HUNTINGWOOD WEST EMPLOYMENT LANDS - DEVELOPMENT DESIGN CONTROLS
(prepared by Architectus, September 2006 and as proposed to be modified by MP 08_0225)

Note: Modifications to the DDC proposed by MP 08_0225 are highlighted (new words are shown in **bold underline**; deleted words are shown in ~~strikethrough~~)

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Section 1 - Introduction	
The overall vision for Huntingwood West is to: • Develop a high quality employment zone within a parkland setting that incorporates best practice design and environmental measures and which has a strong integration with the Western Sydney Parklands. • Develop employment generating uses in a way that provides the best development outcome for the site. • Develop the employment/industrial land in a way that creates the most appropriate interface with the Western Sydney Parklands. • Provide a high quality built environment that will attract high job creation industries. • Offer a diverse range of lot sizes to accommodate a dynamic market. • Create an employment area within a landscape setting that integrates with the adjoining Western Sydney Parkland's natural and conservation values and that has a strong urban character and sense of place. • Integrate new development with the Western Sydney Parklands and encourage visual and access links. • Integrate new development with the existing industrial area at Huntingwood and encourage visual and access links. • Manage water cycle impact, flood/fill impact and incorporate Water Sensitive Urban Design principles and practices where possible. • Incorporate best practice environmental planning and design, particularly techniques for conserving the consumption of energy and water in all buildings and the control of noise and emissions. • Provide public domain and vegetation/drainage corridors that are interconnected with a high level of well-lit pedestrian and cycle access routes and that link into the surrounding environment. • Implement quality architectural standards and guidelines as well as appropriate environmentally sensitive building design. • Create a well connected and legible street network. • Incorporate quality development where businesses enjoy high levels of accessibility by customers and are supported by an attractive public domain that is both pedestrian friendly and efficient. • Encourage the provision of transport links including a bus route.	The project is consistent with the overall vision, refer Section 6.0 and 7.0 of the EAR
Section 2 - Site characteristics and development principles	
The site contains: • some visually significant vegetation (DDC Figure 3) • exotic grasslands, some Shale Plans Woodland, a "moderate ecological constraint (Figures 4 - 6) • a section of Rudders Lane (non-indigenous heritage) and an area of potential archaeological significance (DDC, Figure 9) • no land within the 1in 100 floor area (DDC, Figure 10) • an area of salinity risk (DDC, Figure 11) • vegetation group 3 which is subject to a 20m APZ (DDC, Figure 12)	***Noted***
Section 3 - Proposed subdivision plan	
3.1 Urban structure The DDC illustrates the subdivision plan and further options for subdivision	Approved MP 08_0055 addressed subdivision. The subdivision arrangement will be amended to align with the project (Statement of Commitment 12, EAR **Table 10**).

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3.2 Land use The principle land use within the Huntingwood West precinct is to be employment.	√ The project provides 400 construction and 600 post construction jobs
3.3 Conservation of natural values The impacts of vegetation clearance within Huntingwood West will be balanced by the major conservation outcomes resulting from the establishment and maintenance of the Western Sydney Parklands.....	***N/A*** Pending MP 08_0225 addresses vegetation removal
3.4 Access and movement 3.4.1 Road hierarchy 3.4.2 Pedestrian and cycle network 3.4.3 Public transport	***N/A*** Pending MP 08_0225 addresses internal/external road works and pedestrian/cyclist movement. A Traffic and Accessibility Management Plan (**TMAP**) was prepared by Maunsell as part of the Concept Plan. The TMAP outlined a package of measures to moderate traffic growth and to help achieve a 10% increase in the public transport use to/from the development site. The Traffic Impact Assessment includes measure to promote non car modes of travel (**Appendix B**).
