City Plan code template

This code template supports the preparation of a development application against either the acceptable outcome(s) or performance outcome(s) contained in the code. Development assessment rules are outlined in **Section 5.3.3** of the City Plan.

Please note:

For assessment against the overall outcomes, refer to the appropriate code.

Note: The whole of the planning scheme is identified as the assessment benchmark for impact assessable development. This specifically includes assessment of impact assessable development against this strategic framework. The strategic framework may contain intentions and requirements that are additional to and not necessarily repeated in zone, overlay or other codes. In particular, the performance outcomes in zone codes address only a limited number of aspects, predominantly related to built form. Development that is impact assessable must also be assessed against the overall outcomes of the code as well as the strategic framework.

8.2.1 Acid sulfate soils overlay code

8.2.1.1 Application

This code applies to assessing material change of use, reconfiguring a lot and operational work, for development subject to the Acid sulfate soils overlay where indicated within **Part 5.10 Categories of development and assessment – Overlays.**

When using this code, reference should be made to **Section 5.3.2** and, where applicable, **Section 5.3.3,** in **Part 5**.

8.2.1.2 Purpose

(1) The Acid sulfate soils overlay deals with areas of land identified in a State planning policy as being subject to acid sulfate soils. It may include areas of land identified in the local government area as having potential or actual acid sulfate soils.

(2) The purpose of the Acid sulfate soils overlay code is to protect the natural environment, built environment and infrastructure from impacts of acid sulfate soils.

(3) The purpose of the code will be achieved through the following overall outcomes:

- (a) Acid sulfate soils are identified and managed to ensure the release of acid and associated metal contaminants into the environment does not occur.
- (b) Buildings and infrastructure are protected from the effects of acid sulfate soils.

8.2.1.3 Specific benchmarks for assessment

Table 8.2.1-1: Acid sulfate soils overlay code – for assessable development

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
Acid sulfate soils			
PO1 The extent and severity of the acid sulfate soils risk is accurately characterised.	**AO1** Acid sulfate soils are identified through an acid sulfate soils investigation, carried out in accordance with **SC6.2 City Plan policy – Acid sulfate soils management**.	The Civil Engineering Report (Attachment E(i)) provides justification against this requirement, with further information to be provided as required subject to detailed design at the Operational Works stage.	
PO2 The natural environment, built environment and/or infrastructure is protected by ensuring that soil disturbance or development of land does not result in the release of acid and metal contaminants.	**AO2** Development does not: (a) excavate or otherwise remove soil or sediment identified as containing acid sulfate soils; (b) permanently or temporarily extract groundwater resulting in aeration of previously saturated acid sulfate soils; or (c) fill land (where at or below 5m AHD) that results in: (i) actual acid sulfate soils being moved below the watertable; or (ii) previously saturated potential acid sulfate soils being aerated. OR Where acid sulfate soils are disturbed, building design, infrastructure and filling/excavation works are managed in accordance with an acid sulfate soils management plan to: (a) protect the natural environment, buildings and infrastructure; and	The Civil Engineering Report (Attachment E(i)) provides justification against this requirement, with further information to be provided as required subject to detailed design at the Operational Works stage.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
	(b) neutralise existing acidity and ensure the release of acid and metal contaminants does not occur. The Acid sulfate soils management plan is to be prepared in accordance with **SC6.2 City Plan policy – Acid sulfate soils management**. **Note: A condition will be included on any approval requiring certification from a suitably qualified and experienced professional. This certification must be submitted to Council confirming that the management of the acid sulfate soils has complied with the approved management plan.**		

City Plan code template

This code template supports the preparation of a development application against either the acceptable outcome(s) or performance outcome(s) contained in the code. Development assessment rules are outlined in **Section 5.3.3** of the City Plan.

Please note:

For assessment against the overall outcomes, refer to the appropriate code.

Note: The whole of the planning scheme is identified as the assessment benchmark for impact assessable development. This specifically includes assessment of impact assessable development against this strategic framework. The strategic framework may contain intentions and requirements that are additional to and not necessarily repeated in zone, overlay or other codes. In particular, the performance outcomes in zone codes address only a limited number of aspects, predominantly related to built form. Development that is impact assessable must also be assessed against the overall outcomes of the code as well as the strategic framework.

8.2.2 Airport environs overlay code

8.2.2.1 Application

This code applies to assessing any Operational work or Material change of use where indicated as accepted subject to requirements or assessable development within **Part 5.10 Categories of development and assessment – Overlays**.

When using this code, reference should be made to **Section 5.3.2** and, where applicable, **Section 5.3.3,** in **Part 5**.

8.2.2.2 Purpose

(1) The airport environs overlay deals with issues relating to development in the vicinity of certain airports and aviation facilities. This includes:

- the Obstacle Limitation Surface (OLS)
- public safety area
- wildlife hazard buffer zones
- lighting area buffer zones
- Australian Noise Exposure Forecast (ANEF) contour
- Procedures for Air Navigation Services – Aircraft Operational (PANS-OPS) surfaces
- aviation facilities
- it may also include locally identified issues that relate to airport environments.

(2) The purpose of the Airport environs overlay code is to

(a) recognise Gold Coast Airport as essential economic infrastructure and protect and assure its ongoing operation and continued development;

(b) regulate development that may affect the operational efficiency of Gold Coast Airport at Coolangatta and the Airservices Australia Aviation Facilities related to the operation of the airport;

(c) minimise incompatible development within the public safety area adjacent to the airport;

(d) minimise the adverse impacts of airport noise on residential and other noise sensitive land uses in the vicinity of the airport.

(3) The purpose of the code will be achieved through the following overall outcomes:

(a) The Gold Coast Airport continues to contribute to the tourism industry, the business sector and communities of Gold Coast.

(b) Development does not impact on the operation of Gold Coast Airport.

(c) The maximum height of buildings and other structures, within the area designated as the airport's 'prescribed airspace' pursuant to the Airports (Protection of Airspace) Regulations 1996, as shown in the mapping of the **Obstacle Limitation Surface (OLS)** and the **Procedures for Air Navigation Services – Aircraft Operational (PANS-OPS) surfaces**, is not exceeded.

(d) Buildings and other structures do not encroach into the sensitive areas around aviation facilities pursuant to International Civil Aviation Organisation (ICAO) principles and *Air Services Act 1996*.

(e) The operation of artificial lighting sources does not exceed the maximum light source intensities imposed by the Gold Coast Airport Master Plan and the Civil Aviation Safety Authority.

(f) Potential hazards to safety of aircraft operations brought about by bird or bat strikes are minimised.

(g) Potential hazards to safety of aircraft operations resulting from the emission of smoke, dust or other particulate matter, or creation of air turbulence are minimised.

(h) Potential hazards to safety of aircraft operations resulting from reflection of sunlight, and any another potential causes of temporary interference with pilot vision are minimised.

(i) New development within the public safety area of the airport does not significantly increase population density or the use and storage of hazardous materials within this area.

(j) Potential impacts on residential and other noise-sensitive development in close proximity to the airport are minimised by ensuring that new development is subject to appropriate acoustic treatment pursuant to *AS2021:2015 Acoustics – Aircraft noise intrusion – Building siting and construction*, according to noise contours shown on **Airport environs – Australian Noise Exposure Forecast (ANEF) contour overlay map**.

8.2.2.3 Specific benchmarks for assessment

Table 8.2.2-2: Airport environs overlay code – for assessable development

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
Heights of buildings and other structures			
PO1 Building height and structure height does not affect the current or future operational efficiency of Gold Coast Airport or create a hazard to the safe navigation of aircraft using the airport's prescribed airspace. **Note: The requirements associated with the heights of buildings are also applicable to temporary intrusions into prescribed airspace, such as cranes utilised during building construction.** ***Editor's note – A development proposal involving a building, structure, crane or other construction equipment which exceeds 110m is required to be notified to CASA. Furthermore, any building, structure, crane or other construction equipment which exceeds 150m above ground level must be regarded as an obstacle unless assessed otherwise by CASA. Council is required to refer such development proposals to the airport manager for assessment, who will then refer the proposal to CASA. Refer to the SPP guidelines for more information regarding the Australian Government's role and assessment processes for intrusions into operational airspace of strategic airports.***	**AO1** Building height and structure height does not exceed the current maximum allowable height applicable to the subject site, as identified on **Airport environs – Procedures for Air Navigation Services – Aircraft Operational (PANS-OPS) surfaces overlay map** and **Airport environs – Obstacle Limitation Surface (OLS) overlay map.** ***Editor's note – A development proposal involving a building, structure, crane or other construction equipment which encroaches into the operational airspace of a Leased Federal or other strategic airport must be referred by Council to the airport manager for assessment, who will on refer the proposal to the Australian Government if required.***	The proposed development does not exceed the maximum height of 9m, therefore the proposal complies.	
Acoustic treatment to buildings to lessen the impact of aircraft noise (on land within the Airport environs – Airport Noise Exposure Forecast (ANEF) contour overlay map)			
PO2 Development, other than an extension to an existing Dwelling house, on land within the 20 ANEF contour or greater as	**AO2** Development within the 20 ANEF contour or greater, as identified on **Airport environs – Australian Noise**	N/A	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets either the performance outcome or overall outcome	Internal use
shown on the latest approved ANEF plan for Gold Coast Airport, is designed and constructed to prevent adverse impacts from aircraft noise . **Note: The current ANEF mapping for Gold Coast Airport as at the date of adoption of the planning scheme is shown in Airport environs – Australian Noise Exposure Forecast (ANEF) contour overlay map.**	**Exposure Forecast (ANEF) contour overlay map** is acoustically insulated to the applicable standard required by *AS2021:2015 Acoustics – Aircraft noise intrusion – Building siting and construction*.		
Reflective roof materials, advertising devices and artificial light sources (on land within the Gold Coast Airport lighting zone)			
PO3 Development involving reflective roof materials, illuminated advertising devices or other artificial light sources, including street lighting and coloured lights, do not create a visual hazard for aircraft operation on approach to, or take off from, the Gold Coast Airport. **Note: For advice on how to meet aviation safety requirements refer to *Civil Aviation Safety Authority (CASA) guidelines: Lighting in the Vicinity of Aerodromes – Advice to Lighting Designers*.** **Note: Use of a reflective roof surface in the Lighting Zone of Gold Coast Airport constitutes a 'controlled activity', and requires approval from the operator of Gold Coast Airport. (Roof materials having solar absorbency greater than 0.35 are deemed to be pre-approved).**	**AO3.1** The illuminated advertising device or artificial light source does not exceed the maximum intensity of illumination within the respective light intensity zone, as identified on **Airport environs – lighting area buffer zones overlay map** .	N/A for this proposal.	
	AO3.2 Configurations of lights in straight parallel lines 500m to 1,000m long (e.g. sporting fields and large parking areas) are not located within the Outer lighting zone, as identified on **Airport environs – lighting area buffer zones overlay map** .	N/A for this proposal.	
	AO3.3 Glare or flashes (e.g. sporting stadia), flare plumes, refineries, upward shining lights, laser lights, flashing or sodium (yellow) lighting are not located within 6 km of the airport runway, as identified on **Airport environs – lighting area buffer zones overlay map** .	N/A for this proposal.	
	AO3.4	N/A for this proposal.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
	The roof of any building located on land identified on **Airport environs – lighting area buffer zones overlay map** has a solar absorbency greater than 0.35.		
Development within public safety areas			
PO4 Development within the Public Safety Area for Gold Coast Airport as identified on **Airport environs – public safety area overlay map** does not increase the amount of people living and using the area or increase the risk to airport operations.	**AO4** Development within the Public Safety Area for the Gold Coast Airport as identified on the **Airport environs – public safety area overlay map** does not: (a) Increase the number of people living in the area, and proposes no greater density than a Dwelling house. (b) Introduce or intensify community, commercial, industrial or any other uses. (c) Involve the manufacturing or bulk storage of hazardous (explosive or noxious) or flammable materials.	N/A.	
Aviation facilities			
PO5 Development in the area, around Airservices Australia Aviation Facilities identified on **Airport environs – Airservices Australia aviation facilities overlay map**, does not adversely impact on the functioning of these facilities. **Note: If development has the potential to adversely affect the functioning of Airservices Australia Aviation Facilities, approval is required from the Manager, Operational Requirements and Services (Airservices Australia).**	**AO5.1** Development that involves electrical or electromagnetic fields (e.g. arc welding) or that creates a permanent or temporary physical line of sight obstruction between transmitting and receiving devices, is not located within the VHF 500m buffer overlay for the Springbrook VHF facility (as identified on the **Airport environs – Airservices Australia aviation facilities overlay map**).	N/A	
	AO5.2	N/A	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
	Development that involves any of the following, is not included within the VOR 1000m buffer overlay for the Jacobs Well VOR facility (as identified on **Airport environs – Airservices Australia aviation facilities overlay map**): (a) creating a permanent or temporary physical line of sight obstruction; (b) overhead lines exceeding 5m in height; (c) metallic structures exceeding 8m in height; (d) trees and open lattice towers exceeding 10m in height; (e) wooden structures exceeding 13m in height.		
	AO5.3 Development that involves any of the following, is not located within the building restricted area for the Mt Somerville PSR and SSR facilities (as identified on the **Airport environs - Airservices Australia aviation facilities overlay map**). (a) creating a permanent or temporary physical line of sight obstruction; (b) overhead lines exceeding 5m in height; (c) metallic structure exceeding 8m in height.	N/A	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets either the performance outcome or overall outcome	Internal use
	AO5.4 Development that involves any of the following, is not located within the building restricted area for the Coolangatta DVOR, DME and NDB facilities (as identified on the **Airport environs - Airservices Australia aviation facilities overlay map**). (a) creating a permanent or temporary physical line of sight obstruction; (b) overhead lines exceeding 5m in height; (c) metallic structures exceeding 8m in height.	N/A	
Potential bird or bat strike on aircraft (on land within the Gold Coast Airport wildlife hazard buffer zones)			
PO6 Development in the bird/bat strike zones of Gold Coast Airport, as identified on **Airport environs – wildlife hazard buffer zones overlay map** , does not exacerbate the potential for bird or bat strike on aircraft.	**AO6.1** In locations within 3km of the Gold Coast Airport, as identified on **Airport environs – wildlife hazard buffer zones overlay map** , where planting as part of a development could result in increased attraction of birds or bats, with the possibility of creating a hazard for aircraft operations, plant species will be selected which are not subject to heavy flowering or fruiting. **Editors Note: The operator of Gold Coast Airport maintains a preferred plant species list that is available for the assistance of development proponents, if required.**	N/A	
	AO6.2 In the case of any development within an allotment located within 3km of the Gold Coast Airport, as identified on **Airport environs – wildlife hazard buffer zones overlay map** , with the potential to create or increase a hazard	N/A	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets either the performance outcome or overall outcome	Internal use
	of bird or bat strike on aircraft evidence is provided to confirm that approval has been obtained from the operator of Gold Coast Airport.		
	AO6.3 The following land uses are not located within 3km of the airport runway, as identified on **Airport environs – wildlife hazard buffer zones overlay map :** (a) Cropping (turf farm or fruit tree farm) (b) Intensive animal industry (piggery) (c) Aquaculture (fish processing/packing plant) (d) Conservation state (e.g. wetland) (e) Major sport, recreation and entertainment facility (showground) (f) Low impact industry, Medium impact industry, high impact industry (food processing plant) (g) Food/organic waste facility: and (h) Putrescible waste facility (e.g. landfill, transfer station)	N/A	
	AO6.4 Where the uses listed in AO6.3 are located between 3km and 13km from the airport runway, as identified on the **Airport environs – wildlife hazard buffer zones overlay map,** measures that prevent wildlife attraction are undertaken (e.g. covering of potential food/waste sources and other wildlife deterrence methods). **Note: Where exceptional circumstances justify approval of development within 3km – 13km of the airport**	N/A	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets either the performance outcome or overall outcome	Internal use
	runway, rigorous wildlife management measures to avoid attracting wildlife should be incorporated in the development proposal.		

