Request For Proposal (RFP)

Introduction/Background Information

The Missionary Training Center (MTC) in Provo, UT is the main location where young men and women from The Church of Jesus Christ of Latter-day Saints go to learn how to preach and testify about the gospel of Jesus Christ. It is also owned by the LDS Church. The LDS Church builds many structures such as the MTC across the globe as part of their Special Projects Department. Andy Kirby is the senior project manager taking the lead in many projects including those involving the MTC.

The LDS Church has decided to expand the MTC into the south east corner. As such, utility pipes will need to be provided just west of the intersection of 900 east and University Parkway. These utility pipes will need to be installed underneath University Parkway by way of a tunnel.

Project Description and Scope of Services

This project involves the design of an underground 8'x11' precast concrete tunnel. The tunnel's main purpose is to have utilities running through this tunnel into the southeast MTC expansion area from a mechanical system junction box on the other side of University Pkwy (see figure below). The existing utilities are in the junction box. The new utilities will need to connect from this junction box into the tunnel. The major constraints with this project are cost and time. The project will need to be completed within 6 weeks (between July 4, 2015 and the start of education week August 17, 2015). Although it will be an 8'x11' precast concrete tunnel, there will need to be a comparison of other alternatives within of the project.

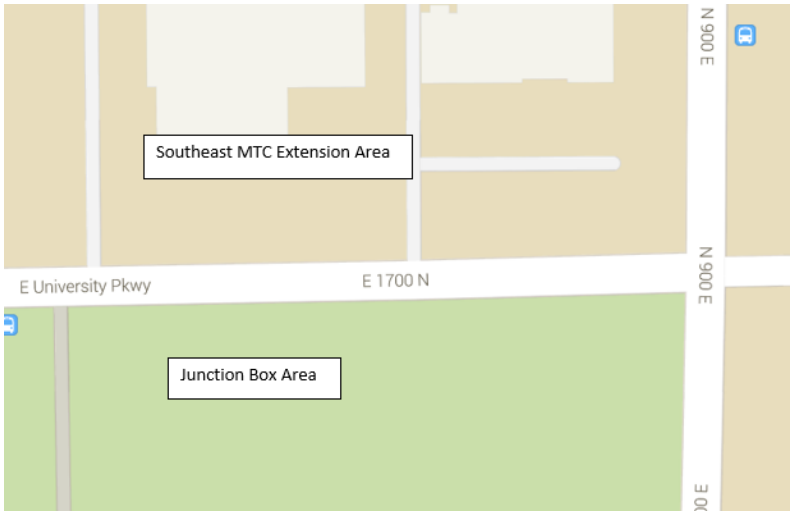

Figure 1. MTC Tunnel Location

Scope of Work (SOW)

- Preliminaries
    - Site visit
    - Meet with mentor and sponsor
    - Obtain important documents from civil engineer
        - Ask what is needed/wanted
- Tunnel Design
    - 8’x11’
    - Precast concrete
        - Connection to junction box
        - Waterproofing design of all joints
    - Alternative option research
        - Cast-in-place
    - Pros and cons for each option
        - Cost, constructability, noise, speed
    - Plan, profile, details and specs
- Shoring Design
    - Open trench
        - Civil site utilities (existing)
    - Excavate base material to a depth of 30’
    - Braced excavation possibilities
        - Sheet piles
        - Soldier piles (lagging)
        - other
        - Pros and cons for each option
            - Cost, constructability, noise, speed
    - Backfill and compaction specs
- Road repair design
    - Traffic control with phasing
    - Signs
    - At least 1 lane open each way
    - Daily fees for closing of lanes
- Social/Environmental Factors
    - Noise control
    - City regulations
- Preparation of Deliverables (see below)
    - Include a plan set to be used for construction
- Major Constraints

- Cost

Key Milestones

- Research
  - Site visits, meeting with sponsor and mentor
- Analysis and Design
- Selection of best option and implementation plan
  - Drawings
  - Pros and cons as compared with the other options
- Preparation and presentation of deliverables (see below)

Outcome and Performance Standards

Teams will provide the work "as is" meaning that there is no engineering stamp certifying the work."

Aside: The ability to continue receiving support from outside sponsors is somewhat contingent on the good work you and the undergraduate students do. You represent the BYU Civil & Environmental Engineering Department. The expectation is that you will interact in a professional manner at all times with your mentor and project sponsor, treating them with the utmost respect and consideration of their busy schedules. While successful completion of the design project is fundamental to the outcome of the work, it is expected that you will also learn important team dynamics and leadership principles. This means that in the process of completing the project you are also seeking to help each member of your design team to grow and develop confidence in his/her engineering abilities.

Deliverables

The deliverables are:

A final report with design alternatives for the project that include economic and environmental considerations.

A poster reflecting a summary of your design project.

A presentation summarizing your design project.

All deliverables are due Friday April 1.

