



## TEAM XX

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### Breaking Ground Initiative

**To connect knowledge to service. Putting our knowledge to action.**

To the interested reader, we team XX are Mechanical Engineering majors currently enrolled in an honors section for Mechanics of Materials as part of the breaking ground initiative. In addition to the regular class we meet once a week to get an enriched version of the material, which includes listening to guest speakers, completing extra assignments and a proposed project.

Among our guest speakers was Mr. Chow from the Baltimore city bureau of water and waste water, who discussed some of the problems faced by the department, budgeting, line bursting, pipe leaks, pipe replacement etc. However, one of the largest problems they seemed to be facing was dealing with an aging water line system. Large portions are over 50 years old and some over 100.

We proposed a two part collaborative project with the department to address the issue of our aging waterline systems. The first objective is to predict when water lines will burst by doing stress strain analysis and creating a model given data from the Bureau. The second is to do a cost analysis considering lifetime expectancy of the water lines vs cost of material. By achieving these objectives we hope to help the department prioritize line replacement and ultimately conserve a limited budget.

Lindsay Digman: "the honors section has been a great extension of the class because it gives what we are learning a purpose. It makes it real."

Stephanie Muncill: " the honors section challenges us to delve deeper into the material, the theory behind the material and the practical uses."

Nishay Raja: " I feel privileged to be a part of the honors section. The honors section brings into perspective the the knowledge we are acquiring and gives meaning to it. It makes everything we are doing in class so much more real and relatable."

