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10th March, 2010

Mr Robert Sargis
Project Manager
Hudson Square Pty Ltd
Suite 14, 128 Cleveland Street
CHIPPENDALE NSW 2008

Dear Robert,

Security Design Report:
157-163 Cleveland Street, Chippendale

We have pleasure in submitting this Final Report for your reference. Should you have any questions please do not hesitate to contact me.

Yours sincerely,

Leon L. Harris Dip.Sec.Studs.,CPP
Principal Consultant

Security Design Report
for
Development Application

157-163 Cleveland Street, Chippendale

on behalf of

Hudson Square Pty Ltd

March, 2010

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Table of Contents

A EXECUTIVE REPORT

Hudson Square Pty. Ltd. proposes a mixed use (commercial and student accommodation) development at 157-163 Cleveland Street, Chippendale (MP 07_0180). The development is bounded by Cleveland Street to the north, Hudson Street to the south, Hart Street to the east and Abercrombie Street to the west. The proposal falls within the City of Sydney's aim to revitalising this part of inner Sydney in line with their vision and master plan. The proponents propose to re-develop 80% of the site, abutting the existing 20% (fronting Abercrombie Street). They envisage a 4 storey building with one main pedestrian entry point off Cleveland Street and a vehicle entry point off Hudson Street. The surrounding environment is itself a mix of commercial, residential and retail activity. Cleveland Street is a busy (main) interconnecting thoroughfare for traffic skirting the city's east-west trajectory. It is also one of the pedestrian routes from Central and Redfern Stations to Sydney University and private colleges, hence the proposal to include student accommodation as a development goal. The precincts surrounding the re-development have a history of anti-social and criminal behaviour. The site is therefore considered 'security vulnerable'.

Security – the prevention of anti-social and criminal behaviour – is therefore critical to the development's overall objectives, securing the site as 'welcoming and safe space'. Security of the entire footprint should protect the interests of both. The Report examines security issues in that dual light.

'Security' may be more specifically defined as: '*planning, design and management measures designed to minimise and/or prevent the likelihood of anti-social or criminal behaviour targeting property or persons in any given urban or rural context*'.

There are four inter-related security objectives under consideration.

Objective 1:	Legislative Compliance
Objective 2:	Crime Risk Impact
Objective 3:	Security Design
Objective 4:	Security Reputation through Management

The development should comply with security-related State and Local Government legislation, its operational impact should not add to anti-social or criminal risk/activity in the surrounding neighbourhood, building design should incorporate Crime Prevention through Environmental Design (CPTED) principles and post-construction operations should include a security management plan.

A summary of the objectives, with the conclusions from each, follows.

Security Objective 1: Compliance with Planning Instruments

With respect to security considerations, the development's DA documentation should comply with Section 79C guidelines of the New South Wales Government's EPA Act, the Department of Planning, Director General's Requirements, the requirements of the City of Sydney's Redfern-Waterloo Community Safety Plan, 2008 and the (overarching) Safe City Strategy, 2007-2012, with reference to building and environmental design aspects.

The developer has taken into account CPTED principles and drawings to be submitted in conjunction with the DA reflect the potential for design development in line with State Government, Local Government and Police Area Command guidelines, policy requirements, or

other expert input. With regard to Security Objective 1, DA documentation provides the developer with an appropriate foundation upon which to build security design and security management strategies, details of which be specified in design-and-construct documentation. Objectives 3 and 4 discuss these details.

We therefore conclude that, in terms of the Director General's legislative requirements pursuant to Section 75F of the EPA Act, in terms of the Department of Planning's guidelines pursuant to Section 79C of that Act, in terms of the City of Sydney's requirements and in terms of the Police requirements, there is intended compliance.

Security Objective 2: Impact and Minimisation of Crime Risks

To ensure that the proposed development's design or operations are not likely to cause, condone or promote anti-social or criminal behaviour and/or constitute any increase in community crime or crime risks.

From our review of the drawings prepared for DA submission, there is no indication that the development's overall design is likely to cause, condone or promote anti-social or criminal behaviour. In our view, the development of itself does not constitute an increased crime risk to the immediate or surrounding locations within the wider Redfern – Chippendale community.

There is every indication that design documentation will reflect the desire of the developers to positively contribution to providing an extended secure environment beyond each of the three street frontages, resulting from innovative architectural form, and from lighting, set-back, signage and surveillance technology applied site wide, but particularly applied to the Cleveland Street and Hudson Street vehicle and pedestrian entrances.

Security Objective 3: Designing Out Crime

The development should reflect a 'safe space' approach to security by incorporating CPTED (Safer-by-Design) principles into design documentation 'sign- off'; applying aspects of architecture, engineering and technology to promote best-practice security solutions for the whole site bounded by Cleveland, Hart, Hudson and Abercrombie Streets, in line with State and Local Government requirements.

We note that, from a security perspective, the DA drawings reflect opportunities for appropriate 'security design' based on CPTED principles, to be incorporated into relevant aspects of the development's detailed design.

We recommend that the DA approval be conditional on the developer's intention to incorporate security design solutions into design documentation, including, but not necessarily limited to, points 3.3.3.1 to 3.3.3.6 in the detailed report.

Security Objective 4: Marketability, Reputation and Management

Together with recommended and/or agreed security design solutions in Security Objective 3, the implementation of a security management plan should enhance the overall marketability and reputation of the development.

It is our view that the on-going security reputation of this development is best served by incorporating the above four strategies as a whole-of-site SMP even though such a plan may not be a development approval condition. An SMP will enhance a welcoming and safe space reputation. We acknowledge that ultimately, it is the responsibility of the owner/occupier clients to agree on, and implement, such a plan.

We recommend that, prior to post-construction commissioning, the client seek advice in preparing and implementing the plan, by consulting with local police, City of Sydney and the Redfern Waterloo Partnership Project to ensure that the plan converges with similar initiatives in place, or proposed for the area.

B DETAILED REPORT

1 SECURITY SCOPE OF THE PROPOSED DEVELOPMENT

Hudson Square Pty. Ltd. proposes a mixed use (commercial and student accommodation) development (the development) at 157-163 Cleveland Street, Chippendale (MP 07_0180). The development is bounded by Cleveland Street to the north, Hudson Street to the south, Hart Street to the east and Abercrombie Street to the west. The proposal falls within the City of Sydney's aim to revitalising this part of inner Sydney in line with their vision and master plan. The revitalisation includes issues of security; safe pedestrian and vehicle interconnectivity in and around Chippendale, more vibrant streetscapes and optimising public space usage.