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets either the performance outcome or overall outcome	Internal use
	AO6.5 The following land uses include appropriate measures that prevent wildlife attraction (e.g. covering of potential food/waste sources and other wildlife deterrence methods) if located within 13km of the airport runway, as identified on the **Airport environs – wildlife hazard buffer zones overlay map :** (a) Animal husbandry (cattle/dairy farm); (b) Intensive animal industry (poultry farm); (c) Conservation estate (all other than mentioned in AO6.3); (d) Major sport, recreation and entertainment facility (all other than mentioned inAO6.3); (e) Outdoor sport and recreation; (f) Park; (g) Non-putrescible waste facility (e.g. landfill, transfer station) (h) Sewerage/wastewater treatment facility	N/A for this proposal.	
Emission of particulate matter and air turbulence (inside the outer horizontal surface 15km)			
	AO7.1 The development will not cause a potential hazard to the operation of aircraft through the emission of smoke, steam, dust or other particulate matter.	N/A for this proposal.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
PO7 Development in the Gold Coast Airport's prescribed airspace does not compromise the operation of aircraft engines or create air turbulence or a potential visual hazard for aircraft operation around the Gold Coast Airport due to emission of smoke, steam or other particulate matter. **Note: The Gold Coast Airport's 'Prescribed Airspace' is indicated by the OLS and the PANS-OPS on Airport environs – Procedures for Air Navigation Services – Aircraft Operational (PANS-OPS) surfaces overlay map and Airport environs – Obstacle Limitation Surface (OLS) overlay map.** **Note: If development has the potential to cause a hazard to aircraft operations through the emission of particulate matter, approval of the operator of Gold Coast Airport is required.**	**AO7.2** The development will not cause a potential hazard to the operation of aircraft through the emission of a gaseous plume at a velocity exceeding 4.3m per second.	N/A for this proposal.	
Transient aviation activities			
PO8 Development does not adversely impact on the Gold Coast Airport's prescribed airspace. **Note: The Gold Coast Airport's 'Prescribed Airspace' is indicated by the OLS and the PANS-OPS on Airport environs – Procedures for Air Navigation Services – Aircraft Operational (PANS-OPS) surfaces overlay map and Airport environs – Obstacle Limitation Surface (OLS) overlay map.**	**AO8** Activities involving transient intrusions such as parachuting, hot air ballooning or hang gliding are not located within the airspace of the Gold Coast Airport.	N/A for this proposal.	

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Please note:

For assessment against the overall outcomes, refer to the appropriate code.

Note: The whole of the planning scheme is identified as the assessment benchmark for impact assessable development. This specifically includes assessment of impact assessable development against this strategic framework. The strategic framework may contain intentions and requirements that are additional to and not necessarily repeated in zone, overlay or other codes. In particular, the performance outcomes in zone codes address only a limited number of aspects, predominantly related to built form. Development that is impact assessable must also be assessed against the overall outcomes of the code as well as the strategic framework.

8.2.3 Bushfire hazard overlay code

8.2.3.1 Application

This code applies to assessing material change of use and reconfiguring a lot for development subject to the Bushfire hazard overlay and identified in **Part 5.10 Categories of development and assessment – Overlays**.

When using this code, reference should be made to **Section 5.3.2** and, where applicable, **Section 5.3.3,** in **Part 5**.

8.2.3.2 Purpose

(1) The Bushfire hazard overlay constrains areas of land identified as very high, high or medium bushfire hazard and potential impact buffers. It applies, at a minimum, to development that:

(a) increases the number of people living and working in the bushfire hazard area, except where the premises are occupied on a short term or intermittent basis; or

(b) involves uses where evacuating people may be difficult; or

(c) involves the manufacture or storage of hazardous materials in bulk.

Note: Land shown on the bushfire hazard overlay map is designated as the bushfire hazard area (bushfire prone area) for the purposes of section 12 of the *Building Regulation 2006*. The *Building Act 1975* adopts the requirements of the Building Code of Australia and AS3959 and thus regulates construction standards of all premises identified in bushfire prone areas subsequent to development approval.

(2) The purpose of the Bushfire hazard overlay is to ensure that risk to life, property and the environment as a result of bushfire is mitigated to an acceptable or tolerable level.

(3) The purpose of the code will be achieved through the following overall outcomes:

(a) Land use and development is located, designed and managed to mitigate the risk to life and property, but does not occur at the expense of other identified environmental values

(b) Development is designed to have adequate bushfire radiation zones and road layouts which do not restrict the operational requirements of fire fighters and provides safe entry and exit for residents during bushfire events.

(c) Development is provided with water-supply facilities, fire-fighting vehicle fittings and appropriate access arrangements for fire fighters and ongoing fire management.

(d) Development supports the ecological role of fire in the landscape and ensures that hazard reduction and conservation burns can be conducted in the city's natural areas.

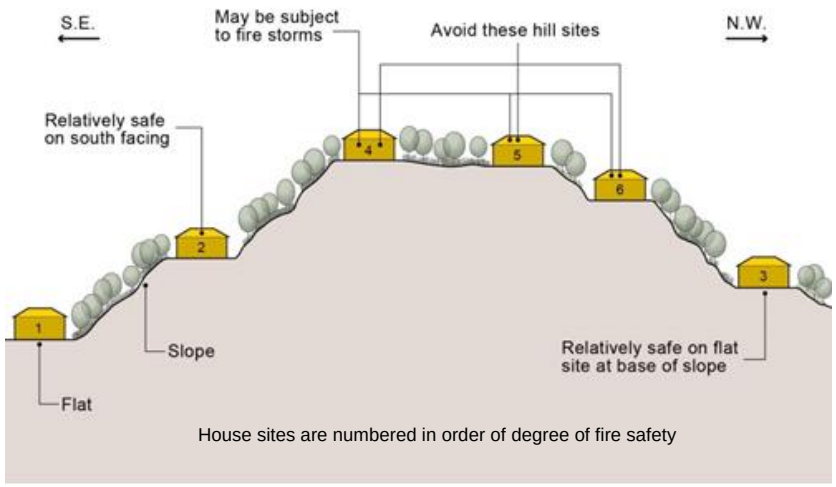
(e) Development in bushfire hazard areas is avoided where conservation and landscape protection constraints preclude necessary risk-reduction measures, including clearing and provision of adequate access. Bushfire hazard and risk mitigation treatments associated with new development does not have a significant negative impact on the biodiversity and health of the city's ecosystems.

8.2.3.3 Specific benchmarks for assessment

Table 8.2.3-2: Bushfire hazard overlay code – for assessable development

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets either the performance outcome or overall outcome	Internal use
Bushfire hazard			

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
PO1 In a bushfire hazard area, the fire mitigation methods used at the site are adequate for the bushfire hazard of the individual site, having regard to: (a) vegetation type; (b) slope; (c) aspect; (d) bushfire history; (e) conservation values of the site; (f) ecological restoration, including forest succession; (g) ongoing maintenance; (h) climate change; and (i) on site and off-site[1] fire hazard implications. **[1]Note: This includes potential hazard from land up to 10kms away from the site. For example, how might large tracts of forest away from the site impact on the bushland that surrounds the site.**	**AO1** A written assessment by a suitably qualified and experienced bushfire management consultant confirms that the site is not in a bushfire hazard area. OR The development complies with an approved Bushfire management plan prepared in accordance with **SC6.3 City Plan policy – Bushfire management plans**. OR The development complies with an existing approved Bushfire management plan as referenced within the approved reconfiguration of a lot. **Note: Prior to:** **(a) plan sealing for a Reconfiguration of a lot; or** **(b) the issue of a Building final or Certificate of classification for Building work; or** **(c) the commencement of use where building work is not proposed.** **Whichever comes first, the applicant must submit to Council, certification from an appropriately qualified and experienced person that the development has been completed in accordance with, and complies with the approved Bushfire management plan and that all risk treatments are functioning in accordance with the approved plan.**	Based on the particular context of the subject site and the fact that it is surrounded by established forms of urban development and core infrastructure, we consider that the requirement for a formalised bushfire hazard assessment is not warranted in this case. We are more than happy to discuss this further with CoGC's Environmental Officers post lodgement of the DA.	

