



THE DESIGN PARTNERSHIP
CRIME PREVENTION THROUGH
ENVIRONMENTAL DESIGN (CPTED) REPORT

CHISHOLM SHOPPING CENTRE
HERITAGE DRIVE, CHISHOLM NSW

NOVEMBER 2021

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Chisholm SC Pty Ltd ATF Chisholm SC Investment Trust

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED) REPORT

CHISHOLM SHOPPING CENTRE
Heritage Drive, Chisholm NSW 2322

PROJECT NUMBER: 21.019

PREPARED BY



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Quality Control Plan

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1 INTRODUCTION

The Design Partnership has been engaged by Chisholm SC Pty Ltd ATF Chisholm SC Investment Trust to prepare a Crime Prevention Through Environmental Design (CPTED) Report for a shopping centre at Heritage Drive, Chisholm. 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 shopping centre development at Heritage Drive, Chisholm (The Development). The architectural plans have been prepared by BN Group and the landscape plans by Moir Landscape Architecture. This CPTED Report will form part of a Development Application. To prepare the report, The Design Partnership undertook the following Methodology:

1. Desktop review of the design. Note: A site visit was not possible due to the project timeframe and the regional travel restriction prior to 1 November 2021. It is also noted, that Chisholm is an emerging community and this review considers the continued evolution of the suburb.
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 CPTED Report.
6. Preparation of final CPTED Report for lodgement with Council with the Development Application.

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 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 CHISHOLM

Chisholm is located within the Maitland Local Government Area (LGA), 23 km north-north west of Newcastle CBD and 7km south-east from Maitland. The traditional Owners and Custodians of the Maitland area are the Wonnarua people.

Chisholm is an emerging community which is predominately residential with supporting infrastructure including schools and childcare facilities. The new community is branded as 'ideal for families searching for purpose built homes and neighbourhood with all required facilities within reach' (Maitland City Council website). Chisholm includes 74 hectares of open spaces, wetlands and parklands. The proposed development proposes retail and commercial infrastructure to service the local community.

Data from Australian Bureau of Statistics (ABS) shows Chisholm as having a population of 1,461 (2016 Census). This small population is increasing with the release of 5,000 new residential lots which could accommodate 15,000 new residents. The

population statistics identify professionals as the highest percentage of occupation (20.1%) followed closely by Technicians and Trade Workers (18.5%) and Clerical and Administrative Works (18.3%). 56.1% of the households comprise couples with children, followed by couples without children (38.2%). The households with children is well over the NSW average which is 36.6%.

The subject site is located east of Maitland which is the main centre of the LGA. Stockland Green Hills is a large shopping centre to the south-west. The suburb is accessed from Raymond Terrace Road to the south, which connects Raymond Terrace with Maitland and East Maitland. The Hunter River is to the north of Chisholm and wetlands are to the west.

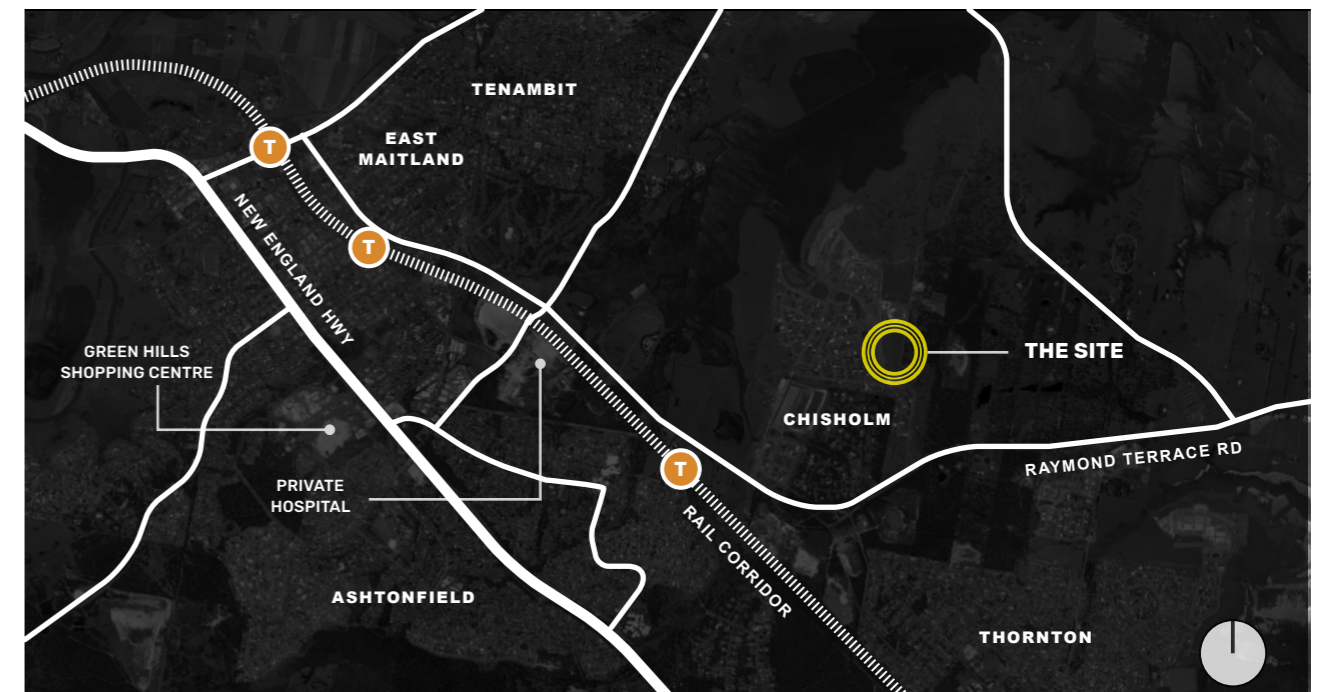


Figure 1: Context plan showing the location of the subject site within the area and the Chisholm suburb (TDP / Google Earth 2021)

2.2 PROPOSED DEVELOPMENT

The proposed shopping centre development comprises a range of services including:

- Major supermarket (and associated liquor store)
- Mini major supermarket
- Mixed retail
- Childcare centre
- Tavern
- Medical Centre
- Gym and
- associated carparking for 664 parking spaces comprising 535 on grade spaces and 129 basement spaces. A carwash also forms part of the development.

