

THE DESIGN PARTNERSHIP

CRIME PREVENTION THROUGH
ENVIRONMENTAL DESIGN (CPTED) REPORT

**FOREST WAY BELROSE
RESIDENTIAL DEVELOPMENT**

JUNE 2022

RB1 Pty Ltd

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED) REPORT RESIDENTIAL DEVELOPMENT

171 Forest Way Belrose NSW Lot 9 in DP737255

PROJECT NUMBER: 21.017

PREPARED BY



Kristy Ryan | Managing Director, Architect & CPTED consultant.

Quality Control Plan

ISSUE	DATE	DESCRIPTION	AUTHOR	CHECKED BY
A	31.08.21	DRAFT CPTED Report - not for lodgement with Council	KR	KR
B	27.09.21	FINAL CPTED Report	KR	KR
C	06.06.22	FINAL CPTED Report _REVISED	KR	KR

Report prepared by:

THE DESIGN PARTNERSHIP
TDP2 Pty Ltd ATF The Design Unit Trust T/A The Design Partnership
Central Coast – PO Box 6110 Long Jetty NSW 2261
T 02 4324 8554
E info@thedesignpartnership.com.au
W www.thedesignpartnership.com.au

Disclaimer The Design Partnership is committed to ensuring the safety of members of the community and their property. By using the recommendations contained in this document, any person who does so acknowledges that it is not possible to make areas absolutely safe for the community or their property. The Design Partnership hopes that by using recommendations contained within this document, criminal activity will be reduced and the safety of members of the community and their property will be increased. However, it does not guarantee that the area evaluated will be free from criminal activity if its recommendations are followed.

Copyright | This document and the information contained therein is solely for the use of the authorized recipient. This document may not be used, copied or reproduced in whole or in part for any purposes other than that for which it was supplied by The Design Partnership. The Design Partnership makes no representation, undertakes no duty and accepts no responsibility to any third party who may use or rely on this document for the information contained therein.

CONTENTS

1.0	Introduction	5
2.0	The Wider Context	7
3.0	Detailed Assessment.....	11
4.0	Crime Risk Assessment Summary	13
5.0	Surveillance	16
6.0	Lighting and Technical Supervision	20
7.0	Territorial Reinforcement.....	22
8.0	Environmental Maintenance	24
9.0	Activity and Space Management.....	25
10.0	Access Control.....	26
11.0	The 3 D's.....	27
12.0	Conclusion.....	29
	Appendix A	31

1 INTRODUCTION

The Design Partnership has been engaged by RB1 Pty Ltd to prepare a Crime Prevention Through Environmental Design (CPTED) Report for a residential development at 171 Forest Way Belrose. This report provides an assessment and recommendations for the design produced for the development.

1.1 WHAT IS CPTED?

Crime Prevention Through Environmental Design (CPTED) is a strategy that aims to reduce crime by designing the built environment according to a set of guidelines.

CPTED is based on the principle that many offenders are guided by rational thought and make a cost/benefit analysis of their actions prior to committing a crime. Applying CPTED methods aims to discourage offenders by maximising the risk and effort of committing a crime, while minimising the benefits and opportunities of committing that crime.

CPTED also identifies ways to create a feeling of safety, leading to increased use of an area, which in turn improves natural surveillance and deters offenders.

In NSW, CPTED is largely administered by Safer By Design, a co-operative made up of NSW Police, local councils, government departments and private sector organisations. The Design Partnership structures its CPTED reports according to Safer By Design guidelines.

Safer By Design identifies seven key areas where CPTED principles can be applied: surveillance; lighting/technical supervision; territorial reinforcement; environmental maintenance; activity and space management; access control; design/definition/designation.

1.2 SCOPE & METHODOLOGY

The scope of this project is an assessment of the proposed residential development at 171 Forest Way Belrose (The Development). The plans have been prepared by Barry Rush & Associates and this CPTED Report will form part of a Development Application. To prepare the report, The Design Partnership's undertook the following Methodology:

1. Desktop review of the design. Note: A site visit was not possible due to COVID19 Lockdown orders in place at the time.
2. Review of crime data available through the Bureau of Crime Statistics and Research (BOSCAR).
3. Review of media and similar publications.
4. Email discussions with project manager.
5. Preparation of draft Report.
6. Preparation of final Report for lodgement with Council with the Development Application.
7. Revised documentation issued which reduced rear setback from 80 metres to 85 metres.
8. Reissue of revised Report.

1.3 STRUCTURE OF THE REPORT

The basis of this report is a Crime Risk Assessment (CRA), which is used to identify overall crime risk for the project and the appropriate level of CPTED treatments. A summary of the Crime Risk Assessment has been provided as a diagram in Section 4.

Using the Crime Risk Assessment as a template, this report then assesses each of the seven areas outlined below and provides recommendations for each. The remainder of the report is structured as follows:

Section 5 – Surveillance;
Section 6 – Lighting/Technical Supervision;
Section 7 – Territorial Reinforcement;
Section 8 – Environmental Maintenance;
Section 9 – Activity and Space Management;
Section 10 – Access Control;
Section 11 – Design/Definition/Designation;
Section 12 – Conclusion;
Section 13 – References.

2 THE WIDER CONTEXT

2.1 THE CONTEXT OF BELROSE

Belrose is located within the Northern Beaches Local Government Area (LGA), 19 km north east of Sydney CBD. Belrose is predominately a residential area and is part of the Forest District - often known as The Forest. Garigal National Park is located along the suburbs western and eastern edges. A retail precinct called Glenrose Village is located on the suburbs southern boundary and is co-associated with the Lionel Watts Sporting Precinct which includes sports ovals, skate park and community centre.

Data from Profile.id.com.au shows Belrose - Oxford Falls as having a population of 8,873 (2016 Census) or 9,326 (2020 ABS ERP). The population statistics identify professionals as the highest percentage of occupation (27.1%) followed closely by managers (18.8%). Over 40% of the households comprise couples with children (42.4%) followed by couples

without children (24.3%). The households with children is over the average for Greater Sydney which is 35.3%.

