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8 Development assessment in practice

Land use planning has two key stages: the making of land use plans which specify ideal outcomes, and the development approval process, which requires the assessment of development proposals against that plan. Steps which might be factored into the making of land use plans in order to minimise flood impact are discussed in various other chapters in this report; for example, see section 5.1.1 *Model flood planning controls*. This chapter of the report considers some aspects of the development approval process.

The Commission has not conducted an exhaustive review of the operation in practice of the development approval process prescribed by the *Sustainable Planning Act 2009*; such an activity would exceed the scope of the task with which it has been charged. Neither has the Commission conducted a review of the merits of development decisions which have already been made; it has not focussed on whether particular development approvals should or should not have been granted. Instead, the Commission has examined a number of council assessment files from across Queensland, to develop an understanding of how flood issues are, in practice, considered in the assessment process. That examination did not reveal evidence of systemic failure, but it did enable the Commission to identify some aspects of the process which could be changed to better achieve the objective of minimising flood impact to property. In this chapter, some council processes are discussed in a general way. On occasion, it is useful to make specific reference to files examined by the Commission.

Whereas councils are generally responsible for approving a use in the first instance through land use planning systems, building certifiers check that building work complies with conditions of a development approval for a material change of use that relate to the built form of the use and other standards specified in legislation and building codes.¹ The Commission has not conducted its own investigation of the scope for improvement, if any, to be made to Queensland's building certification system, as the task is not raised by the Commission's terms of reference. The Commission does note however that the Queensland Government, through Growth Management Queensland, is reviewing Queensland's building certification system in response to calls to improve building certifiers' professional development, work practices and available resources.²

Not all development applications are assessed against flood-related development controls. This may occur for a number of reasons. For example, the application of the flood controls may be dependent on the existence of a flood map.³ Another reason may be that the proposed development is exempt from assessment against a planning scheme's provisions.⁴

For the most part, the Commission's examination of development assessment files has been conducted for the purpose of identifying issues of process which arise at the local government level with the assessment of development applications. However, the circumstances that led to the construction of one development, which located two residential towers very close to the Brisbane River (the buildings are set back a distance of

six metres and ten metres respectively)⁵ at Tennyson Reach, prompted the Commission to consider the role played by the Queensland Government.

In May 1996, the Department of Natural Resources commissioned a study into the use that could be made of the land on which the Tennyson power station was situated.⁶ The report noted that the land was low-lying and susceptible to flooding; it had been flooded many times in its history.⁷ The study concluded that the site's future use would be limited by:

- poor road access
- contamination from previous activities
- poor drainage
- the need for significant fill to raise the site level to the required 'flood immunity level' for development.⁸

Despite these limitations, in September 2002, Tennis Queensland made an unsolicited proposal to the Queensland Government to build a State Tennis Centre on the site.⁹ Tennis Queensland's proposal listed six possible sites for the tennis centre, but ultimately concluded that the Tennyson power station site was the most attractive option.¹⁰ Of the six sites, the proposal identified only the Tennyson site as deliverable at no cost to government.¹¹ Before presenting the proposal to the Queensland Government, Tennis Queensland granted Mirvac, a property development company, what it described as a 'mandate' to work exclusively with it to acquire and develop the Tennyson power station site.¹²

The Queensland Government rejected Tennis Queensland's proposal and opened the land to the market for tender. The winning developer would be required to deliver a state of the art tennis facility on the Tennyson site at no cost to the government.¹³ The section of land not used for the State Tennis Centre would be made available to the developer for an associated development project compatible with the tennis centre and surrounding areas. It was envisaged that the developer would use the associated development to fund construction of the tennis centre.¹⁴ Before the tender process began, the Queensland Government conducted due diligence investigations on the site. These investigations found that the land had a number of constraints, including problems with electricity easements, transport access and susceptibility to flooding.¹⁵ The executive director of the Infrastructure Planning and Development Branch, Sport and Recreation Services of the Department of Communities gave evidence that the Queensland Government was aware when it opened the development of the land to tender that the site presented those problems.¹⁶

After expressions of interest were received, three parties were shortlisted to submit detailed development proposals. Two of the three proposals were regarded as non-conforming with the project brief and draft development agreement as they did not locate both the tennis centre and the associated residential development on the one site.¹⁷ The conforming – and ultimately successful – proposal was submitted by Mirvac.¹⁸ The Department of Communities witness accepted that it was plain from the concerns expressed by the other bidders about locating the tennis centre and the associated development on the available land that the site would be a tight fit.¹⁹

The Queensland Government was not prepared to locate any part of the project at another location,²⁰ and Mirvac did not consider asking the Queensland Government if the development could be built on a different site.²¹ Its chief executive officer of development gave evidence that, provided the proposal was able to meet the council's minimum requirements on flood, Mirvac regarded the concept as 'perfectly viable'.²²

Mirvac's bid was not without problems, however; it sought a number of departures from the draft development agreement, including:

- locating some of the project infrastructure over easements, due to the tight fit of the site²³
- locating some of the tennis courts below the 1 in 100 flood level.²⁴

The Queensland Government entered negotiations with Mirvac to determine whether its proposal could be altered sufficiently to meet the minimum requirements for the project as contained in the Queensland Government's project brief and draft development agreement.²⁵

During these negotiations, Mirvac advised that it required a financial contribution of \$10 million from the Queensland Government to increase the commercial viability of the project.²⁶ This represented a significant departure from the original project requirement of no cost delivery to government; however, the state agreed to the request.²⁷ At no stage was serious consideration given to locating the project elsewhere.²⁸ On 16 June 2005, Mirvac

was appointed as the preferred developer for the Tennyson Reach development.²⁹ Subsequently, the Brisbane City Council concurrently assessed and approved preliminary approval and development permit applications for the development.³⁰ Aspects of that assessment process are discussed later in this chapter.

During the January 2011 floods, the Tennyson Reach development was inundated. The basement and ground floor levels of two of the three residential buildings suffered the most severe effects, with water filling both basement levels (nine ground floor apartments were inundated to a depth of approximately 65 centimetres).³¹ Residents of all apartments were unable to obtain access to their properties for several weeks, due to the extensive damage caused to essential services in the building.³² Ground floor residents were not able to return to their apartments until June 2011.³³

The State Tennis Centre also sustained significant damage. Floodwaters inundated two grass courts, four clay courts, nine hard courts, the car park, the maintenance shed and the pump sheds. Additionally, the entire first level of the Pat Rafter Arena building was flooded to a depth of three to four metres.³⁴ Property damage totalled approximately \$6 million.³⁵

What emerges from the circumstances described is that although the Brisbane City Council was responsible for assessing Mirvac's development application, the location for the project was essentially the choice of the Queensland Government. If the Queensland Government becomes involved in selecting land for a development, it should exercise caution when choosing a site; if it becomes apparent that the selected site presents significant flooding risks, it ought to be prepared to consider abandoning the development on that site.

This is particularly so when a residential development is proposed. Two residents of Tennyson Reach whose properties were flooded said that the involvement of the Queensland Government in the development led them to believe that the site would be a safe investment.³⁶ One of them gave evidence that he did not conduct any flood searches before purchasing the property. He believed that the combination of Queensland Government involvement, Brisbane City Council approval and a reputable developer meant that the development would have been held to stringent standards.³⁷ Members of the public are likely to regard projects like the Tennyson Reach development as being, at least in part, a Queensland Government initiative and thus having been given the imprimatur of the Queensland Government.

