

Perth Airport Pty Ltd
Stormwater Design Criteria

| | | |
|----------|-------------------|-------|
| Aviation | Land Developments | Other |
|----------|-------------------|-------|

| Land Use | Design Event | Flood Depth | Risk Rating ⁵ | Comment |
|---|---------------------------------|-------------------------|-----------------------------|---|
| Runways : Pavement & Shoulders | 1 in 100 | No ponding | MODERATE L-Rare, C-High | |
| Taxiways : Pavement & Shoulders | 1 in 100 | No ponding | LOW L-Rare, C- Medium | |
| Aprons & Hangers plus Support Infrastructure | 1 in 50 | No ponding | LOW L-Rare, C- Medium | |
| Terminals | 1 in 100 | No ponding | MODERATE L-Rare, C-High | |
| Major Access Roads ^{1,2} | 1 in 50 | No ponding | MODERATE L-Rare, C-High | Access to the Airport Central Precinct is maintained. (Tonkin Highway connections designed to 1 in 50.) |
| Short Term Car Parks plus Kiss and Fly Areas | 1 in 50 | Less than 250mm | MODERATE L-Rare, C-High | |
| Long Term Car Parks | 1 in 10 | Less than 250mm | LOW L-Rare, C- Medium | |
| Local Roads and Precinct Networks ^{2,4} | 1 in 10 | Kerb flow width 1.0m | LOW L-Rare, C- Medium | ³ Cul-de Sacs may be 1 in 5 with no kerb flow limit |
| Developments – Office, Habitable Areas etc. – Floor Levels | 1 in 100 | Nil | MODERATE L-Rare, C-High | FFL to be 300mm above 100 yr flood level |
| Developments – Trafficable areas | 1 in 10 | Less than 250mm | LOW L-Rare, C- Medium | Same as Long Term Car Parks |
| Developments – Other areas ⁴ | | | | Lay down areas etc. |
| Developments – On site detention | 15mm or 1 in 10 ⁴ | | | Option used will be dependent on location |
| Emergency Services and Critical Infrastructure | 1 in 100 | No ponding | HIGH L- Rare, C-Critical | Risk based on consequence to people |
| Living Streams ⁴ | 1 in 100 | | | Peak outflows are limited |
| Open Channels/Swales & Stormwater Storage Areas ⁴ | | | | Based on location and future development plans |

Notes:

1. Major Access Roads (pre & post the Qantas terminal changing precincts) are defined as:
 - Airport Drive
 - Horrie Miller Drive
2. Road reserves to be used as overflow routes for storm events above pit and pipe design criteria. Road reserve design criteria to be 100 yr ARI storm event. If restricted by existing development, contact the Strategy & Development Team for advice.
3. Strategy & Development Team approval is required for this criteria to be used.
4. Contact Strategy & Development Team for advice.
5. Risk Rating based on PAPL Risk Assessment Matrix.

Stormwater Design

Perth Airport will provide :

- On-site detention criteria
- 100 year flood level
- Tail water level (where required)
- Maximum design groundwater level

Groundwater**Detention / Soakage Storage Design**

The maximum design groundwater level as provided or approved by Perth Airport is to be used for designing on-site retention storage. The Perth Groundwater Atlas, Perth Airport literature or any other documents are not to be used for this purpose. Perth Airport has over 15 years of ground water level data and that will be used to provide the design level.

The base of all on-site retention is to be above the maximum design groundwater level. It is assumed that on-site retention is constructed in engineered fill therefore storage volume calculations are to be for total volume generated and not include any infiltration. If this is not to be the situation then please contact the Strategy & Development Team for approval to use infiltration with storage calculations.

Storage volume calculations are to be submitted for approval. This information can be in the form of spreadsheets or software outputs (e.g. DRAINS screen dumps etc.) This data is to be provide with the 'Stormwater Design Details Sheet' on page 3.

On site retention basins, pre-cast concrete soak wells, the Stormtech 'yellow arches' system and the Graf EcoBloc system are currently approved for use on the airport estate. Other products may be used but they will need to be approved by Perth Airport. This should be undertaken early in the process to avoid the possibility of the Consent application being delayed.

Other Design Requirements

Groundwater levels for other purposes (e.g. likelihood of dewatering required for construction) can be provided by the S&D team as required.

Version Date : 17 July 2017

Perth Airport - Site Developments

Stormwater Design Details Sheet

(To be submitted with design drawings)

Perth Airport assesses drawings and associated data to confirm that the designer has taken into account all the relevant information to help ensure that the new infrastructure plus the environment and flood risks are integrated with master planning for the airport estate. Perth Airport is not a peer reviewer and approval does not absolve the designer of responsibility for information in the design calculations, drawings and technical specifications.

Project Name & Location :

| Item | Location Details (Tick) | Values | Check Column (Prompt for designer use) |
|--|-------------------------|--------|--|
| On-site Detention Criteria (as provided by PAPL) | | | |
| 100 year Flood Level (as provided by PAPL) | | | |
| Tail Water Level (in external infrastructure, as provided by PAPL) | | | |
| Design Maximum Groundwater Level (as provided or approved by PAPL) ^A | | | |
| Calculated Retention Storage Volume | | | |
| Retention storage calculations (Refer to Groundwater on page 2 for format) | | | |
| Supporting literature or information if required | | | |
| Design Drawings | | | |
| Pipe discharge to : | | | |
| Road Pipe Network | | | |
| Road Swale | | | |
| Living Stream | | | |
| Other (Please state) | | | |
| Overland flow route discharge to : | | | |
| Road Reserve | | | |
| Living Stream | | | |

- A. This can be provided by PAPL or else the developer can undertake a geotechnical site investigation and locate the groundwater as it was on the day. The designer can then determine a suitable design groundwater level based on the geotechnical results however this will need to be approved by PAPL because a single site reading does not represent the sites seasonal high level. Failure to do so may result in rejection of the design.