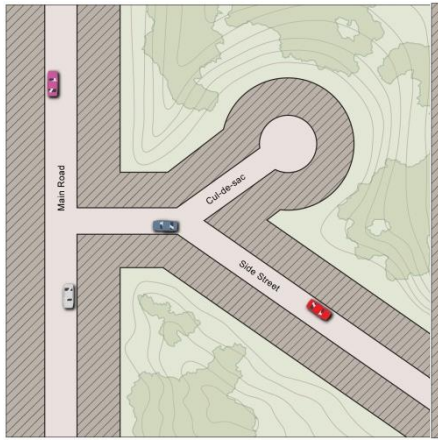
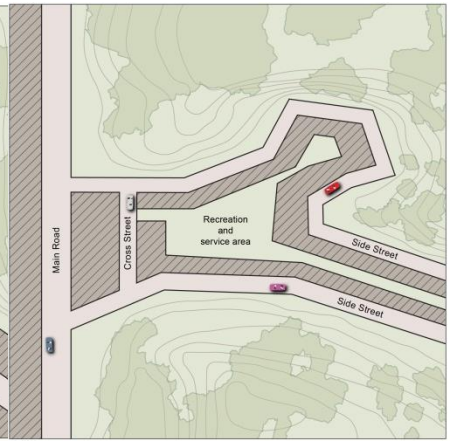
Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets either the performance outcome or overall outcome	Internal use
 **Figure 8.2.3-1** Bushfire hazard overlay – Preferred house site location in bushfire hazard areas. Image adapted from QDHLGP (1993) Bushfire Hazard Planning in Queensland.			

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
Land use			
PO2 In a bushfire hazard area, development: (a) does not result in a high concentration of people living, working or congregating in a bushfire hazard area; (b) does not result in the bulk manufacture or storage of hazardous materials; and (c) 'essential' community infrastructure is able to function effectively during and immediately after a bushfire event.	**AO2** The following land uses are not located in a bushfire hazard area: (a) Child care centre; (b) Community care centre; (c) Community use; (d) Development involving the manufacture or storage of hazardous material in bulk; (e) Educational establishment; (f) Hospital; (g) Residential care facility; (h) Retirement facility; (i) Rooming accommodation; (j) Sport and recreation uses; (k) Tourist attraction; (l) Tourist park; and (m) Utility installation (waste management facilities). AND In a bushfire hazard area permitted essential community infrastructure is designed to function effectively during and immediately after bushfire events, as demonstrated in a Bushfire management plan. **Note: A Bushfire management plan prepared by a suitably qualified person and in accordance with SC6.3 City Plan policy – Bushfire management plans is Council's preferred method for addressing this acceptable outcome.**	N/A for this proposal.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
Development design and lot layout			
PO3 In a bushfire hazard area, developments, including lot layout are designed to avoid bushfire hazard and provide safe sites for people, property and buildings. Editor's note – The development should be located: (a) away from the most likely direction of a fire front (refer Figure 8.2.3-1: Preferred house site location in bushfire hazard areas); and (b) so that elements of the development least susceptible to fire are sited closest to the bushfire hazard.	**AO3** Development, Lots and/or building envelopes are not located within bushfire hazard areas. OR The development is located in accordance with the approved Bushfire management plan as referenced within the approved reconfiguration of a lot. OR The development is designed to adequately demonstrate that the risk to life and property is minimised to achieve acceptable levels and ensure ongoing site management.	Based on the particular context of the subject site and the fact that it is surrounded by established forms of urban development and core infrastructure, we consider that the requirement for a formalised bushfire hazard assessment is not warranted in this case. We are more than happy to discuss this further with CoGC's Environmental Officers post lodgement of the DA.	
	AO3.2 The development design incorporates bushfire radiation zone/s that: (a) use existing or natural fire breaks & minimise the need to clear native vegetation; (b) do not impact matters of environmental significance; (c) are located entirely within the boundaries of the private property of the development site; and (d) incorporates landscaping species that are less likely to exacerbate a bushfire event.		
PO4 In a bushfire hazard area, when designing for bushfire hazard mitigation the lot layout must avoid	**AO4** Development design, Lot size, and layout avoids impact on matters of environmental significance and minimises impacts such as	Based on the particular context of the subject site and the fact that it is surrounded by established forms of urban development and core infrastructure, we consider that the requirement for a formalised bushfire hazard assessment is not warranted in this case.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
impacts on matters of environmental significance.	fragmentation, habitat loss and edge effects for any matters of environmental significance.	We are more than happy to discuss this further with CoGC's Environmental Officers post lodgement of the DA.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
PO5 Development uses fencing that: (a) does not contribute to the spread of bushfire; (b) facilitates the safe movement of fauna; and (c) provides access for fire-fighting purposes.	**AO5** Fences are constructed: (a) using non-combustible or fire retardant materials within 20m of any building used for accommodation; (b) that do not impede the safe movement of fauna (where applicable); and (c) has gates that can be freely accessed for fire-fighting purposes (if applicable).	Based on the particular context of the subject site and the fact that it is surrounded by established forms of urban development and core infrastructure, we consider that the requirement for a formalised bushfire hazard assessment is not warranted in this case. We are more than happy to discuss this further with CoGC's Environmental Officers post lodgement of the DA.	
Vehicular access			
PO6 In a bushfire hazard area, vehicular access (including internal roads) is designed to mitigate against bushfire hazard by ensuring adequate access for: (a) fire-fighting and other emergency vehicles, and (b) the evacuation of residents and emergency personnel, during a bushfire event.	**AO6.1** The development design incorporates a perimeter road that: (a) is located between the boundary of the lots and/or buildings and the adjacent natural area and/or bushfire hazard area; (b) has a minimum cleared width of 20m; (c) has a constructed minimum road width of 6m; (d) has a maximum gradient of 12.5%; (e) is constructed to an all-weather standard; and (f) is constructed to ensure all culverts and bridges have a minimum load bearing of 15 tonnes (if applicable). (refer **Figure 8.2.3-2b**).	Based on the particular context of the subject site and the fact that it is surrounded by established forms of urban development and core infrastructure, we consider that the requirement for a formalised bushfire hazard assessment is not warranted in this case. We are more than happy to discuss this further with CoGC's Environmental Officers post lodgement of the DA.	
	AO6.2		

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets either the performance outcome or overall outcome	Internal use
	The road design is capable of providing access for fire-fighting and other emergency vehicles, in accordance with **SC6.11 City Plan policy – Land development guidelines, Section 2 – Transport network standards**.		
	AO6.3 The road design does not include dead end roads (refer **Figure 8.2.3-2a**).		
Figures 8.2.3-2a and 8.2.3-2b: Examples of acceptable and unacceptable road layout designs in bushfire hazard areas  **Figure 8.2.3-2a** Unacceptable design – along a ridge top in a bushfire hazard area – the ridge top development has no fire control lines and obstructs fire fighters.  **Figure 8.2.3-2b** Acceptable design – Ring road system provides a fire control line and access for fire fighters with all lots located on the inside of the ring-road.			

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
Clearing			
PO7 In a bushfire hazard area, the development layout is designed to avoid the requirement to clear vegetation to achieve risk reduction.	**AO7** The Bushfire management plan details the required extent of vegetation clearing and landscaping and where required modify development design and/or lot layout to minimise clearing of vegetation. **Note: For guidance on how to prepare a Bushfire management plan refer to SC6.3 City Plan Policy – Bushfire management plans.**	Based on the particular context of the subject site and the fact that it is surrounded by established forms of urban development and core infrastructure, we consider that the requirement for a formalised bushfire hazard assessment is not warranted in this case. We are more than happy to discuss this further with CoGC's Environmental Officers post lodgement of the DA.	
Open space management plan			
PO8 For areas to be dedicated to Council as open space, management strategies to mitigate bushfire risk must be identified.	**AO8** The Bushfire management plan contains a separate section detailing management strategies for areas to be dedicated to Council that can be included within the Open space management plan. **Note: For guidance on how to prepare a Bushfire management plan refer to SC6.3 City Plan Policy – Bushfire management plans.**	N/A for this proposal.	
Fire trails			
PO9 In a bushfire hazard area, fire trails must be provided to: (a) enable access for fire fighters, residents and equipment; (b) contribute to (where required) bushfire radiation zone(s);	**AO9.1** Fire trails are located on public land (including public open space areas) to facilitate access for fire brigades. OR Fire trails located on private property are located as close as possible to the property boundaries and the adjoining bushfire hazard area, and an access	Based on the particular context of the subject site and the fact that it is surrounded by established forms of urban development and core infrastructure, we consider that the requirement for a formalised bushfire hazard assessment is not warranted in this case. We are more than happy to discuss this further with CoGC's Environmental Officers post lodgement of the DA.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets either the performance outcome or overall outcome	Internal use
(c) mitigate against bushfire hazard; and (d) allow access for hazard reduction management programs. **Note: fire trails should be located, constructed and maintained with due regard for landscape and ecological values and should not result in soil disturbance or erosion.**	easement is granted in favour of City of Gold Coast and Queensland Fire and Emergency Services. **Note: Design and construction of all fire trails located on land to be dedicated to the City as Conservation Estate are in accordance with SC6.3 City Plan policy – Bushfire management plans, Section 3.5(f). For other fire trails, AO9.2 – AO9.6 apply.**		
	AO9.2 The fire trail has: (a) a minimum cleared width of 6m; (b) a minimum of 4.8m vertical clearance; (c) a cross fall of no greater than 10 degrees; (d) a minimum formed width of 4m; (e) a maximum gradient of 12.5%, with adequate drainage to prevent soil erosion and minimise ongoing trail maintenance; and (f) culverts and/or bridges with a minimum load bearing of 8 tonnes (if applicable).		
	AO9.3 Vehicular links are provided along the fire trail either to existing fire trails or roads, and these links are designed having regard to the topography of the site, fire fighter safety and the need to regularly access water supplies. **Note: where possible, these links should be at intervals of approximately 200m**		

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets either the performance outcome or overall outcome	Internal use
	AO9.4 The fire trail has vehicular access at each end, and links either to existing fire trails or public roads.		
	AO9.5 The fire trail provides turning areas for fire-fighting appliances. The turning bay can be either: (a) a turning circle; (b) a 'T' shaped turning bay; or (c) a 'Y' shaped turning bay.		
	AO9.6 The fire trail provides areas for vehicles to pass or turn at intervals of not more than 200m and with a maximum grade of 5% (1 in 20).		
Areas with water reticulation			
PO10 In a bushfire hazard area, the development maintains the safety of people and property by ensuring that the water supply is reliable and has sufficient flow and pressure requirements for fire-fighting purposes at all times.	**AO10.1** The development is proposed in a bushfire hazard area, and reticulated water is supplied in accordance with **SC6.11 City Plan policy – Land development guidelines, Section 6 – Water supply and sewerage reticulation standards**.	Based on the particular context of the subject site and the fact that it is surrounded by established forms of urban development and core infrastructure, we consider that the requirement for a formalised bushfire hazard assessment is not warranted in this case. We are more than happy to discuss this further with CoGC's Environmental Officers post lodgement of the DA.	
	AO10.2 Development involving new or existing buildings with a gross floor area of greater than $50m^2$, each lot has a reliable reticulated water supply that has sufficient flow and pressure characteristics for fire-fighting purposes at all times. It must have a minimum pressure and flow of 10 litres a second at 200 kPa.		

