8.2.6 Coastal hazard overlay code

8.2.6.1 Application

1. This code applies to assessing development in the Coastal hazard overlay, if:
2. accepted development subject to compliance with identified requirements, where acceptable outcomes of this code are identified requirements in a table of assessment for an overlay (section 5.10); or
3. assessable development where this code is an applicable code identified in the assessment benchmarks column of a table of assessment for an overlay (section 5.10); or
4. impact assessable development.
5. Land in the Coastal hazard overlay is identified on the Coastal hazard overlay map and is included in the following sub-categories:
6. Erosion prone area – coastal erosion sub-category;
7. Erosion prone area – permanent inundation due to sea-level rise at 2100 sub-category;
8. High storm-tide inundation area sub-category;
9. Medium storm-tide inundation area sub-category;
10. Coastal management district sub-category.
11. When using this code, reference should be made to section 1.5 and section 5.3.3.

Note—The following purpose, overall outcomes, performance outcomes and acceptable outcomes comprise the assessment benchmarks of this code.

Editor's note—Where land is identified within a flood planning area on the Flood overlay map, and is identified within a storm-tide inundation area on the Coastal hazard overlay map, the assessment benchmark that provides the highest level of protection from any source of flooding applies.

Note—Where this code includes performance outcomes or acceptable outcomes that relate to:

* coastal hazard assessment or evacuation, guidance is provided in the Coastal hazard planning scheme policy;
* flood risk assessment and flood immunity for reconfiguring a lot, guidance is provided in the Flood planning scheme policy;
* handling or storage of hazardous materials, guidance is provided in the Management of hazardous chemicals in flood affected areas planning scheme policy.
* standards and specifications for public assets in a park, guidance is provided in the Infrastructure design planning scheme policy.

Editor’s note—For a proposal to be accepted development subject to compliance with identified requirements, it must meet all the identified acceptable outcomes of this code that relate to the applicable sub-category and any other applicable code. Where it does not meet all identified acceptable outcomes, the proposal becomes assessable development and a development application is required. Where a development application is triggered, only the specific acceptable outcomes that the proposal fails to meet need to be assessed against the corresponding assessable acceptable outcomes or performance outcomes and relevant overall outcomes. Other identified acceptable outcomes that are met are not assessed as part of the development application.

8.2.6.2 Purpose

1. The purpose of the Coastal hazard overlay code is to:
2. Implement the policy direction in the Strategic framework, in particular:
3. Theme 2: Brisbane’s outstanding lifestyle, and Element 2.3 – Brisbane’s healthy and safe communities;
4. Theme 3: Brisbane’s clean and green leading environmental performance, and Element 3.3 – Brisbane’s adaptation approaches;
5. Theme 4: Brisbane’s highly effective transport and infrastructure networks, and Element 4.3 – Brisbane’s coordinated infrastructure planning and delivery.
6. Provide for the assessment of the suitability of development in the Coastal hazard overlay.
7. The purpose of the code will be achieved through the following overall outcomes:
8. Development minimises exposure of people and property to unacceptable risks from coastal hazards including storm-tide and permanent tidal inundation.
9. Development and infrastructure mitigates the risk of impacts from coastal hazard through its location, siting, design, construction and operation whilst maintaining amenity.
10. Development does not compromise the ability of the city's counter-disaster response capacity during a coastal hazard emergency.
11. Development provides for efficient evacuation and access for evacuation resources including emergency services during coastal hazard events or otherwise plans for the prospect and impact of isolation or hindered evacuation due to flooding from storm-tide and tidal inundation.
12. Development involving essential community infrastructure remains functional during and immediately after a coastal hazard event.
13. Development ensures that essential building services or services essential for the development are designed, located and operated to minimise the coastal hazard risk to people, minimise damage to property, disruption to building function and the re-establishment time after a storm-tide or tidal inundation event.
14. Development ensures that emergency management plans respond to the number and capacity of future users of the development to safely participate in emergency measures such as evacuation.
15. Development involving hazardous materials manufactured, handled or stored in bulk does not adversely impact on public safety and the environment as a result of the impacts of storm-tide and tidal inundation.
16. Development does not cause or increase adverse impacts on other premises from coastal hazard.
17. Development does not impact adversely on the ability of adjoining sites to implement future coastal hazard mitigation measures.
18. Development and infrastructure avoids or mitigates the impacts of predictable future coastal hazard due to increases in sea-level rise and cyclonic intensity.
19. Development in areas subject to coastal hazards protects biodiversity, the integrity of environmental networks and coastal resources.
20. Development prioritises, in order, the safety of people, protection of public infrastructure and protection of private property, in the management of the economic, social and environmental impacts of coastal hazards.
21. Development is designed and operated to withstand coastal hazards in order to avoid or defer the need for emergency assistance.
22. Development does not rely on Council undertaking specific coastal hazard mitigation actions or uncommitted future provision of services or infrastructure to ensure the protection of people, property or infrastructure, unless identified through an adaption strategy.