3.5 Landscape and drainage network a) Green streetscapes providing strong visual identity, retaining existing trees and designed to support an integrated network of access links catering for pedestrian and cycle access though the employment zone and link to the Parklands. b) ~~25m~~ **15m** wide landscaped setbacks to the Great Western Highway ~~and Brabham Drive~~. c) ~~40m~~ **20m** wide vegetated buffer to the M4 provides acoustic and visual separation. The network of landscape and drainage elements within the Concept Plan has responded to the conservation values of the land by: a) Locating the eco-median collector road where high quality stands of existing trees can be retained in the median. b) Retaining existing drainage lines for drainage, stormwater treatment and conservation purposes where appropriate prior to infiltration in the Parklands. c) Defining the edge to the Western Sydney Parklands by means of the park edge road. It ensures a good management edge to the Parklands for stormwater and a good presentation in terms of built form. The park edge road also restricts the type of traffic that will use it ensuring there are slow speeds and no heavy vehicles.	√ The PA proposes: – 20m wide vegetated buffer to the M4 motorway Pending MP 08_0225 addresses the eco-median and Western Sydney Parkland edge.
Section 4 - Subdivision design and built form controls	
4.1 Subdivision design 4.1.1 Subdivision layout f) ~~*40m*~~ ***20m*** wide vegetation buffer is to be provided to the M4 Motorway ***measured from the site boundary*** 4.1.2 Minimum lot size and dimensions a) ***Industrial use*** lots are to have a minimum land area of 4,000sqm b) ***Industrial use*** lots are to have a minimum width at the building line of 45m 4.1.3 Asset protection zones 4.1.4 Drainage corridors	√ – 20m landscaped setback proposed to the M4. – Approved MP 08_0055 determined subdivision layout (an amendment is required to align the boundaries with this PA) – Following removal of vegetation proposed by MP 08_0225, the site will be subject to APZs – Pending MP 08_0225 addresses drainage corridors

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4.2 Access and movement 4.2.1 Street network 4.2.2 Pedestrian and cycle network 4.2.3 Public transport	***N/A*** Pending MP 08_0225 addresses the new street network, pedestrian/cyclist networks and public transport.
4.3 Open space and public domain 4.3.1 Landscape treatment 4.3.2 Street tree planting 4.3.3 Public domain signage 4.3.4 Street furniture and lighting	***N/A*** Pending MP 08_0225 addresses landscaping within the public domain, street tree planting and public domain, estate signage, street furniture and lighting
4.4 Site services 4.4.1 Water and sewer 4.4.2 Electricity, telephone and gas	***N/A*** Pending MP 08_0225 addresses site services.
4.5 Environmental management 4.5.1 Indigenous heritage 4.5.2 Non-indigenous heritage 4.5.3 Water cycle management 4.5.4 Soils management 4.5.5 Salinity 4.5.6 Tree retention 4.5.7 Weed management	√ – Pending MP 08_0225 addresses environmental management, indigenous heritage and non-indigenous heritage, salinity, tree removal. – Stormwater and sediment/erosion control are considered by GHD in **Appendices K** and **L** – Weed management is addressed in the Landscaped Design Report (**Appendix J**)
4.6 Built form controls 4.6.1 General design principles **Objectives** • Ensure that built form establishes a strong relationship to open space and to the Parklands areas. • Ensure that development contributes to cohesive streetscapes and desirable pedestrian environments. • Ensure a safe environment by promoting crime prevention through good urban design. • Encourage pedestrian use of streets to enhance pedestrian safety and security. • Promote energy efficient building orientation and envelopes. • Avoid street views of long building elevations not screened by landscaping or that display monotonous building forms and design. • Encourage the provision of a range of distinctive building forms that promote the identity of each tenancy. • Encourage a high quality built form by encouraging activity on elevations fronting streets, ensuring buildings address streets and emphasising vertical forms with landscape, buildings and street lighting. **Controls** a) DAs are to be accompanied by a site analysis plan demonstrating site characteristics (site boundaries, north point, contours, location of services and nature of surrounding development etc) and site opportunities and constraints. b) Buildings are to address the primary street frontage of an allotment with a clear and well lit pedestrian entry. Refer Figures 27, 33, 35 & 37. Where the lot has a dual frontage to the Parklands, pedestrian and visitor building entries shall address the Parklands with loading and truck movements taking place on the other frontage. Where the lot has a dual frontage elsewhere, building entries shall address the major road frontage with loading	√ – The proposed office building will provide a dynamic architectural pedestrian friendly form on Huntingwood Drive, providing a benchmark for future development in the estate. – Dense planting and excavation will screen the decked car parking area, loading areas and large warehouse forms to Brabham Drive and the M4 Motorway. – See also Architectural Statement, Landscape Design Report and Sustainability Report (**Appendices I**, **J** and **E**)