The shopping centre is predominately a single storey structure with its basement carpark, accessed from Heritage Drive. The major supermarket is located in the eastern wing and the mini major is located in its western wing. Both are accessed internally. Small retail is located internally between the majors and accessed from the internal space. The entry to the centre is located centrally. Retail is also located externally and is accessed from the forecourt. The loading docks are located off the new road proposed between Lot 1 and the centre, to the south. Lot 1 is identified for residential and its design will need to respond to the impacts of the loading dock.

A tavern is proposed on the western edge of the centre fronting Heritage Drive. It is accessed externally and not from within the centre. Across Heritage Drive is Whitewater Park which has walking paths and connects to residential areas.

A medical centre is proposed on the eastern edge of the centre fronting Settlers Boulevard. It is accessed externally and not from within the centre.

The proposed childcare centre is a separate building located on the corner of Heritage Drive and Tigerhawk Drive. The entry to the childcare centre is from the carpark however, there is access to the carpark entry through the building from a pedestrian entry on Heritage Drive.

The on grade carpark occupies the remainder of the northern part of the site. There are two entries to the carpark, one from Heritage Drive and the second from Settlers Boulevard. The carpark is split into two parts and is separated by a pedestrian link that connects Tigerhawk Drive with the pedestrian entry to the shopping centre. Two schools and an early education centre are located across Tigerhawk Drive and an existing pedestrian crossing will connect to the future shopping centre. The carpark proposes shade structures over central four rows, either side of the landscaped pedestrian link. The remainder of the carpark will be shaded by trees.

A pad site for future development is nominated in the eastern portion on the corner of Settlers Boulevard and Tigerhawk Drive.

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



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

1. Existing low density residential 2. Low density residential under construction 3. Existing Senior School, Junior School and Early Learning Centre 4. Whitewater Park 5. Lot 1 - use TBD 6. Entry to suburb from Raymond Terrace Road.

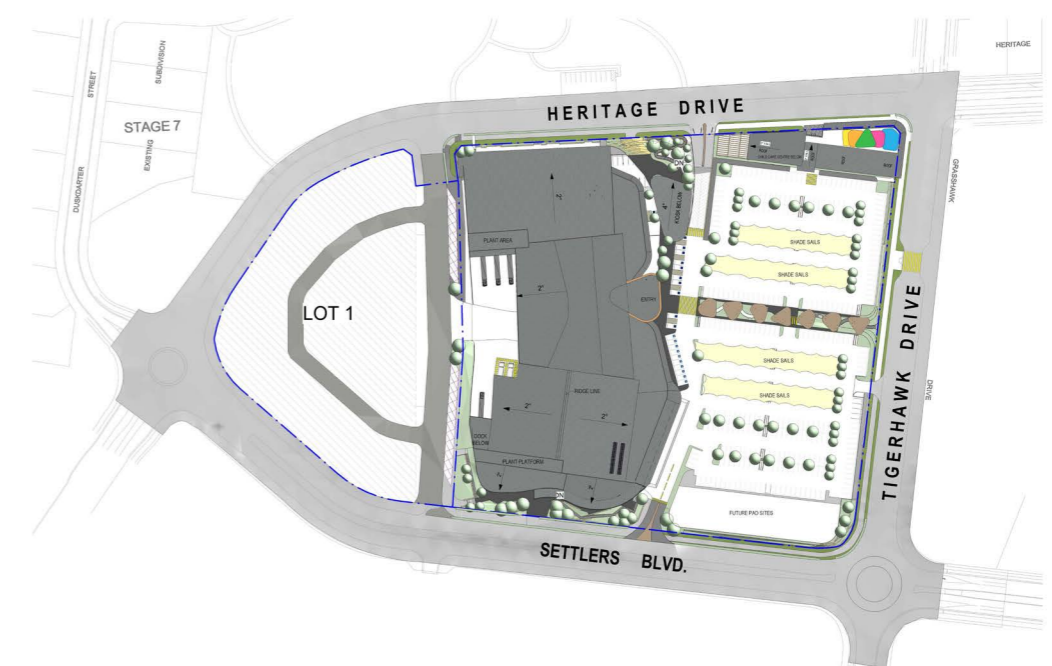


Figure 3: Site Plan showing the shopping centre, its carpark and road network. (BN Group 2021)

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 SITE ANALYSIS & PROPOSED DEVELOPMENT

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

This analysis then considers how the proposed development will function within its context and identify risks associated with the proposed design, uses and operations. Recommendations are then provided in Sections 5 – 12.

