

TOWN OF VICTORIA PARK
Received: 1/03/2024

Transport Impact Assessment Burswood Peninsula Towers (Lot 305 & 306)

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1 Introduction

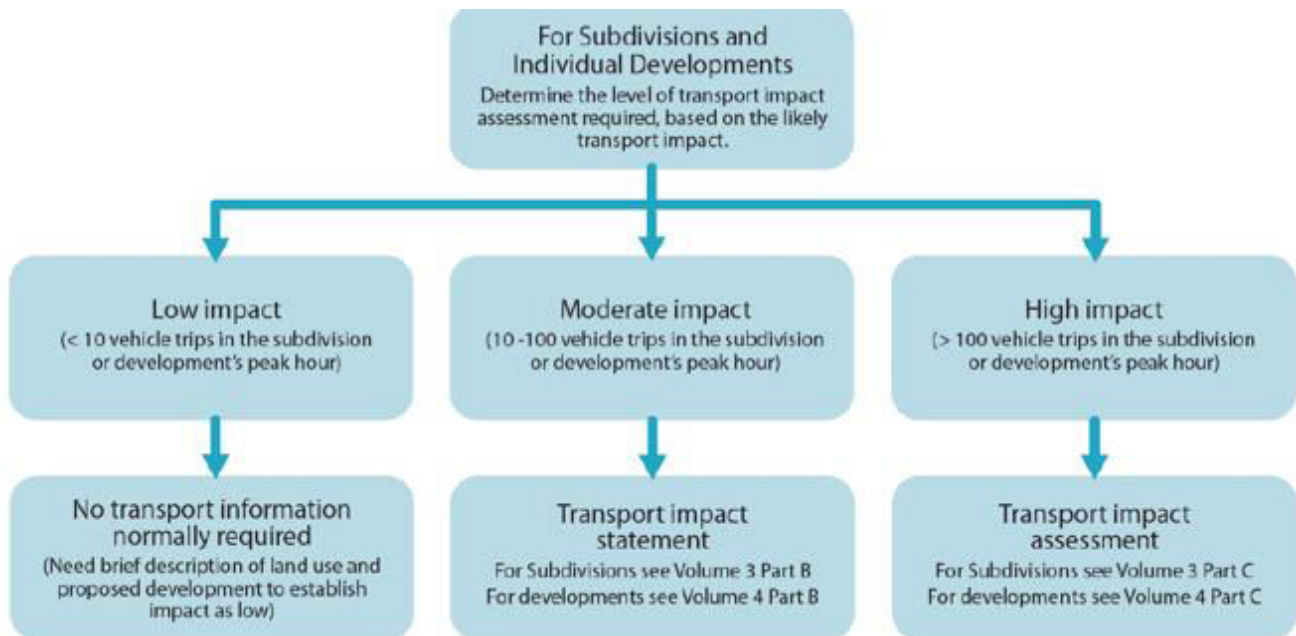
Level5Design (L5D) has been commissioned by Golden Sedayu to prepare a Transport Impact Assessment (TIA) for the proposed apartment towers ('proposed development') located on Lots 305 and 306 in Precinct A of Burswood Peninsula ('the Site').

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This TIA has been prepared in accordance with the WAPC/DPLH Transport Impact Assessment Guidelines. The WAPC/DPLH Guidelines promote a three-level assessment process, where the required level of assessment is dependent on the likely level of impact, as follows (and as shown in Figure 1.1):

- o Low impact – less than 10 peak hour trips, no assessment required,
- o Moderate impact – between 10 and 100 peak hour trips, Transport Impact Statement required, and
- o High Impact – more than 100 peak hour trips, full Transport Impact Assessment required.

Figure 1.1 - Level of Transport Impact Assessment Required



Source: WAPC Transport Impact Assessment Guidelines 2016

The additional traffic generated by the proposed development of Lots 305 and 306 has been determined to be just over 100 two-way vehicle trips in the peak hour, which just qualifies as a high impact. While the traffic impact just exceeds the threshold, the development is part of a larger program of tower development that will collectively generate more traffic than that associated with just Lots 305 and 306. Therefore, the appropriate level of assessment is a 'Transport Impact Assessment'.

2 Background & Context

2.1 The Subject Site

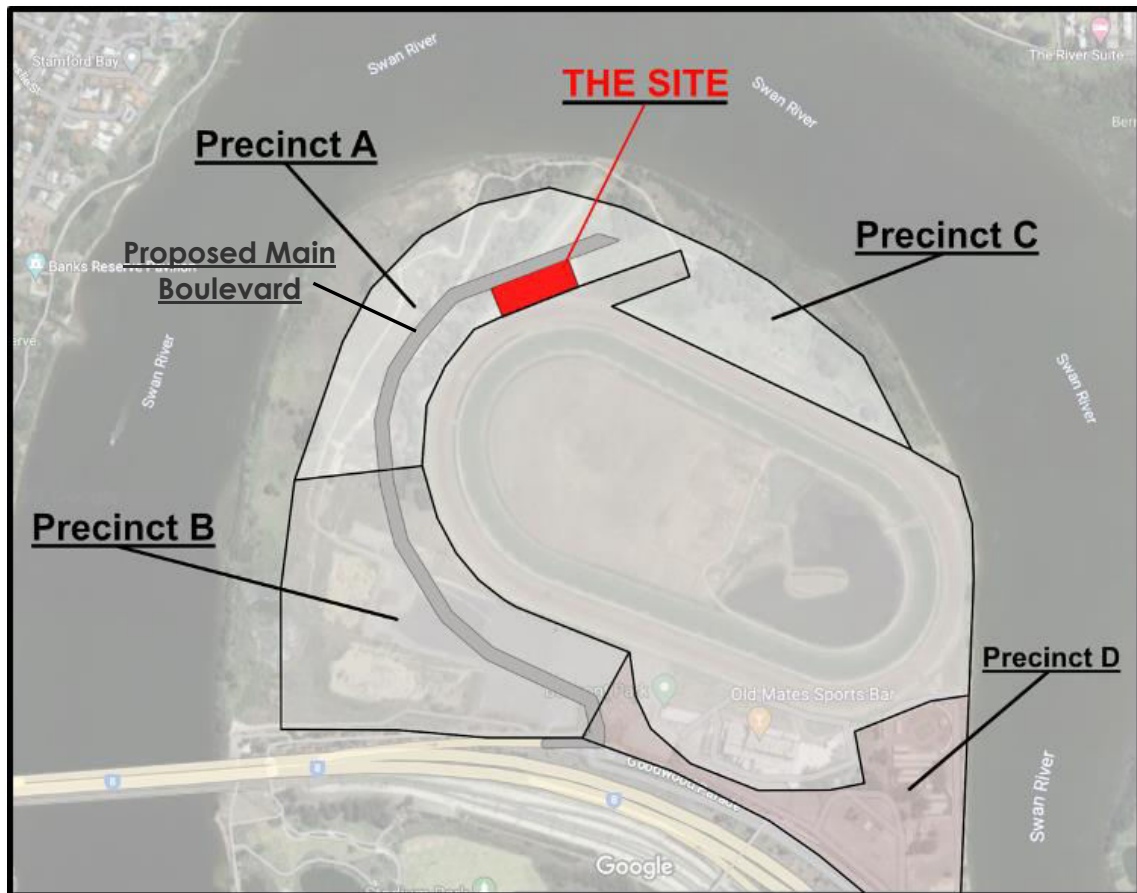
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The Subject Site (the 'Site') is located at Lot 305 and 306 in Precinct A of the Burswood Peninsula. The proposed block for the development is approximately 4,500 m² of gross area. The Site is proposed to have two apartment towers with a podium. The podium will comprise three levels containing the lobby and concierge, street-facing apartments, a business lounge and multilevel parking for residents and visitors. The towers will comprise a total of 200 apartments ranging from 1 bedroom to 3 bedrooms.

The Site is within the jurisdiction of the Town of Victoria Park and is part of the Burswood Peninsula Development Plan. The Site is located on the peninsula within 100 m of the Swan River estuary to the north and Belmont Park Racecourse is located to the south.

The proposed main boulevard, currently unnamed, is planned to pass in front of the Site serving as an interconnection within the broader development area and will offer an exit route to Orrong Rd.

Figure 2.1 - Existing Subject Site



Source: Google (Modified for Presentation)

2.2 Site Context

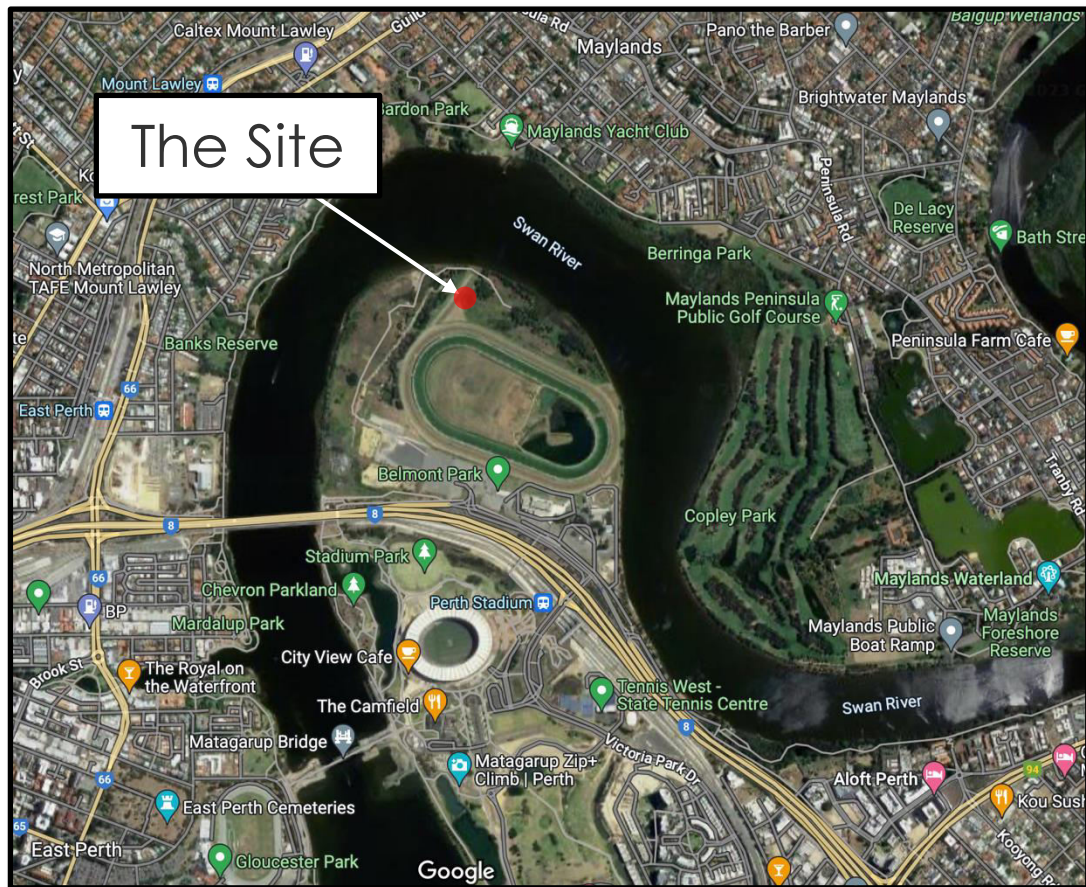
The Site is situated within 600 m of Orrong Rd and 900 m from Perth Stadium Station. Further south, the Optus stadium is located 1 km from the Site and the Crown Resort and Casino is located approximately 2 km away from the Site (refer to Figures 2.2 to 2.4).

Figure 2.2 – View of the Existing Site



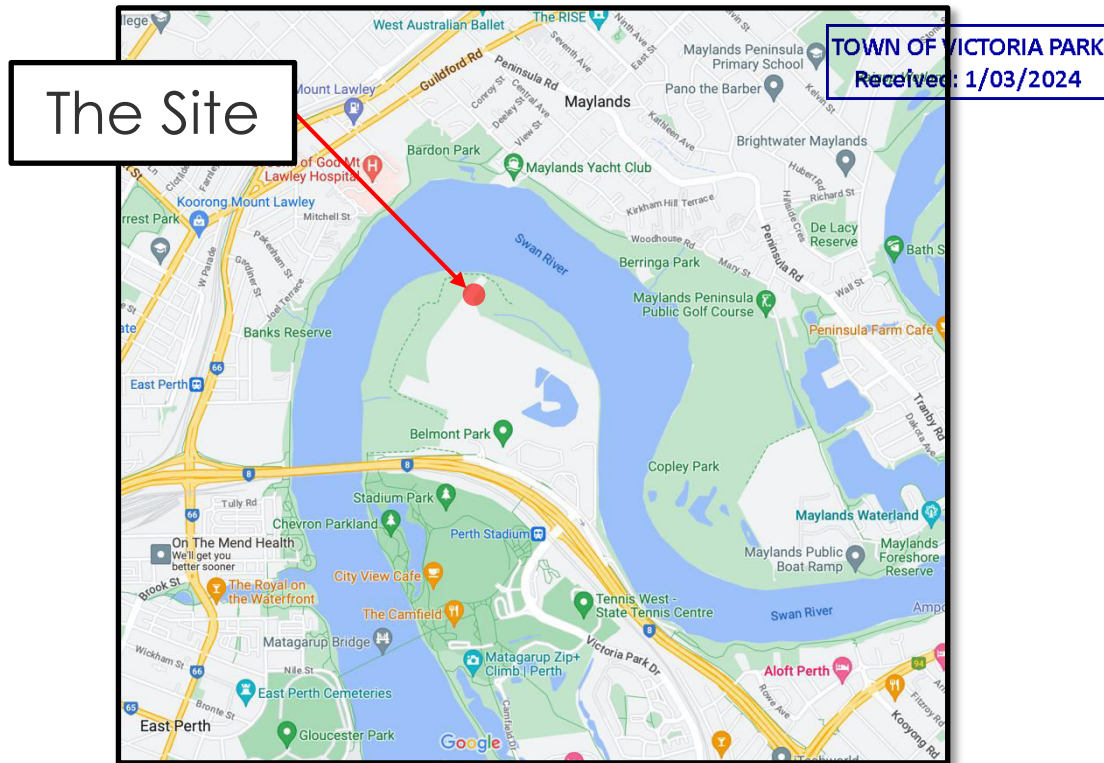
Source: Google Earth 2023

Figure 2.3 – The Site in Context of the Burswood Peninsula and Surrounds



Source: Google Maps 2023

Figure 2.4 – The Site in Context of the Surrounding Road and Public Open Space Networks

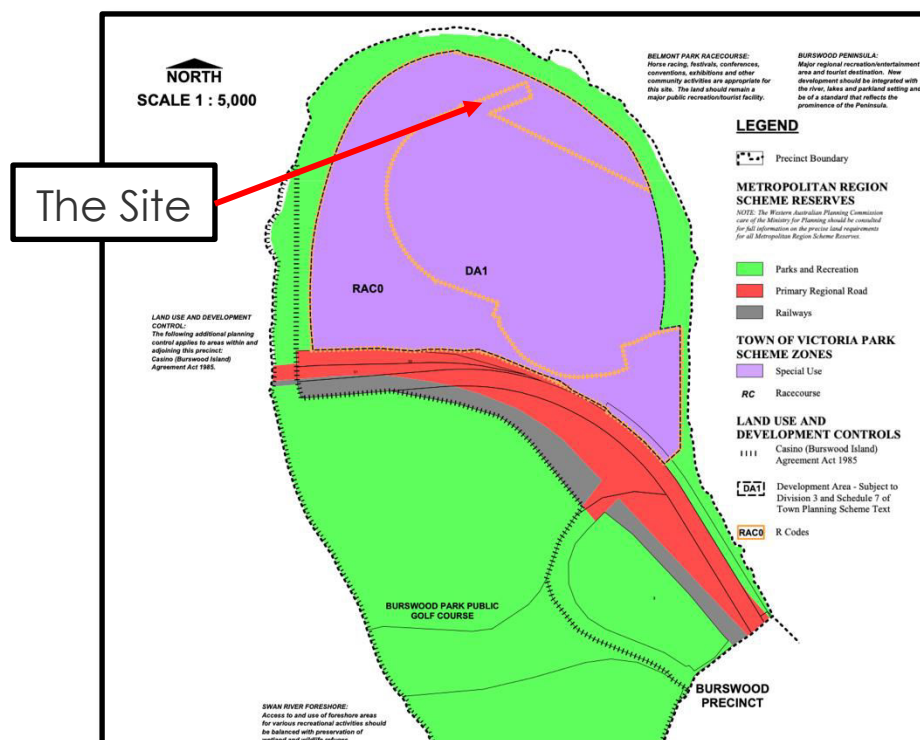


Source: Google Maps 2023

2.3 Surrounding Area Use & Zoning

The Site is currently situated within a classified “Special-Use” zone. Figure 2.5 shows the zoning map details in the vicinity of the Site as defined by Precinct Plan 1 to the Town of Victoria Park’s Town Planning Scheme No.1 (TPS1).

Figure 2.5 - Local Planning Context



Source: Town of Victoria Park Town Planning Scheme No. 1

It is noted that the TPS2 outlines the intention for the Burswood Peninsula Precinct to develop as a major regional recreation and entertainment area and a premier tourist destination. It is further stated that the development of the Peninsula should reflect its prominence from various viewpoints and key entry routes to the city centre. It should also integrate with the existing lake and parkland theme of the Precinct. It is outlined that public access throughout the Precinct and along the river foreshore should be unimpeded, and access to public transport should be well-signposted and secure. Pedestrian safety, cyclist provisions, and consideration of pedestrian access should be accounted for in new developments and redevelopments.

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2.4 The Burswood Peninsula Precinct Context

The Burswood Peninsula is planned to become a vibrant neighbourhood, known for entertainment, recreation, and residential amenities.

The Precinct A area has the potential to become a vibrant hub for the neighbourhood, by building a strong residential waterfront and racecourse community for the future.

The Burswood Peninsula Precinct A is located in proximity to other current or planned precincts and activity areas including:

- Precinct B
- Precinct C
- Precinct D

2.5 Project Alignment with Wider Development Plans

There are several strategic and statutory planning documents that have particular relevance. This includes:

- Belmont Park Racecourse Redevelopment Structure Plan – published in April 2013, it was developed to provide an overarching planning framework to guide and facilitate the subdivision and development of 73 hectares of land at the northern end of Burswood Peninsula.
- Burswood Peninsula District Structure Plan – to provide a strategic framework to guide development in a regional context, and to support the planning, assessment, coordination, and implementation of development across Burswood Peninsula.
- The Burswood Peninsula: Belmont Park Racecourse Precinct A Local Development Plan - prepared to coordinate and guide local development in Precinct A and comprises a Parking Management Plan.
- Town Planning Scheme 1 – defines the deemed provisions for local planning including parking provision rates.

There are also a number of other relevant policy and transport strategy documents including:

- Town of Victoria Park Local Planning Policies
- Town of Victoria Park Integrated Transport Strategy
- Town of Victoria Park Parking Management Plan
- Precinct A Parking & Supply Management Plan (PMP)

2.5.1 Belmont Park Racecourse Redevelopment Structure Plan

The Belmont Park Racecourse Redevelopment Structure Plan (April 2013) proposes to redevelop Belmont Park Racecourse into a vibrant and sustainable riverside community that includes a mix of residential, commercial, retail, leisure, and civic uses. The plan divides the site into four precincts with distinctive characteristics and functions:

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- Precinct A offers waterfront and racecourse living with low and mid-rise dwellings,
- Precinct B provides a focal point and activity hub with a public marina, high-rise apartments, offices, shops, and entertainment venues,
- Precinct C retains and upgrades the existing racing facilities and integrates them with the surrounding development, and
- Precinct D creates a riverfront parkland with open spaces, boardwalks, beaches, and recreational facilities.

The plan also sets out the overarching objectives, design principles and planning requirements for each precinct, as well as the background information, site analysis, site context, environmental management framework, sustainability strategy and implementation plan for the entire site. The objectives for the development include but are not limited to:

- Integrating the new development with the rest of the Town of Victoria Park's jurisdiction, the CBD, and the surrounding districts,
- Optimising public access to the site,
- Accommodating the primary function and operations of racing,
- Creating sustainable communities based on multifaceted aspects of sustainability,
- Delivering a high-density residential development responding to the site's strategic location,
- Responding to the site's access to public transport by integrating transit-oriented infrastructure,
- Creating employment on site attracting local population and outside workforce,
- Anchoring and supporting the diverse local community and visitors with a vibrant activity centre,
- Providing a variety of amenities for residents and visitors through appropriate design of built form,
- Encouraging accessibility to the racetrack and the river foreshore, and
- Exercising sensitivity consideration and planning and developing near the riverine environment.

The plan aims to create a world-class riverside asset that contributes to Perth's development as a liveable city and expresses the social, cultural, and environmental values of the current generation.

2.5.2 Burswood Peninsula District Structure Plan (DSP)

The Burswood Peninsula District Structure Plan (DSP) is a non-statutory document that provides a strategic framework to guide the planning and development of the Burswood Peninsula. The Burswood DSP outlines the vision, objectives, and principles for creating an attractive, vibrant, and sustainable urban setting, with a diverse mix of housing, recreation, entertainment, tourism, and employment opportunities.