The subject site is located on the eastern side of Forest Way which is the main road that travels north - south through the suburb. Forest way is a four lane road with a central landscaped median. There are bus stops located on both sides of the road, north and south of the site. The eastern bus stops are accessed by a footpath. The site backs onto bushland which forms part of the national park.

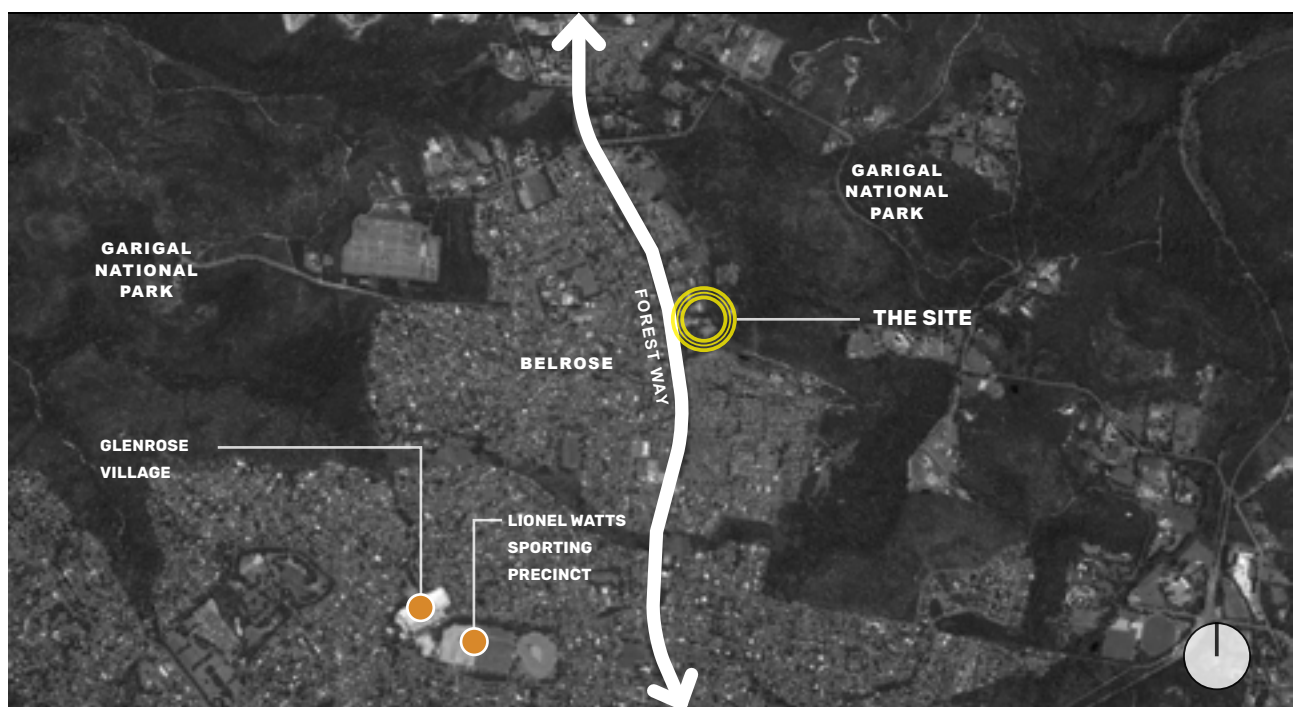


Figure 1: Context plan showing the location of the subject site within Belrose (TDP / Google Earth 2021)

2.2 PROPOSED DEVELOPMENT

The proposed residential development comprises 35 residential units based on the following breakdown:

- 29 units in 2, 3 and 4 bedroom configuration.
- 6 NDIS (National Disability Living Scheme) with an associated common area and landscaped courtyard.
- Communal area including a cafe on Level 4 and
- Common Room and deck on Level 7 with views over the national park bushland.

The building comprises three blocks connected by enclosed bridges, lifts and stairs. Block 1 comprises E & F), Block 2 comprises C & D and Block 3 comprises A & B). A rock outcrop is located between Block 1 and 2 which requires the separation of the two blocks and a bridge to connect the two.

There are two pedestrian entry points into the development. Both entry points access Block 1 at different levels. Entry Point 1 enters at Level 7 and crosses the side driveway via a pedestrian crossing. This provides an accessible entry. Entry Point 2 enters at Level 8 and enters through the front landscaped setback, via a set of stairs.

The development provides parking in two separate locations. Carpark 1 is located under Block 1 and Carpark 2 is located under Block 2 and 3. Entry to the carparks is via a two way entry point from Forest Way. Entry to Carpark 1 is at Level 7. It is not secure and is a two storey carpark. Parking spaces within are double garages each with their own garage door. Visitor parking is open and unsecured. Entry to the second carpark is at Level 2. This carpark is secured by a garage door and nearly half of spaces are double garages with their own garage door. The remaining visitor parking spaces are open and unsecured.

A walled bin enclosure is located on the southern side of the driveway entry.

A communal space is located at the eastern end site, accessed from Level 1. It has a direct interface with the adjoining bushland. The space includes a lawn area, picnic area, outdoor gym and sheds.

To the north of the site is a multi level house which is currently under construction.

To the south of the subject site is a new aged care development named Japara (51 Childs Circuit). The facility provides a range of aged care services including permanent residential care, short-term respite stays and day respite programs. The new development will over look the site along its shared northern boundary. Existing trees are proposed to remain along the boundary which will filter views.

Refer to Appendix A for reference design plans prepared by the project architects.



Figure 2: The Site within its immediate street context (TDP / Google Earth 2021)

1. Japara Aged Care Facility 2. Multi-storey dwelling under construction 3. Private dwelling
4. Residential subdivision 5. Belrose Public School 6. Bus Stops.