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and truck movements taking place on the other frontage. No loading docks are to be located facing the Parklands, Great Western Highway, ***and should be discouraged from fronting the*** Eco-median Road or collector roads. c) Parking areas and service loading areas are to be ~~located behind the building line and~~ integrated into site layout and building design, and not dominate the primary streetscape of an allotment. Where located at the side or rear of an allotment with more than one street frontage, these areas shall be appropriately screened from the secondary street frontage(s). Refer Figure 36. d) Street tree planting, including endemic species, is to be provided to enhance the appearance of the street and pedestrian environment, including providing protection from the sun. Refer Figure 30 e) Buildings are to provide variety to facades by the use of projecting upper storeys over building entries, upper storey display windows, emphasising street corners and varying roof forms. Refer Figure 33. f) Buildings are to provide effective sunshading for windows, wall surfaces and building entries (other than loading docks) by the use of design elements such as overhanging eaves and awnings, undercrofts, colonnades and external sunshading devices including screens. Refer Figures 28 and 29. g) Building forms are to be articulated using roofs with eaves that project beyond external walls, dividing long walls into a series of forms and emphasising customer entries and service doors. Refer Figure 31.	
4.6.2 Frontage development **Objectives** To provide for the following different types of frontage development: • Collector Street frontage development that addresses the street utilising entrances that are clearly visible and accessible. • Access Street frontage development that maximises activity and encourages pedestrian activity along the street edge. • Development fronting the Parklands that addresses APZs and is designed to consider outlook from the Parklands. **Controls** a) Frontage development is to be established generally in accordance with the Figure below. b) The building line and the setback line are the same line. Building frontages on adjoining allotments are to be aligned, located on the setback line. c) Larger scale tenancies are to be provided on lots with frontage to the collector street. d) Strata titled industrial units may be located on a lot with a primary frontage to a local street only. ~~e) Where an allotment has its primary street frontage to a collector street a minimum of 60% of the primary building façade at ground level is to be activated by the inclusion of offices, showrooms, building entry ways and the like located to face the street.~~ ~~f) Where an allotment has its primary street frontage to a local street or has a frontage to the Parklands or the park edge road, a minimum of 40% of the primary building façade at ground level is to be activated by the inclusion of offices, showrooms, building entryways and the like, located to face the street.~~ **e) Building elevations with frontage to a street must present a building form of significant architectural and design merit. For instance, the primary building façade at ground level should be activated by the inclusion of offices, showrooms, building entry ways and the like, or other elevational design treatments to modulate and articulate the facade** ~~g)~~**(f)** Loading docks, loading areas and external storage areas are not permitted along Parklands or park edge road frontages, **unless adequately screened by landscaping and/or otherwise integrated with the design composition of building elevations, to the satisfaction of the Director-General.**	See above
4.6.3 Building envelope **Objectives** • Ensure the creation of a distinctive streetscape character and hierarchy of streets.	√ – 62% site coverage (office, warehouse and awnings)

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• Ensure that building forms are consistent with the desired urban character and are of an appropriate scale for an industrial area. • Mitigate the visual impact of relatively large scale industrial development on the street and the Parklands. • Provide adequate distance between buildings and street alignments for landscaping, vehicle manoeuvring and noise impact attenuation. • Provide adequate sight distance for safe traffic movement • Create a strong street presence encouraging pedestrian activity and slower traffic speeds. • Create a strong landscape setting to the street frontage. • Encourage passive surveillance of the street. • Encourage a high standard of architectural design for industrial buildings. • Allow for the efficient use of land. • Provide an area for tall trees to shade roofs and parking