m Product
Villa Allotment 10.5m Wide
Premium Villa Allotment 12.5m Wide
Courtyard Allotment 14m Wide
Traditional Allotment 16m Wide
Premium Traditional Allotment 18m Wide
Urban Allotments
Urban Allotment
Laneway Allotment 25m Product
Terrace Laneway Allotment 7.5m Wide
Villa Laneway Allotment 10.5m Wide
Premium Villa Laneway Allotment 12.5m Wide
Courtyard Laneway Allotment 14m+ Wide
Laneway Allotment 28m Product
Terrace Laneway Allotment (attached) 5m Wide
Terrace Laneway Allotment (attached) 6m Wide
Terrace Laneway Allotment (attached) 7m Wide
Cottage Laneway Allotment 8.5m Wide
Villa Laneway Allotment 10.5m Wide
Premium Villa Laneway Allotment 12.5m Wide
Courtyard Laneway Allotment 14m Wide
Super Allotments
Low-Medium Density Residential - 40 dwellings/ha
Medium Density Residential - 60 dwellings/ha
High Density Residential - 100 dwellings/ha
Commercial / Mixed Use
Local Neighbourhood Centre
Community Facilities
School
School Extension Area
Subject to Separate Application/s
Balance Lot
Utilities Lot
N
5.500 ha
1.242 ha
STAGE 29B
3.481 ha
3.864 ha
2.326 ha
(Overall District Park 4.310 ha)
STAGES 1-9 SUBJECT TO SEPARATE APPLICATION / APPROVALS
3.177 ha
10.618 ha
9.352 ha
14.40 ha
STAGE 12
2.626 ha
STAGE 54
5250m²
1.074 ha
1.48 ha
3.307 ha
3600m²
4575m²
4260m²
TOWN CENTRE
2.860 ha
4905m²
1.265 ha
7170m²
5025m²
STAGE 21C
7895m²
STAGE 15C
4290m²
3130 m²
4050 m²
7205 m²
4985m²
STAGE 17C
3295m²
4050m²
2825m²
5855m²
5.907 ha
STAGE 53
Scale 1:3000
TO BE READ IN CONJUNCTION WITH PLAN 6837-194Q Sheet 2 LAYOUT STATISTICS

REVISION
C: 14/02/14 Amend further issues
D: 18/12/14 Amend Stages 13,14, 28 & 38
E: 03/06/15 Amend Stages 20 & 21
F: 30/06/15 Amend Stage 20 Boundary
G: 07/08/15 Amend var stages and statistics
H: 04/09/15 Amend Stage 12 & 27 and statistics
I: 26/10/15 Amend Stage 15-19, 26 & 27 and statistics
J: 04/11/15 Add bus stops and amend PMT sites
K: 27/11/15 Amend Stg 15-19 lot mix and statistics
L: 24/06/16 Amend Stg 25, 53-54, TC and statistics
M: 01/07/16 Amend Stages 30-51 and Statistics
N: 10/10/16 Amend Stages 40-51 and Statistics
N1: 27/02/17 Amend Stages 43-45, 17A/B & 18A/B
O: 09/05/17 Amend Stages 33-56
P: 29/06/17 Amend School Site & Balance Suce
Q: 20/11/17 Amend Staging and Lots

All Lot Numbers, Dimensions and Areas are approximate only, and are subject to survey and Council approval.

Dimensions have been rounded to the nearest 0.1 metres.

Areas have been rounded down to the nearest 5m².

The boundaries shown on this plan should not be used for final detailed engineers design.

DTS, RPS Survey
DCDB
Cardno

CLIENT
AMEX CORPORATION PTY LTD

PROJECT
PROVIDENCE RIPLEY SUCE

PLAN OF SUBDIVISION CANCELLING LOT 56 ON SP200934, LOTS 58-62 & 75-77 ON S151855, LOT 79 ON SL79, LOTS 109 & 113 ON M3174 AND PART OF ABRAHAMS ROAD

Date	20 NOVEMBER 2017
Comp By.	WNW
Checked By.	SB / FK
DWG Name.	6837-194Q SUCE Master Pro
Job Reference	6837
Local Authority	IPSWICH CITY COUNCIL
Locality	RIPLEY
Scale	1:3000
Sheet	A1
Plan Ref	6837-194
Rev	Q
Sheet No	1 of 6

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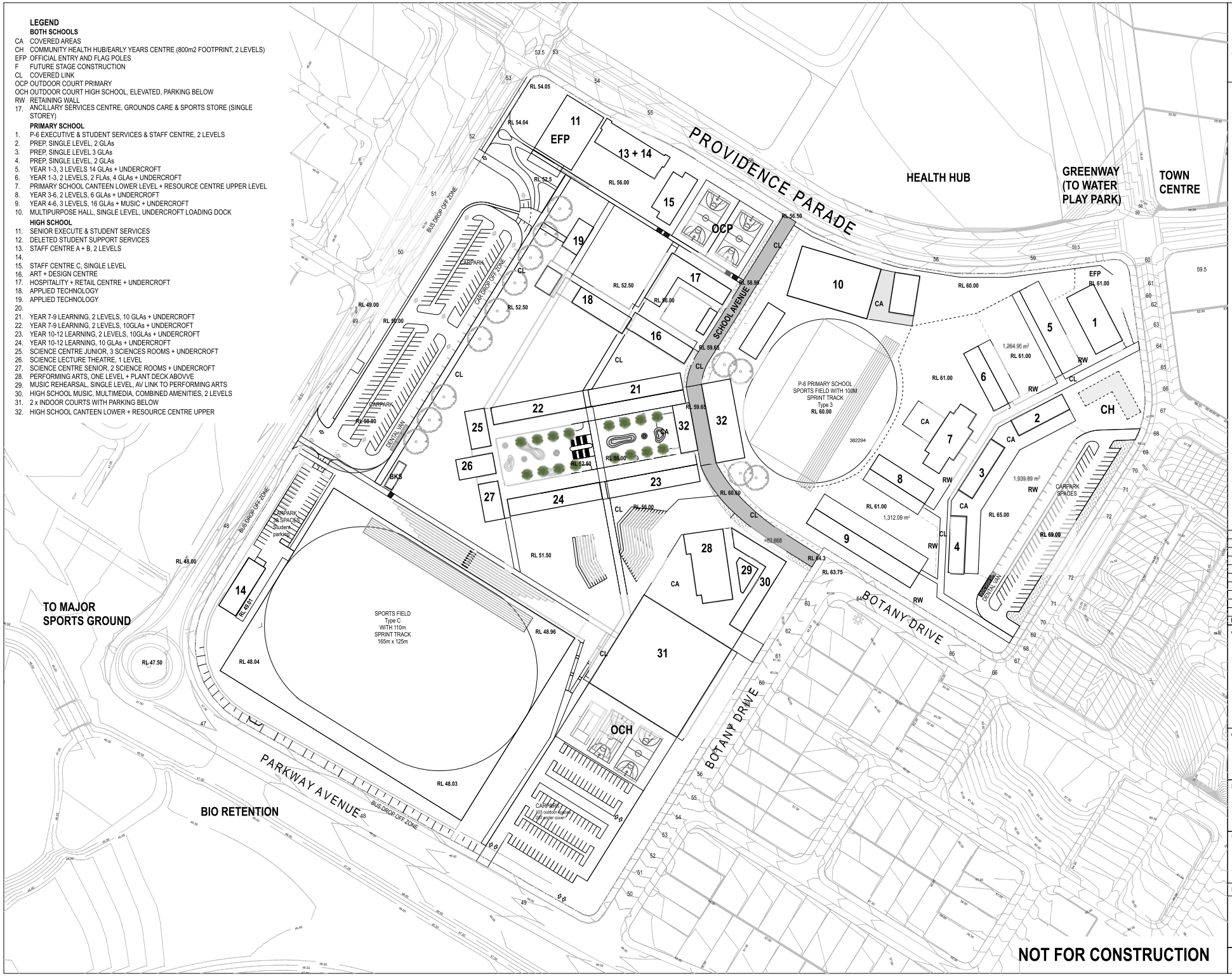

LEGEND

BOTH SCHOOLS

CA COVERED AREAS
CH COMMUNITY HEALTH HUB/EARLY YEARS CENTRE (800m2 FOOTPRINT, 2 LEVELS)
EFP OFFICIAL ENTRY AND FLAG POLES
F FUTURE STAGE CONSTRUCTION
CL COVERED LINK
OCP OUTDOOR COURT PRIMARY
OCH OUTDOOR COURT HIGH SCHOOL, ELEVATED, PARKING BELOW
RW RETAINING WALL
17. ANCILLARY SERVICES CENTRE, GROUNDS CARE & SPORTS STORE (SINGLE STOREY)

PRIMARY SCHOOL

1. P-6 EXECUTIVE & STUDENT SERVICES & STAFF CENTRE, 2 LEVELS
2. PREP, SINGLE LEVEL, 2 GLAs
3. PREP, SINGLE LEVEL, 3 GLAs
4. PREP, SINGLE LEVEL, 2 GLAs
5. YEAR 1-3, 3 LEVELS 14 GLAs + UNDERCROFT
6. YEAR 1-3, 2 LEVELS, 2 FLAs, 4 GLAs + UNDERCROFT
7. PRIMARY SCHOOL CANTEEN LOWER LEVEL + RESOURCE CENTRE UPPER LEVEL
8. YEAR 3-6, 2 LEVELS, 6 GLAs + UNDERCROFT
9. YEAR 4-6, 3 LEVELS, 16 GLAs + MUSIC + UNDERCROFT
10. MULTIPURPOSE HALL, SINGLE LEVEL, UNDERCROFT LOADING DOCK

HIGH SCHOOL

11. SENIOR EXECUTE & STUDENT SERVICES
12. DELETED STUDENT SUPPORT SERVICES
13. STAFF CENTRE A + B, 2 LEVELS
14.
15. STAFF CENTRE C, SINGLE LEVEL
16. ART + DESIGN CENTRE
17. HOSPITALITY + RETAIL CENTRE + UNDERCROFT
18. APPLIED TECHNOLOGY
19. APPLIED TECHNOLOGY
20.
21. YEAR 7-9 LEARNING, 2 LEVELS, 10 GLAs + UNDERCROFT
22. YEAR 7-9 LEARNING, 2 LEVELS, 10GLAs + UNDERCROFT
23. YEAR 10-12 LEARNING, 2 LEVELS, 10GLAs + UNDERCROFT
24. YEAR 10-12 LEARNING, 10 GLAs + UNDERCROFT
25. SCIENCE CENTRE JUNIOR, 3 SCIENCES ROOMS + UNDERCROFT
26. SCIENCE LECTURE THEATRE, 1 LEVEL
27. SCIENCE CENTRE SENIOR, 2 SCIENCE ROOMS + UNDERCROFT
28. PERFORMING ARTS, ONE LEVEL + PLANT DECK ABOVVE
29. MUSIC REHEARSAL, SINGLE LEVEL, AV LINK TO PERFORMING ARTS
30. HIGH SCHOOL MUSIC, MULTIMEDIA, COMBINED AMENITIES, 2 LEVELS
31. 2 x INDOOR COURTS WITH PARKING BELOW
32. HIGH SCHOOL CANTEEN LOWER + RESOURCE CENTRE UPPER

NOTES

1. Figured dimensions take precedence over scaled.
2. Figured dimensions are millimetres unless noted otherwise.
3. Check all dimensions on site prior to commencement of work.
4.

Rev	Revision Description	Date	Ver
P1	MASTER PLAN REVISIONS FOR COMMENT	05/03/18	
P2	MASTER PLAN PROGRESS FOR COMMENT	13/03/18	
P3	MASTER PLAN PROGRESS FOR COMMENT	5/03/18	
P4	MASTER PLAN PROGRESS FOR COMMENT	12/03/18	

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Client

QUEENSLAND GOVERNMENT DEPARTMENT OF EDUCATION AND TRAINING

Project

RIPLEY PROVIDENCE STATE SCHOOLS

Title

SITE PLAN
SITE PLANS

Plot Date	Drwn	Chck
12/03/18		

Project No.	Scale
5448	1:1000 at A1
Drawing No.	Revision
SD-A-100	P4

NOT FOR CONSTRUCTION

ATTACHMENT B – Flora and Fauna

- Vegetation Management Report
- Wildlife Online Report
- SEQ Koala Conservation Assessable Development Areas Map
- Koala Habitat Map

Department of Natural Resources and Mines

Vegetation management report

For Lot: 7026 Plan: SP292725

Current as at 11/12/2017

Queensland Government

Overview

IMPORTANT INFORMATION- As a result of the new *Planning Act 2016*, which commenced on 3 July 2017, there are a number of changes to the Vegetation Management Framework. These changes include;

- Exemptions from the Vegetation Management Framework, commonly known as exemptions and detailed in the Sustainable Planning Regulations 2012, are now known as "exempt clearing works", and are detailed in the Planning Regulations Schedule 21; and
- Self-assessable vegetation clearing codes are now known as "accepted development vegetation clearing codes". However, as there are 15 self-assessable vegetation clearing codes available for use that will not be re-named as a result of the recent changes, the term self-assessable vegetation clearing code will be used throughout this report.

Vegetation clearing is predominantly regulated under the *Vegetation Management Act 1999* (VMA) and the *Planning Act 2016* (PA). A development permit is required to clear where the clearing is not exempt clearing work through the Planning Regulation 2017, or where it cannot be carried out under a self-assessable vegetation clearing code or an area management plan under the VMA.

Many routine vegetation management activities can be carried out as exempt clearing work listed in the Planning Regulation 2017, or through an self-assessable vegetation clearing code or an area management plan (AMP). Other activities may require you to apply for a development permit under the *Planning Act 2016*. The requirements for a development permit depend on the type of vegetation, the land tenure (e.g. freehold or leasehold land), the location, and the extent and purpose of the proposed clearing.

Please be aware that other requirements for clearing and managing vegetation may apply, even if the activity is not regulated by the Vegetation Management framework. Prior to commencing the clearing of vegetation, it is important to confirm that no other requirements apply under other legislation, including:

- Local laws in your local government area;
- Other State legislation, such as Protected Plants under the *Nature Conservation Act 1992* (NCA);
- The Commonwealth Government's *Environmental Protection and Biodiversity Act 1999* (EPBC).

Please see section 6 for contact details of other agencies you should confirm requirements with before commencing vegetation clearing.

Please note that the requirements for clearing Category C or Category R areas are located in the self-assessable vegetation clearing codes (SAVCC) for managing Category C and Category R vegetation respectively.

The information in this report will assist you to determine the options for managing vegetation on your property. Based on the lot on plan details you have supplied, this report provides the following detailed information:

- *Vegetation management framework* - an explanation of the options that may be available to manage vegetation on your property.
- *Property details* - information about the specified Lot on Plan, lot size, local government area, bioregion(s), subregion(s), catchment(s), coastal or non coastal status, and any applicable area management plans associated with your property.
- *Vegetation management details for the specified Lot on Plan* - specific information about your property including vegetation categories, regional ecosystems, watercourses, wetlands, essential habitat, land suitability and protected plants.
- *Contact information.*
- *Maps* - a series of colour maps to assist in identifying regulated vegetation on your property including:
  - regulated vegetation management map;
  - vegetation management supporting map;
  - land suitability map;
  - coastal/non coastal map;
  - protected plants map.
- *Other legislation contact information.*

Table of Contents

1. Vegetation management framework

The *Vegetation Management Act 1999* (VMA), the Vegetation Management Regulation 2012, the *Planning Act 2016* and the Planning Regulation 2017, in conjunction with associated policies and codes, form the Vegetation Management Framework. This framework regulates the management and clearing of assessable vegetation in Queensland.

The VMA does not apply to all land tenures or vegetation types. State forests, national parks, forest reserves and some tenure types as defined under the *Forestry Act 1959* and *Nature Conservation Act 1992* are not regulated by the VMA.

Managing or clearing vegetation may require permits under these laws.

The information provided in Sections 2 and 3 of this report, as well as the maps provided in Section 5, will assist you to determine whether your proposed clearing is:

- exempt clearing works;
- requires notification and compliance with a self-assessable vegetation clearing code or area management plan;
- requires a development permit; and/or
- in a high risk area and is therefore subject to the protected plants legislative framework (see section 3.7 of this report).

The following native vegetation is not regulated under the VMA but may require permit(s) under other laws:

- grass or non-woody herbage;
- a plant within a grassland regional ecosystem prescribed under the VM Regulation 2012; and
- a mangrove.

Although vegetation management laws may allow clearing, there may be other state, local or Commonwealth laws that apply, such as the Queensland Government's *Nature Conservation Act 1992* (see Protected Plants) and the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The EPBC Act regulates matters of national environmental significance, such as threatened species and ecological communities. You may need to obtain approval under the EPBC Act if your proposed clearing could have a significant impact on matters of national environmental significance. Further details are available at www.environment.gov.au.