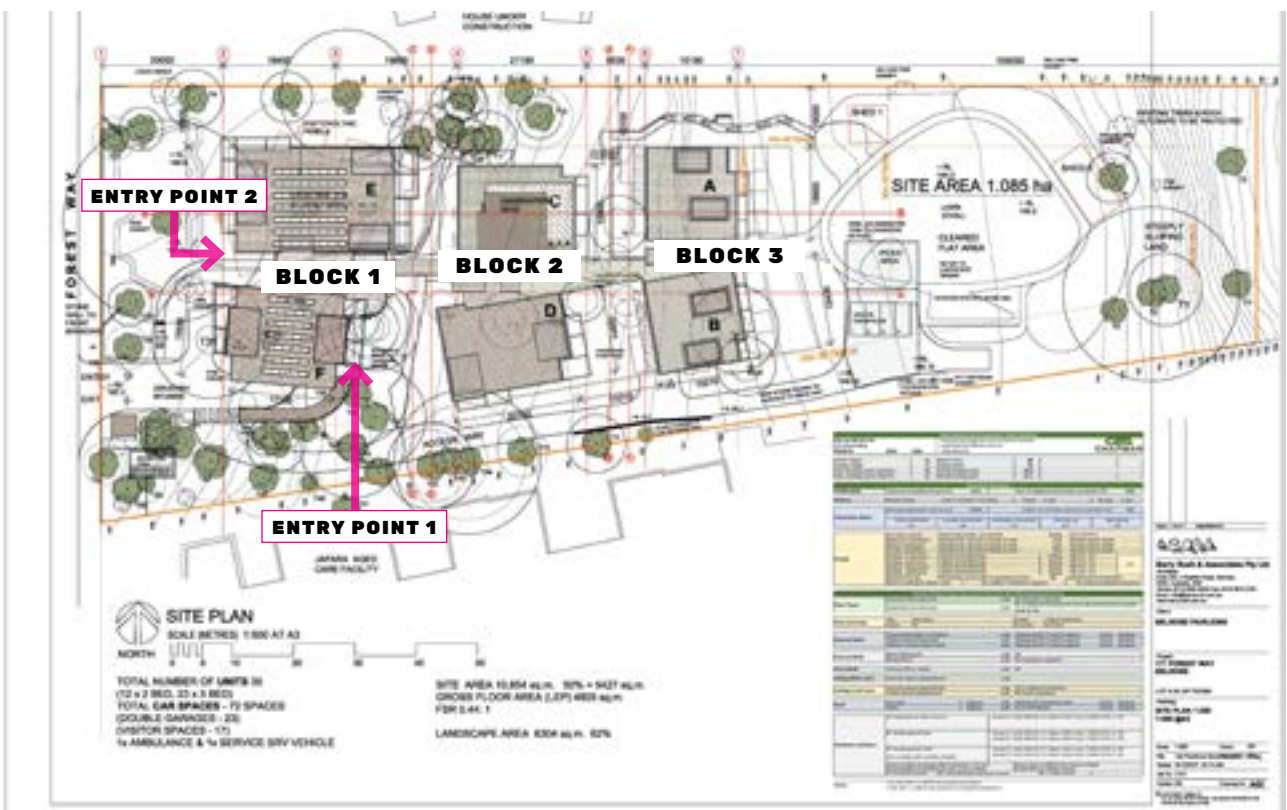


Figure 3: Roof Plan showing the three blocks. The development steps down from Forest Way into the valley. Communal open space located at eastern end of the site. (Barry Rush & Associates 2022)

3 DETAILED ASSESSMENT

3.1 STRUCTURE OF THE DETAILED ASSESSMENT

The basis of Sections 4 - 12 is a Crime Risk Assessment, which is used to identify overall crime risk for the project and the appropriate level of CPTED treatments.

A summary of the Crime Risk Assessment (CRA) has been provided as a diagram in Section 4.

Using the Crime Risk Assessment as a template, this report then assesses each of the seven areas outlined below and provides recommendations for each.

The remainder of the report is structured as follows:

- Section 4 - Crime Risk Assessment Summary
- Section 5 - Surveillance
- Section 6 - Lighting/Technical Supervision
- Section 7 - Territorial Reinforcement
- Section 8 - Environmental Maintenance
- Section 9 - Activity and Space Management
- Section 10 - Access Control
- Section 11 - Design/Definition/Designation
- Section 12 - Conclusion
- Section 13 - References.

4 CRIME RISK ASSESSMENT SUMMARY

4.1 CRIME PREVENTION ASSESSMENT SITE ANALYSIS

Site analysis helps in the understanding of a place – how the built form, landform and local user groups can increase or decrease criminal activity.

The following diagrams are a visual representation of the Crime Risk Assessment (CRA) undertaken for this project. The outcomes of this analysis are incorporated into the Assessments and Recommendations provided in Sections 5 – 12.

Analysis of BOSCAR data for the surrounding area identifies a number of small hotspots near the site relating to Motor Vehicle Theft, Theft from Vehicle and Steal from Dwelling. There other crime activities however they are in parks and commercial areas. The nature of the crime is relevant to this assessment as the assessment is of a residential development. The rear of the site adjoins bushland and could provide opportunity for access and surveillance of the development in preparation to steal from a dwelling or car.



Figure 5: Crime Prevention Assessment Context Site Analysis (TDP/Google Earth 2021)

- The subject site.
- ↔ Forest Way - four lane road.
- Proposed entry from Forest Way.
- //// No views / surveillance from western side of road. Rear fences.
- Possible concealment spaces in adjoining bushland.
- ↔ Existing footpath could provide pedestrian surveillance.
- Bus Stops. Footpath connects to bus stops.

- 1 Adjoining residential have no surveillance over the site.
- 2 New aged care has surveillance over the site however, filtered by trees to be retained.
- 3 Views to the site are limited by screening vegetation. Site falls away to the east.
- 4 Central median landscaping blocks views from western side of the road.
- 5 Residential development to the north is private and insular due to vegetation.