areas and to allow cross ventilation between buildings. • Provide view sharing across blocks. • Encourage attractive and visually coherent streetscapes. • Encourage the use of building materials which are durable and which maintain a high standard of appearance over time. • Ensure the economic and energy efficient use of materials in the construction of industrial buildings. • Ensure land uses likely to be negatively impacted by traffic noise are located away from major road frontages. **Site coverage control** a) A maximum site coverage of ~~60%~~ **65%** applies **including awnings** unless it can be demonstrated to the satisfaction of Council that greater site coverage will not adversely impact upon amenity of the streetscape or adjoining allotments. **Setback controls** a) Buildings are to setback by: – ~~25m~~ **20m** from Great Western Highway of which 15m must be utilised for landscaping, – **20m from the site boundary of M4 Motorway of which 20m must be utilised for landscaping.** – 15m from Brabham Drive, the collector road and park edge road alignments of which 10m must be utilised for landscaping, and – 10m from the alignment of other roads of which ~~all~~ **7.5m** is to be utilised for landscaping. – In all cases, the remainder of the setback may be used for an access driveway or carparking. – Storage of any kind is not permitted within the setback area. b) Where an allotment has a frontage to more than one street, the building alignment to the secondary street frontage(s) is to ensure that the building presents a satisfactory relationship to the street with good design and landscaping elements. c) Where parking and/or loading/servicing areas are located at the side or rear of dual frontage lots, these are to be appropriately screened with landscaping to reduce visual impact when viewed from the street. d) Front setbacks are to be landscaped generally with ground cover and trees ensuring the views between development and the street are not totally obscured. Minimum landscaping requirements are: – One tree per 25sqm – A 4m wide planting zone along the total frontage of lots (except where driveways or paths exist), with the balance being either turf, paving or planting. e) Nil side setbacks are permitted between allotments subject to meeting fire rating requirements. f) A zero rear setback is permitted. g) A minimum setback of 5m is required from the building alignment to any boundary that is adjacent to a drainage area or a drainage corridor. h) All setbacks to car parking areas are to be landscaped. i) Water tanks are not to be located in the front setback and shall be appropriately located or screened so as to not be visible from outside of the site,	– Building setbacks comply – Landscape setbacks comply – 10m landscaped setback to Brabham Drive. – 10m landscaped setback to Huntingwood Drive – 20m landscaped setback to M4 Motorway. – Dense planting and excavation will screen the decked car parking area, loading areas and large warehouse forms to Brabham Drive and the M4 Motorway. – The visual impact of the proposed rainwater tank, located in the north-eastern corner of the site, will be minimised by its excavated position relative to Brabham Drive and Huntingwood Drive and the proposed landscape setbacks. – See also Architectural Statement and Landscape Design Report (**Appendices I** and **J**)

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unless incorporated as an architectural feature to promote WSUD objectives. **Other design controls** a) The office component of any development is to be incorporated into the overall design of the building and located generally along the primary internal street frontage and away from frontages to major arterial roads external to the site which might be the source of noise impacts due to traffic. b) Blank building facades facing the primary street frontage are not permitted. c) Facades are to be articulated using architectural elements such as externally expressed structures and framing systems, high quality materials and finishes to primary frontages, glazing, sun shading structures, protrusions and deep penetrations, textures and colours. d) Elevations should use a variety of materials and finishes including brick, glass, steel, metal mesh, concrete, textured and split block work and pre-cast exposed aggregate and composite panels. e) The use of metal and tilt up cladding is discouraged on front elevations, unless it can be satisfactorily demonstrated that it forms part of an architectural design solution in association with masonry, glass and other high quality materials. ~~Where a side or rear façade is visible from the public domain, the use of metal and tilt up cladding must only comprise 50% of that wall's cladding material.~~ f) Glazing is not to exceed 20% reflectivity. g) Sunshading devices such as awnings are to be provided over all openings, other than loading docks. h) Rooftop structures (including plant rooms, air conditioning and ventilation systems) are to be incorporated into the design of the building to create an integrated appearance.	
