

Restoration of Dead Man's Run and Tributary

City of Lincoln, Nebraska



The Deadman's Run Tributary, located in Lincoln, Nebraska, had been channelized and subjected to forty years of urban hydrology and extensive repairs using conventional, hard armor methods. The channel incised, resulting in widespread bank erosion, damaging and threatening valuable property on the University of Nebraska campus, and posing an ongoing maintenance problem. Project stakeholders, including the City of Lincoln,

The Lower Platte South Natural Resource District and the University of Nebraska, Lincoln, retained the design team of The Intuition & Logic and Schemmer Associates, Inc. to provide analysis and channel restoration design.



The final design includes relocating half of the previously straightened channel back into its floodplain and restoring a natural sinuous channel form. The restored channel slope, sinuosity, riffle pool spacing, bend radius, amplitude, section shape, low flow channel and floodplain were designed to match the natural geomorphic stream geometry. To avoid a uniform appearance, a range of acceptable planform geometries was developed by varying channel sinuosity. The resulting variability in meander length, amplitude, and radius of curvature introduced an organic component to the design and, thus, more closely approximated the aesthetic of a natural meandering stream.

An additional challenge to the design was the close proximity of the upper tributary reach to University research orchards. Rock grade control structures and vegetated revetment bank stabilization were used to manage the grade, attain a stable bed slope and restore some degree of ecological integrity. Revetment designs incorporated plants that were non-competitive with orchard plants and capable of reinforcing soil under high stress conditions. Construction is scheduled to be completed in Spring of 2007.