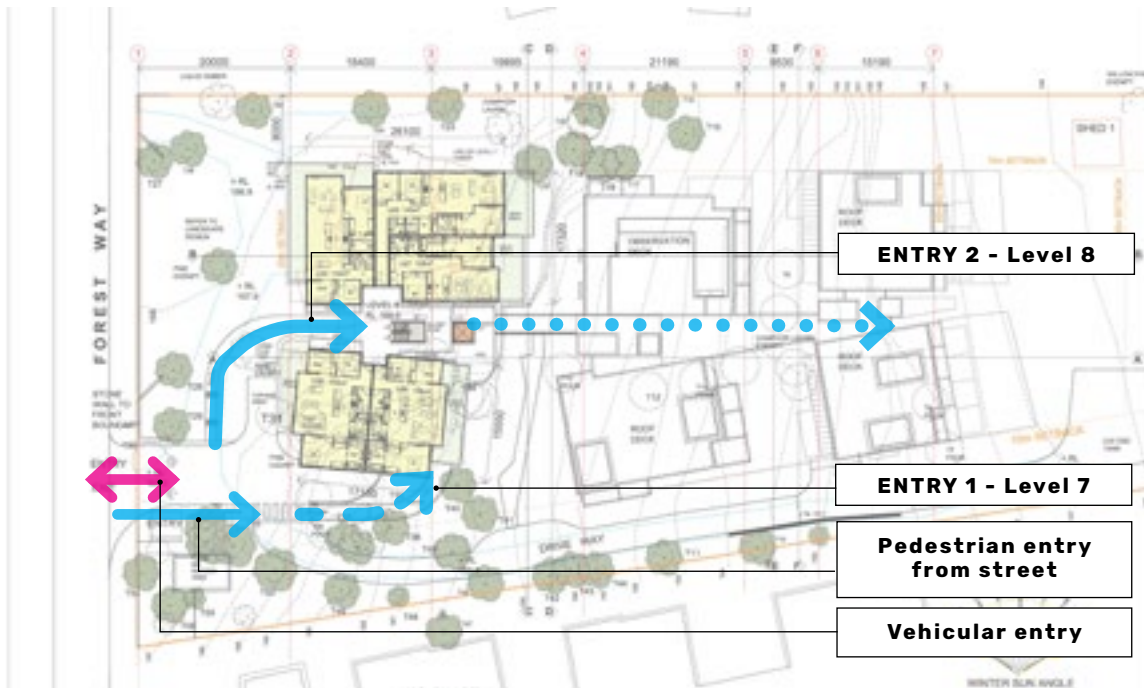


Figure 6: Summary Crime Prevention Assessment - Level 8 (Barry Rush & Associates/ TDP 2021).
The entry lacks clarity of entry as there are two entry points. Wayfinding will be very important in this building to ensure visitors (inc. delivery people know where they need to be or shouldn't be).

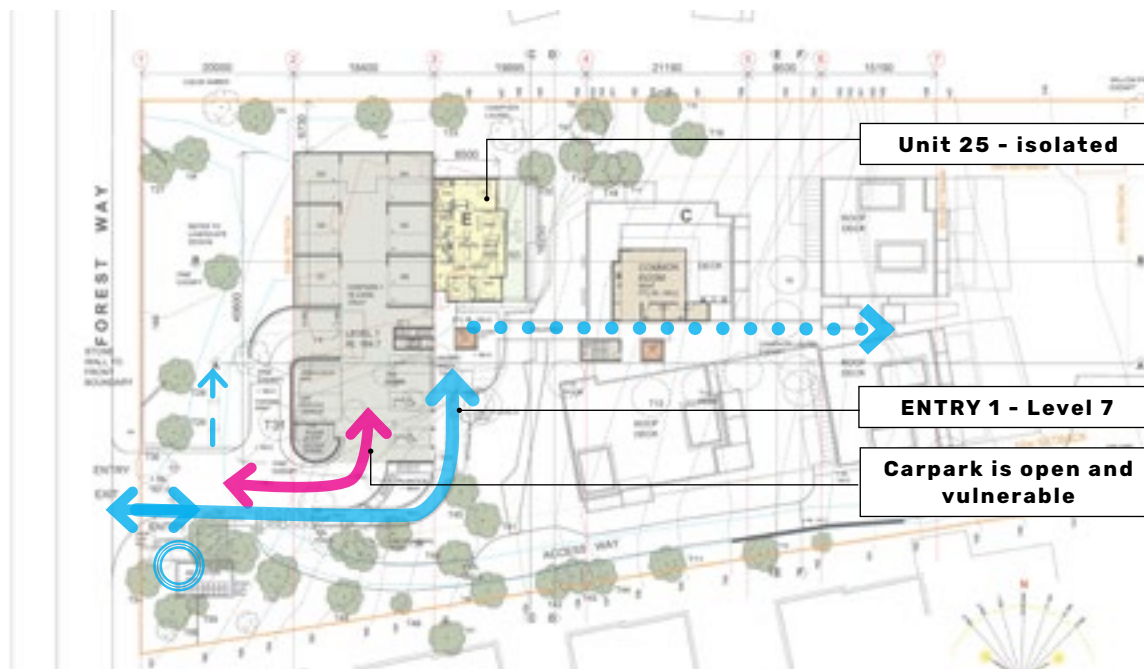


Figure 7: Summary Crime Prevention Assessment - Level 7 (Barry Rush & Associates/ TDP 2021)
Unit 25 on level 7 is isolated. The only other uses at this level are communal spaces such as the common room and carpark. This unit could be considered vulnerable without neighbours to provide surveillance. Carpark is open and vulnerable. A secure garage door between visitor / emergency parking and ramp access / private parking should be considered to restrict access.



Figure 8: Summary Crime Prevention Assessment - Level 3 (Barry Rush & Associates / TDP 2021).
Level 3 provides NDIS accommodation. The units share a communal courtyard which is accessed off a common area. The proposed design requires residents and visitors to move through this space to level 2 and 1 and communal open space. It is important that actual and perceived safety of vulnerable residents are not compromised by this arrangement.



Figure 9: Summary Crime Prevention Assessment - Level 2 (Barry Rush & Associates/ TDP 2021).
The lower carpark is separately accessed via the driveway along the southern boundary. A turning area (delivery area) is proposed at the end of the driveway. There is a possible pedestrian conflict zone at the pedestrian crossing to the main entry and the southern driveway (blue dashed circle).

