

# Ohio EPA Drinking Water Laboratory Construction and Remodeling Checklist

*NOTE: All items listed below may not be applicable to a particular laboratory. If you need clarification or assistance, contact James Evans at the Division of Environmental Services, Laboratory Certification Section, at (614) 644-4222.*

1. Detailed plans or scale drawings of existing or proposed laboratories, as well as any modification of laboratories, shall be provided to the Ohio EPA, DES, Laboratory Certification Section for approval.
2. A list of all analytical equipment to be used for drinking water analyses must be submitted to the Ohio EPA, DES, Laboratory Certification Section. The list must include manufacturer and model number so that each piece of equipment can be evaluated and approved for use.
3. The door(s) entering the laboratory area must be equipped with a locking system that is keyed separate from the other doors in the building.
4. The door(s) entering the laboratory must be equipped with a clear glass pane large enough to allow forced entry in cases of emergency.
5. The laboratory must be equipped with heating and air conditioning capable of maintaining an ambient temperature of between 65° and 80° F.
6. Electrical outlets must be provided every six feet along the work benches. Adequate gas and vacuum outlets must be provided for microbiological testing.
7. Acid and alkaline resistant sinks are required. It is a requirement that all sinks be of double bowl construction unless written exemption is issued by the Ohio EPA, DES, Laboratory Certification Section.
8. Stone balance tables or stone balance slabs must be provided for all analytical balances.
9. A minimum of six linear feet of uncluttered work bench must be provided per approved analyst for each analytical group. A minimum of five feet per analyst is required for MMO-MUG testing. In order for approval of more than three analysts, prior written approval must be obtained from the Ohio EPA, DES, Laboratory Certification Section by the laboratory seeking certification.
10. If a bacterial laboratory is to be established, a horizontal steam operated autoclave must be provided, and must be vented to the outside of the building or be equipped with a condenser to allow steam discharge to

enter the sanitary sewer.

11. If a washing machine is to be used for glassware, it must be installed to provide a final distilled or deionized water rinse.
12. Exhaust hoods used for acid digestions must be corrosion resistant. An exhaust hood must be equipped with explosion-proof motors and switches if it is to be used in conjunction with solvents, and must be labeled as such.
13. All refrigerators and vacuum systems to be used for storage or involvement with solvents shall be suitable for flammable materials storage.
14. Commercial gas and electric cooking stoves cannot be installed in laboratories as substitutes for drying ovens or for other heating purposes.
15. If in-line turbidimeters, pH meters, or chlorine analyzers are to be installed, a bench model will also be required for calibrations and reference samples.
16. All bench tops and shelving for corrosion storage cabinets shall be of alkaline and acid resistant construction.
17. A safety shower or emergency eye wash is to be provided and equipped to provide tempered water in the 65° to 80° F range for a minimum of 15 minutes.
18. Distilled or deionized water is required for bacterial and chemical laboratories. If a still is provided, it can be mounted on the wall above the work bench area. Adequate work bench area must be provided for either a still or purchased water. However, this bench area cannot detract from the six linear feet of work bench area per approved analyst.
19. The laboratory shall not be constructed or located as to allow thoroughfare, nor have non-emergency doors directly to the outside of building. Emergency exit doors must be equipped with an audible alarm and breaker bar.
20. The laboratory shall be equipped with piped hot and cold water.
21. The laboratory area shall be isolated from and shall not allow direct entry into bathrooms or shower areas.
22. Physical isolation of a bacterial section of the laboratory from chemical analytical sections is not mandatory, with the exception of laboratories

- conducting either organic or viral analysis, in which case isolation of the areas will be required.
23. All laboratory facilities shall be constructed as to not be adversely affected by vibration or dust.
  24. Laboratories shall not be constructed with windows intended for ventilation purposes.
  25. Separate full size or under the counter refrigerators shall be provided with bacterial sections in cases where solvents are to be stored or used in conjunction with the chemical section.
  26. Adequate floor or wall type storage cabinets shall be provided for glassware and non-corrosive type reagents.