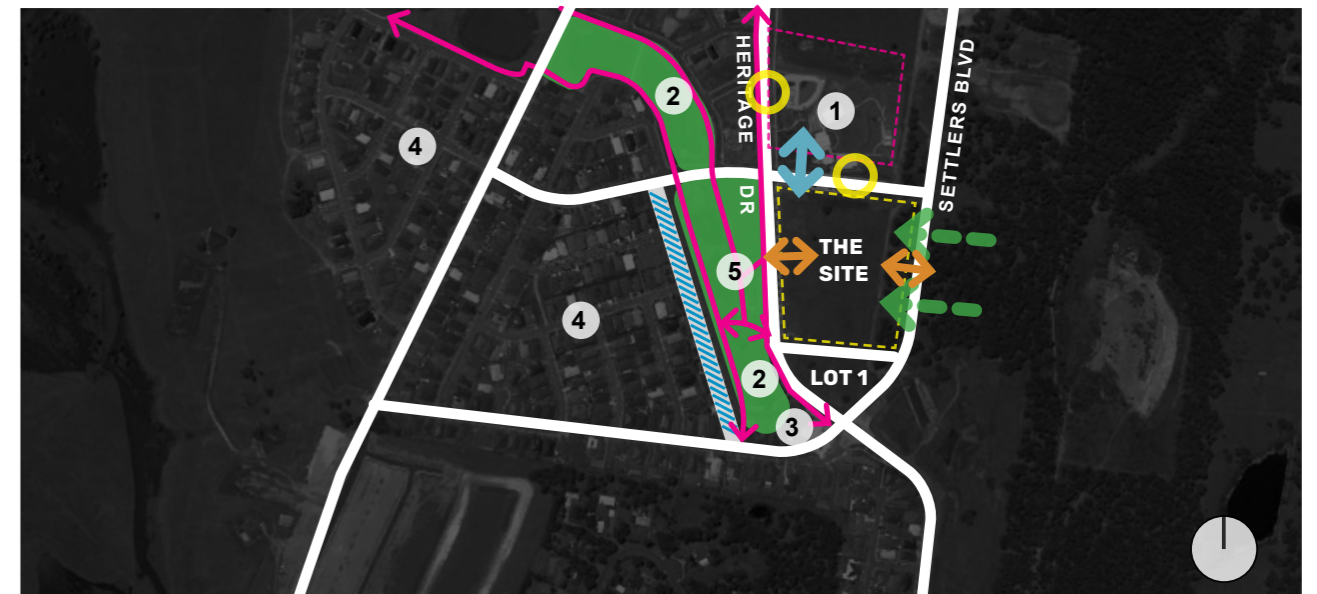










Figure 4: Crime Prevention Assessment Context Site Analysis (TDP/Google Earth 2021)

- | | | | |
|---|--|----------|---|
|  | The subject site. | 1 | Adjoining education precinct. |
|  | Existing road network | 2 | Whitewater Park - open space within the centre of the suburb. |
|  | Existing pedestrian crossing | 3 | Existing early learning centre. |
|  | Proposed driveway entries to the centre | 4 | Existing residential development. |
|  | Distant views from residential across park. Negligible surveillance. | 5 | Existing footpath aligns with entry to the centre. |
|  | No surveillance from rural land across Settlers Blvd. | | |
|  | Existing footpath could provide pedestrian surveillance. | | |
|  | Bus Stops. Footpaths connects to bus stops. | | |

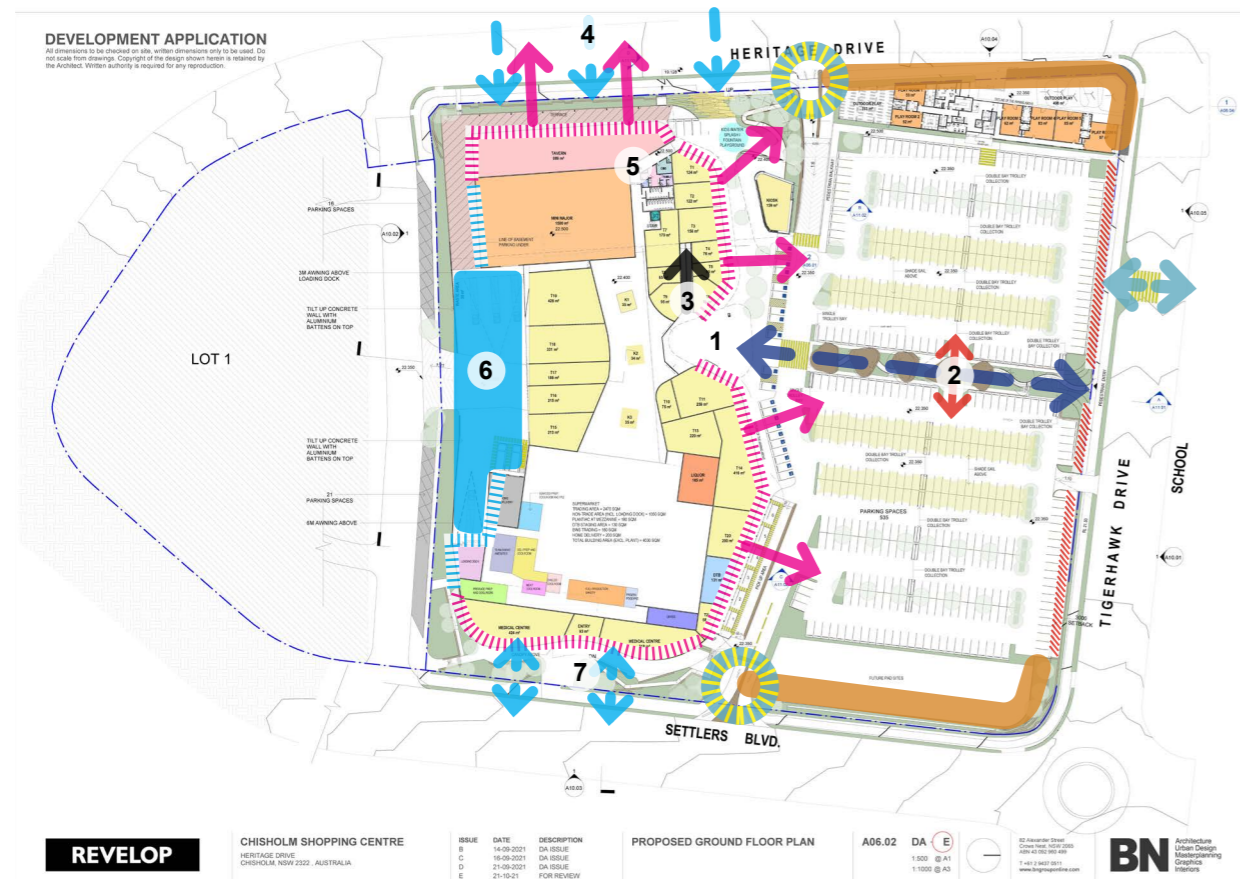
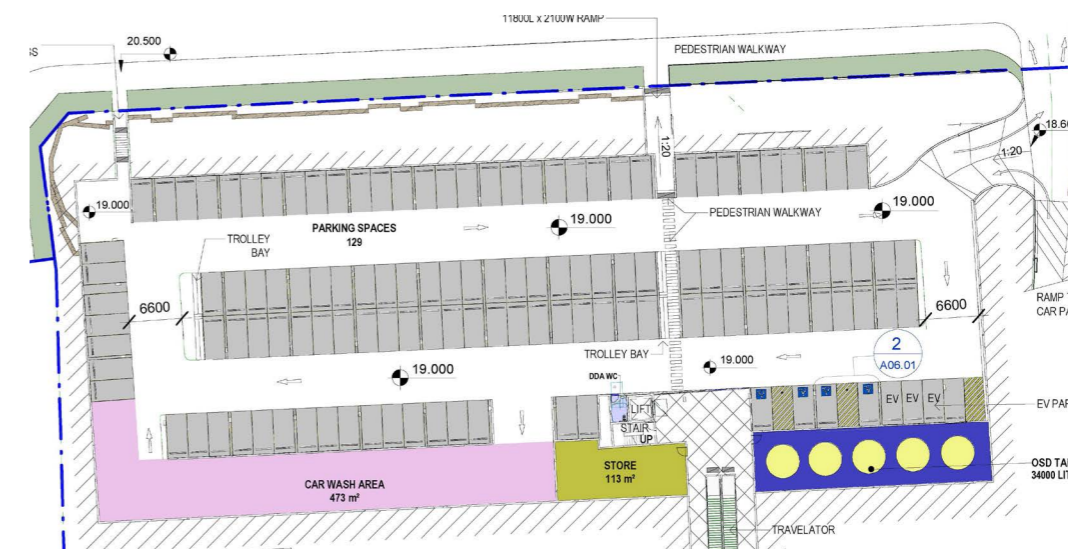