5 SURVEILLANCE

Surveillance is a core element of CPTED. There are three types of surveillance – Natural, Technical and Formal. The concept of surveillance seeks to discourage anti-social behaviour by creating an environment where people can see and interact with others. When people feel they are being watched, they are less likely to commit a crime.

Surveillance is achieved through well considered urban design, careful selection of landscaping solutions and lighting. This can create a safer environment. Successful surveillance outcomes are the product of good design.

5.1 ASSESSMENT

5.1.1 Existing Conditions Assessment

At this stage, detailed designs have not been prepared. This assessment and the following recommendations provide guidance for the future development of the site.

The site is an existing single residential dwelling and associated ancillary structures such as sheds. To the north is a new multi-level dwelling under construction. To the south is a recently completed aged care home which will overlook the proposed development through a stand of retained trees. To the west is Forest Way, a four lane road, separated by a vegetated median. There is a residential subdivision on the western side of the Forest Way however, these dwellings turn their back to the road and do not provide surveillance. To the east is bushland which forms part of the Garigal National Park. Existing trees within the front setback to Forest Way partially screen the site.

5.1.2 Proposed Design Assessment

The proposed development comprises 35 residential units over nine storeys. The development is configured in three blocks and steps down the site away from the road. The fall of the site is significant – over 30 metres – which conceals the site from Forests Way.

The primary entry into the development is via

Block 1 located at the top of the site and is visible to the street. This entry is split in two, with an accessible entry at Level 7 and a stepped path from the driveway to Level 8. The two entries bring pedestrians in at two different levels.

Carparking is split into two spaces. The first (Carpark 1) located under Block 1 and the second (Carpark 2) under 2 and 3. Access to the carparks is via a driveway along the southern boundary. The entry to Carpark 1 is highly visible at the entry while, Carpark 2 is not and is concealed down a long steep driveway. Both carparks are completely or partially below ground.

Communal open spaces are located across the development in a variety of forms including, landscaped courtyard, common room and deck, common area corridors (inc. a cafe) and lawn located at the eastern end of the site. There are different degrees of surveillance for these spaces. Due to the topographical changes, bridges are proposed to connect the blocks. These bridges provide views between the buildings and into landscaped areas.

There is an isolated unit on level 7 which has no neighbours. It is located outside the entry to Carpark 1, the Level 7 entry and the common room.

5.2 RECOMMENDATIONS

5.2.1 Sight lines

Sight line considerations are multi-directional. They are important for the public looking into the development and for the those within the development looking out into the public domain.

- Forest Way provides the only street frontage to the development. Sight lines into the development are limited due to existing landscaping and the low levels of surveillance from adjoining development. Maintenance of the vegetation fronting Forest Way (a approximate clear zone from top of shrubs (say approximately 500-700mm) to the lower limbs of branches (head height or around 2 metres) is recommended to improve views. New vegetation should follow a similar approach.
- Carparks should provide clear sightlines. It is noted that a large proportion of carparks are independently secured which is supported.

5.2.2 Vegetation

The development is proposed to be enhanced with a high quality landscape treatment. This provides the opportunity to implement positive CPTED outcomes from the outset.

a. Places of concealment and entrapment

Places of concealment and entrapment can be easily created in the public and private domain. These are spaces which may enable someone to hide or trap a person.

Landscaping within the front setback, around the entry, carpark entries and along the driveway is recommended to be limited to ground covers, shrubs and taller trees with no significant branches below head height or approximately 2 metres. Shrubs species should be selected to remain

low at maturity to reduce the need for excessive maintenance.

Landscaping between the buildings and away from areas accessible to residents is recommended to be maintained to reduce opportunities for concealment and entrapment. In particular spaces for concealment with the intent to break into the development, residential unit and carparking areas.

b. Vegetation blocking lighting

Shadowy spaces are created where the trees obscure light fall from light poles and internal lighting. Consider the location of lighting and trees so as not to block the fall of light. This is particularly important in the parking areas where good lighting at night is important.

Future advice on lighting design, in conjunction with the landscape design (during the construction documentation and construction phase) is strongly recommended. Modelling of proposed lighting in conjunction with landscaping is recommended to test light spill and shadows.

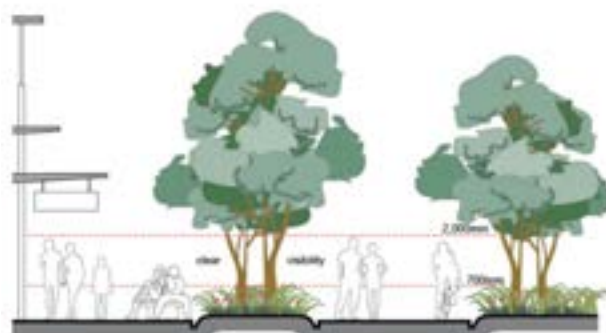


Figure 10: Example of tree and shrub clearance zones for good sight lines. The diagrams shows a clear space between tops of shrubs and lower limbs of branches to provide clear sightlines. (source Cairns Plan 2016) .

6 LIGHTING & TECHNICAL SUPERVISION

Lighting and Technical Supervision refers to the role that lighting and products such as CCTV have in improving safety in the public domain. Many public spaces have lighting however, the specified products are often inappropriate, or are not wisely located. Often lighting creates new issues, as poorly located lighting can create shadows that previously didn't exist. Likewise, CCTV can often be a waste of money if there is low risk of crime, is poorly located or if no one is monitoring the footage. The following assessment and recommendations identifies methods to use lighting and technical supervision to achieve the best outcome.

6.1 ASSESSMENT

6.1.1 Existing Conditions Assessment

At this stage detailed designs have not been prepared. This assessment and the following recommendations provide guidance for the future development of the site.

Due to the COVID19 Lockdown, a site visit was not undertaken during the preparation of this report. Existing lighting surrounding the development was identified from Google Street View. Lighting identified as follows:

- Street lighting on Forest Way.

