

ASC – REGION 7

HEAVY CIVIL PROBLEM INSTRUCTIONS

Runway 16R-34L Reconstruction Project

Reno-Tahoe International Airport

This year the competition problem requires each team to prepare a proposal for the Runway 16R-34L Reconstruction Project at the Reno-Tahoe International Airport located in Reno, Nevada. Your assignment includes responding to the following problem questions, preparing a proposal as well as a bid package per the project plans and specifications. All contract documents can be found on the provided flash drives. Proposal packages will include the bid submittal in sealed envelope, and proposal binder with provided tabs for organization.

I. Takeoff and Estimate Items.

- A. Prepare a quantity take-off and direct cost estimate for all bid items that are not already filled out on your bid proposal worksheet.
- B. Prepare your bid in accordance with the specifications and bid proposal forms provided.
- C. Direct cost estimates should include:
 - a. Methodology, audit trail, and must be legible.
 - b. Production calculations, crew analysis, alternatives
 - c. Include all worksheets for review
 - d. Analysis and selection of lowest responsible supplier / subcontractor quotes.
- D. Each bid item estimate, and all backup associated with that item, shall be placed in binder behind its respective tab that has been provided. Judges will not search for bid item backup.
- E. Logic, order, clarity, and technical accuracy will be considered when scoring.
- F. Written proposal of required information: all answers, working papers, assumptions, summaries, tables, charts, schedules, and phasing plans are to be included. Use your best judgment when preparing this document for order and presentation.
- G. Takeoff and estimate to be hard copy, and placed proposal binder behind respective tab.

II. Bid Submittal

- A. Ensure all items on the bid submittal checklist are completed and included in bid submittal envelope that has been provided.
- B. Bid submittal packages that do not include all documents listed on the “bid submittal checklist” or that are received after 09:30:59 PM on Thursday February 10, 2022, will be deemed non-responsive.
- C. All documents in bid submittal documents to be placed in provided bid submittal envelope.

III. Project Plan and Specification Questions

- A. All answers can be found in the contract documents provided in the document management server.
- B. Provide detailed answers including the respective paper trail and final document name that the answer was located.
- C. Plan and specification questions to be hard copy, and placed proposal binder behind respective tab.

IV. Project Schedule.

- A. Prepare a detailed critical path method (CPM) schedule for all items of work. Please make duration assumptions for the items that are already filled out on your bid proposal worksheet.
- B. It is optional, but not required to include a schedule narrative to help explain potential logic, schemes, or reasoning.
- C. The schedule shall outline in sufficient detail the proposed operations, the interrelations of the various operations, and the order of performance so that the progress of the work can be evaluated accurately at any time during the performance of the contract and ensure that the work will be completed within the specified number of working days.
- D. Schedule and narrative to be hard copy and placed in proposal binder behind respective tab.

V. Project Analysis

- A. Prepare and submit a detailed pour plan on the provided plot plan.
- B. Your plan should include the following at a minimum:
 - a. Sequence of concrete pours number to correspond with schedule activities.
 - b. Quantities (CY) per pour.
 - c. Concrete paving lane width per pour.
 - d. Concrete placement and finishing tool.
- C. Project pour plan to be folded neatly, placed in provided document pocket and inserted in proposal binder.

VI. Bid Proposal Worksheet

- A. Complete the Bid Proposal Worksheet utilizing all required data and selection of the lowest responsible supplier / subcontractor quotes.
- B. Prepare bid proposal worksheet: Unit pricing extension, overhead (indirect costs) and profit (margin)
- C. Bid proposal worksheet to be **hard copy and in excel format**. Hard copy to be placed in proposal binder. Excel format to be placed onto flash drive and inserted into provided envelope. Envelope with flash drive to be placed in bid proposal binder.

VII. Oral Presentation

- A. Presentation will be 25 minutes; this includes presentations and questions. Please allow at least 10 minutes for questions and answers. There will be a 200-point deduction for any team that does not allow 10 minutes for questions.
- B. Presentation materials must be turned in by 6:30 AM on Friday, February 11th.
- C. Presentation to be uploaded to provided flash drive and in **.ppt** format.

VIII. Assumptions

General Assumptions:

- 1. Subcontractor / Supplier quotes will be supplied in hard copy form throughout the time allowed for bid preparation.
- 2. Information provided will include project plans and specifications. You will need to use parts of each of these.
- 3. It is OKAY for your team to make assumptions on issues and information not available during the bid preparation period. Please note these assumptions on your worksheets for grading purposes.
- 4. Bid opening will be as life-like as possible. Please follow specifications for bid document preparation instructions.

Project Assumptions:

- 1. Yard(s) can be acquired within the project limits.
- 2. Anticipated notice to proceed date is March 7, 2022
- 3. Each team will use a profit margin of 15%.
- 4. Total indirect costs are \$1,000,000
- 5. Please include the following items with respective durations in your construction schedule.
 - a. Earthwork activities (P-152-1, P-152-2,P-152-3) - 65 calendar days.
 - b. Drainage activities (D-705-1 to D-751-4) – 25 calendar days.
- 6. Disregard the DBE Contract Goal requirement (i.e., Treat all subs/suppliers the same)
- 7. Construction traffic cannot cross runway 7-25.

IX. Specification / Contract Questions

Provide answers to the following questions, ***all answers may be found in either the project plans, contract provisions, technical specifications, geotechnical report, or contract documents.*** For an answer to be correct, teams must include the location where the answer was found (i.e. Standard Specifications, Special Provisions, Plans, etc.), section, page and paragraph with answer.

1. What is the maximum elapsed time from the addition of cementitious material to the mix until the concrete is discharged from the truck for non-agitating trucks and for mixer trucks?
2. How many days does the contractor have to complete all work at Taxiway Papa?
3. Is the contractor allowed to cross Runway 7-25? If so, when?
4. Is the contract time based on calendar days or working days?
5. The control strip shall be to the next planned joint after how many feet of each type of pavement construction?
6. What are the dowel bar requirements? (Diameter, length, and spacing)

7. What is the width of the new asphalt shoulders?
8. The full width PCCP keel sections in Alt. 2 are how many feet wide?
9. In paving intermediate lanes between newly paved pilot lanes, operation of the hauling and paving equipment will be permitted on the pavement after the new pavement has been cured for ____ days and attained a minimum field cured flexural strength of _____ PSI?
10. What is the thickness and percent relative compaction of the aggregate base course (P-209) beneath the asphalt pavement (P-403)?

Bonus: A phase element of the job calls for MagVar pavement marking improvements. What are the improvements, why does this work need to be completed, and how often do MagVar improvements need take place?