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
Areas with no water reticulation (private water supply)			
PO11 In a bushfire hazard area, the development maintains the safety of people and property by ensuring that an adequate water supply for fire-fighting purposes is provided.	**AO11.1** For development with a combined GFA less than 500m^2 where one or more buildings are proposed, dedicated fire-fighting water storage is provided to protect each individual building. Each dedicated fire-fighting water storage must have a volume of water not less than 10,000 litres for each building, be provided within 10m of each building and be: (a) a separate tank that is either below ground level or of non -flammable construction; or (b) a reserve section in the bottom part of the main water supply tank that is either below ground level or of non -flammable construction. **Note: dedicated fire-fighting water storage is in addition to water supply for household use and does not include swimming pools, creeks and dams.**	N/A for this proposal.	
	AO11.2 For development that proposes one or more buildings with a combined GFA greater than 500m^2 there is no acceptable outcome provided.	N/A for this proposal.	
PO12 In a bushfire hazard area, all fire-fighting water storage tanks, including domestic water supply tanks, are fitted with the standard rural fire brigade fittings.	**AO12** The outlet pipe is 50mm in diameter, fitted with a 50mm male camlock (standard rural fire brigade fitting) and an isolating valve.	N/A for this proposal.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
PO13 In a bushfire hazard area, water storage provided for fire-fighting purposes is safely located and accessible at all times.	**AO13.1** The water supply outlet is located at least 9m from any potential fire hazards, such as venting gas bottles and combustible structures.	N/A for this proposal.	
	AO13.2 A safe and accessible hard stand area capable of accommodating a fire fighting vehicle is provided not more than 3m from the water supply outlet.	N/A for this proposal.	
PO14 Development in a bushfire hazard area must provide adequate fire-fighting water storage. This infrastructure must be provided on public land so as to be readily accessible to fire brigades for hazard reduction and fire-fighting purposes.	**AO14.1** Where public water supplies (e.g. fire hydrants or public water storage) do not exist, water supply tanks are provided for fire-fighting purposes on public land within the development. The water tanks must: (a) Be installed on land dedicated to Council; (b) hold a volume of at least 22,500 litres per every 20 dwellings; (c) be of concrete construction; and (d) have an outlet pipe of 50mm in diameter, fitted with a 50mm male camlock (standard rural fire brigade fitting) and an isolating valve.	N/A for this proposal.	
	AO14.2 Development on public land provides a safe and accessible hardstand area capable of accommodating a fire fighting vehicle not more than 3m from the water supply outlet.	N/A for this proposal.	
Storage of Hazardous Materials			

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
PO15 Development does not cause: (a) an unacceptable risk to people, property and the environment due to the impact of bushfire on hazardous chemicals; (b) excess danger or difficulty to emergency services for emergency response or evacuation.	**AO15** Development involving the storage, handling or manufacture of hazardous chemicals is not located within a Bushfire hazard area.	N/A for this proposal.	
Advice to new residents			
PO16 In a bushfire hazard area, new residents/occupants of a development in a bushfire hazard area are informed about: (a) the potential bushfire hazard on their site; (b) their responsibility for fire management; (c) the measures required for ongoing fire hazard mitigation; and (d) emergency procedures during a bushfire or on bad fire weather days. **Editor's note - Further information on bushfire preparation can be found at www.ruralfire.qld.gov.au**	**AO16** A copy of the Bushfire management plan, complete with the Queensland Fire and Emergency Services cover sheet and any other addendums is provided to each resident/occupant for their information. **Note: the QFES cover sheet is attached to the approved Bushfire management plan and a notification will be placed on the property's rates notice.**	Based on the particular context of the subject site and the fact that it is surrounded by established forms of urban development and core infrastructure, we consider that the requirement for a formalised bushfire hazard assessment is not warranted in this case. We are more than happy to discuss this further with CoGC's Environmental Officers post lodgement of the DA.	

City Plan code template

This code template supports the preparation of a development application against either the acceptable outcome(s) or performance outcome(s) contained in the code. Development assessment rules are outlined in **Section 5.3.3** of the City Plan.

Please note:

For assessment against the overall outcomes, refer to the appropriate code.

Note: The whole of the planning scheme is identified as the assessment benchmark for impact assessable development. This specifically includes assessment of impact assessable development against this strategic framework. The strategic framework may contain intentions and requirements that are additional to and not necessarily repeated in zone, overlay or other codes. In particular, the performance outcomes in zone codes address only a limited number of aspects, predominantly related to built form. Development that is impact assessable must also be assessed against the overall outcomes of the code as well as the strategic framework.

Environmental significance overlay code

8.2.6.1 Application

This code applies to assessing all material change of use, reconfiguration of a lot and operational works (vegetation clearing, changes to ground level, infrastructure) for development on land identified in **Part 5.10 Categories of development and assessment** and containing the following mapped areas**:**

Overlay map	Mapped area
Environmental significance – biodiversity areas	**Matters of State environmental significance** • Protected Areas **Matters of Local environmental significance** • Hinterland core habitat system; • Coastal wetlands and islands core habitat system; • Substantial remnants; and • Hinterland to coast critical corridors.
Environmental significance – priority species	**Matters of State environmental significance** • Koala habitat areas; and • State significant species. **Matters of Local environmental significance** • Local significant species.

Overlay map	Mapped area
Environmental significance – vegetation management	**Matters of State environmental significance** • Regulated Vegetation. **Matters of Local environmental significance** • High priority vegetation; • Medium priority vegetation; and • General priority vegetation.
Environmental significance – wetlands and waterways	**Matters of State environmental significance** • State significant aquatic systems; and • State significant wetlands. **Matters of Local environmental significance** • Major waterway; • Waterway; and Local significant wetlands.

When using this code, reference should be made to **Section 5.3.2** and, where applicable, **Section 5.3.3,** in **Part 5**.

Note: Buffers are taken as the maximum distance applicable for the site and are not cumulative.

8.2.6.2 Purpose

(1) The purpose of the Environmental significance overlay code is to identify and protect matters of environmental significance and ensure that development is consistent with, and contributes to, the achievement of the objectives of the Our Natural City Strategy.

(2) The purpose of the code will be achieved through the following overall outcomes:

(a) Matters of environmental significance are identified, protected in situ and enhanced to maintain flora and fauna diversity within:

(i) Hinterland core habitat systems;

(ii) Coastal wetlands and islands core habitat systems;

(iii) Substantial remnants; and

(iv) Hinterland to coast critical corridors.

(b) Degraded matters of environmental significance are protected and rehabilitated.

(c) High priority vegetation is protected in situ.

(d) Outside of Biodiversity Areas:

(i) Disturbance to regulated and general priority vegetation is minimised;

(ii) Impacts on medium priority vegetation are managed, in order of priority, by:

(A) avoiding significant adverse impacts;

(B) mitigating significant adverse impacts where these cannot be avoided; and

(C) offsetting any significant residual impacts.

(iii) State and local significant species and their habitat are identified and protected.

(iv) The quality or connectivity of habitat for State and local significant species (including the koala) is improved.

(e) Wetlands, waterways and their associated buffers (as prescribed in RO2) are protected and enhanced.

(f) Buffers are provided between matters of environmental significance and any proposed development, to manage impacts.

(g) Appropriate tenure and management arrangements are provided to protect matters of environmental significance and their associated buffers.

(h) Where offsets are required, these are consistent with the *Environmental Offsets Act 2014*.

(i) Management strategies and appropriate clearing practices are implemented to ensure any fauna impacted by development activities are managed and protected during works.

Editor's Note – in addition to the requirements of this planning scheme, obligations for the protection of matters of environmental significance are established by the Commonwealth and Queensland Government. Additional approvals or referrals may be required.

8.2.6.3 Specific benchmarks for assessment

Table 8.2.6-2: Environmental significance overlay code – for assessable development

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
Ecological site assessment			
PO1 All matters of environmental significance on and adjacent to the development site are identified and protected.	**AO1** Proposed works do not impact on:	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets either the performance outcome or overall outcome	Internal use
Note - An Ecological Site Assessment prepared in accordance with SC6.7 City Plan policy – Ecological site assessments, is Council's preferred method for addressing this performance outcome.	(a) areas identified on **Environmental significance – vegetation management overlay map**; (b) buffers to wetlands and waterways being: (i) 100m from the mapped boundary of a State significant aquatic area, as identified on **Environmental significance – wetlands and waterways overlay map**; (ii) 100m from the outer landward boundary of a State significant wetland, as identified on **Environmental significance – wetlands and waterways overlay map**; (iii) 100m from the outer landward boundary of a Local significant wetland, as identified on **Environmental significance – wetlands and waterways overlay map**; (iv) 60m from the outer bank of a Major Waterway identified on **Environmental significance – wetlands and waterways overlay map**; or		

