**Civil Engineering Infrastructure Project *in a Developing Country*:
Design and construction of a water tower for a rural village of 500 people in the country of \_\_\_\_\_\_\_\_\_\_\_\_\_.**

**Problem K3-3 1 1**

**OVERALL OBJECTIVE: Your firm is tasked with developing a summary design, construction, and maintenance plan for a water tower that will store and supply water for a rural village of 500 people in the country you have been assigned.**

**LONG-TERM DELIVERABLE (END OF SEMESTER): You will pitch your plans to the non-profit Mechanics Foundation in a 12-minute presentation at the end of the semester. Your plans must be developed thoughtfully enough to convince the foundation to provide funding for implementation of your plans in the near future. You will need to clearly identify the water demand for your location and present a detailed design with calculations and computer-generated detail sketches, and include a budget and maintenance plan.**

**EXPECTATIONS: This should be a fun and thought-provoking exercise weaved throughout the semester that considers (a) technical content, (b) societal and economic benefits and constraints, and (c) an entrepreneurial mindset. Each group is expected to keep track of all time spent on the project, and include this time report in your final submittal. Overall, this project will be worth a minimum of 100 “problem set” points toward your final Problem Set and Other Submissions grade. Bonus points may be awarded for exceptional work.**

**INTERIM DELIVERABLE #1: Do research on water needs and water use in your assigned country to help establish the volume of water that you intend to store in the water tank you design.**

* **Prepare a writeup that is no more than two pages in length (double-spaced, 12 point Times New Roman font, 1” margins) including text, equations, and references. The writeup should clearly indicate the volume of water you intend to store in your tank and explain the rationale behind how you arrived at this value. This writeup is due at the beginning of the class meeting corresponding to Lecture 10, two weeks from today.**
* **Prepare a PowerPoint presentation no more than five minutes long that conveys the same information as your writeup. Groups will present in a randomly selected order during the same class period that your writeup is due. Please bring your presentation to class on a USB drive to upload onto the desktop computer.**
* **Note: Problem K3-2 (orange sheet) must be completed by your group by this date as well. Although you will not formally submit this sheet until the end of the semester, be prepared to show this completed sheet to the instructors on the date you submit your writeup and give your presentation. You may update this sheet throughout the semester as you learn more information.**