8.1 Sources of flood information for use in development assessment

Good decision-making in development assessment for land susceptible to flooding relies on decision-makers' having access to accurate data.³⁸ Councils need sufficient data to allow them to assess the effect of the development on the development site itself and on other properties. Inevitably a balance must be found between ensuring that there is sufficient information on which to make decisions and the time and cost involved in acquiring information.

There are two sources of flood information for development assessment: flood information maintained by the council itself and site-specific flood information provided to the council by the applicant. Each of these is considered below.

8.1.1 Flood information maintained by councils for use in development assessment

Many councils maintain information on flood and overland flow. These provide the councils with their own source of information for use in development assessments. (The importance of councils' developing these maps and models is discussed in chapter 2 *Floodplain management* and section 10.2 *Stormwater*.) By way of example, the practices of three councils are discussed below.

Brisbane City Council has prepared detailed maps of flooding and overland flow paths. These 'flood flag maps' are made publicly available and are used in the assessment of development applications, although the mapping of overland flow paths is not yet complete.³⁹ The council's development assessment team also makes use of FloodWise Property Reports for Brisbane River flooding, major creek flooding and storm surge, and a geographic information system, known as 'iBIMAP', which has layers showing flood flags, contours and stormwater drainage to identify land which may be subject to flooding.⁴⁰



Mirvac development, Tennyson, January 2011 (photo courtesy The Courier-Mail)

Bundaberg Regional Council maintains local flooding models to help it manage stormwater flows in Bundaberg⁴¹ and the surrounding areas.⁴² It regularly uses these flood models to determine development assessment conditions.⁴³ Bundaberg Regional Council's director of infrastructure and planning commented that the use of models is vital in areas which are rapidly developing; the models must be updated regularly to reflect changed conditions caused by new development.⁴⁴ The council has a local flooding model for Bundaberg that is progressively updated to include data for works undertaken, so that at any particular time the model reflects the position on the ground.⁴⁵ The model is provided to development applicants preparing their development proposals, who adjust the model to reflect the proposal and then return the adjusted model to the council to be checked.⁴⁶

The task of keeping models up to date is difficult in catchments where a significant amount of development occurs.⁴⁷ The process of updating the model must take account of matters such as the placement of fill, the construction of flood mitigation devices such as dams or levees, and the effect of development in the upper part of the catchment on downstream flood levels. This process is made more difficult for a council by uncertainty as to when works approved will in fact be constructed.⁴⁸

Fraser Coast Regional Council, at least until recently, used maps of historical flooding in its planning scheme and in providing information in response to flood searches.⁴⁹ Its assessment of development applications is based in part on the assessment team members' personal knowledge of the flood and drainage history of the area in question.⁵⁰ A council officer explained that the council is developing models of various levels of sophistication in different areas, with hydraulic models used most in areas of high growth, such as Hervey Bay.⁵¹ Where a hydraulic model is available, the potential impact of each new development is assessed in accordance with the model.⁵²

There is an obvious advantage in councils' maintaining their own flood models. It ensures that there is uniform approach to assessing flooding and overland flow; this allows a consistent approach within a council's area. Updating the model or map regularly to reflect new developments as they occur allows the council to analyse the cumulative effects of development in its area.

Recommendation

- 8.1 Councils should, resources allowing, maintain flood maps and overland flow path maps for use in development assessment. For urban areas these maps should be based on hydraulic modelling; the model should be designed to allow it to be easily updated as new information (such as information about further development) becomes available.

8.1.2 Site-specific flood information provided by an applicant

If a development application is made for an area where the council does not have a flood map or model, the council will not be able to consider the potential impacts of flood and stormwater on, or resulting from, the development unless the applicant provides information as part of the application.⁵³ A council may ask an applicant to provide a flood map⁵⁴ or flood study. Practically, this may pose a challenge to somebody who has no knowledge of the flood characteristics of a particular area.⁵⁵ The assessment of development applications where there is no flood map or model is considered in section 2.7 *Flood mapping for land planning controls*.

Even where a council has a flood map or model for an area where a development application is made, it may request the applicant to provide detailed site-specific flood information as part of the application.

The Commission considered two aspects of applicants' provision of site-specific flood information:

- applicants' use of models to generate and provide site-specific flood information to councils
- councils' guidance of applicants about what flood information in support of a development application should be provided and how it should be provided.



Tennyson in 1974 flood (Newspix)

Flood maps and models used by the applicant

Councils need to be able to assess whether a map or model provided by an applicant is accurate.

Bundaberg Regional Council's director of infrastructure and planning services gave evidence that applicants sometimes submitted inaccurate flood reports.⁵⁶ When this occurred, it was the role of the council engineers to go back to the consultants, reject the report and identify the shortcomings;⁵⁷ if the issue was not resolved, the development was not approved.⁵⁸ The practice of Bundaberg Council is to provide any council developed flood map or model to the applicant for use by the applicant's consultant. The consultant adjusts the model to reflect the proposed development and returns it to the council for checking.⁵⁹ This is a sensible practice; it would be beneficial if it were adopted more widely.

Fraser Coast Regional Council's approach to applicant-prepared flood studies is to refer them to the council's infrastructure and environment directorate for engineering officers to conduct a first review. If that review indicates possible major problems with the data provided, the council will consider referring the review of the problems to appropriately qualified consultants for further consideration.⁶⁰

There are clear advantages to councils' maintaining their own flood maps and models for use in the development assessment process. However, there may be instances where the applicant is able to provide more accurate information. Where this occurs, it is sensible for the council to use that information. For example, while Ipswich City Council generally encourages developers to use the same flood model as the council,⁶¹ the council's development planning manager gave evidence of an instance where the 1% AEP flood level of a particular property derived from a flood study prepared by a developer for a development application was used even though it differed from the council identified 1% AEP flood level. The council accepted that the developer's 1% AEP flood modelling was more accurate for the specific site and used it in preference to the council's own information.⁶²

Recommendation

8.2 Councils should make their flood and overland flow maps and models available to applicants for development approvals, and to consultants engaged by applicants.

Guidance from councils to applicants about the provision of flood information

If a council requires flood information from an applicant in support of a development application, the council should provide the applicant with clear guidance on what information is required and how it should be presented. This will ensure that it is apparent to the applicant what it does, and does not, need to provide and that the council receives all the information that it requires for the assessment process.

As previously mentioned, the council needs to be in a position to assess whether the map or model provided by the applicant is reliable. For this reason it is vital that any model or map, or information generated from such a model or map, is accompanied by a clear statement of the methodology used in its preparation and the assumptions upon which it is based.

Ipswich City Council, since September 2011, has had a stormwater management guideline that sets out a reporting template showing the type of information typically required in stormwater management plans submitted to the council. (For example, the plan must include a flood impact assessment.) The guideline also sets out factors to be considered in deciding which flood modelling methodology should be used, the data that should be used and how the data should be presented.⁶³ The guideline was prepared with assistance from consultants with expertise in hydrology and hydraulic modelling.⁶⁴ It includes a requirement for a joint probability analysis to be prepared where the flow within the local watercourse is influenced by regional flooding.⁶⁵ It also includes a requirement for applicants to identify the assumptions upon which any model or map submitted is based.⁶⁶

An independent consultant engineer appointed by the Commission reviewed the guideline and commented that it represented current best practice among Queensland councils.⁶⁷

It would be desirable for every council to provide applicants with specific guidance setting out information of this type, although, for reasons explained elsewhere in this report, it should be included in a planning scheme policy

rather than a guideline that has no legislative effect. (See section 5.3 *Planning scheme policies*.) A planning scheme policy could also indicate the type of situation where no information is required. It may be that councils with well developed overland flow information and flood models do not require much (or perhaps any) information about overland flow or flood to be provided in a development application; this too should be indicated in the policy.