8.2.6.3 Performance outcomes and acceptable outcomes

Table 8.2.6.3.A—Performance outcomes and acceptable outcomes

|  |  |
| --- | --- |
| Performance outcomes | Acceptable outcomes |
| Section A—If for accepted development subject to compliance with identified requirements (acceptable outcomes only) or assessable development for a dwelling house including a secondary dwelling | |
| PO1  Development involving any habitable or non-habitable part of the dwelling house, including any secondary dwelling, is:   1. located and designed to minimise the risk to people and structures from coastal hazards; 2. located to minimise amenity impacts, disruption to residents, recovery time and rebuilding and restoration costs after a coastal hazard event. | AO1  Development for a dwelling house including, any secondary dwelling, complies with the flood planning levels in Table 8.2.6.3.B.  Editor's note—Information about flooding from storm tide is provided in Council's FloodWise Property Report. |
| Section B—If for accepted development subject to compliance with identified requirements (acceptable outcomes only) or assessable development other than for a dwelling house | |
| PO2  Development other than for a park is located and designed to:   1. minimise the risk to all persons from coastal hazards; 2. minimise flood damages to the development and contents of buildings; 3. provide suitable amenity; 4. minimise disruption to residents, recovery time, and rebuilding or restoration costs after coastal hazard events. | AO2  Development achieves minimum flood planning levels consistent with Table 8.2.6.3.C.  Editor's note—Information about flooding from storm tide is provided in Council's FloodWise Property Report. |
| PO3  Development for a park ensures that the design of the park and location of structures and facilities responds to coastal hazards and balances the safety of intended users with:   1. maintaining continuity of operations; 2. impacts of flooding on asset life and ongoing maintenance costs; 3. efficient recovery after flood events; 4. recreational benefits to the city; 5. availability of suitable land within the park.   Note—The Infrastructure design planning scheme policy provides more detail on standards and specifications for public assets. | AO3  Development involving a building or structure in a park:   1. complies with the minimum flood planning levels in Table 8.2.6.3.C; or 2. is not located below the 20% AEP storm-tide level if Table 8.2.6.3.C does not apply to the type of structure. |
| Section C—If assessable development other than for a dwelling house | |
| General | |
| PO4  Development has access which provides for safe vehicular and pedestrian movement in the development, including emergency services access during and after a coastal hazard event. | AO4  Development locates access points and driveways in the flood free area (or the area of the lowest flood risk) of the site. |
| PO5  Development for pedestrian and cyclist paths:   1. provides a suitable level of trafficability; 2. manages the impacts of flooding on asset life and ongoing maintenance costs; 3. balances route availability with recreational and transport connectivity benefits to the city. | AO5.1  Development for off-road pedestrian and cyclist paths:   1. is not located in the Erosion prone area – coastal erosion subcategory; or 2. complies with the minimum flood planning levels in Table 8.2.6.3.H.   Note—If the site is subject to more than 1 type of flooding, the requirement that affords the highest flood planning level will apply. |
| AO5.2  All new on-road cyclist and pedestrian facilities comply with the road flood immunity and trafficability standards for the applicable category of road in Table 8.2.6.3.H or Table 8.2.6.3.I |
| PO6  Development does not:   1. impact adversely on the safety or amenity of an adjoining site; 2. impact adversely on the ability of others to implement future coastal hazard adaptation actions. | AO6  Development does not concentrate, intensify or divert floodwater, erosion impacts or cause nuisance ponding onto other premises. |
| PO7  Development involving essential electrical services or a basement storage area is suitably located and designed to ensure public safety and minimise the need for flood recovery and economic consequences of damage during a flood. | AO7.1  Development ensures that:   1. all essential electrical services comply with the flood planning levels in Table 8.2.6.3.C; or 2. if a basement contains essential electrical services or a private basement storage area, the basement is a waterproof structure with walls and floors impermeable to the passage of water and all entry points and services are located at or above the relevant flood immunity level in Table 8.2.6.3.C.   Note—A basement storage area is a basement-level area for private storage, other than a bike storage room, change room, building maintenance storage and non-critical electrical services. |
| AO7.2  Development involving a basement that relies on a pumping solution to manage floodwater ingress or for dewatering after a flood, provides an appropriately flood protected backup power source for those pumps. |
