Civil Engineering Writing Project - Genre Unit 5
Proposals

What is a proposal and why do engineers use them?

The business of engineering includes selling a service (engineering) to clients – public agencies, private companies, individuals, or other engineering firms. Engineers who work for consulting companies develop and submit proposals to prospective clients to obtain work. A client selects an individual firm or (more commonly) a team based on how well they represent their expertise and value to the client. Proposals can vary from one-page documents that describe services and costs to thousand-page documents that include preliminary designs. In all cases, the proposal needs to demonstrate a technical understanding of the client's problem, a feasible and realistic approach to the project, and the unique qualifications of the proposing team. Proposals also need to be accurate and truthful. Like other engineering documents, they are legal documents. After the team wins the work, the proposal often becomes part of the contract.

Junior engineers are not generally asked to lead the proposal development process, but they may be assigned sections or analysis roles. Even engineers who are not tasked with preparing proposals will benefit from an understanding of how proposals are developed, their typical content and sequencing, and other important characteristics of them.

There are two main categories of proposals: cost proposals and qualification proposals. Cost proposals typically include a description of the work to be performed and the proposed cost of these services. The client selects engineers based on the lowest cost for work that meets their needs. Qualification proposals are used to select engineers based on their expertise and are used by most public agencies for infrastructure projects. This unit focuses on qualification-based proposals.

Who is the audience for a proposal? How do you write to meet their needs?

Proposals are generally reviewed by selection teams composed of several members, often using specific scoring criteria, as explained below. Usually the selection team includes engineers familiar with the type of work requested, but non-technical members are often also included. The selection team composition may be an unstated test to see if the proposer can communicate both with other engineers and with a broader audience. This means that the writing must be technically accurate but also easily understood by a general audience, with any technical terms or abbreviations explained.

Proposal development may be considered marketing, but it's a mistake to think of a proposal as advertising. Proposal writing requires the same precision and accuracy as all engineering writing. Concise, easy-to-read documents that communicate a thorough understanding of the clients' needs win out over vague promises and pitch-phrases.

What is a typical process for proposal writing?

Generally, a proposal is written in response to a "Request for Proposals (RFP)" or "Request for Qualifications (RFQ)". The term "RFP" is commonly used as a cover term for both. An RFP typically includes a description of the anticipated project, minimum requirements of the proposing team, and questions or required qualifications for the proposing team. However, proposal work begins long before the RFP is received. Most engineering firms have collections of old proposals, qualifications statements, resumes, and project descriptions that they will draw from to efficiently produce a new proposal. In

most cases, the lead engineers will have experience working with the client and know what is important to this client.

The first step in proposal writing is carefully analyzing the RFP. Experienced engineers review the RFP and identify each element and key word for the proposal. They develop a plan to address every element of the RFP and additional elements based on experience with this client and this type of project. Part of learning the art of proposal writing is learning to read between the lines. For example, a proposal may request "experience working with a large multi-disciplinary agency." These few words can tell the proposer that the client knows they are a complex bureaucracy (such as a state department of transportation) and they want the proposer to demonstrate experience delivering projects on-time and on-budget in that environment.

To propose a complete project for the client, most proposals involve teams from different specialty areas. These specialty areas are often provided by other firms or departments in large multi-disciplinary firms. The lead firm or department will assemble materials from the others. There may be a dozen or more people and firms providing material for a proposal that must ultimately have a uniform appearance that shows a coherent team. Some elements are routinely produced and formatted by a firm's marketing branch or office staff. This contributes to a consistent format and provides quality control for each proposal. However, engineers themselves often need to adapt these elements for the specific project.

What does an RFP look like?

Each RFP is unique. They vary in length from a few paragraphs to hundreds of pages that include previous studies and example contracts. Nonetheless, most RFPs are similar in specifying details of the project, the content of the proposal, and length and formatting for the proposal. In addition to project details and the required proposal content, an RFP often includes specific instructions for formatting and submitting the proposal. School assignments usually have formatting and a due date, too, but those requirements – and the consequences of not following them – are likely minimal compared to most RFPs.

Formatting and Submission Instructions
An RFP often has detailed instructions for submitting the proposal, including a due date and time. Many clients still ask for hard copies. Get stuck in traffic and arrive 5 minutes late – too bad, the proposal will not be accepted. An RFP from a public agency often includes specific instructions for formatting. Failure to follow these instructions will result in deductions to the proposal's evaluation or even rejection of the entire proposal. Here is an example of instructions; you will use these in an activity at the end of this unit:

PROPOSAL DUE DATE: November 5, 2018—by 3:00 p.m.

