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## Prestons development stands out

The effects of earthquake liquefaction in some new housing areas in Christchurch has put the spotlight on where new building should take place.

Attempts to direct new developments have been dictated by the Greater Christchurch Urban Development Strategy.

But it contains few references to liquefaction, which has proved so damaging in many precincts.

The urban development plan change is under appeal and one of the strongest cases is being mounted by the developers of Prestons, an area of sandy soil and minimal liquefaction risk near North New Brighton, about 5km from the city centre.

Dr Jan Kupec, a consultant with a masters in seismic engineering and a PhD in geotechnic engineering, has checked out the Prestons site post the September 4 earthquake and he said localised liquefaction was noted outside the boundary of the site.

However, no liquefaction or lateral spreading or any other seismically associated hazards were noted on the site itself, "thus confirming our earlier investigations that the site has a low susceptibility to liquefaction."

The reason for the site's low susceptibility is the presence of aeolian deposits (wind blown sand dunes) which are denser and less susceptible to liquefaction than fluvial

deposits or alluvial deposits (typical river deposits).

These fluvial deposits are found in Kaiapoi, Avonside and Dallington – all significantly affected by liquefaction and lateral spreading.

The two key areas where the city council has promoted development – the southwest around Halswell and the north around Kaiapoi – were both badly affected by liquefaction, sand boils and mud volcanoes, raising the question of how desirable they would be for developers and home buyers.

Many such areas will also now be more susceptible to flooding due to settlement of land that might make them uninsurable.

– Chris Hutching