| PO8  Development involving the storage and handling of hazardous materials avoids or minimises risks to public health and safety and the environment, by:   1. protecting underground tanks for hazardous materials against the forces of buoyancy, velocity flow and debris impacts; 2. securing above-ground tanks against flotation and lateral movement; 3. preventing damage to pipework or entry of floodwater into pipework; 4. preventing damage to or off-site release of packages, drums or containers.   Note—A chemical hazards flood risk report prepared in accordance with the Management of hazardous chemicals in flood affected areas planning scheme policy can assist in demonstrating achievement of this performance outcome.  Note—A pump drainage system is not an acceptable measure to meet the performance outcome. | AO8.1  Development does not include the storage or handling of hazardous chemicals that exceed the hazardous chemicals flood hazard threshold quantities in Table 8.2.6.3.J. |
| AO8.2  Development involving the processes listed in Table 8.2.6.3.F is consistent with the standards contained in the Management of hazardous chemicals in flood affected areas planning scheme policy and can operate without risk of environmental harm during a coastal hazard.  Note—The Management of hazardous chemicals in flood affected areas planning scheme policy sets out further information and processes including risk assessment for the management of hazardous chemicals in coastal hazard areas. |
| Additional performance outcomes and acceptable outcomes for essential community infrastructure | |
| PO9  Development involving essential community infrastructure:   1. maintains function during and immediately after a coastal hazard event or is part of a network that is able to maintain the function of the essential community infrastructure without parts of the development which are unable to function during a coastal hazard event; 2. is designed and sited to avoid adverse impacts on the community or the environment due to the impacts of coastal hazard on infrastructure, facilities or access and egress routes; 3. retains site access necessary to maintain function of the development during a coastal hazard event; 4. maintains function or is part of a network which is able to remain functional even when other infrastructure may be compromised in a flood event; 5. contains mitigation measures which are not entirely dependent on human activation to respond to a flood event. | AO9  Development involving essential community infrastructure:   1. is ancillary and is not relied upon for the provision of the essential service during a coastal hazard event; or 2. is located above the flood immunity levels set out in Table 8.2.6.3.E; 3. has access to, or provides, the necessary backup emergency electricity and communications supply in times of flood; 4. if the essential community infrastructure has a city-wide emergency function, that part of the development is not located in an area that becomes isolated by a flood up to the event listed for that development type in Table 8.2.6.3.E. |
| Additional performance outcomes and acceptable outcomes for vulnerable uses, difficult to evacuate uses or assembly uses | |
| PO10  Development for vulnerable or difficult to evacuate uses and assembly uses optimises vehicular access and efficient evacuation from the development to parts of the road network unaffected by coastal hazard.  Note—A coastal hazard risk assessment may be required to address the performance outcome or acceptable outcome that deals with evacuation and isolation arrangements, and the ability to take refuge in place.  Editor's note—Further guidance for risk assessment is contained in the Coastal hazard planning scheme policy and the Flood planning scheme policy. | AO10  Development for vulnerable uses, difficult to evacuate uses or assembly uses:   1. is not isolated in any event up to the relevant flood planning level as specified in Table 8.2.6.3.D; or 2. is supported by a critical route or interim critical route identified in the Critical infrastructure and movement network overlay; or 3. can achieve vehicular evacuation to a suitable coastal hazard-free location.   Note—A suitable coastal hazard-free location is of a size and nature appropriate to provide for the size and characteristics of the population likely to need evacuation to that area. |
| Section D—If for reconfiguring a lot | |
| General | |
| PO11  Development locates and designs all lots and roads resulting from reconfiguring a lot to:   1. ensure the safety of people; 2. minimise damage to property and services; 3. facilitate safe and efficient evacuation; 4. avoid isolation during a coastal hazard event; 5. provide suitable amenity in that it is not frequently flooded or subject to tidal inundation, or nuisance ponding.   Note—   * Consideration of the 0.2% AEP flood is relevant to determining an acceptable level of safety for development. * Flood warning time is available for storm-tide flooding. * Filling for flood immunity cannot be assumed to mitigate the flood hazard for a flood event greater than the defined flood event. | AO11.1  Development ensures that the road and lot layout does not create new lots isolated by storm-tide flooding at the defined flood event. |
