For a personal review of the IBC amendments and how they impact individual projects, contact Geotechnical & Environmental Services' President, Greg DeSart.

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Section 1802.1 General

In this amendment, all small projects exempt from geotechnical reports are required to comply with more conservative default code design values.

Section 1802.6 Reports

The lists of amendments in this section are lengthy, but require no additional work for the builder. However, the changes require significantly more paperwork in geotechnical reports. Under the former regulations, less test data and supporting calculations were required. The increased statement requirements will require additional time by the geotechnical engineer and may increase related fees.

Section 1805.8.2 Slab-On-Ground Foundations

The new code requirement changes some of the geotechnical parameters for post tension slab designs. The change allows the use of non-structural "crack control" PT slabs in areas with low soil expansion potential. The new requirements may lead to thicker foundations.

Section 1806 Retaining Walls

This amendment standardizes factors of safety used by structural engineers. Specifically, retaining walls shall be designed for a safety factor of 1.5 against sliding or overturning when considering load combinations that do not include seismic or wind. Retaining walls designed when considering seismic loads must have a safety factor of 1.1 against sliding and overturning, while a retaining wall designed to consider load combinations including wind must have a safety factor of 1.3.

In Summary

There are two important elements to the building code changes.

All GES clients can take comfort in knowing their geotechnical needs are taken care of using standards of operation called out in the new amendments.

If plans are approved under the prior code, all applicable permits must be pulled within six months. Should zone changes or other issues delay a project longer than that time, the project must be resubmitted under the revised code.

Section 1704.7 Soils

New requirements eliminate the exception for special inspection during the placement of fill having a total depth of twelve inches or less.

With the elimination of this exception, building codes now require the inspection of ALL controlled structural fill. The amendment also removes some engineering discretion as to which in-fill projects require continuous inspection versus periodic inspections.

Verification and Inspection Task	Continuous During Task Listed	Periodically During Task Listed
1. Verify materials below footings are adequate to achieve the design bearing capacity.		XXX
2. Verify excavations are extended to proper depth and have reached proper material.		XXX
3. Perform classification and testing of controlled fill materials.		XXX
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of controlled fill and other grading activities requiring special inspection.	XXX	
a. All soils not meeting the requirements of categories b, c, or d.		XXX
b. Soil-rock fill and/or moderately expansive soils are encountered.		XXX
c. High or critically expansive soils, hydrocollapsible soils, soluble soils, and/or soils requiring chemical or mechanical (geosynthetics) stabilization are encountered.	XXX	
d. Construction or stabilization of cut or fill slopes exceeding 5 feet in height, or any site requiring that fill be placed on a natural slope, an existing cut slope, or an existing fill slope steeper than 5:1.	XXX	
5. Prior to placement of controlled fill, observe subgrade and verify that site has been prepared properly.		XXX

Under these new requirements, most geotechnical engineers will consider soil types and the inspections they require, when creating estimates for grading inspection fees.

Section 1613.5.5.1 Steps to Classify a Site

The revised regulations address the number of 100 foot explorations required when Site Class A, B or C is determined using either boring or seismic exploration methods.

Using the seismic process a minimum of one test for every forty acres is required with the exact locations of the tests to be determined by the Professional Engineer (PE). Using any approved process, each distinct layer of soil must be explored at depths not exceeding ten feet.

This change will not have a significant impact on most developers, however, it could change the way sites are tested by making seismic testing more popular, even with smaller developments.

Section 1704.1.2 Report Requirements

Under the new code, project managers are now charged with providing a written report of all unresolved design deviations to the building official and the registered design professional prior to the completion of that phase of work.

Prior to the code amendment, discrepancies could be reported at the completion of each phase of the project.

Now the building official and designer must address any issues regarding the deviations before the final inspection of each phase is completed. The addition of the paper trail reduces the possibility of communication errors between the two parties.

Section 1704.5 Masonry Construction

The special inspection requirements are now more clearly defined for masonry fences, retaining walls and their combinations designed using Half Stresses. In particular, masonry fences of eight feet or less, retaining walls of six feet or less and their combination using the same heights will now be inspected and measured from the top of the footing to the top of the wall.

In the ever-changing landscape that is the development community, more changes have come upon the scene. The International Building Code amendments of 2006 are now in full affect, and without proper planning, costly delays could result for those who aren't prepared to comply.

For this reason, Geotechnical & Environmental Services, has prepared this report, in an effort to curb any unintended infractions. This synopsis is not intended as a complete account of every change and specific regulations may apply differently to individual projects. For a thorough review of the code changes and how they pertain to your development, please contact GES.

Section 1613.5.1 Mapped Acceleration Parameter

Under the new code an additional method has been approved to determine parameters S_s and S_1. These parameters are used to determine a future structure's ability to withstand ground vibration or movement using a fifty year probability model. The regulations, which allow a .2 and 1-second spectral response acceleration with a two percent probability, establish a United States Geological Survey Web site as a mapping source to determine the parameters.

In some situations, where longitudinal and latitudinal coordinates exist, the website can provide more accurate reporting.

Section 1613.5.5 Site Classification for Seismic Design

This amendment prohibits Class A and B categories from being established when a soil shear wave velocity, VS, is less than 2,500 feet per second within 10 feet of foundation bottoms.

The greatest change in this section is the IBC's definition of Rock. Unlike a geologist who may look at the chemical make-up of a material to determine rock, the new code uses shear wave velocity as its determining factor for the top ten feet and below.

The addition of this regulation could create a need for an additional soils test if a site is to meet the requirement for classes A or B.

International Building Code Amendments

Are You Prepared?

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GES Advantage

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