The proponents propose to re-develop 80% of the site, abutting the existing 20% (fronting Abercrombie Street). It is a 4 storey complex with one main pedestrian entry point off Cleveland Street, a second less prominent entry off Hudson Street and a vehicle entry off Hart Street. The surrounding built environment profiles a mix of commercial, light industrial, residential, educational and retail activity. Cleveland Street is a busy (main) thoroughfare for traffic skirting an east-west trajectory of Sydney City's southern boundary. It is also one of the pedestrian routes from Central and Redfern Stations to Sydney University and private colleges, hence the proposal to include student accommodation as a development goal. Precincts surrounding the re-development have a history of anti-social and criminal behaviour. However recent (Redfern) police and community feed back indicates that from 2006 to 2009 there was a significant reduction in crime, particularly in street level disturbances and property damage. The community's aim is to continue this trend. While the site is still considered 'security vulnerable', a key objective of the development is to implement strategies that will (a) reduce its vulnerability and risk while (b) contributing to the community's broader success in crime reduction.

Co-location of commercial and student accommodation objectives are not of themselves a security issue, particularly where access and movement are clearly defined and managed. The development's movement ebb-and-flow will be determined by the eventual decisions as to floor space allocation. The presence of legitimate pedestrian activity to, from and within the site over a range of day and night time periods should deter opportunistic anti-social or criminal behaviour. Carefully managed 24/7 limited and secure-access should positively impact on the crime prevention objectives.

As the site is physically exposed on all four boundaries, perimeter security must be a central plank of deterrence and prevention. Sound *perimeter* security indicates to passing 'traffic' equally high levels of *internal* security. This preserves the perception and reality of overall (site wide) security integrity.

Security design for, and security management of, the development should be considered in conjunction with existing measures protecting the remaining 20% of the site. A preferred whole-of-site security treatment strategy will better secure the entire site.

In today's climate of fear and uncertainty about crime associated with this area, both levels of government and the community are keen to limit crime risk whenever new people-focussed developments are proposed; another reason for employing an intentional site-wide solution. The broad security scope involves design and management strategies for the commercial and residential floor space, the perimeter, pedestrian and vehicle access. Each of these areas has different crime risks and each has precinct has particular security solutions. The key issues pertinent to this goal include:

- the role of architecture and engineering in achieving an integrated 'whole-of-site' security outcome;
- access control for pedestrian and vehicular traffic;
- layout and interconnectivity of vehicle entrances, exits and parking spaces;
- intra and inter-precinct pedestrian flow;
- form and robustness of perimeter facades, set-backs or recesses;
- technical surveillance of sensitive zones including utilities infrastructure;
- development of integrated lighting, signage, landscaping and technology sub-designs for the above specifics.

Security (inter-alia 'safety') in this context is the prevention of anti-social and criminal behaviour within and immediately outside the development. The Report examines security issues in that dual light. We view security solutions as more than physical or mechanical or technical. Our definition sets security in a broad design and management framework: '*planning, design and management measures to minimise and/or prevent the likelihood of anti-social or criminal behaviour targeting property or persons in any given urban or rural context*'. (Refer Appendix 2 for security design rationale). Requirements of the Director General of Planning and the City of Sydney reflect this approach. Four key questions constitute the Report's scope and objectives.

1. Does the proposed security design and management strategy comply with State and Local Government crime prevention planning instruments?

   Security Objective 1: ensuring compliance with the security requirements of Section 79C of the Environmental Planning and Assessment Act (EPA Act), the Department of Planning's Requirements under Section 75F of the EPA Act and the requirements and/or policy guidelines of the City of Sydney's Redfern-Waterloo Community Safety Plan, 2008 and the overarching Safe City Strategy, 2007 – 2012.

2. What are the crime risk impacts of the development on adjacent premises, immediate street scapes and surrounding CBD precincts?

Security Objective 2: assessing the local and neighbouring environments in terms of anti-social behaviour, criminal activity or potential crime risks and the likely positive or negative impact of the redevelopment on those risks;

3. How does the specifics of security design advance the site and building's overall security integrity?

Security Objective 3: identifying vulnerable aspects of the development requiring specific security design input aimed at reducing the likelihood of anti-social or criminal activity and preventing opportunities to engage in such activity.

4. What on-going security maintenance and management is envisaged to monitor, contain or reduce levels of future site-wide crime risk?

Security Objective 4: ensuring that there are security design maintenance and security management strategies in place to enhance operational reputation and reduce potential 'new' risks to the development.

Discussions with the client indicate a willingness to address the four objectives in design concept and detail. The consultants acknowledge that the client's overall vision includes 'security' as a critical component of the development's design and operational goals.

2 THE STAKEHOLDERS

The diverse stakeholder base comprises:

- Hudson Square Pty. Ltd.;
- The New South Wales Department of Planning;
- City of Sydney;
- The broader (Chippendale and Redfern) community;
- Commercial and residential tenants, their clients and visitors;
- Redfern Local Area (Police) Command;
- Contractors and emergency services.

Each of these sub-groups will have different security expectations, pertinent to their involvement with the site. However, their broad expectations are similar in that personal and property safety will be a 'given' of the development. Therefore a 'welcoming and safe environment' is critical to the development's success. A welcoming and safe environment may be defined as: '*an environment where security has been considered as part of concept and/or master-planning and design-and-construct processes where security outcomes enhance a project's overall reputation.*'

3 SECURITY OBJECTIVES AND OUTCOMES

3.1 Security Objective 1: Compliance with Planning Instruments

With respect to security considerations, the development's DA documentation should comply with Section 79C guidelines of the New South Wales Government's EPA Act, the Department of Planning, Director General's Requirements, the requirements of the City of Sydney's Redfern-Waterloo Community Safety Plan, 2008 and the (overarching) Safe City Strategy, 2007-2012, with reference to building and environmental design aspects.

3.1.1 Compliance with State Legislation and Policy

The NSW Environmental Planning and Assessment (EPA) Act, 1979 allows provision for instruments to regulate or codify issues pertaining to environmental impacts of (normally) large scale and modest developments. Security (crime prevention) is one of the "impacts" allowed for.

Section 79C (1) states: "*In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development, the subject of the development application*".

Section 79 (1) (b) adds: "…*the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality*".

Section 79 (1) (e) adds: "…*the public interest*".

The 2001 amendments to the interpretive guidelines for this Section state: "…*Crime prevention falls under these subsections of 79C. Councils have an obligation to ensure that a development provides safety and security to users and the community. If a development presents a crime risk, these guidelines can be used to justify:*

- *modification of the development to minimise the risk of crime, or*
- *refusal of the development on the grounds that crime risk cannot be appropriately minimised*".

Interpretation of "the public interest" includes the relevant stakeholder individuals and groups – in this case, government, commercial and residential and the broader community. The public interest in relation to the proposed development is to create, sustain and promote 'safe space' outcomes, reducing or preventing anti-social and/or criminal behaviour. The public interest could arguably extend to preventing unacceptable behaviour near to and beyond the perimeters of the site, although strictly speaking, the developer has no responsibility for such behaviour. However, one outcome of a successful whole-of-site security regime would be to 'model' that success to neighbouring premises and or streetscapes.

