Department of Natural Resources and Mines

Queensland Government

Regulation of levee banks

The Queensland Government has introduced laws to regulate the construction or modification of levee banks. These laws became effective on 16 May 2014. If you propose to build a new levee or modify an existing levee from this date, you need to comply with this new regulation.

Levee banks

Levee banks are defined as artificial embankments which prevent or reduce overland flow. Some structures which act as levees are excluded from the definition (http://www.dnrm.qld.gov.au/water/catchments-planning/levees/definition).

Levees play an important role in floodplain (http://www.dnrm.qld.gov.au/water/catchments-planning/levees/floodplains) management. They also have the potential to impact on neighbouring properties, the community and the catchment as a whole. It is therefore important to provide a consistent and effective method for regulating them.

Levee categories

The *Water Act 2000* defines what a levee is and provides that the construction of a new levee or the modification of an existing levee is now an 'assessable development' under the *Sustainable Planning Act 2009*. This means that any person planning to construct or modify a levee must give consideration to the potential effects of their levee on the movement of floodwater, and how this could affect other people and properties.

The level of assessment of a levee will depend on the levee category. There are three categories which are determined by the level of impact of the proposed levee:

- **Category 1** levees do not have any off-property impacts and are subject to self-assessment.
- **Category 2** levees do have off-property impacts and have an affected population of less than 3 people and are subject to code assessment.
- **Category 3** levees do have off-property impacts and have an affected population of at least 3 people and are subject to impact assessment.

Levee documents

- Self-assessable code for construction or modification of levees (PDF, 165.1KB) (http://www.dnrm.qld.gov.au/__data/assets/pdf_file/0003/163425/self-

assessable-code-levees.pdf)

- Guidelines for construction or modification of category 1 levees (PDF, 696.1KB) (http://www.dnrm.qld.gov.au/__data/assets/pdf_file/0020/163424/guidelines-category-1-levees.pdf)
- Guidelines for construction or modification of category 2 and 3 levees (PDF, 739.0KB) (http://www.dnrm.qld.gov.au/__data/assets/pdf_file/0019/163423/Guidelines-for-the-construction-or-modification-of-category-2-and-3-levees.pdf)
- The assessment code forms Schedule 15B of the Water Regulation 2002 (https://www.legislation.qld.gov.au/LEGISLTN/CURRENT/W/WaterR02.pdf).
- The State Development Assessment Provisions Module 7 (http://www.dsdip.qld.gov.au/resources/policy/sdap/sdap-module-7-v1-3.pdf) applies to category 3 levees.

Applications to build a levee

Landholders will need to apply for a development approval for category 2 or 3 levees. Local councils are responsible for assessing levee applications. As assessment managers, councils are able to make decisions about levees based on their vision for their local government area and their specific planning and management needs.

The application forms to build a category 2 or 3 levee can be found on the Department of State Development, Infrastructure and Planning website (http://www.dsdip.qld.gov.au/forms-templates/sara-idas-forms.html). You will need to use form 1 (Application details) and form 20 (Interfering with overland flow water and construction and modification of a levee). You may also find Checklist No 4 (Operational work) to be of assistance.

The Queensland Government is a referral agency for matters of interest to the State for category 3 levees. Information about how the State will assess category 3 levees can be found on the Department of State Development, Infrastructure and Planning website (http://www.dsdip.qld.gov.au/development-applications/sdap.html).

Existing levee banks

The new regulatory provisions will not apply to existing levee banks as these are not documented and were constructed in accordance with the existing legislation at the time. However, the regulations will apply to proposals to modify an existing levee bank.

Levee banks under construction

The new framework will not apply to levee banks that are under construction when the framework commences. Physical construction on building or modifying the levee bank must have started for a levee bank to be considered 'under construction'. A levee bank is not considered to be under construction unless all applicable permissions have been received, land acquisitions completed and work begun.

Background

Following Queensland’s 2011 floods, the Floods Commission of Inquiry recommended that there be consistent legislation to control the construction of levees in Queensland. These regulations provide this consistent approach.

The advantages of consistent legislation include:

- the rules are clearly stated and apply to everyone in Queensland
- potential impacts of levees must be considered prior to construction or modification
- levees are assessed on the same criteria across the state
- there is a consistent process for objecting to the construction of levees.

Find out more

For more information, contact your local council, or email levees@dnrm.qld.gov.au (mailto:levees@dnrm.qld.gov.au).

Building or modifying a levee

How to comply with the regulations

This information is for any person or organisation wishing to construct a new levee bank, or modify an existing levee bank, in Queensland.

The guidelines (http://www.dnrm.qld.gov.au/water/catchments-planning/levees#levee-documents) set out the process to be followed to determine:

- whether building a levee bank is an appropriate measure
- whether the structure is considered a levee under the relevant legislation
- what level of risk the levee poses, and hence what level of assessment is required
- how to get approval to construct or modify the levee.