4.6.4 Daily convenience shops	***N/A*** The project does not include any shops
4.6.5 Parking **Objectives** • Ensure that adequate provision is made on each development site for parking. • Improve the appearance of car parking areas on the streetscape in order to minimise the visual impact of car parking areas on the streetscape. • Allow for shared car parking arrangements between neighbouring allotments. • Provide shade for car parking areas. • Provide for bicycle parking areas. **Controls** a) Access routes to car parking areas are to be clearly identified. b) Car parking is to be located behind the required minimum front **landscape** setback area. c) Visitor parking is to be clearly marked and easily identifiable and be located closest to the building's main entry. d) On-grade parking is to be in a landscaped setting. e) A minimum 1500mm wide landscape strip is to be provided between banks of car parking to provide shade and minimise visual impact of car parking. f) The minimum distance between driveways that cross over swales shall be 25m. g) All car parking spaces are to be adequately drained, marked and designated upon the site. h) Car parking is to be provided in accordance with the rates in the table below. i) Sufficient spaces are to be provided for disabled car parking. All developments providing 50 car parking spaces or more must provide at least 2% or part thereof of those spaces for disabled drivers clearly marked and signposted for this purpose and located as close as possible to the building entrance. j) A dedicated area for bicycle parking shall be provided within the car park and shall include bicycle racks or similar.	√ – 756 parking spaces required and 797 spaces proposed (see EAR Section 7.5) – Parking is setback and screened – Bicycle parking is proposed – See also EAR Section 7.6 and Traffic Impact Assessment, **Appendix B**

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Use Rate Factory 1 space/75sqm GFA Warehouse/bulk storage 1 space/200sqm GFA Commercial/office component 1 space/40sqm GFA **The approval authority may consider a variation to the parking rate for developments if the applicant can justify the variation with a traffic study on the basis of type of use, type of employment and number of employees**	
4.6.6 Loading and servicing **Objectives** • Encourage the optimum efficiency of land use through the provision of shared parking, turning and access routes between neighbouring sites. • Maximise the area available for landscaping. • Ensure adequate provision is made on each site for access by cars and trucks and for the loading and unloading of materials and goods. • Ensure that site facilities are functional and accessible and easy to maintain. • Ensure that site facilities are integrated into development and are unobtrusive. • Ensure trucks and cars are separated to maximise on site safety. **Controls** a) Vehicular access, manoeuvring and loading areas are to be separated from car parking areas **where possible**. b) All loading and unloading is to take place on-site. c) Vehicles are to enter and leave the site in a forwards direction. d) A minimum on-site driveway width of 8m is required for loading and service access. Cross over widths shall comply with the relevant Australian Standard. e) Loading access is not permitted from the frontage of an allotment facing the Parklands.	√ Traffic Impact Assessment, **Appendix B**
4.6.7 Recycling and waste management **Objectives** • Reduce the amount of waste going to landfill. • Encourage the recycling of industrial waste. **Controls** a) Waste separation, recycling and reuse facilities are to be provided on site. b) Waste facilities are to be fully integrated with the design of the building and/or landscaping.	√ Waste Management Reports and Sustainability Report (**Appendices F** and **E**)
4.6.8 Allotment landscape design **Objectives** • Contribute to effective management of stormwater, biodiversity and energy efficiency and to improve visual amenity. • Encourage the use of native flora and low maintenance low water demand drought tolerant landscape materials. • Assist in the management of salinity. • Establish boundaries to industrial sites. • Mitigate the visual impact of industrial buildings and hard stand areas through the use of mounds and screen planting. • Enhance visual integration of industrial development with the Parklands context. • Provide for the passive recreational requirements of employees. **Controls**	√ Landscape Plan (**Volume 2**) and Landscape Design Report (**Appendix J**)

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a) Front setback to be 100% landscaped with endemic Cumberland Plain Woodland species. b) Landscaping is required in the side and rear setbacks if visible from the public domain. In addition, the perimeter of open storage areas is to be landscaped to provide screening from public view. c) Car parking areas are to be landscaped to provide shade and to reduce the visual impact of parking facilities. d) Low water demand drought resistant vegetation shall be used in landscaping areas, including native salt tolerant trees to high saline affected areas. e) Mulching cover shall be incorporated in landscaped areas (excluding drainage corridors). f) All landscaped areas are to be separated from vehicular areas by means of a kerb, dwarf wall or other effective physical barrier. g) Planting of vegetation must consider passive surveillance. Excessively dense vegetation that creates a visual barrier is to be avoided. h) Undeveloped areas are to be stabilised to prevent soil erosion. Landscaping may be required around the perimeter of undeveloped areas. i) Embankments are not to be steeper than 1:4. j) A Landscape Plan must be lodged with all DAs and is to provide the following details: – The location of any existing trees on the property, specifying those to be retained and those to be removed. – The location of any trees on adjoining properties that are likely to be damaged as a result of excavations or other site works. – The position of each shrub and tree species proposed to be planted. Each plant is to be identified by a code referring to a plant schedule on the plan. – Existing and finished ground level and areas are to be filled. – The location of any subsoil drain, bio-retention, detention, swale or other WSUD requirements.	