The other obvious outcome of successful site-wide security is to displace potential unruly behaviour. This unintended consequence can be mitigated where this development's stakeholders agree to work with the community, Redfern Police and the City of Sydney. A review of current drawings indicates security design intentions to that end.

The NSW Department of Planning has issued 'Director General's Requirements' pursuant to Section 75 F of the EPA Act. These requirements seek compliance with Safer-by-Design principles in relation to built form and other (security) measures related to the purposes outlined

in the Development Application (DA). Safer-by-Design principles are in turn based on Crime Prevention through Environmental Design (CPTED) an internationally accepted model for applying aspects of architecture, engineering and technology to reduce or prevent crime in urban environments. Reference to this requirement falls within Point 2 – Built Form and Urban Design, requiring the development to adhere to 'Safer-by-Design principles covering the building design and public domain. Point 4 – Traffic and Parking Impacts (Construction and Operational) requires the developer to implement measures to mitigate safety impacts such as identification of pedestrian movements and appropriate treatments together with details of (safe) vehicle access/egress.

The Crime Prevention Officer (CPO) and other officers from Redfern Local Area Command have been actively working with their community and are keen to ensure that the development's design reflects Safer-by-Design principles, especially with regard to vehicle and pedestrian access/egress and to the treatment of street level facades.

3.1.2 Compliance with Local Government Legislation and/or Policy

City of Sydney's Redfern-Waterloo Community Safety Plan, 2008, together with its Safe City Strategy 2007-2012, requires developers to consider CPTED principles when submitting DA documentation. The City of Sydney's Redfern – Waterloo Community Safety Plan states: "*The key to safe urban design will essentially involve combining the social and the physical characteristics of an environment in striking a balance between surveillance, security, acoustic and visual privacy, building character and appearance and a clear delineation between public and private spaces.*" (2008:85)

Council's DCP revisions also require developers to consider design in reducing opportunistic crime, including lighting and natural surveillance measures. The City of Sydney Council is working with the Department of Planning to ensure a coordinated approach to compliance through innovative design.

Throughout New South Wales and other States, development applications are increasingly required to demonstrate the incorporation of CPTED or Safer-by-Design principles into master planning and design documentation. (*These principles are explained fully as Appendix 2*)

Therefore documentation for the proposed development should incorporate relevant CPTED features to reflect compliance with State and Local government requirements. Specific opportunities for the client to address CPTED options are referred to in Security Objectives 3 and 4 of this Report. However, we are satisfied that the client has taken a whole-of-site approach to security.

3.1.3 Security Objective 1: Conclusions and Recommendation

The developer has taken into account CPTED principles in drawings to be submitted in conjunction with the DA to reflect the potential for design development in line with State Government, Local Government and Police Area Command guidelines, policy requirements, or other expert input. With regard to Security Objective 1, DA documentation provides the developer with an appropriate foundation upon which to build security design and security management strategies, details of which are to be specified in design-and-construct documentation. Objectives 3 and 4 discuss these details**.**

We therefore conclude that, in terms of the Director General's legislative requirements pursuant to Section 75F of the EPA Act, in terms of the Department of Planning's guidelines pursuant to Section 79C of that Act, in terms of the City of Sydney's requirements and in terms of the Police requirements, there is intended compliance.

3.2 Security Objective 2: Impact and Minimisation of Crime Risks

To ensure that the proposed development's design or operations are not likely to cause, condone or promote anti-social or criminal behaviour and/or constitute any increase in community crime or crime risks.

3.2.1 Urban Developments and Crime Risks

The purpose of Security Objective 2 is to identify the development's likely impact on the immediate and surrounding streets, not the reverse. Obviously the crime profile of the community is relevant in order that the developer's design response is in line with broader community and government crime reduction and/or prevention initiatives. There are two issues, (i) does the proposed development's design or operations hinder or impede the perception of safety when entering, leaving or within, the building and (ii) are there any design or operational compromises that might cause, or cause an increase in, anti-social or criminal behaviour in the nearby streets or premises?

There is the third issue mentioned above – that of existing anti-social or criminal activity in the immediate and surrounding neighbourhoods. This is a separate matter that is unrelated to this security objective. While the developers have no responsibility beyond their site, their approach to security design and management for the site may have a positive 'spill' and indirect influence on that environment. It depends on (a) how the development's security model is understood and received and (b) how that model accords with police, City of Sydney and community security initiatives.

Our research continually indicates that issues of anti-social behaviour, crime and crime risk management in dense urban environments are far from academic in today's security conscious world. Building and place design should collectively contribute to community wide safety. Security ('safe site') design of this development can contribute to the crime prevention goals of government and community stakeholders.

Identifying crime trends and crime risk impacts can be fairly subjective. Statistics only relate to reported crime. The subjectivity arises when a crime risk analysis tries to second-guess total crime and crime trends by linking reported crime to anecdotal 'evidence' of unreported crime; sometimes said to be equal to, or more than, the reported crime categories. The Redfern – Chippendale community has well documented and experiential evidence of anti-social and criminal behaviour. Recent community and government action has reversed this pattern. This does not necessarily reduce risk, but, in this context, it has reduced criminal behaviour. This development's security design and management measures should align with the community's crime prevention resolve. This reinforces the need for a site-wide strategy whose benchmarking profile might be emulated by other development proposals.

This suggests a continuum of perimeter strategies in the first instance. The goal is to foster a different non-tolerance of crime reputation through a determination to 'build' an alternative reputation for the immediate and surrounding precincts. Design of the development's perimeters, vehicle and pedestrian access points should minimise opportunities for anti-social or unlawful behaviour, which if allowed to gain any tolerance or momentum, will 'contaminate' adjacent scapes and structures.

Obviously design is not the only way to counter the fear and reality of crime in the locality. It is one well-recognised approach aimed at complementing other social, environmental and policing measures that already exist in the broader Redfern community. However, as stated earlier, the DA documentation must indicate a potential through design development, to

facilitate the containment and/or reduction of crime within and adjacent to the proposed site. However, mitigation of local crime risks will also depend on the relationship between the project and its 'neighbours' – adjacent office, retail and residential precincts and their associated street scapes.

3.2.2 Determining Crime Risks and Their Impact

The Australian and New Zealand Standard 4360:2004 (ASNZS 4360) is the current benchmark instrument whereby generic risk is identified, quantified and 'modelled' as a risk management tool. The Standard is used nationally and, to a growing extent, internationally. It is an imperfect but useful method to tabulate and understand the nature, source, frequency, and consequences of risk 'types'. Initial or assessed risk calculations are given levels based on a lickert-style scale, usually as 'negligible' 'low' 'medium' 'high' and 'extreme'.

