Random ordinary differential equations (RODEs) represent an alternative way to formulate many stochastic ordinary differential equations (SODEs). RODEs allow us to rewrite SODEs in terms most scientists are familiar with, namely as a special type of ODEs. For the numerical solution of RODEs, different approaches have been proposed, such as averaged methods or K-RODE-Taylor schemes. K-RODE-Taylor schemes allow for higher-order discretisations at the prize of more complex, recursive formulations. In this contribution we derive the K-RODE-Taylor schemes of order K=3 and K=4 for the specific RODE formulation of the Kanai-Tajimi earthquake model. Finally, we briefly discuss ways to compute approximations of the multiple integrals that appear in the corresponding formulas.