

WITNESS STATEMENT OF NATALIE PLUMBE

This written statement is provided in response to a Requirement, dated 23 September 2011, pursuant to section 5(1)(d) of the *Commissions of Inquiry Act 1950* (Qld) to provide a written statement, under oath or affirmation, to the Queensland Floods Commission of Inquiry.

I, Natalie Plumble (nee Handyside), Planner of [REDACTED], Ipswich in the State of Queensland, swear as follows:

Introduction and Qualifications

1. I am employed by Ipswich City Council (ICC) as the Team Coordinator-Development (Central Team) for the City of Ipswich. I commenced in this role on 15 November 2010. I work in the Development Planning branch of the Planning and Development Department and report to the Development Planning Manager, Ms Joanne Pocock.
2. I hold a Bachelor of Regional and Town Planning from University of Queensland (1998). I am also eligible for full membership with the Planning Institute of Australia.
3. I commenced employment with ICC in October 2002. Prior to that, from February 1999 to October 2002 I worked for the Department of Local Government and Planning as a Planning Officer.
4. Upon commencing employment with ICC I worked for approximately two years as a Senior Development Planner in the East Development team. In that capacity I was involved in the assessment of development applications. Then, for a period of approximately six years until November 2010 I was the Team Coordinator-Development (East team), responsible for the day-to-day management of the planners in that team, and for the assessment and determination by the East (geographic) team of development applications made pursuant to the Ipswich Planning Scheme.
5. In my current role I have the day-to-day management of the planners in the Central team, and am responsible for the assessment and determination by the Central team of development applications made pursuant to the Planning Scheme.
6. In 2006, in my capacity as Development Team Coordinator - East I was the Delegated Officer involved in the consideration of a development application (RAL 1704/05) for 35 Eric Street, Goodna. The Development Planner primarily concerned with that application was [REDACTED] who reported to me.
7. The sources of information for the matters set out in this statement are:
 - (a) my personal knowledge and recollection of relevant events; and

- (b) my review of the relevant ICC development application files, a copy of which I understand have been produced to the Commission pursuant to a Requirement notice dated 5 August 2011.

35 Eric Street, Goodna - Application No. 1704/05/RAL

Application Background and Overview

8. The subject land comprises a 3.88 hectare site located at the eastern end of Eric Street, Goodna. The site is bounded by Woogaroo Creek to the north. The surrounding area is generally low density development and the site is located within the residential low density (Sub-Area 2) Zone under the Ipswich Planning Scheme. Access to the site is from Eric Street via the construction of an internal road network terminating in three cul-de-sacs.
9. The application was submitted on 22 March 2005 for a development permit for RAL (Reconfiguring a Lot) from 2 lots into 36 lots, and carrying out building works for single residential (preliminary approval). The proposed lots ranged in size from 556 m² to 832 m².
10. The subsequent history of the application is that:
- (a) on 17 November 2005 the proposal was amended in response to the Council's Information Request to 2 lots into 35 lots;
 - (b) on 4 April 2006 ICC approved a development permit for reconfiguring a lot (2 lots into 24 lots) and a preliminary approval for building works (single residential). This approval was for 11 lots less than applied for by the applicant;
 - (c) on 8 May 2006 the applicant appealed to the Planning and Environment Court; and
 - (d) on 21 March 2007 Judge Wilson SC of the Planning and Environment Court allowed the appeal (by consent) for a development permit for a reconfiguration of a lot (2 lots into 32 lots in two stages) subject to conditions.
11. Public notification of the application was not required.
12. Prior to the application and approval the site was vacant land. It is located adjacent to Woogaroo Creek, and a portion of the site is susceptible to inundation by flooding from the creek and from the Brisbane River (by backwater flow) during rare rainfall events.
13. The site is a steep block, with an average grade of 1 in 8, extending from approximately RL8m AHD adjacent to Woogaroo Creek to approximately 37m AHD near Eric Street. The adopted 1 in 100 flood level is RL14.7m AHD and the 100 year ARI flood event in Woogaroo Creek ranges from 12.55m AHD to 12.94m AHD.