In determining specific crime risks for this development, the Standard provides guidance only. Scaled crime risk levels may be determined (assessed) from objective (official) crime statistics, police intervention, community observations and concerns raised by the City of Sydney, by police, businesses and the local community. But determining risks associated with crime in and around major urban sites is equally subjective in the way those risks are identified, quantified, assessed and managed, Subjectivity comes from different versions and/or perceptions of behaviours which may or may not become criminal incidents. Anti-social behaviour is common in some inner city precincts in towns and cities, especially at night when young people tend to 'cruise' empty and echoing streets, irrespective of whether they intend to commit crime. Noise and boisterousness do not constitute unacceptable behaviour to some, while they do to others. If alcohol is involved, then noisy night time behaviour by individuals or groups can escalate and deteriorate into criminality. Historically, the residential community surrounding the development has itself been concerned with the frequency of anti-social and criminal behaviour. The latest evidence from police and City of Sydney (2006 to 2009) indicates significant reductions in steal from vehicles, persons and property. There has also been a drop in street-based assaults and alcohol-related anti-social incidents.

Hudson Square's duty-of-care is simply to provide site wide safety for its stakeholders; that is, providing a development where property and people are protected and where safety (security) is promoted through appropriate design and management. While Standard 4360 can be used to conduct a longitudinal study of crime risks impacting on the Redfern-Chippendale locality, it is not a model for determining more pragmatically, potential or actual crime risks. More immediate data enabling analysis comes from:

- characteristics of neighbouring Redfern and Chippendale premises and streets, conducive to a safe or unsafe local environment
- local police intelligence, operational intervention in the vicinity of the site;
- trends from the NSW Bureau of Crime Statistics and Research (BOCSAR) and recent City of Sydney data; refer *Appendix 1*.

Collectively, these sources show continuous improvement in anti-social and criminal behaviour, a pleasing reversal of the locality's former profile. However, then risks remain and all developments proposed for Redfern – Chippendale must make their specific contribution to risk minimisation. The design of this development is taking that responsibility seriously.

There are many and varied explanations for levels, types, sources and frequency of anti-social and criminal behaviour in and around the Redfern – Chippendale locality. but debate around these characteristics is only relevant to devising design and management strategies that will 'secure' this development in such a way as not to add to existing anti-social or criminal activity; at worst not to negatively contribute, but at best, to make a positive contribution to the goal of preventing anti-social or criminal activity anywhere in the locality. In this regard, Objectives 3

and 4 of this Report are the key.

3.2.3. Adjoining and Surrounding Buildings

There is little evidence of graffiti and vandalism targeting premises along Cleveland Street. This may be due to the street's 24/7 CCTV surveillance and/or to the fairly constant passive surveillance from passing pedestrian or vehicular traffic. Buildings in surrounding streets have been targeted with graffiti or other forms of perimeter damage. One of the problems is a lack of coordination in managing streetscape or building perimeter (façade) risk. For example there are no observable lighting 'standards' or strategies from one structure to the next. Nor is there apparent coordination between building perimeter lighting with street lighting.

External lighting, landscaping and CCTV coverage of this development could (should) showcase the precinct. Perimeter security could inform neighbouring building sites as to:

(i) their relevance and effectiveness for a safer locality
(ii) opportunities for neighbouring premises to adopt security design initiatives of this development;
(iii) establishing a broader 'standard' (or guidelines) for possible 'roll out' by City of Sydney across other Redfern – Chippendale mixed-use sites.

3.2.4 Security Objective 2: Conclusions and Recommendation

From our review of the drawings prepared for DA submission, there is no indication that the development's overall design is likely to cause, condone or promote anti-social or criminal behaviour. In our view, the development of itself does not constitute an increased crime risk to the immediate or surrounding locations within the wider Redfern – Chippendale community.

There is every indication that design documentation will reflect the desire of the developers to positively contribution to providing an extended secure environment beyond each of the three street frontages, resulting from innovative architectural form, and from lighting, set-back, signage and surveillance technology applied site wide, but particularly applied to the Cleveland Street and Hudson Street vehicle and pedestrian entrances.

3.3 Security Objective 3: Designing Out Crime

The development should reflect a 'safe space' approach to security by incorporating CPTED (Safer-by-Design) principles into design documentation 'sign- off'; applying aspects of architecture, engineering and technology to promote best-practice security solutions for the whole site bounded by Cleveland, Hart, Hudson and Abercrombie Streets, in line with State and Local Government requirements.

3.3.1 Overall Security Design

Designing *out* crime implies designing in security (safety). As mentioned above, if implemented, each of the following design specifics should enhance the collective sense of security.

CPTED principles are basic to City of Sydney's DCP and their 2008 Community Safety Plan. They also underpin the crime prevention requirements of the Department of Planning (refer Objective1). CPTED, Safer-by-Design or security design, principles seek inter and intra spatial architectural connectivity which maximises legitimate people-centred activity encouraged by perceptions of personal safety and belonging. This is achieved by designing for territorial

(precinct) ownership, good surveillance sight lines and clarity of access – the three themes of Oscar Newman's 'Defensible Space' concept of the 1970's (*refer Appendix 2*). '*Security design*' may be defined as '*an environmental crime prevention strategy; applying aspects of architecture, engineering and technology to all urban development proposals.*' We have considered the following specific design aspects of the DA documentation in relation to incorporating this definition and the abovementioned principles facilitating spatial (territorial) definitions, passive and active surveillance and access control through welcoming way finding.

3.3.2 Underpinning Sub-Designs - Lighting, Landscaping, Signage and Technology.

The ideal is to consider these three architectural sub-designs provide a coordinated foundation for meeting whole-of-site security design objectives. In this context, there is little street-level landscaping, other than to provide potted shrubs and to respect existing tree-scapes. In concert, these three define, identify, guide, permit and restrict vehicle or pedestrian movement to or from the street and within levels. It is therefore recommended that interdisciplinary sub-planning occur to create an overarching (security) design strategy for each of the areas referred to in the following.

Lighting in this context refers to external and internal public space illumination – façades, both street level entries, corridors, lift lobbies, the reception foyer, vehicle ramps, parking areas, perimeter set-backs and/or recesses. From a security perspective lighting design must coordinate all mono and multi-chromatic spectra, ideally eliminating 'up' or eye level 'throw' which causes glare. (Bollard lighting is an example. While an aesthetically pleasing way-finding option, bollards can cause glare and shadowing. They often become 'buried' in mature landscaping and are targets for vandalism.)