Levee alternatives

Before building a levee, consider whether there are other options available. There may be alternatives such as land planning alternatives, flood management plans, raising building heights or making them flood resistant.

Modifying an existing levee

Modification of existing levees includes, but is not limited to:

- raising or lowering the height of the levee
- extending the length of the levee
- any other modification that influences the flow of water.

Stages in getting approval to build or modify a levee

Once you have decided that you wish to build or modify a levee, determine which category it would be.

Levee categories and assessment levels

Category	Definition	Level of assessment	Assessor
Category 1	A levee that has no off-property impact	Self-assessment	Applicant
Category 2	A levee that has an off-property impact and for which the affected population is less than 3	Code assessment	Local government
Category 3	A levee that has an off-property impact and for which the affected population is at least 3	Impact assessment	Local government with Queensland Government as referral agency

Self assessable levees

For your levee application to be self assessable, you need to ensure that the levee does not cause off-property impacts. Off-property impacts are measured in terms of the hydraulic effects of the levee. The construction or modification of a category 1 levee must not result in changes to the flow path, flow velocity, flooded area or flood height beyond the property boundary on which the levee is located.

Code and impact assessable levees

Code and impact assessable levees are all levees which have off-property impacts.

The code requires that anyone wishing to build or modify a code assessable levee will follow a series of procedures to ensure that their levee meets the following specifications:

- any off-property impacts are minimised and acceptable
- the levee is a safe and stable structure
- community safety is ensured in the event a category 3 levee fails or overtops.

These requirements are set out in the IDAS code for the construction and modification of category 2 and 3 levees (PDF, 739.0KB) (http://www.dnrm.qld.gov.au/__data/assets/pdf_file/0019/163423/Guidelines-for-the-construction-or-modification-of-category-2-and-3-levees.pdf). To demonstrate compliance with all of these points will generally require a hydraulic study to be conducted. You may wish to use the services of a suitably qualified person to ensure your application is compliant.

Impact assessable levees

Category 3 levees have the highest level of impact and are subject to impact assessment.

Proponents will need to meet the requirements of the IDAS code as well as the state code in Module 7 (Water Resources) of the State Development

Assessment Provisions (SDAP). This code provides that a category 3 levee must be designed, constructed and managed such that it maintains or enhances the resilience of the affectedpeople. Details are available on the Department of State Development Infrastructure and Planning (http://www.dsdip.qld.gov.au/resources/policy/sdap/sdap-module-7-v1-3.pdf) website.

Assessment manager

All applications to build or modify levee banks will be assessed by the local council. Contact your local council for details on how to apply and acceptable solutions to the code requirements.

Find out more

Contact your local council for information about your specific situation.

Definition of a levee

In Queensland, under the Water Act, a levee is defined as an artificial embankment or structure which prevents or reduces the flow of overland flow water onto or from land.

A levee includes levee-related infrastructure, which is defined as infrastructure that is:

1. connected with the construction or modification of the levee
2. used in the operation of the levee to prevent or reduce the flow of overland flow water onto or from land.

There are a number of types of levees, including:

- earthen levees (these can include fill material pushed up or deposited for the purpose of diverting overland flow water)
- crib walls
- concrete walls.

Exclusions

There are a number of exclusions to the definition. Structures in the following categories are not subject to the levee regulation:

- Prescribed farming activities, including cultivating, laser levelling or contouring, clearing or replanting vegetation. Note however that if fill is left over from prescribed farming activities, such as laser levelling or contouring, and it is subsequently used to divert overland flow water, then this will be captured under the definition of a levee.
- Irrigation infrastructure or levee-related infrastructure
- Fill used for gardens or landscaping (up to a certain volume)

- Structures regulated under other Acts. This includes roads, railways and water storages
- Coastal infrastructure, such as groynes, used to protect life or property from the threat of coastal hazards.

If you are not certain whether the structure you wish to build will be classed as a levee, ask your local council for clarification.

Floodplains

Most of us live on a floodplain.

Put simply this means we live near rivers or waterways, on land which could potentially flood.

A floodplain is anywhere water can overflow.

Many of the things we do near waterways change the way water behaves. Construction along riverbanks interferes with natural flow; using water for irrigation alters volumes and velocity, building lakes, diversions, dams, and other structures alters the path previously taken by the water. These changes make the behaviour of water less predictable, as floodwaters don't behave the way they did in past floods.

Levee banks are sometimes constructed as a way to prevent water entering their property, or part of their property.

Levees are not a total floodproofing solution. They can only protect against specific flood events. It would not be feasible to build a levee long and high enough to keep out all potential floods.

Levees affect the flow of water in a floodplain and sometimes have undesirable impacts on neighbouring, upstream or downstream properties, and this can lead to disputes between landholders.

In Queensland rules have now been put in place to ensure possible impacts are considered before a levee is built.
