

**SECTION 01 71 23**  
**FIELD ENGINEERING**

PART 1 - GENERAL

1.1 PREPARATION

- A. Lay out and install all Work to lines and grades in accordance with Contract Documents.

1.2 LAYOUTS AND MEASUREMENTS

- A. CM/Contractor shall provide all survey Work required for horizontal and vertical location of all Work in this Project as applies to their scope of work.
- B. CM/Contractor shall be responsible for paying for the replacement and reestablishment of control stakes, monuments, and lines furnished by the University that are destroyed or disturbed by General Contractor's construction activities. The University shall provide the following
1. Establish site benchmarks
  2. Provide pad certification
  3. Establish all building corners, 6 column lines in the north-south direction, 2 column lines in the east-west and 4 elevation benchmarks at locations directed by the University's Representative prior to excavation
  4. Reestablish the above following excavation and prior to the start of foundations.
  5. Establish the same column lines on each floor and roof following placement of concrete slabs plus provide 2 elevation benchmarks at each floor (inside the building) as directed by the University's Representative.
  6. Reestablish building column line locations and benchmarks prior to start of site hardscape work as directed by the University's Representative.
- C. CM/Contractor shall furnish the University's Representative, prior to Project acceptance, 2 complete sets of the field notes for the survey Work and cut sheets in addition to 2 sets of drawings marked showing all deviations from Project alignment and grades as applies to their scope of work.
- D. Generally, grades shall match adjacent surfaces, and existing flow lines shall be maintained.

1.3 SURVEY REFERENCE POINTS

- A. CM/Contractor shall locate and protect control points prior to beginning the Work, and preserve all permanent reference points throughout construction operations. The General Contractor shall:
1. Not change reference points without prior approval of the University's Representative.
  2. Report to the University's Representative when any reference point is lost, destroyed, or requires relocation due to necessary changes in grades or locations.

1.4 PROJECT SURVEY REQUIREMENTS

- A. CM/Contractor shall establish lines and levels, locate, and lay out for own work.
- B. CM/Contractor shall provide layouts as Work proceeds to assure compliance with required schedules, lines, levels, and tolerances for own work.

1.5 RECORDS

- A. CM/Contractor are required to maintain a complete and accurate log of all control and survey Work as it progresses for own work.

1.6 SUBMITTALS

- A. Upon request by the University's Representative, the CM/Contractor shall submit documentation to verify accuracy of field engineering Work.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 71 23