

EXCAVATION

Business and Law examination specifications and suggested study materials are contained in the Candidate Information Bulletin.

TOPIC INFORMATION	# OF ITEMS
1. PLAN READING AND ESTIMATING a. Read, Interpret, and Apply Information from Plans and Specifications b. Estimate Materials, Equipment, and Labor Needed	6
2. LAYOUT AND PREPARATION a. Transport Equipment to Job Site b. Determine Access c. Obtain Permits and Inspection d. Identify Underground Utilities e. Layout Site f. Select, Maintain, and Operate Machinery, Tools, and Equipment g. Understand Soils h. Clear Site	10
3. BASIC EXCAVATION METHODS a. Operate Transit b. Operate Laser Level c. Install Shoring (Knowledge of Trench Boxes and Sheetpiling) d. Perform Grading e. Excavate Site f. Perform Backfilling and Compaction g. Obtain and Use Borrow Material h. Temporarily Control Erosion and Sedimentation i. Permanently Control Erosion j. Dispose of Excavated Material	10
4. DRAINAGE AND CONTAINMENT a. Perform Dewatering b. Perform Trenching c. Install Sewer Drain Line d. Install Pipe Culverts e. Install Storm Drainage for Streets	6
5. SAFETY AND EMPLOYEE PROTECTION a. Set Up Appropriate Sanitation for Job Site b. Understand Responsibility for Providing Personal Protective Equipment (Contractor's Responsibilities) c. Excavate Safely d. Provide Employee Protection in Trenches and Excavations e. Prepare Emergency Action Plans	8

f. Ensure Safety Training is Conducted when Needed
g. Ensure Adequate Ventilation is Available for Employees
h. Ensure First Aid Kit is Available per MIOSHA Requirements
i. Ensure Personal Protective Equipment is Used Correctly
j. Install Signs, Signals, and Barricades as Required by MIOSHA
k. Use All Tools and Equipment in Accordance with MIOSHA Requirements
l. Utilize Ladders in Accordance with MIOSHA Requirements

Suggested Study Materials

The study materials listed here should be helpful to candidates preparing for the **M&A Contractor** examination.

Except for the Michigan Laws, Rules, Codes and Standards, neither the Department nor PSI endorses any of the materials listed. However, we try to ensure that the references are currently available and consist of recognized industry standards.

If the answer to a specific examination question could differ because of conflicting information contained in the suggested study materials, the legal requirement, such as a law, regulation, board or commission rule, or building code, takes precedence over (overrides) any other reference. If two legal requirements appear to conflict, the Michigan specific law, regulation, board or commission rule, or building code, takes precedence over the national one. Information from the suggested study materials listed here takes precedence over information from all other sources or persons.

This is only a sample of the available reference materials that contain information about the professions. These materials contain neither all of the general trade knowledge required to be competent in any specific area nor all of the information on which you will be tested. Also, please be aware that reference materials may go out of print or be otherwise unavailable.

Please contact a library, community college, currently practicing builder or contractor, Code enforcement agency, or other specialists in the profession for additional information or reference material.

These examinations are CLOSED BOOK, so the following reference materials suggested as study resources are not allowed in the examination center.

- Michigan Residential Code, 2009, Michigan Department of Licensing and Regulatory Affairs, Bureau of Construction Codes and Fire Safety, Office of Management Services, PO Box 30255, Lansing, MI 48909, (517) 241-9313, www.michigan.gov/bccfs
- *Michigan Occupational Safety and Health Act 154 of 1974* as amended, and *Administrative Rules for All Industries*, Michigan Department of Licensing and Regulatory Affairs, MIOSHA Standards Division, P.O. Box 30643, Lansing, MI 48909, (517) 322-1845. Price: Free.
All MIOSHA standards may be printed from the MIOSHA web site:
www.michigan.gov/mioshastandards
- Pipe and Excavation Contracting, Dave Roberts, 2011, Craftsman Book Company, (800) 829-8123, www.craftsman-book.com/products, ISBN 0-934041-22-9
- Miss Dig - Public Act 53 of 1974 - Protection of Underground Facilities, 1974, Miss Dig System, Inc., 1030 Featherstone Road, Pontiac, MI 48432-1830, (810) 332-3422, wwwa.missdig.org
- Carpentry and Building Construction, Sixth Edition, 2004, John L. Feirer and Mark D. Feirer, ISBN: 0-07-822702-X, Glencoe/McGraw-Hill, PO Box 543, Blacklick, OH 43004, (800) 334-7344, www.glencoe.com

