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30 November 2010

The Director General
Department of Planning
GPO Box 39
Sydney NSW 2001

Att: Chris Ritchie, Manager – Industry, Major Project Assessment
Ms Haley Rich, Environmental Planning Officer, Major Project Assessment

Dear Chris, Haley,

RE: Hoxton Park – Concept Plan S75W Modification Application – Link Road/Bridge Response to NSW Office of Water Submission

We refer to the submission made by the NSW Office of Water ("NOW").

Mirvac sought consultant advice from GHD Pty Limited being Mirvac's environmental Consultant and ADW Johnson being Mirvac's Civil Engineering Consultant in relation to a response. Their responses are attached as follows;

- GHD letter dated 26 November 2010.
- ADW Johnson letter dated 29 November 2010.

Essentially the main points in response to NOW's submission are;

1. Under the current proposal there will be a vegetation zone on 'either side of Hinchinbrook creek' of approximately 50m.
2. A bridge spanning the entire corridor is not feasible and the proposed design and offsets result in the bridge maintaining connectivity of riparian vegetation whilst investing in additional rehabilitation works that will increase the extent of native vegetation with the Hinchinbrook Creek corridor.
3. The location of the bridge piers were selected to ensure that the piers were as far removed from the thalweg of the creek as possible. It is not proposed to change the current locations.
4. The possible playing fields to the north of the proposed new link Road/Bridge is a matter for Council. Mirvac is not constructing the possible playing fields as this is a future item by Council.

We trust the Department of Planning finds the content of this letter satisfactorily addresses the matters raised by NOW.

Yours Sincerely,

30/11/10

ADRIAN CHECCHIN
Senior Development Manager
Mirvac Group

CC: Jennie Buchanan – JBA

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26 November 2010

Mirvac Projects Pty Ltd
Level 26, 60 Margaret Street
Sydney NSW 2000

Our ref: 22/14911/1652
Your ref:

Att Adrian Checchin

Dear Adrian,

Hoxton Park Detention Basin
Response to DECCW (NOW) Submission

As requested by Mirvac, GHD provides the following information in response to the NSW Office of Water (NOW) letter submission to the Department of Planning (DoP) dated 1st November 2010. The letter details outlines NOW's issues in relation to the proposed bridge and access road at Hoxton Park. GHD has provided this response in the format of referencing the relevant paragraph and then providing response information.

Page 2, Paragraph 3

There will be approximately 50 m of riparian vegetation on 'either side of Hinchinbrook Creek' rehabilitated and managed for conservation. The Core Riparian Zone (CRZ) of 40 m on the western side of Hinchinbrook Creek will be rehabilitated and managed as described in the Vegetation Management Plan (VMP) for Hinchinbrook Creek and the Northern Floodway (GHD November 2007). The remaining lands on the western side of Hinchinbrook Creek outside the 40 m CRZ will be rehabilitated and managed as described in the Offset Strategy for Hoxton Park Airport (GHD October 2007).

The eastern side of Hinchinbrrok Creek corridor will also be rehabilitated to full structured vegetation as part of offset works required for the bridge/link road and the detention basin. An outline of the offset strategies for both these projects is described in:

- GHD *Hinchinbrook Creek Link Road and Bridge – Proposed Framework for Offsetting.*
- GHD *draft Northern Detention basin – Proposed Framework for Offsetting.*

The description of works required to implement the offset strategies is included in:

- GHD *draft Work Plan for Offset Works – Link Road and Bridge.*
- GHD *draft Work Plan for Offset Works – Northern Detention Basin.*

Put simply, a combination of all proposed offset and rehabilitation works will see the entire area of the Hinchinbrook Corridor rehabilitated and managed for conservation purposes. There will be no 'vegetated buffers'. A couple of small areas on the far western side of the corridor will be managed as APZ's (GHD November 2007).

Page 2, Paragraph 5

GHD's comment in the ecology report was made before final bridge design and construction efficiencies were known. A bridge spanning the entire corridor was unfeasible, therefore a suitable design was prepared that spans the channel and critical riparian vegetation, incorporated additional culverts to

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manage flooding and included a biodiversity offset to mitigate impacts to vegetation. These actions have resulted in the bridge maintaining connectivity of riparian vegetation and investing in additional rehabilitation works that will increase the extent of native vegetation within the Hinchinbrook Creek corridor. It should also be noted that increasing the span of the bridge would not necessarily reduce the impact to native vegetation as the construction footprint would remain the same.

Page 2, Paragraph 7 First dot point

As mentioned above, construction of a bridge across the entire corridor (minimum 100 m plus the channel) was not feasible due to construction costs. As such, the current bridge design provides a balance between maintaining environmental functions and construction efficiencies.

Page 2, Paragraph 7 Second dot point

Culverts will include a naturalised base, using a combination of rock and top soil, as requested.

Page 3, Paragraph 1

The piers for the bridge will be located outside the bed and banks of the channel.

Page 3, Paragraph 2

GHD notes NOW's reference to flooding risks and plantings to offset project impacts. GHD is in regular discussion with LCC regarding this issue.

Page 3, Paragraph 3

GHD confirm this is an issue for the NOW and Liverpool City Council.

Page 3, Paragraph 4, 5 and 6

The location of the basin has been determined by Liverpool City Council. In regards the impact to the proposed environmental corridor, every effort has been made to ensure a viable terrestrial corridor is an outcome from the basin construction. Proposed rehabilitation and management of the northern floodway is included in the Vegetation Management Plan (VMP) for Hinchinbrook Creek and the Northern Floodway (GHD November 2007) and the Vegetation Management Plan (VMP) for the Northern Detention Basin (GHD November 2010).

Should you have further questions in relation to the above information please contact me accordingly.

Yours faithfully
GHD Pty Ltd

Daniel Williams
Principal Environmental Consultant
6586 8714

150133 HW/JM

29th November 2010

Mirvac
Level 26, 60 Margaret Street,
SYDNEY NSW 2000

Attention Mr A. Checchin

Dear Adrian

RE: NOW Comment to Department of Planning regarding Hinchinbrook Bridge Crossing

With regard to the above matter, we advise as follows;

1. NOW recommendation of bridge to span the full width of the riparian corridor

Whether the crossing of the riparian zone is by bridge, filling or culverts, the point remains that the construction footprint is substantially the same under each scenario. The area of construction footprint would require clearing under all scenarios hence the inclusion of biodiversity offsets in the GHD report.

2. NOW recommendation of bridge naturalised base to culverts to enhance fauna movement

The use of "topsoil" within the base of the culverts would appear to be problematic from an operational perspective and not likely to be supported by Council. Scour protection will be required in the vicinity the culverts to ameliorate flood velocities and prevent migration of the channel bed. Accordingly, the bases will require armouring and the use of topsoil for this purpose is not supported. Additionally, the culvert structures immediate abut the open span of the bridge and hence there is a major unimpeded thoroughfare for fauna movements.

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3. NOW comment relating to locating piers outside the channel and banks of the creek.

The proposed bridge is a proprietary system used extensively throughout the state and come in standard 12m span sections. The location of the bridge piers were selected to ensure that the piers were as far removed from the thalweg of the creek as possible.

We trust the above is satisfactory and ask that you contact the undersigned should you require any further information

Yours faithfully,

Hugh Williams
Senior Civil Engineer
ADW Johnson Central Coast