The Commission recognises that some councils may have limited technical and financial resources available to prepare such guidance; the Queensland Government could support councils by preparing a template planning scheme policy to be included in the model flood planning controls.

Recommendations

- 8.3 The Queensland Government should draft a model planning scheme policy to be included in the model flood planning controls that sets out the information to be provided in development applications in relation to stormwater and flooding. The policy should specify:
- the type of models and maps to be provided
 - the substantive information required to be shown in the development application
 - how the assumptions and methodologies used in preparing the models and maps should be presented
 - the form in which the information on stormwater and flooding is to be presented in the application.
- 8.4 If the Queensland Government does not include such a policy in the model flood planning controls, councils should include a planning scheme policy in their planning schemes that sets out the information to be provided in development applications in relation to stormwater and flooding. The policy should specify:
- the type of models and maps to be provided
 - the substantive information required to be shown in the development application
 - how the assumptions and methodologies used in preparing the models and maps should be presented
 - the form in which the information on stormwater and flooding is to be presented in the application.

8.2 Assessing flood information in development applications

A development application typically includes (in addition to mandatory forms) technical reports that are intended to advance a development applicant's case as to how the proposal will meet the requirements of the relevant planning scheme. Depending on the type of application and the constraints of the land, supporting reports may address matters such as hydrology, stormwater and engineering design. Councils must be able to interpret and evaluate the technical information provided to them about the flood risk associated with a particular site, and the flood impacts associated with a particular development proposal, in order to assess the development against the requirements of the planning scheme.

A brief description of the way Ipswich City Council and Brisbane City Council assess technical information about flood provided to them in support of a development application follows. The description of Brisbane City Council's processes is supplemented by a description of the process it undertook when assessing these aspects of Mirvac's application for the Tennyson Reach development. Other councils may follow similar or other processes. The Commission acknowledges that the process adopted by any particular council in any particular case will be determined by the scope and nature of the development application and the associated flood impacts, as well as a council's resources. The section concludes with some more general observations about matters which may limit councils' ability to adequately assess applications against the flood controls in planning schemes and is drawn from evidence given by Bundaberg Regional Council.

8.2.1 Ipswich City Council's assessment process

When a development application is lodged with Ipswich City Council, it is assigned to an assessment officer. That officer presents the application to an internal panel called an 'Integrated Development Assessment Panel'.⁶⁸

The purpose of the panel, which meets twice a week, is to discuss the strategic principles for the assessment, to identify any obvious issues or deficiencies with the application and to decide whether the application should be referred internally to other council teams for advice.⁶⁹ Council engineers that assess the flood aspects of operational works development applications participate in the panel.⁷⁰ If the subject land is within an overland flow path or below the council's '1 in 100 flood line', the application will be referred to a hydraulic engineer within council to assess the proposal against the planning scheme provisions about flood.⁷¹

To prepare a flood study in support of an application, an applicant may make use of studies undertaken by the council, but if none are available, the applicant will need to embark on its own hydrological and hydraulic studies.⁷² As discussed in section 8.1.2 *Site-specific flood information provided by an applicant*, since September 2011 the Ipswich City Council has had a stormwater management guideline that indicates the flood information that should be provided to the council with development applications.⁷³

The council reviews flood studies it receives. Its normal practice for studies of a particularly complex nature is to refer them internally to the council's Works, Parks and Recreation section for further comment.⁷⁴ If it is considered necessary, the council may refer the flood study to a third party consultant for independent review.⁷⁵

8.2.2 Brisbane City Council's assessment practices

A development application lodged with Brisbane City Council is considered by a team of senior town planners, who identify key issues arising from the application, determine what specialists within council are required to contribute to the development assessment process and allocate the application to an assessment manager. The need for further internal referral of the application may be identified as the assessment progresses.⁷⁶

Where necessary, assessment managers at Brisbane City Council are able to refer applications to other sections of the council for advice.⁷⁷ Straightforward hydraulic issues are ordinarily assessed by an engineering officer within the assessment team to which an application is allocated.⁷⁸ More complex hydraulic issues are referred to the technical specialist team, which contains specialist engineers. When a flood report accompanying a development application is referred to the technical specialist team, a hydraulic engineer conducts an assessment against the provisions of the Brisbane city planning scheme, with reference to the Australian Rainfall and Runoff Guideline and the Queensland Urban Drainage Manual, to identify possible issues, provide advice and make recommendations to the assessment manager to approve, approve with conditions or refuse a development application.⁷⁹ The specialist engineer may also request that further information be provided by the applicant.⁸⁰

Some development applications lodged with the Brisbane City Council are assessed pursuant to the council's RiskSmart program. The RiskSmart process is available for development applications which are regarded as having a low risk of adverse impact. For RiskSmart applications, the assessment is undertaken by a council-accredited consultant; if flood needs to be considered, a registered professional engineer assesses compliance with the relevant planning scheme provisions and planning scheme policies.⁸¹

For all applications, the person undertaking the assessment prepares a report to the council commenting on key issues, which may include flood, and recommending that the application be approved (in whole or part), approved with conditions, refused or given preliminary approval.⁸²

The Tennyson Reach development illustrates this process in practice.

On 16 November 2005,⁸³ Mirvac lodged a development application with the Brisbane City Council for:

- a preliminary approval for a material change of use overriding the planning scheme under section 3.1.6 of the *Integrated Planning Act 1997*⁸⁴ for multi-unit dwellings (191 units in three buildings), and park
- a development permit for a material change of use for indoor sport and recreation (tennis centre stadium) and outdoor sport and recreation (outdoor courts) and associated uses including office, restaurant, shop and convention centre (function room)
- a development permit for a material change of use for multi-unit dwellings (114 units in buildings E & F) and park

- a development permit for material change of use for multi-unit dwellings (88 units in building D), shop, restaurant and park
- a development permit for operational works for disturbance to marine plants.⁸⁵

The preliminary approval for a material change of use overriding the planning scheme was sought for a number of reasons, including the complexity of the development and the fact that the site was zoned 'Community Use Area CU8 (Utility Installation and Road Area)'. The application for preliminary approval overriding the planning scheme under the *Integrated Planning Act* was assessed by the council having regard to the whole of the planning scheme.⁸⁶ Once granted, the approval prevailed over the planning scheme to the extent of any inconsistency.⁸⁷ A preliminary approval of this nature sets the framework for the assessment of a proposed development by specifying codes, criteria and levels of assessment against which the development is assessed.⁸⁸

The development application submitted by Mirvac was accompanied by a number of site specific reports, addressing matters such as flooding and stormwater.⁸⁹

To ensure that the Tennyson Reach proposal met the flooding and drainage requirements of the Brisbane planning scheme, the flooding and stormwater reports were reviewed by a hydraulic engineer from the technical specialist team.⁹⁰ The engineer's review identified three issues requiring the provision of further information from the developer: the 'flood immunity' of access roads, overland flow easements and underground drainage requirements.⁹¹

A senior town planner of the Brisbane City Council⁹² gave evidence that, in his experience, the engineer's advice was, in effect, an implied statement that all flooding issues, other than the three referred to, had been adequately addressed.⁹³ He confirmed that he proceeded on that assumption.⁹⁴ Assessment managers would not, he said, usually deviate from an engineer's advice; any matters about which the engineers remained silent would not be further considered in the assessment process.⁹⁵

The Commission does not find that the engineer failed to consider any relevant issue. The point to be made is that proceeding on assumption is problematic. An assessment manager might assume that all hydraulic matters have been considered and dismissed in the absence of advice to the contrary, whereas there may in fact have been a failure to consider them at all.