| AO11.2  Development involving reconfiguring a lot ensures flood immunity for all lots is provided in compliance with Table 8.2.6.3.G. |
| PO12  Development that results in 6 lots or less and no new road provides:   1. land with sufficient flood immunity to construct a dwelling house; 2. an open space area that is safe and has suitable amenity in that it is not frequently flooded or subject to tidal inundation, nuisance ponding or seepage; 3. a lot that is not substantially burdened by a stormwater easement or flood mitigation infrastructure; 4. appropriate amenity for any adjoining residential area. | AO12  Development for reconfiguring a lot that results in 6 lots or less and no new road in the High storm-tide inundation area sub-category or the Medium storm-tide inundation area sub-category provides at least 80% of each new lot at or above the flood planning levels in Table 8.2.6.3.G.  Note—This is to ensure that each new lot will not be affected by tidal influences up to the highest astronomical tide event with an allowance for 800mm of sea level increase through climate change. The development will still need to meet the relevant flood immunity standards. |
| PO13  Development provides acceptable flood immunity for its purpose that minimises the risk to people from coastal hazard, creates safe access and evacuation routes, minimises damage to property and services, and provides suitable amenity. | AO13  Development involving reconfiguring a lot that results in more than 6 lots or a new road provides flood immunity for:   1. all lots in compliance with Table 8.2.6.3.G; 2. a new road in compliance with Table 8.2.6.3.H; 3. an existing road fronting the development, or providing primary access within 200m of the development, in compliance with Table 8.2.6.3.I.   Note—The Flood planning scheme policy contains supporting information about existing roads and serviceability during floods. |
| PO14  Development involving a new road, bridge or culvert is designed to minimise impacts to flood behaviour, minimise disruption to traffic during storm-tide inundation and allow for emergency access and evacuation. | AO14  Development for a new road provides flood immunity in compliance with Table 8.2.6.3.H. |
| PO15  Development for pedestrian and cyclist paths:   1. provides a suitable level of trafficability; 2. manages the impacts of flooding on asset life and ongoing maintenance costs; 3. balances route availability with recreational and transport connectivity benefits to the city. | AO15.1  Development for off-road pedestrian and cyclist paths:   1. are not located in the Erosion prone area – coastal erosion subcategory; or 2. complies with the minimum flood planning levels in Table 8.2.6.3.H.   Note—If the site is subject to more than 1 type of flooding, the requirement that affords the highest flood planning level will apply. |
| AO15.2  All new on-road cyclist and pedestrian facilities comply with the road flood immunity and trafficability standards for the applicable category of road in Table 8.2.6.3.H or Table 8.2.6.3.I. |
| Section E—If for a material change of use, reconfiguration of a lot or operational works on a premises in an erosion prone area in a coastal management district where the chief executive is not identified as a referral agency under the Regulation  Editor's note—Examples of development where the chief executive is not identified as a referral agency under the Regulation include operational work for:   * interfering with quarry material, as defined under the Coastal Act, on State coastal land above high-water mark; or * disposing of dredge spoil, or other solid waste material, in tidal water; or * constructing an artificial waterway; or * removing or interfering with coastal dunes on land other than State coastal land,   where that operational work only involves:   * prescribed tidal works in a canal; or * tidal works that is for the installation, maintenance or repair of overhead cables or lines that extend over tidal water; or * for tidal works that is boring or tunnelling under the bed of tidal water, works that do not disturb the bed of the tidal water. | |
| PO16  Development does not occur in an erosion prone area within a coastal management district unless the development cannot be feasible located elsewhere and is:   1. coastal dependant development; or 2. temporary, readily relocatable or able to be abandoned development; or 3. essential community infrastructure; or 4. minor redevelopment (as defined in the SPP) of an existing permanent building or structure that cannot be relocated or abandoned.   The development mitigates the risks to people and property to an acceptable or tolerable level. | AO16  No acceptable outcome is prescribed. |