14. A small portion of the site was inundated during the 1974 flood event. I understand that no residences were inundated during the 2011 flood event. If the site was subjected to any inundation in 2011, the affected area would have been very minor.
15. Investigation of the site during the approval process showed that two Woogaroo Creek flood levels needed to be considered as part of the development assessment. The site is affected by a 100 year ARI water level in the Brisbane River, in which water from the river travels up Woogaroo Creek and inundates a portion of the property. This backwater from the Brisbane River is essentially ponding and velocities in Woogaroo Creek would be close to zero.
16. The site is also affected by a 100 year ARI flood event in Woogaroo Creek, during which the water level on the site ranges from 12.55m AHD to 12.94m AHD at the downstream and upstream boundaries respectively.
17. The original development application was not supported by a stormwater drainage report, and as part of its Information Request dated 31 March 2005 (annexure NP-2) Council requested preliminary hydraulic calculations for the major and minor storm events, prepared by a RPEQ in accordance with QUDM.
18. The proposal was approved by Council with a substantially reduced density from 35 to 24 lots. The deletion of 11 proposed lots allowed greater lot size and road frontage widths. Council's conditions of approval included provision for the dedication to Council of some land adjacent to Woogaroo Creek below the adopted flood level.
19. The applicant appealed the Council's decision. As part of the appeal process a series of expert witness conclaves were conducted with the Council Engineer (see annexure NP-10) with a view to identifying the matters in relation to which the experts were agreed, and narrowing the areas in dispute. Further expert reports as to stormwater management and hydrology were produced by the applicant during the appeal process with a view to addressing the Council's areas of concern (as detailed below), culminating in Council being satisfied as to the proposal, and the Court ordering, by consent, that the appeal be allowed subject to revised conditions (annexure NP-11). On the basis of these revised conditions, the Court order provided for reconfiguration of the site into 32 lots.
20. A combination of measures to address stormwater were conditioned as part of the Court order, including the dedication to Council of some land below the Q100 level, the creation of a detention/retention basin between the 100 year ARI Woogaroo Creek level and the 100 year ARI Brisbane River level, a roof water system and associated drainage system, and the creation of overland flow easements.

21. As a result of the further investigations undertaken and the conditions imposed, ICC and the Court were satisfied that the proposed development would:
- (a) not increase peak stormwater discharges in Woogaroo Creek;
 - (b) not reduce the conveyance capacity of Woogaroo Creek for up to a 100 year ARI event;
 - (c) not reduce the flood storage of Woogaroo Creek on the site for up to a 100 year ARI event; and
 - (d) not cause a worsening to upstream or downstream properties.
22. In addition, the approved site plan resulted in:
- (a) all developed lots being located a minimum of 250mm above the regulated 1 in 100 flood line with the exception of lots 31 and 32, which were partly affected by this flood line, with the result that a drainage easement was placed over the affected portion of these lots to ensure that buildings were constructed above this flood line; and
 - (b) all road works and house allotments for the development being located a minimum 250mm above the regulated 1 in 100 flood line.
23. Attached to my statement are copies of the following key documents in relation to this application:
- NP-1:** Development application by DTS Group lodged 22 March 2005 and accompanying assessment report
 - NP-2:** ICC Information Request dated 31 March 2005
 - NP-3:** Letter DTS Group to ICC dated 14 November 2005 responding to the Information Request and enclosing ETS Group Slope Analysis and Stormwater Report
 - NP-4:** Memorandum Assistant Development Engineer to Development Team Coordinator dated 27 February 2006
 - NP-5:** Memorandum Development Planner to Acting Development Team Coordinator dated 21 March 2006
 - NP-6:** ICC Assessment Checklist - Code Assessable Development
 - NP-7:** Development Application Decision Notice dated 4 April 2006

- NP-8:** Proposed Sub-Division Master Plan - detailed Site Based Stormwater Management Plan - Issue 2 - ETS Group December 2006
- NP-9:** MRG Water Consulting detailed Hydrologic Report (Version 3) dated August 2006
- NP-10:** Engineering Joint Statement - Expert Conclave - 26 October 2006
- NP-11:** MRG Water Consulting Pty Ltd - Expert Witness Report - Planning and Environment Court - December 2006
- NP-12:** Judgment - Wilson J - Planning and Environment Court and attached Development Approval Package/Conditions 21 March 2007

Question 1: The known Q100 and Q20 flood levels at or around the time of the application

24. These levels are:

- Q100 flood level - RL14.7m AHD
- Q20 flood level - RL14.0m AHD.

Question 2: The known site level or levels

25. The levels for the site range from approximately RL8.0m AHD to approximately RL37.0m AHD.

Question 3: What assessment process was followed specific to flood impacts

26. As part of the original application assessment process, Council's Development Engineer was responsible for the assessment of flood impacts and providing information and draft conditions to the assessing officer to inform the decision making process. Council's Information Request dated 31 March 2005 (annexure NP-2) requested information in relation to stormwater drainage resulting in the provision of a stormwater report (annexure NP-3). Council's Development Engineer recommended that development of the site occur in accordance with specific stormwater conditions to ensure pre-development flows were maintained and that no detrimental flood/stormwater impacts would be experienced upstream or downstream of the subject site as a result of the proposed development.
27. Additionally, conditions were imposed to require a drainage easement over part of some lots partially affected by the regulated 1 in 100 flood line.
28. As part of the subsequent appeal process a number of additional stormwater reports were obtained. These reports are detailed in my response to question 7 below. The reports were discussed and reviewed by the experts and by Council's Development Engineer in conclaves

throughout the appeal process. As a result of this process Council and the Court were satisfied that the development would:

- (a) not increase peak stormwater discharges in Woogaroo Creek;
- (b) not reduce the conveyance capacity of Woogaroo Creek for up to a 100 year ARI event;
- (c) not reduce the flood storage of Woogaroo Creek on the site for up to a 100 year ARI event;
- (d) not cause a detrimental impact to upstream or downstream properties; and
- (e) result in all lots being located a minimum of 250mm above the regulated 1 in 100 flood line with the exception of two lots which were partly affected, as a result of which conditions were imposed to require a drainage easement to be conferred over the affected portion of the lots to ensure that buildings were constructed above this flood line.

Question 4: What consideration was given to:

- (a) the proximity of the site to the Brisbane River and/or Woogaroo Creek;
- (b) the flood risk or the potential impact of flooding on the use proposed for the site;
- (c) the frequency with which flooding has occurred at the site in the past.

(a) Proximity to the Brisbane River and/or Woogaroo Creek

- 29. Consideration was given to the sites proximity to Woogaroo Creek. The site is located immediately adjacent to Woogaroo Creek and partially subject to potential flooding as a result of events in the Brisbane River and/or Woogaroo Creek.
- 30. In both the Council's original decision notice and the Court order, land affected by the 1 in 100 flood line as a result of flooding from Woogaroo Creek or the Brisbane River was either required to be dedicated to Council as park or drainage, or made the subject of a drainage easement.
- 31. The expert report prepared by MRG Water Consulting Pty Ltd dated December 2006 details that:

"The site is affected by a 100 year ARI water level in the Brisbane River. During this river flood event, water from the river travels up Woogaroo Creek and inundates a portion of the

property. This backwater from the river is essentially ponding and velocities in Woogaroo Creek would be close to zero.

The site is also affected by a 100 year ARI flood event in Woogaroo Creek. During this event the water level on the site is 12.55m AHD and 12.94m AHD at the downstream and upstream property boundaries respectively".

(b) Potential flood risk

32. Consideration of the flood risk and the potential impact of flooding on the development were considered in Council's assessment of the application and addressed by the conditions imposed in Council's original notice and subsequently by the conditions imposed in the Court order.

(c) The frequency of past flooding at the site

33. It is my understanding that the frequency with which flooding has occurred at the site in the past was a policy consideration in the formulation of the 1 in 100 flood line. This flood line, as it relates to the site, was applied in considering the application. Historical river heights in relation to the site were not obtained for the purpose of considering the application, the relevant policy consideration for those purposes being the location of the 1 in 100 flood line.

Question 5: The measures proposed to mitigate the potential for flooding at the site by reference to any requirements to locate the proposed habitable floor levels

34. All buildings were to be constructed above the 1 in 100 flood line as a result of the development approval, with all lots either being entirely located above the 1 in 100 flood line, or, in relation to 2 lots including area below the 1 in 100 line, a condition was imposed requiring a drainage easement be placed over the affected portion of those lots so as to ensure buildings were constructed above the 1 in 100 line. I am also aware that under a subsequent Operational Works approval for the development, some lots were filled in association with the earthworks for the construction of roads and services resulting in all lots achieving a minimum 250mm freeboard above the 1 in 100 line, thereby ensuring additional 1 in 100 flood immunity for all proposed dwellings.

Question 6: Whether the impacts on upstream or downstream properties were taken into account, particularly with respect to:

- (a) the impact of any land filling or excavation work carried out as part of the application;
- (b) the impact of any stormwater or overland flow management facilities.

(a) The impact of any land filling or excavation work

35. Minimal earthworks were proposed as a result of the development for road works and a detention basin. All earthworks associated with the road works were located above the regulated 1 in 100 flood line. The detention/retention basin was located between the 100 year ARI Woogaroo Creek level and the 100 ARI Brisbane River level.
36. The report prepared by MRG Water Consulting Pty Ltd dated December 2006 details that *"works in this area will not decrease the conveyance or flood storage of Woogaroo Creek and will not increase flood levels in the Brisbane River"*.

(b) The impact of any stormwater or overland flow management facilities

37. A combination of measures to address stormwater were conditioned as part of the Court order including the development of a detention/retention basin, roof water system and associated drainage system. Following consideration of the expert reports Council, and the Court were satisfied that the development would:
- (a) not increase peak stormwater discharges in Woogaroo Creek;
 - (b) not reduce the conveyance capacity of Woogaroo Creek for up to a 100 year ARI event;
 - (c) not reduce the flood storage of Woogaroo Creek on the site for up to a 100 year ARI event; and
 - (d) not cause a worsening to upstream or downstream properties.