Communication between individuals of different professional disciplines was also a feature of Mirvac's subsequent request to change the development permit for a material change of use that was granted on 9 October 2006 for the State Tennis Centre.⁹⁶ The request sought approval for the construction of additional storage rooms and a new multi-purpose room at the tennis centre.⁹⁷ Plans submitted in support of the application indicated that flood barriers would be incorporated along the door openings of the rooms.⁹⁸

The proposed change was referred to the principal engineering officer in the development assessment team (not the technical specialist team), who advised that the proposed change to the existing development approval would not affect the previously set engineering conditions.⁹⁹

A week later, the council architect responsible for reviewing the proposal gave his advice, expressing concerns as to how the barriers would operate in terms of flooding, and requesting that the issue be referred to hydraulic engineers for comment.¹⁰⁰ The architect's concerns were referred to the developer, which provided further information about the flood barriers.¹⁰¹ However, the senior town planner indicated that he did not know whether the architect's concerns had been forwarded to the council's hydraulic engineers for comment; he could not find any document on the file which suggested that this had occurred.¹⁰²

8.2.3 Improving council assessment processes

A range of professional disciplines can helpfully contribute to the assessment of a development application against flood controls in planning instruments. In particular, given the complexity of the type of information supplied with respect to flooding issues, expert engineering assistance is often required.

When a flood study is provided in support of a development application it should ideally be referred to an appropriately qualified engineer, as a matter of course, for advice as to whether the proposed development meets the applicable flood-related assessment criteria. The Commission acknowledges that this may not be possible for some councils, due to resource constraints.

As one development application may be subject to comment by a number of professionals, it is important that the responsibilities and accountability of each contributor are clear from the outset.

There must also be sufficient communication between each contributor and the town planner in charge of the file generally for the town planner to be able to make a complete evaluation. For example, where an engineer provides advice with respect to a flood study report submitted as part of the application, an indication as to matters of concern with the hydrology of the proposed development alone is insufficient. The engineer's advice to the town planning officer should specifically comment on the adequacy of the development by reference to each of the scheme criteria to the extent they are able; and otherwise identify and explain any inability to comment. Councils should implement a process to ensure communication of this kind occurs.

Recommendation

8.5 Councils should review their assessment processes to ensure that:

- the person with primary responsibility for the assessment of the development application considers what expert input is required
- where a development application is subject to comment by a number of professionals, the responsibilities and accountability of each contributor are clear
- where flood-related information is referred to an expert for advice, the expert is required to comment on the extent of compliance by reference to each relevant assessment criteria and identify and explain any inability to comment.

8.2.4 Information requests

Earlier in this report, the Commission has made recommendations which are designed to ensure that councils receive appropriate flood information from an applicant at the time a development application is made; see section 5.1.2 *Features of the model flood planning controls* and section 8.1.2 *Site-specific flood information provided by an applicant*.

When flood information provided in support of a development application is insufficient for the flood risk associated with the development to be assessed, a council acting prudently will request the applicant to provide further information. The value of making that request will depend on the precision with which the council identifies the information which it requires.

For example, Ipswich City Council, when assessing a development for a child care centre in Goodna, on land susceptible to flood, requested the applicant to submit a site-specific flood study for the proposal which would address the potential effect of the development on flood levels at surrounding properties.¹⁰³ A council officer gave evidence that the request was made because the child care centre was surrounded by residential uses.¹⁰⁴ In the Commission's view, while the effect of the development on surrounding areas was a relevant consideration, the council's request was incomplete because the development applicant was not asked to provide information about the way in which stormwater and flood would affect the proposed development itself. This was a relevant line of inquiry given the site's susceptibility to flood. As it happened, and despite the limited scope of the information request, the flood study provided by the development applicant included information about the effect of flood on the proposed development.¹⁰⁵ This outcome was not, however, guaranteed by the terms of the request.

8.2.5 Problems in development assessment

The Commission has not undertaken a comprehensive investigation of the difficulties which may arise in practice when assessing development applications against flood-related assessment criteria. However, Bundaberg Regional Council has drawn to the Commission's attention a specific difficulty it has had to deal with, as well as the more general problem of lack of available expertise.

Difficulties in establishing compliance with a planning scheme

Planning schemes generally contain criteria against which development proposals are to be assessed in relation to flood risk. Sometimes, because of the way criteria are drafted, it is difficult for applicants to demonstrate compliance.

By way of example, the Kolan Shire Planning Scheme, through the use of an infrastructure overlay map, identifies 12 properties in the town of Gin Gin as being located within a flood and drainage liability area.¹⁰⁶ The scheme requires that development proposed on land identified in the overlay map provide ‘an acceptable level of flood immunity’.¹⁰⁷ One way in which an applicant can demonstrate compliance with this standard is by constructing the floor level of habitable rooms at not less than 300 millimetres above the level of a 1% AEP flood.¹⁰⁸ Other provisions in the planning scheme also require floor levels for particular uses to be at a height above the 1% AEP flood level.¹⁰⁹

Demonstrating compliance with the habitable floor level standard is prohibitively onerous,¹¹⁰ because Bundaberg Regional Council (the council responsible for administering the scheme) does not have information about the 1% AEP flood level for the Kolan Shire.¹¹¹ Thus, short of engaging a specialist engineer to determine a 1% AEP flood level, an applicant cannot demonstrate compliance with this provision of the planning scheme.

The council has decided that, in practice, if an applicant demonstrates that the proposed development was designed with floor levels similar to the levels of the adjacent homes, that will satisfy the council that there is an acceptable level of flood immunity.¹¹² The council intends to address this difficulty in its new planning scheme by undertaking hydraulic modelling of the creeks in the area.¹¹³

Avoiding the circumstances described above is, it seems to the Commission, a matter of councils and the Queensland Government taking appropriate care when making planning schemes.

Expertise of staff

It is essential that assessment is undertaken by appropriately qualified staff to ensure any approved development adequately addresses flood risk. Some councils, though, are hampered by a lack of resources and ability to attract and retain suitably qualified staff.

The director of infrastructure and planning of the Bundaberg Regional Council expressed concern about the dearth of suitably trained staff to assess hydrologic and hydraulic reports. The council has difficulty attracting and retaining engineers with experience and skills in stormwater modelling; this affects its ability to properly assess development applications for which stormwater design is a relevant consideration.¹¹⁴ The council deals with this in practice by paying for its staff to be trained in the use of the relevant models.¹¹⁵ This is a pragmatic, if not ideal, solution to the problem.

8.3 Development conditions

Councils,¹¹⁶ and in some cases, government agencies,¹¹⁷ can attach conditions to a development approval. Conditions are a valuable part of the development assessment process. They regulate how a development is to be established and will proceed. Just as development applications can be refused where they are subject to an unacceptable risk of flood, so too can they be approved, where the risks associated with flood can be managed by attaching conditions to the approval. For example, a development may be made subject to a condition that minimum floor levels are adopted.

Once a development approval has been granted by a council, it attaches to the land and binds any subsequent owner or occupier of the land who chooses to exercise the rights conferred by the approval.¹¹⁸ The ways in which subsequent owners and occupiers of land may be made aware of the conditions attaching to the land is discussed in section 2.9.2 *Flood information for dealing with property*.

Conditions can only be lawfully imposed if they are relevant and reasonably required in relation to the development or use of premises; a condition must not be an unreasonable imposition on the development or use of premises.¹¹⁹ The scope of matters that may be controlled through conditions is broad,¹²⁰ although is subject to some specific limitations.¹²¹ Conditions must be certain and final.¹²²

8.3.1 Conditions going to acceptability of use

In some cases, conditions are of such fundamental importance that without their inclusion, a development application would be refused.

