John Sule

To: Z1649206 MWH Hazards Team
Subject: RE: 380 South Road - SUB-2015-78 & LUC-2015-443

From: Z1649206 MWH Hazards Team [mailto:SM-AP-NZ-MWHHazardsTeam@mwhglobal.com]
Sent: Wednesday, 7 October 2015 12:25 p.m.
To: Lianne Darby
Subject: RE: 380 South Road - SUB-2015-78 & LUC-2015-443

Hello Lianne

We have assessed the application in relation to the hazard register, street files and available aerial photography. We have not visited the site.
We have the following comments to make regarding the application.

Proposal
Resource consent is sought for the six lot subdivision of 380 South Road, Dunedin.
The subject site is legally described as Section 2 Survey Office Plan 23278, held in Computer Freehold Register OT15B/689, and has an area of 1314m^2.
The site is on the Barnes Drive/South Road bend at the western end of the Caversham shopping area, directly opposite the intersection of South Road and South Road.
It has the Main South Railway Line to the north.
The site is currently vacant and under-utilised.

The proposal is to construct five two-storey three-bedroom units on-site and to subdivide into six lots.
One unit will be contained in each of five lots, and the sixth lot will be a shared ownership lot for access.
Parking will all be accessed via the one entrance (existing).

Plans for the proposal are provided within the application

Hazards
There are no hazards for this land on the Hazards Register

Global Setting
The site is relatively flat, but has an embankment down to the railway on the northern boundary
The applicant acknowledges that the site may have been extensively filled.

Earthworks / Excavations / Retaining Structures
The proposed construction includes work on the slope to the north boundary, but this appears to be suspended foundations, with little earth works.
Earthworks close to boundaries may require consent from neighbouring landowners. Because of the proximity of the rail land, and the steepness of this slope, Rail must be considered as an affected party.

Discussion
There are general potential instabilities of concern associated with construction on slopes. Some of this slope may actually be a fill batter – but no investigation data is provided.
The proposal could create or exacerbate instabilities on this or adjacent properties if foundations are not appropriately designed for the slope stability.
This is not an insurmountable issue, but specifically engineered foundations will likely be required.

Advice
We recommend that advice be made to the effect:-

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The proposal includes construction on the slope to the north boundary, close to the rail corridor.

- This area may contain fill
- Specific foundation is likely to be required
- Earthworks close to boundaries may require consent from neighbouring landowners.
- Because of the proximity of the rail land, and the steepness of this slope, Rail must be considered as an affected party.
- Any walls retaining over 1.5m, or a surcharge / slope, including terracing, require design, specification and supervision by appropriately qualified person/s
- Any earth fill over 0.6m thick supporting foundations must be specified and supervised by a suitably qualified person in accordance with NZS 4431-1989 Code of Practice for Earth fill for Residential Development
- Slopes may not be filled steeper than 2h:1v (27°) without specific engineering design and construction

Regards

Lee Paterson
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MWH

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BUILDING A BETTER WORLD

Comments on Contamination Aspects of a Subdivision Application with Respect to Land at 380 South Road, Caversham, Dunedin

Background

Dunedin City Council (DCC) has received a subdivision consent application from Paterson Pitts Group with respect to the proposed Caversham Apartments development to be located at 380 South Road, Dunedin.

The previous history of the site is quite complex and was the subject of information requests made by Paterson Pitts to DCC and the Otago Regional Council in order to determine if any activities on the Ministry for the Environment's Hazardous Activities and Industries List (HAIL) have ever been undertaken on or adjacent to this property.

The results of these records searches indicated that:

- Considerable quantities of waste material have been deposited on the site;
- "Polite" (asbestos-cement) sheeting has been deposited on the site and apparently removed;
- Wastes of various unspecified types have been stored on the property;
- Abandoned vehicles have been stored at the site; and
- There is "historical evidence of fill placement" at the site.

The Paterson Pitts information did not meet the full criteria required for a Preliminary Site Investigation (PSI). Also, there were various other elements of the application about which DCC sought further information. Thus the application has been revised and resubmitted, with these identified information deficiencies promoted by the applicant as now having been fulfilled.

This memo constitutes an assessment of the Preliminary Site Assessment that has now been prepared.

Review of Preliminary Site Investigation

The applicant commissioned Environmental Consultants Otago Ltd (EC Otago) to carry out a comprehensive PSI for the land at 380 South Road, Caversham, Dunedin.

The PSI meets all of the criteria for such an investigation as set out in the Ministry for the Environment's "Contaminated Land Management Guidelines No. 1" document. The information obtained and reviewed in the PSI is comprehensive and a suitable level of detail has been obtained about all of the key PSI aspects. Soil samples were collected at 8 locations across the site, including two samples at different depths for one of the locations. Thus 9 samples in all were analysed (see later comments).

The site usage history has been fully documented. While some previous activities on or immediately adjacent to the site have contaminating potential (e.g. putrescible refuse disposal on the site; railway activities along one boundary) the dominant potentially contaminating activity has been the extensive disposal of fill on the site during an approximately 5 year period in the decade of the 1980's. The significant depth of the fill (5–7m) means that previous site uses that may have deposited contaminant residues are now buried beneath a relatively deep layer of relatively benign fill material. The PSI concludes, correctly, that the depth of any buried historical contamination is such that it will have no impact on the proposed use of the site for residential apartments (which will be surrounded by hard stand materials and where no domestic garden space will be available).

The contamination issue assessment thus becomes one of representative sampling of the fill material to determine concentrations of expected contaminants and to thus draw conclusions about the applicability of the NES, the nature of the requisite consent under that legislation and the ramifications, such as they may be, for site development.

The determinands selected for laboratory analysis of soil samples were chosen based on the historic landfilling activity and on the adjacent railway presence; thus a metals suite and polyaromatic hydrocarbons (PAH) were the selected analytes. MWH agrees with this selection of analytes,

although it is considered that it may have been advantageous to also include Total Petroleum Hydrocarbons (TPH) or semi-volatile organic compounds (SVOCs) as possible further analytes, based on the recent use of the site for motor vehicle parking. However we do not suggest that this is a fatal flaw in the investigation.

A total of 9 samples were taken from 8 individual locations across the site. This is an appropriate number for a site of such a limited area although it could be argued that composite sampling may have given a wider coverage of the site and at a range of depths. Again, we do not suggest that this invalidates the methodology applied, especially given the limited area of the site.

The conclusions reached in the PSI are all satisfactorily supported by the discussion. In broad terms, while one soil sample showed a PAH concentration exactly at the (correctly selected) High Density Residential Soil Contaminant Standard for benzo[a]pyrene equivalency (BAPeq), the levels of contamination across the site do not exceed the relevant NES SCS/SGVs. The PSI correctly concludes that the concentration of PAH recorded in the single sample that equals the PAH SCS means that the site, as a whole, should not be considered to present a risk to workers during site development.

The proposed use of the site, and the fact that the site surface will be covered either with buildings of hard stand materials post-development, means that any risk to site users will be minimised.

A final conclusion of the PSI is that a soil management plan will be required if the extent of soil disturbance exceeds the permitted activity limits of the NES. At present the likelihood of this is not known but a SMP for the site would be a simple document, the background information for which has already been obtained.

Conclusion

The PSI is fit for purpose and the ensuing steps for site development with respect to soil management have been appropriately outlined.

Paul Heveldt
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