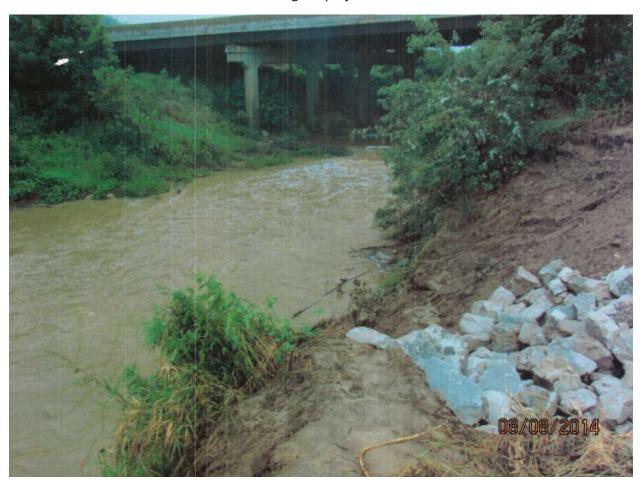
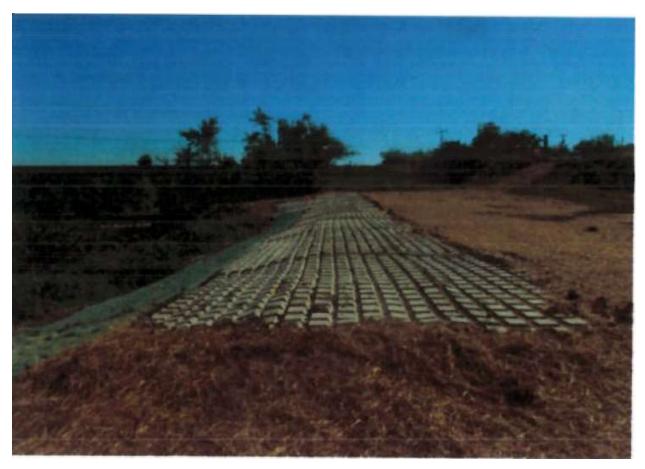
32. Documentation of soil stabilization work performed in the area of the accident

Project ID 79855: Completed 8/11/2014.

Submar was contracted to line the south bank of Cahokia Creek with concrete mats in order to stabilize the bank and to cover and protect the pipeline. The bank and washout area were reshaped to create gentle, stable slopes within the project area. The freshly grated creek and washout area was covered with geotextile material, followed by installation of the Submar concrete mattress system. The mats were to extend down the bank for 170 feet and were also to cover the washout area to prevent further erosion. The mats were anchored into the bank elevation in excavated 2-ft deep termination trenches to prevent undercut. The upstream leading edge of the mattress system was terminated in an excavated 3-ft deep anchor trench. They used 35 total mats that were 8'x20' in size. At the time of the project, there is a note that C&M installed three sleeves during the project.











PID 79855 WPAT PID 79855 WPAT ROW 15 Photo RepcROW 15 LPMR 8-8-2 ROW 15 Submar Scc

Project ID 100763: Completed 4/20/2017

Bolin Enterprises was contracted to repair existing matting, regrade the bank, and install additional mats to ensure the pipeline had adequate cover and protection in the encroachment and washout area of ROW 15 near Cahokia Creek. In the years since the 2014 remediation was installed, there was evidence that the mattress system had started to slide toward the creek. Of the 175' of matting, about 125' on the west side of the repair had showed signs of slippage, as well as some erosion on the leading edge closest to the creek. Fourteen (14) mats were removed and the area beneath them regraded before they were replaced. Three (3) of the existing mats were removed and not put back into service. An additional row of nine (9) mats was added to the south side of the matting system to reach level ground before anchoring to prevent future slippage. 20 cubic yards of rip rap were added to the edges of the mats. Lastly, duck bill anchors were installed secure the mats further. Pipeline depth of cover across this area was noted as consistently around 4'.











PID 100763 WPAT PID 100763 WPAT PID 100763 WPAT PID 100763 WPAT ROW 15 As-Built.pdfROW 15 DCM Asses:ROW 15 LPMR 4-17-ROW 15 Scope of W