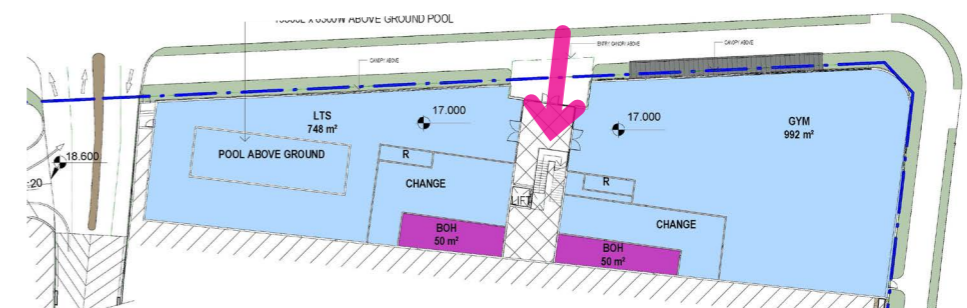
Figure 5: Summary Crime Prevention Assessment - Ground Floor Plan (BN Group/ TDP 2021).

- - - - - Activate frontages which can provide surveillance.
- - - - - Inactive frontages which cannot provide surveillance.
- ➔ Direction of views for surveillance.
- ➔ Inhibited views due to level change or structures
- ↔ Existing pedestrian crossing
- ↔ Pedestrian link that connects the education precinct and the centre.
- ↔ Carpark aisle connection. Nominated as a shared space with different paving treatment.
- - - - - Retaining wall and transparent fence prevents movement of students through carpark from footpath.
- - - - - Structures block surveillance of internal carpark resulting in a reliance on internal surveillance.
- - - - - Loading area will have the opportunity for surveillance from future residential however, until that time this edge will be vulnerable.
- ☀ Pedestrian and driveway potential conflict.

- 1 The entry to the centre aligns with the pedestrian link improving access with the school.
- 2 The barriers channel movement however, could obscure small children, in particular at the shared aisle crossing. The development of the barrier should be undertaken concurrently with the planting and lighting recommendations.
- 3 The travelator is open to the basement carpark, and is unsecured. The travelator and the basement carpark should be secured when the centre closes.
- 4 The development is elevated which inhibits views to the footpath. The tavern has good sightlines however, decals and signage block should not windows.
- 5 The external entry to the amenities will need to be secured when the centre closes and not be available to the tavern.
- 6 The loading area is well defined. The future residential on Lot 1 will provide good surveillance of this space.
- 7 Walls within the landscape could reduce surveillance from within the medical centre and to the public domain.



Basement Carpark



Gym and Pool



Childcare Centre

Figure 6: Summary Crime Prevention Assessment - Basement Carpark, Childcare Centre, Gym and Pool (BN Group/ TDP 2021).

The basement carpark needs to be a secure space after hours. This means the travelator requires doors as it opens into the centre outdoor forecourt. A garage door is also needed at the vehicular entry.

The gym and the pool have access from the carpark and from Heritance Drive, which the childcare centre shares. The childcare's entry is located adjacent the common gym/pool entry. It is important that the two entries are treated differently so the public are not confused and try to access the childcare premises. The entry space (outside the childcare centre entry) is tight (8) and could benefit from more space - in particular due to the changes to drop off rules during COVID-19 lockdowns which could reoccur over time.

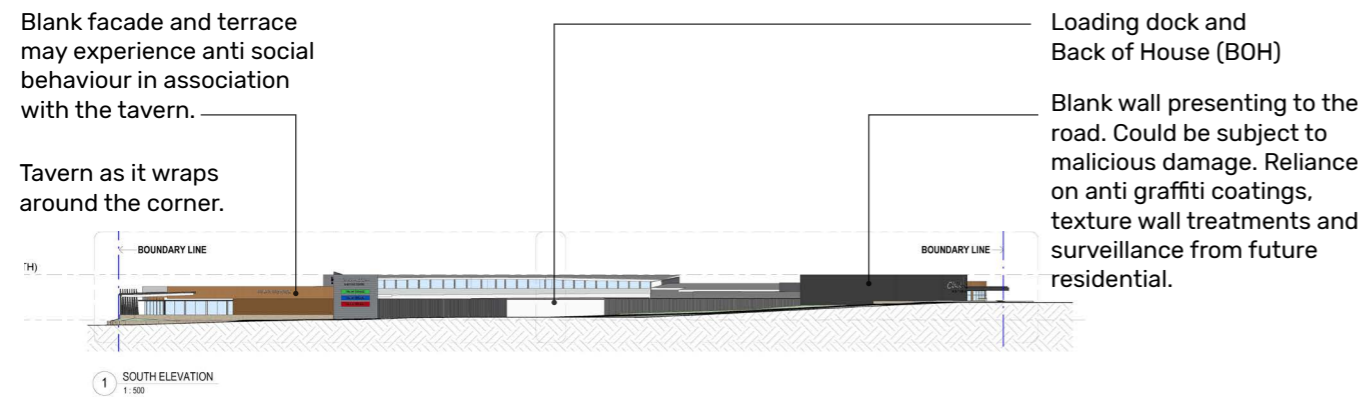


Figure 7: Summary Crime Prevention Assessment - Southern elevation / Back of House (BN Group / TDP 2021).