1.1 Exempt Clearing Work

The vegetation management framework allows clearing for certain purposes without approval, known as an exempt clearing work. Exempt clearing work provisions under the *Planning Act 2016* were formerly called exemptions.

In areas that are mapped as Category X (white in colour) on the regulated vegetation management map (see section 5.1), and where the land tenure is freehold, indigenous land and leasehold land for agriculture and grazing purposes, the clearing of vegetation is considered exempt clearing work, or exempt from the VMA. For all other land tenures, contact DNRM before commencing clearing to ensure that the proposed activity is exempt clearing work. Please see Section 4 for DNRM's contact details.

A range of routine property management activities are considered exempt clearing work. A list of these is available at https://www.qld.gov.au/environment/land/vegetation/exemptions/.

Although vegetation management laws may allow clearing as exempt clearing work, there may be other state, local or Commonwealth laws that apply. For example, a clearing permit under the *Nature Conservation Act 1992* may be required for clearing protected plants. These requirements apply irrespective of the classification of the vegetation under the vegetation management framework. In addition, clearing that is exempt clearing work may not apply in an area subject to a development permit, a covenant, an environmental offset, an Exchange Area, a Restoration Notice, or an area mapped as Category A. Landholders considering clearing in any of these areas should contact DNRM prior to clearing to clarify if any conditions apply in the area that affect the use of the provisions for exempt clearing work.

1.2 Self-assessable vegetation clearing codes

Some clearing activities can be undertaken using a self-assessable vegetation clearing code and notification process. The codes can be downloaded at
https://www.qld.gov.au/environment/land/vegetation/codes/

If you intend to clear vegetation under a self-assessable vegetation clearing code, you must notify DNRM before commencing. The information in this report will assist you to complete the online notification form.

Please note that a self-assessable vegetation clearing code cannot be used in an area mapped as Category A.(see section 5.1)

You can complete the online form at
https://apps.dnrm.qld.gov.au/vegetation/

1.3 Area management plans

Area Management Plans (AMP) provide an alternative approval system for vegetation clearing. They list the purposes and clearing conditions that have been approved for the areas covered by the plan. It is not necessary to use an AMP, even when an AMP applies to your property.

If an area management plan applies to your property, it will be listed in Section 2.2 of this report.

To clear under an existing AMP, you must notify the DNRM before clearing starts and follow the conditions listed in the AMP. You can download the area management plan notification form and obtain a copy of the relevant AMP at
https://www.qld.gov.au/environment/land/vegetation/area-plans/

1.4 Development permits

If your proposed clearing is not exempt clearing work, or is not permitted under a self-assessable vegetation clearing code, or an AMP, you may be able to apply for a development permit. Information on how to apply for a development permit is available at
https://www.qld.gov.au/environment/land/vegetation/applying/

2. Property details

2.1 Tenure

All of the lot, plan and tenure information associated with property Lot: 7026 Plan: SP292725 (Calculated area in Hectares - 58.14ha), including links to relevant Smart Maps, are listed in Table 1. The tenure of the property (whether it is freehold, leasehold, or other) may be viewed by clicking on the Smart Map link(s) provided.

Table 1: Lot, plan and tenure information for the property

Lot	Plan	Tenure	Link to property on SmartMap
7026	SP292725	Freehold	http://globe.information.qld.gov.au/cgi-bin/SmartMapgen.py?q=7026\SP292725
N	SP279928	Easement	http://globe.information.qld.gov.au/cgi-bin/SmartMapgen.py?q=N\SP279928
H	SP271865	Easement	http://globe.information.qld.gov.au/cgi-bin/SmartMapgen.py?q=H\SP271865
I	SP271865	Easement	http://globe.information.qld.gov.au/cgi-bin/SmartMapgen.py?q=I\SP271865
R	SP279929	Easement	http://globe.information.qld.gov.au/cgi-bin/SmartMapgen.py?q=R\SP279929
Q	SP279928	Easement	http://globe.information.qld.gov.au/cgi-bin/SmartMapgen.py?q=Q\SP279928
S	SP279929	Easement	http://globe.information.qld.gov.au/cgi-bin/SmartMapgen.py?q=S\SP279929
C	SP279893	Easement	http://globe.information.qld.gov.au/cgi-bin/SmartMapgen.py?q=C\SP279893
T	SP279929	Easement	http://globe.information.qld.gov.au/cgi-bin/SmartMapgen.py?q=T\SP279929
W	SP279895	Easement	http://globe.information.qld.gov.au/cgi-bin/SmartMapgen.py?q=W\SP279895
E	SP279963	Easement	http://globe.information.qld.gov.au/cgi-bin/SmartMapgen.py?q=E\SP279963
J	SP271865	Easement	http://globe.information.qld.gov.au/cgi-bin/SmartMapgen.py?q=J\SP271865
O	SP279928	Easement	http://globe.information.qld.gov.au/cgi-bin/SmartMapgen.py?q=O\SP279928
F	SP271867	Easement	http://globe.information.qld.gov.au/cgi-bin/SmartMapgen.py?q=F\SP271867
G	SP271865	Easement	http://globe.information.qld.gov.au/cgi-bin/SmartMapgen.py?q=G\SP271865
P	SP279928	Easement	http://globe.information.qld.gov.au/cgi-bin/SmartMapgen.py?q=P\SP279928
Y	SP226966	Easement	http://globe.information.qld.gov.au/cgi-bin/SmartMapgen.py?q=Y\SP226966
M	SP279928	Easement	http://globe.information.qld.gov.au/cgi-bin/SmartMapgen.py?q=M\SP279928

The tenure of the land may affect whether the clearing is considered exempt clearing work.

Some self-assessable vegetation clearing codes apply only to freehold and leasehold land granted for grazing and agricultural purposes.

2.2 Property location

Table 2 provides a summary of the locations for property Lot: 7026 Plan: SP292725, in relation to natural and administrative boundaries.

Table 2: Property location

Local Government(s)
Ipswich City

Subregion(s)

Bioregion(s)	Subregion(s)
Southeast Queensland	Moreton Basin

Catchment(s)

Catchment(s)
Brisbane

Coastal

For the purposes of the Self-assessable vegetation clearing codes and the State Development Assessment Provisions (SDAP), this property is regarded as *
Coastal

*See also Map 5.4

Area Management Plan(s)

Area Management Plan(s): Nil

3. Vegetation management details for Lot: 7026 Plan: SP292725

3.1 Vegetation categories

Vegetation categories are shown on the regulated vegetation management map in section 5.1 of this report. A summary of vegetation categories on the subject lot are listed in Table 3. Descriptions for these categories are shown in Table 4.

Table 3: Vegetation categories for subject property

Vegetation category
Category B
Category X

Table 4

Category	Colour on Map	Description	Requirements
A	red	Compliance areas, environmental offset areas and voluntary declaration areas	There may be special conditions that apply in a Category A area. Before clearing, contact DNRM to confirm any requirements in a Category A area.
B	dark blue	Remnant vegetation areas	Clearing may be considered exempt clearing work, or can be undertaken after notifying under a self-assessable vegetation clearing code or an Area Management Plan, or may require a Development Permit.
C	light blue	High-value regrowth areas	Clearing may be considered exempt clearing work, or can be undertaken after notifying under the self-assessable vegetation clearing code for Managing Category C Regrowth vegetation.
R	yellow	Regrowth within 50m of a watercourse or drainage feature in the priority reef catchment areas	Clearing may be considered exempt clearing work, or can be undertaken after notifying under the self-assessable vegetation clearing code for Managing Category R Regrowth vegetation.
X	white	Clearing is considered accepted development on freehold land, indigenous land and leasehold land for agriculture and grazing purposes. Contact DNRM to clarify whether a development permit is required for other State land tenures.	No permit or notification required on freehold land, indigenous land and leasehold land for agriculture and grazing. A Development Permit may be required for some State land tenures.

3.2 Regional ecosystems

The endangered, of concern and least concern regional ecosystems on your property are shown on the vegetation management supporting map in section 5.2 and are listed in Table 5.

A description of regional ecosystems can be accessed online at
https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/descriptions/

Table 5: Regional ecosystems present on subject property

Regional Ecosystem	VMA Status	Category	Area (Ha)	Short Description
12.3.8	Of concern	B	1.75	Swamps with Cyperus spp., Schoenoplectus spp. and Eleocharis spp.
non-rem	None	X	56.44	None

Please note:

1. All area and area derived figures included in this table have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 1994). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.
2. If Table 5 contains a Category 'plant', please be aware that this refers to 'plantations' such as forestry, and these areas are considered non-remnant under the VMA.

The VMA status of the regional ecosystem (whether it is endangered, of concern or least concern) also determines if any of the following are applicable:

- exempt clearing work
- self assessable vegetation clearing codes
- performance outcomes in State Development Assessment Provisions (SDAP).

Some clearing purposes are limited to a particular group of regional ecosystems (e.g. encroachment) and some self-assessable vegetation clearing codes allow clearing only in certain regional ecosystems.

3.3 Watercourses

Vegetation management watercourses and drainage features for this property are shown on the vegetation management supporting map in section 5.2.

3.4 Wetlands

VM Wetlands

Vegetation management wetlands are present on this property and are shown on the vegetation management supporting map in section 5.2 of this report.

3.5 Essential habitat

Protected wildlife is native wildlife prescribed under the *Nature Conservation Act 1992* (NCA), and includes endangered or vulnerable wildlife.

Essential habitat identifies areas in which species of wildlife that are Endangered or Vulnerable under the *Nature Conservation Act 1992* for which suitable habitat occurs on the lot, or where they have been known to occur up to 1.1 kilometres from a lot on which there is assessable vegetation. These important habitat areas are protected under the VMA.

Any essential habitat on this property will be shown as blue hatching on the vegetation supporting map in section 5.2.

If essential habitat is identified on the lot, information about the protected wildlife species is provided in Table 6 below. The numeric labels on the vegetation management supporting map can be cross referenced with Table 6 to outline the essential habitat factors for that particular species. There may be essential habitat for more than one species on each lot, and areas of Category A, Category B and Category C can be mapped as Essential Habitat.

Essential habitat is compiled from a combination of species habitat models and buffered species records. Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated. Essential habitat, for protected wildlife, means an area of vegetation shown on the Regulated Vegetation Management Map as assessable vegetation -

1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database. Essential habitat factors are comprised of - regional ecosystem (mandatory for most species), vegetation community, altitude, soils, position in landscape; or

2) in which the protected wildlife, at any stage of its life cycle, is located.

If there is no essential habitat mapping shown on the vegetation management supporting map for this lot, and there is no table in the sections below, it confirms that there is no essential habitat on the lot.

3.5.1 Category A and/or Category B

Table 6: Essential habitat in Category A and/or Category B

No records

3.5.2 Category C

Table 7: Essential habitat in Category C

No records

3.6 Land suitability

Land suitability mapping and information is required if you are applying to clear vegetation for high-value or irrigated high-value agriculture. Land suitability assessment addresses the capacity of land to sustain specific land uses such as cropping, irrigated agriculture and forestry.

A land suitability map for this property is provided in section 5.3. The map provides detailed land suitability, agricultural land classification, or soil and land resource mapping data where it is available.

The land suitability project that applies to this property is shown in Table 8 and Table 9.

Table 8: Land suitability project details for this property

Project details

Project name	Project code	Start date	Scale
Moreton Land Management Manual (MFM)	MFM	1982-01-01 00:00:00	250000

Table 9: Available land suitability project reports for this property

Availability

Project name	Availability of report
Moreton Land Management Manual (MFM)	Available at www.publications.qld.gov.au

3.7 Protected plants (administered by the Department of Environment and Heritage Protection (DEHP))

In Queensland, all plants that are native to Australia are protected plants under the *Nature Conservation Act 1992* (NCA), with clearing of protected plants in the wild regulated by the Nature Conservation (Wildlife Management) Regulation 2006. These requirements apply irrespective of the classification of the vegetation under the *Vegetation Management Act 1999*.

Prior to clearing, if the plants proposed to be cleared are in the wild (see Operational policy: When a protected plant in Queensland is considered to be 'in the wild') and the exemptions under the Nature Conservation (Wildlife Management) Regulation 2006 are not applicable to the proposed clearing, you must check the flora survey trigger map to determine if any part of the area to be cleared is within a high risk area. The trigger map for this property is provided in section 5.5. The exemptions relate to:

- imminent risk of death or serious injury (refer s261A)
- imminent risk of serious damage to a building or other structure on land, or to personal property (refer s261B)
- *Fire and Emergency Service Act 1990* (refer 261C)
- previously cleared areas (refer s261ZB)
- maintenance activities (refer s261ZC)
- firebreak or fire management line (refer s261ZD)
- self-assessable vegetation clearing code (refer s261ZE)
- conservation purposes (refer s261ZG)
- authorised in particular circumstances (refer s385).

Some exemptions under the NCA are the same as exempt clearing work (formerly known as exemptions) from the *Vegetation Management Act 1999* (i.e. listed in the Planning Regulations 2017) while some are different.

If the proposed area to be cleared is shown as blue (i.e. high risk) on the flora survey trigger map, a flora survey of the clearing impact area must be undertaken in accordance with the flora survey guidelines. The main objective of a flora survey is to locate any endangered, vulnerable or near threatened plants (EVNT plants) that may be present in the clearing impact area.

If a flora survey identifies that EVNT plants are not present within the clearing impact area or clearing within 100m of EVNT plants can be avoided, the clearing activity is exempt from a permit. An exempt clearing notification form must be submitted to the Department of Environment and Heritage Protection, with a copy of the flora survey report, at least one week prior to clearing. The clearing must be conducted within two years after the flora survey report was submitted.

If a flora survey identifies that EVNT plants are present in, or within 100m of, the ara to be cleared, a clearing permit is required before any clearing is undertaken. The flora survey report, as well as an impact management report, must be submitted with the application form clearing permit.

In an area other than a high risk area, a clearing permit is only required where a person is, or becomes aware that EVNT plants are present in, or within 100m of, the area to be cleared. You must keep a copy of the flora survey trigger map for the area subject to clearing for five years from the day the clearing starts. If you do not clear within the 12 month period that the flora survey trigger map was printed, you need to print and check a new flora survey trigger map.

Further information on protected plants is available at
http://www.ehp.qld.gov.au/licences-permits/plants-animals/protected-plants/

For assistance on the protected plants flora survey trigger map for this property, please contact the Department of Environment and Heritage Protection at palm@ehp.qld.gov.au.

3.8 Emissions Reduction Fund (ERF)

The ERF is an Australian Government scheme which offers incentives for businesses and communities across the economy to reduce emissions.

Under the ERF, farmers can earn money from activities such as planting (and keeping) trees, managing regrowth vegetation and adopting more sustainable agricultural practices.

The purpose of a project is to remove greenhouse gases from the atmosphere. Each project will provide new economic opportunities for farmers, forest growers and land managers.

Further information on ERF is available at https://www.qld.gov.au/environment/land/state/use/carbon-rights/.

4. Contact information for DNRM

For further information on vegetation management:
Phone 135VEG (135 834)
Email vegetation@dnrm.qld.gov.au
Visit www.dnrm.qld.gov.au/our-department/contact-us/vegetation-contacts to submit an online enquiry.

For contact details for other State and Commonwealth agencies, please see the "Other relevant legislation contacts list" in Section 6.

5. Maps

The maps included in this report may also be requested individually at:

https://www.dnrm.qld.gov.au/qld/environment/land/vegetation/vegetation-map-request-form
and
http://www.ehp.qld.gov.au/licences-permits/plants-animals/protected-plants/map-request.php

Regulated vegetation management map

The regulated vegetation management map shows vegetation categories to determine clearing requirements. These maps are updated monthly to show new property maps of assessable vegetation (PMAV).

Vegetation management supporting map

The vegetation management supporting map provides information on regional ecosystems, wetlands, watercourses and essential habitat.

Land suitability map

The land suitability map assists with identifying the land suitability category under the high value and irrigated high value agriculture vegetation clearing purpose.