Question 7: Details of any expert reports (particularly hydrologic or hydraulic reports) obtained by the applicant or the Council

38. The following expert reports were obtained in relation to the proposal.

- (a) "Proposed Development at 35 Eric Street, Goodna: Information Request Reply Slope Analysis & Stormwater Report", prepared by ETS Group - 14 November 2005 –

This report was prepared on behalf of the applicant and lodged in response to Council's Information Request.

This report details calculations for pre and post development Q100 flows. Options identified for managing stormwater to ensure pre development flows were

maintained included a detention basin and detention of stormwater using a combination of roof water tanks plus a smaller detention basin.

Council's original decision notice imposed conditions to manage stormwater as a result of the development including requirements for provision of a suitable roof water system and detention and/or retention device.

- (b) "Proposed Subdivision at 35 Eric Street, Goodna: Master Plan Detailed Site Based Stormwater Management Plan", Issue 1, dated August 2006 and prepared by ETS Group–

This report was prepared on behalf of the applicant during the appeal process.

This report details at design level what treatment trains need to be incorporated into the design of the stormwater system to ensure water quality objectives are achieved.

- (c) "Proposed Subdivision at 35 Eric Street, Goodna: Master Plan Detailed Site Based Stormwater Management Plan", Issue 2, dated December 2006 and prepared by ETS Group–

This report was prepared on behalf of the applicant during the appeal process and is a revision of Issue 1 to respond to the hydraulic report outlined below.

This report details at design level what treatment trains need to be incorporated into the design of the stormwater system to ensure water quality objectives are achieved.

- (d) Detailed Hydrologic Report 35 & 37A Eric Street, Goodna" Versions 2 & 3, dated August 2006 and prepared by MRG Water Consulting Pty Ltd–

These two (2) reports were prepared on behalf of the applicant during the appeal process.

The purpose of these reports were to provide details of peak discharges from the developed site and the effect of development on downstream discharges in Woogaroo Creek.

Both reports conclude that:

- The development of the site will not increase peak stormwater discharges in Woogaroo Creek;
- Construction of a detention basin on the site could potentially increase water levels within Woogaroo Creek, due to coincident peak timing; and

- The development does propose rainwater tanks and a retention area which will retain water for at least 24 hours and the combined effect of these measures will ensure that the total volume of stormwater entering Woogaroo Creek during a storm event will reduce by a minimum of 200m³.

(e) “Expert Witness Report: Rescom Property Group Pty Ltd v Ipswich City Council P&E Appeal No. BD1344/2006”, prepared by MRG Water Consulting Pty Ltd and dated December 2006 -

This report was prepared on behalf of the applicant during the appeal process following a number of without prejudice conclaves between hydraulic experts and is described as superseding all previous reports regarding stormwater issues for the development.

The purpose of this report was to undertake the hydraulic modelling of Woogaroo Creek to determine the impacts of the development on downstream and upstream properties and devise a detention system for the development which would ensure no worsening to downstream properties.

The report concludes that by constructing a detention basin and fitting rainwater tanks as part of the development of the site, the development:

- Will not increase peak stormwater discharges in Woogaroo Creek;
- Will not reduce the conveyance capacity of Woogaroo Creek for up to a 100 year ARI event;
- Will not reduce the flood storage of Woogaroo Creek on the site for up to a 100 year ARI event; and
- Will not cause a worsening to upstream or downstream properties.

The Court’s order imposed conditions to manage stormwater as a result of the development including requirements for provision of a suitable roof water system and detention and/or retention device.

Question 8: Details of any review undertaken by Council of the expert reports

39. Council's Development Engineer undertook detailed review of the various reports, including participating in expert witness conclaves in connection with the Planning and Environment

Court appeal. As a result of those reviews conditions were formulated in both the Council's original decision notice and for the purposes of the Court order approving the application.

Question 9: What conditions were included with respect to protection from impacts of flooding

40. Annexure NP-13 to my statement details the stormwater conditions included as part of the ICC development application decision notice dated 4 April 2006.
41. Annexure NP-14 to my statement details the stormwater conditions imposed as part of the Court order dated 21 March 2007 for the conditional approval of the application.

Question 10: The basis for Council's statement in relation to the 1974 flood "advice"

42. This is standard clause included in ICC development approvals where the subject site was inundated by the 1974 flood. I refer in that regard to paragraphs 37 - 42 of the witness statement of Ms Joanne Pocock. The advice has been included on development approvals for as long as I have been employed by ICC. I am unable to assist the Commission as to the genesis of the advice.

I make this statement conscientiously believing the same to be true, and by virtue of the provisions of the *Oaths Act 1867* (Qld).

Signed and declared by Natalie Plumbe at Ipswich in the State of Queensland this 7th day of October 2011 before me:

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Deponent

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Witness

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J.P (Qualified)
Reg No. 75542