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
	(v) 30m from the outer bank of a Waterway identified on **Environmental significance – wetlands and waterways overlay map**; and (c) individual trees within areas mapped on the **Environmental significance – priority species overlay map**.		
Biodiversity areas			
PO2 Development does not impact on Protected Areas as identified on the **Environmental significance– biodiversity areas overlay map**.	**AO2.1** No acceptable outcome provided.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	
PO3 Development within the Hinterland to Coast Critical Corridors as identified on the **Environmental significance – biodiversity areas overlay map** is located and designed to:	**AO3.1** No acceptable outcome provided.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets either the performance outcome or overall outcome	Internal use
(a) provide corridors of sufficient dimensions and characteristics that will enable adequate movement of fauna through the site; (b) protect in situ matters of environmental significance and associated buffers; (c) protect in situ, vegetation identified on the **Environmental significance – vegetation management overlay map** and habitat for native flora and fauna; (d) link matters of environmental significance, existing corridors and/or conservation estate/reserves on adjacent properties; (e) maintain and improve upon the regional connectivity of the Hinterland to Coast Critical Corridors; and (f) allow for the rehabilitation of disturbed, cleared or modified areas that form part of the Hinterland to Coast Critical Corridors. **Note: Recommendations provided in an ecological site assessment (prepared in accordance with SC6.7 City Plan policy – Ecological site assessments) are Council's preferred method for determining corridor dimensions.**			
PO4 Development within Hinterland Core Habitat Systems, Coastal Wetlands and Islands Core Habitat Systems and Substantial Remnant Areas as identified on the **Environmental significance – biodiversity areas overlay map** is	**AO4** No acceptable outcome provided.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets either the performance outcome or overall outcome	Internal use
located and designed to: (a) protect in situ matters of environmental significance and associated buffers; (b) protect in situ vegetation identified on the **Environmental significance – vegetation management overlay map** and habitat for native flora and fauna; and (c) allow for the rehabilitation of disturbed, cleared or modified areas.			
Wetland and waterway			
PO5 Buffers are provided to wetlands and waterways identified on the **Environmental significance – wetlands and waterways overlay map** to ensure the: (a) protection of matters of environmental significance mapped onsite or identified through an ecological site assessment; (b) unimpeded movement of fauna along the waterway; (c) water quality is maintained; (d) bank stability; and (e) protection of property and infrastructure. **Note: The buffer width for wetlands is measured from the outer, landward boundary of the mapped wetland, as shown on Environmental significance – wetlands and waterways overlay map.** **Note: Recommendations provided in an**	**AO5.1** Buffers at least 100m wide are provided between the development and the mapped boundary of a State significant aquatic area, as identified on **Environmental significance – wetlands and waterways overlay map**.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	
	AO5.2 Buffers at least 100m wide are provided between the development and the outer landward boundary of a State significant wetland, as identified on **Environmental significance – wetlands and waterways overlay map**.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	
	AO5.3 Buffers at least 100m wide are provided between the development and the outer landward boundary of a Local significant wetland as identified on the **Environmental significance – wetlands and waterways overlay map**.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
ecological site assessment (prepared in accordance with SC6.7 City Plan policy – Ecological site assessments) is Council's preferred method for determining alternative buffer widths. **Note** **Artificial waterways are to be addressed through the Coastal erosion hazard overlay code and map. Where a waterbody contains both natural and artificial banks, the natural banks are to be assessed in accordance with this performance outcome.**	**AO5.4** Buffers at least 60m wide are provided between the development and the outer bank of a Major Waterway as identified on the **Environmental significance – wetlands and waterways overlay map**.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	
	AO5.5 Buffers at least 30m wide are provided between the development and the outer bank of a waterway as identified on the **Environmental significance – wetlands and waterways overlay map**.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	
Vegetation management			
PO6 Regulated vegetation is protected in situ when it is: (a) identified on the **Environmental significance – vegetation management overlay map**; and (b) within biodiversity areas as identified on the **Environmental significance – biodiversity areas overlay map.**	**AO6** Development does not impact on regulated vegetation.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	
PO7 Development is designed to maintain regulated vegetation and minimise disturbance when it is: (a) identified on the **Environmental significance – vegetation management overlay map**; and (b) outside of biodiversity areas as identified on the **Environmental significance – biodiversity areas overlay map.**	**AO7** Development avoids impacts on regulated vegetation.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
PO8 High priority vegetation as identified on the **Environmental significance – vegetation management overlay map** is protected in situ.	**AO8** No acceptable outcome provided.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	
PO9 Medium and general priority vegetation as identified on the **Environmental significance – vegetation management overlay map** within biodiversity areas as identified on the **Environmental significance – biodiversity areas overlay map** is protected in situ.	**AO9** No acceptable outcome provided.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	
PO10 Vegetation is protected when it is: (a) identified as medium priority vegetation on the **Environmental significance – vegetation management overlay map**; and (b) located outside the biodiversity areas identified on the **Environmental significance – biodiversity areas overlay map**.	**AO10** Vegetation is not damaged when it is: (a) identified as medium priority vegetation on the **Environmental significance – vegetation management overlay map**; and (b) located outside the **Environmental significance –biodiversity areas overlay map**. OR Where all attempts have been made to avoid and minimise damage to vegetation as stated above, any significant residual impact is offset consistent with the *Environmental Offsets Act 2014*, at a ratio of 3:1 (area) in accordance with **SC6.9 City Plan policy – Environmental offsets**. OR Damage to medium priority vegetation identified on the **Environmental significance – vegetation management overlay map** and located	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
	outside the biodiversity areas identified on the **Environmental significance – biodiversity areas overlay map** is for committed development.		
PO11 Disturbance to vegetation is minimised when it is: (a) identified as General priority vegetation on the **Environmental significance – vegetation management overlay map**; and (b) located outside the **Environmental significance – biodiversity areas overlay map**.	**AO11** Development avoids impacts on general priority vegetation. Any damage is minimised to the greatest extent possible.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	
PO12 Buffers are provided that protect the long term viability of high priority and regulated vegetation located on or adjacent to the site.	**AO12** Buffers at least 30m wide are provided between the development and any retained vegetation identified as high priority or regulated vegetation on the **Environmental significance – vegetation management overlay map** on or adjacent to the site.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
Priority species			
PO13 Assessable koala feed and shelter trees are protected in situ when they are located: (a) in koala habitat areas as identified on the **Environmental significance – priority species overlay map**; and (b) within biodiversity areas as identified on the **Environmental significance – biodiversity areas overlay map**.	**AO13** Development does not impact on assessable koala feed and shelter trees.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	
PO14 Assessable koala feed and shelter trees are protected when they are: (a) in koala habitat areas as identified on the **Environmental significance – priority species overlay map**; and (b) outside biodiversity areas as identified on the **Environmental significance – biodiversity areas overlay map**.	**AO14** Development avoids impacts on assessable koala feed and shelter trees. Any damage is minimised to the greatest extent possible.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	
PO15 Site design provides safe koala movement opportunities by incorporating measures to maintain connectivity between areas of koala habitat on and adjacent to the site. **Note : *DEHP's Koala-Sensitive Design Guideline* should be consulted for suitable measures to provide for safe koala movement.**	**AO15** No acceptable outcome provided.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	
PO16 During the clearing and construction phases, measures are incorporated to	**AO16** Threats to koalas as a result of clearing and construction activities are mitigated	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
protect koalas from death or injury.	by: (a) ensuring no tree in which a koala is present or a tree with a crown overlapping a tree containing a koala is cleared; (b) undertaking clearing of vegetation in stages, and ensuring: (i) no more than 1 ha is cleared per day for sites less than 6 ha in size; (ii) no more than 2 ha is cleared per day for sites greater than 6 ha in size; (iii) that between each stage there is at least 12 hours where no clearing occurs; and (iv) koala habitat is always linked to allow koalas to move out of the site; (c) use of qualified koala spotters; (d) prohibition of domestic dogs and security dogs on site; and (e) use of koala safety fencing.		
PO17 State significant species, and their habitat, are protected in situ when it is: (a) identified on the **Environmental significance – priority species overlay map**, or through an ecological site assessment; and (b) within biodiversity areas as identified on the **Environmental significance – biodiversity areas overlay map.**	**AO17** Development does not impact on State significant species, and their habitat.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	
PO18 Development protects state significant species, and their habitat or is designed	**AO18.1** Development avoids impacts on state significant species, and their habitat.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
to minimise and mitigate impacts on habitat values when it is: (a) identified on the **Environmental significance – priority species overlay map**; and (b) outside of biodiversity areas as identified on the **Environmental significance – biodiversity areas overlay map.**	**AO18.2** Where development impacts on state significant species and their habitat, the following occurs: (a) flora species are propagated and used in rehabilitation and landscaping onsite; and (b) fauna species are safely relocated by a qualified fauna spotter catcher.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	
PO19 Local significant species, and their habitat, are protected in situ when it is: (a) identified on the **Environmental significance – priority species overlay map**, or through an ecological site assessment; and (b) within biodiversity areas as identified on the **Environmental significance – biodiversity areas overlay map.**	**AO19** Development does not impact on local significant species, and their habitat.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	
PO20 Development protects local significant species, and their habitat or is designed to minimise and mitigate impacts on habitat values when it is: (a) identified on the **Environmental significance – priority species overlay map**; and (b) outside of biodiversity areas as identified on the **Environmental significance – biodiversity areas overlay map.**	**AO20.1** Development avoids impacts on local significant species, and their habitat.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	
	AO20.2 Where development impacts on local significant species and their habitat, the following occurs: (a) flora species are propagated and used in rehabilitation and landscaping onsite; and (b) fauna species are safely relocated by a qualified fauna spotter catcher.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	
Fauna management			

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
PO21 Development design and location provides for the safe movement of native fauna through the site.	**AO21** Where infrastructure crosses native fauna movement paths, the design of new development incorporates fauna friendly movement solutions. **Note: Fauna friendly movement solutions developed in accordance with the *Queensland Government Fauna Sensitive Road Design Manual Volume 2: Preferred Practices; and the QLD Government Koala-Sensitive Design Guidelines* is Council's preferred method for addressing this outcome.**	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	
PO22 Where fauna habitat is proposed to be damaged, management strategies must be implemented to ensure: (a) the native fauna is safely relocated to an area of similar habitat; (b) the sequence of habitat disturbance ensures that fauna is not isolated from adjoining areas of habitat; (c) fauna relocation occurs immediately prior to habitat disturbance; (d) accredited and experienced spotter catchers, licensed by the Queensland Parks and Wildlife Service, are to be present on the site to direct and undertake the removal and relocation of fauna; and (e) where possible, damaged habitat and nesting sites are rehabilitated outside of development areas. **Note: A Fauna Management Plan prepared by a suitably qualified person and in accordance with SC6.8 City Plan policy –**	**AO22** No acceptable outcome provided.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
Environmental management plans is Council's preferred method for addressing this outcome.			
Tenure, ownership and management arrangements			
PO23 Matters of environmental significance and associated buffers, mapped areas as identified on the **Environmental significance – vegetation management overlay map** proposed for retention and areas requiring rehabilitation are suitably protected in perpetuity and will: (a) enable necessary fire management in accordance with an approved fire management plan and any adopted bushfire management plan; (b) allow unimpeded movement of native fauna through matters of environmental significance and associated buffers; (c) enable maintenance access and regular management; (d) enable auditing and reporting of maintenance and management activities; (e) provide for public access along major waterways, where such access is consistent with the ecological functions; (f) allow for linkages and buffers to adjacent areas of ecological significance; and (g) allow for a coordinated approach to the management of adjacent areas of conservation estate.	**AO23** Matters of environmental significance and associated buffers, mapped areas as identified on the **Environmental significance – vegetation management overlay map** proposed for retention and areas requiring rehabilitation are transferred to Council ownership as Public Open Space. OR Where not required for public access, matters of environmental significance and associated buffers, and mapped areas as identified on the **Environmental significance – vegetation management overlay map** proposed for retention and areas requiring rehabilitation are retained in private ownership and protected under a statutory covenant (under the *Land Title Act 1994*). **Note: Where the area is adjacent to existing public open space, or is a buffer to a major waterway, Council's preference is for the land to be dedicated as Public Open Space.**	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
PO24 An Open Space Management Plan prepared in accordance with **SC6.12 City Plan policy – Landscape work** is prepared for areas to be dedicated to Council as Public Open Space.	**AO24** No acceptable outcome provided.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	
PO25 A Covenant Management Plan is prepared for areas to be protected under a statutory covenant. The management plan must include the following details: (a) rehabilitation area and strategy of works; (b) weed eradication and control requirements; (c) how the covenant area will be maintained and managed in perpetuity; (d) feral and domestic animal exclusion requirements; and (e) required maintenance access. **Note: A Covenant Management Plan is prepared by a suitably qualified person and in accordance with SC6.8 City Plan policy – Environmental management plans is Council's preferred method for addressing this performance outcome.**	**AO25** No acceptable outcome provided.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)), as prepared by Element Ecology.	
Rehabilitation			
PO26 Disturbed, cleared or modified areas are rehabilitated where they form part of:	**AO26** No acceptable outcome provided.	Refer to the accompanying Ecological Assessment Report (Attachment D(i)) and Rehabilitation Management Plan (Attachment D(ii)), as prepared by Element Ecology.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets either the performance outcome or overall outcome	Internal use
(a) an ecological corridor; or (b) matters of environmental significance and associated buffers; or (c) areas identified within an Ecological Site Assessment as requiring rehabilitation. **Note: A Rehabilitation Management Plan prepared in accordance with the *South East Queensland Ecological Restoration Framework* and SC6.8 City Plan policy – Environmental management plans is Council's preferred method for addressing this outcome.**			

City Plan code template

This code template supports the preparation of a development application against either the acceptable outcome(s) or performance outcome(s) contained in the code. Development assessment rules are outlined in **Section 5.3.3** of the City Plan.

Please note:

For assessment against the overall outcomes, refer to the appropriate code.

Note: The whole of the planning scheme is identified as the assessment benchmark for impact assessable development. This specifically includes assessment of impact assessable development against this strategic framework. The strategic framework may contain intentions and requirements that are additional to and not necessarily repeated in zone, overlay or other codes. In particular, the performance outcomes in zone codes address only a limited number of aspects, predominantly related to built form. Development that is impact assessable must also be assessed against the overall outcomes of the code as well as the strategic framework.