The DSP also identifies the existing and future land use and development precincts, the population, housing and employment targets, the built form and open space character, the metropolitan attractors and community facilities, the movement and access network, the services and infrastructure requirements, and the urban water management strategy. The DSP was prepared by the Department of Planning in consultation with key State and Local government stakeholders and will be used to inform planning and development decisions across the Burswood Peninsula.

2.5.3 The Burswood Peninsula: Belmont Park Racecourse Precinct A Local Development Plan (LDP)

A Local Development Plan (LDP) was prepared for Precinct A of Burswood Peninsula. The purpose of the Belmont Park LDP was to identify:

- Pedestrian, cycle, and vehicle movement networks,
- The location and function of public open space including foreshore area,
- Residential typologies and built-form interface to the public realm, and
- Location of non-residential land uses.

A Transport Impact Assessment (TIA) Report and Parking Supply and Management Plan (PMP) were prepared in support of the LDP in line with the following key objectives:

- To integrate with the surrounding precincts, road network and land uses. The Precinct A LDP is directly adjacent to Precinct B, and northwest of Precinct D.
- To assess the proposed internal transport networks concerning accessibility and safety for all modes: vehicles, public transport, pedestrians, and cyclists.
- To determine the impacts of the traffic generated by the LDP on the surrounding land uses and transport network—confirm its alignment with previously prepared traffic assessment reports.
- To provide input to the Parking Management Plan to ensure optimum operation and functionality within and for the connections to the site.

The LDP identified an indicative movement layout with main connector streets through the centre, and local access streets into the residential townhouse development lots. The road network proposed within the LDP aimed to provide continuity and connectivity with the adjacent (Precinct B) road network, and pedestrian and cycle facilities. The pedestrian connection was also proposed to Precinct D.

The basis of the traffic and parking forecasts used for the LDP for Precinct A are generally consistent with those assumptions incorporated into the design of Lot 305 and 306 and adjacent areas. This includes the broad number of apartments and associated facilities.

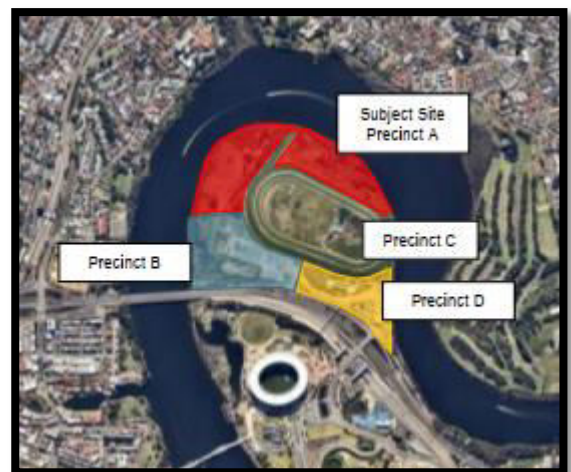
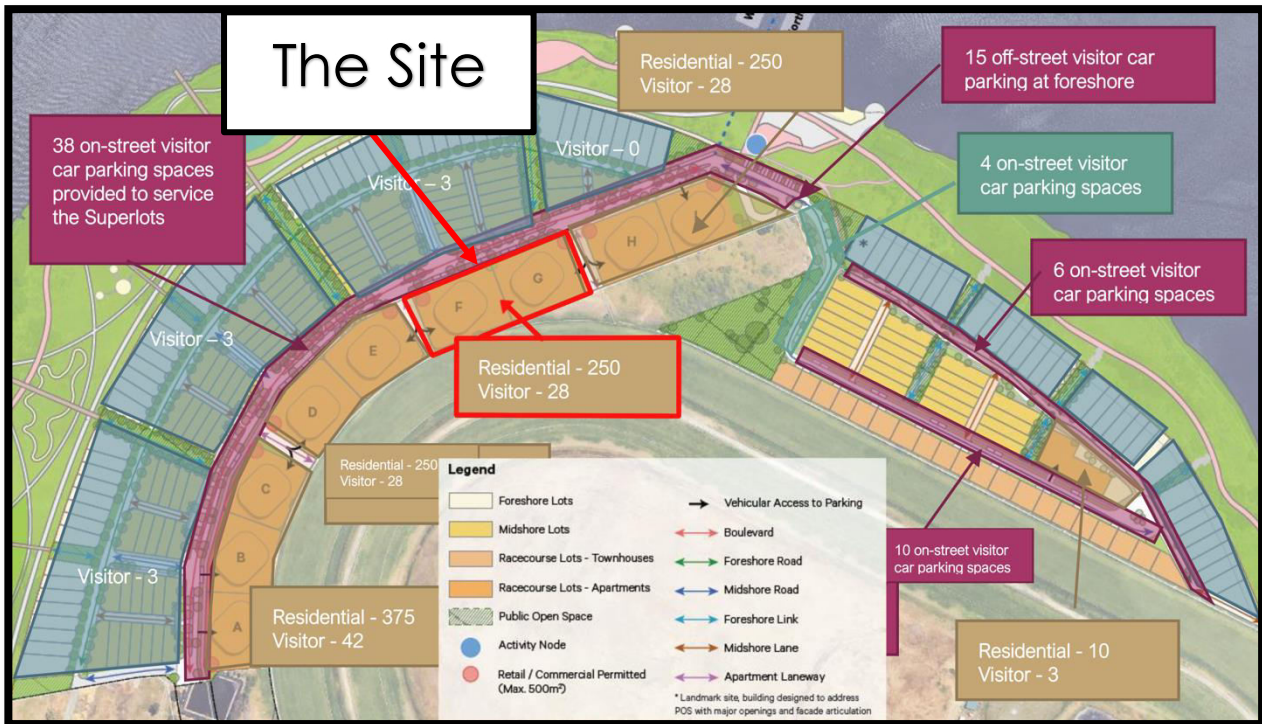


Figure 2.8 – Burswood Peninsula Precincts

The PMP offers a total apartment yield for Precinct A of 908. Under the parking provision section, the PMP utilises Volume 1 R-Codes to calculate parking requirements of 250 residential bays and 28 visitor bays for the towers on sites 'F' and 'G'. This provision is designed to accommodate 200 apartments. The latest design provided by MJA Studio comprises a total of 200 apartments, which is within the provision visualised in the PMP (See Figure 2.9 sourced from the PMP). Consequently, the findings and recommendations built into the LDP remain valid and no significant departure is forecast.

Figure 2.9 – Car Parking Space Provision



Source: Burswood Peninsula (Precinct A) PMP

Based on these technical investigations, the following conclusions were made, and continue to apply:

- Vehicular access to the LDP area was proposed only via the main street connection through Precinct B.
- The LDP was expected to generate some 6,300 vehicle trips per day at the connection of Precinct B. This traffic volume was forecast to diminish along the length of the main street as it approaches the easternmost end of the site.
- The road network hierarchy within the LDP was determined based on daily flows and by Liveable Neighbourhoods. The main street was allocated as a Neighbourhood Connector-B road, with all residential access streets allocated as Local Access Streets.
- The overall yield of the redevelopment area was assessed in terms of traffic generation and operation of the connections at Victoria Park Drive and Graham Farmer Freeway off-ramp. No internal intersections were proposed within Precinct A that warranted additional assessment and the forecast traffic generation of Lots 305 and 306 were accounted for in the previous LDP assessments.
- It was proposed that a Transperth bus service be provided through the Precinct.
- The LDP proposed a comprehensive network of pedestrian and cycle facilities within the vicinity of Lots 305 and 306 connecting through Precinct B to the surrounding Principal Shared Path network and beyond.

2.5.4 Town of Victoria Park Local Planning Policies

The Town has a number of Local Planning Policies relevant to traffic and parking related matters including:

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- LPP3 – Non-residential uses in or adjacent to residential areas
- LPP20 – Design guidelines of developments with Buildings Above 3 Storeys
- LPP23 – Parking
- LPP24 – Loading and Unloading
- LPP25 - Streetscape

These documents were referenced when conducting this Traffic Impact Assessment.

2.5.5 Town of Victoria Park Integrated Transport Strategy

This Transport Strategy was developed by the Town of Victoria Park in April 2022. The actions within the Strategy seek to provide a transport network which connects people to places and supports the Town as a liveable inner-city community. Three overarching themes focus on a healthy community, an accessible town, and a liveable town. Within each theme are proposed a series of objectives linked to initiatives.

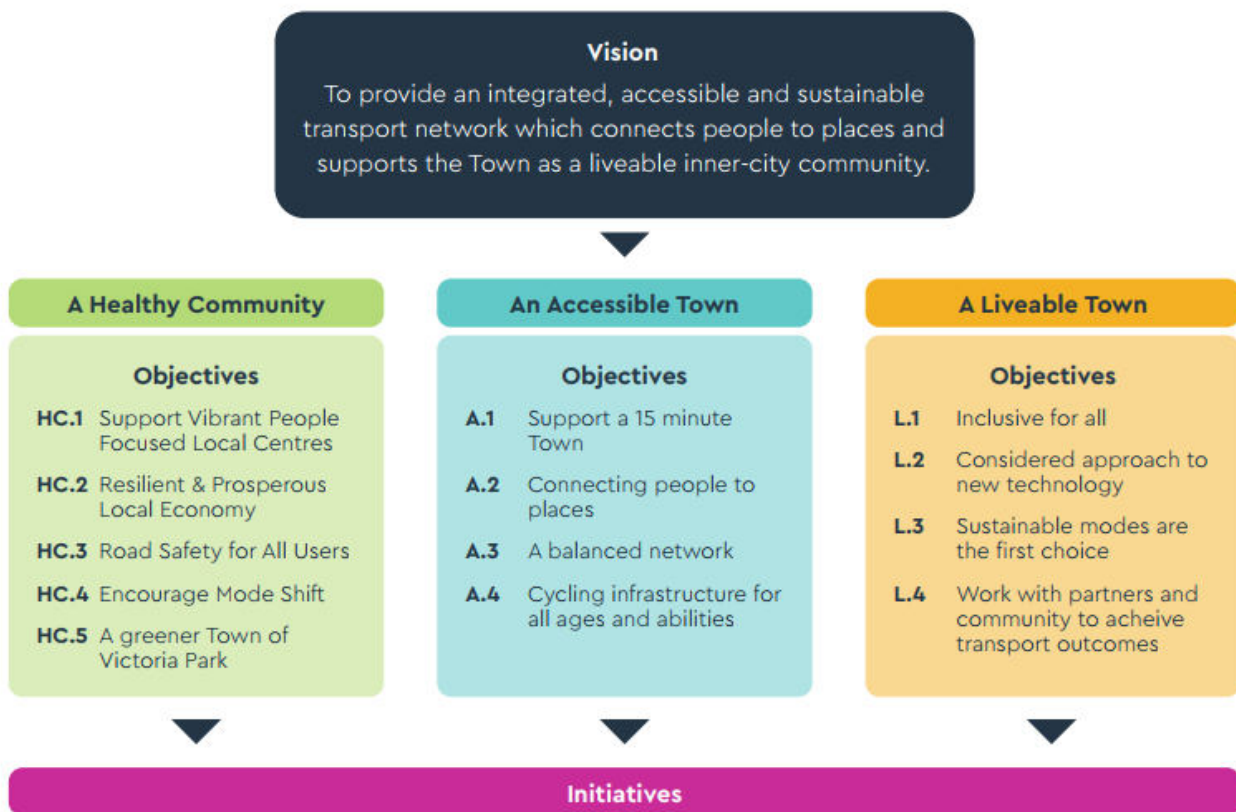


Figure 2.10 – Vision, Themes & Objectives

2.5.6 Town of Victoria Park Parking Management Plan

The Town of Victoria Park Parking Management Plan provides guidelines for managing parking across the Town of Victoria Park's jurisdiction. The document is aligned with the Integrated Transport Strategy and other strategic documents of the Town of Victoria Park ('the Town'). The document has three main parts:

- The context and strategic alignment,
- The parking management approach, and
- The place-based initiatives.

The plan provides specific parking management recommendations for the Burswood South area, which is part of the Burswood Peninsula. The plan recognises the unique challenges and opportunities of this area, which has been zoned as a mixed/special-use precinct with the potential for high-density residential, commercial, entertainment, and recreational uses. The plan aims to balance the parking needs of different user groups, such as residents, visitors, employees, and event goers. The plan also supports the vision of creating a vibrant and sustainable urban community with a strong sense of place and identity.

The plan includes planning mechanisms that incorporate various techniques and actions the Town will use to manage parking in different situations, such as travel mode shift, dynamic parking model, parking benefits districts, smart parking technology, etc.

The performance measurement section explains how the Town will monitor and evaluate the impacts of parking changes through gathering data, community outreach and actively maintaining environments to align with the Town's vision and goals.

The advocacy and education section describes how the Town will communicate and collaborate with external stakeholders, such as the State Government, schools, event organisers and the public, to improve parking outcomes and promote sustainable travel choices.

The plan also includes appendices with additional information and details. The document aims to help the Town better manage car parking and deliver improvements such as increased parking turnover, reduced traffic congestion, enhanced travel choices, and better use of land for community benefit.

2.5.7 Precinct A Parking & Supply Management Plan (PMP)

The PMP provides calculations for the parking space provisions for different land uses within Precinct A, including townhouses, apartments, and open spaces. The document utilises the Town of Victoria Park Local Planning Policy No. 23, ITE Parking Generation Manual Version 5 and Residential Design Codes (Volumes 1 and 2) to calculate parking requirements.

Across nine towers proposed for Precinct A, the PMP is based on a total yield of 908 apartments or approximately 100 apartments per tower. This is equivalent to the number of apartments proposed for the two residential towers on Lots 305 and 306. The PMP proposes a total requirement of 250 residential parking bays and 28 visitor bays for Lots 305 and 306 (depicted as areas F/G on Figure 3.1 in the PMP).

With respect to Lots 305 and 306, the PMP also specifies parking provisions for bicycles and motorcycles, citing the State Planning Policy SPP 7.3 Residential Design Codes (Volume 2). The provision calculations in the PMP encompass all towers in Precinct A. Provision calculations specific to Lot 305 and 306 are provided in this report in Sections 7.2 and 7.3, utilising the same rates.

The PMP also highlights the following needs and recommendations to:

- Provide loading areas within each apartment building,
- Install bus stops to encourage the use of public transport and reduce vehicle trips,
- Consideration of paid parking restrictions should the need arise,
- Enforcement of parking restrictions to minimise on-street obstructions at times of high parking demand, especially during events being held at Optus Stadium or the Racecourse,
- Installation of effective wayfinding signage.

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3 Existing Situation

3.1 Existing Road Network

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A thorough analysis was conducted of the existing road network in and around the Burswood Peninsula referencing the work presented in the LDP for Precinct A. The findings of the LDP traffic impact analysis were independently reviewed and remains substantially valid. The analysis presented in the LDP was not repeated where it remains consistent, and the results are referenced and reiterated in this report where applicable.

Victoria Park Drive offers the Site a direct connection to Graham Farmer Freeway in both directions, as well as to the rest of Burswood south of the Freeway. Graham Farmer Freeway offers major road network access to the Site. The Freeway provides access to East Parade and the Great Eastern Highway, providing convenient northeast and southwest connections to both sides of the Swan River.

East Parade is situated on the western side of the Swan River opposite the Site, running in an approximate north-south direction. East Parade north of Graham Farmer Freeway serves as a Primary Distributor and south of the Freeway serves as a Distributor A. It offers access to East Perth and Maylands. The Great Eastern Highway is located to the southeast of the Site following an approximate northeast-southwest direction, serving as a Primary Distributor, and offering access to Fremantle to the west, and Perth Airport and Guildford to the east.

A summary of the characteristics of the road network in the vicinity of Burswood Peninsula are given in Table 3.1. The traffic volume taken from the critical weekday peak-hour was used in the calculation to find the worst-case scenario.

Table 3.1 – Existing Road Network Characteristics

Road Name	Road Hierarchy		Road Network		
	Road Hierarchy	Hourly Environmental Traffic Capacity (2-way vph) ¹	No. of Lanes and Facilities	Existing Capacity Utilisation	Posted Speed (km/h)
Saintly Ent	Local Distributor	600	2-lane divided	6.6%	50
Victoria Park Dr (Near GFF)	Primary Distributor	1,800	2-lane divided	35%	60
Graham Farmer Fwy (East)	Primary Distributor	5,400	3-lane divided with 1 emergency lane	99.3%	80
Graham Farmer Fwy (West)	Primary Distributor	5,400	3-lane divided with 1 emergency lane	110%	80

¹ Based on Austroads Guide to Traffic Management Part 3 and the MRWA Functional Road Hierarchy. For an 80 km/hr Primary Distributor with uninterrupted flow it assumes 1,800 vehicles per hour per lane. For a 60 km/hr District Distributor it assumes 1,000 vehicles per hour per lane for the median lane of a divided road with interrupted flow, 900 vehicles per hour per lane for a kerbside lane with interrupted flow or a median lane on an undivided road or where adjacent to a parking lane, and 600 vehicles per lane where the lane has occasional parked vehicles. For a Local Distributor it assumes 6,000 vehicles per day two-way, and for a residential local Access Road it assumes 3,000 vehicles per day two-way with the peak hour being one tenth of the daily traffic volume.

3.2 Existing Traffic Levels

Graham Farmer Freeway has a single-lane off-ramp that expands into a roundabout that crosses the Burswood Peninsula Frontage. The 2 lanes continue through the traffic signal intersection of Victoria Park Drive until rejoining with Graham Farmer Freeway (GFF) via the on-ramp.

The Main Roads SCATS data for this location highlights traffic turning and passing through the signalised intersection of Victoria Park Drive and Saintly Entrance. The peak traffic volumes on the off-ramp west of the signals reach approximately 19 vph during the AM peak period, 1 vph during the PM peak period, and an average of 184 vpd during weekdays.

The northbound connection of Victoria Park Drive to the Saintly Entrance signalised intersection comprises 2 lanes, forming the south-north connection into the Burswood Peninsula while crossing over the Graham Farmer off-ramp. On days without any events, the northbound lanes of Victoria Park Drive exhibit a traffic volume of approximately 4,600 vpd.

Graham Farmer Fwy East and West are very busy and close to or exceeding their environmental traffic capacities. This is in large part due to the function of the Highway as a major access route into the Perth CBD.

Existing traffic volume data in the area surrounding the southern part of Burswood Peninsula is summarised in Table 3.2, and in Figures 3.1 and 3.2. The existing traffic data indicates that Victoria Park Drive and Saintly Entrance are operating within their environmental traffic capacity.