During the week of April 4th both a presentation to sponsors and poster session for students, faculty and other interested people will be organized.

Term of Contract

Undergraduate students are to work during winter semester, eight hours/week/student with at least 3 hours working together. Any class time or time spent on class assignments counts towards the eight hours.

Payments, Incentives, and Penalties

Much of the capstone work is graded by graduate student mentors that include evaluations of the following components:

Team process (how well you work together to accomplish the goals)

Project proposal

Project Management Plan (PMP)

50% complete status report

Final report, poster, and presentation

Overall satisfaction of the client in meeting specific deliverables

Contractual Terms and Conditions

There will be no monetary compensation with respect to the work completed, and all work is completed and delivered on a "best effort" basis.

Aside: Each member of the undergraduate team will be asked to sign a non-disclosure agreement that simply states the work you do belongs to the project sponsor.

Evaluation and Award Process

3 different graduate students will evaluate proposals blindly, and the average of their scores will be the grade you are given on the proposal and used for granting awards where there is competition. They will be evaluating you from the exact rubric listed below.

Timeliness - 1 pt off per full hour late, up to 5.	5
Grammar/Spelling - 1 pt off per blatant error, up to 10.	10

Cover Page - Title, Data, Sponsor, Team Name, Team Members, Department of Civil & Environmental Engineering, Ira A. Fulton College of Engineering and Technology, Brigham Young University - 1 pt per piece of information included.	8
Cover Letter - brief letter of introduction that 1) states your intent to propose and 2) how you may be contact - 4 pts per piece completed.	8
Executive Summary (3/4 to 1 page that summarizes the contents of your proposal) - 7 points for completion, helpfulness - 3 pts max.	10
Team Abilities (Adjust the SOQ to make it relevant to the project) - Summary AS A TEAM of 1) relevant courses and experience, and 3) abilities to complete the work on time and in a professional manner, 4) including use of specific engineering tools/software. Include résumés. 2 pts for including résumés, 6 more points max, 2 per piece completed.	8
Key Personnel - 1) Identify which individuals will focus on which pieces of your potential tasks, and 2) some kind of organizational chart or visual describing how you will work together as a team. 5pts max per piece.	10
Project Understanding - 1) Did they address specific items mentioned in the RFP? 2) Do they repeat basic background in somewhat new terms to *demonstrate their understanding* of the project? 3) Do they mention key deliverables they may need to provide? 4) Did they articulate a *specific* approach for developing design alternatives and deliverables? 4 pts max per piece.	16
Formatting - Does it look professional? Consistent? Yes or no, 5 pts each.	10
Concise vs. Wordy, Meaningful vs. Fluffy, repetitive wording. 8 pts means concise, and accurate, and specific. 1 pt means often confusing, wordy, or vague.	8
Clear and professional flow of writing and style. 7 pts means that you would feel comfortable handing this in if it were your own; it is easy to read and understand; feels professional; 1 pt means it feels like it was cut-pasted, rushed, and done with little thought; hard to read; feels like a high school essay.	7
Video Interview - Message is clear and consistent with proposal, each member participates, professional but catches your attention. Leniency on video/audio quality will be given with a focus on the content and overall organization.	20
Total	120

Process Schedule

October 21, 4:00 pm - Request for Proposals will be available online: http://cecapstone.groups.et.byu.net/content/winter-2015-projects

October 27, 4:50 pm - Question and Answer period with respect to the proposal and submission procedures. The period where you can register your intent to propose on a project will begin. Each team will need to identify the primary target of their proposal and three other alternatives (no proposal necessary). Public knowledge of an intent to propose should help distribute proposals more evenly.

*November 17, 4:00 pm - Three copies of the proposal must be submitted at the beginning of class. Team video interviews should be made available online or on disc and referenced in the proposal.

December 1 - Award notification.

*The review committee reserves the right to reject any proposal or presentation that is not submitted in a timely fashion or in accordance with the instructions given in this RFP.

Contacts

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Submittal Requirements for the proposal

Turn in three copies of the proposal that should include

Cover letter

Executive summary, 1 page or less (by itself)

Work plan that outlines the approach to solving the problem, how the team will work together (including weekly work schedule that shows the hours each team member will work and the time block the team will be together, this is a necessary requirement).

Necessary tools, data, equipment, etc. A couple of paragraphs or a bullet list with one sentence explanation for each item.

Schedule indicating important milestones.

Engineering Design Budget. This is an estimate of the design phase cost.

Outcome and Performance Standards. Provide the following statement: "Teams will provide the work "as is" meaning that there is no engineering stamp certifying the work."

Statement of qualifications that outlines the background, experience, education, and organizational structure of the team. Include some discussion of how you plan to become a "high functioning" team in the course of completing the project.

Outside consultants (professors or others) that are necessary to "make this work."

Appendices:

Appendix A: 1 page resume for each member of the team

Appendix B: (if necessary)