4.6.9 Private domain signage **Objectives** • Accommodate the need to identify and promote industrial development whilst preventing the unnecessary proliferation of advertising signs or structures. • Encourage signage that is imaginative, innovative and commensurate with the quality of development within the Huntingwood West precinct. • Ensure signage does not detract from the visual appeal of the Huntingwood West precinct. • Ensure signage is of a high quality of design and construction and an integral element of the built environment and landscape setting. • Give careful consideration to the size and proportion of signs on building facades. **Controls** a) Advertising signage with the Huntingwood West precinct should be kept to a minimum and should relate only to the use occurring on the respective property and shall identify the relevant business name. Two signs only are permitted on the principle frontage, one on the awning, transom or below parapet that is sized so that it is visible and legible from the principle road frontage and one adjacent to the pedestrian entry door that is sized to be visible and legible by pedestrians already on the allotment and about to enter the building. b) Freestanding **advertising** signs are not permitted on frontages facing the Great Western Highway or the M4 Motorway. Signage is limited to fascia signs only identifying the business located on the site. c) Signs are not permitted on other frontages unless they are a secondary road frontage other than the Great Western Highway or the M4, in which case one fascia sign visible and legible from that secondary road frontage is permitted. d) Freestanding signage such as a directory boards for buildings or sites including those with multiple occupancies shall be limited to a single structure at the entry to the site from a public road, along the road frontage. e) Freestanding signs are not to exceed 6m in height from ground level and are to be located within an area of 5m by 3m either side of the ingress to the site. Larger or taller signs may be permitted if in proportion and well designed by a reputable graphic designer with justification for the size. (Refer to Figure 34).	√ The architectural plans (**Volume 2**) show signage location zones to ensure that building identification signage is integrated into the building design.

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f) For multiple occupancy buildings one business identification sign not exceeding 2m x 0.6m is permitted on each occupied unit. Such signs are to be a uniform shape, size and general presentation. g) For single industrial developments, the total permissible signage and advertisements shall not exceed 1sqm of advertising per 3m of street frontage of 50sqm, whichever is the lesser (on corner lots or lots with dual frontage only one lot frontage can be relied upon). h) Directional signage for car parking areas, loading docks, delivery areas and the like should be well designed and located at a convenient point close to the main access to a development site. i) The placement, colouring, type and scale of signage erected within individual properties should be consistent throughout the development and complementary with the architectural style of the building. j) Signs are not create a hazard for traffic or pedestrians. k) Roof signs or signs that break the roof line of a building are generally not permitted. In exceptional circumstances a roof sign or a sign which breaks the roof line of a building may be permitted where it forms an integral part of, and enhances, the architecture of a building. l) Private domain signage is to be located so as not to obstruct sight lines of motor vehicles or trucks, or impede pedestrian movement. m) Signs are not to cause environmental damage to trees or large shrubs. n) Animated signage is only permitted facing the internal road network. Animated signs with erratic or flashing movements are not permitted. o) Illuminated signage is to minimise light spill in to the night sky and into the Parklands. Illuminated signage is also to be energy efficient and to have a consistent light level with the general level of lighting which illuminates shadows and enhances the safety of adjoining public areas. p) Illuminated signs which feature exposed lamps or neon tubes are permitted only in the internal road network where they do not detract from the architectural quality of the buildings. q) No support, fixing, suspension or other systems required for the installation of signage is to be exposed, unless designed as an integral feature of the sign. Conduits, wiring and the like is to be concealed. r) Types of acceptable signage are indicated in the table below.	