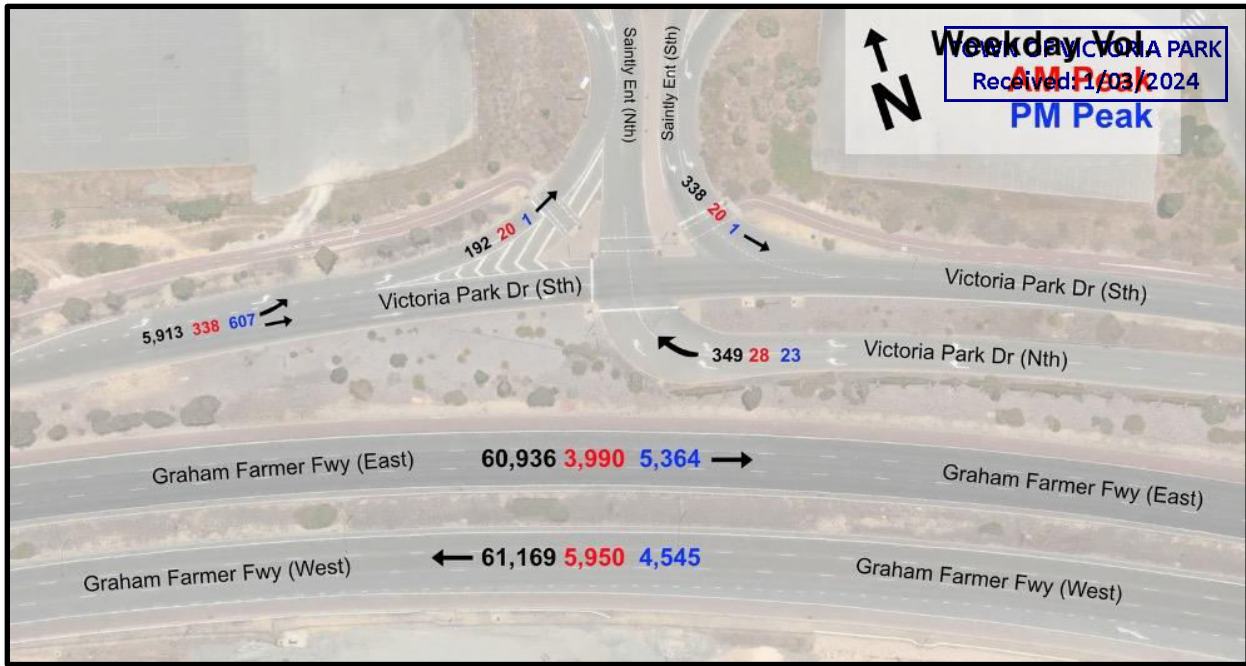
Table 3.2 – Mid-block Traffic Volumes in the Vicinity of the Site

Road Network Signal Data Hourly Volume Data ²	Ave Weekday AM Peak (vph) (8 am to 9 am)	Ave Weekday PM Peak (vph) (5 pm to 6 pm)	Ave Daily Traffic Volume (vpd)	Percent Heavy Vehicle (%)	Within Existing Traffic Capacity
Saintly Ent (North) (GFF Off-Ramp)	20	1	192	-	Yes
Saintly Ent (South) (GFF Off-Ramp)	20	1	338	-	Yes
Victoria Park Dr (North) (GFF Off-Ramp)	28	23	349	-	Yes
Victoria Park Dr (South) (GFF Off-Ramp)	338	607	5,913	-	Yes
Victoria Park Dr (North) (North Overpass Intersection/GFF On-Ramp)	23	35	574	-	Yes
Victoria Park Dr (South) (North Overpass Intersection/GFF On-Ramp)	518	768	8,879	-	Yes
Graham Farmer Fwy (East)	3,990	5,364	60,936	9.4%	Yes
Graham Farmer Fwy (West)	5,950	4,545	61,169	9.4%	Yes

Source: MRWA Data (2021-2023)

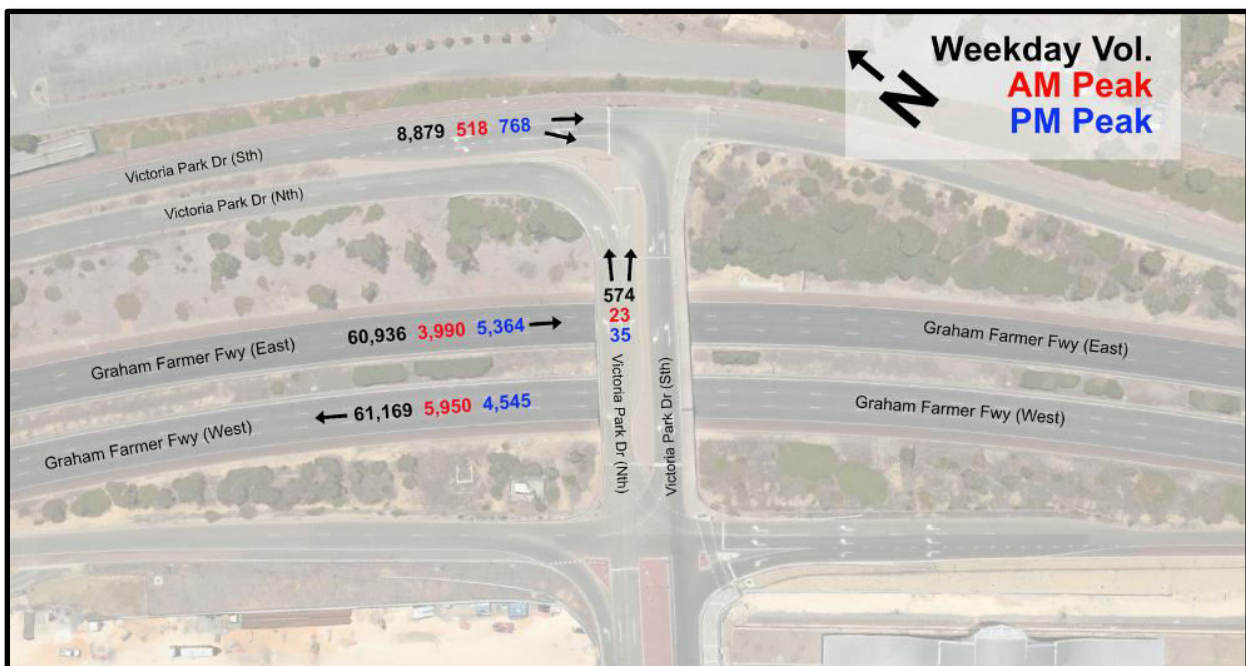
² Traffic volumes obtained directly from MRWA TrafficMap interface including SCATS data on 25 August 2023.

Figure 3.1 – Traffic Volumes: GFF Off-Ramp Intersection



Background – Apple Maps (Modified for Presentation)

Figure 3.2 – Traffic Volumes: GFF Overpass Intersection



Background – Apple Maps (Modified for Presentation)

3.3 Road Network Changes

The LDP for Precinct A proposes a number of adjustments to the existing road network surrounding the Burswood Peninsula, including the following:

- Removal of the traffic signal intersection of the westbound Victoria Park Drive/Saintly Entrance and Graham Farmer Freeway off-ramp,
- Creation of a left in/left out intersection with Saintly Entrance and Graham Farmer Freeway off-ramp leading into a single lane roundabout,

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The arrangement of the road network outlined in the LDP shows that the Neighbourhood Connector B offers a direct route to access and exit from the Site. This boulevard is designed to adequately handle the traffic generated by high-density developments, and it is anticipated that the main boulevard shall adequately support traffic to and from the Site.

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3.4 Existing Parking Situation

All existing parking on Burswood Peninsula is situated within the proposed B and D Precincts close to the lower bound of the Peninsula toward Graham Farmer Freeway and is accessible via the Saintly Entrance roundabout and Placid Avenue. In total, there are approximately 1,305 parking bays, along with 10 designated accessibility bays. The breakdown is as follows:

- 815 marked bays in a super-lot directly adjacent to the Saintly Entrance roundabout. The super lot has more pavement extending further west, indicating the potential to host additional overflow parking capacity.
- A smaller parking lot to the southeast of the Saintly Entrance roundabout consists of 86 bays.
- Surrounding the Old Mates Sports Bar there is one large parking lot consisting of 332 bays and 4 accessibility bays.
- There are a number of smaller lots scattered broadly around the Bar totalling a further 158 bays and 6 accessibility bays.
- The Bar also features a Taxi/PUDO loop in front of the main entrance.

A large majority of the Peninsula, including Precinct A, remains undeveloped without any existing parking infrastructure nearby. Therefore, the parking for the development will be incorporated during the construction phase, ensuring that adequate parking is available on the Site. For specific information regarding the planned parking provisions for Lots 305 and 306, refer to Section 7 of this report.

4 The Proposed Development

4.1 Development Proposal

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The development site includes Lots 305 and 306 within Precinct A of the Belmont Park Racecourse Redevelopment Scheme. The ground floor plan of the proposed development is shown in Appendix B.

The development is proposed to incorporate two separate apartment towers that are directly accessible via the main boulevard running through the Precinct. Incorporated within the plans for the development is the inclusion of a 3-level podium operating as the ground and lower-level floors of the two apartment towers.

A multistorey vehicle car park for residents is proposed to extend over five levels including a basement level, mezzanine level, ground level and two other levels. Visitor parking is all proposed to be located on the ground floor level.

The towers include a mix of apartments comprising single, double, and triple-bed apartments. Lot 305 is located in the southwestern section of the development and holds 80 apartments, while Lot 306 in the north-eastern section holds 89 apartments. The podium level is proposed to include 31 apartments. Combined there are a total of 200 apartments proposed.

Figure 4.1 – Perspective of West Tower (Lot 305) on left, East Tower (Lot 306) on right



Source: MJA Studio

Table 4.1 below describes the proposed land uses for the development.

Table 4.1 – Proposed Land Use Details

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Land Use	Parameter
Apartment Towers	200 units between Tower 305, 306 and the Podium (31 single bedroom, 111 two bedroom & 58 three-bedroom apartments)
Car Parking	351 residential parking bays plus 21 visitor parking bays collectively adding to 372 parking bays.
Motorcycle Parking	38 parking bays
Bicycle Parking	120 bike racks including 20 for visitors

4.2 Proposed Approach to the Management of Transport

The proposed development focuses on better integrating transport into the built environment and futureproofing it for the technology of tomorrow. The design makes accommodations for the following:

- Convenient access to future regular public transport,
- Excellent bicycle and walking networks,
- Extensive end of trip facilities,
- Short-term pickup and drop-off (PUDO) locations for Uber Eats, Ola, Didi, etc.,
- Design for micro-mobility including mobility scooters, upright scooters, e-bikes, motor scooters, etc., and
- Effective wayfinding solutions with complementary materials (i.e., colours and technologies).

The development will feature a large ground-level bicycle store behind the western lift lobby, as well as secure visitor bike racks in the verge of the street boulevard.

It is also proposed to install a number of parking bays with electric vehicle charging facilities.

4.3 Proposed Site Access Arrangements

The development is proposed to have two separate vehicle driveways – one on the western side and the other on the eastern side of the development. Both are proposed to facilitate movement via access roads that connect directly with the main boulevard. Universal access is proposed throughout for residents, visitors, and service attendants. This arrangement enables service trucks to enter via one side of the building, to continue straight through to the other side, and then exit via the opposite access road while remaining in forward gear. Automatically operated security doors are proposed at both entrances.

Refer to Appendix C for swept path diagrams illustrating the access arrangements and manoeuvrability in the basement and ground levels. Details of service vehicle (including waste vehicle) access are provided in Sections 6.1 and 6.2 of this report.

Pedestrian access for the development has been prioritised with primary access to the proposed lobbies from the main boulevard. Pedestrian access in the basement car park has also been carefully considered with multiple safe access points to the levels above. On the ground level, a dedicated footpath has been proposed to be installed in front of the development along the main boulevard and connecting to the development lobbies. The LDP characterises the road network in Precinct A as a low-speed environment, therefore these amenities are considered appropriate to ensure the safety and ease of movement for pedestrians.

5 Assessment of Forecast Traffic Levels

5.1 Traffic Generation of the Development

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The LDP for Precinct A presents a trip generation and distribution analysis for the entire precinct. To delve deeper, specific to this development site, and to inform intersection capacity analysis and access requirements, a site-specific trip generation exercise was conducted.

The trip generation rates and estimated trip generation for the proposed development are presented in Table 5.1 and Table 5.2. The trip generation has been calculated with reference to trip generation rates published in the following source documents:

- o *Western Australian Planning Commission (WAPC) Transport Impact Assessment Guidelines for Developments: Volume 5 – Technical Guidance (2016),*
- o *Institute of Transportation Engineering (ITE) Trip Generation Manual (11th Edition),*
- o *Transport for NSW (RTA) Guide to Traffic Generating Developments (2002),*
- o *Transport for NSW (RMS) Guide to Traffic Generating Developments Updated Traffic Surveys (2013), and*
- o *Burswood Peninsula – Precinct A Local Development Plan – Transport Impact Assessment, Stantec (2022).*

Table 5.1 - Trip Generation Rates for Peaks on Local Road Network

Land Use	Source	AM Peak	IN	OUT	PM Peak	IN	OUT
Multi-family - high-rise residential (near rail)	ITE 11 th	0.23 trips per unit	33%	67%	0.26 trips per unit	57%	43%
Residential dwelling	WAPC	0.8 trips per dwelling	25%	75%	0.8 trips per dwelling	63%	37%
High-density residential flat dwellings ³	TfNSW (RMS)	0.19 trips per unit	26% ⁴	74%	0.15 trips per unit	66%	34%
High-density residential flat dwellings	TfNSW (RTA)	0.29 trips per unit	26%	74%	0.29 trips per unit	66%	34%
Apartments	Stantec LDP	0.53 trips per unit ⁵	25% ⁶	75%	0.53 trips per unit	63%	37%

Stantec utilised raw data provided by ARUP when conducting their traffic generation analysis on the whole of Precinct A for the LDP. Their analysis is provided in the appendices to the LDP document. This is a highly conservative trip generation rate and the higher end of what would normally be expected for high-density residential apartments in a central metropolitan area close to public transport.

³ Average rate published in the RMS source document is relevant to residential apartment blocks over six storeys in height located in the metropolitan area close to public transport. The alternate rate for regional towns is not considered directly relevant to Burswood, which is in a central metropolitan location.

⁴ Directional splits for high-density residential flats in NSW taken from Survey Analysis Report, GHD, 2012.

⁵ The peak hour trip generation rate for both the AM and PM peaks has been assumed to be 10% of the daily trip generation rate.

⁶ Directional splits for the LDP were assumed to be consistent with the WAPC trip generation directional splits.

In the case of residential land use, the WAPC published rates are not directly relevant to high density residential apartment towers. The WAPC Guidelines only provide a rate for one type of residential dwelling that is more consistent with a low-density single occupancy 4 bedroom house in the suburbs. The equivalent TfNSW rate for a low-density single residential dwelling is very consistent with the WAPC rate. Neither of these rates for low-density residential land uses are considered relevant to the scenario being assessed.

The ITE Trip Generation Manual (11th edition) and TfNSW (RTA) published rates are considered the most appropriate for forecasting traffic levels for high-density residential uses in central Perth. This is consistent with the WAPC Guidelines that state, "The Guide to Traffic Generating Developments and its 2013/04a Updated Traffic Surveys; and the ITE Trip Generation Manual remain recognised sources for trip generation rates." Research conducted by the TfNSW (RTA/RMS) revealed that the ITE rates recommend a peak period trip generation rate that aligns well with RTA (2002) metropolitan and sub-regional rates, which are much higher than the equivalent RMS (2017) rates. This is supported by survey evidence.

Our expert assessment is that the residential trip generation rates published by the ITE, which are higher than the equivalent RMS rates, are most consistent with a high-density residential unit development the subject of this DA. That includes apartment towers with parking provided at an average rate of around 1 parking space per bedroom, which is consistent with the situation being assessed in this TIA.

Despite the relevance of the ITE trip generation rates, it was decided to adopt the much higher Stantec rates used in the LDP when calculating the trip generation for Lots 305 and 307. The trip generation rates used by Stantec in the Local Development Plan for Burswood Precinct A in 2022 are the same as the rates used by Arup in their modelling to inform the Burswood Peninsula Structure Planning process. This LDP rate is almost twice the trip generation rate of the appropriate ITE and TfNSW rates. This approach was taken to be highly conservative, and to retain consistency with the traffic modelling undertaken by Stantec and Arup for those previous assessment exercises.

The traffic generation rate highlighted in bold in Table 5.1 has been used to calculate estimates of proposed weekday peak-hour traffic numbers given in Table 5.2.

Table 5.2 - Estimated Trip Generation Rates

Land Use	Yield	AM Peak	IN	OUT	PM Peak	IN	OUT
High-rise residential	200 units	106	26	80	106	67	39
Total Trips from Proposed Development		106	26	80	106	67	39

The existing traffic volumes estimated for the AM and PM peaks of the adjacent road network were calculated by using unit yields of the proposed number of dwellings for the combined development.

As shown in Table 5.2, the proposed development of Lots 305 and 306 is expected to generate approximately 106 vehicle trips in both the AM and PM peak hour use of the adjacent road network. This outcome is considered highly conservative. It provides excess allowance for the greater amount of parking proposed on the site and in the precinct relative to the LDP.

5.2 10-year Forecast Traffic Impact on Surrounding Roads

For the future 10-year forecast, information presented in the LDP has been used. These calculations were undertaken in 2021 using the latest data available at the time, and account for forecasted growth up until 2031.

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When superimposed on the broader road network, the future traffic volumes (in 10 years) with the Burswood Peninsula development are shown in Table 5.3. The data has been adapted from the LDP in the table below. The original LDP table is available in Appendix E.

Table 5.3 - Estimated Future Traffic Volumes on Roads External to District A

Road Link	10-yr Weekday AM peak (vph)	Additional traffic from the Site during AM peak hour (vph)	Percent Change (%)	10-yr Weekday PM peak (vph)	Additional traffic from the Site during PM peak hour (vph)	Percent Change (%)
Graham Farmer Fwy - West of Belmont Park (Westbound)	10,219	1,120	10%	7,780	1,772	+19%
Graham Farmer Fwy - West of Belmont Park (Eastbound)	8,640	1,610	16%	9,433	1,574	+14%
Graham Farmer Fwy Western Ramps (Westbound)	923	1,120	55%	1,068	1,772	+62%
Graham Farmer Fwy Western Ramps (Eastbound)	860	1,610	65%	1,154	1,574	+58%
Graham Farmer Fwy - East of Belmont Park (Westbound)	9,314	852	8%	6,759	826	+11%
Graham Farmer Fwy - East of Belmont Park (Eastbound)	7783	910	10%	8,295	1,446	+15%
Victoria Park Dr Bridge (Northbound)	3	1,106	100%	16	1,074	+99%
Victoria Park Dr Bridge (Southbound)	860	1,180	58%	1,154	1,870	+62%
Victoria Park Dr South (Northbound)	926	254	22%	1,084	240	+19%
Victoria Park Dr South (Southbound)	878	60	6%	1,201	98	+8%

Source: Data from Precinct A Local Development Plan (Adapted for Presentation)

Traffic within and around the Burswood Peninsula development was previously modelled by Transcore using Paramics modelling software as presented in Figure 5.1, demonstrating future peak period traffic flows. The model output information is an indicative representation only.

The projected percentage on roads outside the Peninsula development exhibit significant variation. However, the roads experiencing the highest increases currently have lower-than-average traffic volumes. Most of these roads are classified as Primary Distributors or Distributor Type B's operating at under-capacity and will be able to handle increases in traffic to the estimated values discussed previously.

Hence, it can be inferred that the road network near the development will be able to accommodate the traffic loads, even during periods of high traffic demand. As a result, it is forecast that unobstructed access to Lots 305 and 306 will be maintained.

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Figure 5.1a – 2031 AM Peak Traffic Post Development

Figure 5.1b – 2031 PM Peak Traffic Post Development



Source: Burswood Peninsula (Precinct A) LDP

5.3 Localised Impacts Surrounding the Development

The traffic generated by the development has been visualised in Figure 5.2. Findings include:

- The Neighbourhood Connector B section of the main boulevard (within Precinct A), will carry an average of 3,000 vpd, typical of the intended road design classification and consistent with the environmental capacity of the road. The LDP estimates 6,800 vpd on the main boulevard at the transition point from Precinct A to Precinct B and predicts that it will reduce further along the boulevard, leading to the 3,000 vpd estimate.
- Lots 305 and 306 share one access road with neighbouring Lots 307 and 308 and another with Lots 303 and 304. The generated traffic from Lots 307 and 308⁷ and 303 and 304⁸ respectively has been shown on the joint access roads shared with Lots 305 and 306, while the generated traffic from Lots 305 and 306 has been divided 75/25 between the two site access roads.

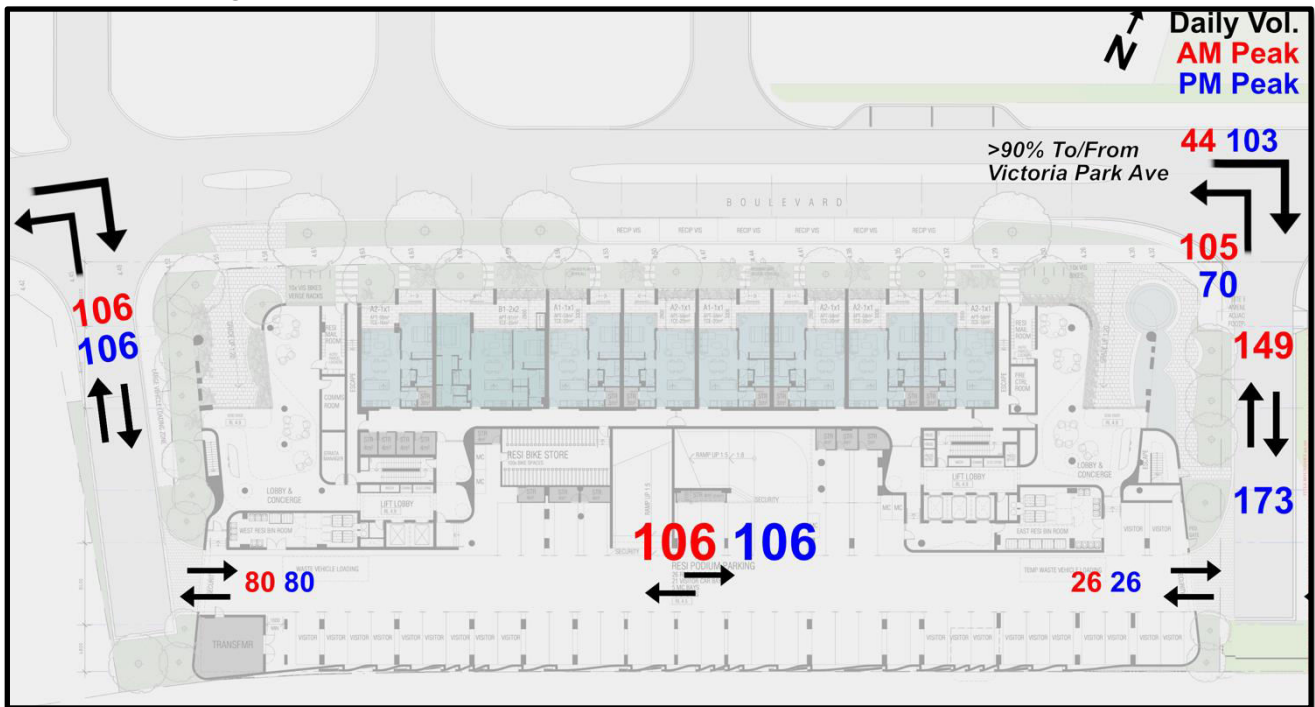
⁷ Traffic estimates for Lots 307 and 308 have been taken from the Level5Design report 'Transport Impact Assessment Burswood Peninsula Towers (Lot 307 and 308)', January 2024.

⁸ Traffic estimates for Lots 303 and 304 have assumed a yield of 200 residential apartments of similar characteristic to those contained on Lots 305 and 306. They have also assumed a 25% distribution from Lots 303 and 304 to the access road adjacent to Lots 305 and 306.

