Lianne Darby

From: John Eteuati

Sent: Tuesday, 19 September 2017 01:23 p.m.

To: Lianne Darby

Cc:Chelsea McGaw; William CliffordSubject:RE: Holyhead Street - SW Report

Dear Lianne,

Please find our combined comments below regarding the SW report submitted by Fluent Solution for the Holyhead development. I have sent this directly to you since Chelsea is away for a conference for the whole week, in case you need it now.

I have reviewed the following documents and make comments below:

- 1. Letter from Fluent Solutions to Paterson Pitts Group dated 31 August 2017. This letter comments "on the effects of the flood event that occurred on 22 July 2017 in relation to the proposed stormwater management plan"
- 2. Letter from Fluent Solutions to Paterson Pitts Group dated 29 May 2017. This letter is a "Preliminary Stormwater Management Plan"
- 3. Photographs showing the flooding at the site in July 2017

With respect to the preliminary stormwater management plan:

- 1. Section 3.1 makes an assumption that there is a 375 mm diameter pipeline under SH 87. This has not been verified by the developer but will need to be. Verification of levels and pipeline condition will also be required.
- 2. Section 4.2 states "It was assumed that for the post-development situation, flows leaving the site would need to be mitigated to pre-development levels..." However, knowing that widespread surface flooding occurs in pre-development conditions, this assumption is wholly inadequate. To prevent surface flooding at a new development, flows leaving the site will need to exceed pre-development levels.
- 3. Section 4.2 also states that "...the proposed plan would not require significant earthworks in the excavation sensitive area along the toe of the floodbank on the eastern boundary..." The need for excavation in this area will need to be addressed between the developer and the ORC.
- 4. Neither calculations nor details have been provided regarding the proposed collection system, which "would be a combination of swales, natural overland flow and conventional stormwater pipe reticulation."
- 5. No consideration has been given to the impact of high river levels in the Taieri on the groundwater at the site. This will be required.
- 6. The details of the proposed pump design have not been included in the plan. This will be required.
- 7. The method and associated approvals to install a pumped stormwater pipe across the ORC flood bank has not been addressed.

With respect to the letter dated 31 August 2017:

- 8. Section 2.3 states "...it was observed that a culvert under SH87 to the west of the town centre...had potentially also slowed drainage from the Balmoral site via the existing 375 mm diameter pipe under SH87... The model used...did not include topography of the confined area west of the site or the hill country to the north..." This is inappropriate. A stormwater management plan will need to consider flows into the site from outside the area (e.g. flow back through the 375 mm pipe and from the hill country) as well as flows from the site downstream. These considerations will need to include all foreseeable means of the flow of water.
- 9. Section 3.2 states "...there is a question mark on the capability of the 375mm [diameter] drainage culvert to drain water from the site..." This question mark needs to be addressed by robust investigation and analysis.
- 10. Section 3.2 also states "...the extent of the existing stormwater model should be increased to include the confined area catchment to the west..." This is necessary.

To date the developer has not considered the impact of the flooding risk on the proposed on-site wastewater treatment systems. This is a serious concern, which will need to be addressed.

Regards John E

From: Chelsea McGaw

Sent: Friday, 8 September 2017 9:21 a.m.

To: John Eteuati

Subject: FW: Holyhead Street - SW Report

Lianne also has these additional questions for the SWMP that I sent you before ©

From: Lianne Darby

Sent: Friday, 8 September 2017 9:20 a.m.

To: Chelsea McGaw

Subject: RE: Holyhead Street - SW Report

Hi Chelsea

Question for you. In the Fluent Solutions report that I sent you yesterday, point 3 on page 5 says that the SW management of the site has the potential to benefit the wider area, and the costs for doing so should lie with the DCC.

Is this benefit a side effect of them draining their own site, or are they proposing extra frills to their scheme to help out Outram?

How does the WWS feel about paying for this?

How does that work?

I think that's three questions.

L.

From: Chelsea McGaw

Sent: Thursday, 7 September 2017 11:58 a.m.

To: Lianne Darby

Subject: RE: Holyhead Street - SW Report

Cool. I will forward on to John, end of next week ok?

From: Lianne Darby

Sent: Thursday, 7 September 2017 11:47 a.m.

To: Chelsea McGaw

Subject: RE: Holyhead Street - SW Report

No real rush. All in good time. I'm working on the report now, but it will take some time to pull together and isn't due out until October.

The blue sky photos were taken on Sunday, 24 hours or so after the first grey sky photos.

From: Chelsea McGaw

Sent: Thursday, 7 September 2017 11:45 a.m.

To: Lianne Darby

Subject: RE: Holyhead Street - SW Report

Lianne Darby

From:

MWH Hazards Team < MWHHazards Team@stantec.com>

Sent:

Wednesday, 21 June 2017 08:32 a.m.

To:

Lianne Darby

Subject:

RE: 94 Holyhead Street II (the notified)

Hi Lianne,

I have had a chat with Lee and there are no further comments from our point of view then previously provided.

I have passed on to Paul to assess.

Cheers,

Jon

From: Lianne Darby [mailto:Lianne.Darby@dcc.govt.nz]

Sent: Monday, 12 June 2017 9:47 a.m.

To: Resource Consents WWS-BC Comments < resconsent.wwsbc-comments@dcc.govt.nz >; Grant Fisher

< <u>Grant.Fisher@dcc.govt.nz</u>>; 'lee.m.paterson@nz.mwhglobal.com' < <u>lee.m.paterson@nz.mwhglobal.com</u>>; MWH

Hazards Team < MWHHazardsTeam@stantec.com; Barry Knox < Barry Knox Barry Knox Barry Knox Barry Knox

< Nic.Jepson@dcc.govt.nz>

Subject: 94 Holyhead Street II (the notified)

Hi All

Part two of the Holyhead Street subdivision ... the harder part where the applicant is doing a residential subdivision of Rural zoned land which has already been turned down for a zone change (but is being reconsidered under the Proposed Plan).

Lee – can you forward to Paul please for NES. Also earthworks to consider.

Regards

L.

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