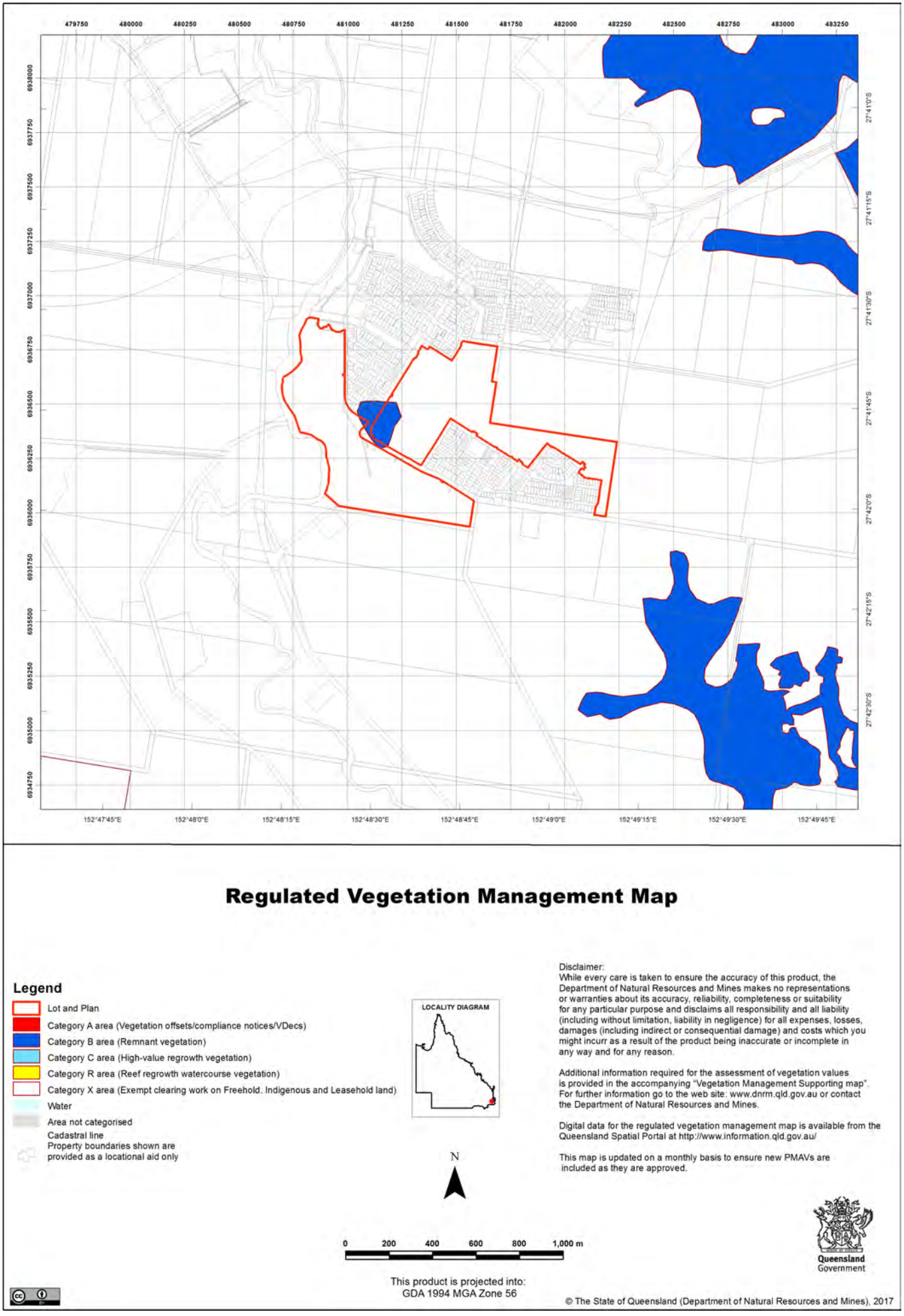
Coastal/non coastal map

The coastal/non-coastal map confirms whether the lot, or which parts of the lot, are considered coastal or non-coastal for the purposes of the self-assessable vegetation clearing codes and the State Development Assessment Provisions (SDAP).

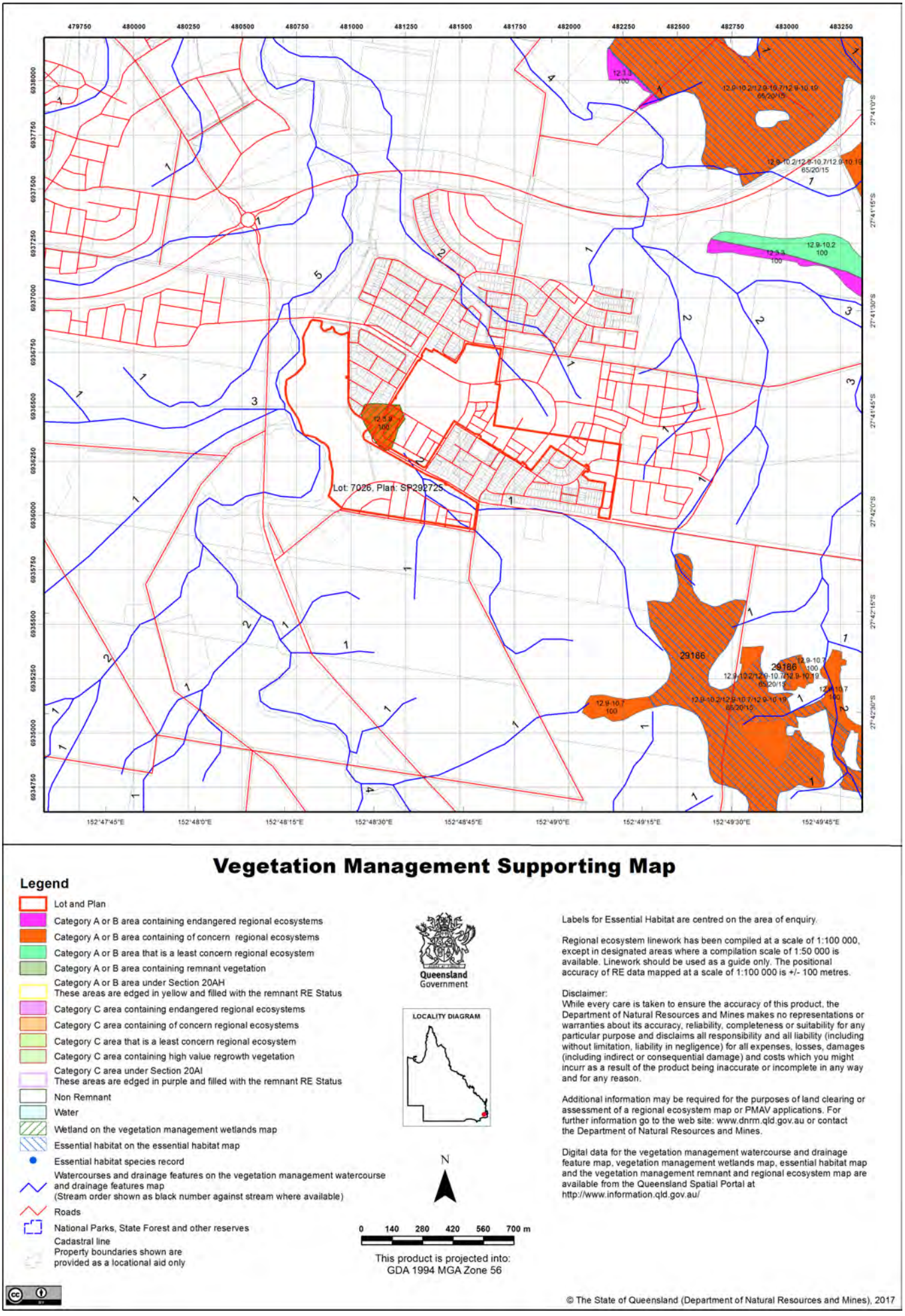
Protected plants map

The protected plants map shows areas where particular provisions of the *Nature Conservation Act 1992* apply to the clearing of protected plants.

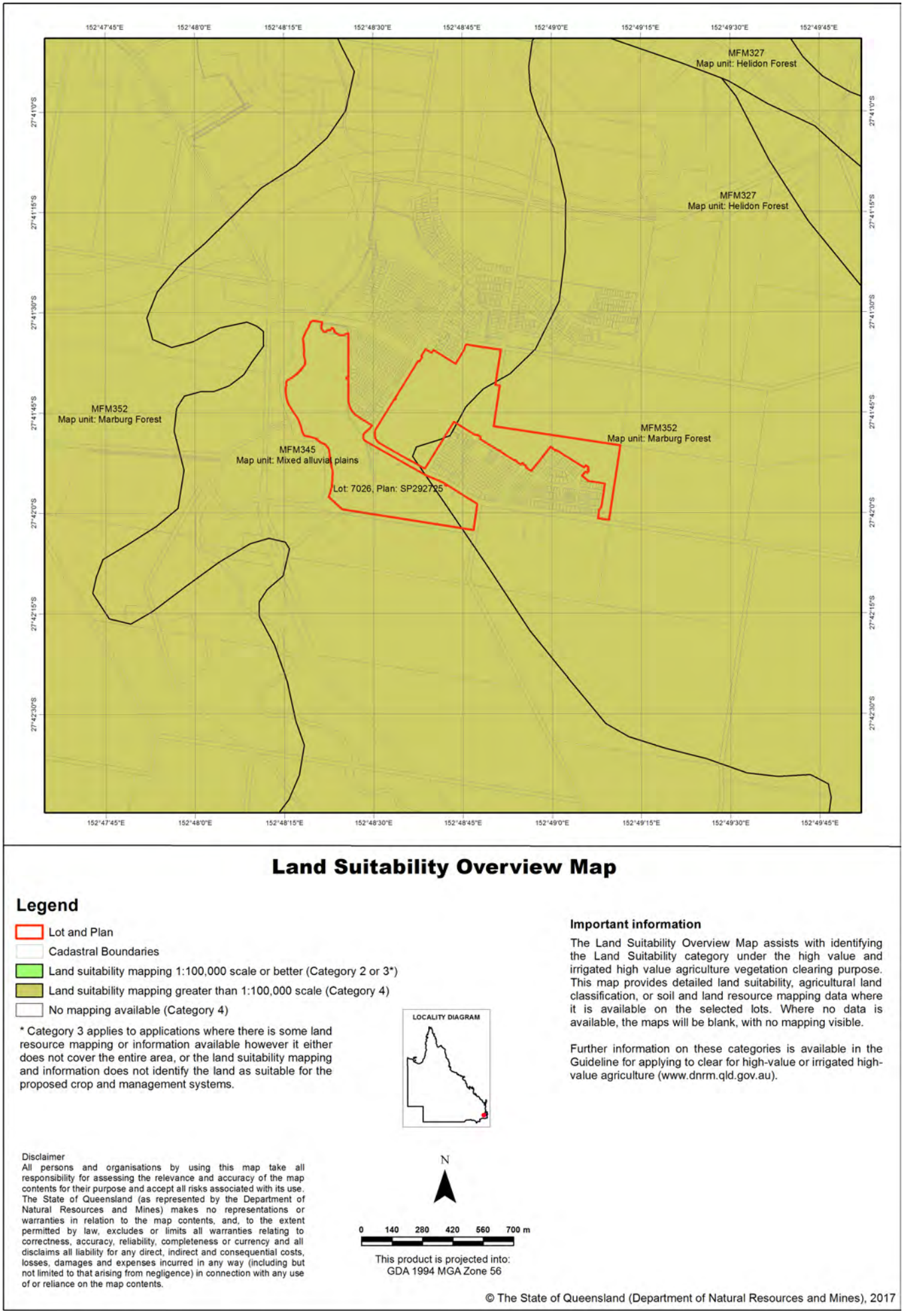
5.1 Regulated vegetation management map



5.2 Vegetation management supporting map



5.3 Land suitability map



Land Suitability Overview Map

Legend

- Lot and Plan
- Cadastral Boundaries
- Land suitability mapping 1:100,000 scale or better (Category 2 or 3*)
- Land suitability mapping greater than 1:100,000 scale (Category 4)
- No mapping available (Category 4)

* Category 3 applies to applications where there is some land resource mapping or information available however it either does not cover the entire area, or the land suitability mapping and information does not identify the land as suitable for the proposed crop and management systems.

LOCALITY DIAGRAM

Important information

The Land Suitability Overview Map assists with identifying the Land Suitability category under the high value and irrigated high value agriculture vegetation clearing purpose. This map provides detailed land suitability, agricultural land classification, or soil and land resource mapping data where it is available on the selected lots. Where no data is available, the maps will be blank, with no mapping visible.

Further information on these categories is available in the Guideline for applying to clear for high-value or irrigated high-value agriculture (www.dnrm.qld.gov.au).

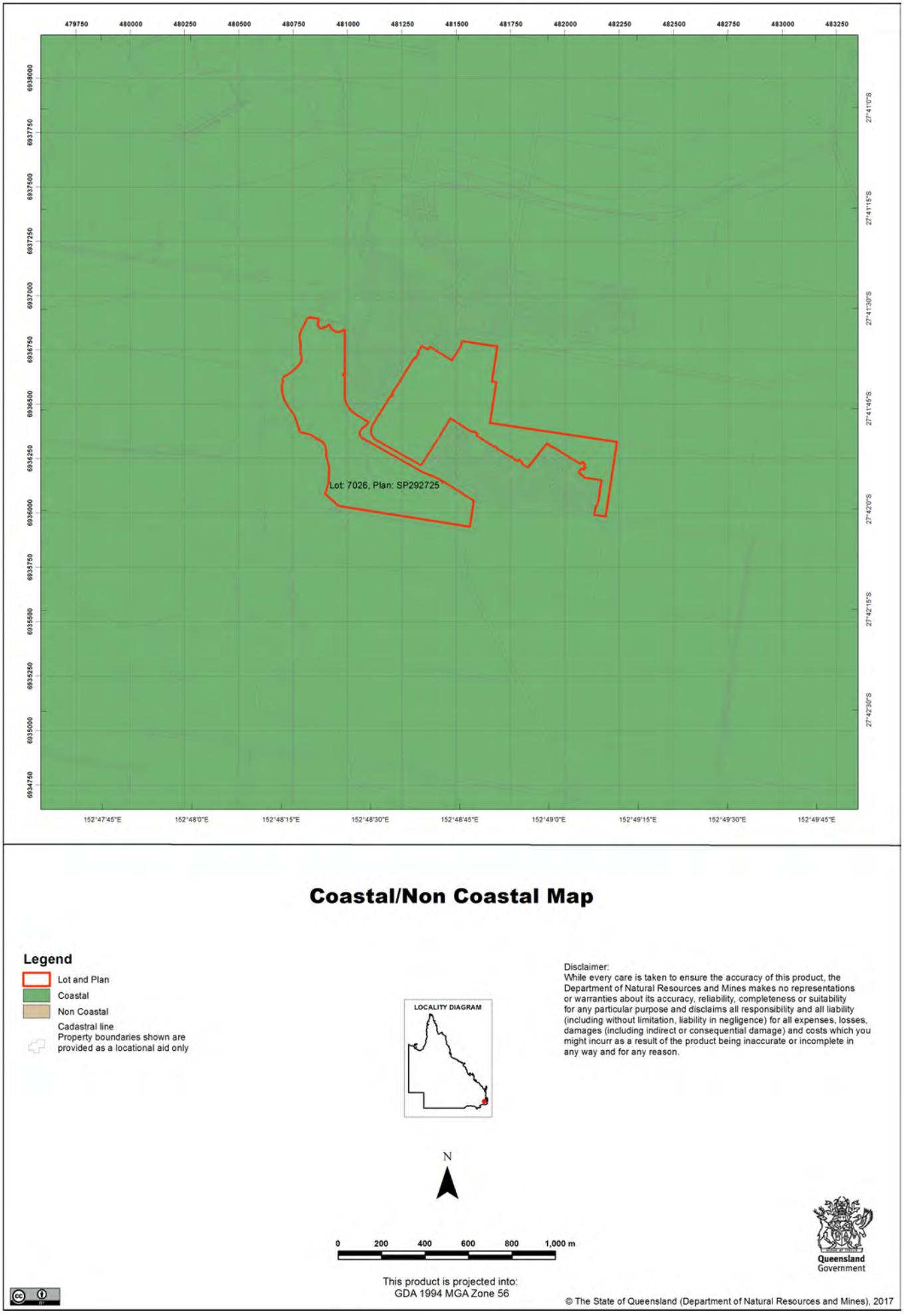
Disclaimer
All persons and organisations by using this map take all responsibility for assessing the relevance and accuracy of the map contents for their purpose and accept all risks associated with its use. The State of Queensland (as represented by the Department of Natural Resources and Mines) makes no representations or warranties in relation to the map contents, and, to the extent permitted by law, excludes or limits all warranties relating to correctness, accuracy, reliability, completeness or currency and all disclaims all liability for any direct, indirect and consequential costs, losses, damages and expenses incurred in any way (including but not limited to that arising from negligence) in connection with any use of or reliance on the map contents.

N

0 140 280 420 560 700 m

This product is projected into:
GDA 1994 MGA Zone 56

5.4 Coastal/non coastal map



5.5 Protected plants map administered by DEHP

Protected Plants Flora Survey Trigger Map

Legend

- Lot and Plan
- High risk area
- Cadastral line
  Property boundaries shown are provided as a locational aid only
- Freeways / motorways / highways
- Secondary roads / streets

LOCALITY DIAGRAM

This map shows areas where particular provisions of the Nature Conservation Act 1992 apply to the clearing of protected plants.

This map is produced at a scale relevant to the size of the area selected and should be printed as A4 size in portrait orientation.