Table 8.2.6.3.B—Flood planning levels for a dwelling house

|  |  |  |  |
| --- | --- | --- | --- |
| Flooding Source | Minimum ground level for house pad after filling (where filling permitted) | Minimum habitable floor level | Minimum non-habitable floor level – utility areas, garage, laundry and storage room |
| Storm-tide flooding within the:  High storm-tide inundation area sub-category; or  Medium storm-tide inundation area sub-category | 2.5m AHD  (1% AEP) | 2.5m AHD + 500mm  (1% AEP + 0.5m) | 2.5m AHD + 300mm  (1% AEP + 0.3m) |

Note—Where subject to more than one flooding source, the highest immunity level as determined for each case applies.

Table 8.2.6.3.C—Categories of flood planning levels

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Flooding Source | Minimum design floor or pavement levels (m, AHD)  (refer Table 8.2.6.3.D for assignment of these categories) | | | | |
| Category A | Category B | Category C | Category D | Category E |
| Storm-tide flooding within the:  High storm-tide inundation area sub-category; or  Medium storm-tide inundation area sub-category | 3.1m AHD + 0.5m  (1% AEP level at 2100 + 0.5m) | 3.1m AHD + 0.3m  (1% AEP level at 2100 +0.3m) | 3.1m AHD (1% AEP level at 2100) | 2% AEP level | 2% AEP level |

Note—

* Where the site is subject to more than one flooding source that is storm-tide flooding, overland flow flooding, creek/waterway flooding or river flooding, the minimum flood immunity level is the highest level determined from these sources.
* The Coastal hazard planning scheme policy and Flood planning scheme policy the set out the flood risk assessment process for coastal hazards.

Table 8.2.6.3.D—Flood planning level categories for development types

|  |  |  |
| --- | --- | --- |
| BCA building classification(1) | Development types and design levels, assigned design floor or pavement levels | Category  refer to Table 8.2.6.3.C |
| Class 1-4(7) | Habitable room(1) | Category A |
| Non-habitable room  including patio and courtyard | Category B |
| Non-habitable part of a Class 2 or Class 3 building excluding the essential services(2) control room | Category B |
| Parking located in the building undercroft of a multiple dwelling | Category C |
| Carport(4); unroofed car park; vehicular manoeuvring area | Category D |
| Essential electrical services(2) of a Class 2 or Class 3 building only | Category A(6) |
| Basement parking entry(3) | Category C + 300mm |
| Class 5,  Class 6, or  Class 8 | Building floor level | Category C |
| Garage or car park located in the building undercroft(3) | Category C |
| Carport(4) or unroofed car park | Category D |
| Vehicular access and manoeuvring area | Category D |
| Basement parking entry(3) | Category C |
| Essential electrical services(2) | Class 8 – Category C(6)  Class 5 and 6 – Category A(6) |
| Class 7a | Refer to the relevant building class specified in this table | |
| Class 7b | Building floor level | Category C |
| Vehicular access and manoeuvring area | Category D |
| Essential electrical services(2) | Category C |
| Class 9(7) | Building floor level | Category A |
| Building floor level in Class 9a or 9c where for a residential care facility | 0.2% AEP flood |
| Garage or car park located in the building undercroft(3) | Category C |
| Carport(4) or unroofed car park | Category D |
| Vehicular access and manoeuvring area | Category D |
| Essential electrical services(2) | Category A |
| Class 10a | Car parking facility | Refer to the relevant building class specified in this table |
| Shed(5) or the like | Category D |
| Class 10b | Swimming pool | Category E |
| Associated mechanical and electrical pool equipment | Category C |
| Other structures | Flood planning levels do not apply |

Note—

(1) Refer to Building Code of Australia for definitions of building classifications and habitable rooms.