The Commission has, for example, heard evidence about Ipswich City Council's assessment process for a child care centre in Goodna, which it approved in August 2006.¹²³ The site is located on land which is at risk of flooding from two sources: the Bremer River and an adjacent overland flow path (described by an employee of the centre as a creek)¹²⁴. It is within Ipswich City Council's '1 in 100 flood line' and is above the council's '1 in 20 development line' by about a metre.¹²⁵ The entire site was affected by the 1974 flood and during the January 2011 flood was inundated to a depth of at least 1.8 metres.¹²⁶

The development application was submitted with a town planning report, which set out how (in the town planner's view) the proposal complied with the relevant planning scheme codes.¹²⁷ As the application was for the construction of a child care facility, the Ipswich Planning Scheme 2004's community use code required the use be located so as to 'avoid areas prone to flooding', and be able to function effectively during and immediately after natural hazard events, such as flood.¹²⁸

The town planner's report acknowledged the site's proximity to the '1 in 20 development line' and that it would be completely covered by a '1 in 100 flood'. It went on to note that the site was within the area of 'the backup flood water' from the Brisbane River but was not likely to be subject to flash flooding. In the event of a potential 'backwater flood' it was expected that approximately 12 to 24 hours notice would be available to evacuate the facility.¹²⁹

After receiving the development application and the town planning report, the council requested the applicant to submit a site-specific flood investigation for the proposal.¹³⁰ The engineer's report provided in response examined local flooding from the adjoining waterway only; it stated that mitigation of Brisbane River 'backup flooding' could not be achieved at the local level.¹³¹ The report suggested that the proposed development could achieve immunity from a 1% AEP flood by setting appropriate minimum building levels and constructing walls along two boundaries to divert flows from the roadway into the waterway and to prevent the entry of flows into the site from the waterway.¹³² Despite the fact that the site-specific flood report did not address how riverine flooding could be mitigated, a council witness gave evidence that the council saw no reason for a further report to be obtained from the applicant or for commissioning its own flood report.¹³³

In response to questioning about the reasons which informed the council's decision that the development proposal complied with the requirements of the community use code in respect of flood, the council officer acknowledged the following:

- the application's compliance with the requirement to avoid areas susceptible to overland flooding was assessed with a clear understanding that the site had been inundated in the past from riverine flooding, but the assessment had regard primarily to flooding by stormwater¹³⁴
- the proposed facility would not be able to function effectively during and immediately after a major flood, such as at that which took place on 11 January 2011, but it was considered that the site could function during, and immediately after, a less severe flood.¹³⁵

The council witness's evidence was that ultimately the development was considered to comply with the community use code requirements in respect of flood by reason of the conditions imposed on the development approval.¹³⁶ Relevant conditions required that:

- the design and construction of the development be in accordance with the site-specific flood report submitted to the council (this included the construction of the solid wall along part of the boundary of the site)¹³⁷
- all buildings and structures have a base floor level of 300 millimetres above the level associated with a 1% AEP flood¹³⁸
- a sealed surface be constructed to convey stormwater flows into the existing drainage channel¹³⁹
- signs be erected in the car park to advise that the car park is subject to local creek flooding and to backwater flooding from the Brisbane River in some circumstances¹⁴⁰

- a flood escape plan and procedure be developed and periodically rehearsed; the plan is to include permanently displayed signs and directions for staff, visitors and parents to follow.¹⁴¹

The council witness said that he could, in hindsight, see that there would have been benefit in imposing conditions requiring construction of the building with flood-resistant materials, and that the car parks signs should have described the whole development, and not just the car park, as being subject to flooding in some circumstances.¹⁴² But in the Commission's view, even if these measures had been made conditions on the approval, the development would have remained incapable of complying with the community use code requirement that child care facilities should be located away from 'areas prone to flooding'.

8.3.2 Standard conditions

Typically, the conditions which attach to a development approval are written by the assessment manager. To alleviate the drafting burden, many councils maintain a pool of standard conditions which they draw from when conditioning a development. In doing so, councils need to ensure that only conditions which are required and relevant to the development are included. The approval of the Goodna child care centre provides an example of the use of standard conditions.

Ipswich City Council attached a standard condition related to flood to its approval of the Goodna child care centre in August 2006. This development application is discussed above, see section 8.3.1 *Conditions going to acceptability of use*.

Condition 24(g) to the approval required the applicant to provide a stormwater detention basin or system on the land, designed and constructed in accordance with the Queensland Urban Drainage Manual, with some further requirements for its construction.¹⁴³ Condition 24(h) required the proposed development to be designed and constructed in accordance with the flood report provided in support of the application.¹⁴⁴

The report referred to in condition 24(h) expressly stated that the site area, topography and development layout was 'not really suited to a stormwater detention arrangement' and instead proposed the construction of a water tank on site to reduce stormwater discharges.¹⁴⁵

The council officer who gave evidence said that condition 24(g) was a standard engineering condition, qualified by condition 24(h).¹⁴⁶ He acknowledged, in hindsight, some difficulty in seeing the point of the condition.¹⁴⁷ Certainly, any member of the public examining the conditions could have been forgiven for believing that infrastructure for stormwater detention would be part of the development; there was no clue to the contrary.

As stated at the beginning of section 8.3, conditions attaching to a development approval must be relevant and reasonably required. Councils should take care when imposing conditions on a development approval to ensure that each condition has purpose.

Recommendation

- 8.6 Councils should take care when imposing conditions to ensure that each condition has purpose; standardised conditions should not be included where they have no application to the development in question.

8.3.3 Conditions which require flood evacuation plans

Ipswich City Council also attached to its approval of the Goodna child care centre in August 2006, discussed above in section 8.3.1 *Conditions going to acceptability of use* and section 8.3.2 *Standard conditions*, a condition that required a 'flood escape plan and procedure' be developed and periodically practised. The plan was to include permanently displayed signs and directions for staff, visitors and parents to follow.¹⁴⁸ The council officer explained that this condition was imposed to ensure the safe evacuation of the centre given the site's potential for flooding.¹⁴⁹

Evacuation plans are an appropriate topic to be addressed in a condition to a planning approval and, in the case of the Goodna child care centre, this condition was one of several related to the site's susceptibility to flooding. It would be, however, inadvisable to rely on a condition requiring a flood evacuation plan as the sole basis for

approving a development susceptible to flooding. The success of such a measure depends on human intervention, which of itself assumes the occupiers of the site are aware of the condition, are present at the time of flooding and able to comply with the plan.

Recommendation

- 8.7 Councils should not rely on a condition requiring an evacuation plan as the sole basis for approving a development susceptible to flooding.

8.4 Communicating information about flood risk

In instances where a council has information about flood risk, it should be communicated to a development applicant early in the assessment process. A planning scheme is one means of communicating this information in the first instance, for example, by depicting an area at risk of flood on a map.

There may be other circumstances in which a council conducts an assessment of a site on the basis of less than the full extent of flood information that is available. For example, a council must comply with the rules of the *Sustainable Planning Act 2009* in assessing a development application. For code assessment, councils must only consider the codes and standards contained in planning instruments,¹⁵⁰ not extraneous materials. This means if a council has a new flood map not yet reflected in a planning scheme, it generally cannot use the map in the assessment process for code assessable development. In such circumstances, it would be prudent for the council to alert the applicant to the fact that the development application has not been assessed by reference to all available flood data. This would allow such an applicant to consider obtaining the additional data. Similarly, if the council does not have any flood information at all, it should notify the applicant accordingly, to ensure that the applicant does not infer from the fact of a development approval's being granted that there is no flood risk.

