

Project Highlight: Green Infrastructure/Low Impact Development Pilot Cost Data Study

OVERVIEW

Twelve sites were reviewed as part of the GI/LID Pilot Cost Study. This included seven permeable pavement systems and five bioinfiltration systems that were constructed between 2018 and 2023. For the permeable pavement sites, there were four with permeable interlocking concrete pavement (PICP), two with pervious concrete, and one with plastic grid pavers. The surface area of these projects ranged from 1,312 to 15,885 square feet (SF), and the median area was 3,942 SF. For the bioinfiltration sites, there were four bioretention systems and one wet enhanced swale. The surface area of these projects ranged from 944 to 9,557 SF, and the median area was 2,400 SF.



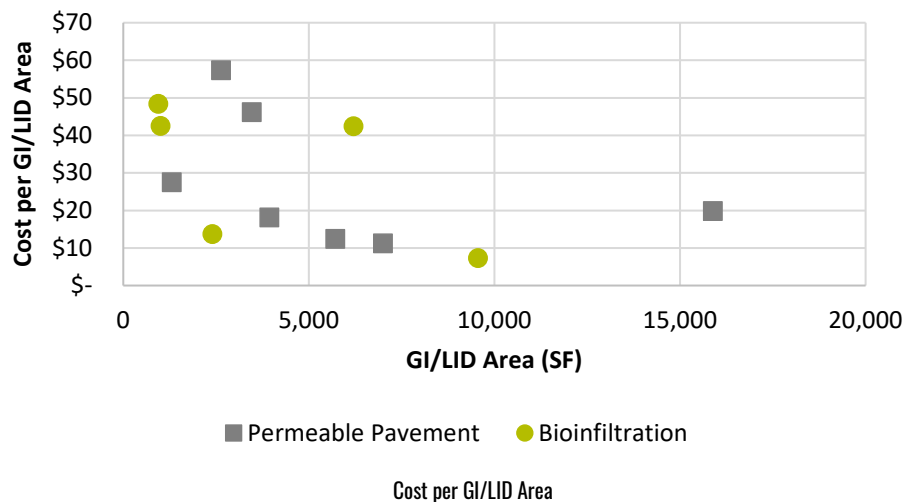
Bioinfiltration and Permeable Pavement Study Sites

GI/LID Practice	Statistic	GI/LID Area (SF)	Cost per GI/LID Area	Cost per Area Treated	Hydraulic Loading Ratio
Permeable Pavement (n=7)	Low	1,312	\$11.28	\$6.07	1.0
	High	15,885	\$57.35	\$30.78	3.5
	Average	5,708	\$27.54	\$15.19	1.9
	Median	3,942	\$19.88	\$15.56	1.8
Bioinfiltration (n=5)	Low	944	\$7.38	\$0.59	9.2
	High	9,557	\$48.41	\$3.72	28.5
	Average	4,024	\$30.92	\$2.17	15.0
	Median	2,400	\$42.47	\$1.50	12.5

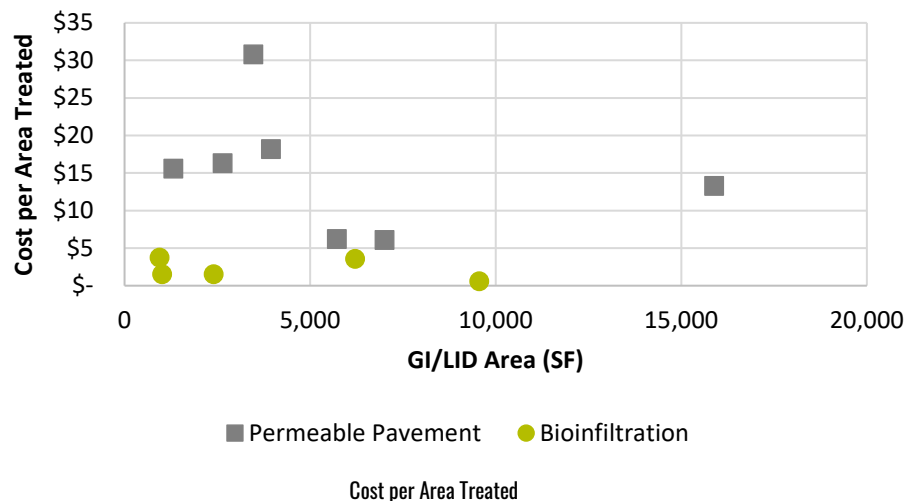
Cost per GI/LID Area and Cost per Area Treated for Select Permeable Pavement and Bioinfiltration Practices

KEY FINDINGS

Overall, this study calculated total cost of the GI/LID construction and reported it based on GI/LID surface area to compare among sites. Another metric reviewed was GI/LID cost per area treated. The cost per GI/LID area was similar between the two primary practice categories – permeable pavement and bioinfiltration. The cost per area of permeable pavement ranged from \$11.28/SF to \$57.35/SF, with an average of \$27.54/SF. The cost per area of bioinfiltration ranged from \$7.38/SF to \$48.41/SF, with an average of \$30.92/SF. Both of the lowest costs for each practice type had been constructed in-house; the other 10 sites were constructed by a contractor. The next lowest cost per area was \$18.19/SF for permeable pavement and \$13.75/SF for bioinfiltration.



Once area treated was factored into the calculation, bioinfiltration is clearly a more cost-effective GI/LID practice because it has a larger hydraulic loading ratio (ratio of drainage area to practice area). Permeable pavement cost per area treated ranged from \$6.07/SF to \$30.78/SF, compared to bioinfiltration with a range of \$0.59/SF to \$3.72/SF. The average cost per area treated for permeable pavement was 7.0 times greater than bioinfiltration (\$15.19/SF vs. \$2.17/SF), and the median cost per area treated for permeable pavement was 10.4 times greater than bioinfiltration (\$15.56/SF vs. \$1.50/SF).



Financial assistance provided by the Coastal Zone Management Act of 1972, as amended, administered by the Office for Coastal Management, National Oceanic and Atmospheric Administration and passed through the Coastal Management Program of the Department of Natural Resources.