The back of house and loading docks will be accessed from a proposed road to the south of the centre. The facade is predominately blank with the exception of the tavern which wraps around the corner. This space will rely on future residential for surveillance. A terrace space associated with the Tavern returns around the corner towards the loading dock. The removal of this space should be considered as it will not have surveillance from the tavern and could impact on future adjoining residential (lot 1).



Figure 9: Summary Crime Prevention Assessment - Settlers Blvd Elevation (BN Group / TDP 2021).

The Settlers Boulevard streetscape will have good sightlines into the carpark in the short term until the future pad sites are developed. The large windows of the medical centre are good however, it will be important not to cover windows with signage and decals. The lowering or removal of blade walls could also be considered to improve sightlines.

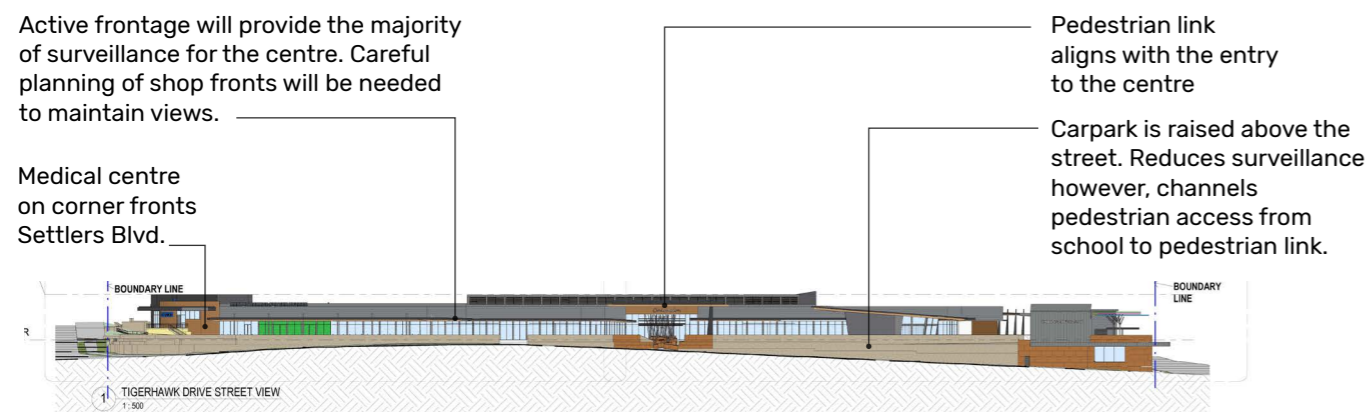


Figure 8: Summary Crime Prevention Assessment - Tigerhawk Drive elevation (BN Group / TDP 2021).

This view shows how the level changes wrap around the corners of both streets - Heritage Drive and Settlers Boulevard. This means that surveillance from the education precinct and its bus stop will be marginally better than the surrounding streets. Surveillance, Space and Activity Managed, Access Control and Territorial Reinforcement within the space will be the priority.



Figure 10: Summary Crime Prevention Assessment - Heritage Drive Elevation (BN Group / TDP 2021).

The 'ground floor' of the shopping centre is raised above Heritage Drive and the development presents a blank wall to the road. The tavern located above the basement carpark has large windows which will offer surveillance over Whitewater Park and the road, however the footpath will not have surveillance.

4.2 CRIME PREVENTION ASSESSMENT: CRIME DATA

Analysis of Crime Data has limitations that are important to consider when undertaking an assessment of a place.

The crime data that is available for the suburb is not location specific and it is not possible to know if it relates to the study area. Hotspots can provide an indication if there is activity happening to a specific area.

It is also important to note additional limitations with regard to the reporting of crime, that 'the reporting of crime is influenced by a number of factors, including public understanding of what constitutes a crime and the public's willingness to report crime.' (Weatherburn 2011).

Data used for crime assessments are from NSW Bureau of Crime Statistics (BOSCAR).

Summary of Findings.

Analysis of BOSCAR data for the suburb of Chisholm identifies low crime levels in the suburb. The suburb is emerging and has a low population. At the 2016 census, the population was recorded as having 1,461 people however, it likely to have increased since that time, as new areas are released and new dwellings are constructed. This is important to note, as the existing crime data cannot predict the future and the current crime activity is likely to change as the population becomes denser. Crime activity can change from year to year. This may not be because the activity has increased, but because activity is reported inconsistently or because Police are targeting that particular crime activity.

Due to the evolving nature of the suburb, the recommendations of this report will consider possible future impacts as the area changes. As this shopping centre is intended to form part of this community for a long period time, this requires resilient design approaches.

The proposed development (shopping centre) will be the first of its kind in the suburb and therefore, there is no precedent crime data to analyse.

Hotspots

A hotspot for **Steal from Vehicle** has been identified close to the proposed shopping centre. The hotspot is within the new residential area south west of the proposed development. Although rates are low, it will be important to consider the risk of similar crime activities for the shopping centre. This makes Surveillance of the carpark and Access Control of the development an important consideration for the shopping centre.

Crime Data Summary

The assessment of crime data was focused on activities that relate to the future operations.

