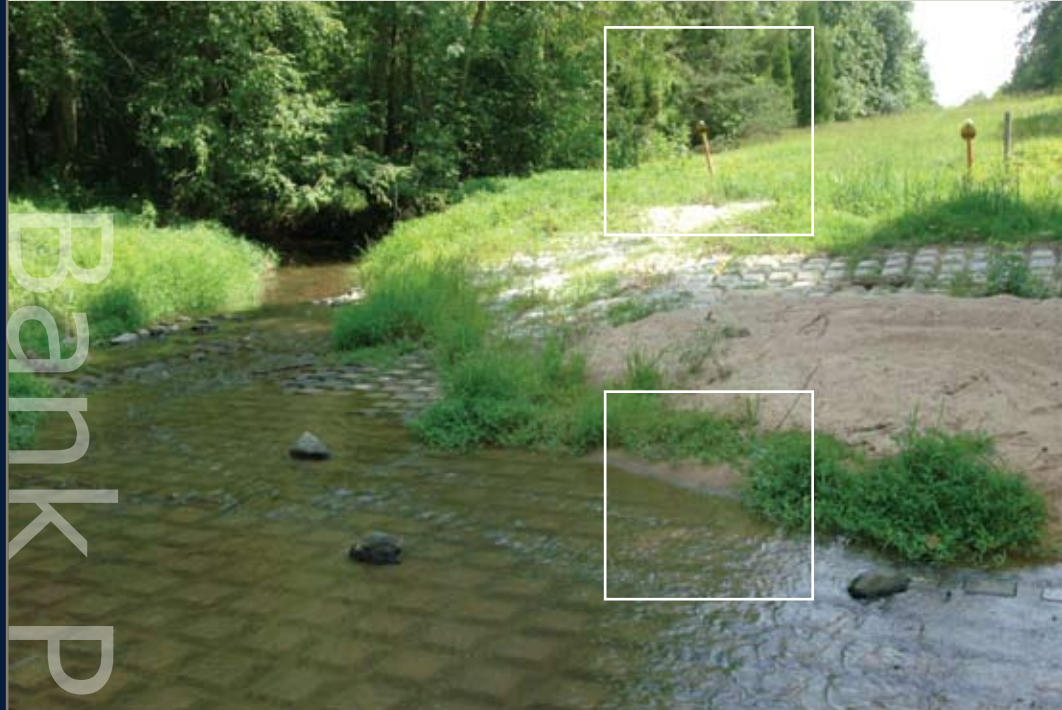




Bank Protection

Park Creek • Kannapolis, North Carolina

Bank Protection



Synergy With Nature™

Bank Protection

Application: Pipeline Protection

Owner: Colonial Pipeline

General Contractor: Submar

Location: Park Creek, Rowan County,
Kannapolis, North Carolina

Park Creek meanders through a wooded area crossing the Colonial Pipeline Right-Of-Way (ROW) in Rowan County, just 5 miles northwest of Kannapolis, North Carolina. There are two pipelines that run parallel through this area, a 48-inch line and a 36-inch line and they must remain underground. Removal of large amounts of natural vegetation and trees for recent subdivision construction in this watershed area had caused an increased velocity of the stream. Coupled with the sandy, loose soil of the streambed, uneven, vertical and degrading shoreline levels, the resulting erosion problems were beginning to expose both pipes. Because of its proximity to these young, growing neighborhoods, the area was also very popular for its wooded walking trails.

A decision was made to contract Submar to rebuild the stream banks to create a uniform slope and to armor the pipelines with a system of articulating concrete revetment mats to cover the pipelines in the creek bed and extend up both banks, preventing the stream from further eroding into the ROW. The stream was re-aligned and mat tail on the downstream end of the mat system served to prevent the upstream advance of future headcuts.

Final site restoration included re-planting of native hardwood trees set back from the bank and re-seeding of vegetation on the bank shorelines to establish an embankment and create a more natural, pleasing setting which will benefit the wildlife habitat and the area's growing population while providing protection for the pipeline and additional defense against future erosion.

In a nutshell:

- *The stream was detached from its natural floodplain*
- *During floods the creek wasn't able to get high enough to deposit sediment on the banks - a problem for the Army Corps of Engineers*
- *This caused the channel to deepen all the while exposing the pipelines more*
- *After completion Colonial Pipeline was able to traverse the right-of-way (ROW) to do maintenance and testing*
- *Excessive land lost for the owner was halted*



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