- The Main Boulevard is a no-through road turning right from the development, terminating at the north-eastern corner of the Peninsula. It is assumed that most traffic generated by the development will be to and from Victoria Park Avenue, entering and exiting the Peninsula (90% or more of all traffic).
- The calculated traffic generation of the development is broadly consistent and proportionate with estimations in the LDP and PMP, therefore the forecasts included in both documents are considered valid and have been replicated in this report.
- The findings indicate that the resulting transport impact can be effectively managed by the proposed road network arrangements.

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Figure 5.1 – Shared Traffic Use of Boulevard & East/West Access Roads



5.4 Intersection Capacity Analysis

The intersections of the development access roads and the Main Boulevard was analysed using standard Austroads capacity analysis techniques. The results indicate that both access road junctions will operate in peak periods 10 years post development at a high Level of Service (LOS A) with delays for turning traffic of 10 seconds or less.

larger vehicles, high levels of service vehicle flexibility are achieved, and the possibility is reduced of these larger service vehicles double-parking in the street.

The swept paths of these service vehicles have been checked to ensure there is sufficient room in the design to accommodate their safe access and egress. Diagrams illustrating these vehicle movements are included in Appendix C. As indicated above, the predominant size of service vehicles accessing the Site will be smaller than has been allowed for and manoeuvring of these smaller service vehicles should be achieved more easily than shown in the swept path diagrams.

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6.2 Waste Collection

All waste collection will occur outside of peak periods via the designated waste vehicle loading areas shown in Figure 6.1. Dwell times will be short and generally limited to a few times per week minimising the impacts on residential traffic flow and safety in the car park.

Diagrams illustrating the swept paths of waste/refuse service trucks moving through the development from west to east and into and out of the loading areas and adjacent spaces are given in Appendix C. Sufficient room has been provided for these trucks to safely enter from the Western Access Road and exit back onto the Main Boulevard via the Eastern Access Road.

7 Proposed Parking Arrangements

7.1 Car Parking Provisions

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The parking requirements for the proposed development have been calculated based on the requirements defined in the following documents:

- Belmont Park Racecourse Development Structure Plan, April 2013
- Town of Victoria Park Local Planning Policy 23: Parking
- Burswood Peninsula, Precinct A, Parking Management Plan, November 2022
- State Planning Policy 7.3: R-Codes Volume 2 – Apartments, May 2019

A total of 372 car parking bays are proposed to be allocated to residential tenants and their visitors. Table 7.1 presents the parking requirements for the Site. It indicates that the proposed development exceeds the total policy requirements for all proposed uses of the Site.

Table 7.1 - Proposed Parking Requirements & Provision

Land Use	Parking ⁹ Requirements	Yield	Parking Required ¹⁰	Parking Provision	Excess/Shortfall
1-bedroom apartments	0.75 bay per apartment	31 apartments	24 bays	31 bays	+7 bays
2+ bedroom apartments	1 bay per apartment	169 apartments	169 bays	320 bays	+151 bays
Residential visitors - apartments	1 additional bay for every 4 apartments up to 12 apartments thereafter 1 bay per 8 apartments	200 apartments	27 bays	21 bays	-6 bays
Residential visitor total			27 bays	21 bays	-6 bays
Residential tenant total			192 bays	351 bays	+158 bays
Total car parking required on-site			219 bays	372 bays¹¹	+152 bays

The 372 parking bays proposed on site exceeds the minimum requirements and fully satisfies the requirements specified in the Precinct A Parking Management Plan, which proposes a total requirement of 250 residential parking bays for Lots 305 and 306.

21 residential visitor bays are currently proposed for the development which falls short of the 27-visitor bay requirement specified by the R-Codes by 6 bays. The excess tenant parking of 152 bays is considered to offer sufficient flexibility in addressing this visitor parking shortfall.

7.2 Motorcycle/Scooter Parking Provisions

SPP 7.3 Part 2 requires 1 motorcycle/scooter space to be provided for every 10 car bays where developments exceed 20 dwellings. For each 5 motorcycle/scooter parking bays provided, the number of required car parking bays can be reduced by 1.

⁹ Residential parking requirements taken from SPP7.3 R Codes – Apartments for Location A within 800 m of a transit stop of a high frequency route and/or within the defined boundaries of an activity centre.

¹⁰ Rounded to the nearest whole number as per the Town of Victoria Park policy provisions.

¹¹ This parking provision allows for the bundled allocation of parking to specific units, which can lead to reduced parking asset utilization, and the need for a higher parking provision rate to satisfy the same level of parking demand.

There are 372 residential parking bays proposed to be provided on the Site indicating a requirement for 38 motorcycle/scooter bays for residents and their visitors. It is currently proposed to provide 38 scooter/motorcycle bays in the development, which meets the designated requirement.

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Once the provision of the required amount of scooter parking is provided, the requirement for vehicle parking is reduced by up to 7 residential car parking bays.

Motorcycle/scooter bays can be located in remnant spaces in the car park. It is noted that motorcycles and scooters can also park within the 372 car parking bays provided on the ground floor and basement parking levels.

7.3 Bicycle Parking Provisions

As per State Planning Policy SPP7.3 there is a requirement to provide 0.5 parking spaces per dwelling for residential tenants and 1 space per 10 dwellings for residential visitors. This points to the need for 120 bicycle parking bays for residents and their visitors, which have been provided for within the design. These bicycle parking bays are proposed to be located in safe, accessible, and secure locations. This includes 100 bike racks in a secure area near the western lobby. In addition, 20 bike racks are proposed in the verge of the Main Boulevard for visitors to the site.

7.4 Access to Off-Street Parking

Off-street parking will be accessible from the ground floor. The entry to the basement and upper parking levels will be from the ground floor parking area via a two-ramp counter-clockwise configuration.

Access to the basement parking will be made safe and legible for drivers with appropriate wayfinding mechanisms. Accessible parking for people with disabilities and mobility impairments will be positioned conveniently next to the elevators. The basement parking environment will be presented and maintained with a high standard of quality so as to ensure the comfort of visitors to publicly accessible spaces.

It is noted that the proposed parking facilities have been designed to meet the requirements of AS 2890 (set).

7.5 Provision for Electric Vehicle Charging While Parking

Electric Vehicles will take an increasing share of the private vehicle market over the next 5 to 10 years. The current forecasts are that by 2030 two-thirds of all new vehicles purchased in Australia will be electric vehicles. Some manufacturers like Volvo have already committed to only sell electric vehicles in Australia by 2025. Acknowledging this situation, it is recommended that electric vehicle and mobility scooter charging points be installed (or as a minimum cabling provisioned) in the basement parking areas for residents and their visitors to charge their electric vehicles while parking.

8 Public Transport Facilities

8.1 Existing Public Transport Facilities

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At present, there is no existing direct transit service available to the Site. The closest public transport facility to the Site is Perth Stadium Train Station, which is nearly 1km away from the Site and accessible by foot via Belmont Park Footbridge.

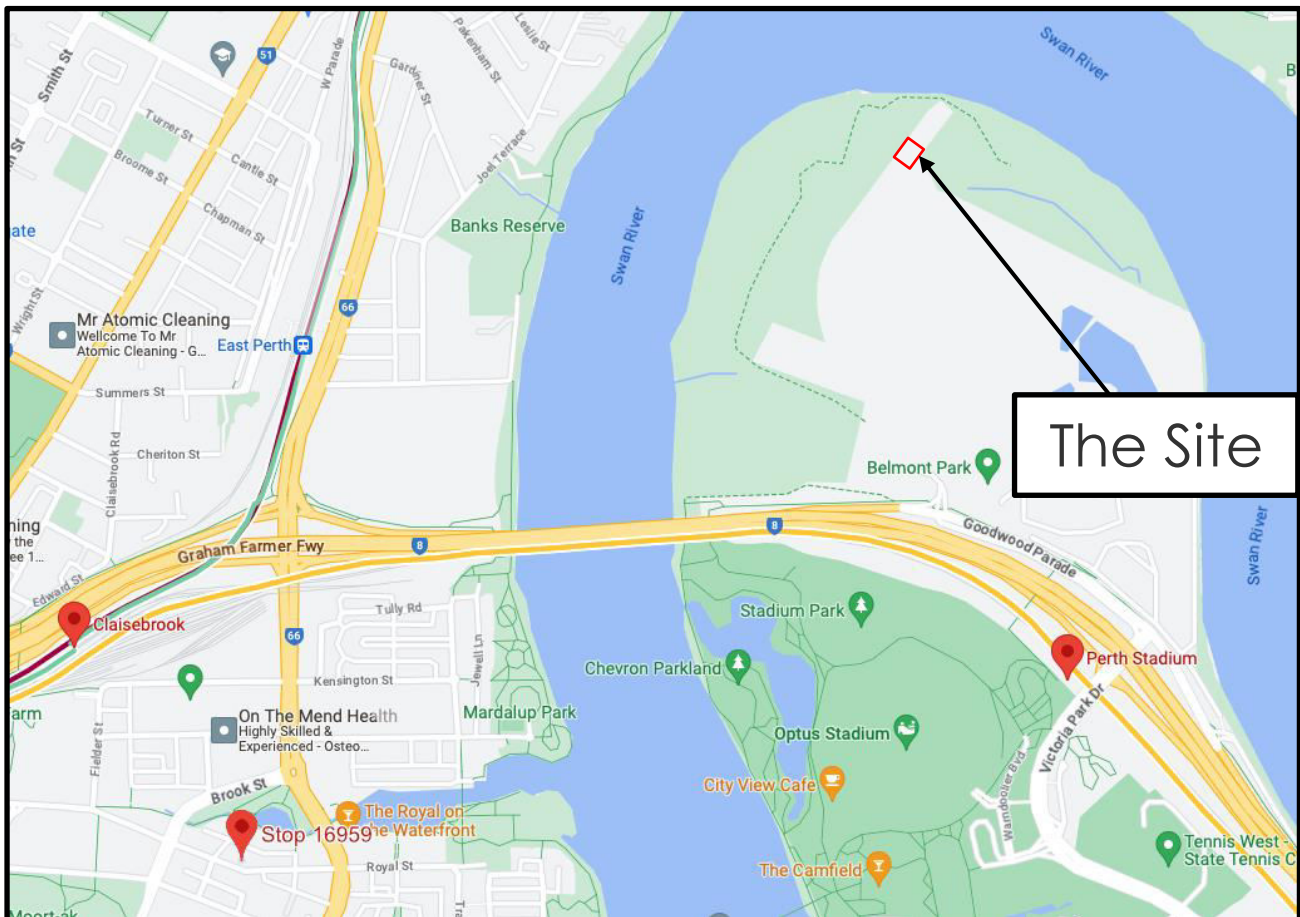
Perth Stadium Train Station is connected to the Armadale Thornlie Railway Line and currently operates as a 'special events' station, operating only during events held at the Optus Stadium and on weekends. On weekends, the station is served between 5:30 am and 10 pm every 15 to 30 minutes in either direction, bound for Perth and Armadale/Thornlie. Event servicing varies depending on each event's individual itinerary. Similarly, the bus stops located around the entrances to Optus Stadium also only operate during events.

The next nearest reliably operating transit hub is Claisebrook Train Station, a 2.4km walk from the Site. Claisebrook Train Station is connected to the Airport, Armadale/Thornlie, and Midland Lines.

The closest bus stop is Stop 16959 (Cat ID 48) on Royal St within the Perth CBD, located at a similar walking distance from the Site as Claisebrook Train Station. It is serviced every 8 minutes between 5:40 am and 7:50 pm on weekdays, every 10 minutes from 7 am to 9:20 pm on Saturdays, and every 10 minutes between 7 am and 7:45 pm on Sundays and public holidays.

The Site's relative position from the Perth Stadium and Claisebrook Train Station, as well as the Yellow Cat Stop, is shown in Figure 8.1.

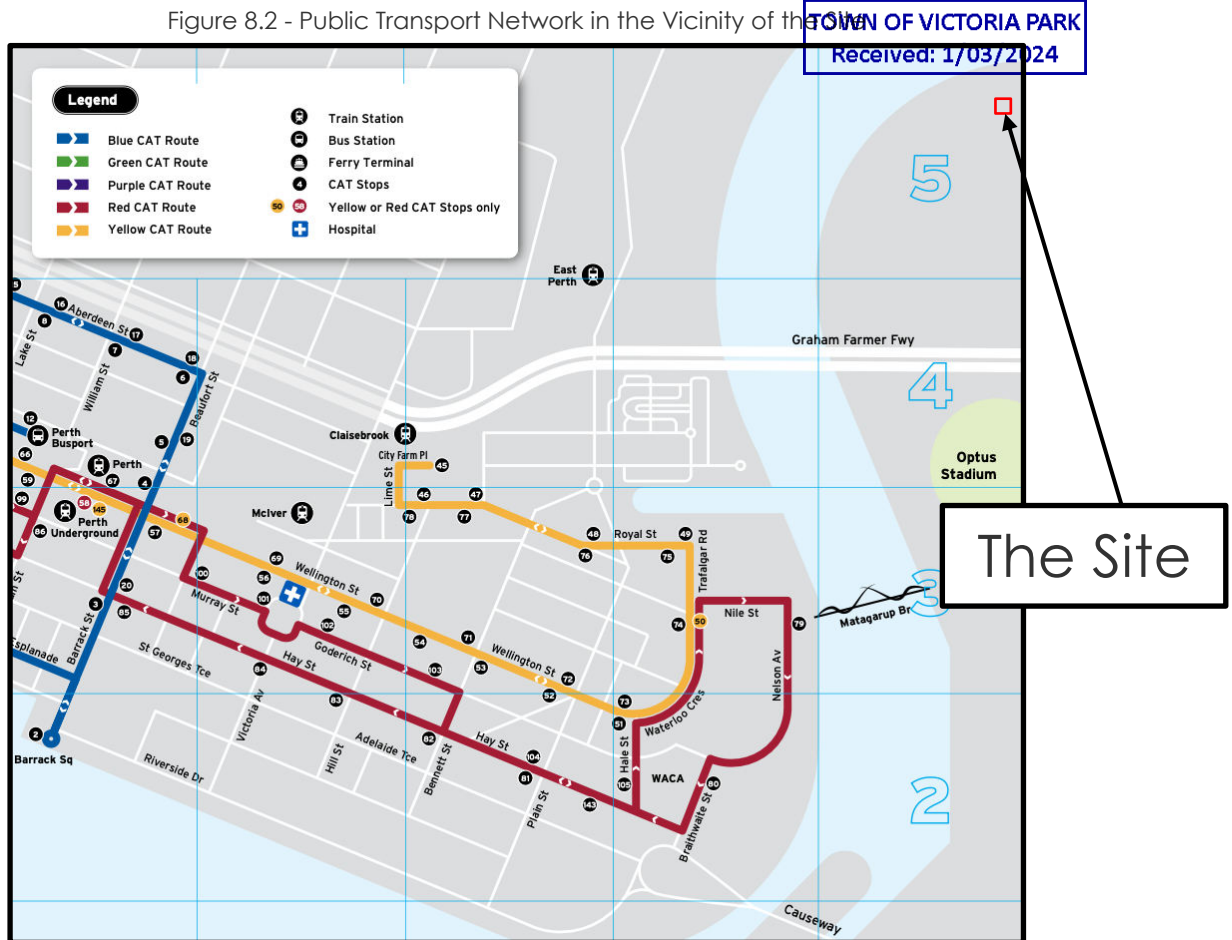
Figure 8.1 - Public Transport Network in the Vicinity of the Site



Source: Google Maps (2023, Modified for Presentation)

The Yellow Cat bus route and Site's relative proximity are shown in Figure 8.2.

Figure 8.2 - Public Transport Network in the Vicinity of the



Source: Transperth Website Network Maps (June 2023)

8.2 Future Public Transport Facilities

The Public Transport Authority has confirmed that there are no immediate or near-future plans to alter any of the services discussed in Section 8.1.

It is proposed in the Burswood Peninsula (Precinct A) LDP that a lane along the Main Boulevard shall be built to accommodate Transperth bus access. The introduction of a frequently served bus route will be of importance to residents as it will provide convenient access to nearby Precinct areas and larger transportation hubs, considering the current absence of existing transit facilities near the Site.

The location and design of all bus stops within the precinct will be determined through the design process in liaison with the PTA. Early architectural designs include plans for the installation of a bus stop directly outside the Site, specifically for the convenience of residents living at Lots 305 and 306.

The Perth Stadium Train Station is a 'special events' station. There is a significant opportunity to make this station fully operational and promote the Peninsula as a Transit Oriented Development (TOD). This approach aims to encourage a sustainable mixture of residential developments, retail districts and office spaces. In the context of TOD, a neighbourhood is described as a relatively dense development within a radius of 400 to 800 metres from a transit stop. Approximately 3.5 hectares of the site are situated within this TOD area, benefiting the presence of a fully operational Perth Stadium Station.

9 Pedestrian / Cycle Networks and Facilities

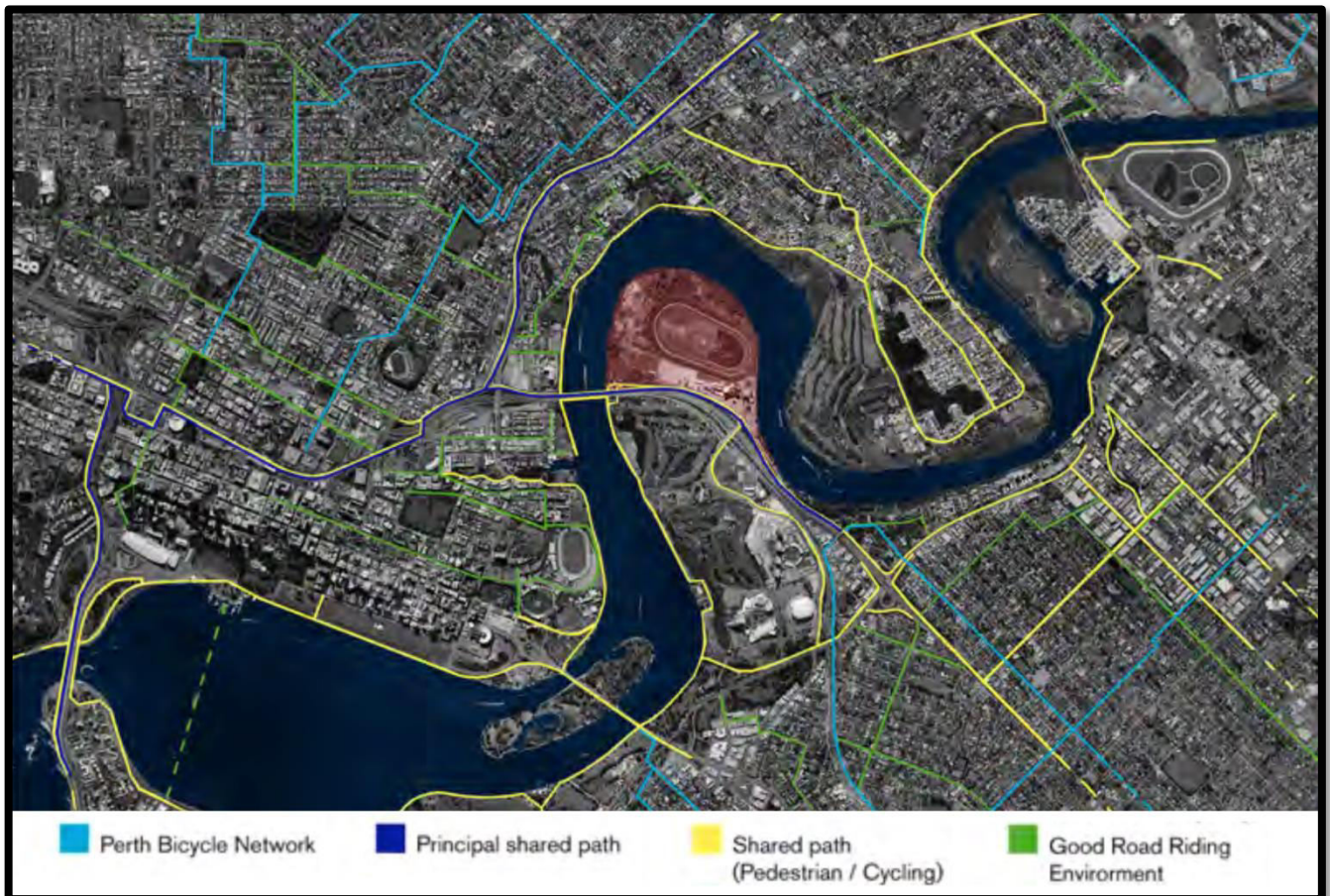
9.1 Existing Pedestrian / Cycle Network

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Currently, cyclist and pedestrian amenities on the site are limited to the southern section of the Peninsula. A significant shared pathway runs adjacent to Graham Farmer Freeway, facilitating connectivity between the Site and Perth CBD via the Causeway. Additionally, another major shared pathway runs parallel to Victoria Park Avenue, providing pedestrian and cyclist access in both north-south and east-west directions within the Peninsula.

For Pedestrians, the primary means of accessing the Site is via the Belmont Park footbridge spanning the Graham Farmer Freeway. The bridge connects the Site to the nearby Perth Stadium Train Station.