Ipswich City Council has used decision notices that include advice notes about flood information for sites which were inundated during the 1974 floods. These decision notices contain the following advice:

The subject site was fully inundated in the 1974 flood. Council, and its servants and agents, accept no liability or responsibility for any loss or damage to person or property of whatever nature or however caused as the direct or indirect consequence of the granting of the approval herein contained. Such approval has been granted at the request of the Developer and in reliance of [sic] information submitted by the Developer in support thereof.¹⁵¹

The Commission observes that there is some inconsistency in advising an applicant, on the one hand, of a site's susceptibility to flood, and on the other, stating that the approval has been granted as appropriate solely on the basis of the applicant's information. And if the applicant had no notice of the risk of flood before receiving the council's advice, it is doubtful that the applicant was in a position to provide adequate information. Council officers explained that the purpose of the advice note is to alert development applicants that their site flooded in 1974; it has no formal status for development assessment purposes.¹⁵²

The Commission's preferred approach is for councils to provide advice to applicants about the extent of any flood assessment during any pre-lodgement meetings and in writing at the time of receiving a development application, rather than in a decision notice. This would allow an applicant to take the information into account before taking further steps to obtain a development approval, and well before establishing the proposed use on land susceptible to flood.

Recommendation

- 8.8 Councils should consider providing advice to development applicants during pre-lodgement meetings, and at the time of receiving a development application, about the way in which the development will be assessed for flood risk and what flood information council will be relying on to make this assessment.

(Endnotes)

- 1 The development assessment process is governed by the *Sustainable Planning Act 2009*, whereas Queensland's building certification system is governed by the *Building Act 1975*.
- 2 Growth Management Queensland, Improving building certification in Queensland Discussion Paper, August 2011 [p8] available at: www.dlgp.qld.gov.au/resources/guidelines/building/improving-building-certification.pdf.
- 3 See section 4.1.2 *Application of State Planning Policy 1/03*.
- 4 Section 235, *Sustainable Planning Act 2009*; Exhibit 766, Statement of Andrew Fulton, 1 September 2011 [p29: para 11.10]; Transcript, Andrew Fulton, 11 October 2011, Bundaberg [p3918: line 9].
- 5 Exhibit 633, First Statement of Rory Kelly, 31 August 2011, Annexure RJK-18 [p86-87, 116].
- 6 Exhibit 707, Statement of Timothy Peisker, 7 September 2011 [p2: para 8].
- 7 The report noted that the site had been inundated in 1863, 1864, 1870, 1893 and 1974. See Exhibit 707, Statement of Timothy Peisker, 7 September 2011, Annexure TP-03, Appendix A.
- 8 Exhibit 707, Statement of Timothy Peisker, 7 September 2011 [p2: para 10]; Annexure TP-03 [p98: para 9.1].
- 9 Transcript, Timothy Peisker, 4 October 2011, Brisbane [p3599: line 35]; Exhibit 707, Statement of Timothy Peisker, 7 September 2011, Annexure TP-06 [p2: para 13].
- 10 Exhibit 707, Statement of Timothy Peisker, 7 September 2011 [p3: para 18-19]; Annexure TP-06 [p4].
- 11 Exhibit 707, Statement of Timothy Peisker, 7 September 2011, Annexure TP-06 [p4]; Transcript, Timothy Peisker, 4 October 2011, Brisbane [p3604: lines 40-50].
- 12 Exhibit 707, Statement of Timothy Peisker, 7 September 2011 [p3: para 20]; Transcript, Timothy Peisker, 4 October 2011, Brisbane [p3603: line 23].
- 13 Exhibit 707, Statement of Timothy Peisker, 7 September 2011, Annexure TP-09 [p3].
- 14 Exhibit 707, Statement of Timothy Peisker, 7 September 2011, Annexure TP-09 [p6, 8].
- 15 Exhibit 707, Statement of Timothy Peisker, 7 September [p4: para 28].
- 16 Transcript, Timothy Peisker, 4 October 2011, Brisbane [p3604: line 52].
- 17 Transcript, Timothy Peisker, 4 October 2011, Brisbane [p3617: line 24].
- 18 Transcript, Timothy Peisker, 4 October 2011, Brisbane [p3617: line 39].
- 19 Transcript, Timothy Peisker, 4 October 2011, Brisbane [p3617: line 49].
- 20 Transcript, Timothy Peisker, 4 October 2011, Brisbane [p3618: line 10].
- 21 Transcript, Brett Draffen, 6 October 2011, Brisbane [p3772: line 39].
- 22 Transcript, Brett Draffen, 6 October 2011, Brisbane [p3772: line 46].
- 23 Exhibit 707, Statement of Timothy Peisker, 7 September 2011, Annexure TP-15 [p10]; Annexure TP-16, Attachment A [p1: para 1].
- 24 Exhibit 707, Statement of Timothy Peisker, 7 September 2011, Annexure TP-15 [p10]; Attachment B [p20].
- 25 Transcript, Timothy Peisker, 4 October 2011, Brisbane [p3618: line 51]; Exhibit 707, Statement of Timothy Peisker, 7 September 2011 [p7: para 54].
- 26 Exhibit 707, Statement of Timothy Peisker, 7 September 2011 [p8: para 58].
- 27 Exhibit 707, Statement of Timothy Peisker, 7 September 2011 [p8: para 59]; Transcript, Timothy Peisker, 4 October 2011, Brisbane [p3622: line 40].
- 28 Transcript, Timothy Peisker, 4 October 2011, Brisbane [p3618: line 5 – p3619: line 16].
- 29 Exhibit 707, Statement of Timothy Peisker, 7 September 2011 [p8: para 62].
- 30 Exhibit 633, First Statement of Rory Kelly, 31 August 2011, Annexure RJK-32.
- 31 Exhibit 631, Statement of David Dunworth, 26 August 2011 [p2: para 4]; Exhibit 572, Statement of Julie Savage, 21 September 2011 [p4: para 16]; Exhibit 740, Second Statement of Brett Draffen, 26 September 2011 [p3: para 14-15].
- 32 Exhibit 631, Statement of David Dunworth, 26 August 2011, Annexure A.