6.1.2 Proposed Conditions Assessment

Lighting design has not been undertaken at this stage and will be further developed during the construction documentation phase.

The following recommendations can be used by the project architects and landscape architects to incorporate lighting and lighting enhancing features into their designs.

6.2 RECOMMENDATIONS

General Lighting comments:

Lighting strategy and design should be undertaken by a qualified lighting engineer for the development to test light spill and identify any spaces of shadow and concealment – particularly at the development entry, along the driveway, in the carparks, in communal areas and in landscaped courtyards.

Lighting design:

Design the lighting approach to fulfil the following recommendations:

General Lighting and CCTV

- All pathways should have effective lighting which improves visibility and as a result reduces fear. Bollard lighting is discouraged as it is prone to vandalism and is not particularly effective at illuminating faces. Ground surface lighting is recommended along paths of travel to key areas. Ground surface lighting can assist with wayfinding as long as it does not result in night blinding when a person looks down.
- All lighting should comply with relevant Australian Standards, particularly AS 1158.
- Avoid using low-pressure sodium lamps.
- Vandal-resistant lamps are recommended.
- Avoid the use of coloured lighting
- Lighting can lose up to 20% capacity within 12 months, resulting in inadequate light levels. This should be considered when selected lighting type and brightness.

General

- Ensure no shadowy spaces are created by the buildings, the gaps between the lights themselves and the landscape.
- Any signage should be as legible at night as it is during the day
- Landscaping within the entry area and along the driveways is recommended to be limited to low ground covers and low shrubs (low at maturity). Trees should have no significant branches below head height (approximately 2.0m) to facilitate good view lines at night and reduce shadows.

Parking Areas

- The use of high quality lighting and white finishes in the basement carpark is recommended. The white walls reflect the lighting back and enhances lighting outputs. This is also important for any transitional spaces such as fire exits and lobbies.
- Design lighting to allow for eyes to adjust after leaving a transitional space - as it can take up to half an hour for eyes to adjust
- Lighting should be bright and even to allow an observer to see into a parked car.
- Areas where pedestrians and vehicles are in close proximity, such as the pedestrian crossing at the Carpark 2 driveway entry, should be well lit to enable a person to be clearly visible.

Pedestrian pathways and lobbies

- Intelligent lighting that is based on sensors may be appropriate along the pathways within the development. But care should be taken to ensure that the transition between light and dark does not give rise to concealment opportunities.

7 TERRITORIAL REINFORCEMENT

Territorial Reinforcement recognises the importance of ownership of public spaces. Spaces that are well used and cared for are less likely to attract crime and anti-social behaviour. The role the community plays is often important to the success of the public space.

This principle seeks to remove the confusion from the public domain – to make the purpose of each space clear. This includes the definition of boundaries, function and operation of a space.

7.1 ASSESSMENT

At this stage detailed designs have not been prepared. This assessment and the following recommendations provide guidance for the future development of the site.

7.1.1 Existing Conditions Assessment

At present, the site is a single residential dwelling. All maintenance and control of the space is currently managed by the owner of the site.

7.1.2 Proposed Design Assessment

The new development will significantly change the current Territorial Reinforcement framework of the site. The development will increase the number of residents and increase the maintenance requirements for the site. The number of residents will establish new levels of control and ownership over the development. The new development proposes 6 NDIS units who may be vulnerable people.

Management

As a whole, the development will be formally managed by a strata group. This group will be responsible for maintenance of the site and formalise how spaces will be used and managed.

Individually, the owners and residents of each unit will provide collective 'ownership' over the site and its communal spaces.

Communal Spaces

The development has a series of communal open spaces of different types. A common room is located on Level 7. This room is for the use of all residents and provides an indoor space for gatherings.

A cafe space is proposed on Level 4 which can act as a social gathering space for residents. This space is centrally located and encouraged for use by the entire development.

A common area on level 3 is proposed for the NDIS units which includes both internal space and landscaped courtyards.

A lawn / oval is located at the eastern end of the site and includes a picnic area and outdoor gym. It is accessed from Block 3.

Carparks

Two carparks – one under Block 1 and one under Blocks 2 and 3 – are proposed. This means that residents and visitors should not have access to the other carpark. However, it is noted that Carpark 1 is open and not secure. This means anyone can enter Carpark 1 without permission and potentially access a fire door (which could be propped open) or lift. Individual parking spaces within both carparks are double garages secured with a roller door. This increases the perceptions of ownership. Unsecured spaces are for visitors.

Landscaped Edges

The edges of the development are accessible from the street, rear of the property and the landscaped courtyard.

7.2 RECOMMENDATIONS

Entry points

Establish a distinct point that defines the entry to the development. An entry point should inform the public they are entering a private precinct. An entry point could be in the form of gateways, fencing, material and colour variations, level changes and lighting.

There are currently two entry points to the development, one to Level 7 and one to Level 8. This could result in confusion for visitors (including delivery people). Consider removing one entry (possibly the entry to level 8) or install clear wayfinding signage to provide clarity. Should issues arise following the completion of the development, steps could be taken to remove the additional entry point.

Signage

Signage should be used to clarify ownership and responsibility. In the case of damage, signage should assist the public in reporting damage. Clear signage should be installed throughout the development. Overuse of signage is not supported as it becomes less effective. Consistency of design will add to the overall sense of a cohesive community and sense of place.

Lighting

Lights in the ground can be used to reinforce paths of travel within the development. Refer to Section 5 for detailed recommendations regarding lighting.

Fencing and other barriers

Use fencing and landscaping to clearly delineate boundaries of the development. If the goal is for the development to 'seamlessly' integrate into the bushland along the eastern boundary, then a fence is encouraged to demonstrate this is private

property and not for public access. The fence can still be open in its form and provide views to bushland. Should crime activity occur, such as break and enter, a 1.8m transparent fence could be considered.

Maintenance

Maintenance of the development is a powerful tool in Territorial Reinforcement. A Maintenance Plan for the development should be identified at the Construction Certificate stage. The Maintenance Plan should include the selection of durable materials and plant species that do not require extensive maintenance.

