SECTION 01 71 23

FIELD ENGINEERING

PART 1 - GENERAL

1.1   SUMMARY

  A. Section includes requirements and procedures for field engineering services to establish elevations and slopes required to layout the proposed design.

1.2   RELATED SECTIONS

  A. Section 01 77 00 - Closeout Procedures: Project Record Documents.

1.3   QUALITY CONTROL

  A. The Contractor shall employ a civil engineer or land surveyor registered in the State of California and acceptable to the City Representative to perform site surveying under the Contract Documents.

  B. The Contractor shall submit evidence of Surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate.

1.4   SUBMITTALS

  A. Submit name, address, and telephone number and state registration number of the Surveyor before starting survey work.

  B. Submit a copy of site drawing, and a certificate that the elevations and locations of the Work are in conformance with Contract Documents, all prepared, stamped and signed by the surveyor.

1.5   PROJECT RECORD DOCUMENTS

  A. Maintain a complete and accurate log of control and survey work as it progresses.

  B. Submit Record Documents under provisions of Section 01 77 00 - Closeout Procedures.

1.6   EXAMINATION

  A. Verify locations of survey control points prior to starting work.

  B. Promptly notify the City Representative in writing of any discrepancies discovered.

1.7   SURVEY REFERENCE POINTS

  A. Control datum for survey is that established by City provided survey. The Contractor shall use the City of San Francisco benchmarks. Benchmark information is available from the Bureau of Street Use & Mapping at 1155 Market Street, 3rd Floor, Telephone (415) 554-5827.

  B. Contractor to locate and protect survey control points prior to starting site work; preserve permanent reference points during construction.

C. Promptly report to City Representative the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.

D. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to City Representative.

1.8 SURVEY REQUIREMENTS

A. Provide field-engineering services, using recognized engineering survey practices.

B. Establish a minimum of one permanent benchmark on site, referenced to established control points. Record locations with horizontal and vertical data on Project Record Documents.

C. Establish elevations, lines and levels. Locate and layout by instrumentation and similar appropriate means:
   1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
   2. Grid or axis for irrigation work.

D. Periodically verify layouts by same means.

1.9 FIELD LAYOUT

A. Dimensions, radii, etc., shown on the Drawings for field layout are approximate and are subject to adjustments to accommodate field conditions; smoothness of alignment and profiles supersede dimensions shown. Layout shall be done by the Contractor at its own expense and shall be approved by the City Representative prior to the start of any construction.

1.10 ELEVATION CONTROL

A. Comply with ADAAG's 5% or less grade requirement for landscape work and pathways.

1.11 LINE AND GRADE FOR THE WORK

A. The City will furnish the Contractor information on Monuments that will be used for line control and on Benchmarks, including City Datum elevations, which will be used for elevation control. All other lines and grades required for the completion of the work according to the plans shall be the responsibility of the Contractor and shall be obtained by him as Incidental Work. The City reserves the right to make minor line and grade changes of uncompleted work at any time before or after start of construction without claim by the Contractor for extra payment.

B. A copy of the Contractor's survey notes shall be given to the City Representative weekly.

PART 2 - PRODUCTS   (Not Used)

PART 3 - EXECUTION   (Not Used)

END OF SECTION