For further information or assistance with interpretation of this product, please contact the Department of Environment and Heritage Protection at palm@ehp.qld.gov.au

N

0 140 280 420 560 700 m

This product is projected into:
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6. Other relevant legislation contacts list

Activity	Legislation	Agency	Contact details
Interference with overland flow Earthworks, significant disturbance	*Water Act 2000* *Soil Conservation Act 1986*	Department of Natural Resources and Mines (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dnrm.qld.gov.au
Indigenous Cultural Heritage	*Aboriginal Cultural Heritage Act 2003* *Torres Strait Islander Cultural Heritage Act 2003*	Department of Aboriginal and Torres Strait Islander and Multicultural Affairs (Queensland Government)	Ph: 13 QGOV (13 74 68) www.datsip.qld.gov.au
Mining and environmentally relevant activities Infrastructure development (coastal) Heritage issues Protected plants and protected areas [1]	*Environmental Protection Act 1994* *Coastal Protection and Management Act 1995* *Queensland Heritage Act 1992* *Nature Conservation Act 1992*	Department of Environment and Heritage Protection (Queensland Government)	Ph: 13 QGOV (13 74 68) www.ehp.qld.gov.au
Interference with fish passage in a watercourse, mangroves Forestry activities	*Fisheries Act 1994* *Forestry Act 1959* [2]	Department of Agriculture and Fisheries (Queensland Government)	Ph: 13 QGOV (13 74 68) www.daf.qld.gov.au
Matters of National Environmental Significance including listed threatened species and ecological communities	*Environment Protection and Biodiversity Conservation Act 1999*	Department of the Environment (Australian Government)	Ph: 1800 803 772 www.environment.gov.au
Development and planning processes	*Planning Act 2016*	Department of Infrastructure, Local Government and Planning (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dilgp.qld.gov.au
State Development	*State Development and Public Works Organisation Act 1971*	Department of State Development (Queensland Government)	Ph: 13 QGOV (13 74 68) www.dsd.qld.gov.au
Local government requirements	*Local Government Act 2009*	Local government	Contact your relevant local government office

1. In Queensland, all plants that are native to Australia are protected plants under the *Nature Conservation Act 1992*, which endeavours to ensure that protected plants (whether whole plants or protected plants parts) are not illegally removed from the wild, or illegally traded. Prior to clearing, you should check the flora survey trigger map to determine if the clearing is within a high-risk area by visiting www.ehp.qld.gov.au. For further information or assistance on the protected plants flora survey trigger map for your property, please contact the Department of Environment and Heritage Protection on 13QGOV (13 74 68) or email palm@ehp.qld.gov.au.

2. Contact the Department of Agriculture and Fisheries before clearing:
   - Any sandalwood on state-owned land (including leasehold land)
   - On freehold land in a 'forest consent area'
   - More than five hectares on state-owned land (including leasehold land) containing commercial timber species listed in parts 2 or 3 of Schedule 6 of the Vegetation Management Regulation 2012 and located within any of the following local government management areas-Banana, Bundaberg Regional, Fraser Coast Regional, Gladstone Regional, Isaac Regional, North Burnett Regional, Somerset Regional, South Burnett Regional, Southern Downs Regional, Tablelands Regional, Toowoomba Regional, Western Downs Regional.

Queensland Government

Wildlife Online Extract

Search Criteria: Species List for a Specified Point
Species: All
Type: All
Status: All
Records: All
Date: All
Latitude: -27.696
Longitude: 152.80
Distance: 2
Email: annie.jin@hpw.qld.gov.au
Date submitted: Monday 11 Dec 2017 16:46:52
Date extracted: Monday 11 Dec 2017 16:50:02

The number of records retrieved = 17

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	Hylidae	*Litoria rubella*	ruddy treefrog		C		1
animals	birds	Accipitridae	*Elanus axillaris*	black-shouldered kite		C		1
animals	birds	Accipitridae	*Aquila audax*	wedge-tailed eagle		C		1
animals	birds	Anatidae	*Chenonetta jubata*	Australian wood duck		C		1
animals	birds	Ciconiidae	*Ephippiorhynchus asiaticus*	black-necked stork		C		2
animals	birds	Columbidae	*Ocyphaps lophotes*	crested pigeon		C		1
animals	birds	Falconidae	*Falco berigora*	brown falcon		C		1
animals	birds	Maluridae	*Malurus cyaneus*	superb fairy-wren		C		1
animals	mammals	Macropodidae	*Macropus rufogriseus*	red-necked wallaby		C		1
animals	mammals	Macropodidae	*Macropus giganteus*	eastern grey kangaroo		C		1
animals	mammals	Phascolarctidae	*Phascolarctos cinereus*	koala		V	V	7
animals	reptiles	Elapidae	*Cacophis harriettae*	white-crowned snake		C		1
animals	reptiles	Scincidae	*Lampropholis delicata*	dark-flecked garden sunskink		C		1
animals	reptiles	Scincidae	*Lygisaurus foliorum*	tree-base litter-skink		C		1
plants	ferns	Adiantaceae	*Cheilanthes sieberi subsp. sieberi*			C		1/1
plants	higher dicots	Fabaceae	*Erythrina numerosa*			C		1/1
plants	higher dicots	Solanaceae	*Solanum linnaeanum*	apple of Sodom	Y			1/1

CODES

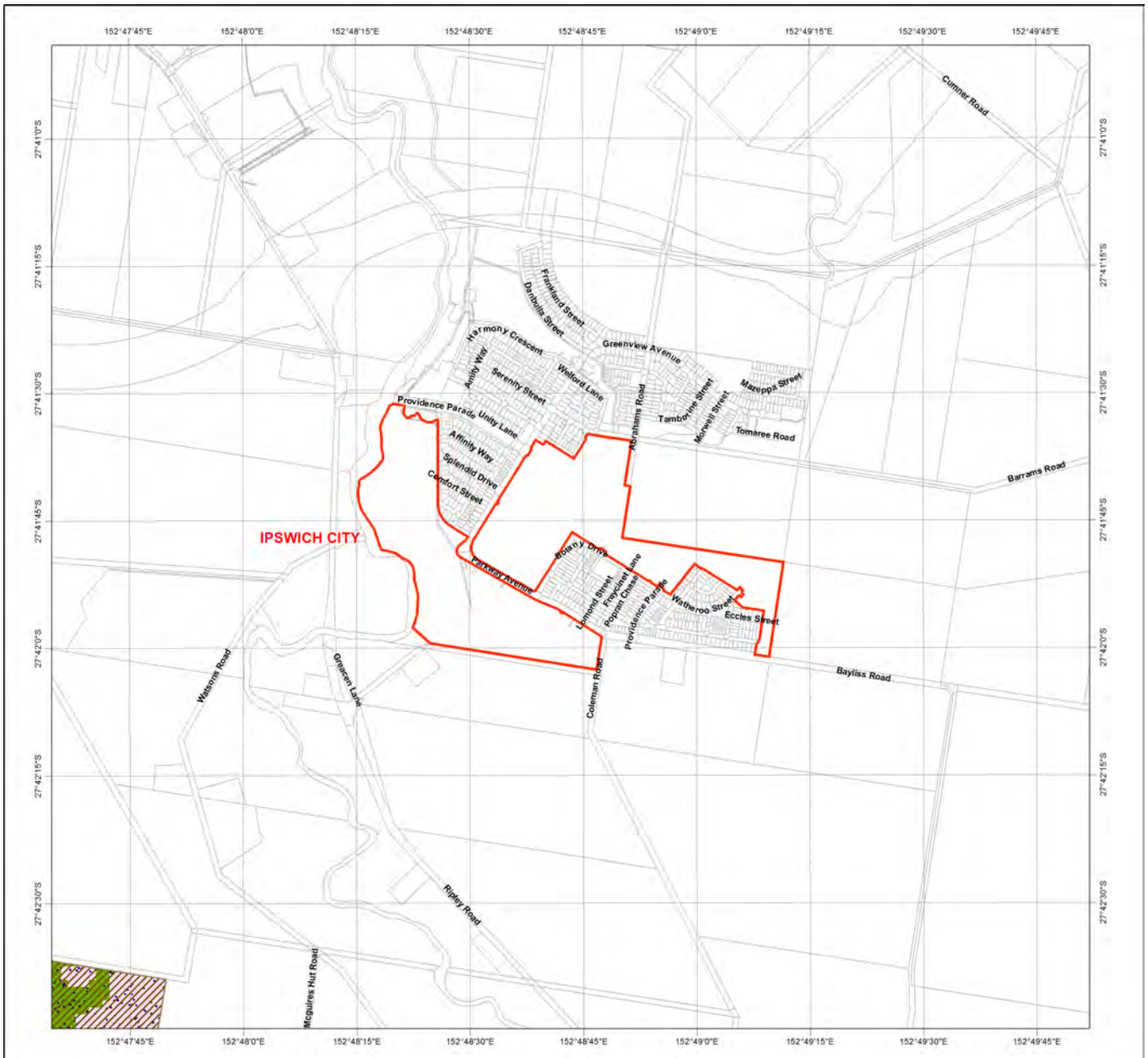
I - Y indicates that the taxon is introduced to Queensland and has naturalised.

Q - Indicates the Queensland conservation status of each taxon under the *Nature Conservation Act 1992.* The codes are Extinct in the Wild (PE), Endangered (E), Vulnerable (V), Near Threatened (NT), Least Concern (C) or Not Protected ( ).

A - Indicates the Australian conservation status of each taxon under the *Environment Protection and Biodiversity Conservation Act 1999.* The values of EPBC are Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Extinct in the Wild (XW) and Vulnerable (V).

Records – The first number indicates the total number of records of the taxon for the record option selected (i.e. All, Confirmed or Specimens).
This number is output as 99999 if it equals or exceeds this value. The second number located after the / indicates the number of specimen records for the taxon.
This number is output as 999 if it equals or exceeds this value.

Map requested: (12/12/2017 15:03:39)
Lot: 7026 Plan: SP292725



Koala Conservation in South East Queensland State Planning Regulatory Provisions

- Lot and Plan
- Priority Koala Assessable Development Areas
- Koala Assessable Development Areas
- Outside SPRP Koala Assessable Development Areas

Koala SPRP - Identified Broad-Hectare Areas

- Koala SPRP - Identified Broad-Hectare Areas

Koala SPRP - Habitat Values

Bushland Habitat

- High Value Bushland
- Medium Value Bushland
- Low Value Bushland

Suitable for Rehabilitation

- High Value Rehabilitation
- Medium Value Rehabilitation
- Low Value Rehabilitation

Other Areas of Value

- High Value Other
- Medium Value Other
- Low Value Other
- Generally not suitable
- Water
- Cadastral Boundaries
- Local Government Boundaries

N

0 200 400 600 800 1,000 m

This product is projected into GDA 1994 MGA Zone 56

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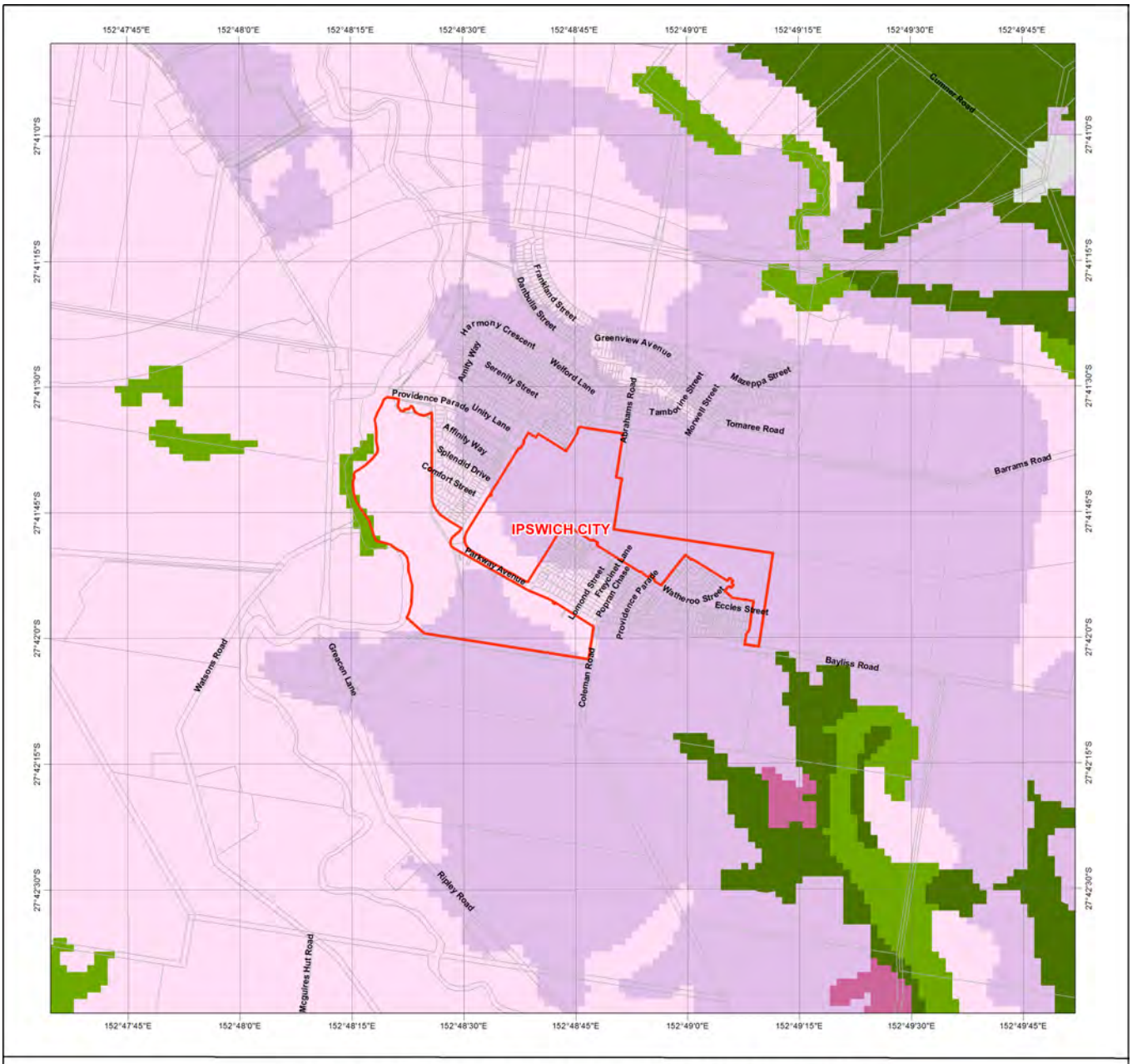
Based on or contains data provided by the State of Queensland 2010.

Note - These maps are not regulatory. Regulatory maps and requirements can be downloaded from the EHP website. Further information in relation to regulatory requirements for development and planning activities should be sought from the relevant Local Government Authority or the Department of Environment and Heritage Protection.

Map requested: (12/12/2017 15:03:33)
Lot: 7026 Plan: SP292725



Koala Habitat in South East Queensland

Lot and Plan

Koala SPP - Habitat Values

Bushland Habitat
- High Value Bushland
- Medium Value Bushland
- Low Value Bushland

Suitable for Rehabilitation
- High Value Rehabilitation
- Medium Value Rehabilitation
- Low Value Rehabilitation

Other Areas of Value
- High Value Other
- Medium Value Other
- Low Value Other
- Generally not suitable
- Water

South East Queensland Koala Habitat Values western SEQ
- Bushland Habitat
- Suitable for rehabilitation
- Other areas of value
- Generally not suitable
- Water
- Cadastral Boundaries
- Local Government Boundaries

N

0 200 400 600 800 1,000 m

This product is projected into GDA 1994 MGA Zone 56

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ATTACHMENT C – Koala Fencing Guidelines

– Koala Sensitive Design Guideline

Koala-sensitive Design Guideline

A guide to koala-sensitive design measures for planning and development activities

November 2012

Prepared by:

Koala Conservation Unit, Department of Environment and Heritage Protection

November 2012

Contents

1. Explanatory statement

1.1 Purpose of guideline

The Koala-sensitive Design Guideline provides advice and information for managers, land-use planners, infrastructure providers and development proponents to determine appropriate measures to help avoid and minimise the impact of development and land-use planning on koala populations.

The guideline also provides information on what is needed to meet the requirements of the South East Queensland Koala Conservation State Planning Regulatory Provisions (SPRP) in relation to:

- managing risks to koalas on-site during construction phases and ensuring that koala safety and movement are maximised through design and layout of development
- ensuring koala safety and movement are maximised through design and layout of development.

1.2 Koala-sensitive design principles

Measures in this guideline are based on koala sensitive design principles that help development:

- retain and protect koala habitat values in their natural state to allow koalas to feed, rest and move around
- achieve permeability for koalas through the landscape to ensure the safe movement of koalas within and across a site
- reduce threats to resident and transient koalas.

1.3 Use of guideline

This guideline can be used to:

- identify threats that development activities have on safe koala movement
- identify appropriate koala-sensitive design measures to avoid and minimise those threats
- provide principles and techniques to inform the planning, design and layout stages of development for retaining koala populations and providing for koala safety and movement
- apply the SPRP outcomes for assisting the retention of viable koala populations and providing koala safe movement opportunities.

