1096-49-1365 **Kasie G Farlow*** (kasie.farlow@usma.edu). *A Characterization of the Reflected Quasipotential.* Preliminary report.

Recent interest in the reflected quasipotential comes from the queueing theory literature, specifically the analysis of so-called (b, A, D) reflected Brownian motion where it is the large deviation rate function for the stationary distribution of the (b, A, D) reflected Brownian motion. Our purpose here is to characterize the reflected quasipotential in terms of a first-order Hamilton-Jacobi equation. Because the reflected quasipotential is continuous but not differentiable in general the characterization will be in terms of viscosity solutions. Using conventional dynamic programming ideas, along with a complementarity problem formulation of the effect of the Skorokhod map on absolutely continuous paths, we will derive necessary conditions in the form of viscosity-sense boundary conditions. It turns out that even with these boundary conditions solutions are not unique. In some cases the zero function is also a solution; thus a unique characterization needs to refer to some additional property of the reflected quasipotential. (Received September 16, 2013)