



Technical Memorandum

Reference: 009030.040
Date: 6/16/09
To: Dennis Ryan, Fortuna City Engineer/Director of Public Works
From: Gary Simpson, C.E.G.
Subject: **Stewart Street neighborhood meeting**

On June 9, 2009, an on-site meeting was conducted at the Stewart Street tank site with a group of neighbors in order to discuss the proposed replacement project. Present at the meeting were yourself, Duane Rigge, and Liz Shorey from the City, Kirk Gothier who is assisting the City in preparation of its CEQA documentation, Brian Freeman and myself from SHN, and five neighbors. From a geotechnical standpoint, the purpose of the meeting was for the neighbors to show SHN staff areas of concern relative to hillslope stability. In that regard, we visited three nearby properties, which are individually discussed below.

1164 Stewart Street. The owner of this property took us into her backyard, where she directed us to a landscaped area covered with rock (slate) flagstone. She indicated that the individual rock pieces had begun to shift within the past year or two. She also discussed the seasonal appearance of soil cracks during the summer months when the soil dries out.

The movement of the flagstone pieces appears to be associated with surficial processes, and does not seem to suggest deep-seated hillslope instability. The flagstone pieces were placed on a moderate gradient slope and were set into a thin sand bedding. In the absence of other evidence of mass wasting, there is little reason to conclude that the downhill movement of the flagstone is anything other than a surficial process. The soil cracks would be expected based on the clay-rich nature of the native materials (as encountered in subsurface investigations at the tank site).

More telling at the site was the nature of the residential foundation, which lies adjacent to Stewart Street (that is, between the tank site and the moving flagstones). The owner indicated no structural problems in the house that may be related to slope movement, and a brief inspection revealed no evidence of foundation cracking or other damage related to landsliding.

1140 Stewart Street. The owners of this property showed us a failed area in the backyard of their residence. Based on the geomorphic expression of the site, it is apparent that uncontrolled fill was sidecast downslope behind the residence during initial site grading. The site lies above the head of a very steep drainage, so unsupported fill placed on the slope was inherently unstable. According to the owner of 1164 Stewart, who joined our inspection at 1140 Stewart, the failure occurred 2-3 years ago. In any case, the fill failure does not indicate instability of the native slope, but reflects inadequate engineering of fill placed at the head of a steep drainage. Again, the owners of the residence, which is also located directly adjacent to Stewart Street, indicated no structural distress that might indicate instability within the native materials at the site. A concrete slab directly above the slope break that is loaded with a hot tub exhibits no evidence of cracking or tilting.

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1250 Vancil. The owner of this residence showed us areas at the intersection of Stewart Street and Vancil Avenue that signs of pavement settlement and distress. The segment of Stewart Street adjacent to Vancil Avenue was described as having "settled" over the past 12 years. The adjacent portion of Vancil Avenue, which ascends a relatively steep hill is exhibiting cracking (of both the road and sidewalk) and degradation of the asphalt surfacing. The owner showed us a potholed area that he indicated flowed water long after rainfall had ended.

I had discussions with both yourself and Brian Freeman regarding this area, and we seemed to be in agreement that the damage was associated with general breakdown of the asphalt surface due to excessive groundwater and the steepness of the lower portion of Vancil Avenue. From a geologic standpoint, none of the areas we were shown at this site suggest movement of the underlying native materials. Again, when asked, the owner indicated no structural distress in his adjacent residence. A cursory visual inspection revealed no significant foundation cracks.

In conclusion, none of the sites that we observed on or adjacent to the neighbor's properties suggests global instability of the Stewart Street ridgeline or, more specifically, the proposed tank site. Each of the areas we viewed was attributable to misplaced fill, shallow surficial soil creep, or normal breakdown of asphaltic road surfacing. We did not see any evidence of geologic instability that would lead us to revise the results in our recently completed geotechnical assessment of the proposed Stewart Street tank site.

I hope that this memo is beneficial in documenting the results of our neighborhood meeting. If I can answer any questions or provide any more information, please do not hesitate to call our office.

