
Measurement of Existing Conditions

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These instructions are intended as a guide for those who wish to provide us with measurements of their buildings. If you decide to do this, you assume responsibility for those measurements, and for revisions should those measurements be found to be inaccurate. When measuring an existing structure, the best method to assure consistency appears to be as follows:

Except for very long dimensions, record linear measurements in inches rather than feet-and-inches; this will prevent misunderstandings as to the units used. When measuring several items in a long string, baseline measurements (referring back to a base point) will be more accurate than chain measurements (going from feature to feature), due to the accumulation in tolerance using the latter method. For this purpose, a long tape (50 feet or longer) may be appropriate. Always make sure the tape is straight, without sag. You may also choose to employ an electronic tape measure, but that may require more than one person to make some measurements, and most are not suitable for distances less than 18 inches. In general, accuracy to the nearest 1/4 inch is desired; for site features, a tolerance to the nearest foot is often adequate.

1. First measure the exterior in plan (the horizontal plane). Starting at a corner, measure all openings (masonry openings, if present), corners, projections, etc. If the project will involve an addition or site design, also locate site features such as trees (measure caliper and spread, indicate species and condition), walkways, parking areas, curbs and streets, etc. Site features will probably require triangulated measurements from several points.
2. Also measure exterior vertical dimensions at openings, roof lines, changes in wall material (band courses). Measurement from sill to sill at stacked windows, for example, is an easy way to check the floor-to-floor height, after comparing floor-to-sill heights.
3. If the project will involve an addition/site design and a land survey is not available, it will be necessary to use a builder's level (scope) to measure relative grades around the building. Record the height of the level in relation to a benchmark (such as the main floor elevation), then record heights of various points or features on the site. Label these points with a number on the field drawing, and record the elevations in a table keyed to the number.
4. Directly measure exterior wall thickness at openings such as doors and windows. In cases where openings are not present, wall thickness must be inferred indirectly from other nearby measurements.
5. Measure interior rooms with overall dimensions (including ceiling height) first, then locate detailed features. Record door openings as the size of the door itself. Indicate swing and fire rating, if any. If you suspect that a room is not square, measure its diagonals. Be sure to include any wall offsets.
6. Record visible features in the room: electrical outlets and switches, light fixtures, plumbing fixtures, finishes, etc. If structural features such as beams or columns are exposed, record sizes and spacing of members. Ceiling features may be recorded using dashed lines on the floor plan.
7. At stairways, record overall floor-to-landing heights and average riser and tread dimensions. Treads should be measured from nosing to nosing, with a notation as to the nosing overhang. Record railing heights, guardrail openings, etc.
8. To record roof slopes, it may be necessary to enter the attic (if present) and measure rafter slopes with a carpenter's square and level. Alternatively, measure relative rafter heights from attic floor at known distance apart, and the slope will be calculated in the office.