Our preferred (security) option is to 'down light' all relevant areas. Down lighting maximises surveillance opportunities and minimises glare-related confusion. In this context there is opportunity for under-eave lighting along Cleveland and Hudson Streets complemented by high wall luminaires along Hart Street, all of which will add to site-wide lighting pattern consistency, assisting with perimeter definition. In particular, down lighting will help prevent concealment along the Cleveland Street set-back. From an energy-saving perspective, CFLs and LEDs are recommended as an alternative to halogen options.

Landscaping is critical to territorial definition and surveillance facilitation. If the trees along Hudson Street are to remain, they should comply with understorey ground-clearing heights of at least 1.0 metre, This is a Council responsibility. We note that the development itself does not include any external landscaping – grasses, shrubs or ground cover. Should planter boxes be specified internally or on the roof top, we recommend a screen wire be inserted, approximately 10 cm below the surface**,** the aim of which is to prevent explosive devices being concealed ('buried') at depth in boxes or pots.

Signage has two security (and safety) purposes – directional and controlling. Directional signage should provide coordinated way-finding clarity from Cleveland and Hudson Streets, to the reception foyer, to lifts and public toilets. Direction signage should also indicate vehicle entry and parking arrangements. Colour coded back lit signage in line with safety Standards has beneficial security outcomes, in 'guiding' purposeful pedestrian and vehicle flow. Uncertainty often causes hesitancy, even panic, when way-finding signage is vague or is poorly lit. Controlling signage should indicate restricted access and off-limits demarcation. It is a pre-challenge measure to advise (notify, identify, clarify) location and legitimacy designations.

Alarm and Surveillance Technology should include intruder detection, duress alarms and CCTV technology to support physical (security) design.

The development's immediate environment is crime-vulnerable and the student residence use could heighten the risk, if mitigation measures are not maximised, hence the increase coverage of surveillance and alarm technology. The technology must be capable of interfacing with other fire and emergency systems. Duress and intrusion alarm technology should be considered. Regular testing of systems capability is essential (refer Objective 4). The security technology should support the development's post-construction security management measures.

3.3.3 Design Specifics

There have been on-going discussions with the developer and architect. Both are keen to provide a 'safe space' outcome through design. There have also been discussions with community and local police representatives who are also keen to ensure that CPTED design principles are incorporated into the development. The current set of drawings reflect CPTED design in relation to:

- building and site perimeters
- pedestrian entry
- contained (purposeful) and casual pedestrian flow
- vehicle movement and parking
- waste removal
- utilities infrastructure

3.3.4 Building and Site Perimeters

The development's perimeter is bounded by Cleveland, Hudson and Hart Streets. However, the Abercrombie Street perimeter also needs street level design refurbishment to complete a total perimeter solution. The Cleveland Street façade features high street facing windows to minimise breakage risk. High windows are also proposed for Hudson Street. Hart Street has a walled façade with highlight windows, recessed fire exits and an entrance to the bin holding room. It is also proposed to located the hydrant booster valve along that façade. Anti-graffiti materials should be applied to non-glazed walls. The revised set-back design along Cleveland Street, either side of the main entrance, minimises possible concealment and is appropriate in terms of front-of-house surveillance. The round support columns along Cleveland and Hudson Streets deter concealment. Their proximity to facades will also minimise or remove this risk. Hart Street presents a high risk of graffiti. Low lux level under eave or high wall (recessed) down lighting would enhance CCTV imaging of all facades and hopefully would deter perimeter vandalism. By contrast, high lux level down-lights should be specified at point-of-entry from Cleveland and Hudson Streets. We further recommend that the same (higher-than-standard) lux levels be specified for overhead or high wall (down) lighting for the two Hudson Street vehicle entrances. New (overhead) lighting treatment of the Abercrombie Street retail entrance is recommended to match that specified for the development's new pedestrian and vehicle entrances.

It is recommended that all perimeter down pipes be either flush-mounted or slightly recessed to minimise opportunistic wall-scaling. CCTV cameras should be specified for the entire perimeter, notwithstanding the CCTV coverage of Cleveland Street. Cameras should specifically cover, vehicle and pedestrian entry points, the waste bin holding area, the booster valve hydrants and the chamber substation. There is concern over the fire exit recesses particularly in Hart Street. Ordinarily CCTV coverage would not be applicable where fire doors are electronically locked. Irrespective of that rationale, the recesses could conceal one or more persons. Cameras should therefore be considered.

Street level fire exits should be electronically locked and meet all fire and BCA conditions.

3.3.5 Pedestrian Access and Egress

The development features a single entry point from Cleveland Street. There is a second service access from Hudson Street. Both are access-controlled, by swipe card or proximity reader. The reception area will provide additional security. The ground floor lift lobby is visible from the intersecting corridor, but should also be under CCTV surveillance. CCTV surveillance is recommended for all lift lobbies. Sight lines provide adequate passive surveillance along the length of the north-south corridor. Visitors to the residential or commercial levels should either be escorted to particular floors or be given clearance by voice and video verification. The frequent comings and goings of students could lead to unauthorised access by 'following' an authorised person. This will be difficult to monitor and will require tenant-stakeholder vigilance. Commercial tenants may also access levels from the basement car park. The lift basement lift lobby is appropriately located and provides good visibility from car park spaces.

3.3.6 Contained (purposeful) and Casual Pedestrian Flow

The drawings indicate contained and controlled pedestrian movement from the basement and street levels. All tenants except commercial clients and visitors to student residences have designated entry and limited access points. From a security perspective, the drawings minimise movement confusion. There is appropriate level separation between commercial and residential purpose, supported by separate lift access. Public access to the roof top open and garden space is by invitation. Corridor, lobby and lift locations adequately define movement certainty. CCTV surveillance complement that certainty.

3.3.7 Vehicle Movement and Parking

Vehicle entry is from Hudson Street. Ramp and parking bay designs are critical to deter unauthorised vehicle or pedestrian access. There are four possible options regarding the entry ramp.

Option 1: an undivided two-way ramp featuring a single full width roller shutter
Option 2: a divided entry-exit ramp with a shutter either side
Option 3: a divided entry-exit ramp and a two-roller shutter solution incorporating an air-lock transfer.
Option 4: an undivided entry-exit ramp with two roller shutters for air-lock transfer.

There are cost and security arguments for all four. However, having regard to identified risks of pedestrian and or vehicle tailgating, we would recommend Option 2. This separates entry and exit functions. It physically and visually limits opportunities to come alongside, or move in front of, an entering vehicle. While the airlock transfer options are more secure, air-locking involves entry delay between shutter openings and closings that could induce driver anxiety. There is a possibility of entrapment should there be mechanical failure in shutter opening and closing coordination or a person enters the airlock intending to confront vehicle occupants. Roller shutters should feature a transparent grill design with the over-riding mechanism located away from easy external manual reach.

Ramp and basement lighting is critical. Graduated overhead lighting should inform the ramp's entrance to and through the roller shutters. Throughout the basement, lighting should provide high-definition vehicle recognition and recognition of people moving towards or away from vehicles. Reflective ceiling paint aids lumen strength and minimises shadowing, particularly around structural columns.