1.5.3 FORMAT FOR PROPOSAL SUBMITTALS; PAGE LENGTH LIMITATION

a. (REQUIRED) Proposals must use a 12-point font size for all substantive text.
b. Proposers are to submit a signed original and 4 copies of the proposal, printed double sided on recycled paper.
The Proposal must not exceed 12 pages, excluding Cover Sheet (RFP Attachment C), any tabs or indexes, and any of the following forms: references, Conflict of Interest form(s), Tax ID Number form, and Subcontractor/Supplier Solicitation and Utilization form. If a Proposer submits a Proposal exceeding this limit, Agency will consider the pages up to that allowable number and

discard all subsequent pages. The Proposer may choose how to allocate pages between any sections, within the overall page limit.

One (1) Page is defined as: one side of a single 8-1/2" x 11" page that meets the font size requirements stated in subsection "a" above. Any page over this size will be counted as 2 pages. Any page, partial page, tabs, indexes or table of contents with substantive text, tables, graphics, charts, resumes, etc., will be counted as 1 page.

Even if an RFP does not specify formatting requirements, you need to appeal to reviewers who may be reading a dozen similar proposals. Small print, narrow margins, and extra pages do not show respect for the reviewers' time and are not a winning strategy.

Information about the Project Work

Typically, an RFP will have a short introductory statement outlining the work. This may be followed by the scope of work – i.e., the specific tasks the proposer will be expected to provide. Here is an example from an RFP from a public agency:

2.1 SUMMARY and PROJECT OBJECTIVES

The prospective contract includes A&E and Related Services to provide safety improvements for five segments of the Highway 39 corridor between Fairfield and Bristol included in the following overlapping projects:

- US 39: Safety Upgrades Flower Drive to Weston Lane (Project Number 34187),
- US 39: Richardson to Melville (Project Number 30956), and
- US 39: Timberline Nursery – Fulsom Ave (Project Number 30021).

Safety upgrades are based on recommendations in the USXX Highway Safety Study, prepared by XXX, dated December 2016.

Description of Services:

- Segment A: Add a center two-way left turn lane, widen shoulders, and consolidate accesses between Flower and Weston Lane in Fairfield (rural cross section).
- Segment B: Add a longer, buffered right turn lane westbound and left turn acceleration lane eastbound. Remove through route activated warning system at Winston Hwy. Improve bicycle facilities through the Winston Hwy intersection.
- Segment C: Add a longer, buffered right turn lane westbound and left turn acceleration lane eastbound at Fulsome Ave. Improve bicycle facilities through the Fulsome Ave. intersection.
- [bullet points continue]

Evaluation Criteria

RFPs typically include a description of the basis for evaluating the proposal , often with specific scoring criteria. Some include scoring rubrics that look similar to paper grading rubrics you have seen in classes. An example of an evaluation and scoring criteria follows:

	Evaluation & Scoring Criteria	**Max Points**
2.2.1	**Specific Experience of Key Staff:** Provide information for the proposed Project Manager and other key staff that you believe are most important based on your understanding of the needed Services. Scoring will be based on relevance of the	**30**

	experience, qualifications, and technical competence of Project Manager and key staff proposed for use on this specific project.	
2.2.2	**Approach:** Given the information provided with this solicitation, describe what you believe are the most critical/challenging elements of this Project that the design team must address for a successful outcome. Explain your approach for addressing those critical elements of the prospective Project in a cost effective way to meet the Agency's objectives within the allowable timeline. What percentage of the work will be done by the prime versus subconsultants?	**40**
2.2.3	**Project Samples/References:** **Provide three (3) project samples** comparable to the requested services performed by your firm within the last 4 years. For the sample projects - • Describe their relevance to the Project and Services included in this solicitation, including descriptions of how any outstanding issues and project constraints were addressed and resolved. • Include a brief description of project type, location, size, duration and objectives; a list of key project staff and their roles; tasks performed by the Proposer to fulfill the project objectives; the project budget, and whether the schedule and budget were met. • Include 2 reference contacts for each project with valid contact information.	**30**

What are the typical elements of a proposal?

The exact sections of proposals vary from RFP to RFP, firm to firm, and project to project to meet the needs of the specific context. Proposals also vary in length depending on the complexity of the project and RFP requirements. However, certain content and organization is typical. Here we describe a common organization for proposals.

1. **Cover Letter**
    Though technically not part of the proposals itself, most proposals include a cover letter. It is often bound at the front of the proposal. The cover letter typically identifies the project leader and point of contact. It may also include statements regarding contractual conditions or non-discrimination policies. Details for preparing a cover letter are presented in another unit of the Civil Engineering Writing Project.

2. **Introduction or Overview**
    This section serves to provide an overview of the team's qualifications and proposed approach. It often contains a summary of the subsequent sections, written to highlight the team's experience with similar projects so that the proposal reviewers get a quick sense of the team's qualification and approach.