Figure 9.1 – Current Pedestrian & Cycle Network in Proximity to the Site



Source: Belmont Park Redevelopment Structure Plan

9.2 Future Pedestrian / Cycle Network

The proposed Structure Plan aims to enhance the current regional pedestrian and cycling network along the Swan River, connecting Perth to Fremantle. This includes the establishment of shared and pedestrian paths around the Peninsula enabling public access to the Swan River foreshore.

The provision of end-of-trip facilities within the Site will be necessary to align with current Department of Transport guidelines. As defined in Section 7.3, a total of 119 secure bicycle racks are being incorporated into the design of the development.

The existing principle shared path alongside Graham Farmer Freeway will be moved to the ground level near Precinct D. This relocation will enable the path to pass underneath the new road access into Belmont Park at Victoria Park Drive Bridge. A tunnel is proposed to be constructed at the existing access route to Belmont Park, facilitating the passage of the shared path underneath the road. This will ensure the safety of pathway users by eliminating any potential conflict with motor vehicles.

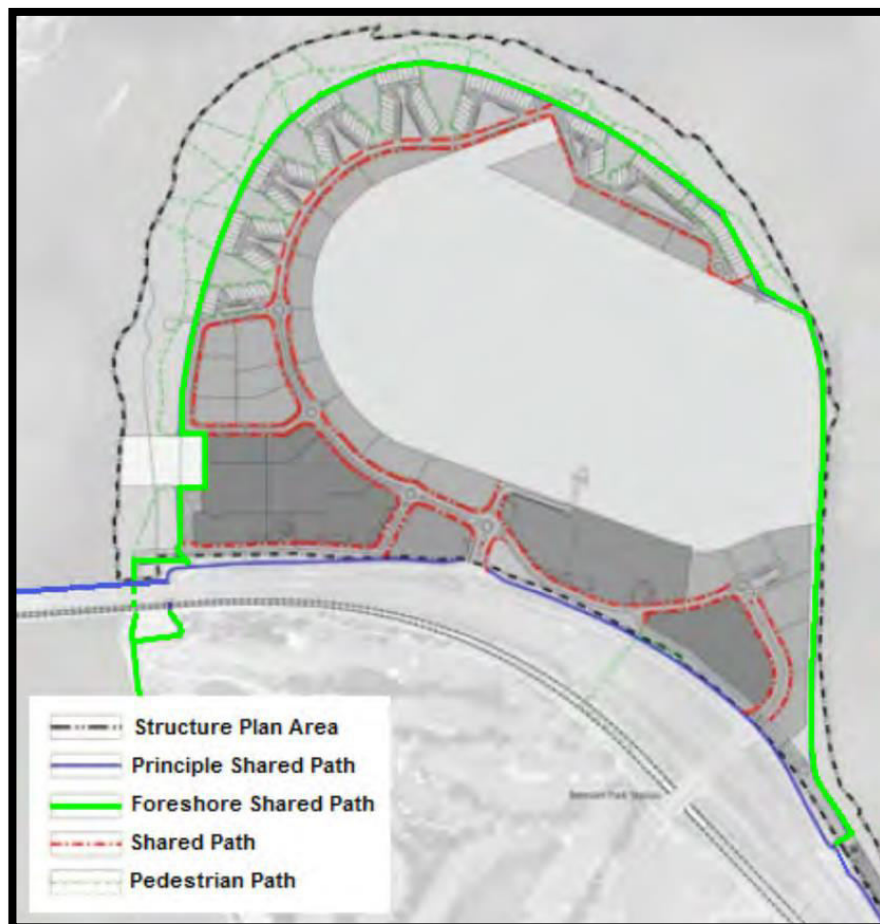
To increase recreational opportunities, the existing foreshore shared path system will be extended, encompassing the north, east and west sides of the Site. The extension will benefit local residents, transient users, and the wider community. Additional footpaths will also be implemented throughout the foreshore area surrounding the Site, promoting leisure and recreational access from all parts of the development.

Improvements to the intersections at Victoria Park Drive bridges will involve the removal of existing footpaths on the eastern side of the Peninsula.

To maintain pedestrian and cyclist access to the shared path along Victoria Park Drive, Belmont Park footbridge was constructed on the eastern side of these traffic bridges. The footbridge was constructed to ensure the continuity of external connections to the surrounding pedestrian and cyclist network and to ensure high-quality accessibility between Belmont Park and Perth Stadium Train Station.

The proposed new and upgraded shared path network around the Peninsula is presented in Figure 9.2.

Figure 9.2 – Proposed Upgraded Pedestrian & Cycle Network in the Vicinity of the Peninsula



Source: Belmont Park Racecourse Redevelopment Structure Plan

The LDP prioritises creating a pedestrian and cyclist-friendly environment in accordance with Liveable Neighbourhoods guidelines. The proposed road network, accompanied by pathways, aims to enhance accessibility and permeability for pedestrians and cyclists.

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Within the new development, the plan includes an interconnected pathway system linking public open spaces, residential townhouses, apartment complexes, and Precincts adjacent to the Site. The pathway network is also planned to connect with the shared path provision running adjacent to the Graham Farmer Freeway exit ramp. This section of the pathway will also serve as an emergency access route underneath Windan Bridge from the Peninsula.

Footpaths are proposed to be constructed in accordance with the Town of Victoria Park Planning Scheme standards, with paths on both sides of the main street and strategically positioned crossing points.

Specific details regarding these crossing points are yet to be confirmed. The final design of pedestrian and cycle facilities will be determined during the ongoing planning of Precinct B.

9.3 Encouraging Walking & Cycling

The proposed development incorporates a range of pedestrian-friendly elements including good pedestrian connections to the footpath network, generous entry and lobby spaces, wide parking aisles for the safe movement of pedestrians, dedicated footpaths, etc.

9.4 Encouraging the Use of Scooters and Micro-mobility

Technological advancements, such as electric scooters and other forms of shared micro-mobility, have the potential to replace many short car trips and facilitate increased levels of activity.

Micro-mobility, particularly in the form of e-scooters and e-bikes, is gaining popularity in Australia as a convenient, environmentally friendly, and affordable option for short-distance trips. The trend is emerging faster in our suburban activity centres. These modes fill an important gap in the transport system providing alternative options for localised travel.

Electric scooters are suited to short rides, including as a "last-mile" vehicle.

Provision shall be made within the development for easy access by this mode of travel including secure on-site storage.

10 Road Safety

The design of the access roads and Main Boulevard is being undertaken, considering the needs of all modes of transport, including vehicles, public transport, pedestrians, and cyclists. Road network attributes including road hierarchy, reserve road widths, speed limits, intersection controls, pedestrian paths and crossing facilities are consistent with the intent of the Structure Plan and Local Development Plan and have been integrated into the proposed layout of the area surrounding the Site.

There is no indication of specific road safety issues in the immediate area surrounding the Belmont Park site. In terms of crash frequency, four locations nearby on Graham Farmer Freeway and Victoria Park Drive have a state-wide ranking from 1,199th to 7,657th. The additional traffic that will be generated from the development has been designed into road and intersection design plans for the area so that it can be safely accommodated.

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11 Summary

This Transport Impact Assessment report outlines the transport aspects of the proposed development focusing on traffic operations, access, servicing, and provision of sufficient parking. Included are details relating to pedestrians, cyclists, public transport, road safety, and a number of other important considerations.

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This report has been prepared in accordance with the WAPC Transport Assessment Guidelines for Developments: Volume 4 - Individual Developments (2016).

The following points distil the key findings and conclusions of the assessment:

- The proposed development is expected to generate approximately 106 vehicle trips in both the AM and PM peak hours of the adjacent road network.
- The analysis indicates that the traffic generated by the proposed development can be adequately accommodated by the proposed road network without creating significant impacts or issues. In all cases the traffic generated by the development can be accommodated within the environmental traffic capacity of the roads the traffic is forecast to use.
- The swept paths for service vehicles accessing the Site (including commercial waste collection) and cars entering and exiting all parking bays in the basement (and using ramps and circulating aisles) have been checked and are fully compliant with the Australian Standards.
- A total of 372 car parking bays (off-street) are proposed on Lots 305 and 306. This exceeds the requirements of the Precinct A Parking Management Plan and adequately satisfies the parking needs for the development site.
- Our assessment is that the analysis in the LDP is sufficiently conservative that it allows for a greater amount of parking to be provided on the development site and in Precinct A than specified in the PMP. Consequently, there will be no further increase in traffic congestion on the road network from the current development proposals relative to what has already been presented in the LDP.
- The development has fair access to pedestrian and cycling facilities and high-frequency public transport services that are proposed to significantly improve over time as Precinct A further develops. This will provide outstanding opportunities in the future for people to travel to/from the Site using public transport and more active modes and to reduce the amount of their car use. Converting Optus Stadium Train Station from special use is currently being considered and should be strongly supported.
- Given the low-speed environment and the relatively low number of trips generated, it is considered unlikely that the development will cause any material impact on the traffic safety of the surrounding road network.

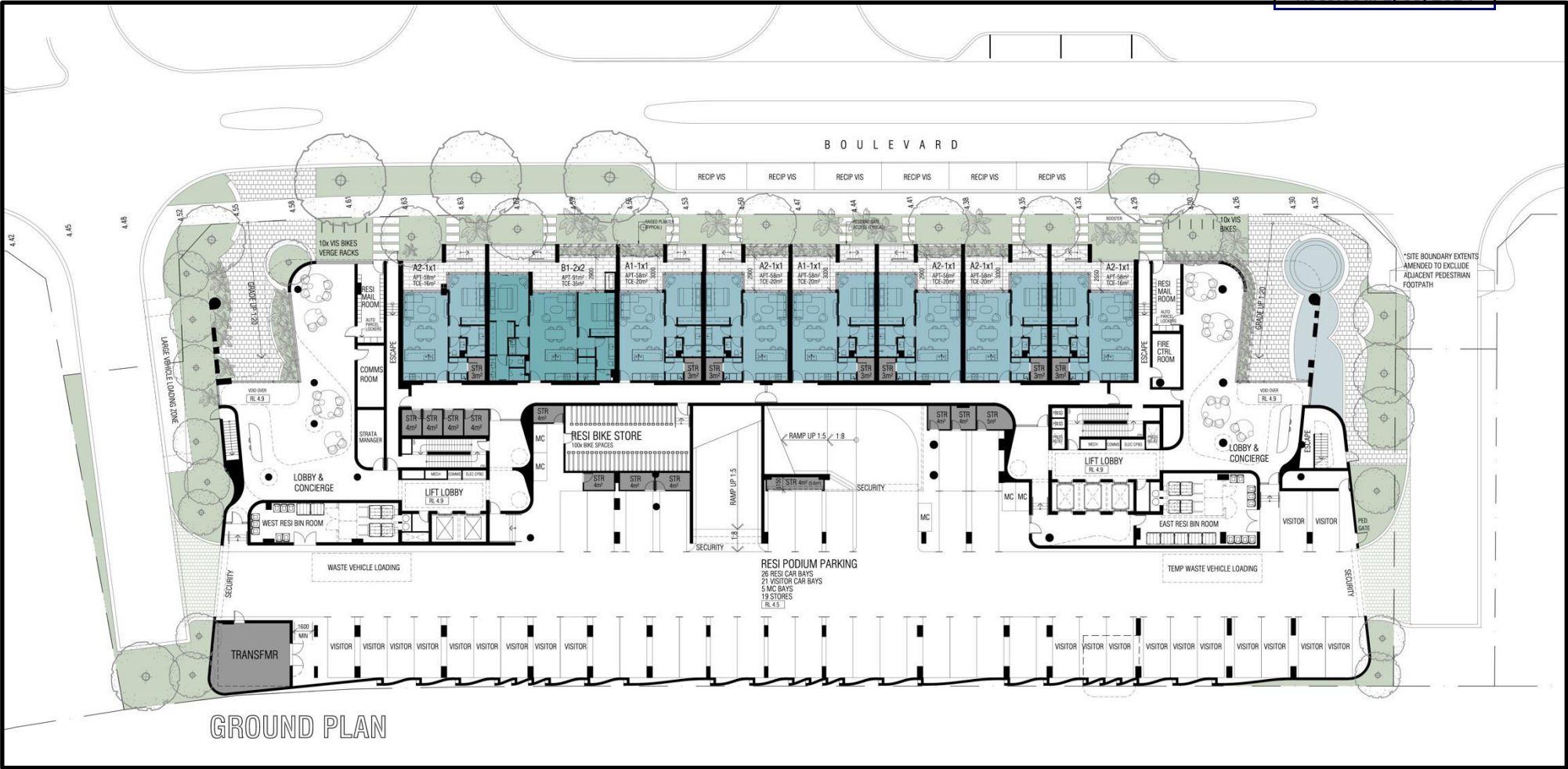
Appendix A: WAPC Checklist

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Distribution of generated traffic	Section 5
Parking supply and demand	Section 7
Base with development traffic flows	Section 4
Analysis of development accesses	Section 4 and 7
Impact on surrounding roads, intersection, and neighbouring areas	Section 5
Road safety	Section 10
Public transport access	Section 8
Pedestrian and cyclist access/amenity	Section 9

Appendix B: Development Floor Plans

Figure B1 – Ground Floor Plan (Source: MJA Studio)

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Figure C2 - Ground - 8.8m MRV - East Access Road - Exit

