



MARINE SPECIALTY CONTRACTORS GENERAL TRADE KNOWLEDGE EXAMINATION CONTENT INFORMATION

Revised March 2009

The General Trade Knowledge examination will be administered in one session on the morning of the first day of the examination administration. It will consist of 80 equally weighted questions.

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 Booklet and the Reference List for additional information.

Content Area A **7%** **Determining Existing Soil Conditions**

1. Prepare Soil Report

knowledge of local geology
knowledge of sampling methods
knowledge of testing terminology

2. Analyze Soil Conditions

knowledge of soil profiling
knowledge of groundwater conditions
knowledge of local geology
knowledge of local conditions

3. Design Foundation System

knowledge of material types
knowledge of foundation systems
knowledge of installation methods
knowledge of soil bearing capacity
knowledge of load calculations

Content Area B **11%** **Determining Project Parameters**

1. Determine Area Jurisdiction

knowledge of local, state, and federal personnel
knowledge of local, state, and federal regulations
knowledge of property ownership
knowledge of proprietary jurisdiction
knowledge of environmental concerns
knowledge of best management practices

2. Prepare Construction Documents

knowledge of framing spans
knowledge of dead and live loads
knowledge of wind loads
knowledge of site conditions
knowledge of structural systems
knowledge of local, state, and federal codes and regulations
knowledge of foundation capacities
knowledge of trade terminology
knowledge of trade specialists
knowledge of trade products

3. Secure Project Permits

knowledge of local, state, and federal codes and regulations
knowledge of permitting procedures
knowledge of local committee meetings or hearings

4. Determine Project Timeline

knowledge of scheduling types
knowledge of local conditions
knowledge of crew capabilities
knowledge of equipment capabilities
knowledge of trade products
knowledge of local, state, and federal permitting response times

Content Area C **16%** **Administering Project**

1. Investigate Site Conditions

knowledge of sunshine one locates
knowledge of equipment dimensions
knowledge of soil conditions

knowledge of neighboring property issues
knowledge of local committees
knowledge of Home Owners Association regulations
knowledge of local security

2. Order Project Materials

knowledge of construction methods
knowledge of freight characteristics
knowledge of marine materials
knowledge of MSDS (material safety data sheet)

3. Order Project Equipment

knowledge of equipment capabilities and limitations
knowledge of site access
knowledge of equipment availability
knowledge of emergency response plan

4. Mobilize Equipment

knowledge of equipment capabilities and limitations
knowledge of project materials
knowledge of local conditions
knowledge of environmental conditions
knowledge of insurance requirements
knowledge of coast guard regulations

5. Assign Project Personnel

knowledge of personnel capabilities
knowledge of subcontractor timelines
knowledge of personnel responsibilities
knowledge of company policies

6. Conduct Pre-Construction Meeting

knowledge of site conditions
knowledge of project scope
knowledge of project scheduling

Content Area D

Constructing Foundation Systems

7%

1. Demolish Existing Structure

knowledge of heavy equipment
knowledge of disposal sites
knowledge of HazMat requirements
knowledge of soil conditions
knowledge of existing structure
knowledge of diving
knowledge of environmental regulations

2. Layout Structure Location

knowledge of property survey
knowledge of riparian law
knowledge survey methods
knowledge of survey equipment
knowledge of project parameters
knowledge of environmental regulations
knowledge of local, state, and federal codes and regulations

3. Install Concrete Footers

knowledge of concrete mixtures
knowledge of reinforcement requirements
knowledge of concrete finishing
knowledge of concrete conveying systems
knowledge of volume estimations
knowledge of formwork carpentry

4. Install Structure Pilings

knowledge of hammer capacities
knowledge of jet pumps
knowledge of soil conditions
knowledge of pile capacities
knowledge of rigging
knowledge of construction layout
knowledge of equipment operations

Content Area E

Constructing Shoreline Stabilization

11%

1. Install Soil Stabilization Systems

knowledge of survey and layout
knowledge of hydrology
knowledge of tidal conditions
knowledge of erosion control
knowledge of product installation

2. Install Cast-In-Place Concrete Wall

knowledge of concrete finishing
knowledge of concrete mixed design
knowledge of reinforcing steel placement
knowledge of formwork carpentry
knowledge of reinforcement requirements
knowledge of concrete conveying systems
knowledge of volume estimations

3. Install Pre-Cast Concrete Wall

knowledge of concrete finishing
knowledge of concrete mix
knowledge of steel placement
knowledge of formwork carpentry

knowledge of reinforcing requirements
knowledge of concrete conveying systems
knowledge of volume estimations

4. Install Sheet Piles

knowledge of hydrostatic pressure
knowledge of concrete formwork
knowledge of concrete mixed design
knowledge of survey controls
knowledge of sheet piles
knowledge of vibratory hammers
knowledge of cranes
knowledge of impact hammers
knowledge of water pumps
knowledge of installation methods
knowledge of rigging
knowledge of sheet capacities
knowledge of soil conditions

5. Install Wood Bulkhead

knowledge of timber construction
knowledge of environmental regulations
knowledge of wood treatment
knowledge of rough carpentry
knowledge of anchoring systems
knowledge of backfill methods

6. Install Gravity Wall System

knowledge of wall system products
knowledge of surveying layout
knowledge of soil conditions

Content Area F

Constructing Anchoring Systems

8%

1. Install Concrete Deadmen

knowledge of concrete mix
knowledge of reinforcing bars
knowledge of tie-back capacities
knowledge of heavy equipment

