

## ***Interactive comment on “Thermal management of an urban groundwater body” by J. Epting and P. Huggenberger***

**J. Constantz (Referee)**

jconstan@usgs.gov

Received and published: 1 August 2012

The paper addresses an important issue related to the practical value of storing heat in shallow aquifers under developed areas of Switzerland along the Rhine River. Here is the notable issue, on page 7185 line 7, the authors indicate that river exchanges with groundwater is a first order factor in determining the timing and magnitude of groundwater temperature variations. However, in the body of the paper this issue is not addressed to level that groundwater cooling processes and the influence of buildings on thermal properties of the aquifer are addressed, which is strongly reflected in the lack of citations addressing sw/gw exchanges while there are dozens of citations to the other two factors. Though this issue may be addressed implicitly within the model,

C3470

both the sparse discussion of sw/gw in the text and the lack of citations to this factor indicates sw/gw issues need to be addressed explicitly in the final draft of this paper. In the References, I see Andrews and Anderson's paper as the lone citation addressing surface water groundwater interaction, and there are numerous papers in the literature that are more directly related to river (stream) exchanges with shallow aquifers and thus more appropriate as well.

---

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 9, 7181, 2012.