The basement plan indicates an orderly series of parking bays. There is good (security) alignment between parking spaces and structural columns. The basement lift lobby is

obstruction free, providing wide-angle sight lines to the majority of parking bays. The sight lines between bays and along parking rows are adequate.

There should be at least one designated parking space for emergency or contractor vehicles. The space should be well lit and reflected in the basement signage plan.

3.3.8 Waste Removal

The bin holding area is to be accessed internally from the basement. There will be an electronically access controlled door from the vehicle ramp into the holding area. The door should have toughened glass panel to enable observation from the ramp into the holding area. The door leading from the holding area onto Hart Street should also be electronically access controlled and should have a toughened glass panel. The doors and panels should be of sufficient strength to resist damage and access breach. The holding area should have fire detection and suppression systems and a CCTV camera within the area viewing the Hart Street entry door.

3.3.9 Utilities Infrastructure

All utilities and communications infrastructure should be considered vulnerable at connection and feeder points. Given the site's access control design, designated plant rooms and control rooms will adequately protect all systems. CCTV should cover all plant/control room entry doors and contractors should be made aware of this security management measure as part of their induction. Infrastructure plant, control and caged spaces should be free of clutter to enable easy access by contractors and/or emergency personnel. The plant rooms will be secured within the basement with restricted access. However, the fire hydrant booster, located along Hart Street façade is particularly vulnerable. We note the intention for CCTV coverage along Hart Street, but we also recommend that the hydrant equipment be suitably kiosked or secured in consultation with NSW Fire Brigade.

3.4 Security Objective 3: Conclusions and Recommendation

We note that, from a security perspective, the DA drawings reflect opportunities for appropriate 'security design' based on CPTED principles, to be incorporated into relevant aspects of the development's detailed design.

We recommend that the DA approval be conditional on the developer's intention to incorporate security design solutions into design documentation, including, but not necessarily limited to, points 3.3.3.1 to 3.3.6 above.

3.5 Security Objective 4: Marketability, Reputation and Management

Together with recommended and/or agreed security design solutions in Security Objective 3, the implementation of a security management plan (SMP) should enhance the development's overall marketability and reputation.

3.5.1 Post-Construction Operational Security Management

The effectiveness of a holistic security regime will depend on the capacity of owner-tenant stakeholders to mandate formal security procedures and practices as a strategy to manage on-going crime (security) risks. Implementation of security risk management regime should contribute to the development's 'duty of care' and occupational health and safety requirements.

Ultimately, from a security perspective, the development will succeed (a) if there is good security design (detailed in Objective 3) and (b) on-going security risks are identified and managed to support design. This fourth objective encourages the developer to match the design benefits with operational security management.

From the outset, security will impact on marketability as the address is 'sold' to its prospective client base. There are four elements to ensuring a positive and ongoing reputation from a security perspective;

- scheduled security technology maintenance,
- skilled security monitoring and incident response,
- sound security procedures and practice,
- targeted management of reputation and 'new' risk.

These four elements form the framework for a recommended Security Management Plan (SMP). This objective is also in line with the City of Sydney's Community Safety Plan for the area. There should be on-going dialogue between the development's security management team and the Redfern-Waterloo Partnership Project. Security management should complement this Project's goals of strengthening communities by removing any feelings of a fortress mentality by encouraging social participation and networking. Site security management should profile the development as holistically contributing to the safe space goal.

3.5.2 Scheduled Security Technology Maintenance

There are two issues – failure and redundancy.

It is our experience that security technology, once installed, fails for lack of comprehensive maintenance scheduling. Failures occur in systems relating to security communications, CCTV surveillance, access control and alarms. Installation of coordinated camera or alarm systems throughout the site is of little value unless there is regular maintenance and testing scheduling. It is also critical that owner occupiers, including casual and contract staff servicing the complex, have a working knowledge of the interconnectivity of each technology type. There are two aspects:

(i) Accredited technicians must regularly test all equipment, not just systems which require mandatory checks. that does not come under and mandatory.
(ii) The testing regime must include checks of incident response equipment to ensure clear and rapid reporting and recording of systems reliability.

It is also our experience that redundancy is often not part of security budget planning. There are two types of redundancy, a use-by date and the roll out of new technologies. In both cases, technologies need to be constantly reviewed and realigned to meet contemporary (risk) challenges and conditions and in order to ensure that the hardware and software interfaces continue to complement (support) the human resource and security procedures/practice strategies. Capabilities must match specifications. This particularly applies here given (a) its mixed use profile and (b) its intention to successfully model that profile as safe space.

3.5.3 Skilled Security Monitoring and Incident Response

Security management involves the creation of a security monitoring system (SMS); a template and check list detailing zoned coverage of the site. The template should feature a site map with each of the physical points to be formally checked by staff and/or technicians assigned for that purpose on a random and scheduled basis. The map's template log should be managed electronically. Intra-site coordination is essential ensuring that designated personnel have simultaneous access to all aspects of the monitoring and checking process. Key security

technology, lighting and signage distribution points throughout the tower, offices, retail areas, basements, roofs and perimeter, should feature clearly on the site map.

Incident response procedures should be clear to all tenants, including the reporting of emergency or 'suspicious' activity. As difficult as it may seem, regular incident reporting 'rehearsals' should be agreed to. Key criteria for engaging security (patrol) contractors (perhaps even security technicians) must be a demonstrated familiarity with intra-site systems distribution, understanding of environmental observation methods and interpersonal communication skills.

3.5.4 Sound Security Procedures and Practices

Security awareness is as essential as OH&S and emergency procedures awareness. Therefore a practical and easily understood security awareness (procedures and practices) program is necessary to be followed by all tenants.

Security awareness is usually resisted by tenants who would rather leave all crime related matters to employed professionals. In one sense this is appropriate. In another it is not. While professional management of security is part of any holistic regime, in this sensitive environment, informal and internal procedures must also apply. As with OH&S and as with fire and other emergencies, security awareness compliance should be a condition of access and occupation. Usually when emergencies arise there are security implications. Either the emergency is sparked by a crime-related threat or incident, or the emergency requires security procedures to be implemented as part of limiting harm or damage. Our experience shows all too often, that security awareness, procedures, practice and management fails to gain owner-occupier attention.

Security awareness within and surrounding the development should be developed in conjunction with City of Sydney, police and community initiatives. All stakeholders of the development have an obligation to accept some responsibility to contribute to collective community well-being.

Security awareness is the point of connection with security design characteristics. Although the security (awareness) emphasis is 'low key' and largely unobtrusive through architecture, overt and covert (alarm) technology, there is every reason to encourage a security awareness mind-set. Security awareness should form part of site-based contractor induction. Implementation of a security awareness, procedures and practice plan will assist in managing overall legal liability, providing tangible evidence as part of 'duty of care' and other risk management requirements.