- 33 Exhibit 572, Statement of Julie Savage, 21 September 2011 [p5: para 19].
- 34 Exhibit 703, Statement of Ian Whitehead, 2 September 2011 [p3: para 9]; Transcript, Cameron Pearson, 27 September 2011, Brisbane [p3197: line 2].
- 35 Exhibit 703, Statement of Ian Whitehead, 2 September 2011 [p4: para 11]; Transcript, Ian Whitehead, 4 October 2011, Brisbane [p3561: line 11]. Four clay courts and two grass courts at the State Tennis Centre were built at the level that would be reached by a flood with an average recurrence interval of 20. Specialist advice assessed the cost of remediation of these six courts following flood as being \$166 000 and Mirvac established a sinking fund for this amount. In the January 2011 floods, the grass and clay courts had to be entirely replaced at a cost of approximately \$400 000: Exhibit 707, Statement of Timothy Peisker, 7 September 2011 [p14: para 105]; Transcript, Timothy Peisker, 4 October 2011, Brisbane [p3621: line 35 – p3622: line 14]; Transcript, Ian Whitehead, 4 October 2011, Brisbane [p3561: line 53].
- 36 Submission of Julie Savage [p1]; Transcript, David Dunworth, 27 September 2011, Brisbane [p3225: line 26].
- 37 Transcript, David Dunworth, 27 September 2011, Brisbane [p3225: line 18].
- 38 Transcript, Gary White, 19 September 2011, Brisbane [p2769: line 5].
- 39 Statement of Andrew Damien Blake, 11 November 2011 [p5: para 19]; Transcript, Joseph Bannan, 21 September 2011, Brisbane [p2910: line 4].
- 40 Submission 2 of Brisbane City Council, 8 April 2011 [p18: para 5.12-5.13; p19: para 5.14].
- 41 Exhibit 766, Statement of Andrew Fulton, 1 September 2011 [p2: para 1.1.6]; Transcript, Andrew Fulton, 11 October 2011, Bundaberg [p3916: line 10].
- 42 Transcript, Andrew Fulton, 11 October 2011, Bundaberg [p3917: line 7].
- 43 Transcript, Andrew Fulton, 11 October 2011, Bundaberg [p3916: line 46].
- 44 Transcript, Andrew Fulton, 11 October 2011, Bundaberg [p3916: line 46 – p3917: line 5].
- 45 Transcript, Andrew Fulton, 11 October 2011, Bundaberg [p3916: line 10].
- 46 Transcript, Andrew Fulton, 11 October 2011, Bundaberg [p3917: line 26].
- 47 Transcript, Andrew Fulton, 11 October 2011, Bundaberg [p3916: line 22].
- 48 Transcript, Andrew Fulton, 11 October 2011, Bundaberg [p3916: line 35].
- 49 Transcript, Wayne Sweeney, 12 October 2011, Maryborough [p3987: line 11].
- 50 Transcript, Michael Ellery, 12 October 2011, Maryborough [p3998: line 26].
- 51 Transcript, Wayne Sweeney, 12 October 2011, Maryborough [p3986: line 32; p3987: line 18].
- 52 Transcript, Wayne Sweeney, 12 October 2011, Maryborough [p3987: line 39].
- 53 Exhibit 532, Statement of Gary White, 2 September 2011 [p28: para 146]; Transcript, Gary White, 19 September 2011, Brisbane [p2747: line 35].
- 54 Exhibit 532, Statement of Gary White, 2 September 2011 [p28: para 146]; Transcript, Gary White, 19 September 2011, Brisbane [p2747: line 43].
- 55 Transcript, Gary White, 19 September 2011, Brisbane [p2747: line 48].
- 56 Transcript, Andrew Fulton, 11 October 2011, Bundaberg [p3922: line 13].
- 57 Transcript, Andrew Fulton, 11 October 2011, Bundaberg [p3922: line 19].
- 58 Transcript, Andrew Fulton, 11 October 2011, Bundaberg [p3922: line 25].
- 59 Transcript, Andrew Fulton, 11 October 2011, Bundaberg [p3917: line 24].
- 60 Transcript, Michael Ellery, 12 October 2011, Maryborough [p3999: line 33].
- 61 Transcript, Carl Wulff, 19 October 2011, Ipswich [p4197: line 22].
- 62 Transcript, Joanne Pocock, 18 October 2011, Ipswich [p4157, line 3].
- 63 Exhibit 861, Statement of Gary Ellis, 13 October 2011, Annexure GE-44.
- 64 Transcript, Gary Ellis, 19 October 2011, Ipswich [p4243: line 38; p4244: line 5].
- 65 Transcript, Gary Ellis, 19 October 2011, Ipswich [p4246: line 22].
- 66 Exhibit 861, Statement of Gary Ellis, 13 October 2011, Annexure GE-44 [p7: Table 6.1].
- 67 Letter from Cardno (Qld) Pty Ltd, 'Flooding behaviour', 11 November 2011 [p5].

- 68 Exhibit 861, Statement of Gary Ellis, 13 October 2011 [p10: para 14].
- 69 Exhibit 833, Statement of Joanne Pocock [p4: para 21, 23].
- 70 Exhibit 861, Statement of Gary Ellis, 13 October 2011 [p10: para 14].
- 71 Transcript, Gary Ellis, 19 October 2011, Ipswich [p4250: line 30].
- 72 Transcript, Gary Ellis, 19 October 2011, Ipswich [p4246: line 30].
- 73 Exhibit 861, Statement of Gary Ellis, 13 October 2011, Annexure GE-44.
- 74 Transcript, Gary Ellis, 19 October 2011, Ipswich [p4249: line 38].
- 75 Transcript, Gary Ellis, 19 October 2011, Ipswich [p4251: line 38]; Transcript, Joanne Pocock, 18 October 2011, Ipswich [p4156: line 1].
- 76 Exhibit 544, Statement of Martin Reason, 9 September 2011 [p7: para 32 and 33].
- 77 Exhibit 957, Eighth Statement of Rory Kelly, 9 November 2011 [p7: para 22].
- 78 Exhibit 957, Eighth Statement of Rory Kelly, 9 November 2011 [p7: para 23]. For a general description of the development assessment process of Brisbane City Council, see Exhibit 957, Eighth Statement of Rory Kelly, 9 November 2011. In brief, the Development Assessment Branch of Brisbane City Council is divided into five regional teams, each comprising a regional manager, urban planners, engineers, engineering officers, architects, pollution officers, ecologists, landscape architects and support officers.
- 79 Exhibit 957, Eighth Statement of Rory Kelly, 9 November 2011 [p7: para 24]; Exhibit 544, Second Statement of Martin Reason, 9 September 2011 [p7: para 34].
- 80 Exhibit 544, Statement of Martin Reason, 9 September 2011 [p7: para 34].
- 81 Exhibit 544, Statement of Martin Reason, 9 September 2011 [p7: para 36].
- 82 Exhibit 544, Statement of Martin Reason, 9 September 2011 [p8: para 37].
- 83 Exhibit 633, First Statement of Rory Kelly, 31 August 2011 [p19: para 68].
- 84 The planning legislation which preceded the *Sustainable Planning Act 2009*.
- 85 Exhibit 633, First Statement of Rory Kelly, 31 August 2011 [p19: para 69].
- 86 Sections 3.5.5A, *Integrated Planning Act 1997*.
- 87 Section 3.1.6 *Integrated Planning Act 1997*.
- 88 Section 3.1.6, *Integrated Planning Act 1997*.
- 89 The full development application, including the reports mentioned, can be found at Annexure RJK-18 of Exhibit 633, First Statement of Rory Kelly, 31 August 2011.
- 90 Exhibit 633, First Statement of Rory Kelly, 31 August 2011 [p22: para 81]; Annexure RJK-19 [p1].
- 91 Exhibit 633, First Statement of Rory Kelly, 31 August 2011, Annexure RJK-19 [para 1.5].
- 92 At the time of the development application for the Tennyson Reach development, the council officer was a Principal Planner for the Brisbane City Council's 'Development Assessment South' division, his current position is Regional Manager of Development Assessment South: Exhibit 633, First Statement of Rory Kelly, 31 August 2011 [p3: para 12-13].
- 93 Exhibit 633, First Statement of Rory Kelly, 31 August 2011 [p22: para 82]; Transcript, Rory Kelly, 4 October 2011, Brisbane [p3592: line 15].
- 94 Transcript, Rory Kelly, 4 October 2011, Brisbane [p3592: line 20].
- 95 Transcript, Rory Kelly, 4 October 2011, Brisbane [p3593: line 34].
- 96 Exhibit 634, Second Statement of Rory Kelly, 8 September 2011, Brisbane [para 13]; Annexure RJK-33 [p1-3]. The application was made under sections 3.5.24 and 3.5.33 of the *Integrated Planning Act 1997*.
- 97 Exhibit 634, Second Statement of Rory Kelly, 8 September 2011, Brisbane [para 13].
- 98 Exhibit 634, Second Statement of Rory Kelly, 8 September 2011, Brisbane, Annexure RJK-33 [p14].
- 99 Exhibit 634, Second Statement of Rory Kelly, 8 September 2011, Brisbane [para 16]; Annexure RJK-35.
- 100 Exhibit 634, Second Statement of Rory Kelly, 8 September 2011, Brisbane, Annexure RJK-36 [para 18].
- 101 Exhibit 634, Second Statement of Rory Kelly, 8 September 2011, Brisbane, Annexure RJK-38 [para 20].