8.2.8 Flood overlay code

8.2.8.1 Application

This code applies to assessing operational work, material change of use or reconfiguration of a lot for development subject to the Flood overlay and identified in **Part 5.10 Categories of development and assessment – Overlays**

When using this code, reference should be made to **Section 5.3.2** and, where applicable, **Section 5.3.3,** in **Part 5**.

8.2.8.2 Purpose

(1) The Flood overlay deals with areas of land identified in a state planning policy. It may include the following area of land identified in the local government area as:

(a) areas of land with flooding and inundation potential.

(b) overland flow paths identified locally.

It applies, at a minimum, to development that:

(a) increases the number of people living and working in the natural hazard management area, except where the premises are occupied on a short term or intermittent basis; or

(b) involves institutional uses where evacuating people may be difficult; or

(c) involve the manufacture or storage of hazardous materials in bulk.

(2) The purpose of the Flood overlay code is to regulate development occurring in flood affected areas to ensure development does not cause, increase or have cumulative potential to cause or increase, the risks and/or hazards associated with flooding.

(3) The purpose of the code will be achieved through the following overall outcomes:

(a) Avoid, if practicable, or otherwise lessen, the adverse impacts of flooding and ensure development is located, designed and managed to mitigate the risk to life and property.

(b) No extra burden on the city's counter-disaster response efforts during a flood emergency.

(c) Development constraints and development potential within a single river catchment and its sub-catchments are equitably shared.

(d) The costs and benefits of flood-mitigation infrastructure within a river catchment and its sub-catchments are equitably shared.

(e) The flood storage function of the city's flood plains is protected.

(f) The flood discharge capacity of the city's rivers, streams and canals is protected.

(g) A best-practice approach to flood-plain management is achieved and maintained.

(h) The effects of flooding are managed by requiring certified engineering hydraulic studies and specific design criteria for certain types of land uses.

(i) Provide standards for development in these areas that will ensure that the runoff from land and/or premises does not create any adverse environmental impacts.

(j) The effects of future climate variability are taken into account.

(k) Development does not occur at the expense of other environmental values.

All proposals for development are fully evaluated against the following criteria:

- Whether the development is likely to cause damage that would adversely affect land and/or premises to an extent likely to be actionable (Nerang River Catchment is to be based on Hinze Dam Stage 2 flood levels).
- Whether the cumulative impact of development is likely to cause or increase the adverse impacts of flooding.
- Whether the development is likely to cause or worsen flood hazard.
- Whether the risks associated with the development are fully known, quantifiable and capable of being dealt with to Council's satisfaction, without any uncertainties.
- Whether flood mitigation works, intended to reduce flood risk, hazard and damage, do so without adversely impacting upon other land and/or premises.
- Whether the impacts of climate change have been taken into account; and
- Whether extra burden is placed on the city’s counter disaster response efforts during a flood emergency.

8.2.8.1 Specific benchmarks for assessment

Table 8.2.8-2: Flood overlay code – for assessable development

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
Flood storage			
PO1 All development activity conducted on land below the designated flood level must not detrimentally affect the flood storage capacity of the catchment and the drainage regime.	**AO1** The flood storage volume on the site is maintained up to the Designated Flood Level. **Note: The Designated Flood Level must be obtained from Council's Flood Search.**	Reference is made to the Hydraulic Impact Assessment (Attachment D(iii)) which demonstrates compliance with this requirement.	
Building floor levels			
PO2 Development that is located on flood prone land shall not be inundated by floodwaters during a designated flood and allowance must be made for elements that could result in an elevated flood, including: (a) the hydraulic gradient above the main floodway (b) The impact of events such as wind and wave action on the flood surface; and (c) Uncertainty associated with the designated flood level.	**AO2.1** Building floor levels of habitable rooms must be at or above the height of the combined designated flood level and minimum freeboard derived from **Table 8.2.8-6 – table to acceptable outcome AO2.1**	Reference is made to the Hydraulic Impact Assessment (Attachment D(iii)) which demonstrates compliance with this requirement.	
	AO2.2 Where a proposed land use does not reasonably apply to any land use listed in the **Table 8.2.8-6: Table to acceptable outcome AO2.1**, the applicant is to submit: (a) the proposed minimum flood AEP for building floor levels; (b) the proposed design freeboard above the specified flood level; and (c) a flood hazard and flood risk assessment for the proposed development, assessing the effects on costs, safety, access and potential losses.	Reference is made to the Hydraulic Impact Assessment (Attachment D(iii)) which demonstrates compliance with this requirement.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
PO3 Building floor levels of garages and non-habitable rooms must be constructed at a height that reflects an acceptable flood risk for their purpose. **Note: PO3 does not apply to:** • **extensions to existing buildings;** • **structures detached from a dwelling, for which the use is ancillary to that of a dwelling, provided that use is not listed in column 1 of Table 8.2.8-3: Table to performance outcome PO7.**	**AO3.1** Building floor levels of garages and non-habitable rooms, constructed at approximately the same level as, and attached to, the main dwelling, are constructed at a height above the Designated Flood Level, except where the dwelling has a suspended floor, constructed one metre or more above ground, or where the building is to be constructed within a Rural zone.	Reference is made to the Hydraulic Impact Assessment (Attachment D(iii)) which demonstrates compliance with this requirement.	
	AO3.2 Garages and car parks detached from the building are not inundated to cause more than a medium hazard, as identified within **Table 8.2.8-5 Table to acceptable outcome AO11, for the designated flood**.	Reference is made to the Hydraulic Impact Assessment (Attachment D(iii)) which demonstrates compliance with this requirement.	
Overland flow			
PO4 Development must not obstruct free open surface flow of stormwater through a site.	**AO4** Overland flowing stormwater is allowed free open surface flow between the street and any waterway at the rear of the property, in accordance with the provisions of the *Building Code of Australia***.**	Reference is made to the Hydraulic Impact Assessment (Attachment D(iii)) which demonstrates compliance with this requirement.	
Flooding risk			
PO5 Development in flood affected areas must not cause, or have the cumulative potential to cause, damage, must not increase the level of risk to life, or be to the detriment of flood evacuation procedures.	**AO5** Development does not: (a) increase the number of people calculated to be at risk from flooding; (b) increase the number of people likely to need evacuation; (c) shorten flood warning times;	Reference is made to the Hydraulic Impact Assessment (Attachment D(iii)) which demonstrates compliance with this requirement.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
	(d) impact on the ability of traffic to use evacuation routes, or unreasonably increase traffic volumes on evacuation routes, or as identified within Council's Counter Disaster Plan (flooding); (e) place additional burdens on Council's resources or emergency services; (f) increase the duration of flooding, unless that increase is part of a Council approved flood mitigation strategy.		
Flood storage and conveyance			
PO6 Development with plans for earthworks in a floodplain on or over a water body or within a flood affected area below the Designated Flood Level must allow for the maintenance of flood storage, and flood conveyance of flood and drainage channels and overland flow paths.	**AO6.1** Provide flood storage calculations that demonstrate that flood storage volume, over the site below the Designated Flood Level, is maintained or increased.	Reference is made to the Hydraulic Impact Assessment (Attachment D(iii)) which demonstrates compliance with this requirement.	
	AO6.2 A certified hydraulic study (and, if necessary, a hydrologic study) is prepared by a suitably qualified and experienced engineer to investigate the hydraulic characteristics of both the undeveloped and developed site and make comparisons between them. Proposed developments in, on or over a water body, or within a flood affected area, must be tested for: (a) the 50%, 20%, 10%, 5%, 2% and 1% Annual Exceedance Probability (AEP) for local flood events; (b) the 5%, 2%, and 1% AEP floods. For the Nerang River Catchment	Reference is made to the Hydraulic Impact Assessment (Attachment D(iii)) which demonstrates compliance with this requirement.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
	Hinze Dam stage 2 condition must be used. (as specified in **Table 8.2.8-3: Table to performance outcome PO7**); and (c) any resultant afflux or increase in flood velocities sufficient to cause real damage to premises. The Assessment Manager may also require the development to be assessed against rarer floods.		
Development for certain purposes			
PO7 Development is constructed at or above the Designated Flood Level, shown in **Table 8.2.8-3: Table to performance outcome PO7**. **Note: The designated flood level for the Nerang River is based on Hinze Dam Stage 2 condition.**	**AO7** No acceptable outcome provided.	Reference is made to the Hydraulic Impact Assessment (Attachment D(iii)) which demonstrates compliance with this requirement.	
PO8 Development must consider hydrologic and hydraulic impacts of development in flood affected areas with regard to future climate change.	**AO8** No acceptable outcome provided. **Note: As part of a hydrologic and hydraulic impact assessment, investigation has been undertaken to determine the impacts of future climate change. The findings of the investigation may be used to modify modelling parameters and boundary conditions used in modelling the hydrologic and hydraulic impacts of development in flood affected areas.**	Reference is made to the Hydraulic Impact Assessment (Attachment D(iii)) which demonstrates compliance with this requirement.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
Hazard considerations for development			
PO9 Development listed in the **Table 8.2.8-4: Table to acceptable outcome AO9** below must be designed and constructed to avoid causing exposure to undue flood hazard.	**AO9** Development is to be designed and constructed so that users are not exposed to a greater degree of hazard than shown in **Table 8.2.8-4: Table to acceptable outcome AO9** for the range of flows specified in **Table 8.2.8-5: Table to acceptable outcome AO11**.	Reference is made to the Hydraulic Impact Assessment (Attachment D(iii)) which demonstrates compliance with this requirement.	
Storage of hazardous chemicals (exceeding a threshold) in a flood hazard area			
PO10 Storage, handling or manufacturing areas that are identified on the Flood overlay map and contain hazardous chemicals in quantities greater than 2500L or 2500kg must be located and designed to minimise the likelihood of: • inundation by flood waters from creeks, rivers, lakes or estuaries and • the possibility of spills to flood waters	**AO10.1** The base of any tank with a capacity >2500L or >2500kg is higher than the designated flood level identified in **Table 8.2.8-3: Table to performance outcome PO7** (where the designated flood level is not specified a minimum flood level of 1% AEP must be applied).	N/A for this proposal.	
	AO10.2 Bulk tanks with a capacity >2500L or >2500kg: (a) are anchored so they remain stable and cannot float or topple if submerged or inundated by water, and	N/A for this proposal.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets either the performance outcome or overall outcome	Internal use
	(b) tank openings not provided with a liquid tight seal, i.e. an atmospheric vent, are extended above the designated flood level identified in **Table 8.2.8-3: Table to performance outcome PO7** (where the designated flood level is not specified a minimum flood level of 1 in 100 must be applied).		
	AO10.3 The lowest point of any storage area for packages >2500L or >2500kg within an area identified on the Flood overlay map must be higher than the designated flood level identified in **Table 8.2.8-3: Table to performance outcome PO7** (where the designated flood level is not specified a minimum flood level of 1% AEP must be applied). OR Package stores, for packages >2500L or >2500kg, are provided with impervious bund walls or racking systems higher than the designated flood level identified in **Table 8.2.8-3: Table to performance outcome PO7** (where the designated flood level is not specified a minimum flood level of 1% AEP must be applied).	N/A for this proposal.	
Access with respect to hazard			
PO11 All proposed development must demonstrate that sufficient access or egress will be available to enable evacuation during a range of floods, up to and including the designated flood.	**AO11** Development, not including underground car parks, must ensure that evacuation opportunities exist in accordance with the minimum levels of exposure outlined in **Table 8.2.8-5:**	Reference is made to the Hydraulic Impact Assessment (Attachment D(iii)) which demonstrates compliance with this requirement.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
	Table to acceptable outcome AO11, where means of access or egress may be: (a) an access route that is below the level of the designated flood, provided that route is classed as a low hazard, as defined in **Table 8.2.8-5: Table to acceptable outcome AO11**; or (b) an access route that is not the main access route. However, it must remain effective for the duration of a range of flood events, up to and including the designated flood; or (c) a temporary access arrangement, provided that access can be gained without significant preparation time being required. The access or egress must: (a) in the event of a designated flood: (i) not expose users to undue risk; (ii) not cause, or have the cumulative potential to cause, real damage to land and/or premises; (iii) not interrupt or materially change the surface water drainage from or onto adjoining land; (b) not create, in the event of a flood, a sudden change in flow distributions, flood level or velocity that could result in: (i) the breaking of a levee; or		