2. Install Timber Pilings

knowledge of soil conditions
knowledge of pile drivers
knowledge of pile capabilities
knowledge of tie-back capabilities
knowledge of heavy equipment

3. Install Helical Anchors

knowledge of soil conditions
knowledge of product capacities
knowledge of equipment operations
knowledge of load capacity

4. Install Wedge Anchors

knowledge of anchor capacities
knowledge of soil conditions
knowledge of anchor operations
knowledge of equipment operations

Content Area G

Performing Dredge and Fill Operations

6%

1. Obtain Dredge and Fill Permit

knowledge of volumetric calculations
knowledge of surveying
knowledge of local, state, and federal codes and regulations
knowledge of environmental concerns

2. Excavate Spoil

knowledge of types of dredging
knowledge of dewatering procedures
knowledge of equipment operations
knowledge of turbidity testing
knowledge of turbidity types
knowledge of environmental regulations
knowledge of surveying
knowledge of equipment maintenance

3. Relocate Spoil

knowledge of types of dredging
knowledge of transportation equipment
knowledge of heavy equipment
knowledge of Florida Department of Transportation regulations
knowledge of environmental regulations
knowledge of equipment maintenance

Content Area H

Building Floating Marine Structures

13%

1. Construct Flotation Systems

knowledge of flotation products
knowledge of concrete flotation systems
knowledge of rotationally molded encasements
knowledge of polystyrene flotation systems
knowledge of culvert flotation systems
knowledge of salinity levels
knowledge of buoyancy calculations
knowledge of wave attenuators

2. Construct Frame Structure

knowledge of aluminum frame structures

knowledge of wood frame structures
knowledge of steel frame structures
knowledge of plastic frame structures
knowledge of concrete frame structures
knowledge of marine accessory types
knowledge of fire suppression systems
knowledge of marine utilities
knowledge of mooring systems
knowledge of metallurgical reactions

3. Install Decking

knowledge of wood decking
knowledge of aluminum decking
knowledge of composite decking
knowledge of vinyl decking
knowledge of concrete decking
knowledge of steel decking
knowledge of fiberglass decking
knowledge of fasteners
knowledge of carpentry
knowledge of environmental regulations
knowledge of metallurgical reactions

4. Install Anchoring Systems

knowledge of concrete piles
knowledge of wood piles
knowledge of helical anchors
knowledge of counter-weight anchors
knowledge of cable systems
knowledge of wedge anchors
knowledge of stiff-arms
knowledge of pile guides
knowledge of geology
knowledge of soil conditions
knowledge of rigging
knowledge of pile driving
knowledge of heavy equipment
knowledge of diving
knowledge of anchoring capacities
knowledge of water elevations

5. Install Access Gangway

knowledge of aluminum gangways
knowledge of wood gangways
knowledge of steel gangways
knowledge of plastic gangways
knowledge of ADA requirements
knowledge of fastening systems
knowledge of water elevation fluctuations
knowledge of geometry

6. Install Specialty Equipment

knowledge of FMEP

knowledge of mooring of vessels
knowledge of pile bearing capacity
knowledge of local, state, and federal codes and regulations
knowledge of vessels
knowledge of mooring accessories
knowledge of mooring products and installation
knowledge of recreational accessories
knowledge of recreational accessory products installation

Content Area I

11%

Building Fixed Marine Structures

1. Install Framing Structure

knowledge of carpentry
knowledge of surveying
knowledge of fastening hardware
knowledge of wood properties
knowledge of aluminum framing
knowledge of concrete formwork
knowledge of steel reinforcement
knowledge of metallurgical properties
knowledge of steel framing
knowledge of welding
knowledge of design criteria

2. Construct Concrete Deck

knowledge of concrete formwork
knowledge of reinforcing steel
knowledge of concrete conveying systems
knowledge of concrete finishing

3. Install Roof System

knowledge of wood shingles
knowledge of wood shakes
knowledge of asphalt shingles
knowledge of fiberglass shingles
knowledge of carpentry
knowledge of dead and live load requirements
knowledge of wind load requirements
knowledge of fastening systems

4. Install Boat Lifts

knowledge of FMEP
knowledge of mooring of vessels
knowledge of local, state, and federal codes and regulations
knowledge of boat lift product specifications
knowledge of vessels
knowledge of pile bearing capacity
knowledge of boat lift accessories
knowledge of bunking systems

knowledge of davits
knowledge of piling installation
knowledge of metallurgical properties

5. Construct Boat Ramps

knowledge of local, state, and federal codes
and regulations
knowledge of soil conditions
knowledge of concrete
knowledge of heavy equipment
knowledge of cofferdams
knowledge of water elevations
knowledge of water elevations
knowledge of sump pumps
knowledge of reinforcing steel
knowledge of surveying
knowledge of environmental protection
measures
knowledge of boat ramp usage
knowledge of navigational aids

Content Area J **9%**
Executing Close-Out Procedures

1. Clean-Up Job Site

knowledge of disposal methods
knowledge of scope of work
knowledge of heavy equipment
knowledge of navigational aids
knowledge of water elevations
knowledge of vessel operations
knowledge of vehicle operations
knowledge of rigging

2. Perform Final Inspections

knowledge of surveying
knowledge of scope of work
knowledge of permitting specifications
knowledge of contract management practices
knowledge of close-out documentation