Crime activities assessed include:

- Non-Domestic Assault
- Steal from Person
- Theft of Vehicle
- Theft from Vehicle
- Malicious Damage

Offence	Year to June 2020		Year to June 2021	
	Chisholm Rate per 100,000	NSW Rate per 100,000	Chisholm Rate per 100,000	NSW Rate per 100,000
Non-Domestic Assault	94.7	373.4	284.1	381.0
Steal from Person	0	36	0	25.8
Motor Vehicle Theft	94.7	155.9	236.7	142.4
Steal from Motor Vehicle	568.2	414.3	520.8	354.7
Malicious Damage	189.4	675.5	331.4	659.0

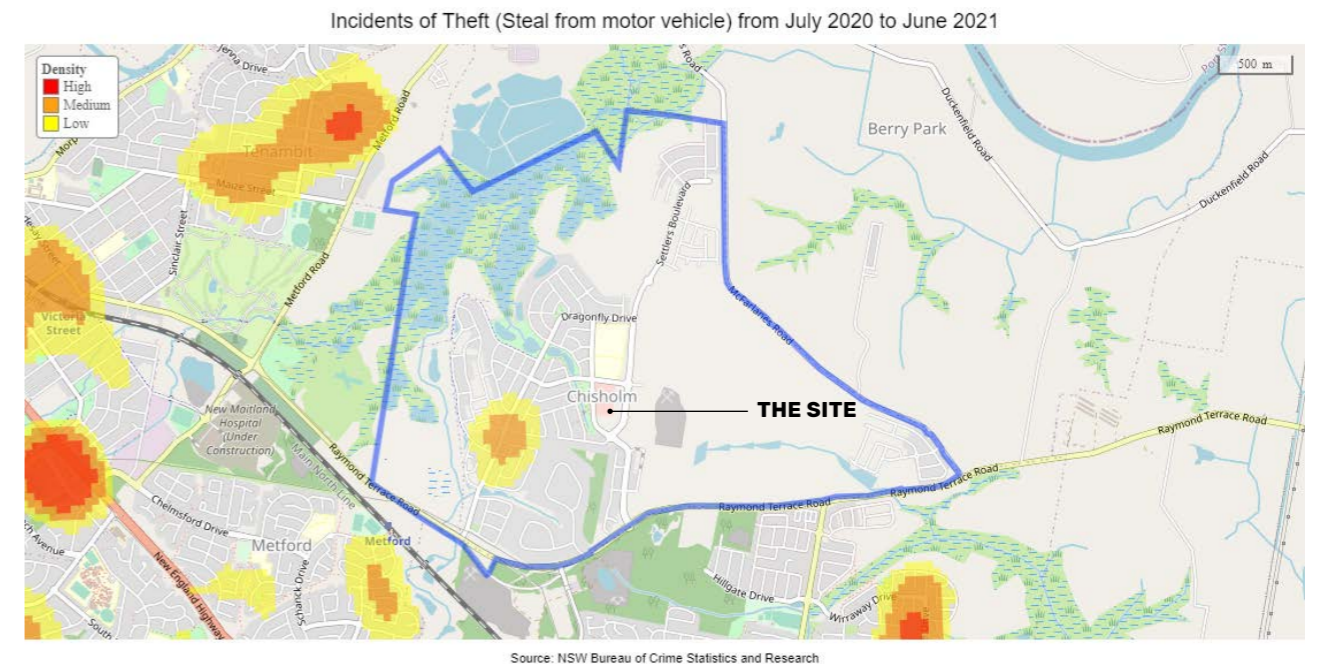


Figure 11: Hotspot - Steal from Motor Vehicle (BN Group / TDP 2021).

A hotspot has emerged for Steal from Motor Vehicle. In this location are new residential dwellings.

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 a vacant greenfield lot that has been zoned for retail activities. To the north is an education precinct which includes a senior and junior school and early learning centre.

To the west is Whitewater Park, an open space that runs north-south through the suburb. The park features walking paths, seating areas and passive open spaces. The active use of this space facilitates good surveillance of the area. A pathway that crosses east-west through the park aligns with the proposed vehicular and pedestrian entry to the shopping centre.

Beyond the park, further to the west is an existing residential subdivision which provides surveillance for the park. Its views of the shopping centre site are distant. To the east are rural lands that are not developed and do not provide surveillance for the shopping centre site.

The shopping centre site is located on what could be considered one of the main roads of the suburb - Settlers Boulevard.

5.1.2 Proposed Design Assessment

The proposed development comprises a single story shopping centre with a range of uses that can be active both day and in the evening. The activity of the shopping centre will provide its own surveillance as the topography and configuration of the proposed centre limits natural surveillance.

The education precinct to the north can provide surveillance over the central part of the shopping centre carpark - in proximity to the pedestrian link. This can be through the movement of teachers and students walking to the centre on foot. A pedestrian crossing and bus stop is located on Tigerhawk Drive. The entry to the junior school is also located on Tigerhawk Drive.

The arrangement of the shopping centre provides small retail premises which address the on-grade carpark. These premises activate and provide surveillance for the carpark.

The centre's loading dock is located off a new road proposed to the south of the centre. A new residential development site, identified as Lot 1 is proposed opposite, which can provide surveillance of this space. Parking is proposed on this road which is likely to be for staff parking. The flow of staff into the centre can provide natural surveillance however, it is not clear where their entry point will be.

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.

Sight lines into the site will be limited by the site's topography and the centres proposed perimeter structures including the shopping centre, childcare, gym and future 'pad site' buildings. The development will be reliant on good internal surveillance by users of the shopping centre. The facades fronting Heritage Drive, Settlers Boulevard and the carpark have active uses that can have good sightlines. Retail premises that front public spaces should limit the extent of signage and decals on windows that can inhibit sightlines.

Blade walls are proposed in the landscape between the medical centre and Settlers Boulevard. These walls could inhibit sightlines from the road and should be reduced in height or increased in transparency.

The pedestrian link that separates the two on-grade carparks proposes 'corten' balustrades. The balustrades can be used to channel students however, it could obscure views of children as they approach the shared crossing through the centre of the link. The balustrade could also block sightlines through the carpark. The balustrade should increase transparency and be designed in conjunction with the vegetation and lighting recommendations.

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 around the edges of the carpark, between Settlers Boulevard and the medical centre, within the pedestrian spine and along the southern facade is recommended to be limited to ground covers, shrubs and taller trees with no significant branches below 2 metres. Shrubs are recommended to be a maximum of 700mm in height.

