**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 K3-5 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 #3: This interim deliverable encompasses the following work:**

* **Reexamine the conceptual design your team presented during Lecture 29 and make any appropriate adjustments based on feedback you received from the client.**
* **Begin to develop a budget and maintenance plan for your water distribution system.**
* **Prepare a drawing of your water tower in AutoCAD (or comparable software). Show elevation and plan views of your water tower as a whole, and show cross-sectional views of your vertical supporting members. Include dimensions on all drawings.**
* **Prepare to meet with the Foundation for approximately 10 minutes on the day of the class meeting corresponding to Lecture 36 to present this information. The meeting will be held in the CEER 205 and you must be able to effectively communicate the above deliverables to the representatives of the Foundation in any form you desire. Note that a projector is available in this room but you are not required to use it.**
* **In addition to any other forms of communication you use, you must prepare two copies of all drawings to leave with the client, as well as a one-page written summary that describes your budget and maintenance plan.**