

GMU Dynamic Low Visibility Pneumatic Cofferdam

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Abstract: Our team designed a pneumatic cofferdam system in response to a lack of convenient tools to protect from increased flooding events across the United States. Current available solutions are expensive, have difficult assembly and deployment processes, are temporary, and occupy a lot of space when not in use. This cofferdam system addresses all of these shortcomings all while serving as a usable and visually appealing space when not deployed. A test facility was designed and constructed to test three different prototype configurations. Each conceptual design underwent an iterative process through design and building until a series of tests were performed to measure strength, deployment, and leakage. The finalized product design was sent to George Mason University's patent office for patent processing. In addition to the patent, a business plan including market alternatives trade-off analysis has been completed to support marketing of our solution.

Keywords: Pneumatic, Cofferdam, Mitigate, Prototype, Design, Test Environment Tank