Accepted Manuscript

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PII:	S1367-9120(16)30060-8
DOI:	http://dx.doi.org/10.1016/j.jseaes.2016.03.014
Reference:	JAES 2656
To appear in:	Journal of Asian Earth Sciences
Received Date:	2 November 2015
Revised Date:	14 March 2016
Accepted Date:	19 March 2016



Please cite this article as: Badry, P., Satyam, N., Seismic soil structure interaction analysis for asymmetrical buildings supported on piled raft for the 2015 Nepal earthquake, *Journal of Asian Earth Sciences* (2016), doi: http://dx.doi.org/10.1016/j.jseaes.2016.03.014

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ACCEPTED MANUSCRIPT

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12 Abstract

Seismic damage surveys and analyses conducted on modes of failure of structures during past 13 earthquakes observed that the asymmetrical buildings show the most vulnerable effect throughout 14 the course of failures (Wegner, 2009). Thus, all asymmetrical buildings significantly fails during 15 the shaking events and it is really needed to focus on the accurate analysis of the building, 16 including all possible accuracy in the analysis. Apart from superstructure geometry, the soil 17 behavior during earthquake shaking plays a pivotal role in the building collapse (Chopra, 2012). 18 Fixed base analysis where the soil is considered to be infinitely rigid cannot simulate the actual 19 scenario of wave propagation during earthquakes and wave transfer mechanism in the 20 superstructure (Wolf, 1985). This can be well explained in the soil structure interaction analysis. 21 where the ground movement and structural movement can be considered with the equal rigor. In 22 the present study the object oriented program has been developed in C++ to model the SSI system 23 using the finite element methodology. In this attempt the seismic soil structure interaction 24 analysis has been carried out for T, L and C types piled raft supported buildings in the recent 25th 25 April 2015 Nepal earthquake (M= 7.8). The soil properties have been considered with the 26

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