Trees proposed within the carpark should be taller trees with no significant branches below 2 metres.

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.

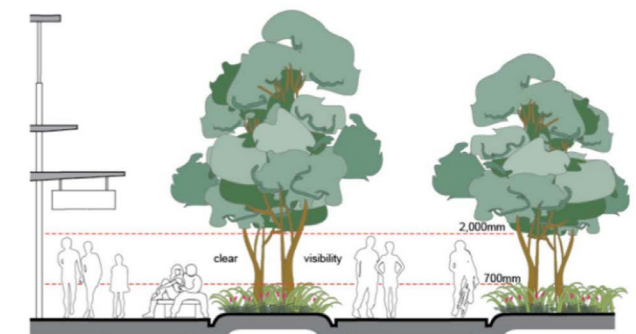


Figure 12: Example of tree and shrub clearance zones for good sight lines.

The diagrams shows a clear space between 700mm (tops of shrubs) and 2.0m (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 timeframe to produce this report and the COVID19 travel restrictions in place until 1 November 21, a site visit was not undertaken. Existing lighting surrounding the development was identified from Google Street View.

Lighting identified as follows:

- Street lighting on Heritage Drive, Tigerhawk Drive and Settlers Boulevard.

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 shopping centre entry, along perimeter footpaths, within the carpark, in the loading dock area and the path of travel from the loading area and associated staff parking to the main entry.

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 carpark, at the entry to the centre and along its edges is recommended to be limited to low ground covers and shrubs a maximum of 700mm high. Trees should have no significant branches below 2.0m to facilitate good view lines at night and reduce shadows.
- Highlight the entries to the centre, tavern, pool/gym, childcare centre and medical centre.

On grade parking Areas

- Lighting should be bright and even to allow an observer to see into a parked car.
- Ensure any landscaping around the parking spaces does not obscure views into the car.
- Areas where pedestrians and vehicles are in close proximity, such as pedestrian crossings, should be well lit to enable a person to be clearly visible.

Residential basement carparking

- Use high quality lighting and white finishes in the basement carpark. The white walls and columns to reflect the lighting back and enhances lighting outputs. This is also important for any transitional spaces such as fire exits and entry to the traveller.
- 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.

Pedestrian pathways and lobbies

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

Pedestrian link

- Lighting is recommended to be installed along the pedestrian link to create a welcoming environment that encourages its use. Opportunities to integrate public art into this space is encouraged.

- Intelligent lighting that is based on sensors may be appropriate within the pedestrian link after hours. But care should be taken to ensure that the transition between light and dark does not give rise to concealment opportunities.
- Areas where pedestrians and vehicles are in close proximity such as
 - Tigerhawk Drive pedestrian crossing
 - Settlers Boulevard driveway entry where the footpath crosses
 - Heritage Drive driveway entry where the footpath crosses
 - pedestrian link crossings including the aisle split and the crossing adjacent the entry.

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 vacant lot. 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 change from a vacant lot to a site which will service a large number of people. This will establish specific Territorial Reinforcement and maintenance requirements for the site.

Management

There are five primary facilities within the centre – the shopping centre, child care facility, tavern, pool/gym and medical centre. The shopping centre is composed of a number of individual premises. The site will also accommodate future unknown development on the 'pad site'. Each will be responsible for their own Territorial Reinforcement.

Individually, each of the premises will manage and control their facilities/space however, there will be an over arching shopping centre management that will coordinate the precinct. This results in a multi-layered management of the precinct.

Carparks

Two carparks – one on-grade and one basement carpark – are proposed. The childcare centre users

are more likely to use the parking spaces outside their premises opposed to the basement carpark. The basement carpark provides direct access to the shopping centre forecourt which is external and unsecure at night. Access to the basement carpark, via the travelator is open and not secure which could give rise to malicious damage and other crime activities.

Back of House

The development's back of house (BOH) and loading areas are proposed on the southern edge of the shopping centre and accessed from the new southern road. This space is clearly identifiable as back of house and its function is clearly defined.

Pedestrian Links

There are six pedestrian entry points into the shopping centre. The public domain is highly permeable and allows for the flow of people. This allows for people to enter on foot, bike or by car.

Tavern

A tavern is proposed on the western edge of the shopping centre, fronting Heritage Drive. It is independent to the shopping centre and is accessed externally. A terrace wraps around the western and southern facades. This space can activate the street however, where it wraps around the southern corner it could impact upon future residential. There is also a portion of the terrace that is behind the mini major which has no surveillance.

Water Play

A water play area is proposed at the entry from Heritage Drive. Amenities can be accessed externally.

7.2 RECOMMENDATIONS

Entry points

Establish distinct entry points that define the edges of the shopping centre and the entry points to the buildings. Use lighting, landscaping, variation in colour/material and signage.

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.

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.

Public Domain Treatment

Landscaping is useful in reinforcing the difference between the shopping centre and the residential and educational areas of Chisholm. The shopping centre is a public space with a varying degree of private spaces. The public domain treatment should demonstrate that this is a high quality development with strong local ownership. This can be achieved by incorporating bespoke treatments such as bespoke street furniture, lighting and paving inlays. Opportunities for local community involvement, including local shop owners and residents, can help identify themes and images to influence the treatments.

Separation of cars and pedestrians

The separation of cars and pedestrians are important in developments that are open to the public. The likely movement of school aged children from Tigerhawk Drive and to the centre has been well considered by the creation of the pedestrian link. It is noted, that the path is lined with 'corten' balustrades. These balustrades have the benefit of channelling the children however, smaller children may not be as visible and could collide with a vehicle – in particular where the aisle break is provided. A less solid barrier should be considered that channels children while allowing for drivers to see children as they approach the openings and driveway crossings. The height of the balustrade should also consider the requirements for clear surveillance within the carpark as identified in Section 5 Surveillance and Section 6 Lighting. The design of the balustrade should be factored into the landscaping and lighting design as per the recommendations.