Landscaping Treatment

Landscaping is useful in reinforcing the difference between the entry / circulation zone and the curtilage zone (edges of the development and between buildings). The landscaping treatment should demonstrate to the public that this is a high quality development with strong local ownership.

Separation of cars and pedestrians

A driveway is proposed to enter from Forest Way and provides access to the two carparks. Entry to Carpark 1 is direct and enters at Level 7. Carpark 2 is accessed from a driveway along the southern boundary. Pedestrians entering the building at Level 7 are required to cross a pedestrian crossing (for the southern driveway). Ensure lighting at this pedestrian crossing is bright enough to see the pedestrian. Landscaping should be designed and maintained so as not to block sightlines of the pedestrian.

The secondary entry (at Level 8) is accessed across the driveway. Entries from driveways are not encouraged as they can result in pedestrian conflicts, in particular with visitors who are not familiar with the development.

8 ENVIRONMENTAL MAINTENANCE

Environmental Maintenance is the maintenance and management of physical assets. This takes place during the operational stage of the Precinct. The assessment and recommendations provided below are guidance for the current design process and for future management. Public spaces that are poorly maintained, damaged, vandalised, appear abandoned and full of rubbish are unlikely to attract positive user groups. These types of spaces show a lack of pride by the community. Well maintained spaces send a positive message and tells potential offenders that people are watching and using this space. It is a good deterrent. Good design can help with maintenance in the future.

8.1 ASSESSMENT

Environmental Maintenance will generally occur in the detailed design and operational stage however, there are opportunities to integrate solutions during the design phase which will assist in the management of the new development. The aim is to create a development that is easy to maintain. The recommendations in the following section may be issued as conditions of consent at Council's discretion.

8.1.1 Existing Conditions Assessment

At present, the site is a single residential dwelling. Existing Environmental Maintenance is less relevant as the development will become a residential flat development managed by strata.

8.1.2 Proposed Design Assessment

The Development Application documentation does not provide detail for an Environmental Maintenance assessment. However, the following recommendations are provided to assist with the next stage of design development.

8.2 RECOMMENDATIONS

Regular maintenance and well designed landscaping will demonstrate to the residents and visitors that this development has a site guardian and is safe.

Environmental Management Design:

- Walls and fences of the development at the street and rear boundary are at risk of malicious damage. The use of anti-graffiti coatings is recommended.
- Select materials that are robust and durable. Materials/elements should not be easily removed. However, the final outcome should not appear overly harsh, thereby reducing the amenity of the space and create fear.
- Provide rubbish bins in the communal spaces and plan for regular removal to avoid build up of waste.
- Use low maintenance and drought-resistant plant species throughout the site.

Environmental Management Operational:

- Establish an Environmental Maintenance Plan.
- Graffiti should be removed quickly. The longer tags are left on display, the greater the reward for offenders.
- Avoid the use of porous materials in areas with the greatest risk of graffiti tagging.
- Establish a reporting system that allows users and visitors to quickly report damage or anti social behaviour.
- Repair or replace broken or damaged furniture/ bins/signs quickly.
- Review the current trends in crime in the area with the local Police and regularly update Environmental Maintenance Plan.

9 ACTIVITY & SPACE MANAGEMENT

Activity and Space Management identifies strategies to establish natural community control.

These strategies include:

- Formal supervision
- Control of the space
- Maintenance of the space.

Activity and Space Management has strong correlations to earlier sections of this report. For instance, poor Environmental Maintenance results in urban decay which sends a negative image. This section explores how to improve community safety by increasing visitation and use of a space

9.1 ASSESSMENT

Activity and Space Management will generally occur in the operational stage however, there are opportunities to integrate solutions during the design phase which will assist in the management of the new development. The aim is to create opportunities for natural community control. The recommendations in this section may be issued as conditions of consent at Council's discretion.

9.1.1 Existing Conditions Assessment

The management of the subject site will change significantly following the construction of the new development. The addition of new residents and an increase in number of visitors to the site will require a higher level of Activity and Space Management.

9.1.2 Proposed Design Assessment

The proposed design will change the development from a single dwelling to a multi dwelling community. It will comprise a combination of semi public and semi private and private spaces. There will be no full time on site formal guardianship. The development will rely on residents active at the site at the time.

9.2 RECOMMENDATIONS

Semi Public and Private Space

The design should enforce clarity of land use - making it clear what is semi public (spaces where visitors can go) and what is private (private to residents).

Methods that can be adopted include:

- Use paving treatments that are distinctly different to footpaths outside the development.
- Provide entry features/statements/structures that reinforce the pedestrian thresholds.
- Clearly identify areas within the development which are not accessible by visitors such as storage areas, communal rooms (unless accompanies), NDIS level and waste rooms. However, be cautious of the over use of signage as it may become less effective.

Maintenance Planning

Establish a Maintenance Plan that ensures the site retains the appearance of a clean and well maintained sports precinct.

The Maintenance Plan should include routines for rubbish removal and steps to take when rubbish accumulation exceeds the norm. Rubbish should be removed as soon as practical. The plan should also include:

- reporting of waste
- methods for reporting damage
- time frames for quick repair of damage.

10 ACCESS CONTROL

Access Control identifies methods to manage access to and within a site. Methods may range from site restrictions through to helping people leave a site safely.

Three methods are generally used: Natural Control, Technical or Mechanical Control and/or Formal Access Control. Natural Control Solutions seek to restrict and channel people into specific areas. Restrictions/channelling can be a good deterrent for criminals as it increases the risk of being caught.

Methods are typically Natural Control solutions which may include:

- Landscape site planning such as fencing, water features, paths and vegetation
- Building site planning
- Wayfinding signage
- Control of lines of sight

Technical or Mechanical Control Solutions may include the use of Closed Circuit Television (CCTV) equipment. Lastly, Formal Access Control solutions would be the use of security officers.

10.1 ASSESSMENT

Access Control is determined during the design and operational stage which will assist in the management of the development.