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
	(ii) the establishment of blockage of a breakout; or (iii) excessive scour; or (iv) sedimentation; or (v) increased flood hazard.		
Filling, excavation and contouring			
PO12 Any change to ground level, by way of filling, excavation or contouring, must not result in damage, flood hazard or impediment to any Counter Disaster Plan, measure or create unreasonable change in the exposure to flood hazard.	**AO12** Changes to ground level, by way of filling, excavating or contouring, comply with a hydraulic master plan approved by Council. OR A flood study is prepared in accordance with the requirements set out in **AO6.1** and **AO6.2**, is approved by Council, and it is established that the development complies with, or does not impede, any Counter Disaster Plan measure.	Reference is made to the Hydraulic Impact Assessment (Attachment D(iii)) and the Civil Engineering Report (Attachment E(i)) which demonstrate compliance with this requirement.	
PO13 Filling, excavation or contouring must not cause sedimentation, erosion or adverse impact on the City's drainage network.	**AO13** No acceptable outcome provided. For guidance, please refer to the **Healthy waters code**.	Reference is made to the Hydraulic Impact Assessment (Attachment D(iii)) and the Civil Engineering Report (Attachment E(i)) which demonstrate compliance with this requirement.	
Landscaping			
PO14 Landscaping must not impede a natural waterway, a flood channel, flood storage or an overland flow path.	**AO14** Landscaping complies with a hydraulics master plan approved by Council. OR A flood study, allowing for the landscaping, is prepared in accordance with the requirements of **AO6.1 and**	Reference is made to the Hydraulic Impact Assessment (Attachment D(iii)), Civil Engineering Report (Attachment E(i)) and Rehabilitation Management Plan (Attachment D(ii)) which demonstrate compliance with this requirement.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
	AO6.2, and is approved by the Assessment Manager.		

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
Environmental values			
PO15 Works to mitigate flood risks avoid adverse impact on other environmental values.	**AO15** No acceptable outcome is provided.	Reference is made to the Hydraulic Impact Assessment (Attachment D(iii)) which demonstrates compliance with this requirement.	

Table 8.2.8-3: Table to performance outcome PO7

Land use	Designated flood[1]
Disaster management facilities	0.2% AEP
Hospitals	0.2% AEP
Major electrical switchyards, power stations, water treatment plants	0.2% AEP
Fire/police stations	0.5% AEP
Places of refuge	0.5% AEP
Electricity substations	0.5% AEP
Sewage treatment plants	0.5% AEP
Home for the aged, hospice	0.5% AEP
Regional fuel storage	0.5% AEP
Food storage warehouses	0.5% AEP
Hotel residential	1.0% AEP
Education facilities	1.0% AEP
Residential buildings	1.0% AEP
Camping grounds, caravan parks and relocatable homes reclamation levels	1.0% AEP
Commercial	1.0% AEP
Light industrial/warehousing	1.0% AEP
Theme parks	Not specified, but users should not be subjected to any more than high hazard conditions in the designated flood, as specified in **AO11**
Clubs/non-habitable buildings associated with enjoyment of public open space	Not specified, but users should not be subjected to any more than high hazard conditions in the designated flood, as specified in **AO11**
Car parking below buildings	Not specified, but users should not be subjected to any more than medium hazard conditions in the designated flood, as specified in **AO11**
Open space	Not specified, but ancillary structures are subject to appropriate hazard conditions in the designated flood, as specified in **AO11**
Rural	Not specified

Notes for Table to acceptable outcome AO7:

(1) The designated flood level is the level that is associated with the minimum flood annual exceedence probability (AEP) for different land use types. For the Nerang River catchment the flood AEP must be calculated based on the Hinze Dam stage 2 condition. Where a modelled flood AEP is not available, historic information must be used. The designated flood level for each site must be obtained from the Council's flood search database.

Table 8.2.8-4: Table to acceptable outcome AO9

Land use	Appropriate degree of hazard				
	Nil	Low	Medium	High	Extreme
Places of refuge	√				
Public open space/recreation	√	√	√	√	
Theme parks	√	√	√	√	
Clubs/non-habitable buildings associated with enjoyment of public open space	√	√	√	√	
Commercial/industrial	√	√	√		
Residential	√	√	√		
Public institutions	√	√	√	√	
Car parking below buildings/at basement	√	√	√		
Caravan parks	√	√	√		
Council offices	√	√			
Educational facility (classrooms/office building	√				
Educational facility (sporting fields)	√	√	√		
Homes for the elderly	√	√			
Child Care Centre	√				
Hospitals	√	√			
Disaster management facility	√	√			
Police/fire stations	√	√			
Museums/libraries/archives/infrastructure plans repositories	√				
Telephone exchanges	√				

Note: √ Indicates an appropriate land use.

The above table examines the appropriateness of land use decisions from the aspect of flood hazard only. As such, it does not confer any land use rights or provide any indication that Council will reject or favourably consider various uses in particular areas. Such consideration will be dealt with appropriately, in the context of the City Plan, and based upon full consideration of all relevant issues.

Table 8.2.8-5: Table to acceptable outcome AO11

Criteria	Degree of flood hazard			
	Low	**Medium**	**High**	**Extreme**
Wading ability	If necessary children and the elderly could wade. (Generally, safe wading velocity depth product is less than 0.25.)	Fit adults can wade. (Generally, safe wading velocity depth product is less than 0.4.)	Fit adults would have difficulty wading. (Generally, where wading velocity depth product is less than 0.6.)	Wading is not an option.
Evacuation distances	<200metres	200-400metres	400-600metres	>600metres
Maximum flood depths	<0.3metres	<0.6metres	<1.2metres	>1.2metres
Maximum flood velocity	<0.4 metres per second	<0.8metres per second	<1.5metres per second	>1.5metres per second
Typical means of egress	Sedan	Sedan early, but 4WD or trucks later	4WD or trucks only in early stages, boats or helicopters	Large trucks. Boats or helicopters
Timing **Note:** **This category cannot be implemented until evacuation times have been established in the Counter Disaster Plan (flooding).**	Ample for flood forecasting. Warning and evacuation routes remain passable for twice as long as evacuation time.	Evacuation routes remain trafficable for 1.5 times as long as the evacuation time.	Evacuation routes remain trafficable for only up to minimum evacuation time.	There is insufficient evacuation time.

Note: The evacuation times for various facilities or areas would (but not necessarily) be included in the Counter Disaster Plan (flooding).

Generally, safe wading conditions assume even walking surfaces with no obstructions, steps, soft underfoot, etc.

Table 8.2.8-6: Table to acceptable outcome AO2.1

Land use	Designated flood level[1] plus minimum freeboard
Disaster management facilities	0.2% AEP + 500mm freeboard
Hospitals	0.2% AEP + 500mm freeboard
Major electrical switchyards, Power stations, Water treatment plants[2]	0.2% AEP + 500mm freeboard
Fire and Police stations[3]	0.5% AEP + 400mm freeboard
Places of refuge	0.5% AEP + 400mm freeboard
Electricity Substations[2]	0.5% AEP + 400mm freeboard
Sewage Treatment Plants[4]	0.5% AEP + 400mm freeboard
Homes for the aged, Hospice[5]	0.5% AEP + 400mm freeboard
Regional fuel storage	0.5% AEP + 400mm freeboard
Food storage warehouses	0.5% AEP + 400mm freeboard
Hotel residential	1.0% AEP + freeboard[8]
Educational facilities[6]	1.0% AEP + freeboard[8]
Residential buildings	1.0% AEP + freeboard[8]
Camping grounds, Caravan parks and Relocatable homes reclamation levels	1.0% AEP + freeboard[8]
Commercial[7]	1.0% AEP
Light industrial/Warehousing[7]	1.0% AEP
Theme parks	Not specified, but ancillary structures are subject to medium hazard considerations at the designated flood.
Clubs/Non-habitable buildings associated with enjoyment of public open space	Not specified, but ancillary structures are subject to medium hazard considerations at the designated flood.
Car parking below buildings/at basement or detached	Not specified, but ancillary structures are subject to medium hazard considerations at the designated flood.
Open space	Not specified, but ancillary structures are subject to appropriate hazard considerations at the designated flood.
Rural	Not specified

Notes for Table to acceptable outcome AO2.1:

(1) **The designated flood level is the level that is associated with the minimum flood annual exceedence probability (AEP) for different land use types. For the Nerang River catchment the flood AEP must be calculated based on the Hinze Dam stage 2 condition. Where a modelled flood AEP is not available, historic information must be used. The designated flood level for each site must be obtained from the Council's flood search database.**

(2) **Applies to switchyard components necessary for the operation of the facility during a flood emergency. This shall be determined by Powerlink.**

(3) **Excludes 'shop front' facilities and those not likely to be utilised during a flood emergency.**

(4) **Specifically, bunds, electrical and mechanical equipment necessary for the continued operation of a sewage treatment plant shall not be at risk of inundation during a flood emergency.**

(5) **The flood immunity specified is to meet the objective of not adding to the burden of flood emergency services.**

(6) **It is not necessary that all rooms within an education facility be above the 1% AEP level. However, there should be sufficient space to accommodate the whole of the school population during a flood event.**

(7) **Freeboard is not specified, as it is considered that commercial risk provisions should apply. If such land is developed to a flood immunity less than 1% AEP (as may be permitted by any local planning instrument), Council may endorse rates notices accordingly.**

(8) **for these uses the height of 300mm freeboard is as per the *Building Regulation 2006*.**

City Plan code template

This code template supports the preparation of a development application against either the acceptable outcome(s) or performance outcome(s) contained in the code. Development assessment rules are outlined in **Section 5.3.3** of the City Plan.

Please note:

For assessment against the overall outcomes, refer to the appropriate code.

Note: The whole of the planning scheme is identified as the assessment benchmark for impact assessable development. This specifically includes assessment of impact assessable development against this strategic framework. The strategic framework may contain intentions and requirements that are additional to and not necessarily repeated in zone, overlay or other codes. In particular, the performance outcomes in zone codes address only a limited number of aspects, predominantly related to built form. Development that is impact assessable must also be assessed against the overall outcomes of the code as well as the strategic framework.

8.2.14 Regional infrastructure overlay code

8.2.14.1 Application

This code applies to assessing material change of use, reconfiguring a lot or operational work for development subject to the Regional infrastructure overlay and the State controlled roads, rail corridor and transport noise corridors overlay where indicated within **Part 5.10 Categories of development and assessment – Overlays**.

When using this code, reference should be made to **Section 5.3.2** and, where applicable, **Section 5.3.3** in **Part 5.**

Note: For the purpose of this code, the term 'noise' encompasses road traffic noise, road construction noise and road maintenance noise.

8.2.14.2 Purpose

(1) The purpose of the Regional infrastructure overlay code is to:

- (a) ensure that development is compatible with, and does not adversely affect the viability, integrity, operation and maintenance of existing and planned regional infrastructure, including:
  - (i) high voltage electricity transmission lines and substations;
  - (ii) water supply pipelines and infrastructure;
  - (iii) state-controlled roads; and
  - (iv) railways.