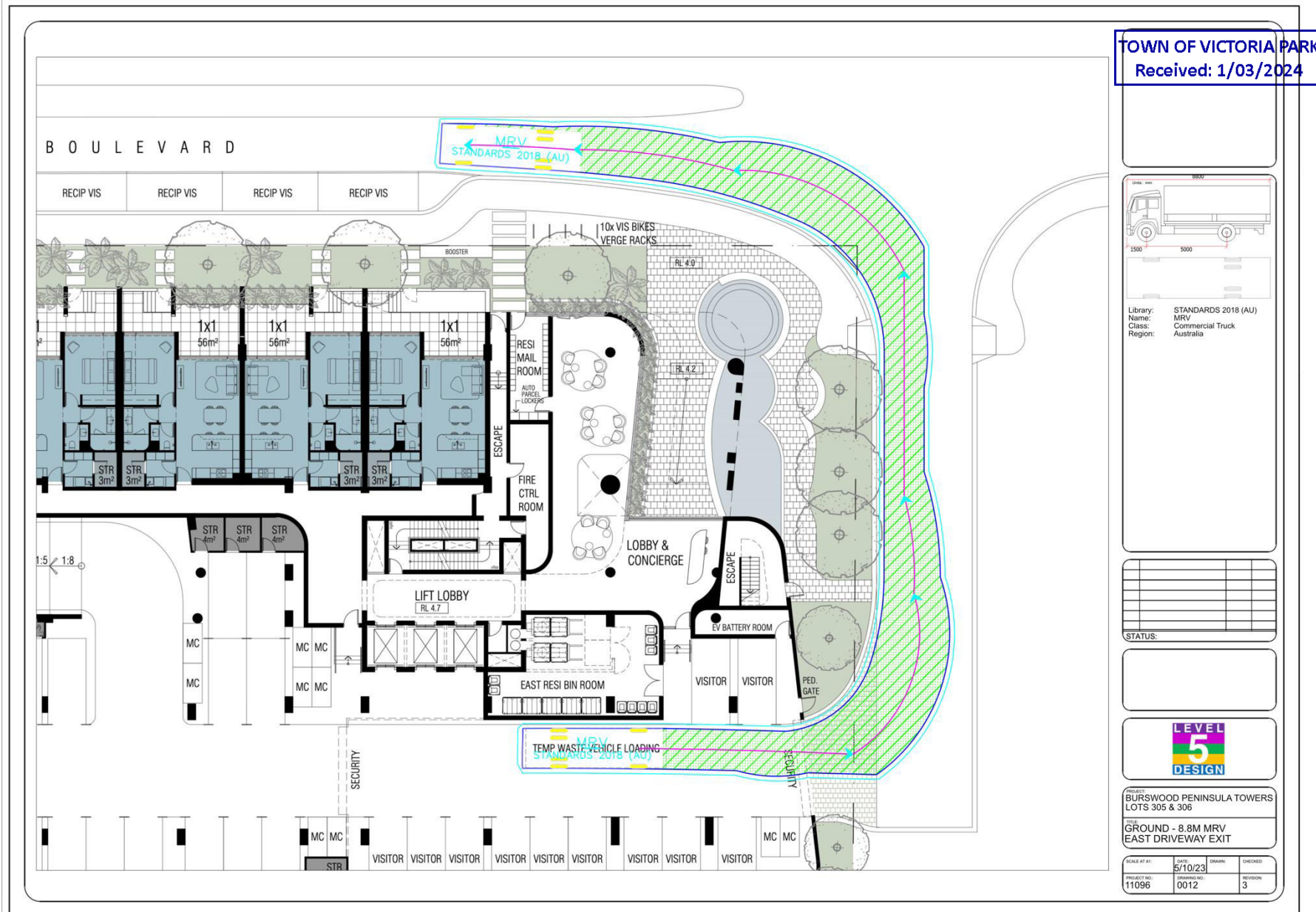


Figure C3 - Ground - 10.8m Refuse - West Access Road - Entrance



Figure C5 - Ground - 12.5m HRV - West Access Road - Entrance



Figure C6 - Ground - 12.5m HRV - East Access Road – Exit

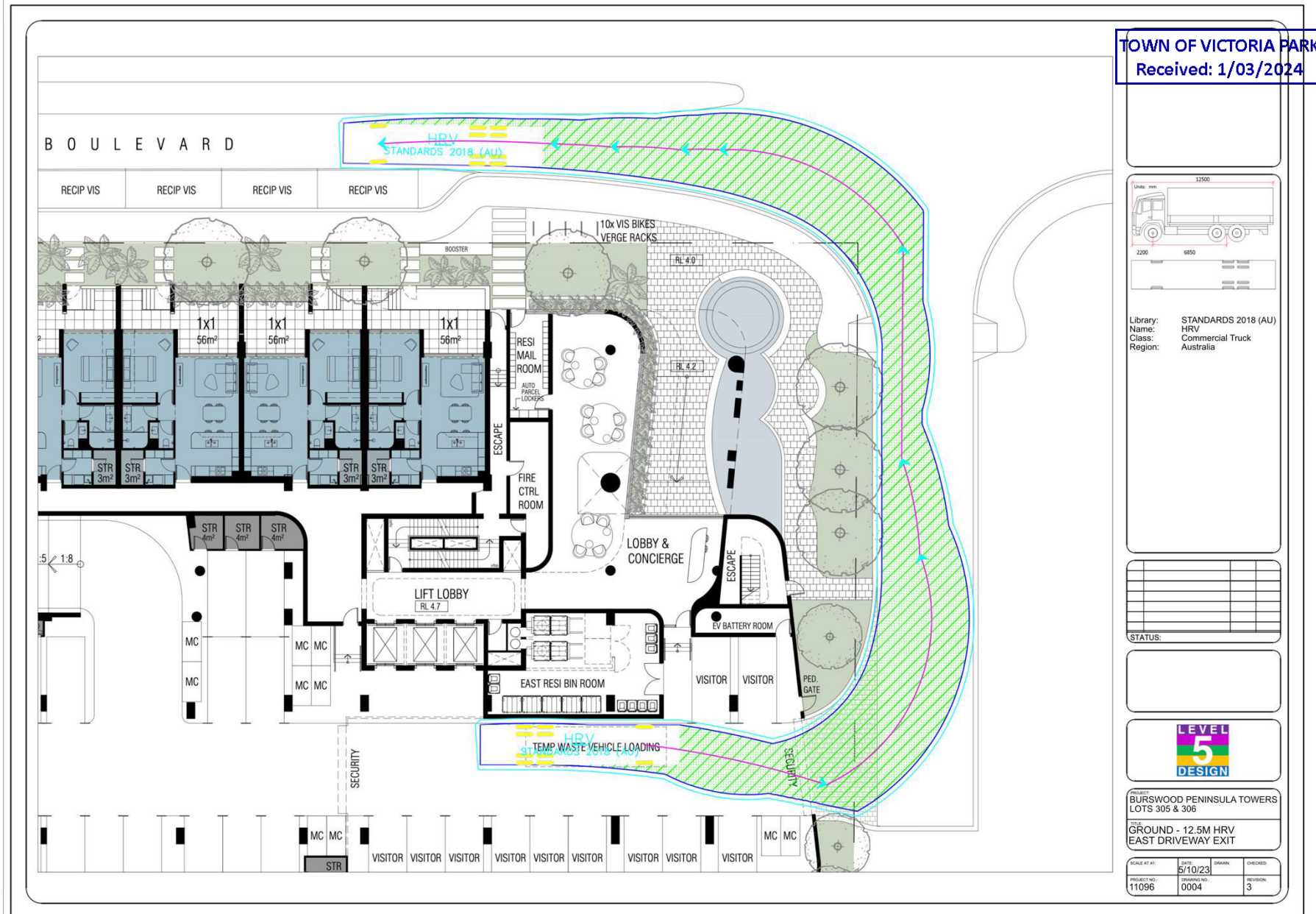


Figure C7 - Basement - B85 Parking - Forward Ingress

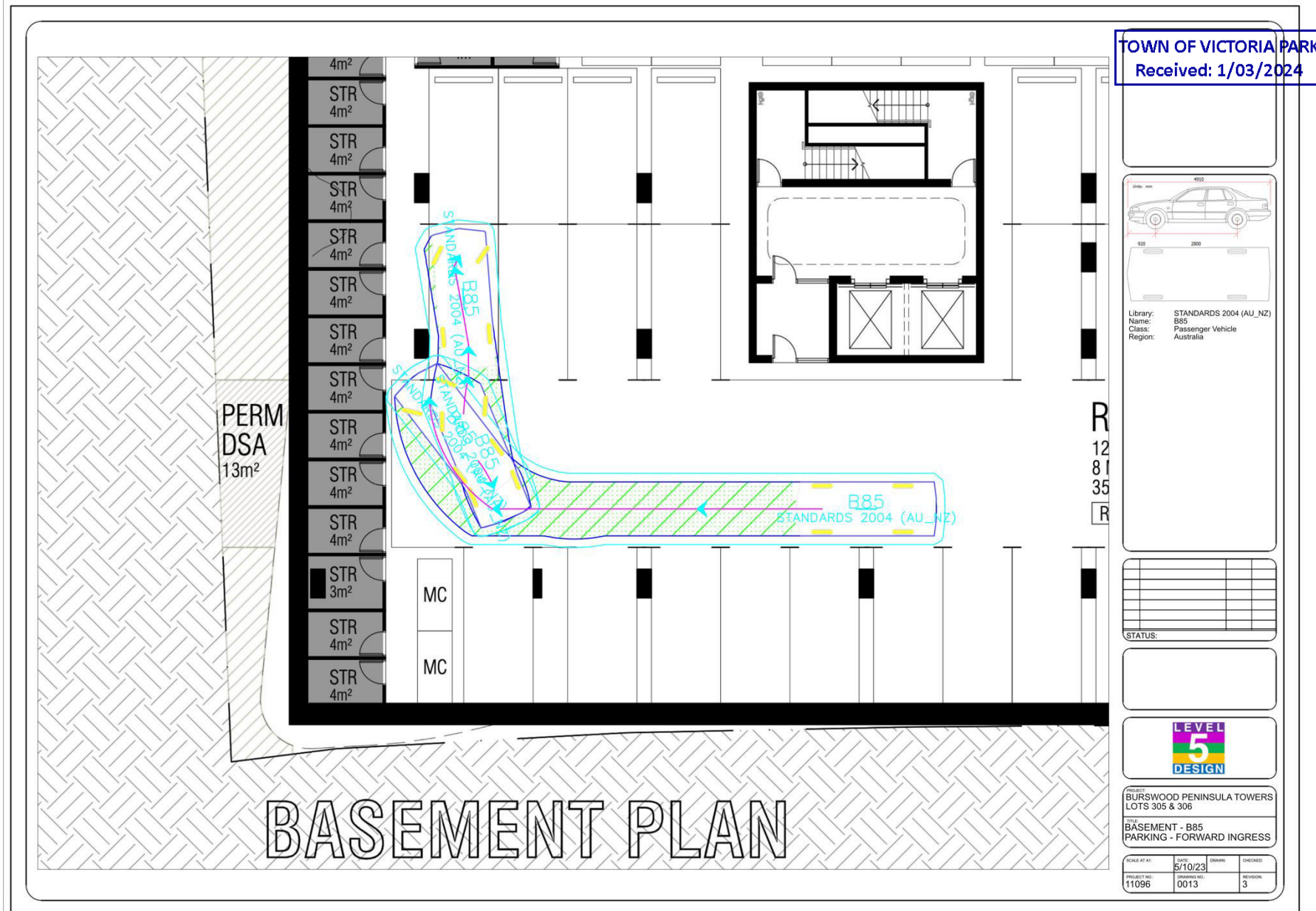


Figure C8 - Basement - B85 Parking - Reverse Egress

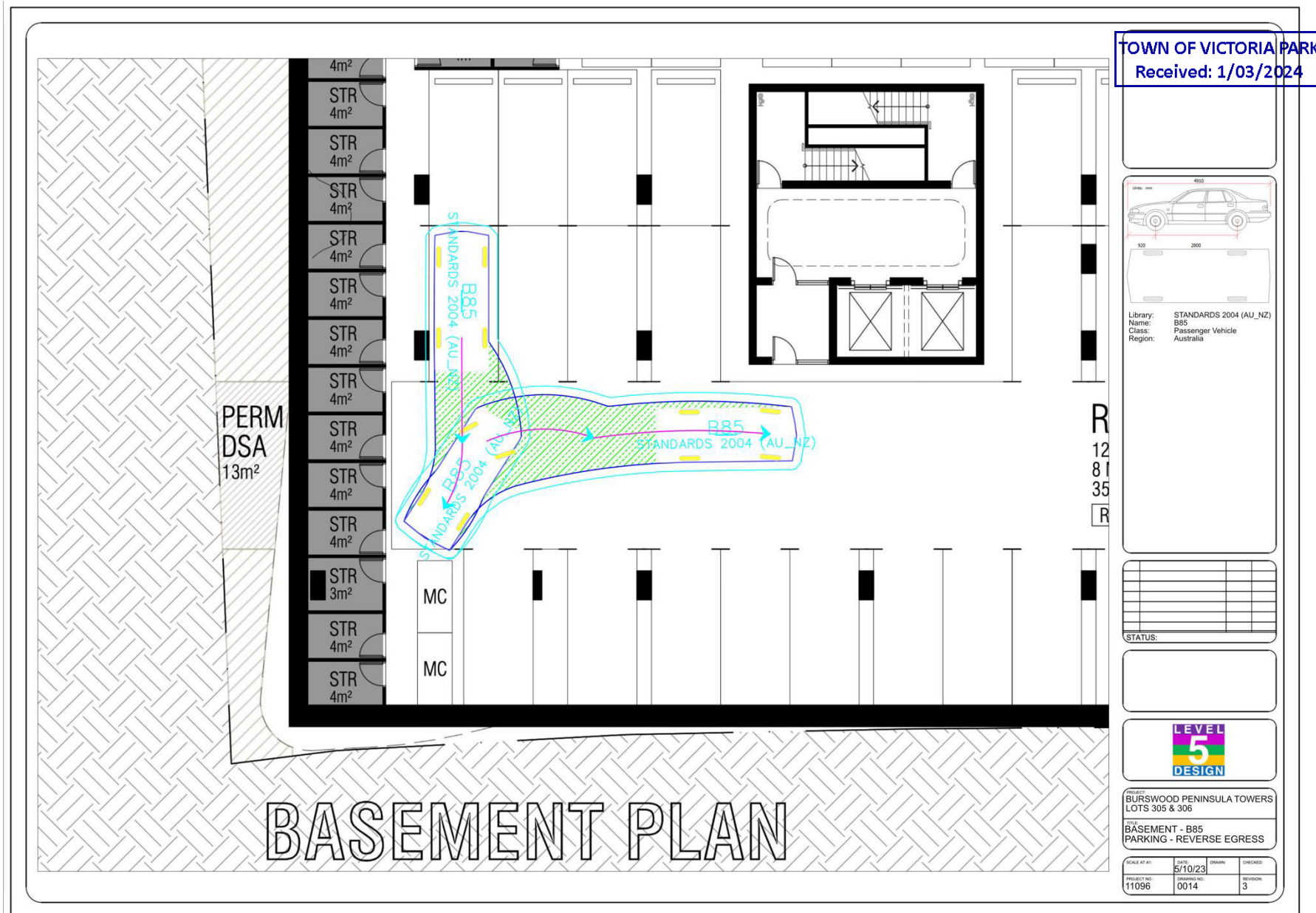


Figure C10 - Basement - B85 Passing B99 Up Ramp

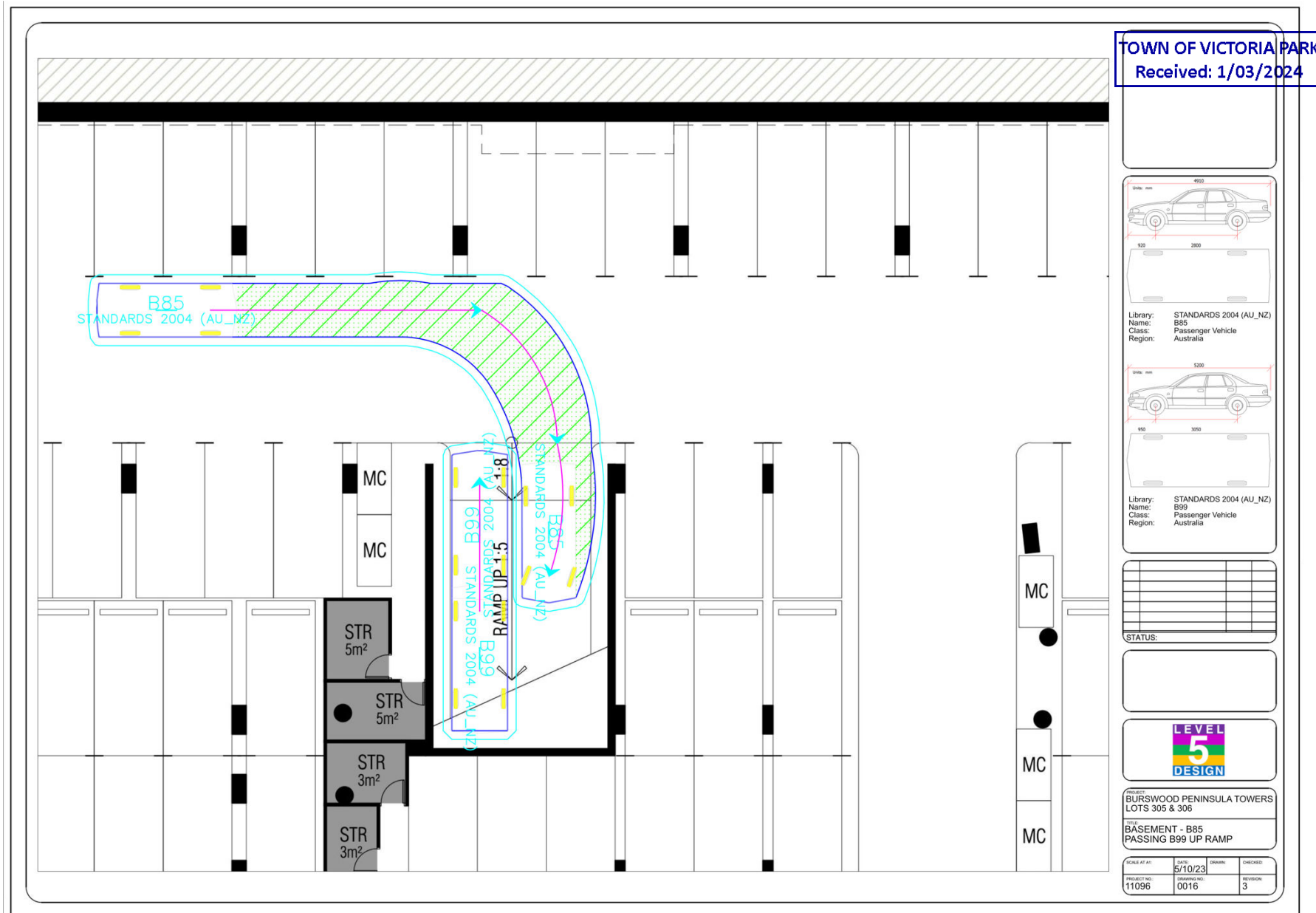


Figure C11 - Ground - B85 Parking - Reverse Ingress 1

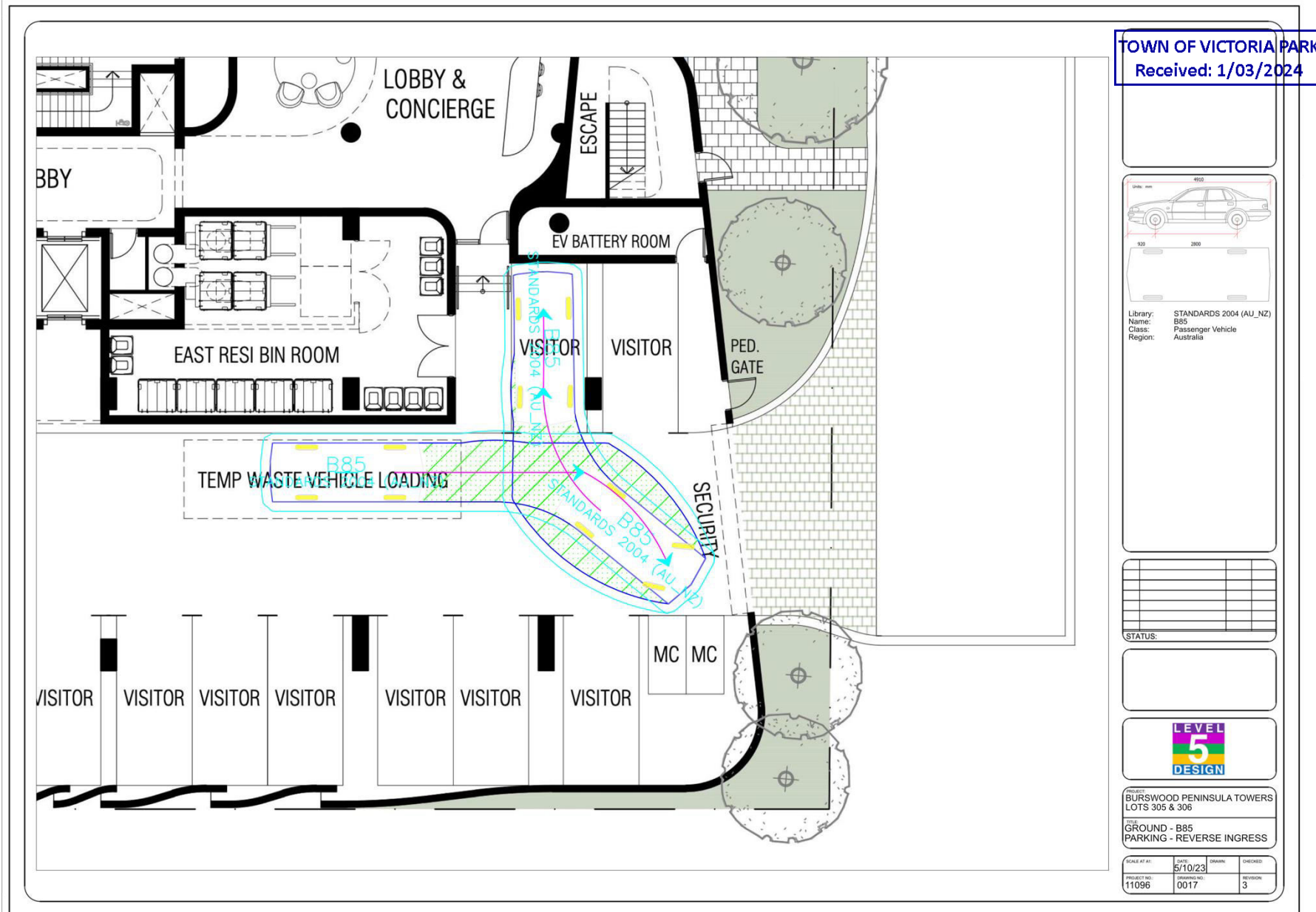


Figure C13 - Ground - B85 Parking - Forward Ingress 2

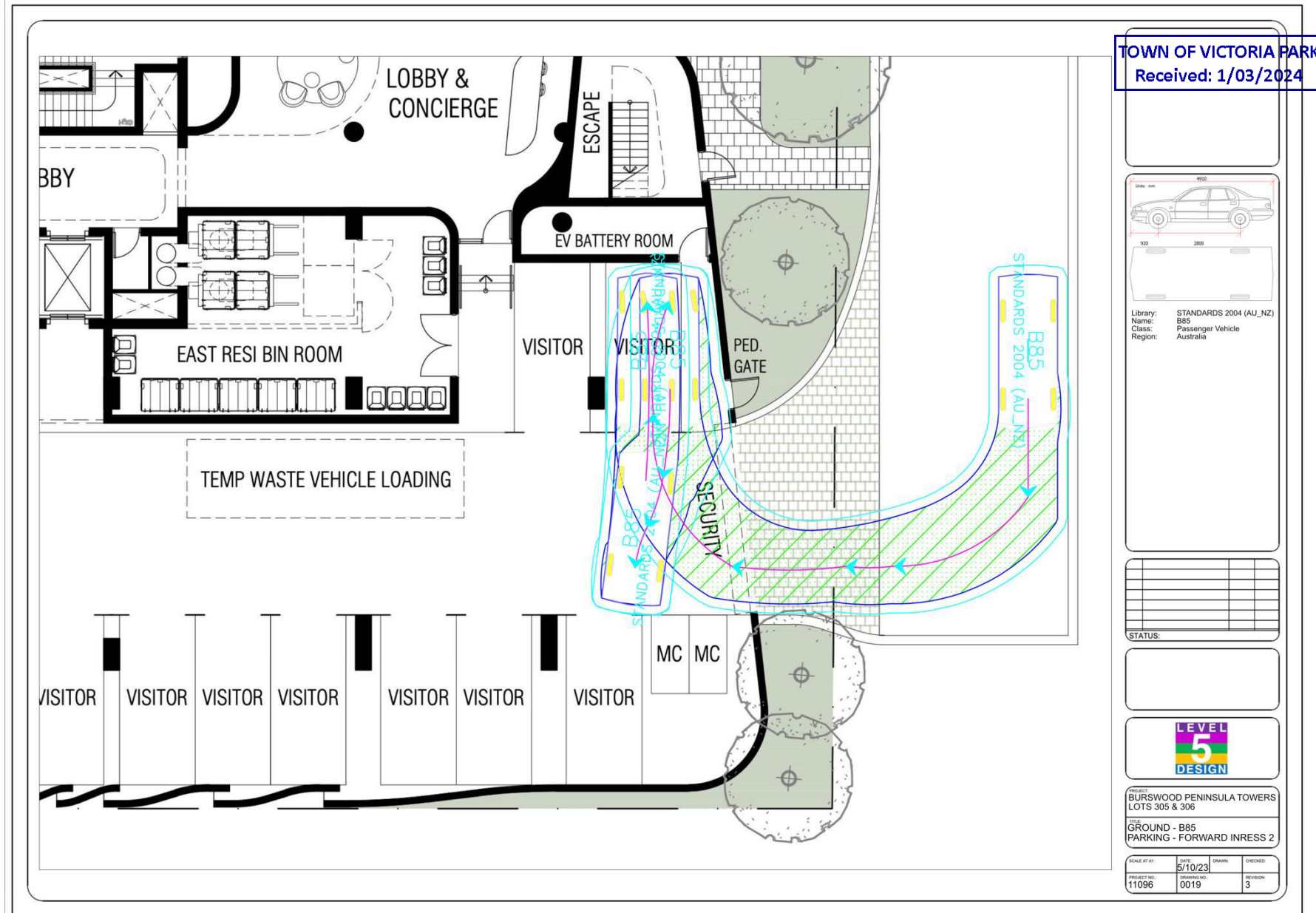


Figure C14 - Ground - B85 Parking - Reverse Egress 2

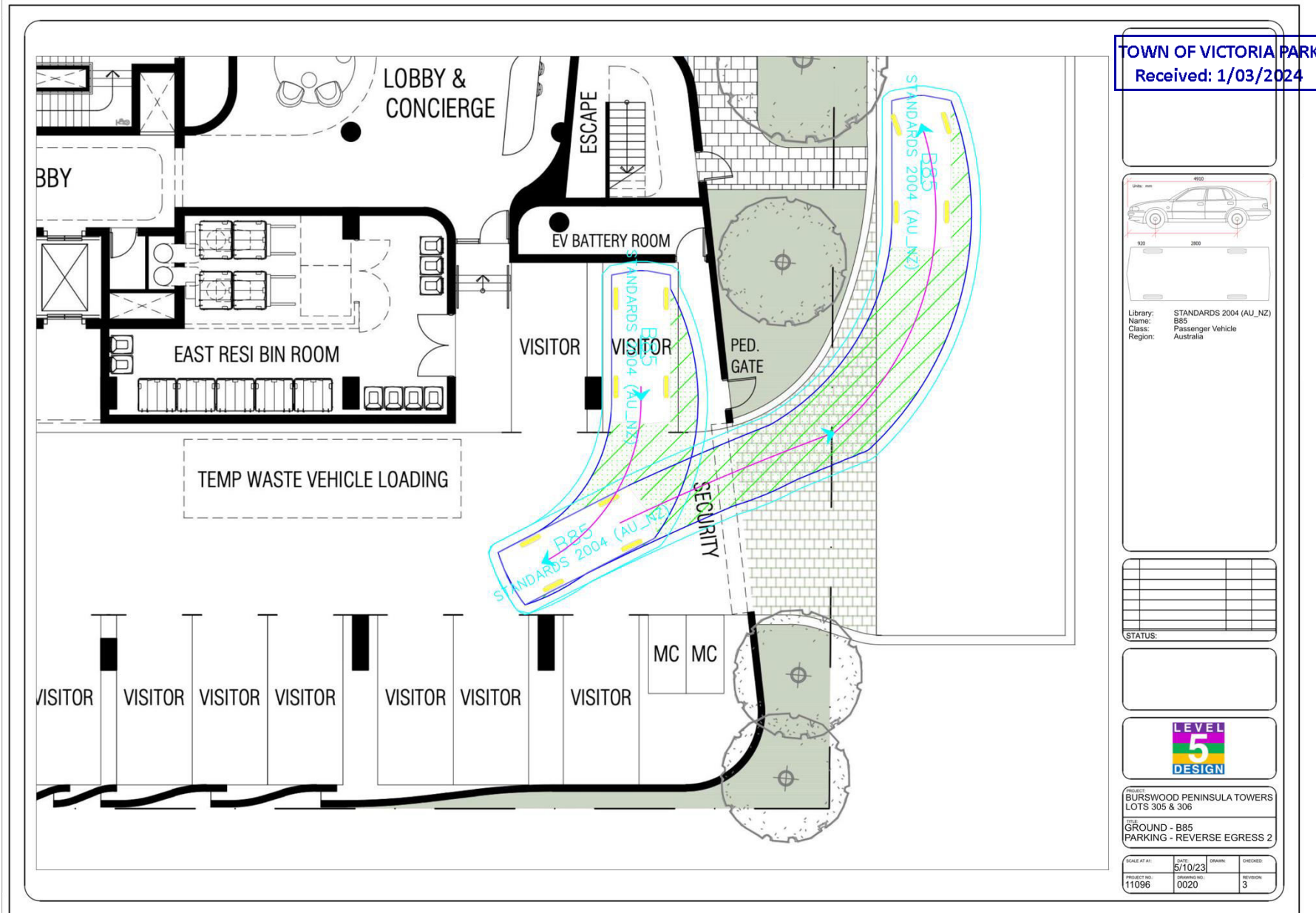


Figure C15 - Ground - B85 Parking - Reverse Ingress 2

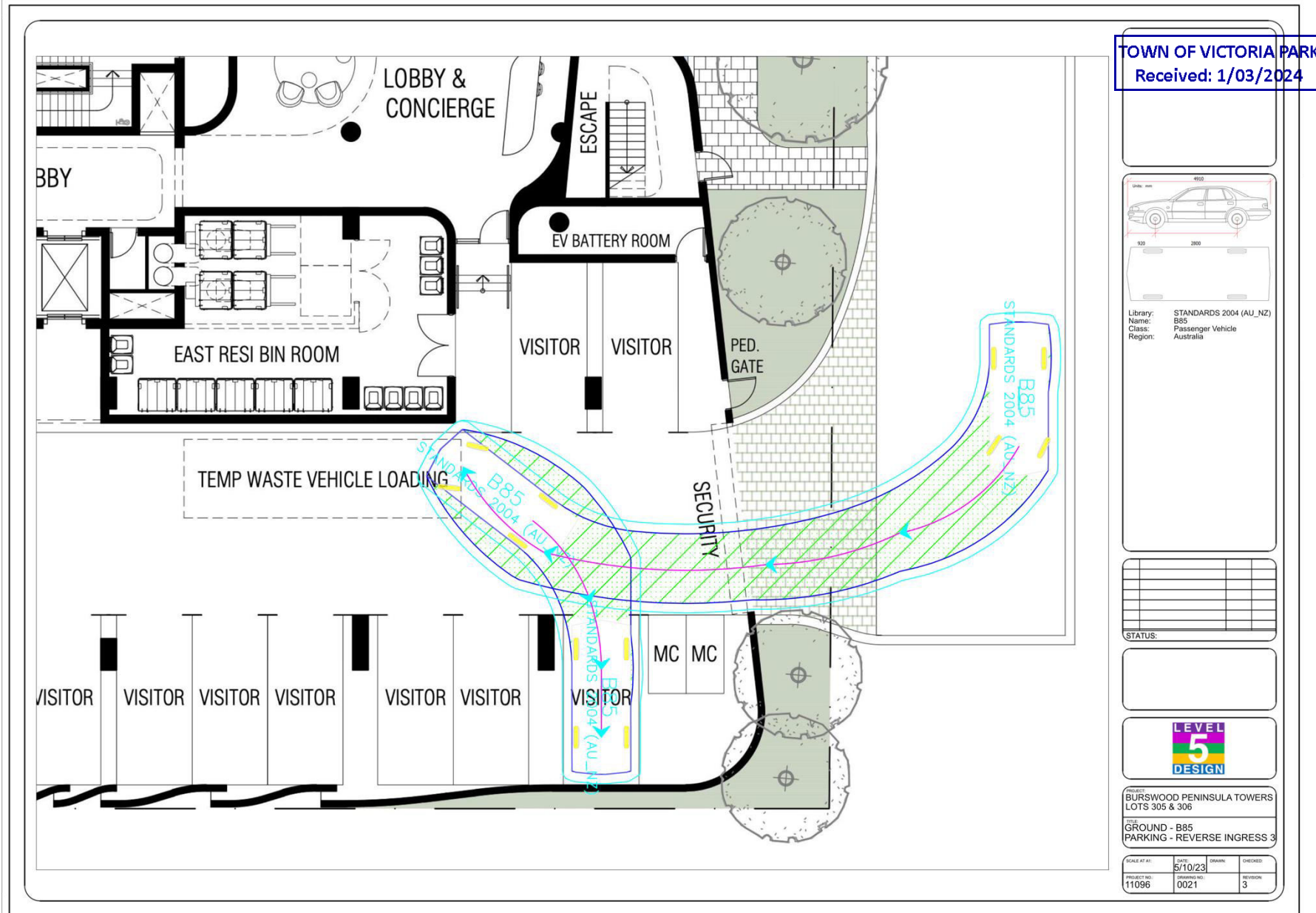


Figure C16 - Ground - B85 Parking - Forward Egress 2

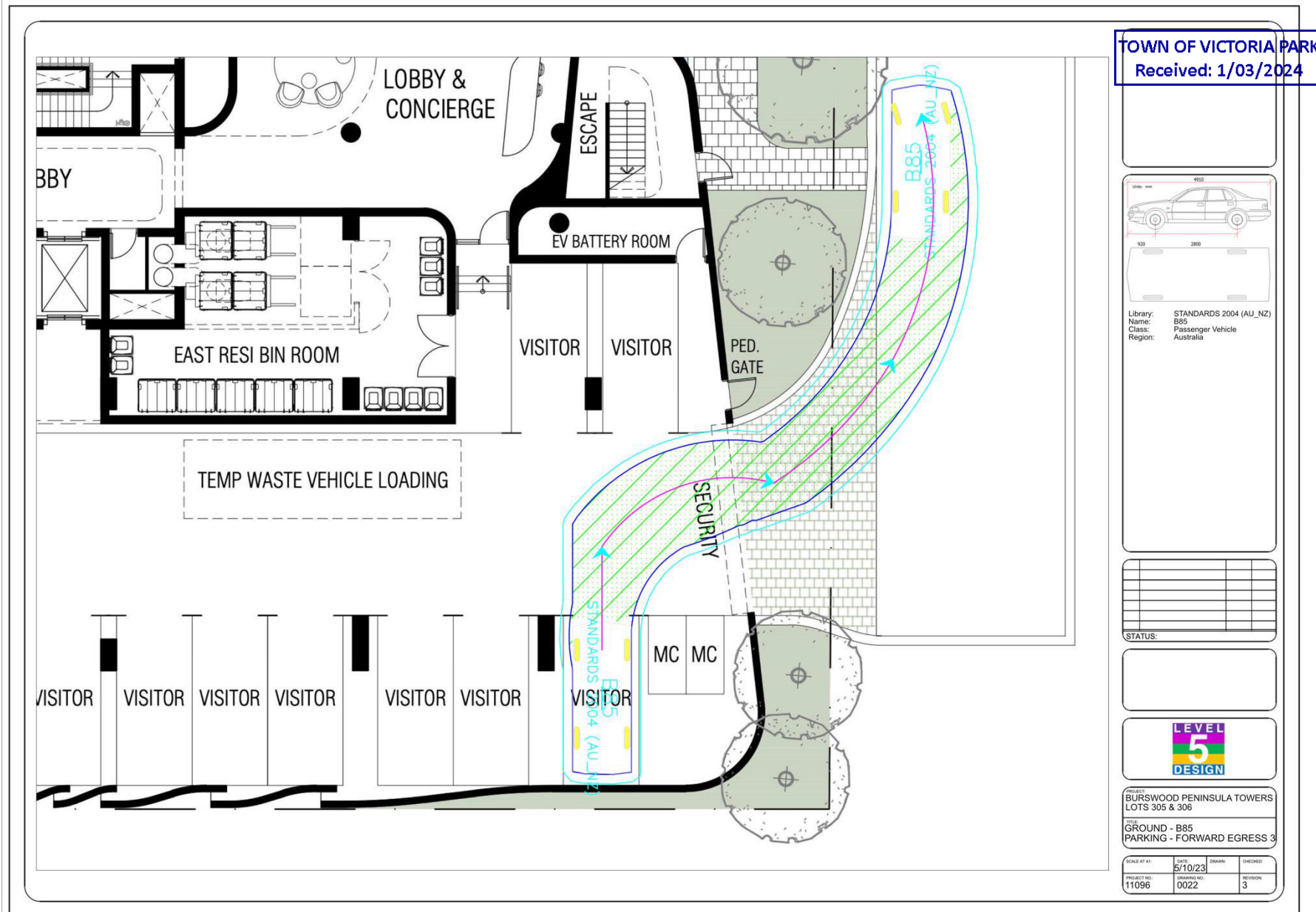


Figure C17 - Ground - B85 Passing B99 Down Ramp

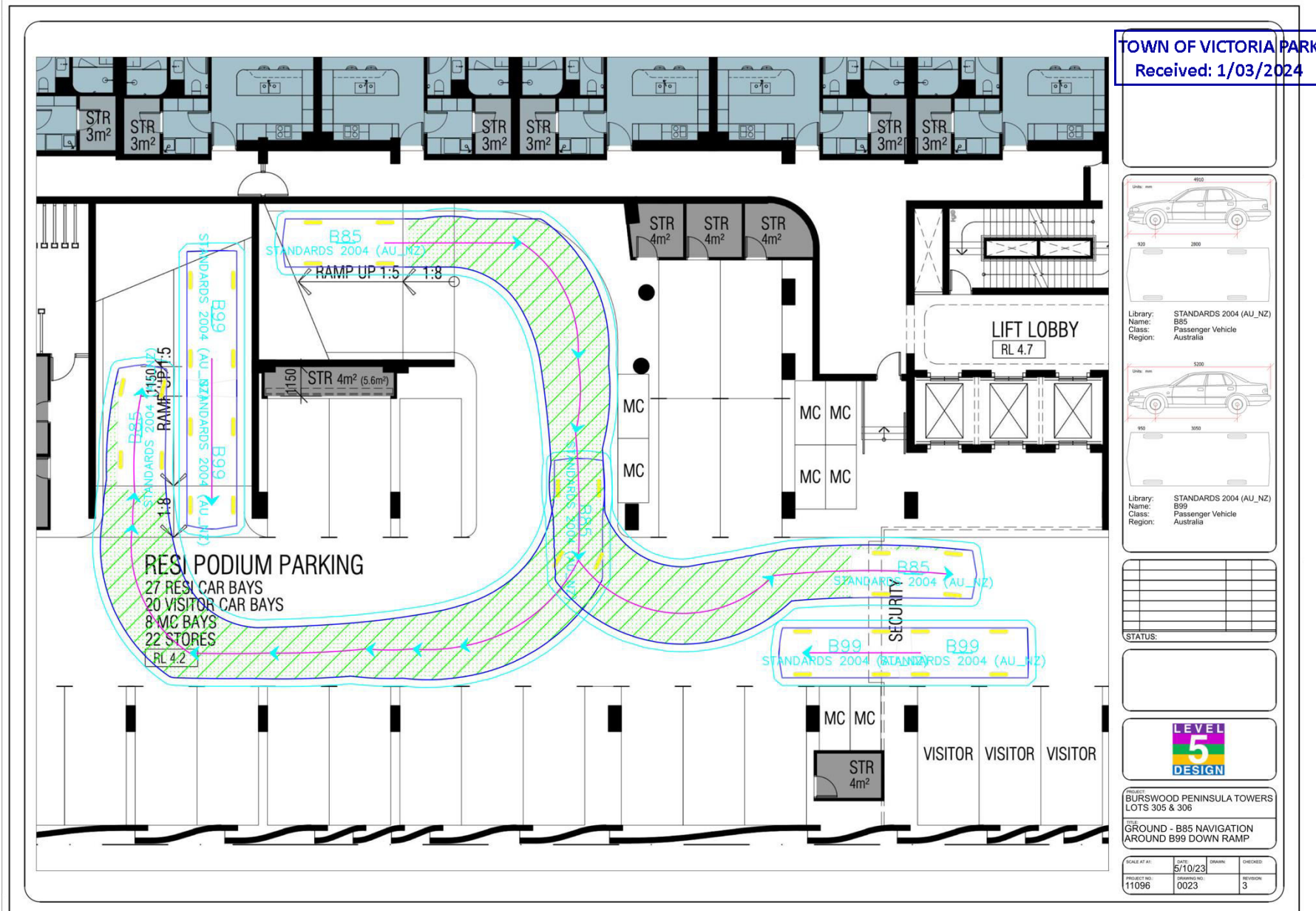


Figure C18 - Ground - B85 Passing B99 Up Ramp

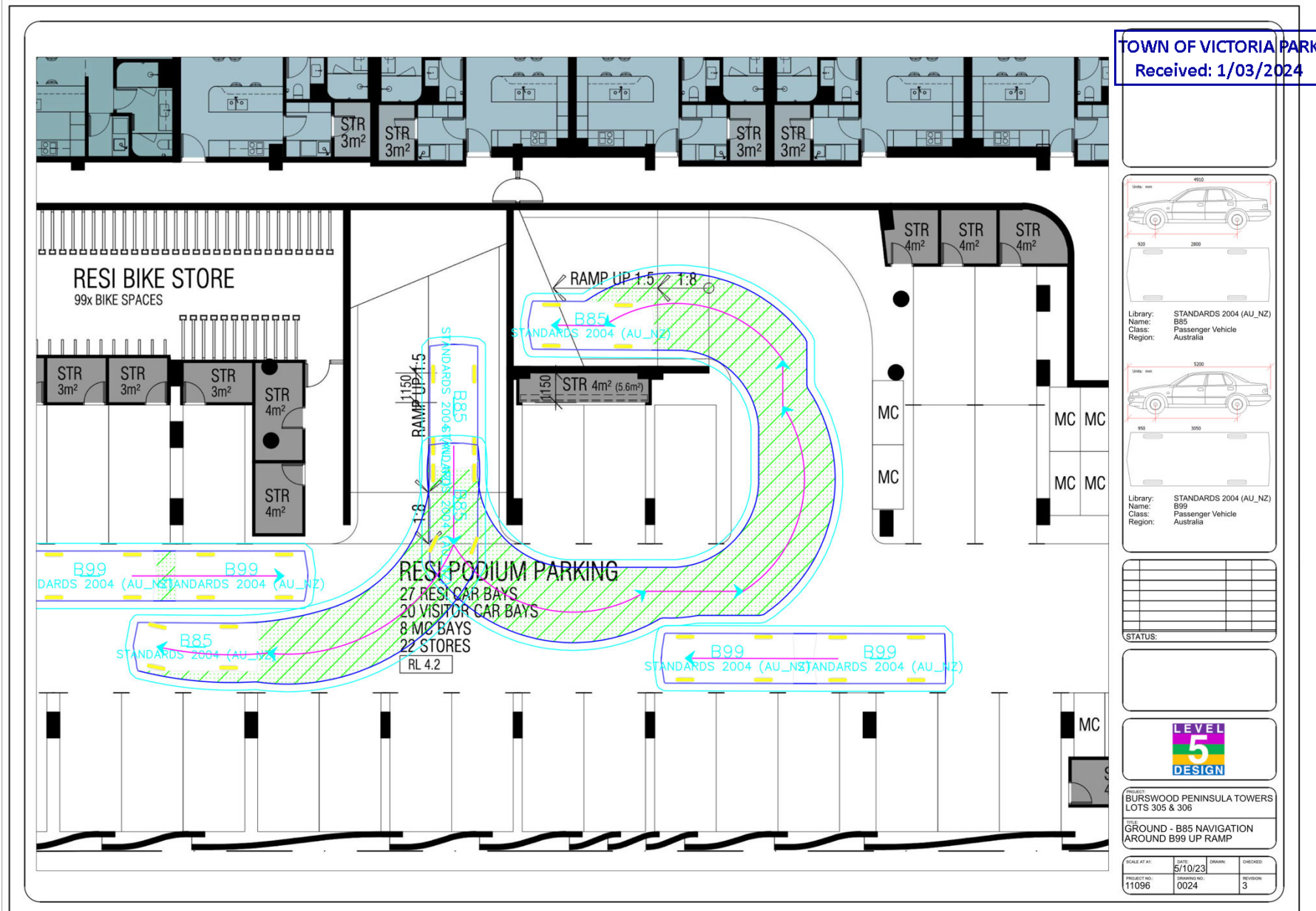


Figure C19 - Level 1 - B85 Parking - Forward Ingress 1

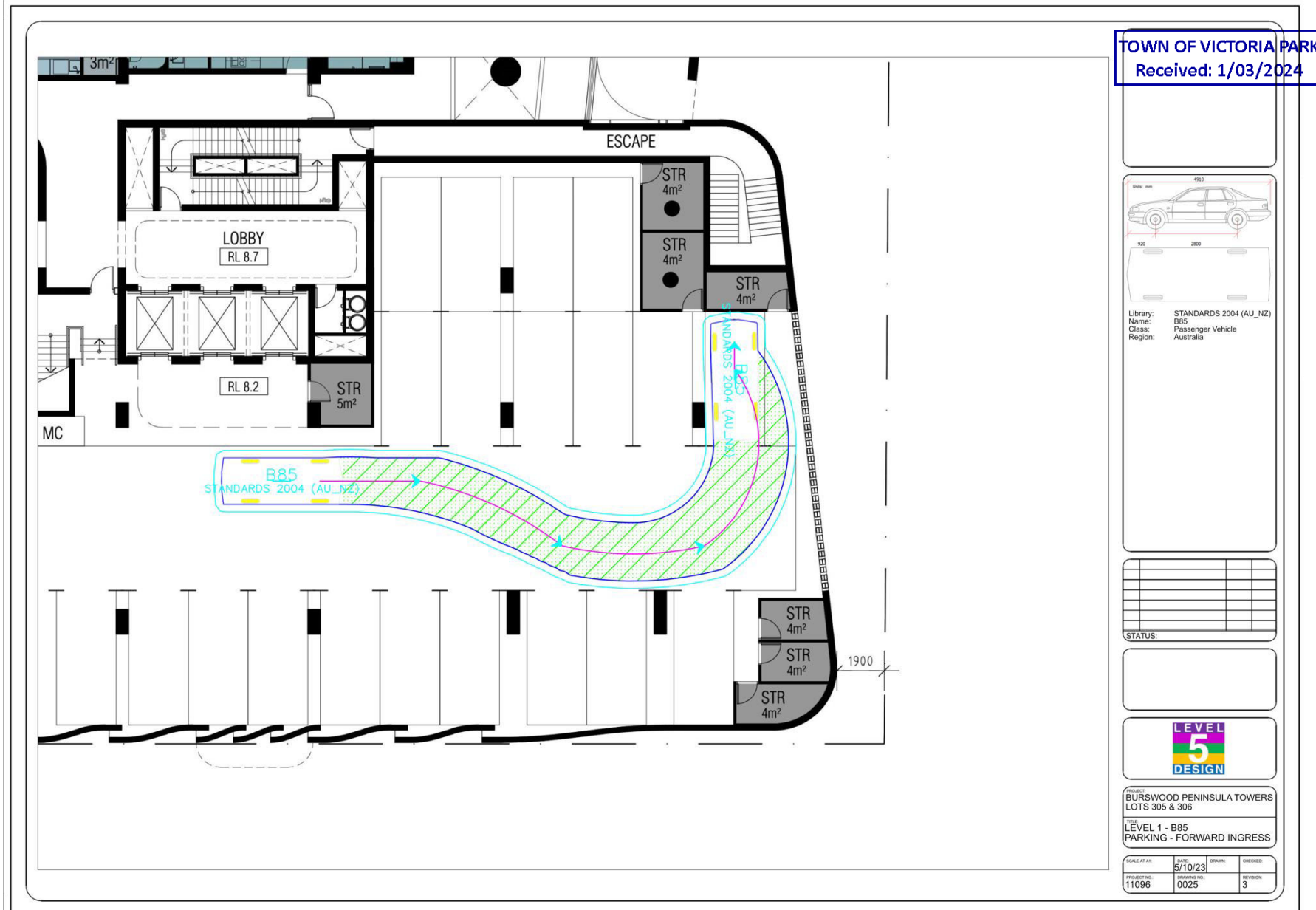


