For a positive integer $t$, a Skolem-type difference set of order $t$ is a partition of the set $\{1, 2, \ldots, 3t\}$ into triples $\{a_i, b_i, c_i\}$ such that $a_i + b_i = c_i$. Skolem-type difference sets and their many generalizations are well studied, and necessary and sufficient conditions for Skolem difference sets are known. A practical application of Skolem-type difference sets involves rewriting the triple $\{a_i, b_i, c_i\}$ as $a_i + b_i + c_i = 0$ where $c_i$ is necessarily negative. Hence, we study $\pm$Skolem-type difference sets of order $2t$ which are partitions of the set $\{\pm 1, \pm 2, \ldots, \pm 3t\}$ into triples $\{a_i, b_i, c_i\}$ such that $a_i + b_i + c_i = 0$. We also study a Langford-type generalization of this concept, namely, partitions of the set $\{\pm d, \pm (d + 1), \ldots, \pm (d + 3t - 1)\}$ into $2t$ triples $\{a_i, b_i, c_i\}$ such that $a_i + b_i + c_i = 0$ for $d = 2$ and $d = 3$. (Received September 18, 2017)