(2) Essential services include any room used for fire control panel, telephone PABX, sensitive substation equipment, including transformers, low voltage switch gear, high voltage switch gear, battery chargers, protection control and communication equipment, low voltage cables, high voltage cables, and lift controls.

(3) Basement car parks must be suitably waterproofed and all air vents, air-conditioning ducts, pedestrian access and entry and exit ramps into the basement must comply with the applicable flood planning levels in this table.

(4) A shelter for a motor vehicle, which has a roof and one or more open sides, and which can be built against the side of a building.

(5) A slight or rough structure built for shelter and storage; or a large strongly built structure, often open at the sides or end.

(6) Where essential electrical services are proposed in a basement below the specified flood immunity level, the flood immunity of all air vents, air-conditioning ducts, pedestrian access, lift shafts and entry and exit ramps at the basement entrance and any other openings into that basement are to conform with the flood planning levels for Category A for residential development, and the relevant basement entry level of all other uses. To ensure flood immunity, basements require a waterproof design to prevent flood waters entering the basement.

(7) Where a building includes a combination of uses that includes a component of classes 2, 3 or 9, the essential services for that building shall comply with the requirements of the building class with the greatest flood planning level.

Table 8.2.6.3.E—Flood planning levels for essential community infrastructure

|  |  |
| --- | --- |
| Type of essential community infrastructure | Recommended planning levels for storm tide |
| Community facility where involving storage of valuable records or items of historic or cultural significance, such as galleries and libraries | 0.5% AEP level |
| Educational establishment | 0.5% AEP level |
| Emergency services where for an emergency shelter | 0.5% AEP level or per Design Guidelines for Queensland Public Cyclone Shelters |
| Emergency services where for police facilities(1) | 0.5% AEP level |
| Emergency services (1) | 0.2% AEP level |
| Hospitals and health care service where supporting a hospital | 0.2% AEP level |
| Major electricity infrastructure and substations(1) | 0.5% AEP level |
| Major or minor electricity infrastructure not otherwise listed in this table.  Telecommunications facilities | No specific recommended level but infrastructure is to be optimally located and designed to achieve suitable levels of service, having regard to the processes and policies of the relevant administering public sector entity. |
| Power stations as defined in the *Electricity Act 1994* or renewable energy facility | 0.2% AEP level |
| School facilities | 0.5% AEP level |
| Utility installation where for a sewage treatment plant | 0.01% AEP level |
| Utility installation where for a water treatment plant(1) | 0.5% AEP level |

Note—

(1) This only applies to the electrical and other equipment that if damaged by floodwaters or debris, would prevent the infrastructure from functioning.

Table 8.2.6.3.F—Table of processes requiring additional assessment in a coastal hazard area

|  |
| --- |
| Process |
| (1) Oil refining or processing |
| (2) Producing, refining or processing gas or fuel gas |
| (3) Power station, including the activity of generating electricity by using fuel |
| (4) Producing, quenching, cutting, crushing or grading coke |
| (5) Waste incinerator, including thermal treatment of waste |
| (6) Pulp or paper manufacturing |
| (7) Tannery or works for curing animal skins, hides or finishing leather |
| (8) Textile manufacturing, including carpet manufacturing, wool scouring or carbonising, cotton milling, or textile bleaching, dyeing or finishing |
| (9) Rendering plant, including meat processing |
| (10) Manufacturing chemicals, poisons and explosives |
| (11) Manufacturing fertilisers involving ammonia |
| (12) Manufacturing polyvinyl chloride plastic |
| (13) Major hazard facilities for the storage and handling of dangerous goods |
| (14) Storage of hazardous chemicals in quantities exceeding the hazardous chemicals flood hazard threshold in Table 8.2.6.3.J. |
| (15) Manufacturing medium-density fibreboard, chipboard, particle board, plywood, laminated board or wood veneer products |
| (16) Manufacturing or processing plaster |
| (17) Enamelling workshop |
| (18) Galvanising works |
| (19) Anodising or electroplating workshop |
| (20) Powder-coating workshop |
| (21) Treating timber for preservation using chemicals including copper, chromium, arsenic, borax and creosote |
| (22) Manufacturing soil conditioners by receiving, blending, storing, processing, drying or composting organic material or organic waste, including animal manures, sewage, septic sludges and domestic waste |
| (23) Manufacturing tyres, asbestos products, asphalt, cement, glass or glass fibre, mineral wool or ceramic fibre |
| (24) Abattoir, including meat processing |
| (25) Recycling chemicals, oils or solvents |
| (26) Waste disposal activity (other than waste incinerator), including waste transfer station operation |
| (27) Recycling, storing or reprocessing regulated waste, including regulated waste treatment |
| (28) Manufacturing batteries and battery recycling |
| (29) Drum and container reconditioning |
| (30) Water treatment |
| (31) Sewage treatment |