Tavern

The design of the tavern terrace should consider the visual and acoustic impact on future residential development in Lot 1. The terrace also wraps behind the mini major which is a blank facade. It has no surveillance and could become a space for anti social or crime activity. The redesign or re-purposing of this space is recommended.

Water Play Area

The waterplay area at the Heritage Drive entry provides a space for families which strengthens Territorial Reinforcement. Families are positive user groups and can discourage anti social behaviour. The areas role in the evening will require further consideration, in particular in association with the tavern. The water may need to be turned off to reduce opportunities for anti social behaviour. The entry to the amenities, from the water play area should be locked at dusk or when the water is turned off.

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

The site is currently vacant. Existing Environmental Maintenance is not relevant.

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 visitors that this development has a site guardian and is safe.

Environmental Management Design:

- Walls and fences at the street and loading areas are at risk of malicious damage. The use of anti-graffiti coatings is recommended, in particular in the loading dock area and on the southern facade where there is little surveillance in the short term.
- 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 and plan for regular removal to avoid build up of waste. Provide flame retardant bins through the development.
- Use low maintenance and drought-resistant plant species throughout the site.
- Fixtures such as the bike racks and bins should be secure and not easily removed.

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, Neighbourhood Watch 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 mix of users of the shopping centre and the other facilities 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 vacant site to a shopping centre with a range of users at various times of the day. It will comprise a combination of semi public and semi private and private spaces. There will be formal guardianship from the shopping centre management and business owners. There will be informal guardianship from users of the childcare centre, gym, swim school and staff.

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 - noting it is a private development) and what is private (private to childcare and back of house). 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 back of house, storage areas and the childcare centre. 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.

Amenities

The amenities located in the western wing can be accessed internally and externally. Amenities can be spaces where anti social behaviour and criminal activity can occur. Management through formal supervision and physical control of the space will be needed. This means an external door and CCTV should be considered. These amenities should not be available to the tavern.

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 vacant lot to a shopping centre with associated premises. The introduction of new users, the mix of users and the hours of operation makes Access Control more complex.

10.1.2 Proposed Design Assessment

The design proposes a single shopping centre building (with a number of uses) that fronts an ongrade carpark. The ongrade carpark is accessed by two driveways. The ongrade carpark is located above Heritage Drive and is accessed by a ramp. A basement carpark is located under the shopping centre and is accessed from the driveway entry from Heritage Road. It is connected to the centre by a travelator that discharges into the forecourt. This means the basement carpark is not secure.

A tavern is located on the western facade and is accessed externally and a medical centre is located on the eastern facade and is also accessed externally. Their location allows them to operate outside the centre's operational hours.

A childcare centre is located on the corner of

Heritage Drive and Tigerhawk Drive. It is an independent building with two entry points - one from Heritage Drive and the other from the on-grade carpark.

The tavern could be accessed from the forecourt and the rear southern road. The entry point is not yet nominated.

10.2 RECOMMENDATIONS

- Provide wayfinding signage to identify what is public and what is private. Signage should clearly direct people to key buildings/destinations in the centre.
- Consider improving access to the childcare centre by making it clearly different to the entry to the gym/pool entry (from the carpark). Provide more space to the entry to the childcare centre and allow for waiting areas outside the entry - noting the changes to childcare pickup and drop off during COVID which could continue.
- Establish entry points to centre, retail premises, tavern and medical centre that look different to the rest of the building. Use colour, materials, lighting and signage to distinguish.
- Use signage to identify the location of public amenities. Provide an external door to the corridor and lock this door when outdoor cafes and retail premises have closed. Management of the centre may need to adjust the toilets hours of operation if there is anti social/criminal behaviour. It should not be available for use by

the tavern.

- The proximity of the tavern and the loading dock could result in criminal activity. Security for back of house should be regularly reviewed.
- The basement carpark needs to be secured after hours. This should include a garage door and a door to enclose and secure the travelator. The door should be located at the upper forecourt level as the basement lobby area and internal areas of the carpark could become a target for malicious damage and concealment.

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?

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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 management 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.

12 CONCLUSION

The proposed development will change the current use of the site - from a vacant lot to a shopping centre development with a range of uses and premises. Analysis of BOSCAR data for the suburb of Chisholm identifies low crime levels in the suburb. The suburb is emerging and has a low population. At the 2016 census, the population was recorded as having 1,461 people however, it likely to have increased since that time, as new areas are released and new dwellings are constructed. This is important to note that existing crime data cannot predict the future and that current crime activity is likely to change as the population becomes denser. Crime activity can change from year to year. This may not be because the activity has increased, but because activity is reported inconsistently or because Police are targeting that particular crime activity. The proposed development (shopping centre) will be the first of its kind in the suburb and therefore, there is no precedent crime data to analyse.

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 development will be an important contribution to the Chisholm community. However, the proposed sites activities such as the tavern, the elevation of the carpark from Heritage Drive and the vulnerability of local school children will require high levels of management to ensure the premises remain safe and secure for its visitors.

A high level of consistent maintenance and the delivery of high quality landscaping and finishes will demonstrate to users and staff that this is a well loved centre - 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 newly established Neighbourhood Watch is highly recommended to monitor the area and the proposed development.

The key recommendations include:

- providing clarity between semi public and private spaces using landscaping, fencing, signage and materials.
- providing clear delineation between people and vehicles between the carpark and the movement areas, this includes good lighting to illuminate pedestrians.
- Clearly naming each building so it can be easily identified by emergency services or users of the facility.
- securing the basement carpark with a security door and secure the travelator to prevent unauthorised access after hours.
- low maintenance landscaping which does not inhibit sight lines e.g. landscaping is recommended to be limited to groundcovers, shrubs (no taller than 700mm) and taller trees with no significant branches below 2 metres.
- using appropriate and high quality lighting designed by a lighting engineer.
- reconsider the design of the pedestrian through site link and the corten blades that could inhibit views of small children.
- 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.
- maintaining good surveillance from retail and business premises to the carpark, entry points and footpaths by not obscuring windows with signage and shelving and designing landscape to maximise clear sightlines.
- registering CCTV with NSW Police.

APPENDIX A - DESIGN DRAWINGS



CRIME RISK ASSESSMENT