4.6.10 Fences and walls **Objectives** • Provide security for property owners and to contribute to the amenity of the Huntingwood West precinct. • Ensure fences and walls improve amenity for employees and development and that they contribute positively to adjacent buildings. • Encourage pedestrian access to businesses from the street. • To ensure boundary fences and walls between allotments provide security. • Ensure materials used in fences and walls are of a high quality and consistent with the character of Huntingwood West. • Ensure fences and walls respond to the topography. **Controls** a) No fencing is permitted within the landscaped component of the front setback. b) ~~In general no fencing other than a low feature wall may be erected on any site at the entry driveway.~~ Low feature walls should be utilised for retaining walls, garden beds and the like. c) No pre-finished and pre-coloured corrugated metal (e.g. Colorbond) or lapped and capped fencing is permitted to any public area. d) The use, design and materials of fences and walls are to be compatible with well designed fences and walls in the public domain. e) Side and rear fences and walls can be built to a maximum height of 1.8m to screen the rear of the allotment from adjacent sites. f) Side fencing is not be located forward of the landscape zone. g) Side and rear fencing is to allow cross ventilation by the use of open chain wire or metal picket fencing.	Able to comply

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h) Fencing is to utilise dark colours to reduce visibility	
4.6.11 External industrial activities **Objectives** • Mitigate the environmental and visual impact of external processing and storage of materials. **Controls** a) External and industrial processes and/or the storage of materials is not permitted along a road or Parklands frontage. b) Development applications proposing external industrial processes and/or outdoor or open storage areas must provide details of the parts of the site to be so used, the specific materials to be stored and proposed screening. Outdoor storage areas are not interfere with access, manoeuvring and parking arrangements.	Buildings, landscaping and changes in level will effectively screen all outdoor activities.
4.6.12 Safety **Objectives** • Ensure that the siting and design of buildings and spaces contributes to the actual and perceived personal and property safety of workers and visitors and decreases the opportunities for committing crime in an area. • Ensure development encourages people to use and interact in streets, parks and other public spaces without fear or personal risk. • Increase the perception of safety in public and semi-public space including streets, car parks and parks. • Maximise actual and perceived safety. • Encourage the incorporation of principles of crime prevention through urban design and landscaping into all developments. **Controls** a) Use of roller shutters is not permitted on windows facing the street. Security bars must be designed to complement the architecture of the building. b) Pedestrian and communal areas are to have sufficient lighting to ensure a high level of safety. These areas must be designed to minimise opportunities for concealment. c) All developments are to incorporate the principles of Crime Prevention through Environmental Design. d) The creation of areas for concealment and blank walls facing the street are to be avoided.	Able to comply
4.6.13 Fire construction standards	N/A
4.6.14 Energy efficiency **Objectives** • Incorporate best practice energy management. • Promote energy efficient building envelopes. • Achieve high levels of indoor thermal comfort. • Minimise the energy required for heating, cooling and lighting. **Controls** ***Lighting*** a) Natural lighting (e.g. translucent roof panels) is to be provided wherever possible. b) Light fixtures are to be energy efficient. c) Automatic controls are to be utilised which will turn the lights off where there is sufficient natural light and where that part of the building is not in use. ***Heating/cooling*** a) Consider the use of natural ventilation systems through: – location of external openings on opposite or adjacent walls for cross ventilation;	√ Sustainability Report, **Appendix E**

