

The Risk Illuminator

A Quarterly publication for our clients by **Lender's Quality Assurance**, a *Critical Edge Group* company

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This is our last issue of the century.

We would like to take this opportunity to wish you and your families a safe and prosperous new year.

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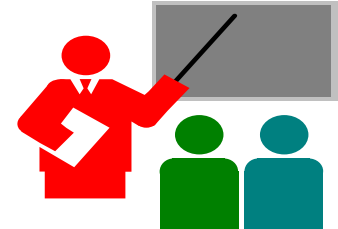
Soils Reports: The Mysteries Revealed

We often discuss the importance of obtaining a quality geotechnical report for new construction. This is because the structural engineer specifically designs foundations, footings, &/or slab systems based on site specific subsurface conditions.

Various testing methods may be utilized during the investigation: 1) Examination of soil residuals extracted via long drill auger is frequently utilized; core samples are taken from various site locations and soil types stratified. 2) A steel sounding rod can be driven into the soil to reveal the presence of rock and measure soil density. 3) Wash borings may be utilized whereby a drill bit is used to penetrate to a stable soil level or bedrock while water continuously flows thru a hollow cylinder that houses the drill bit; soil particles are forced up thru the cylinder to the surface where they can be ex-

amined & classified. 4) A test pit may be utilized (typically for shallow test depths because of cost) to provide direct observation of the soil strata, moisture content, and density. 5) A sophisticated seismograph may be utilized to produce reflected shock waves, the patterns of which can be interpreted using an oscilloscope; expansive soils will emit a milder shock wave and stable soils/bedrock will produce a more pronounced shock wave. 6) Electrodes inserted into the ground can be used with the electrical resistance varying by soil type - bedrock having higher resistance than loose soils.

One or more of these methods may be utilized; the key, however, is to be sure that the exercise occurs prior to design of the foundation systems to prevent excess differential settlement and the subsequent damage to improvements.



Hard-Hat University

"POP QUIZ #2"

Match the terms with the definitions:

1. Mansard Roof
2. Hip Roof
3. Gambrel Roof
4. Gable Roof
5. Dormer Roof
6. Rainbow Roof

- A. Projection built-out from a sloping roof, often with a window.
- B. Sides that slope in opposite directions from the ridge.
- C. Pitched roof with sides & a slightly convex slope from the ridge.
- D. (2) slopes on all (4) sides, with the lower slope the steeper of the two.

See page 2 - Pop Quiz

TOPICS IN THIS ISSUE

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THE RISK ILLUMINATOR

Millennium Facts

Over the span of the past 125 years the construction industry has developed many innovations that have dramatically altered the landscape including:

Highways - **1911**
Interstate Highway System - **1956**
Asphalt Paving - **1904**
Concrete Paving - **1890**
Cloverleaves - **1928**
CPM - **1958**
Hydraulic Elevator - **1882**
Bulldozers - **1925**
Backhoe Loader - **1957**
Concrete Mixer - **1916**
Gypsum Board - **1886**
PVC - **1931**
Air Conditioning - **1900**

Seismic Engineering - **1978**

Building Codes - **1915**
Automatic Paving Machines - **1931**

Surety Bonds - **1893**
Concrete Pumps - **1933**
Computerized Project Management - **1975**

source: ENR - 10/18/99

Pop Quiz - from page 1

E. Sloped in (2) opposite directions from the ridge, with each surface divided into (2) sections with different pitches.

F. (4) sides sloping from a center ridge, with sloping triangular ends.

Answers: 1-D, 2-F, 3-E, 4-B, 5-A, 6-C

Construction Costs

Although material prices have been relatively dormant over the past 8 yrs., selected materials inflation has begun to rear its head. These can have the same effect on construction activity as rising interest rates.

By most measures, construction cost indexes point to overall inflation of 2% - 4.5%. The Dept. of Commerce construction cost indices average increase for the past quarter was 4.3% vs. 3.5% for the prior quarter. Certain key materials such as gypsum board, insulation, PVC for water & sewer

pipes, & plywood are in short supply. Sample materials price movement a/o 8/99 (YTD) include:

Aggregates - **+2.7%**
Aluminum Sheet - **+3%**
Bitum. Concrete - **+1.9%**
Cement - **+2.5%**
Copper Pipe - **+6.3%**
Fab. Steel Bldg. - **+1.2%**
Glass, Flat - **-.2%**
Gyp. Products - **+18.9%**
Lumber - **+11.9%**
Plywood - **+20.5%**
Ready-mix Conc. - **1.5%**
Rebar - **+2.2%**
Sheetmetal - **-.4%**
Steel Products - **-8.3%**