(b) regulate development of properties adjacent to all state-controlled roads or near rail operations to ensure that potential conflicts between sensitive land uses are mitigated.

(2) The purpose of the code will be achieved through the following overall outcomes:

(a) Existing and planned regional infrastructure facilities, networks and corridors are protected from incompatible development.

(b) Development adjacent to existing and planned regional infrastructure facilities, networks and corridors:

(i) is appropriately located, designed, constructed and operated to avoid compromising the integrity, operational efficiency and maintenance of regional infrastructure;

(ii) protect the amenity, health and safety of people and property.

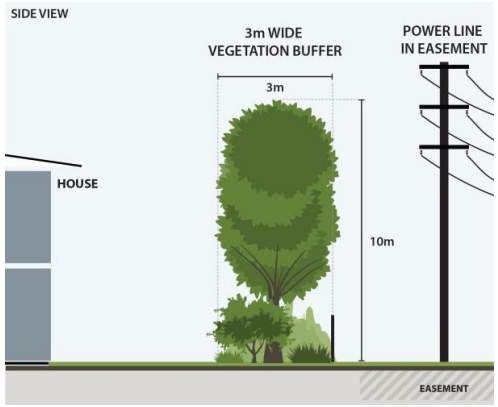
(c) Sensitive land uses (excluding Office, Relocatable home park, Short-term accommodation and Tourist park) proposed to be located adjacent to a state-controlled road or located within 100m of the Gold Coast rail corridor are appropriately attenuated.

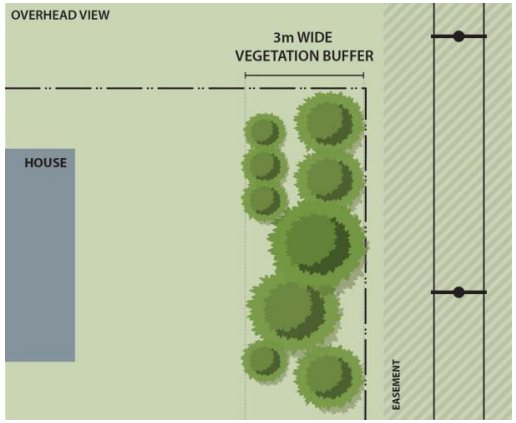
(d) The number of people exposed to potential adverse impacts emanating from regional infrastructure is minimised.

8.2.14.3 Specific benchmarks for assessment

Table 8.2.14-2: Regional infrastructure overlay code – for assessable development

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets either the performance outcome or overall outcome	Internal use
Setbacks **Where directly abutting the existing Energex Ferry Road 110kV high voltage electricity corridor, Southport between Bundall Substation (Lot 1, 2 and 3 on RP89651) and Southport Substation (Lot 1 on RP801646 and Lot 893 on SP191060)**			
PO1 Development does not compromise the integrity, functionality, access to or efficient delivery of the electricity corridor.	**AO1** Front boundary setbacks are as follows: (a) Medium density residential zone – 4m (where the building height is no greater than 9m), otherwise 6m. (b) Mixed use, Neighbourhood centre and Centre zones – 2m (where the building height is no greater than 9.5m), otherwise 6m.	N/A for this proposal.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
Major electricity infrastructure			
PO2 Sensitive land uses are appropriately located to ensure the amenity, health and safety of people and property are protected, and to avoid compromising the integrity, operational efficiency and maintenance of regional infrastructure.	**AO2** Buildings and outdoor use areas associated with a sensitive land use are setback from the closest boundary of an easement for, or an area otherwise affected by, a high voltage electricity line corridor, in accordance with the following: (a) 20m for transmission lines up to 132kV; (b) 30m for transmission lines between 133kV and 275kV; and (c) 40m for transmission lines exceeding 275kV.	N/A for this proposal.	
PO3 There is sufficient space within the site to establish landscaping which substantively assists in screening and softening obtrusive high voltage electricity lines and substations.	**AO3** A minimum 3m wide densely planted landscaped buffer is provided along the boundary adjoining high voltage electricity lines and/or substations, including provision for advanced trees and shrubs that will grow to a minimum height of 10m.  	N/A for this proposal.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
			
PO4 High voltage electricity lines on private land are included in an easement.	**AO4** Existing infrastructure easements are maintained and where none currently exist, new easements are created which are sufficient for the electricity provider's requirements.	N/A for this proposal.	
Water supply infrastructure			
PO5 Development within a water supply pipeline buffer: (a) is located, designed and constructed to protect the integrity of the water supply pipeline; and (b) maintains adequate access for any required maintenance or upgrading work to the water supply pipeline.	**AO5** Buildings and structures are located outside of the water supply pipeline buffer area, as identified on a **Regional infrastructure overlay map**.	The proposal complies.	
PO6 Development is located and designed to maintain required access to water supply infrastructure.	**AO6** Development does not restrict access to water supply infrastructure of any type or size, having regard to:	The proposal complies.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
	(a) buildings or structures; (b) gates and fences; (c) storage of equipment or materials; and (d) landscaping, earthworks, stormwater or other infrastructure.		
Protection from road traffic and rail noise			
PO7 Development mitigates noise intrusion to provide acceptable levels of amenity for occupants of the development.	**AO7** All sensitive land uses (excluding Office, Relocatable home park, Short-term accommodation and Tourist park) comply with the Design level – road and rail noise criteria identified in **Table 8.2.14-3: Design level – road and rail noise criteria** through the implementation of 1 or more of the following noise attenuation measures: (a) the use of earth mounds and noise barrier fences, between the noise source and the sensitive land use; and/or (b) the use of appropriate buffer distances between the noise source and the sensitive land use.	As detailed in the proposed plan of development, we submit that a 3.5m high acoustic barrier will be required to be installed on the site's boundary with the adjoining railway corridor. Internally, a 5m wide dense landscape buffer is proposed to be planted so as to reduce the visual impact of the barrier. It is considered that the proposal complies with these requirements.	
PO8 Noise barriers are designed to mitigate impacts on visual amenity.	**AO8** Noise barriers are set back from the property boundary and adequately screened with dense landscaping.	As detailed in the proposed plan of development, we submit that a 3.5m high acoustic barrier will be required to be installed on the site's boundary with the adjoining railway corridor. Internally, a 5m wide dense landscape buffer is proposed to be planted so as to reduce the visual impact of the barrier. It is considered that the proposal complies with these requirements.	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? **If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome**	Internal use
Lot design (for subdivision only)			
PO9 Reconfiguration of lots does not compromise or adversely impact upon the efficiency and integrity of major electricity and water supply infrastructure networks.	**AO9** Urban residential lots and buildings and structures are not located within an easement for, or an area otherwise affected by, a high voltage electricity transmission line or water supply pipeline as identified on the **Regional infrastructure overlay map**.	N/A	
PO10 Reconfiguring of lots ensures that access requirements of major electricity and water supply infrastructure are maintained.	**AO10** Major electricity or water supply infrastructure traversing or within private land are protected by an easement in favour of the service provider for access and maintenance.	N/A	

Table 8.2.14-3: Design level – road and rail noise criteria

Measurement location	Design level road noise criteria
1m in front of the most exposed part of a proposed sensitive land use	**For road noise** (a) 60 dB (A) L_{10} (18 hour) or less, where existing levels measured at the setback for the zone are greater than 40 dB (A) L_{90} (8 hour) between 10pm and 6am. (L_{10} (18 hour) is the arithmetic average of 18 hourly L_{10} levels measured in dB (A) between the hours of 6am and midnight). (b) 57 dB (A) L_{10} (18 hour) or less, where existing levels measured at the setback for the zone are less than or equal to 40 dB (A) L_{90} (8 hour) between 10pm and 6am. (c) Where the above criteria cannot be met, internal maximum design criterion levels specified in Table 1 *AS/NZS 2107:2016 Acoustics–Recommended design sound levels and reverberation times for building interiors* apply, particularly for buildings greater than 1 storey high. **For rail noise** (a) 65 dB (A), assessed as the 24-hour average equivalent continuous A-weighted sound pressure level; (b) 87 dB (A), assessed as a single event maximum sound pressure level.
Balconies and formal external open space	**For road noise** (a) 60 dB (A) L_{10} (18 hour) or less, where existing levels measured at the setback for the zone are greater than 45 dB (A) L_{90} (18 hour). (b) 57 dB (A) L_{10} (18 hour) or less, where existing levels measured at the setback for the zone are less than or equal to 45 dB (A) L_{90} (18 hour).
Classrooms and meeting rooms	**For road noise** (a) 48 dB (A) L_{10} (1 hour) or less, as measured or calculated (in the centre of the room) as an indoor level between the hours of 8am and 4pm.
Inside bedrooms, living areas and noise-sensitive areas of non-residential uses (e.g. classrooms)	**For rail noise** Average Lmax (10pm to 6am) not greater than 50 dB (A).
External formal living area	**For rail noise** LAeq (1hr) (6am to 10pm) not greater than 55 dB (A).

Notes: Road noise criteria

(1) **For the measurements above, all external levels stated are free field, and the expectation is that an additional 2.5 dB (A) increase is applied for the façade correction when the building is constructed. This will achieve a level equal to, or less than, 63 dB (A) and 60 dB (A), respectively, 1m from the most exposed façade of a building.**

(2) **The calculation and prediction of road noise levels is to be in accordance with the *Road Traffic Noise Management Code of Practice 2008*, published by the Queensland Department of Main Roads, and measurement is to be in accordance with *AS2702–1984: Acoustics – Methods for the measurement of road traffic noise*. Alternative road traffic noise prediction models may be used where they can be justified as being appropriate to the circumstances of the particular situation and location and have been validated for Australian conditions.**

(3) **An assessment of road traffic noise is to be based on an ultimate ten-year traffic plan for the road, from the completion of construction of the development.**

(4) **The determination of building construction, siting and design measures required to achieve internal noise levels shall be in accordance with *AS2107:2016 Acoustics–Recommended design sound levels and reverberation times for building interiors* and *AS3671:2016 Acoustics–Road traffic noise intrusions – Building siting and construction*. Alternative methods may be used where they can be justified as being appropriate to the circumstances of the particular situation and location.**

(5) **When the requirements of *AS2107:2016 Acoustics – Recommended design sound levels and reverberation times for building interiors* and *AS3671:1989 Acoustics – Road traffic noise intrusions – Building siting and construction* need to be achieved, the developer/owner shall engage the service of an acoustic engineer to certify (RPEQ) that the architectural measures (including air conditioning) have been incorporated into the building envelope. This will require the engineer to undertake inspections both during and at the end of construction.**

Notes: Rail noise criteria

(1) **For the purposes of this overlay, LAeq (1hr) (6am to 10pm) represents the highest 1 hour equivalent continuous A-weighted sound pressure level between 6am and 10pm. The LAeq (1hr) is to be calculated from the highest four consecutive 15 minute samples, and is not restricted to measurement from the hour.**

(2) **For the purpose of this overlay, the average Lmax (10pm to 6am) represents the average of the A-weighted maximum sound pressure levels of train pass-by events between 10pm and 6am.**

(3) **The calculation and prediction of rail noise levels is to be in accordance with the requirements of the *Queensland Rail Code of Practice – Rail Noise Management*. Alternative rail noise prediction methods may be used where they can be justified as being appropriate to the circumstances of the particular situation and location.**

(4) **An assessment of rail noise is to be based on the ultimate traffic flow for the railway. If such data does not exist, a 10-year planning projection is to be used.**

(5) **The external formal living area criteria represent the rail noise level to be achieved, whether free field or non-free field. A correction of plus 2.5 dB(A) for facade reflection is to be included in the calculation, where appropriate.**

(6) **External areas exceeding the design level criteria for the external the formal living area(s) will not be considered as external formal living.**