

Tallgrass Creek Retirement Community

Erickson Retirement Communities, Overland Park, Kansas

The Tallgrass Ranch Retirement Community is a 65-acre development in Overland Park, Kansas. When complete, Tallgrass Ranch will provide a full range of recreational amenities for its residents, including outdoor activities such as golf, gardening, and hiking and biking trails that showcase the preservation and restoration of the Tomahawk Creek tributary.



Intuition & Logic was responsible for the geomorphic analysis of the tributary, channel stabilization design, and restoration of approximately 500 feet of meandering stream. Based on the results of our study, it was apparent that the tributary had incised, resulting in two knickpoints, each standing 3 feet high in consolidated clay bed material. Because of the height of each knickpoint and the onset of widespread bank failures due to channel widening, the preferred method of stabilization was the restoration of a meandering channel alignment. The method for channel restoration design was a combined approach of tractive shear analysis and regime methodology, based on the regime equations of Soar and Thorne (2001).

Preservation of stream corridors is an important component of Overland Park's overall stormwater management program. In addition, the aesthetics of the restored stream was an important component of the design, since a proposed trail system will bring residents and visitors to viewing areas along the stream corridor. A range of acceptable planform geometries was developed and variability was introduced to the meander length, amplitude, and radius of curvature. In addition, a plant palette of indigenous Kansas prairie and riparian forest species was developed to restore and improve existing landscape elements, thus improving the aesthetic of the meandering stream and natural surroundings, and protecting the long-term health and viability of the existing corridor.