2. Development planning, design and layout principles

2.1 Threats to koalas

The movement of individual koalas to different populations and territories allows important genetic exchange which is essential for koala population viability. High rates of development in South East Queensland (SEQ) are removing and fragmenting koala habitat and increasingly threatening the safe movement of koalas across the landscape. Koala mortality can be a direct result of human-induced threats from urbanisation and development. Specific threats to koalas from urban development activities include:

- loss of habitat
- habitat fragmentation
- vehicle strike (koala injury or death)
- domestic dog attacks (koala injury or death)
- increased prevalence of disease (increased susceptibility to disease due to stress caused by the above mentioned threats).

2.2 Habitat connectivity value for koala movement

Koala habitat connectivity value for koala movement should be determined and used in development planning, design and layout. Schedule 2 of the SPRP outlines the factors to be taken into consideration to determine the habitat connectivity values of a development site to provide for koala movement through the site and wider landscape.

In summary, the site's location and attributes—with regard to the presence of koalas, location and condition of habitat, waterways and ecological corridors and any factors impacting on these values—should be taken into consideration for planning and development.

An assessment for koala habitat connectivity value should include:

- the use or potential use of the site and adjacent to the site by koalas
- a plan of koala habitat (including bushland, groups of trees or individual trees)
- a plan of movement corridors (connectivity) including regional and local-scale movement corridors and existing and potential links between koala habitat within and external to the site.

Figures 1 to 4 below provide examples of considerations for assessing koala habitat and habitat connectivity value for a given parcel of land and of koala habitat features to incorporate into development design.

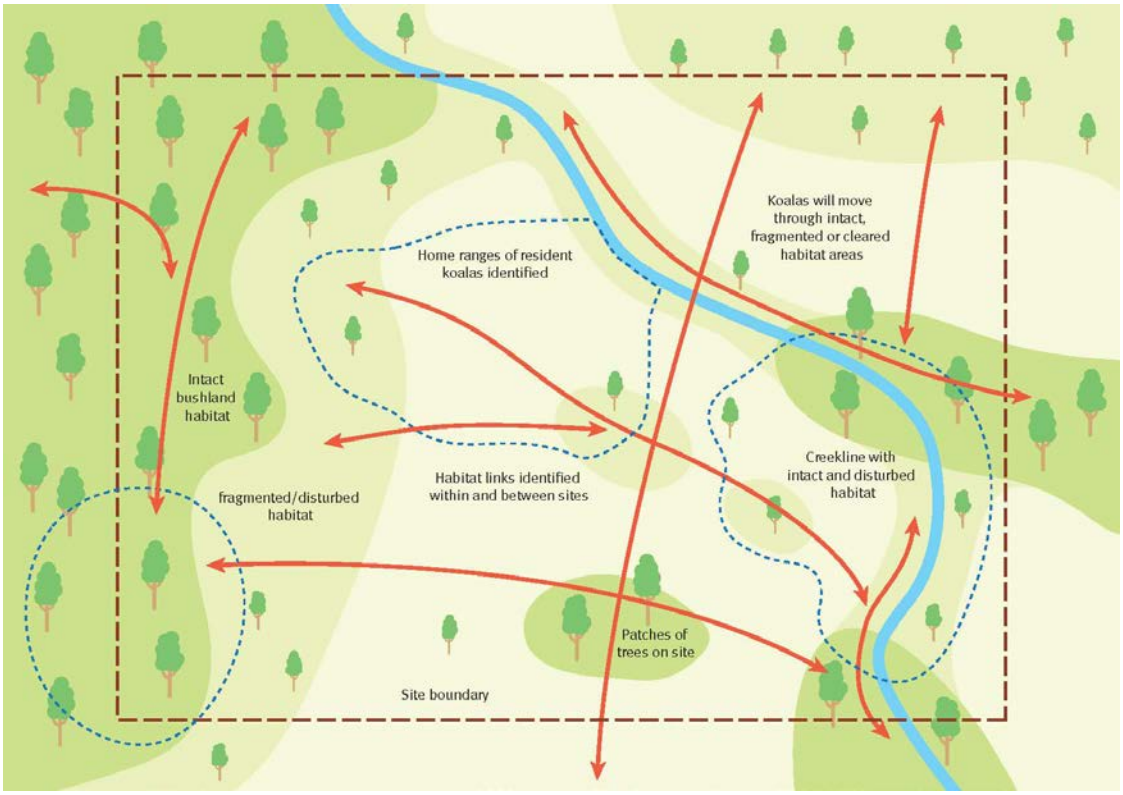


Figure 1. Example of determining koala habitat and connectivity value for koala movement

2.3 Planning, design and layout principles for koala conservation

Following an assessment of koala habitat and habitat connectivity values, the planning, design and layout of the development should incorporate the following principles:

- Ensure areas of koala habitat values and habitat connectivity are protected and enhanced by:
    - retaining, enhancing or creating large contiguous patches of koala habitat
    - avoiding clearing non-juvenile koala habitat trees on the site, including individual, isolated trees
    - linking on-site koala habitat to koala habitat located external to the site
    - identifying rehabilitation areas on site and revegetating consistent with densities, composition and distribution of native vegetation based on the pre-clearing regional ecosystems
    - securing the long-term conservation of koala habitat areas through the use of covenants or other private or public ownership arrangements.
- Locate and design the development to avoid adverse impacts on koalas, koala habitat values and habitat connectivity by:
    - selecting sites that will have least impact on koalas if developed, such as cleared land that has low koala habitat connectivity value
    - minimising the size and scale of the developable area in the development footprint and of individual buildings (e.g. higher densities, multi-storey buildings)
    - using development envelopes that are shaped and located to:
        i. co-locate all associated activities, infrastructure and access strips
        ii. be within the least valued area of koala habitat on the lot
        iii. minimise the footprint of the development envelope area
        iv. minimise edge effects to areas external to the development envelope
    - ensuring sufficient area is maintained between development buildings and koala habitat trees to ensure trees will not be removed for safety (fire and falling).
- Locate and design transport routes (roads and rail lines) to avoid fragmentation and clearing of koala habitat and to retain connectivity, including:
    - ensuring transport routes do not traverse through large contiguous areas of koala habitat or cleared land with potential as koala habitat through rehabilitation
    - using speed reduction devices such as speed bumps and speed warning sign on roads
    - incorporating koala crossings (over and underpasses) and using koala exclusion fencing to ensure koalas are funnelled towards koala crossings and away from busy transport routes.
- Use native vegetation in landscaping activities that provides food, shelter and movement opportunities for koalas.

Figure 2 illustrates how these planning, design and layout principles for koala conservation can be incorporated to enable efficient use of available land and infrastructure that is sensitive to koala habitat and connectivity.

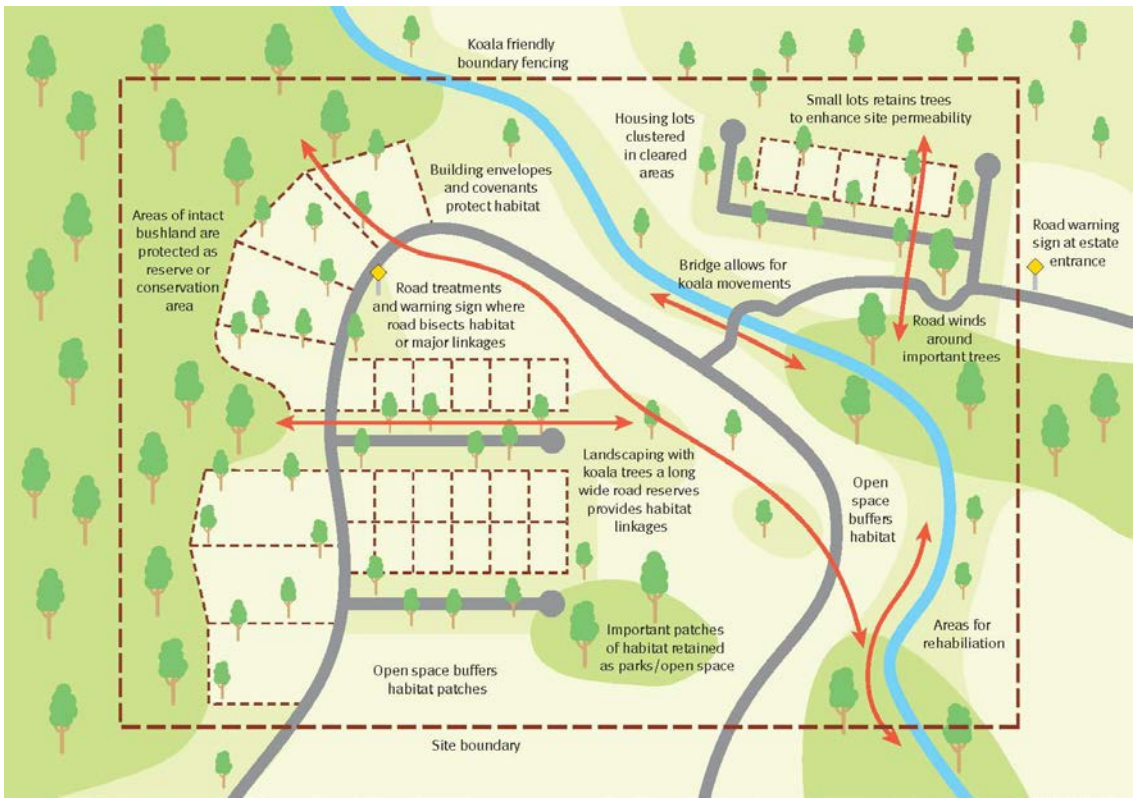


Figure 2. Koala-sensitive urban development

Figures 3 and 4 illustrate two options on how the koala-sensitive planning, design and layout principles above can be used at a lot scale for standard single dwelling housing.

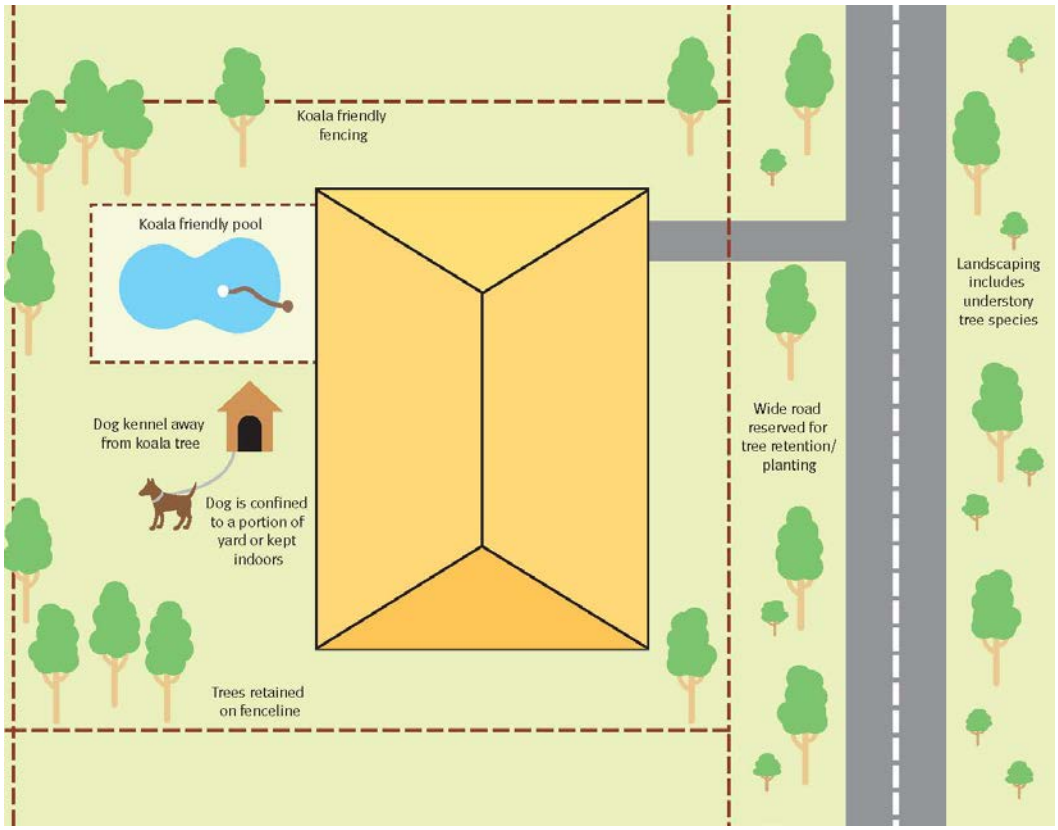


Figure 3. Use of koala-friendly fencing

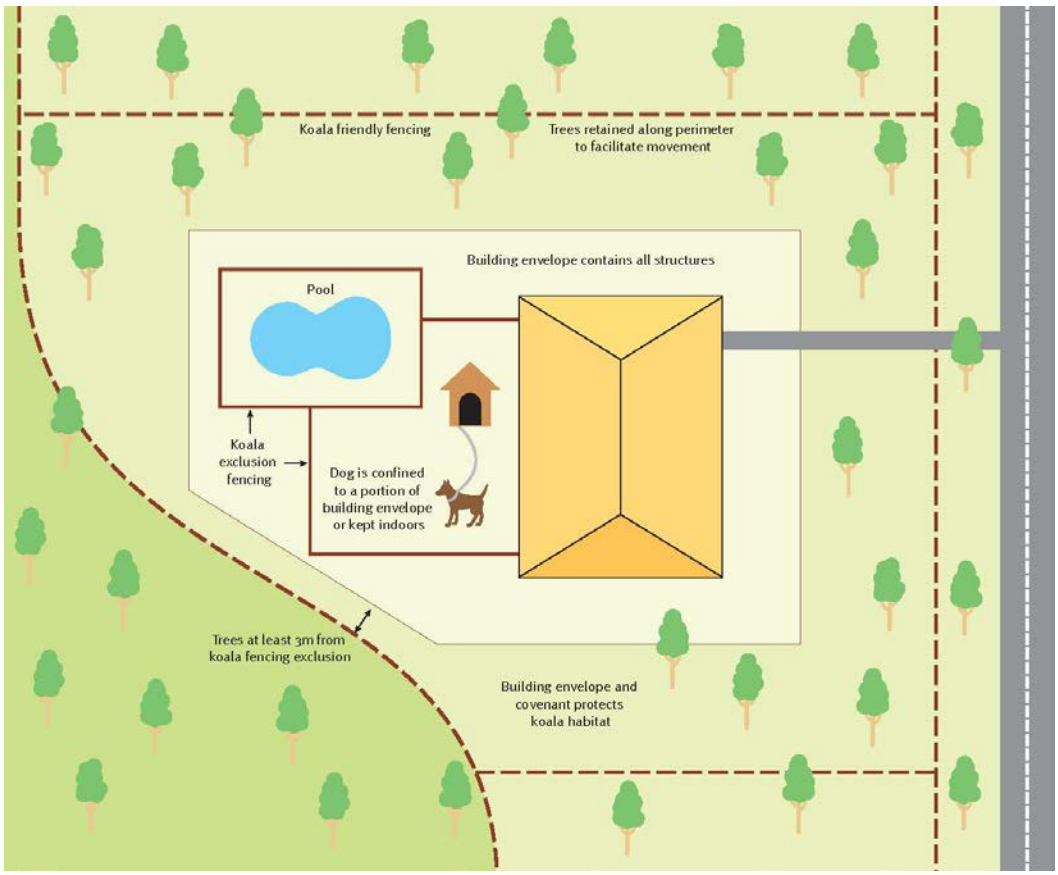


Figure 4. Use of a development envelope and koala exclusion fencing

3. Design guide for koala safety and movement

This guideline describes measures which can be used to avoid, minimise and mitigate the impacts of development on koalas and allow safe koala movement. These are:

1. koala-friendly fencing
2. koala-safe road design and placement
3. koala-safe pools
4. mitigation of threats from dogs
5. community awareness.

Where applicable, combinations of measures should be used to maximise koala safety and movement solutions into the design and layout of development. The five koala safety and movement design and layout measures are outlined in this section.

3.1 Koala-friendly fencing

Development that incorporates koala-friendly fencing helps koala movement and dispersal within and across the development site. Inappropriate fencing reduces koala permeability across the landscape. Koala-friendly fencing can be used to allow koala movement between areas of habitat and can be built within properties or on lot boundaries.

In some cases, the use of koala exclusion fencing may be appropriate to prevent koalas from entering an area that poses a threat, such as across busy roads. Exclusion fencing is often used to guide koalas towards koala-safe crossing points such as fauna movement underpasses or overpasses.

3.2 Koala-safe road design and placement

Correct road design and placement can reduce the threat of vehicle strike and habitat fragmentation to koalas. Traffic flow design (number of vehicles and speed) as well as the location and design of roads are critical to avoid or minimise the fragmentation of habitat and allow koalas to safely move throughout the landscape. In areas of high traffic flow where risks to koalas are high, koala crossing infrastructure provides for safe koala movement.

