



# BUILDING CONTRACTORS PROJECT MANAGEMENT EXAMINATION CONTENT INFORMATION

Revised September 5, 2014

The Project Management portion of the examination will be administered in the afternoon session on the day of the examination. The examination will consist of 60 equally weighted questions covering managing, controlling, and conducting a specific project.

The examination will have questions relating to the following content areas and necessary knowledge for each area includes:

- reading and interpreting plans and specifications
- reading and interpreting codes
- basic mathematics (addition, subtraction, multiplication, division, calculations of area and volume, fractions, decimals, percentages, calculating the sides of triangles, square roots, powers of numbers, and solving simple algebraic equations for unknown variables)

You should be prepared to respond to examination questions on any of the content areas listed. Questions asked and content areas tested on previous examinations should not be assumed to be the only possible questions to be asked or content areas to be tested on this examination.

The percentage of questions shown for each content area may vary by as much as plus or minus three (3) percent. Please refer to the Candidate Information Brochure and the Reference List for additional information.

## **Content Area E** **68%** **Construction Methods, Materials, Tools, and Equipment**

### **1. Site layout**

construction layout

- benchmarks
- elevations
- setbacks

site plan interpretation and knowledge

### **2. Soil conditions**

types and characteristics of soils

- compaction
- density
- proctor
- moisture content

knowledge of soil reports, soil test results

knowledge of appropriate foundation types given soil conditions

### **3. Characteristics and uses of survey instruments**

builder's level

transit and theodolite

water bubble

string line

laser level

### **4. Concrete**

knowledge of shoring

knowledge of formwork including terminology and techniques

knowledge of loads (e.g., volume, pressure)

knowledge of systems and methods for concrete

- footings
- piles and pile caps
- placing slabs and decks
- columns
- walls

knowledge of proper forming practices, bracing and erection

knowledge of concrete reinforcement

knowledge of quality control related to concrete

### **5. Masonry**

knowledge of erection and bracing

knowledge of masonry materials and handling

knowledge of quality control related to masonry

### **6. Earth-work**

knowledge of excavations

- cut and fill calculations
  - calculating excavations and grades
  - trenching
- preparation of site for foundation
- angle of repose
  - soil compaction
- knowledge of sheeting, shoring for excavations and dewatering  
 knowledge of erosion control  
 knowledge of quality control related to earth-work

**7. Wood framing**

- knowledge of truss erection and bracing  
 knowledge of rafters, floor joists and studs  
 knowledge of and ability to use span tables  
 knowledge of wind loads and fasteners  
 knowledge of roofing and materials

**8. Steel framing**

- knowledge of erection and bracing techniques  
 knowledge of metal studs, beams columns and bar joists  
 knowledge of painting and fire protection of steel framing  
 knowledge of welding and connections of steel framing

**9. Energy efficient construction**

- knowledge of R-values  
 knowledge pertaining to energy efficiency

**10. Miscellaneous materials**

- knowledge of gypsum materials and methods  
 knowledge of plaster materials and methods

**11. Other tools**

**12. Other equipment**

**Content Area F  
 Safety**

**12%**

**1. Compliance with OSHA standards**

- knowledge of site layout  
 knowledge of soil conditions  
 knowledge of shoring for concrete  
 knowledge of bracing and erection  
 knowledge of earth-work  
 knowledge of formwork for concrete  
 knowledge of framing  
 knowledge of scaffolding  
 knowledge of trench safety  
 knowledge of ground fault interruption  
 knowledge of record keeping  
 knowledge of fall protection  
 knowledge of other OSHA regulations

**2. Other safety standards and practices**

- knowledge of asbestos  
 knowledge of lead paint  
 knowledge of hazardous waste disposal

**Content Area G**

**20%**

**Reading Plans and Specifications**

**1. Reading blueprints**

- ability to read and understand plans and drawings  
 basic math skills and calculations associated with reading blueprints  
 knowledge of architectural and engineering symbols

**2. Interpreting construction codes and standards**

- ability to read, understand, and apply codes and standards including building codes  
 knowledge of ADA requirements

**3. Shop drawings and submittals**

- ability to understand technical concepts  
 product knowledge  
 blueprint reading and interpretation (e.g., clearances, support clearances, openings)