3.5.5 Targeted Management of Reputation and 'New' Risk

Shared security goals should lead to shared security expertise and a shared approach to security and emergency risk management; the final element in achieving the fourth objective.

Lasting security outcomes are usually jeopardised if there is no clear plan by the major owner-stakeholder leadership to proactively manage security; that is, to manage the technology, manage full-time or contracted security teams and, ipso facto, manage new crime risks, which if ignored could relegate the development to 'just another high-risk Chippendale address'.

We would encourage the allocation of resources to developing a *formal* crime risk management strategy as part of the overall plan to promote the creativity in form, function and reputation. Again this should be done in conjunction with risk management strategies throughout the locality. An executive facilities management led strategy is one which:

- establishes and monitors a formal security management plan, including the development of informal security awareness procedures and practices,
- oversees its implementation and assessment as to effectiveness,
- assesses the effectiveness of SMS and security design interaction,
- conducts random and scheduled security systems checks,
- formally liaises with counterparts in neighbouring premises, with City of Sydney, community forums and with police to inform and be informed about collaborative security management initiatives;
- researches new technologies,
- manages and provides input into annual security budgeting processes with regard to the above.

An SMP which engages internal and external stakeholders drives effectiveness and drives a regime of continuous improvement.

3.6 Security Objective 4: Conclusions and Recommendation

It is our view that the on-going security reputation of this development is best served by incorporating the above four strategies as a whole-of-site SMP even though such a plan may not be a development approval condition. An SMP will enhance a welcoming and safe space reputation. We acknowledge that ultimately, it is the responsibility of the owner/occupier clients to agree on, and implement, such a plan.

We recommend that, prior to post-construction commissioning, the client seek advice in preparing and implementing the plan, by consulting with local police, City of Sydney and the Redfern Waterloo Partnership Project to ensure that the plan converges with similar initiatives in place, or proposed for the area.

4 CONSULTANCY METHODOLOGY

The methodology indicates the perspective taken by the consultants in undertaking our analysis and making recommendations. The consultants have:

(a) reviewed the drawings in order to understand the commercial and architectural goals of the proposed development;
(b) received input from the developers' design and management representatives;
(c) explored the crime risk backdrop including information about local anti-social and criminal activity;
(d) consulted with local police;
(e) visited the site during daylight and evening hours;
(f) obtained information in relation to (security focussed) planning authority instruments.

Appendix 1: Sydney LGA Crime Statistics

The following crime statistics are relevant to the Hudson Place Development. They are issued by the NSW Bureau of Crime Statistics.

Recorded victims within the Sydney Local Government Area	2004	2005	2006	2007	2008
Murder	5	3	5	3	3
Assault (domestic violence related)	792	723	874	855	892
Assault (non domestic violence related)	4131	4220	4103	4284	4383
Sexual assault	206	177	185	185	172
Indecent assault/act of indecency/other sexual offences	284	233	232	300	263
Robbery without a weapon	1101	1371	1030	1044	940
Robbery with a firearm	61	55	74	64	45
Robbery with a weapon not a firearm	486	474	467	423	269
Break & enter – dwelling	2290	2434	1708	2021	1566
Break & enter non dwelling	2126	2024	1692	1587	1302
Motor vehicle theft	1714	1211	1357	1314	988
Steal from motor vehicle	6752	5386	6963	7918	5675
Steal from retail store	1567	1718	1595	1767	1880
Steal from dwelling	1151	1210	1073	986	941
Steal from person	4927	4493	4532	4399	3566
Arson	114	122	106	79	81
Malicious damage to property	3863	4024	4264	4352	4381

Sydney LGA

Trends in Recorded Crime Statistics, 2004 to 2008

Offence category	Annual percentage change 2007 to 2008	Average annual percentage change 2004 to 2008
Murder*	N.A.	N.A.
Assault - domestic violence related	Stable	Up by 3.0%
Assault - non-domestic violence related	Stable	Stable
Sexual assault	Stable	Stable
Indecent assault, act of indecency and other sexual offences	Down by 12.3%	Stable
Robbery without a weapon	Stable	Down by 3.9%
Robbery with a firearm	Down by 29.7%	Stable
Robbery with a weapon not a firearm	Down by 36.4%	Down by 13.7%
Break and enter - dwelling	Down by 22.5%	Down by 9.1%
Break and enter - non-dwelling	Down by 18.0%	Down by 11.5%
Motor vehicle theft	Down by 24.8%	Down by 12.9%
Steal from motor vehicle	Down by 28.3%	Stable
Steal from retail store	Stable	Up by 4.7%

Steal from dwelling	Down by 4.6%	Down by 4.9%
Steal from person	Down by 18.9%	Down by 7.8%
Fraud	Stable	Stable
Malicious damage to property	Stable	Up by 3.2%

These tables shows the results of statistical tests for a significant upward or downward monthly trend in the number of criminal incidents * recorded over 2 years and 5 years respectively, for selected offence categories. Where the trend is significant, the annual percentage change in the number of incidents is shown.

"N.A." indicates that the number of incidents recorded was too small for a reliable trend test to be performed.

* For murder, the trend test is applied to the monthly number of recorded victims.

Appendix 2: Crime Prevention as a Design Strategy

A 2.1 Rationale

Crime prevention has been linked to urban design since the late 1970s. The concept originated in the United States and Canada when sociologists, criminologists and architects began to link criminal behaviour in public spaces with poor design and layout of those spaces.

Today, there are four broadly defined models of crime prevention. They may be implemented individually, although ideally initiatives derived from each will overlap. The four models are:

Crime Prevention By Social Intervention – a model that sustains the integrity and safety of (often disadvantaged) communities through government and corporate and local support for programs, development initiatives and improvements to infrastructure.

Crime Prevention By Community Development – a model that encourages settled communities to develop partnerships in accepting responsibility for protecting personal and neighbourhood assets through a commitment to networking and sharing responsibility for community development goals.

Situational Crime Prevention – a model that focuses of place-specific crimes, targeting offences and offenders by pro-active and responsive security or law enforcement strategies.

Crime Prevention By Environmental Design – a model that incorporates aspects of architecture, engineering and technology to enhance the form, function and reputation of the built environment as “safe space”.

Crime Prevention Through Environmental Design (**CPTED**) is a coined version of the Crime Prevention By Design model; one that is takes a specific approach to reducing and preventing crime by applying architectural design principles to urban developments which focus on territoriality, surveillance and access control. CPTED and the other models have largely been adopted throughout the developed world as legitimate crime prevention strategies.

Throughout the 1980s and 1990s, State and local authorities within Australia, responsible for urban development approvals, have been gradually adopting the CPTED or similar crime

prevention (design) concepts when approving both large and small scale development applications.