3.3 Koala-safe pools

Development that incorporates koala-sensitive pool design helps reduce the number of koalas drowning in pools. This includes features that allow koalas to easily exit the pool or prevents koalas accessing the pool.

3.4 Mitigation of threats from domestic dogs

Development that reduces the threat to koalas from domestic dogs requires measures to limit the interaction between dogs and koalas. Threats and risks from dogs include injury and deaths caused by dog attacks and increased stress on koalas.

3.5 Community awareness

Community education and cooperation is required to successfully protect koalas. Community awareness and support can help protect koala habitat and prevent disease caused by stress. Community awareness can also help reduce the number of koalas killed on roads, attacked by dogs and drowned in backyard swimming pools.

3.6 How to implement koala-safe movement solutions

The following section contains guidance on how to implement koala safe movement solutions.

Table 1 is the design guide for koala safety and movement solutions. It provides details on how to apply different options for koala safe movement. These options are relevant to a range of development types and can be implemented at the strategic and/or site level.

Table 1: Guide to Koala Sensitive Design

Koala safety and movement solution	Design specification	Additional supporting information
Koala-friendly fencing	**Koala-friendly fencing material** **Option A** Allow koalas to easily climb through or under a fence: 1. Build using minimal materials such as post and rail with a minimum gap of 300 mm between rails (Figure 1).  **Figure 1. Koala-friendly fencing** 2. Other fencing material that has holes or gaps of a minimum of 300 mm in diameter, and the first gap is flush with the ground or no more than 400 mm from the ground. 3. Solid fencing material that cannot be climbed by koalas but with a minimum gap of 300 mm between the ground and the start of the fence.	Koalas try to go through, under and then around a structure before attempting to climb over. Fencing raised off the ground is the best option for koalas. Koalas can become trapped in fencing as they try to squeeze through palings and rails. Fence design needs to ensure that gaps in the fence are: • large enough to allow easy access to pass through • of a size (less than 10 cm) to allow koalas to climb over, but prevent koalas climbing through the fence.

Koala safety and movement solution	Design specification	Additional supporting information
	Option B Allow koalas to easily climb over a fence: 1. Use rails or slats that have spaces of at least 10 mm between vertical slats and 20 mm between horizontal rails that koalas can climb (Figure 2 and Figure 3).  **Figure 2. Koala-friendly fencing**  **Figure 3. Koala-friendly fencing**	

Koala safety and movement solution	Design specification	Additional supporting information
	2. Choose materials such as timber posts or chain wire that a koala can easily grip and climb (Figure 4).  **Figure 4. Koala-friendly fencing**	
	Incorporate koala-friendly additions to fencing **Option C** Build the fence to incorporate existing vegetation or trees (Figure 5).  **Figure 5. Koala-friendly fencing**	Incorporate structures or designs in association with fencing material that provide a means for koalas to climb over fences, retaining walls or other structures.

Koala safety and movement solution	Design specification	Additional supporting information
	Option D Leave vegetation on either side of the fence with canopies or trunks extending beyond the height of the fence and where canopies are connected or tree trunks are less than 1 m apart (Figure 6).  **Figure 6. Koala-friendly fencing** **Option E** Install a timber post or log (of at least 125 mm in width or diameter) leaning against the top of the fence but positioned at an angle to the fence so that the log is not flush with the fence (i.e. the space between the base of the log and the bottom of the fence is at least 400 mm (Figure7)).	

Koala safety and movement solution	Design specification	Additional supporting information
	 **Figure 7. Koala-friendly fencing additions** **Option F** Install ladders of the following dimensions and design: 1. Ladder rungs are timber and at least 300 mm in width, 50–100 mm in height and a minimum of 20 mm in depth to provide grip for koalas 2. Rungs are spaced horizontally with a 150–300 mm gap between rungs for ease of climbing. 3. Attachment material is webbed or latticed to provide additional footholds for koalas. **Option G** Install a simple koala bridge (particularly suited to security fences) using timber logs of at least 125 mm in diameter of the following design (Figure 8): 1. Timber logs are positioned adjacent to and within 1 m of each other on either side of the fence and extend for at least 1m above the fence. 2. A cross piece of similar diameter to the logs connects the two vertical timber posts that are within 1–4 m of each other on either side of the fence.	Ladder rungs need to be solid and firmly attached to the structure.

Koala safety and movement solution	Design specification	Additional supporting information
	 **Figure 8. Koala-friendly fencing additions** **Additional requirements for options C to G** If installing koala-friendly fencing additions as described under options (c) to (g) they should be used at the following frequencies: 1. At least once within a backyard to allow animals to exit a property. 2. At least once every 50 m where the length of the impassable barrier or fencing is greater than 200 m.	
	Koala exclusion fencing **Option H** Install fencing material that is unclimbable such as brick (Figure 9), metal sheeting (Figure 10), perspex or timber fencing without gaps between palings.	

Koala safety and movement solution	Design specification	Additional supporting information
	 **Figure 9. Koala exclusion fencing**  **Figure 10. Koala exclusion fencing**	Koala exclusion fencing stops the movement of koalas and reduces the permeability of a site or area. It should only be used where koalas face a direct threat to their safety if they enter an area. The following situations are suitable for the use of koala exclusion fencing: 1. Domestic dog enclosures within larger properties greater than or equal to 800 m^2. Smaller properties should adopt other measures to reduce dog and koala interactions. 2. High speed/volume roads or train lines. Koalas can be funnelled to safe crossing structures (fauna underpasses or overpasses). 3. Swimming pools where pool design is unsafe for koalas. 4. Areas where construction activities may cause harm to koalas such as pits or trenches (Figure 13). Temporary fencing that prohibits access to koalas would be appropriate.  **Figure 13. Fence post holes can be a trap for koalas**

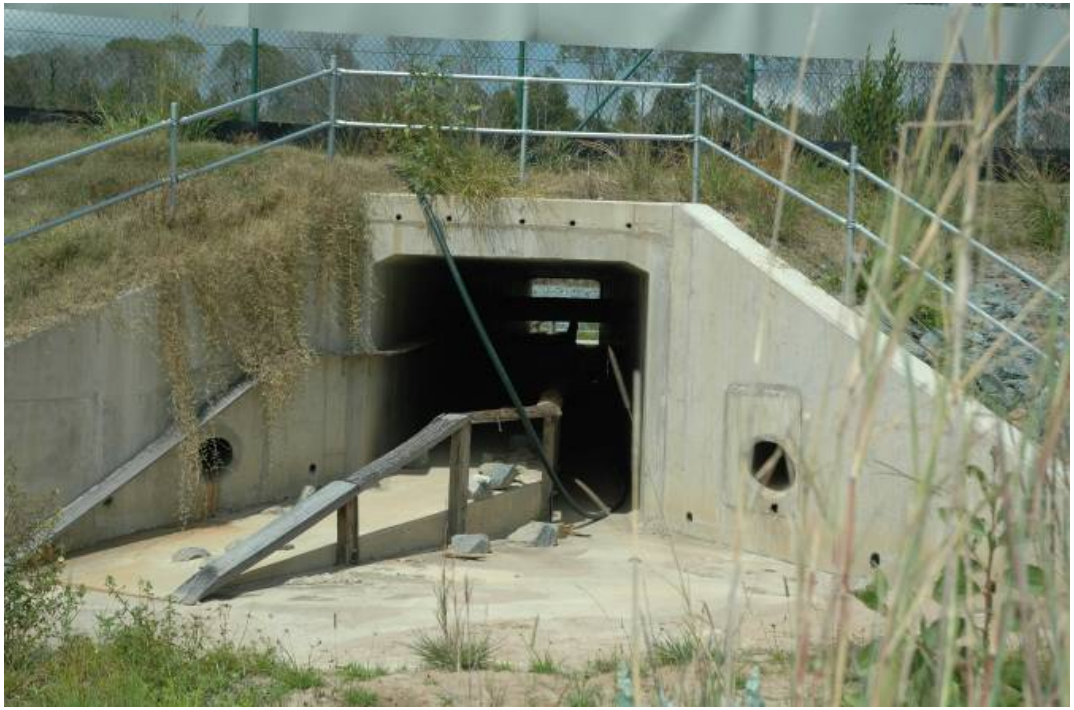
Koala safety and movement solution	Design specification	Additional supporting information
	Option I Install fencing material that is chain wire with a floppy top that falls in the direction that the koala will attempt to climb the fence (Figure 11).  **Figure 11. Koala exclusion fencing** **Option J** Install fencing material that is climbable but incorporates a floppy top design, or smooth metal or perspex sheets of at least 600 mm in width on the top of the fence (including posts and supports) (Figure 12).	

Koala safety and movement solution	Design specification	Additional supporting information
	 **Figure 12. Koala exclusion fencing** **Additional requirements for Options H to J** 1. Fence bracing or supports are on the inside of the fence, away from koala access. 2. The top of the unclimbable section of fencing is at least 1.5 m from the ground to prevent koalas jumping up from the ground and gripping the top of the fencing. 3. Fencing should extend to ground level with regard for uneven or undulating ground. 4. Vegetation adjacent to the fence is regularly maintained to: a. exclude trees and shrubs from within 3 m of the fence b. keep canopies of trees trimmed to remove links to tree canopies on the other side of the fence c. remove fallen branches and vines growing on the fence which koalas may use to climb over the fence.	

Koala safety and movement solution	Design specification	Additional supporting information
Koala-safe road design and placement	**Road siting and design** **Option A** 1. Design roads near identified koala crossing points and limit traffic speeds by incorporating the following 'go slow' features: a. narrowing roads (Figure 14)  **Figure 14. Koala-safe road design**	High-visibility along roadsides is key to limiting and preventing vehicle strike causing death or serious injury to koalas. Appropriate road alignment and design mitigates threats to koala movement by considering and planning for the following: 1. The location of koala habitat and habitat linkages to ensure that significant habitat areas are not dissected or further fragmented. 2. Minimising the loss of habitat. 3. Impacts on koala movement considered in relation to: • the number of vehicles likely to use the proposed road • anticipated vehicle speeds • the likely volumes of traffic between 6 pm and 6 am. 4. Locating koala road crossing points in reduced speed zones, ideally 40 km/h. 5. Lighting roads at identified or potential koala crossing points. Koalas are most active between dusk and dawn and can move over 1 km per night. 6. Planning road construction to avoid the koala breeding season (August to December) when koalas are most active.

Koala safety and movement solution	Design specification	Additional supporting information
	b. curving roads (Figure 15)  **Figure 15. Koala-safe road design** c. incorporating speed reduction or other traffic calming structures to slow vehicles, such as speed bumps. 2. Allow minor deviations in roads and driveways to retain important koala habitat trees. 3. Avoid road alignment that intersects or fragments significant koala habitat areas. 4. Incorporate lighting in new and existing roads, particularly at identified or potential koala crossing points, to reduce koala and vehicle collisions.	

Koala safety and movement solution	Design specification	Additional supporting information
	5. Increase the visibility of koalas entering the roadway through managing vegetation and landscaping through: a. mowing grassy road edges regularly b. trimming lower branches of vegetation within median strips or within 2 m of the road above 60 cm so that koalas are visible entering the road way c. not planting dense bushes and shrubs to the edge of the roadway that hinder a koala's exit off the road. 6. Incorporate trees within traffic islands (particularly at 'go slow' points) and streetscapes (in association with wide road reserves), such as areas designated for slow points—these trees may or may not be koala food trees. 7. Retain or create interlocking tree canopies over roads. 8. Install koala crossing warning signs (Figure 16).  **Figure 16. Koala crossing warning sign**	

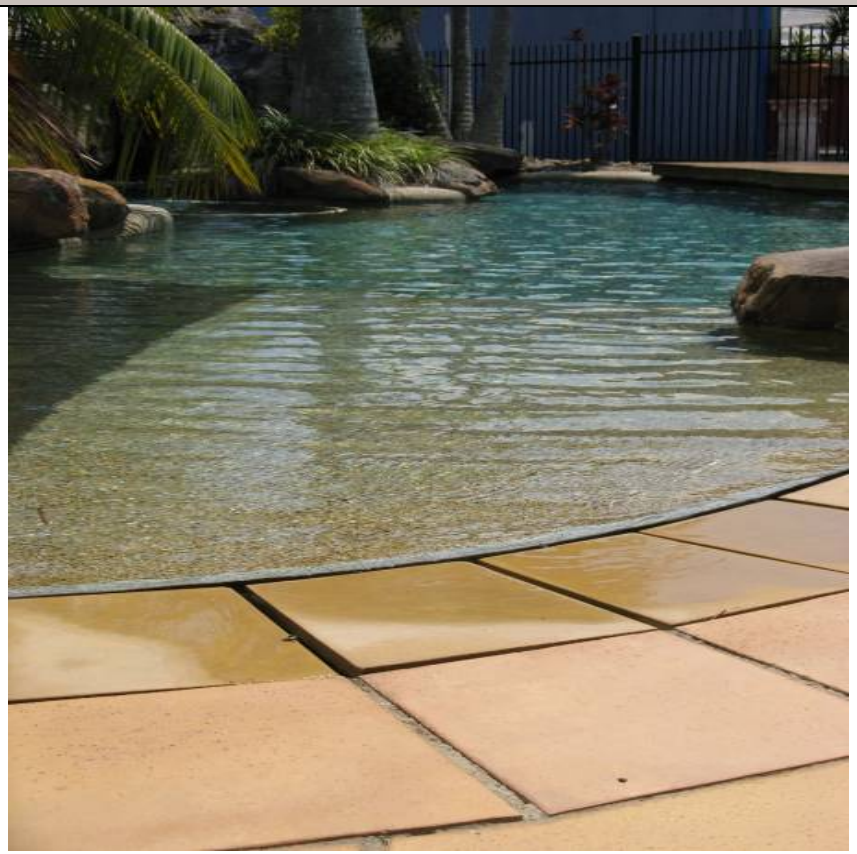
Koala safety and movement solution	Design specification	Additional supporting information
	Option B State-controlled roads minimise the risk to koalas crossing roads and habitat loss by conforming with the State Government Supported Community Infrastructure Koala Conservation Policy or Memorandum of Understanding.	
	Crossing structure—underpass **Option C** Install one or multiple underpasses to facilitate the safe crossing of koalas between habitat on either side of a road (Figure 17).  **Figure 17. Fauna underpass with furniture** **Additional requirements for Option C** 1. Ensure the underpass is of an appropriate dimension for the width of the road to allow natural night time light filtration into the structure.	Underpasses (e.g. culverts, pipes and bridges or raised structures that allow wildlife movement beneath a road) that are greater than 20 m in length have been found to be less effective than those of less than 20 m in length. Longer underpasses deter koalas from using them due to a lack of natural light. New or upgraded roads requiring koala movement underpasses should be designed to avoid lengthy underpasses, for example, by using split carriageways. The dimension of underpasses should be: • box culvert of 3 m (H) x 3 m (W) – especially for four lanes or more • box culvert of 1.5 m (H) x 1.5 m (W) as a minimum for a single or dual carriageway (this size may include koala furniture).

Koala safety and movement solution	Design specification	Additional supporting information
	2. Place ‘koala furniture’ in the crossing structure to facilitate koala movement (Figure 18).  **Figure 18. Fauna underpass with furniture** a. horizontal logs are placed as high off the ground as possible for koalas to avoid predators with a minimum space of 600 mm between the top of the horizontal log and the structure’s roof b. horizontal logs are supported by vertical logs at regular intervals (approximately 2–3 m) along the underpass for koalas to ascend or descend the koala furniture as required c. logs are greater or equal to 150 mm in diameter, or horizontal planks are greater or equal to 150 mm in width d. koala furniture extends beyond the underpass into koala habitat. 3. Design underpass floors to remain dry at all times except tin significant rain events where the structure quickly dries out, or incorporate ledges or koala furniture in the underpass to provide a dry path for movement. 4. Retain vegetation up to the entrance and exit of the underpass without obstructing access to, or view of, the structure.	

Koala safety and movement solution	Design specification	Additional supporting information
	5. Install koala exclusion fencing to funnel koalas to the underpass.	
	Crossing structure – overpass **Option D** Install one or multiple overpasses to facilitate the safe crossing of koalas between habitat on either side of a road (Figure 19).  **Figure 19. Fauna overpass** **Additional requirements for Option D** 1. Construct the overpass as wide as possible, with a minimum width of 60 cm to comfortably accommodate the crossing of koalas. 2. Build the overpass with stable, rigid or semi rigid materials. 3. Incorporate vegetation or refuge poles if the overpass (particularly if this is a land bridge) is accessible by predators.	Overpasses (e.g. land bridges) provide a more natural avenue for koalas to cross roads and negate the lighting and flooding issues associated with underpasses. The substrate should resemble forest floor; however, koalas will go across unnatural substrates such as cement. Overpass designs should conform to road safety standards and prevent koalas and other animals from falling from the overpass onto the roadway and oncoming traffic. Overpasses should be designed exclusively for wildlife movement and therefore prohibit dual uses such as pedestrian or cyclist crossings.