Figure C21 - Level 1 - B85 Parking - Forward Ingress 2

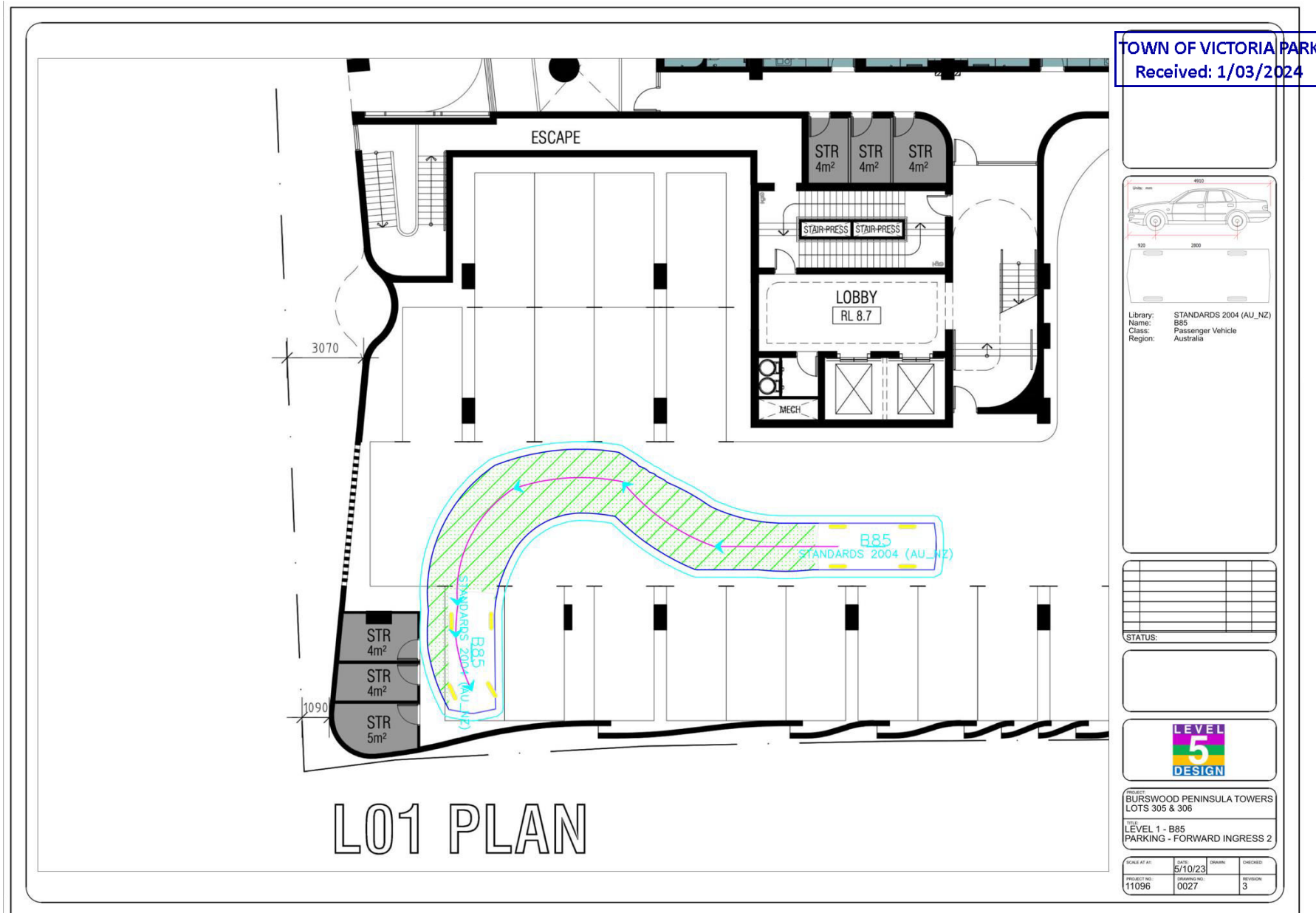


Figure C22 - Level 1 - B85 Parking - Reverse Egress 2

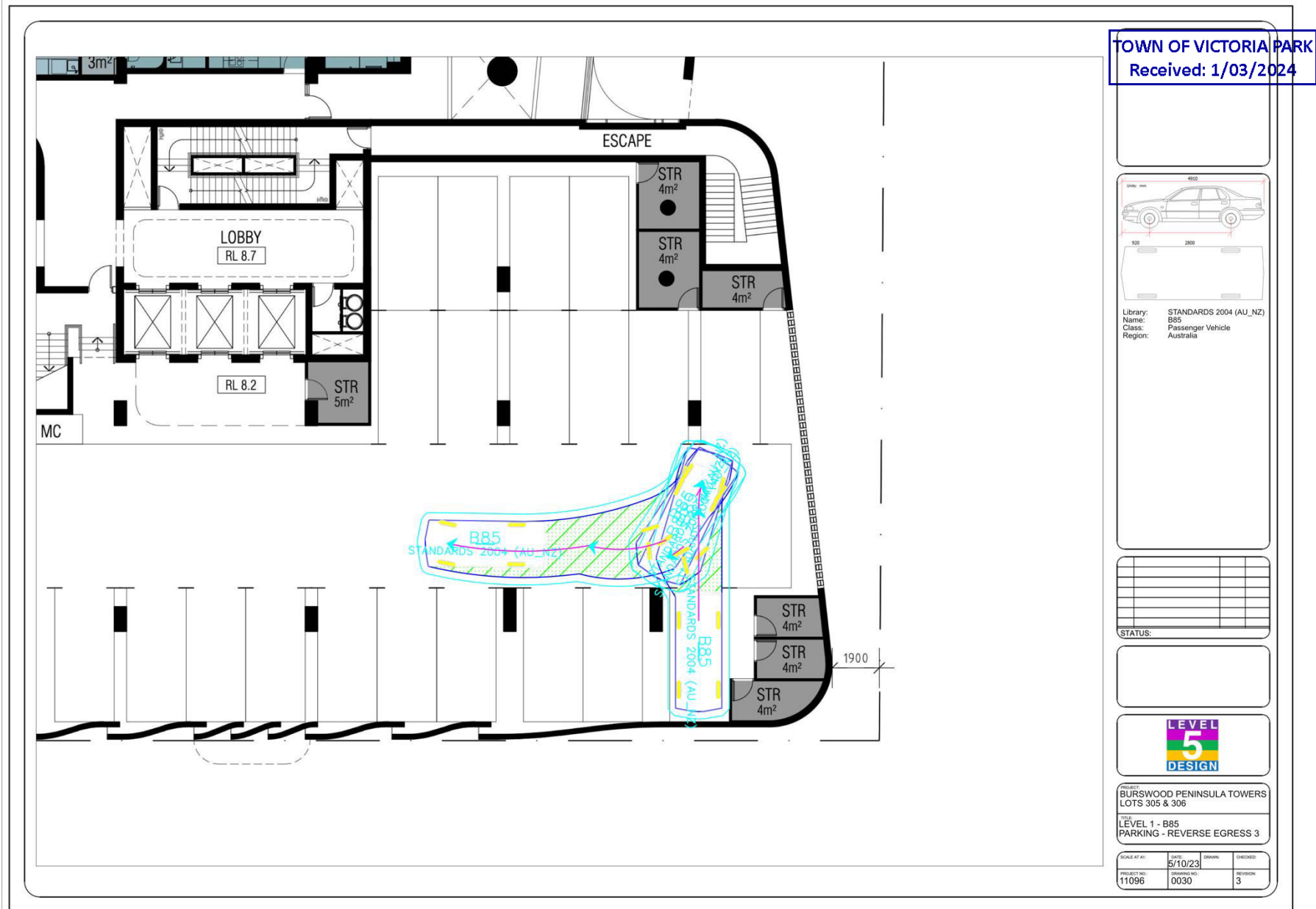


Figure C23 - Level 1 - B85 Passing B99 Down Ramp

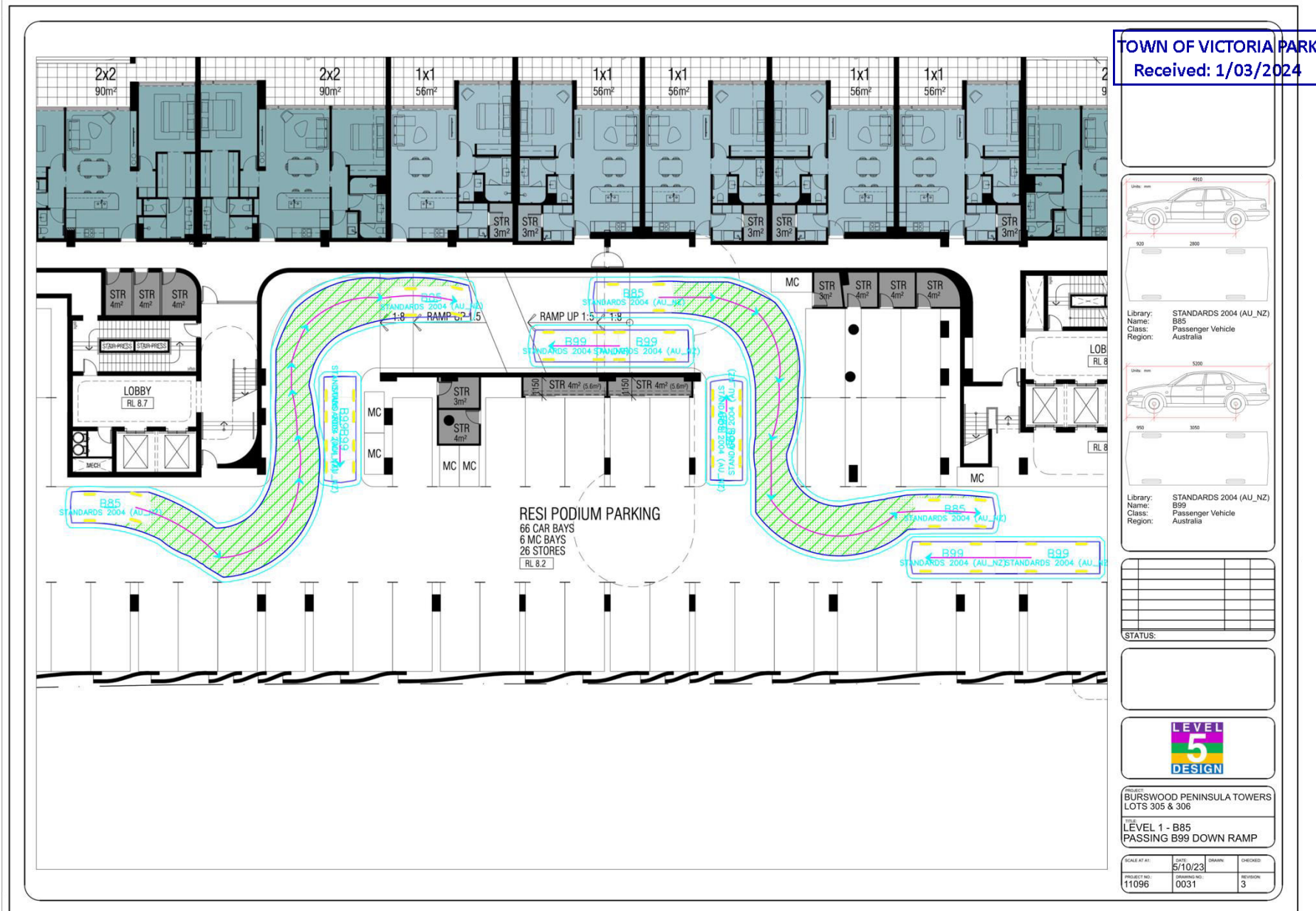


Figure C24 - Level 1 - B85 Passing B99 Up Ramp

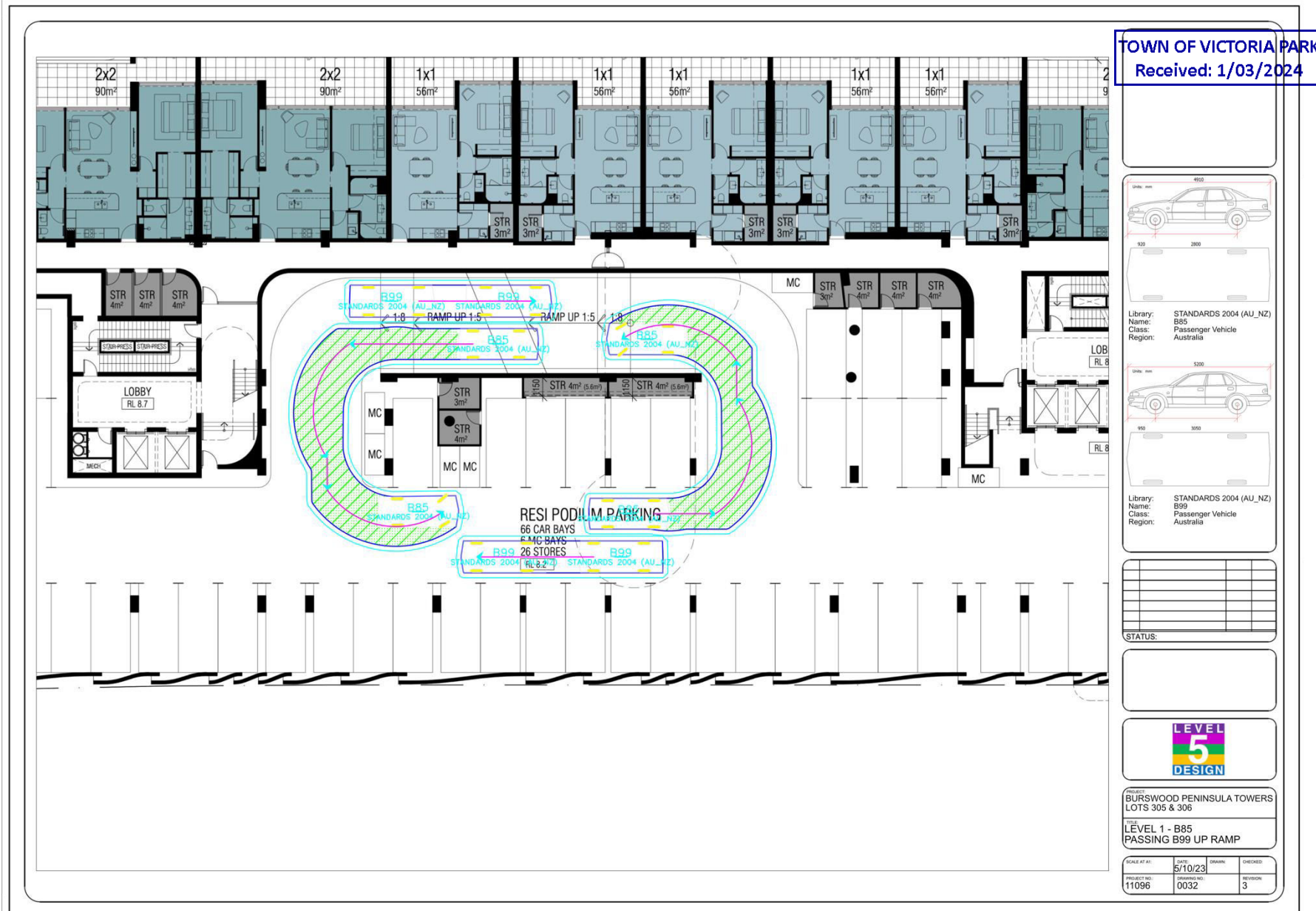
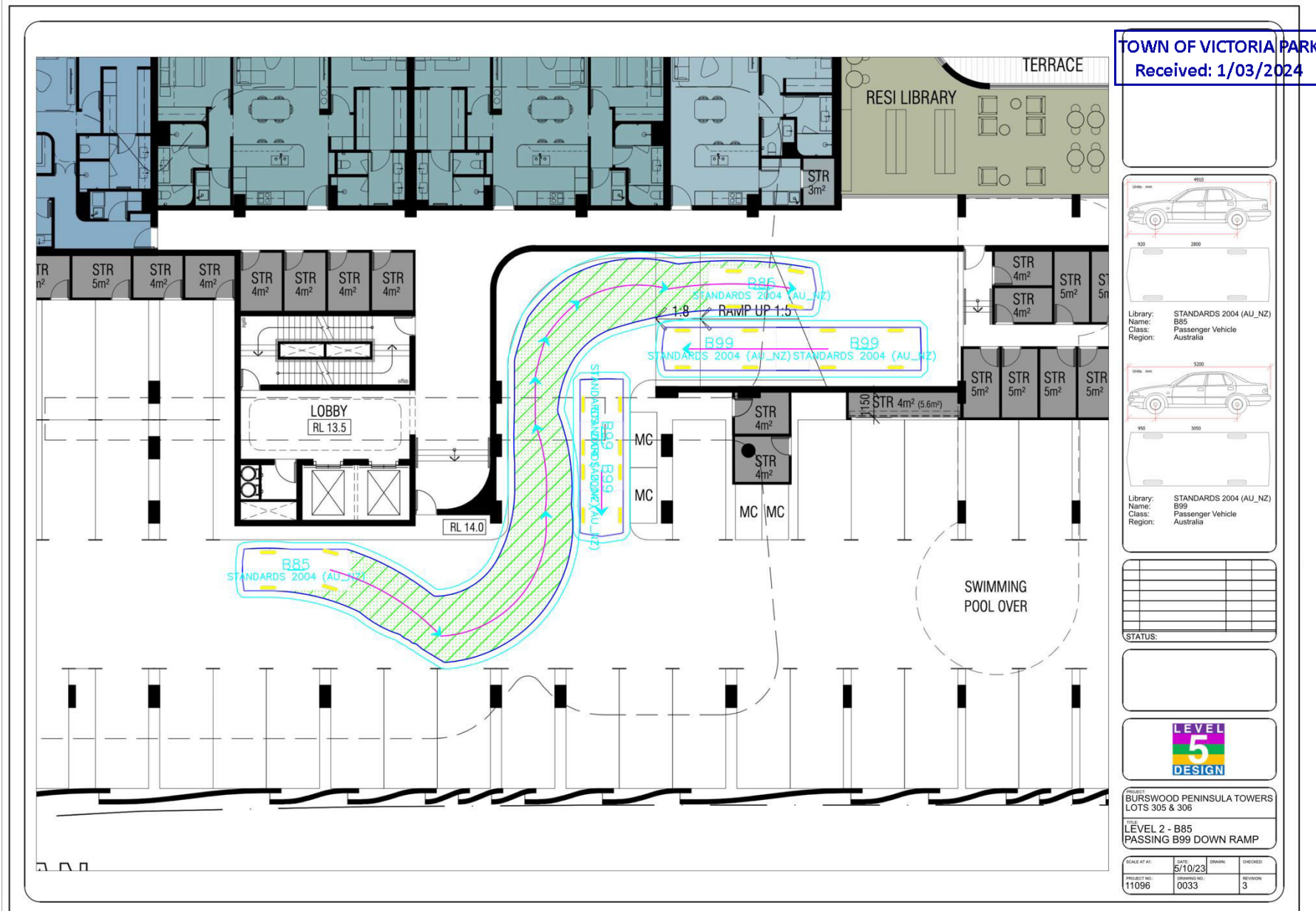


Figure C25 - Level 2 - B85 Passing B99 Down Ramp



Appendix D: LDP Proposed Internal Road Classifications



Source: Burswood Peninsula (Precinct A) LDP

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Appendix E: LDP 10-Year Traffic Forecast Data

Table D1 – Modelled 2031 Background Traffic Data

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Road	2031 AM 2-hour peak		2031 PM 2-hour peak	
	Westbound	Eastbound	Westbound	Eastbound
Graham Farmer Fwy west	10219	8640	7780	9433
Graham Farmer Fwy east	9314	7783	6759	8295
Victoria Park Drive south	926	878	1084	1201
	Northbound	Southbound	Northbound	Southbound

Source: Burswood Peninsula (Precinct A) Local Management Plan

Table D2 – Modelled 2031 Composition of Future 2-Hour Peak Traffic Flows

Road	2031 AM 2 Hour Peak							
	Westbound				Eastbound			
	Base traffic	Belmont Park	Total	%	Base traffic	Belmont Park	Total	%
GFF west of Belmont Park	10219	1120	11339	10%	8640	1610	10250	16%
