

Sutherland Properties - Highland Village

Overland Park, Kansas



Highland Village is a proposed, mixed-use development located on the Sutherland Property in Overland Park, Kansas. Multiple stream channels and tributaries cross through the Sutherland Property, which is located in the Indian Creek Watershed. A Conceptual Mitigation Plan was developed for the site, which proposed abandoning and relocating approximately 2,000 feet of channel to accommodate the planned development.

Concerned about the feasibility of the proposed channel relocation and possible impacts to the watershed, the City of Overland Park requested that Intuition & Logic conduct a geomorphic analysis of the existing streams, review the relocation plan, and make preliminary design recommendations. Included in our analysis was an evaluation of possible effects of the channel relocation, evaluation of the geomorphic factors that could cause the relocated stream to meander unexpectedly or move back to its current location, assessment of armoring techniques to limit channel migration, conceptual design alternatives, and determination of appropriate channel geometry in planform, profile, and cross-section for the relocated channel.

Our recommended approach includes preliminary design of a stable channel, more representative of an undisturbed stream, with a sinuous planform and multi-stage cross-section, along with proposed grade controls, and reaches where additional channel capacity could be attained by flattening the overbank areas at elevations above the effective discharge. In addition, the streambanks and overbank areas will be vegetated with native species, including riparian forest, mesic prairie and Bur oak savanna. The advantages of the preferred alternative are an improved riparian corridor and a planform and cross-section in dynamic equilibrium for both the existing and post-development flows.

