

STATE OF MICHIGAN

MASONRY

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

TOPIC INFORMATION	# OF ITEMS
1. SITE LAYOUT (INCLUDES SURVEYS, SETBACKS AND EASEMENTS, ELEVATIONS, SQUARING, AND BENCHMARKS) a. Lay Out Site b. Establish Work Heights, Dimensions, and Other Spacing Requirements c. Lay Out the Wall for Bonds and Height d. Evaluate Bearing Capacity	4
2. PERMITS AND INSPECTIONS a. Obtain Project Approval (Including Zoning) b. Pull Appropriate Permits c. Submit Plans as Required d. Get Inspections	2
3. MISS DIG a. Contact MISS DIG b. Contact Utility Companies	2
4. PLAN READING AND ESTIMATING a. Review Project Plans to Determine Spacing, Masonry Units, Materials, etc. b. Determine Types of Mortars and Other Materials Needed for a Project c. Estimate Material Needs and Take-Off d. Determine Type of Detail Work Required e. Determine Type of Accessories Required	3
5. GENERAL KNOWLEDGE AND THEORY a. Apply General Knowledge of Masonry Materials, Tools, Principles, and Techniques b. Utilize Authoritative Masonry Resources to Consult on Products, Materials, Techniques, and Other Facets of the Masonry Trade c. Handle and Store Materials in a Safe Manner	4
6. MORTARS AND GROUTS a. Select Type of Mortar to be Used b. Select Mortar Ingredients, Additives c. Operate Mortar Mixer or Other Mixing Tools d. Select Appropriate Grout for the Specific Application to be Performed e. Apply Grouts	4

	f. Mix and Apply Stucco	
7. MASONRY ACCESSORIES	a. Select Location for Flashing and Weeps b. Establish Maximum Spans for Expansion and Control Joints c. Verify Appropriate Type of Vapor Barrier is Present and Installed Correctly d. Install Flashing and Weeps as Required by Project e. Install Masonry Unit Insulation/Loose-Fill Insulation or Foam as Needed	4
8. INSTALLATION	a. Install Clay Masonry Units b. Install Concrete Masonry Units c. Install Glass Block d. Install Stone (Assume Full Bed-Depth) e. Install Cultured Stone/Synthetic/Thin Veneer f. Install Unit Masonry Assembly g. Build Retaining Wall h. Install Masonry Fireplaces i. Install Foundation Walls j. Perform Specialized Installations k. Install ICF Insulated Concrete Forms l. Cut and Drill Masonry Units as Needed	12
9. MASONRY ANCHORAGE AND REINFORCEMENTS	a. Select Appropriate Anchorage and Reinforcing Method b. Install Continuous Joint Reinforcing c. Install Flexible Masonry Ties d. Install Masonry Veneer Ties e. Install Reinforcing Bars f. Install Rigid Masonry Ties g. Install Stone Anchors	4
10. RESTORATION AND CLEANING	a. Adequately Protect Adjacent Vegetation and Landscaping from Chemical Damage b. Perform Unit Masonry Replacement, Restoration, or Repair c. Perform Stone Replacement, Restoration, or Repair d. Perform Unit Masonry Cleaning	4



	e. Perform Brick Cleaning f. Perform Terra Cotta Cleaning g. Perform Stone Cleaning	
11.	SAFETY AND EMPLOYEE PROTECTION a. Set Up Appropriate Illumination for Workplace b. Set Up Appropriate Sanitation for Job Site c. Understand Responsibility for Providing Personal Protective Equipment (Contractor's Responsibilities) d. Provide Employee Protection in Trenches and Excavations e. Prepare Emergency Action Plans 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. Follow MIOSHA Guidelines to Protect Employees and the General Public from Falling-Object Hazards j. Ensure Personal Protective Equipment is Used Correctly k. Install Signs, Signals, and Barricades as Required by MIOSHA l. Use All Tools and Equipment in Accordance with MIOSHA Requirements m. Utilize Ladders in Accordance with MIOSHA Requirements n. Assemble and Utilize Scaffolds in Accordance with MIOSHA Requirements o. Follow MIOSHA Requirements for Work Around Toxic Materials p. Perform Appropriate Material Cleanup and Disposal q. Maintain Material Safety Data Sheets (MSDS) r. Practice Caution when Handling and Storing Materials s. Provide Fall Protection	7

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*
- Modern Masonry - Brick, Block, Stone, 2010 (Seventh Edition), Clois E. Kicklighter, ISBN: 1-56637-962-8, The Goodheart-Willcox Company, Inc., 18604 West Creek Dr., Tinley Park, IL 60477, (800) 323-0440, www.goodheartwillcox.com

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