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– use of windows which are lockable in a partly open position; – use of convection air flows; – use of external vegetation to cool incoming air. b) If heating systems are proposed they are to be controlled by thermostats and time switches, timer delays and/or occupancy sensors. c) If air conditioning is proposed it is to be confined to discrete areas such as server rooms or the like where constant cool temperatures are required. Consider the installation of a 6 star reverse cycle system. d) Ensure design incorporates zoning (or the ability to close off certain areas), so that only those areas which need to be, are heated or cooled. e) Closing pedestrian and vehicular doors are required with consideration to be given to the use of automatically closing doors. f) Covers are to be incorporated over evaporative coolers in winter to reduce heat losses and protect the coolers. g) Incorporate appropriate building insulation to minimise heat loss (preferably 100mm blanket plus foil in the roof and 50mm blanket plus foil in the walls). h) Utilise electric resistance heaters with heat pumps where feasible (e.g. in offices and tea rooms). i) Utilise localised heating (e.g. gas radiant panel heating in workshops rather than warm air heaters). j) Steel framing is to be insulated so that heat from roofing cannot bypass the insulation and enter (or in winter leave) the building via the metal framing. k) Rooms within the building (e.g. offices) that are heated or cooled to higher comfort levels than the overall building are to be insulated from the rest of the building. l) Light roof colours are to be used. m) Walls exposed to afternoon sun are to either be shaded, or be the lightest acceptable colour. n) East and west facing windows are to be minimised and are to be fitted with shading devices including blade walls and thick vegetation. o) Consideration is to be given to the use of clear polycarbonate panels in selected north facing walls to increase passive heat gains. p) Consideration should be given to installation of solar water heating systems wherever possible. q) Hot water tanks and hot water pipes shall be insulated. ***Staff amenity areas*** a) Lights are to be controlled with occupancy sensors. b) Comfort heating and cooling is to be controlled with time switches, timer delays or occupancy sensors. c) Equipment left on for long periods (such as drink vending machines, and boiling water units etc) are to be as energy efficient as possible. d) The use of electrical appliances such as dishwashers, refrigerators, freezers and washing machines with a minimum Energy Star Rating of 3.5 stars is encouraged.	
<u>4.6.15 Water use</u> **Objective** • Minimise the use of potable water. **Controls** a) A water balance is to be undertaken to ascertain water consumption and stormwater harvesting potential with a given development. b) Where feasible, development should use collected rainwater for toilet flushing and irrigation of landscaping in public and private spaces. c) Developments that consume high volumes of water in their operation shall incorporate recycling initiatives in the plant's operation to reduce the demand on water.	√ Sustainability Report, **Appendix E**

DDC Section/Requirements (as proposed to be modified by MP 08_0225)	PA Compliance
d) Water saving devices are to be installed throughout the development: – 6 litre/3 litre or better dual flush toilets. – All staff amenity appliances to have water efficiency ratings of at least AAA according to the ratings issued by the Water Services Association of Australia. – Aerators fitted to hot and cold water taps over basins and sinks in staff amenity areas. – Waterless urinals e) Consideration is to be given to the installation of the following water saving devices: – Grey water diversion systems – shower and washing machine water is re-used for toilet flushing – On demand recirculation systems – water wasted whilst waiting for hot water to heat up is recirculated for reuse.	
4.6.16 Air quality **Objective** • Minimise adverse impacts on air quality through the implementation of appropriate mitigation measures. **Controls** a) An air quality impact assessment report is to be prepared and submitted with any Development Application that may have the potential for significant impact on air quality, including odour. b) Applicants must demonstrate that the most efficient means of minimising emissions are being used. c) All potentially airborne materials such as sand, soil, cement or the like shall be stored, screened and contained to minimise any potential effects of airborne pollution.	√ Sustainability Report, **Appendix E**