Koala safety and movement solution	Design specification	Additional supporting information
	4. Incorporate koala exclusion fencing to funnel koalas to the crossing structure.	
	Natural crossing points under bridge **Option E** Design one or multiple under-bridge crossings to facilitate the safe crossing of koalas between habitat on either side of a road. **Additional requirements for Option E** 1. Set back bridge footings from the creek edge to provide koalas with natural movement opportunities across unsubmerged or non-waterlogged land beneath the bridge. 2. Manage vegetation along creek lines to reduce weeds or overgrown areas that will restrict movement between habitat areas. 3. Incorporate koala exclusion fencing to funnel koalas to the natural crossing point.	Natural crossing points are usually associated with pedestrian and vehicle bridges where koalas can move along the ground while traffic is diverted above the habitat.
	Additional requirements for crossing structure – Options C to E 1. Locate crossing structures at regular intervals along sections of road adjacent to koala habitat or habitat linkages, at a maximum distance of one structure every 2 km. 2. Locate crossing structures where koala exclusion fencing of adequate length (a minimum of 150 m) can be incorporated on either side of the crossing structure. 3. Design fencing that has a return at the end of the koala exclusion fencing to encourage koalas to move back into habitat and not directly onto the road. 4. Incorporate additional features, such as escape poles (Figure 20), koala gates or other designs on the road side of the koala exclusion fencing to allow koalas trapped in the road corridor to exit to habitat.	Structures to facilitate safe and unimpeded koala movement across roads should be incorporated into road design and layout where roads intersect or fragment koala habitat and major habitat linkages. Crossing structures should be designed and installed for the specific purpose of facilitating koalas (and other wildlife which have similar requirements) across or under roads and not for dual purposes, such as underpasses used for drainage. The installation of crossing structures more frequently than one every 2 km will reduce the impact on the resident koalas that may have used both sides of a road.

Koala safety and movement solution	Design specification	Additional supporting information
	 **Figure 20. Escape pole** 5. Vegetated habitat linkages are retained or established by securing habitat on either side of the road.	
	Road construction work Roads can be fitted with a range of measures to reduce koala and vehicle collisions, particularly at identified or potential koala crossing points.	
Koala-safe pools	**Koala-friendly pool design** **Option A** Design pools with a shallow lagoon-style entry where the pool water is level with part of the surrounding pavement (Figure 21).	

Koala safety and movement solution	Design specification	Additional supporting information
	 **Figure 21. Koala-friendly pool design – graduated shallow edge** **Option B** Incorporate a rope with a floatation device on the end in the pool (Figure 22). The rope should be: • a minimum diameter of 10 cm • anchored securely to a point beyond the pool and close to the ground • long enough to float at least 2 m into the pool.	Floatation devices on lengths of rope allow koalas to better find the rope in the pool, while the rope's diameter and its position on the ground allows the koala to easily grip the rope and climb out of the pool.

Koala safety and movement solution	Design specification	Additional supporting information
	 **Figure 22. Koala-friendly pool design – escape rope**	
	Koala exclusion pool design **Option C** Use koala exclusion fencing around the pool, for example, glass or perspex that has negligible gaps at the bottom and between panels and the gate. **Additional requirement for Option C** Use appropriate landscaping that prohibits koalas entering the pool area on properties where exclusion fencing is used.	Koalas drowning in pools can be avoided by preventing them from accessing the pool area. Pool fencing must also comply with Australian Standards and relevant state and local government requirements. See AS 1926.1 – 1993 Swimming pool safety Part 1: Fencing for swimming pools. If exclusion fencing is used without other koala-friendly design features, landscaping and garden maintenance should ensure that plants and structures do not allow koalas to enter the pool area. (See Koala exclusion fencing – additional requirements for Option H – J, (4)).
Mitigate threats from dogs	**Dog free development** **Option A** Designate a development dog-free by using a covenant (as part of a condition of approval) to prohibit dogs being kept on the property in perpetuity.	Dog-free development avoids domestic dog and koala encounters and thereby reduces koala deaths.

Koala safety and movement solution	Design specification	Additional supporting information
	Dog confinement **Option B** Dedicate an area of the yard on lots greater than 2000 m^2 as a dog enclosure/dog run where dogs are confined between 6 pm and 6 am. **Additional requirements for Option B** 1. Use koala exclusion fencing around the dog's enclosure (but not the property boundary) to prohibit koala access to the dog's area. 2. Manage vegetation adjacent to fencing to ensure koala exclusion fencing effectiveness (see Koala exclusion fencing – additional requirements for Option H – J). **Option C** Have dogs tethered or on a run (with access to water and shelter) or confined to the house or veranda/patio between 6 pm and 6 am on lots less than 2000 m^2 (Figure 23).  **Figure 23. Dog confinement**	Domestic dog and koala encounters can be minimised though the confinement of dogs to the house or part of the yard during peak koala activity periods, e.g. between 6 pm and 6 am. Koalas are most vulnerable to dog attack at night, however, koalas may travel through backyards during daylight hours at any time of the year.

Koala safety and movement solution	Design specification	Additional supporting information
	Additional requirements for Options B and C 1. Locate the dog enclosure away from koala habitat trees, known koala movement paths or habitat linkages. 2. Use koala-friendly fencing to facilitate koala movement through the rest of the backyard (i.e. the dog free areas).	Domestic dog and koala encounters can be minimised through the use of appropriate fencing. Refer to koala fencing section above.
	Signage **Option D** Use signs in public spaces to inform of koala presence and the need to restrain dogs, particularly between the hours of 6 pm and 6 am (Figure 24).  **Figure 24. Koala awareness signage**	
Community awareness	**Education** **Option A** Install signs to inform residents and the community that koalas are present in an area and of actions that can be taken to protect koalas (Figure 25).	Measures should be incorporated to educate residents about what things they can do to support koala populations in their area. This may include establishing local area committees to assist with the implementation and monitoring of koala sensitive design objectives.

Koala safety and movement solution	Design specification	Additional supporting information
	 **Figure 25. Koala awareness signage** **Option B** Use interpretative signage to identify koala habitat, koala food trees or other koala-friendly features. **Option C** Inform home buyers/builders/site managers/tenants about the koala-friendly features included in the development and make them aware of their obligations to achieve these koala-friendly objectives.	

Table 2 assists in the identification of the most appropriate koala safety and movement solution relative to the development type.

Table 2: Decision support tool for koala safety and movement solution versus the development type

Development type	Koala safety and movement solutions	Design specification - recommended option (refer to Table 1)
Rural residential	Koala-friendly fencing	Any one or more of options A to G for perimeter fencing Any options H to J for exclusion areas within the property (e.g. dog run)
	Koala safe road design and placement	Options A, C, D and E
	Koala safe pools	Any option/s
	Mitigate threats from dogs	Options A, B or C
	Community awareness	Any one or more option/s where practicable
Greenfield commercial/industrial	Koala-friendly fencing	Any one or more of options A to G for perimeter fencing Any options H to J for exclusion areas within the property (e.g. relevant to guard dogs)
	Koala safe road design and placement	Options A, C, D and E
	Koala safe pools	N/A
	Mitigate threats from dogs	Options A, B or C
	Community awareness	Any one or more option/s where practicable
Greenfield residential	Koala-friendly fencing	Any one or more of options A to G for perimeter fencing Any options H to J for exclusion areas within the property
	Koala safe road design and placement	Options A, C, D and E
	Koala safe pools	Any option/s
	Mitigate threats from dogs	Options A, B or C
	Community awareness	Any one or more option/s where practicable
Infill commercial/industrial	Koala-friendly fencing	Any one or more of options A to G for perimeter fencing Any options H to J for exclusion areas within the property (e.g. relevant to guard dogs)
	Koala safe road design and placement	Options A, C, D and E
	Koala safe pools	N/A
	Mitigate threats from dogs	Options A, B or C
	Community awareness	Any one or more option/s where practicable

Infill residential	Koala-friendly fencing	Any one or more of options A to G for perimeter fencing Any options H to J for exclusion areas within the property
	Koala safe road design and placement	Options A, C, D and E
	Koala safe pools	Any option/s
	Mitigate threats from dogs	Options A, B or C
	Community awareness	Any one or more option/s where practicable
Community infrastructure	Koala-friendly fencing	Any one or more of options A to G for perimeter fencing Any options H to J for exclusion areas within the property
	Koala safe road design and placement	Options A, C, D and E
	Koala safe pools	Any option/s where relevant
	Mitigate threats from dogs	N/A
	Community awareness	Any one or more option/s where practicable
Extractive industries	Koala-friendly fencing	Any one or more of options A to G for perimeter fencing Any options H to J for exclusion areas within the property (e.g. relevant to guard dogs)
	Koala safe road design and placement	Options A, C, D and E
	Koala safe pools	N/A
	Mitigate threats from dogs	Options A, B or C
	Community awareness	Any one or more option/s where practicable
Construction	Koala-friendly fencing	Any one or more of options A to G for perimeter fencing Any options H to J for exclusion areas within the property
	Koala safe road design and placement	All options
	Koala safe pools	N/A
	Mitigate threats from dogs	N/A
	Community awareness	Any one or more option/s where practicable

4. Definitions

Safe koala movement opportunity is a measure that is intended to:

b. minimise threats to resident and transient koalas; or

c. achieve permeability to provide for the safe movement of koalas within and across a site; or

d. provide food or refuge sources for koalas.

Koala safe infrastructure means infrastructure that provides for safe movement either above or below an area that poses a risk to safe koala movement, such as a fauna overpass or underpass with koala safety fencing associated with a road.

'Go slow' point is an area where koalas are expected to cross a road and features have been incorporated to reduce vehicle speed.

Koala furniture are structures that are placed within, or used in association with, road crossing structures that increase the ability of koalas to move through an area. For example, for example, a log may be placed horizontally within a culvert to encourage koalas to pass under a road rather than across it where they may be hit by a car.

Urban purpose means urban purpose as defined in the Sustainable Planning Regulation 2009.

Appendix 16

Bulk Earthworks Plan

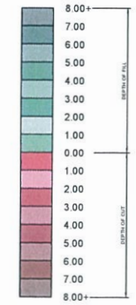
Department of Housing and Public Works

Queensland Government

LEGEND

- PROPOSED STAGE BOUNDARY
- 61.00 FINISHED CONTOURS (0.5m INTERVAL)
- •0.000 PROPOSED FINISHED SURFACE LEVEL
- PROPOSED PAD BOUNDARY

CUT / FILL LEGEND



CUT - FILL VOLUMES

CUT 183 528m^3
FILL 58 247m^3
EXCESS CUT VOLUME 125 281m^3

This drawing has been assigned an electronic code that signifies the drawing has been checked and approved by

Issue	Description	Date	Drawn	Approved
P1	FOR REVIEW/COMMENT	23/03/18	KG	GP

0 20 40 60m
SCALE 1:1000 @ A1

FOR CONSTRUCTION

North

Client
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Project
PROVIDENCE SUCE SCHOOL PRECINCT BULK EARTHWORKS
SCHOOL PRECINCT
RIPLEY VALLEY

Drawing Title
REVISED SITE LAYOUT EARTHWORKS PLAN

Drawn	Date	Scale A1	Q.A. Check	Date
HD	04/12/2017	1:1000	GP	20/11/2017
Designed	Project No.		Dwg. No	Issue
AY	BR168002.1		SCK2.01	P1

FOR CONSTRUCTION

This drawing has been assigned an electronic code that signifies the drawing has been checked and approved by

Issue	Description	Date	Drawn	Approved
P2	CUT FILL HATCHING UPDATED TO SUIT NEW SURFACE	10/04/18	KG	GP
P1	FOR REVIEW/COMMENT	23/03/18	KG	GP

North

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Project
PROVIDENCE SUCE
SCHOOL PRECINCT
BULK EARTHWORKS
SCHOOL PRECINCT
RIPLEY VALLEY

Drawing Title
REVISED SITE LAYOUT EARTHWORKS PLAN

Drawn	Date	Scale A1	Q.A. Check	Date
KG	04/12/2017	1:1000	GP	20/11/2017
Designed	Project No.		Dwg. No.	Issue
AY	BR168002.1		SCK2.01	P2

NOTE:

1. ALL BATTERS TO BE 1 IN 4 U.N.O
2. ALL BATTER STEEPTER THAN 1:4 TO BE STABILIZED AS PER GEOTECHNICAL ENGINEERS SPECIFICATIONS
3. REFER DRAWING BR168002-C0.01 FOR EARTHWORKS NOTES.

VOLUMES

TOTAL CUT	-97919m³
TOTAL FILL	184530m³
TOTAL SPOIL	86611m³

NOTE: EARTHWORKS VOLUMES BASED ON DIFFERENCE BETWEEN EXISTING SURVEY DATA AND EARTHWORKS SURFACE MODEL.

CUT / FILL LEGEND

8.00+
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00+

LEGEND

- PROPOSED STAGE BOUNDARY
- 61.00 EXISTING CONTOURS (0.5m INTERVAL)
- 61.00 DESIGN CONTOURS (0.25m INTERVAL)
- •0.000 PROPOSED FINISHED SURFACE LEVEL
- PROPOSED PAD BOUNDARY

This drawing has been assigned an electronic code that signifies the drawing has been checked and approved by:

Issue	Description	Date	Drawn	Approved
A	FOR APPROVAL	17/11/2017	HD	GP

North

Gustavo Pereira
RPEQ 17514

0 20 40 60m
SCALE 1:1000 @ A1

NOT FOR CONSTRUCTION

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Project
PROVIDENCE SUCE SCHOOL PRECINCT BULK EARTHWORKS
SCHOOL PRECINCT
RIPLEY VALLEY

Drawing Title
BULK EARTHWORKS
OVERALL LAYOUT PLAN

Drawn	Date	Scale	A1	Q.A. Check	Date
HD	17/11/2017	1:1000		GP	17/11/2017
Designed	Project No.	Dwg. No.		Issue	
AY	BR168002.1	C2.00		A	

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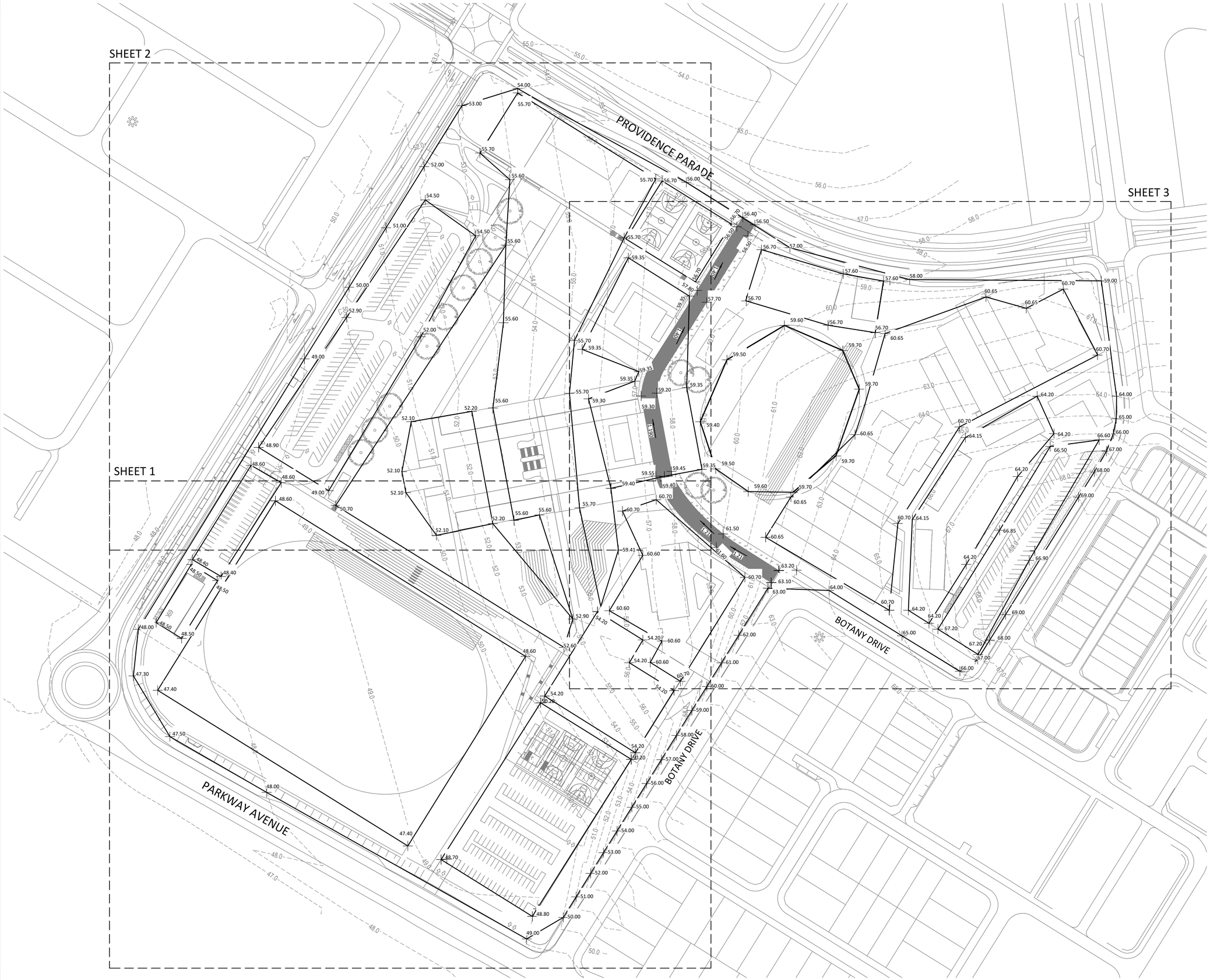
Nov 17, 2017 - 4:22pm