Note—Further information and risk assessment concerning hazardous chemicals in coastal management areas is contained in Management of hazardous chemicals in flood affected areas planning scheme policy.

Table 8.2.6.3.G—Flood planning levels for reconfiguring a lot

|  |  |  |  |
| --- | --- | --- | --- |
| Flooding type | Minimum lot levels (m AHD) | | |
| Residential  (creating 6 or less lots with no new road) | Residential  (creating more than 6 lots), or a new road | Other than residential |
| Storm-tide flooding within the:  High storm-tide inundation area sub-category; or  Medium storm-tide inundation area sub-category | 80% of each new lot at 2.5m AHD(1)  (1% AEP level) | 3.1m AHD + 0.3m  (1% AEP flood level at 2100 + 0.3m) | 3.1m AHD  1% AEP flood level at 2100 |

Note—

(1) In addition to providing suitable flood immunity for a dwelling house to be constructed, this will ensure that each new lot will not be affected by tidal influences with an allowance for 800mm of sea level increase to 2100. The minimum area must have direct frontage to a road that will be used for accessing the lot.

Note—Where the site is subject to more than one flooding source the minimum flood planning level is the highest level determined from these sources.

Table 8.2.6.3.H—Flood planning levels for a new road and off-road paths

|  |  |  |  |
| --- | --- | --- | --- |
| Flooding type | Minimum design levels at crown of road (m AHD) | | Off-road pedestrian and cyclist paths |
| Residential development | Industrial or commercial development |
| Storm-tide flooding within the:  High storm-tide inundation area sub-category; or  Medium storm-tide inundation area sub-category | 3.1m AHD  1% AEP level at 2100 | 3.1m AHD  1% AEP level at 2100 | HAT + 0.3m(1) |

Note—

(1) This is to ensure that new off-road paths will not be affected by highest astronomical tide (HAT) with an allowance for 300mm of sea level increase by 2050.

Note—Where the site is subject to more than one flooding source, the minimum flood planning level is the highest level determined from these sources.

Table 8.2.6.3.I—Flood planning levels for existing road providing access to or fronting a development

|  |  |  |  |
| --- | --- | --- | --- |
| Flooding type | Minimum design levels at the crown of the road (m AHD) | | |
| Local road | Neighbourhood road | District road,  suburban road,  arterial road |
| Storm-tide flooding within the:  High storm-tide inundation area sub-category; or  Medium storm-tide inundation area sub-category | 5% AEP | 2% AEP | 2% AEP |

Note—Where the site is subject to more than 1 flooding source the minimum flood planning level is the highest level determined from these sources.

Note—The design standard for an industrial access is the 5% AEP storm-tide level.

Table 8.2.6.3.J – Hazardous chemicals flood hazard threshold

|  |
| --- |
| Hazardous chemicals flood hazard threshold means any of the following: |
| A hazardous chemical listed in schedule 11 of the Work Health and Safety Regulation 2011 in a quantity that exceeds a threshold quantity stated in column 5 of schedule 11 |
| A chemical classified as hazardous to the aquatic environment under the Australian Dangerous Goods Code in the Acute I or Chronic I category that exceeds 2500 litres or kilograms |
| A chemical classified as hazardous to the aquatic environment under the Australian Dangerous Goods Code in the Chronic II category that exceeds 10,000 litres or kilograms |
| A chemical classified as hazardous to the aquatic environment under the Australian Dangerous Goods Code and assigned to Packing Group III that exceeds 10,000 litres or kilograms |
| A chemical classified as hazardous to the aquatic environment under the Globally Harmonised System of Classification and Labelling of Chemicals that exceeds 10,000 litres or kilograms |