GFF western ramps	923	1120	2043	55%	860	1610	2470	65%
GFF east of Belmont Park	9314	852	10166	8%	7783	910	8693	10%
Victoria Park Drive bridge	3	1106	1109	100%	860	1180	2040	58%
Victoria Park Drive south	926	254	1180	22%	878	60	938	6%
	Northbound				Southbound			

Road	2031 PM 2 Hour Peak							
	Westbound				Eastbound			
	Base traffic	Belmont Park	Total	%	Base traffic	Belmont Park	Total	%
GFF west of Belmont Park	7780	1772	9552	19%	9433	1574	11007	14%
GFF western ramps	1068	1772	2840	62%	1154	1574	2728	58%
GFF east of Belmont Park	6759	826	7585	11%	8295	1446	9741	15%
Victoria Park Drive bridge	16	1074	1090	99%	1154	1870	3024	62%
Victoria Park Drive south	1084	248	1332	19%	1201	98	1299	8%
	Northbound				Southbound			

Road	2031 PM 2 Hour Peak with Perth Stadium event							
	Westbound				Eastbound			
	Base traffic	Belmont Park	Total	%	Base traffic	Belmont Park	Total	%
GFF west of Belmont Park	7780	1772	9552	19%	10145	1574	11719	13%
GFF western ramps	1068	1772	2840	62%	1866	1574	3440	46%
GFF east of Belmont Park	7313	826	8139	10%	8295	1446	9741	15%
Victoria Park Drive bridge	16	1074	1090	99%	1866	1870	3736	50%
Victoria Park Drive south	1252	248	1500	17%	1201	98	1299	8%
	Northbound				Southbound			

Source: Burswood Peninsula (Precinct A) Local Management Plan

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