- 102 Transcript, Rory Kelly, 10 November 2011, Brisbane [p4941: line 27].
- 103 Exhibit 858, Statement of Timothy Foote, 7 October 2011, Annexure TCF-2 [p1: para 2].
- 104 Transcript, Timothy Foote, 19 October 2011 [p4222: line 6].
- 105 Exhibit 858, Statement of Timothy Foote, 7 October 2011, Annexure TCF-10.
- 106 Exhibit 766, First Statement of Andrew Fulton, 1 September 2011 [p8: para 1.4.4]; Transcript, Andrew Fulton, 11 October 2011, Bundaberg [p3919: line 10].
- 107 Exhibit 766, First Statement of Andrew Fulton, 1 September 2011, Annexure T: Kolan Shire Planning Scheme [p5.29: Table 5.13].
- 108 Exhibit 766, Statement of Andrew Fulton, 1 September 2011 [p8: para 1.4.2].
- 109 Exhibit 766, Statement of Andrew Fulton, 1 September 2011 [p8: para 1.4.3].
- 110 Transcript, Andrew Fulton, 11 October 2011, Bundaberg [p3919: line 51].
- 111 Transcript, Andrew Fulton, 11 October 2011, Bundaberg [p3919: line 45].
- 112 Transcript, Andrew Fulton, 11 October 2011, Bundaberg [p3919: line 55].
- 113 Transcript, Andrew Fulton, 11 October 2011, Bundaberg [p3920: line 26].
- 114 Exhibit 766, Statement of Andrew Fulton, 1 September 2011 [p32: para 13.1.1]; Transcript, Andrew Fulton, 11 October 2011, Bundaberg [p3921: line 49].
- 115 Transcript, Andrew Fulton, 11 October 2011, Bundaberg [p3922: line 1].
- 116 Section 324, *Sustainable Planning Act 2009*.
- 117 Section 287 (1)(a), *Sustainable Planning Act 2009*.
- 118 Section 245, *Sustainable Planning Act*. It is an offence to contravene a condition of a development approval, section 580 of the *Sustainable Planning Act 2009*.
- 119 Section 345, *Sustainable Planning Act 2009*.
- 120 Section 346, *Sustainable Planning Act 2009*.
- 121 Section 347, *Sustainable Planning Act 2009*.
- 122 *McBain v Clifton Shire Council* [1996] 2 Qd R 493; *Mt. Marrow Blue Metal Quarries Pty Ltd v Moreton Shire Council* [1996] 1 Qd R 347.
- 123 Exhibit 858, Statement of Timothy Foote, 7 October 2011, Annexure TCF-10, Ipswich City Council Development Application Decision Notice dated 14 August 2006.
- 124 Exhibit 829, Statement of Krystal Wilson, 14 October 2011 [p1: para 2]; Transcript, Krystal Wilson, 18 October 2011, Ipswich [p4103: line 1].
- 125 Transcript, Timothy Foote, 19 October 2011, Ipswich [p4216: line 7]. Ipswich City Council's '1 in 20 development line' is based on a long standing flood regulation which was established in the 1976 Town Planning scheme for the former City of Ipswich. See Ipswich City Council, Second Submission, 28 April 2011 [p5: para 1.5].
- 126 Exhibit 789, Statement of Krystal Wilson, 14 October 2011 [p4: para 18].
- 127 Exhibit 858, Statement of Timothy Foote, 7 October 2011, Annexure TCF-1, JB Goodwin Midson & Partners Assessment Report – 45 Alice Street Goodna.
- 128 Exhibit 858, Statement of Timothy Foote, 7 October 2011, Annexure TCF-1, JB Goodwin Midson & Partners Assessment Report – 45 Alice Street Goodna [p17].
- 129 Exhibit 858, Statement of Timothy Foote, 7 October 2011, Annexure TCF-1, JB Goodwin Midson & Partners Assessment Report – 45 Alice Street Goodna [p17].
- 130 Transcript, Timothy Foote, 19 October 2011, Ipswich [p4221: line 37]; Exhibit 858, Statement of Timothy Foote, 7 October 2011, Annexure TCF-2, Ipswich City Council Information Request, 10 May 2005.
- 131 Transcript, Timothy Foote, 19 October 2011, Ipswich [p4222: lines 32-44]; Exhibit 858, Statement of Timothy Foote, 7 October 2011, Annexure TCF-3, Letter JB Goodwin Midson & Partners to Ipswich City Council dated 24 February 2006 enclosing Stormwater and Flood report prepared by Tabletop Architects Planners Engineers [p1].
- 132 Exhibit 858, Statement of Timothy Foote, 7 October 2011, Annexure TCF-3 [p3].
- 133 Exhibit 858, Statement of Timothy Foote, 7 October 2011 [p11: para 57].
- 134 Transcript, Timothy Foote, 19 October 2011, Ipswich [p4222: line 50; p4225: line 1].
- 135 Transcript, Timothy Foote, 19 October 2011, Ipswich [p4225: lines 35-46; p4229: lines 19-26].

- 136 Transcript, Timothy Foote, 19 October 2011, Ipswich [p4224: line 38; p4226: line 17].
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- 137 Exhibit 858, Statement of Timothy Foote, 7 October 2011 [p12: para 63].
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- 138 Exhibit 858, Statement of Timothy Foote, 7 October 2011 [p13: para 63].
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- 139 Exhibit 858, Statement of Timothy Foote, 7 October 2011 [p13: para 63].
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- 140 Exhibit 858, Statement of Timothy Foote, 7 October 2011 [p13: para 63].
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- 141 Exhibit 858, Statement of Timothy Foote, 7 October 2011 [p13: para 63].
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- 142 Transcript, Timothy Foote, 19 October 2011, Ipswich [p4226: lines 21-35; p4228: line 48].
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- 143 Exhibit 858, Statement of Timothy Foote, 7 October 2011, Annexure TCF-10 [p12].
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- 144 Exhibit 858, Statement of Timothy Foote, 7 October 2011, Annexure TCF-10 [p12].
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- 145 Exhibit 858, Statement of Timothy Foote, 7 October 2011, Annexure TCF-10 [p14].
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- 146 Transcript, Timothy Foote, 19 October 2011, Ipswich [p4223: line 13].
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- 147 Transcript, Timothy Foote, 19 October 2011, Ipswich [p4223: line 35 cf. p4223: line 48].
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- 148 Exhibit 858, Statement of Timothy Foote, 7 October 2011, Annexure TCF-10 [p14, Condition 27(k)].
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- 149 Transcript, Timothy Foote, 19 October 2011, Ipswich [p4227: line 33].
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- 150 Section 313 (5), *Sustainable Planning Act 2009*.
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- 151 Exhibit 858, Statement of Timothy Foote [p13: para 64]; Annexure TCF 10 [p16: Condition 2].
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- 152 Exhibit 833, Statement of Joanne Pocock [p7-8: para 38, 42].
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