3. **Project Understanding**
    This section describes the proposing firm's understanding of the project. It can't be a direct repetition of the RFP text. It must demonstrate a clear, thorough grasp of the project tasks and challenges.

4. **Proposed Approach**
   This section clearly describes the approach the firm will take to complete the project. In many cases, this includes a detailed, task-by-task description, including deliverables and schedules.

5. **Qualifications of the Team**
   This section highlights the team's strengths and advantages. The text needs to explain the team structure (often including an organizational chart), the team members' roles and credentials, and their success in prior related projects. This section may include a paragraph length resume or "bio" for key team members.

6. **Budget and Justification**
   Proposals may have a distribution of hours (labor) by key personnel and justifications for other expenditures. Budgets and cost information, if included, is typically tabulated and may be attached as an appendix. Public agencies, who can be barred from selecting engineering services based on costs, may require budget and costs to be submitted in a separate sealed envelope.

7. **Prior Accomplishments of the Team**
   In this section, the reviewer is looking for the team to demonstrate their experience by describing their relevant past projects. Marketing staff will often have boilerplate project descriptions that engineers then customize for the specific proposal, emphasizing characteristics similar to the proposed work.

8. **Existing Commitments of Team Members**
   Many proposals will require proposers to demonstrate that they have availability to complete the work. Typically, proposers include a table that lists current projects and the amount of time committed to them in order to show that they have time for the new project.

9. **Resumes of Key Personnel**
   This section should convince the reviewers of each team member's qualifications. Each resume is typically one page. It includes the person's name, credentials, and education, and a brief description of the person's role in the proposed project. It also includes examples of the individual's role in previous projects, demonstrating experience useful for the proposed project. Marketing staff often maintain resumes for personnel, but engineers customize them for each proposal.

What is important for the language of a proposal?

As you can tell from the information above, a proposal is a complex writing task. It has to convey accurate technical details and more general content such as the team structure. It must be easy for both technical professionals and non-specialists to understand. Without sounding like a used car salesperson, it has to make a convincing case to reviewers that this is the most qualified team for the work. It must demonstrate to the reviewers that the team understands the project and the client's needs, and that the team has successfully addressed relevant issues on previous projects. And through all of this, the proposal must meet tight length constraints and numerous formatting requirements.

All of the challenges mean that language choices are extremely important in proposals. Every word must be accurate and at the right level of precision. Every sentence must be easy for readers to

understand. The agents of actions must be clear, and the sequence of information must meet readers' expectations. In other words, all of the Language Units in the Civil Engineering Writing Project need to be applied to proposals.

In addition, proposals can be doomed by grammar or punctuation errors. Even a few typos or grammar errors will be noticed by reviewers and give a poor impression of the quality of work of the proposing team. Engineering is a detail-oriented profession, and just like calculations, writing needs to display a high level of attention to detail. Make sure you use the Grammar and Mechanics Lessons in the Civil Engineering Writing Project materials, and proofread multiple times. Even if your grammar errors are minor, you never get a second chance to make an impression on reviewers.

Activities

1. Look back at the example of Formatting and Submission Instructions for an RFP. Make a list of every requirement that is specified there.

2. Compare an assignment you have written or will write for a class with the requirements of proposals as covered in this unit. If you have a proposal assignment, think of that assignment; otherwise, use any assignment you are familiar with (a capstone design report, a site visit memo, even a lab report). Complete a table with the following sections:

Characteristic	Proposals in professional practice	Your assignment: _____
Purpose	Demonstrate that your team is the best qualified team for a specific project	
Audience		
Requirements for formatting (how many, what types)		
Content and sequencing (typical sections)		
Evaluation system		
Consequences of not following instructions		

3. Look for two RFPs for civil or environmental engineering projects on the internet. (Many public agencies post their RFPs.)
    (a) For each RFP do the following: Read through it thoroughly and write a list of the ways it is similar to and different from the overview of RFPs provided in this unit. For example, does it cover the scope of work, formatting requirements, submission requirements, and evaluation criteria? How detailed are the requirements? What else does the RFP include? How long is it? Does it list required sections of the proposal, and if so, how do they compare to the sections covered in this unit?

(b) Choose one of the RFPs. Pretend your supervisor has asked you to help with descriptions of previous projects that will be included in the proposal responding to this RFP (in a "Prior Accomplishments of the Team" or similar section). Do the first step in your task: Go through the RFP and highlight all the characteristics that are important to address. In other words, these are the characteristics that your team needs to show it has experience with. (You do not need to write anything. You just need to highlight the characteristics you would need to emphasize in the writing.)