REV	DATE	DESCRIPTION	DWN	DES	CHK	APP
P1	27.03.18	EARTHWORK UPDATE	MW	RG		

ASSOCIATED CONSULTANTS

WilsonArchitects
ARCHITECTURE | LANDSCAPE | INTERIOR DESIGN

APPROVED	CHECKED
. . . . . RPEQ	. . . . .
DATE	DATE

PROJECT NORTH

DIMENSIONS IN METRES EXCEPT WHERE SHOWN OTHERWISE. CULVERT AND PIPE SIZES IN MILLIMETRES — A1 UNREDUCED, A3 REDUCED

SCALES — UNREDUCED / REDUCED

0 10 20 30 40 50m — 1 : 1000 / 1 : 2000

STATUS

PRELIMINARY

BORNHORST + WARD
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CLIENT

Queensland Government
Department of Education and Training

PROJECT

RIPLEY PROVIDENCE
NEW PRIMARY AND
SECONDARY SCHOOL

SUBJECT

EARTHWORKS OVERALL
LAYOUT

PROJECT No.	DRAWING No.	REVISION
17513	DA010	P1

0 10 20 30 40 50 100 ORIGINAL SIZE A1

Appendix 17

Structural Engineering Report

Department of Housing and Public Works

Queensland Government

BORNHORST + WARD
CONSULTING ENGINEERS
CIVIL AND STRUCTURAL

SCHEMATIC DESIGN PROJECT PLAN (SDPP) FOR STRUCTURAL ENGINEERING SERVICES

FOR THE PROPOSED RIPLEY STATE SCHOOL

LOCATED AT RIPLEY

PREPARED FOR WILSON ARCHITECTS BY BORNHORST & WARD PTY LTD

Bornhorst & Ward Project No. **18011**

If you have any queries regarding this report please contact Ross Kynaston

Revision	Date	Description	Author	Rev.	App.
A	24/5/18	Original Issue	RK	RK	RK

File Name: J:\2017\17513\07_REPORTS\SDPP - RIPLEY STATE SCHOOL.DOCX

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CONTENTS

1. BUILDINGS

The size and shape of the proposed buildings for primary school varies, however, there is a large degree of similarity within some of the buildings from a structural engineering perspective.

The single-storey buildings will be framed using steel framing. With the exception of the large span sports building, this could consist of lightweight steel framing instead of the usual structural steel.

The upper floors of the taller buildings could also be constructed using this method. Should roof trusses be selected as the preferred roof framing option, sufficient space should be allowed for in the arrangement of the web members of the trusses and the spacing of the trusses to accommodate mechanical services (plant and ducting) within the roof space.

The floor slabs of the two- and three-storey buildings could be constructed from cross-laminated timber, structural steel or concrete. Given the extent of external areas, it is our recommendation at this stage that strong consideration should be given to the use of concrete from a durability and maintenance perspective. Cross-laminated timber or structural steel could be viable alternatives provided adequate protective coatings or claddings are used and fie-rating issues are addressed.

On this basis, the upper floors would be constructed from concrete slabs and beams. The current geometry of the majority of the buildings would suggest that the following structural options should be considered:

a. thick conventionally reinforced concrete slabs
b. post-tensioned concrete slabs
c. thin conventionally reinforced concrete slabs supported on reinforced concrete band beams and edge beams

Given the repetition in many of the GLA type buildings, the use of precast concrete could also be a viable option. The final structural system will best address durability, future flexibility of the classroom spaces, economies of scale, cost, and construction time.

For the larger buildings, where tall clear span spaces are required, structural steel framing will be utilised to provide beams or trusses that will have the capability of spanning the width of the buildings. It is proposed that the walls on these buildings are clad with masonry veneer to approx. 2400mm above floor level with sheeting above this level. A lightweight steel stud wall framing system will support both these cladding types.

2. EARTHWORKS

The site which will be provided to DET will have been benched to a number of predetermined levels, which we have provided to the developer constructing the works. The benched areas will consist of areas of cut and areas of fill. The areas of cut are likely to consist of rock. While the platform levels will have been cut to a level 300mm below finished floor level, to allow for the formation of a slab and sufficient topsoil to sustain vegetation, these cut platform areas may require additional excavation to allow for building services under the proposed buildings and trenches for trunk services traversing the site and servicing individual buildings.

As the exact location of these service areas have not been finalised at this point in time, consideration will need to be given to the most efficient method of installation of these services. Options for consideration will include:

a) ripping portions of the proposed building pads and services paths and recompacting the ripped rock to create a substrate that can be easily excavated with small machinery
b) conducting detailed excavations with large excavation machinery to dig the individual trenches as required.

The trunk inground services required for the Stage 2 works will be installed during the Stage 1 construction phase.

3. FOUNDATIONS AND GROUND SLABS

It is expected that the earthwork's conducted by the developer will conform to the relevant Australian Standards and that the earthworks will have been certified that they have been conducted in accordance with the requirements of Level 1 supervision as set out in AS3798.

The site should be suitable for the use of high level pad and strip footings to support the proposed building loads. For building pads, the ground will need to be compacted to 98% Standard Compaction. If this has not been provided by the developer, then additional earthworks will be required to bring the building pads up to this level of compaction and this will take the form of removal of some or all of the existing fill material and replacing and recompacting it to the required standards. Alternatively, the existing ground could be retained and concrete piers founding on the rock could be used to proposed slabs and foundations.

Ground slabs in areas of rock should consist of uniform thickness slabs. Where the ground has been filled, ground slabs may require thickenings or ribs to resist the reactivity of the fill material.

Ground slabs immediately behind retaining walls will need to be thickened to span across the backfilled material behind the retaining wall.

Proposed structural systems for each of the buildings are tabulated below.

BORNHORST & WARD.

APPENDIX A: PROPOSED STRUCTURAL SYSTEMS

(Refer to the Architectural Drawings for the staging of these buildings)

PRIMARY SCHOOL	
BUILDING NUMBER	DESCRIPTION OF THE PROPOSED STRUCTURAL SYSTEM
Building 1 – P-6 Executive, Student Services and Staff Centre	Two-storey Building. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Provide an expansion joint at mid-point of the building. Suspended concrete floors, either normally reinforced or post-tensioned, supported on concrete blade columns. Steel framed roof structure over with steel framed lateral braces concealed within the walls for the enclosed buildings. Steel portal framed roof structures with no vertical bracing for external roofs.
Building 2 – Prep GLA's	Single Storey Building. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Steel framed roof structure over with steel framed lateral braces concealed within the walls.
Building 3 – Prep GLA's including Covered Areas.	Single Storey Building. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Provide an expansion joint at mid-point of the building. Steel framed roof structure over with steel framed lateral braces concealed within the walls for the enclosed buildings. Steel portal framed roof structures with no vertical bracing for external roofs.

Building 4 – Prep GLA's	Single Storey Building. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Provide an expansion joint at mid-point of the building. Steel framed roof structure over with steel framed lateral braces concealed within the walls.
Building 5 – Years 1 – 3 GLA's including Undercroft Area.	Two- and Three-storey Building with Undercroft. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Provide an expansion joint at mid-point of the building. Suspended concrete floors, either normally reinforced or post-tensioned, supported on concrete blade columns. Steel framed roof structure over with steel framed lateral braces concealed within the walls for the enclosed buildings. Steel portal framed roof structures with no vertical bracing for external roofs.
Building 6 – Years 1 – 3 GLA's including Undercroft Area.	One- and Two-storey Building with Undercroft. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Provide an expansion joint at mid-point of the building. Suspended concrete floors, either normally reinforced or post-tensioned, supported on concrete blade columns. Steel framed roof structure over with steel framed lateral braces concealed within the walls.
Building 7 – Primary School Canteen and Resource Centre	Two-storey Building Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Suspended concrete floors, either normally reinforced or post-tensioned, supported on concrete blade columns. Steel framed roof structure over with steel framed lateral braces concealed within the walls for the enclosed buildings. Steel portal framed roof structures with no vertical bracing for external roofs.

Building 8 – Year 3 – 6 GLA's including Undercroft Area.	One- and Two-storey Building. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Suspended concrete floors, either normally reinforced or post-tensioned, supported on concrete blade columns. Steel framed roof structure over with steel framed lateral braces concealed within the walls for the enclosed buildings.
Building 9 – Year 4 – 6 GLA's including Undercroft Area.	Two- and Three-storey Building. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Provide an expansion joint at mid-point of the building. Suspended concrete floors, either normally reinforced or post-tensioned, supported on concrete blade columns. Steel framed roof structure over with steel framed lateral braces concealed within the walls.
Building 10 – Multipurpose Hall	Two-Storey Building with Grounds Facilities below. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Steel framed roof structure over with steel framed lateral braces concealed within the walls for the Amenities Buildings. Steel portal framed roof structures with vertical bracing in convenient locations along the two long sides of the building.
Building 11 – Refuse Store, Grounds Care, Fuel Store and Fire Pump and Booster.	Single Storey Building. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Steel framed roof structure over with steel framed lateral braces concealed within the walls for the enclosed buildings.
Covered Links and Walkways	The covered links and walkways providing circulation throughout the site will consist of concrete slabs on ground with incorporated concrete foundations, as required. The roofs and their supports will be constructed using structural steel framing.

BORNHORST + WARD
CONSULTING ENGINEERS
CIVIL AND STRUCTURAL

SCHEMATIC DESIGN PROJECT PLAN (SDPP) FOR STRUCTURAL ENGINEERING SERVICES

FOR THE PROPOSED RIPLEY STATE HIGH SCHOOL

LOCATED AT RIPLEY

PREPARED FOR WILSON ARCHITECTS BY BORNHORST & WARD PTY LTD

Bornhorst & Ward Project No. **18011**

If you have any queries regarding this report please contact Ross Kynaston

Revision	Date	Description	Author	Rev.	App.
A	24/5/18	Original Issue	RK	RK	RK

File Name: J:\2017\17513\07_REPORTS\SDPP - RIPLEY STATE HIGH SCHOOL.DOCX

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CONTENTS

1. BUILDINGS

The size and shape of the proposed buildings for the senior school varies, however, there is a large degree of similarity within the buildings from a structural engineering perspective.

The single-storey buildings will be framed using steel framing. With the exception of the large span sports building, this could consist of lightweight steel framing instead of the usual structural steel.

The upper floors of the taller buildings could also be constructed using this method. Should roof trusses be selected as the preferred roof framing option, sufficient space should be allowed for in the arrangement of the web members of the trusses and the spacing of the trusses to accommodate mechanical services (plant and ducting) within the roof space.

The floor slabs of the two-, three- and four-storey buildings could be constructed from cross-laminated timber, structural steel or concrete. Given the extent of external areas, it is our recommendation at this stage that strong consideration should be given to the use of concrete from a durability and maintenance perspective. Cross-laminated timber or structural steel could be viable alternatives provided adequate protective coatings or claddings are used and fie-rating issues are addressed.

On this basis, the upper floors would be constructed from concrete slabs and beams. The current geometry of the majority of the buildings would suggest that the following structural options should be considered:

a. thick conventionally reinforced concrete slabs
b. post-tensioned concrete slabs
c. thin conventionally reinforced concrete slabs supported on reinforced concrete band beams and edge beams

Given the repetition in many of the GLA type buildings, the use of precast concrete could also be a viable option. The final structural system will best address durability, future flexibility of the classroom spaces, economies of scale, cost, and construction time.

For the larger buildings, where tall clear span spaces are required, structural steel framing will be utilised to provide beams or trusses that will have the capability of spanning the width of the buildings. It is proposed that the walls on these buildings are clad with masonry veneer to approx. 2400mm above floor level with sheeting above this level. A lightweight steel stud wall framing system will support both these cladding types.

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Ground slabs immediately behind retaining walls will need to be thickened to span across the backfilled material behind the retaining wall.

Proposed structural systems for each of the buildings are tabulated below.

BORNHORST & WARD.

APPENDIX A: PROPOSED STRUCTURAL SYSTEMS

(Refer to the Architectural Drawings for the staging of these buildings)

BUILDING NUMBER	DESCRIPTION OF THE PROPOSED STRUCTURAL SYSTEM
Building A – Senior Executive, Student Services and Staff Centre	Two-storey Building. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Suspended concrete floors, either normally reinforced or post-tensioned, supported on concrete blade columns. Steel framed roof structure over with steel framed lateral braces concealed within the walls for the enclosed buildings. Steel portal framed roof structures with no vertical bracing for external roofs.
Building B – Staff Centre	Single Storey Building. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Steel framed roof structure over with steel framed lateral braces concealed within the walls.
Building C – Resource Centre	One- and Two-storey Building. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Provide an expansion joint at mid-point of the building. Suspended concrete floors, either normally reinforced or post-tensioned, supported on concrete blade columns. Steel framed roof structure over with steel framed lateral braces concealed within the walls.

Building D – Year 7-9 Learning and Retail Centre including Undercroft Area.	Four-storey Building. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Provide an expansion joint at mid-point of the building. Suspended concrete floors, either normally reinforced or post-tensioned, supported on concrete blade columns. Steel framed roof structure over with steel framed lateral braces concealed within the walls.
Building E – Year 10-12 Learning and Canteen including Undercroft Area.	Four-storey Building. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Provide an expansion joint at mid-point of the building. Suspended concrete floors, either normally reinforced or post-tensioned, supported on concrete blade columns. Steel framed roof structure over with steel framed lateral braces concealed within the walls.
Building F – Science Centre and Lecture Theatre	Two-storey Building. The Science Centre will consist of suspended concrete floors, either normally reinforced or post-tensioned, supported on concrete blade columns supported on high level footings. Steel framed roof structure over with steel framed lateral braces concealed within the walls. The Lecture Theatre will consist of a concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. The tiered setting could be constructed using reinforced concrete or steel framing.
Building G – Applied Technology Robotics	Single Storey Building. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Steel framed roof structure over with steel framed lateral braces concealed within the walls for the enclosed buildings.

Building H – Food Studies and Hospitality	Single Storey Building. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Steel framed roof structure over with steel framed lateral braces concealed within the walls for the enclosed buildings.
Building I – Business, Fashion and Design Graphics	Single Storey Building. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Steel framed roof structure over with steel framed lateral braces concealed within the walls for the enclosed buildings.
Building J – Art and Design Centre	Single Storey Building. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Steel framed roof structure over with steel framed lateral braces concealed within the walls for the enclosed buildings.
Building K – Junior Applied Technology and Design Graphics	Single Storey Building. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Steel framed roof structure over with steel framed lateral braces concealed within the walls for the enclosed buildings.
Building L – Senior Applied Technology	Single Storey Building. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Steel framed roof structure over with steel framed lateral braces concealed within the walls for the enclosed buildings.

Building M – Indoor Courts with Car Parking below.	One-storey Building. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. The suspended concrete floor constructed over the car park will consist of either normally reinforced or post-tensioned concrete, supported on concrete blade columns. The selected column grid will suit the car park layout. The roof and walls will consist of a steel portal framed structure with vertical bracing in convenient locations along the two long sides of the building.
Building N – Ancillary Services Centre and Grounds Care	Single Storey Building. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Steel framed roof structure over with steel framed lateral braces concealed within the walls for the enclosed buildings.
Building O – Performing Arts, Music Rehearsal, High School Music, Performing Arts and Combined Amenities.	One- and Two-storey Building. Concrete slab on ground – allow for 400D x 330 W ribs at 6m centres each way incorporating high level pad and strip footings. Portions of the ground floor slab behind the retaining wall adjacent the Indoor Courts Building will be thicker to span across the backfilled area behind the retaining wall. Suspended concrete floors, either normally reinforced or post-tensioned, supported on concrete blade columns. Steel framed roof structure over with steel framed lateral braces concealed within the walls constructed below a steel framed roof structure (portal frames or steel roof trusses) spanning the entire width of the shared Covered Area.
Outdoor High Schools Courts	Suspended concrete structure – either conventionally reinforced or post-tensioned, supported on blade columns to suit car park locations.
Covered Links and Walkways	The covered links and walkways providing circulation throughout the site will consist of concrete slabs on ground with incorporated concrete foundations, as required. The roofs and their supports will be constructed using structural steel framing.