10.1.1 Existing Conditions Assessment

The existing controls are not relevant as the site will change from a single dwelling house to a residential flat building(s). The increase in residents and the increase in number of visitors makes Access Control more complex.

10.1.2 Proposed Design Assessment

The design proposes three unit blocks that step down from the road. Pedestrian access is via Block 1 which addresses Forest Way. However, entry is split over two levels – an accessible access at level 7 and an stepped entry at level 8. These two entry points provide access at two different lobbies and are connected by a glazed stair and glazed lift. From this point pedestrians (most likely visitors or residents who leave the development for a walk or to catch a bus) will descend through the levels to their unit. This is via a series of connected bridges, lifts and stairs.

Pedestrians can also access the building and the grounds at level 3 via the NDIS courtyards. The Level 1 communal open space at ground level (eastern most boundary at ground level) also provides access via a lobby.

Vehicular access is via two carpark entries. Carpark 1 is located at the top of the site and is open to public access at the driveway entry. A driveway along the southern boundary provides access to Carpark 2 which is secured by a garage door. Fire stairs and lifts provide access to both carparks.

10.2 RECOMMENDATIONS

- The pedestrian entries at Level 7 and 8 could create confusion and establish a weakness in Access Control. Consider removing the access to Level 8 or provide clear wayfinding signage to direct visitors to the main building entry. Multiple public entry points are not encouraged.
- Provide wayfinding signage to identify what is semi public (where visitors can access) and what is private (where visitors cannot access). Signage should clearly direct people to key buildings/destinations in the development.
- Secure access into the service areas such as waste rooms and store rooms.
- Noting that motor vehicle theft and theft from motor vehicle are crime activities in the area, a

security door to Carpark 1 is recommended. At present the entirety of Carpark 1 is open to the public and provides access to stairs that lead to lobbies that need to be secure. It is noted that visitor and emergency parking is located at the entry to the carpark. At a minimum, a security door could be placed inside the carpark to leave the visitor and emergency parking open and accessible but securing the private areas of the carpark. Secure the carparks via a security door and swipe card.

- Use door closers on fire exits to ensure fire doors are not left open. Use signage to warn people of penalties in propping doors open which leaves the building unsecured. CCTV could be useful around these exit points
- Provide clear sightlines around the pedestrian entry points. Use lighting and carefully designed and managed landscaping.
- Establish a management plan that allows for communication between the different user / management groups.
- Secure all access points into the precinct with a keypad or equivalent.

11 3 D's : DESIGN/DEFINITION/DESIGNATION

It is important for the design, definition and definition of a public space to be in harmony. If a space comprises uses that conflict with another use, dangerous situations could arise. Offenders often exploit situations that are confusing.

This can be described as the three D's.

Designation

- What is the designated purpose of this space?
- What this its original purpose?
- How well does the space support its current or its intended use?
- Is there a conflict between its current and intended use?

Definition

- How is space defined?
- Who owns the space and is it clear?
- Where are its borders?
- Is the space defined by social or cultural factors – does this affect how space is used?
- Are the legal or administrative rules clearly set out and reinforced in policy?
- Are there signs?
- Is there conflict or confusion between designation and definition?

Design

- Does the physical design support the intended function?
- Does the physical design support the desired or accepted behaviour?
- Does the physical design conflict with proper functioning of the space?
- Is there confusion or conflict in the physical design which is intended to control behaviour?

11.1 ASSESSMENT

If the recommendations in previous sections are carried out it will be clear which spaces are semi public and which are semi-private.

Ongoing maintenance by strata and a clear plan for maintenance work will be beneficial.

Spatial boundaries throughout the site will reinforce intended function if the recommendations in this report are carried out.

11.2 RECOMMENDATIONS

- Undertake a 3 D's assessment regularly.
- Implement recommendations from Sections 5 – 11.

This page is blank

12 CONCLUSION

The proposed development will change the current use of the site - from a single dwelling house to a residential flat development. Analysis of BOSCAR data for the surrounding area identifies a number of small hotspots near the site relating to Motor Vehicle Theft, Theft from Vehicle and Steal from Dwelling. There other crime activities however they are in parks and commercial areas. The nature of the crimes are relevant to this assessment as the assessment is of a residential development. The rear of the site adjoins bushland and could provide opportunity for access and surveillance of the development in preparation to steal from a dwelling or car.

The documentation is at a Development Application level. Therefore, many specific details are yet to be fully established and will be documented during future stages. However, this report endeavours to provide recommendations to guide the plans for future development, to ensure the development is set in the right direction.

The key recommendations address all principles including Surveillance (including Lighting), Territorial Reinforcement, Environmental Maintenance, Activity and Space Management and Access Control. The proposed design is attractive and its form addresses the site's assets and constraints. However, this has also resulted in a complex built form that will require high levels of management to ensure the building remains safe and secure for its residents.

A high level of consistent maintenance and the delivery of high quality landscaping and finishes will demonstrate to residents and visitors that this is a well loved development - demonstrating there is guardianship over the site Therefore, it is important that there is a strong visible presence of people and limiting of opportunities for criminal behaviour so there is no perception of vulnerability which could turn this site into a target.

Consultation with local area police and participation in the reformed Neighbourhood Watch is highly recommended to monitor the area and the proposed development.

The key recommendations include:

- securing carpark 1 with a security door to prevent unauthorised access.
- providing clarity between semi public and private spaces using landscaping, fencing, signage and materials.
- providing a single pedestrian entry into the development from Forest Way.
- providing clear delineation between people and vehicles between the carpark and the movement areas.
- Clearly naming each building so it can be easily identified by emergency services or users of the facility.
- low maintenance landscaping which does not inhibit sight lines e.g. landscaping is recommended to be limited to groundcovers, shrubs and taller trees with no significant branches below head height.
- using appropriate and high quality lighting designed by a lighting engineer.
- establishing a Maintenance Plan and implementing it on a regular basis. This includes inspecting the grounds to identify if new CPTED issues have arisen and liaising with local police on a regular basis
- using anti-graffiti coatings, fast removal of graffiti and rubbish.

APPENDIX A - DESIGN DRAWINGS