Within Australia, there is recognition by all stakeholders involved in urban development, (however the term is defined) that designing out crime should form part of *mandated* development application criteria.

In 2001-2, the New South Wales Parliament assented to changes in guidelines under Section 79C of the EPA Act to include crime prevention as one of the "matters of public interest" which must be considered in approving development applications.

Increasingly, local authorities are introducing instruments and/or guidelines requiring 'security' to form part of DA documentation.

Notwithstanding local and State based regulatory requirements, it would seem prudent that developers seek to incorporate crime prevention-by-design guidelines to all projects, especially given the marketing and legal emphases on personal and community safety (security) Australia.

It is conceivable that, if built environments can be "secured" by adopting agreed crime prevention design guidelines, (protocols, etc.), then such guidelines will in time become mandatory in much the same way as Building Codes and Occupational Health and Safety standards have been adopted.

Incorporation of crime prevention architecture and engineering into relevant planning documentation throughout the design-and-construct stages is the ideal way to ensure compliance with local and State requirements.

A 2.2 Aims: Crime Prevention By Design

The broad aim of crime prevention design principles is to create and sustain safer communities by incorporating crime prevention design initiatives into all urban development.

From the literature, it is possible to identify two specific aims:

- To promote the legitimate and safe use of all natural and built environments by incorporating crime prevention or security design codes or guidelines into all development planning and approval processes.

- To enhance the reputation of developed environments by ensuring that crime prevention or security design criteria are integral to all architectural and engineering documentation submitted for review and approval by relevant authorities.

A 2.3 The Concept of "Defensible Space"

Oscar Newman (1972) coined the term. He developed the concept in relation to significant crime problems in high-rise ghetto type housing developments of New York City in the 1960s. Newman suggested that the urban design of inner city precincts was directly attributable to anti social behaviour and high crime rates.

Newman recognised that there were three spatial issues that should be addressed in all future urban planning – territoriality, surveillance and access control. Each can be linked with architectural and/or engineering documentation in a coordinated approach towards making public and private spaces relatively crime free.

A 2.4 The Concept of Territoriality

It is essential to provide a sense of territorial definition and boundary limits from the first point of contact with any built environment design. That point of contact may be the front door of a building. It may be the off-road set back of an industrial estate, or it may be the main street – boulevard, divided road and/or entry statement – of a new sub-division. “On approach”, the sense of definition of access and use should be evident.

Crowe (2000:37) suggests that the right physical design contributes to a positive sense of territorial use and ownership – a sense of territorial influence. In urban developments, territory may be defined or classified as public space, semi-private or communal space, restricted space and private or secure space.

Mixed use sub-divisions are particular cases in point. Each such development concept should flag spatial use and spatial hierarchy. This hierarchy should be evident as concepts, principles and foreshadowed specifics at the DA stage, to be followed by detail submitted throughout relevant aspects of design documentation.

The DA stage and design documentation architecture (and engineering) of vehicle or pedestrian corridors, commercial, retail, recreational, institutional, and residential precincts is as important as the architecture of the buildings that will eventually occupy those precincts. One without the other contributes to a sense of territorial confusion where territorial clarity is required.

Geason and Wilson (1989:5) claim that well designed housing projects make it clear which spaces belong to whom – some being completely private, some being shared and some public. Architects and developers of course claim that these aspects are always part of concept design, master-planning and detailed documentation. The difference is that they are seldom designed to standards or principles aimed at repelling crime.

A 2.5 The Concept of Surveillance

Spatial design should maximise opportunities for surveillance – formal and informal. The design principle here is to increase the number and length of sight lines; the capacity of people and technology to observe movement and activity at distance.

The location, mass, height, proximity and form of buildings therefore become critical design features. The relationship of buildings to all open spaces and to roads, pathways, cycle-ways, parks and other streetscape forms is equally critical.

There are three agreed forms of surveillance that should be encouraged: *natural, social and technological.*

Natural surveillance encourages casual observation and monitoring of all users and owners of known and defined urban space.

Social surveillance encourages casual observers, through natural surveillance, to routinely monitor, challenge or report suspicious pedestrian and vehicle movements through precincts or into buildings.

Technological surveillance employs CCTV and other monitoring devices to alarm premises or spaces to deter/detect and respond to unlawful access or unlawful behaviour. In the past, analogue CCTV surveillance technology consumed personnel resources including managing the recording, e.g. replace tapes of these early systems. Network cameras and network video recording (NVR’s) offers a more cost-effective alternative. Modern fast moving ‘dome’ cameras,

which respond to alarm pre-set positions can be utilised. The 'alarm' may be a help call button being activated, a secured door being opened (using a door contact) or movement (using a passive infrared detector) and transmitted real time to wireless hand held technology.

A 2.6 The Concept of Access Control

Debate continues about ways to control, restrict or prevent access to buildings and to open precincts. The deployment of technology has been the recent favoured design strategy. This (in our view) over-reliance on technology has tended to limit creative physical design alternatives.

In the mid-1980s a significant study was carried out in the UK into some of England's (often referred to as) notorious or infamous housing estates – high and medium rise ghettos where crimes against property and people has been running rife.

The study by Coleman (1985) showed in part that there were numerous building and precinct design flaws which encouraged uncontrolled access to ill-defined spaces. Coleman suggested that gates, gaps, fences, landscaping, lighting, doorways, stairwells, steps, paths, seats, power poles coupled to ad hoc building design and poor definition of territory, not only attracted unauthorised access, but once access was gained, the various design flaws encouraged graffiti, vandalism, theft and assault.

The point of all physical (built environment) design from a crime perspective is to define and indicate purpose. For example a gate to a property must be positioned to indicate whether or not it is a main entry and, if so by signage, mechanical, electronic or other means, entry is generally allowed or is by permission only. A gate's design and integration with a fence or adjoining building gives some indication of who and how entry is to be gained.

Gates are usually the most common definers of territory, separating private and public space in industrial, commercial, institutional and residential precincts. There are some precincts without gates at their points of entry, thus inviting crossover to the next point of territory definition; ie a building, parking area etc.

While gates (and similar barriers) present as recognised objects for territorial definition and separation, crime prevention-by-design principles encourage broader and less intrusive definitional architecture; architecture which not only restricts or halts access, but which encourages entry, access and movement. Lighting, pathways, landscaping, low-line fencing, steps and doorways are obvious examples.

Coleman's study, highlights the need for developers to think holistically about distinguishing between legitimate (legal) access and users and occupiers of urban space and those seeking access illegally.

By applying crime prevention design principles to housing estates, to commercial, institutional and industrial complexes, to retail and recreational outlets and to transport infrastructure, there is more than one opportunity to clearly define appropriate entry and movement corridors.

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