

Agriculture Buildings and the International Energy Conservation Code



Why is this important to my building construction?

Agriculture Buildings exempt from a building permit under the Washington County Building Code will require issuance of a plumbing, electrical and/or mechanical permit for installation of electrical systems, mechanical conditioning systems or water and wastewater systems. All requirements of the International Mechanical Code (IMC), the International Plumbing Code (IPC) and the National Electrical Code (NEC) will apply.

Any structure that will include installation of an HVAC system must meet the requirements of the International Energy Conservation Code (IECC) for the “building envelope”. Where HVAC system installation is part of a planned agriculture building construction, the applicant will be required to have a licensed contractor apply for trade permits prior to issuance of an Agricultural Certification. This will ensure compliance with the IECC and the IMC.

What does the IECC Require?

The IECC requires more insulation, a tighter envelope, tighter ducts, and more efficient lighting than the previous code. Compliance with the IECC is mandatory for all building construction in Washington County. As an owner of a building exempt from a building permit under the Agriculture Building exemption, you are still responsible for ensuring your building construction complies with the minimum building code standards. For the IECC this means that any building construction that include installation of an HVAC system must comply with the following building thermal envelope and mechanical provisions:

Mechanical Provisions

The intent of the energy code as related to duct insulation and sealing is to keep mechanically warmed or cooled air as close to a constant temperature as possible and prevent the conditioned air from escaping the duct system. The location of the duct system will determine the insulation requirements. The energy code also dictates where duct system sealing is required. The mechanical equipment also needs to be sized correctly and shall meet efficiency requirements. In addition, the building space to be conditioned must meet the building thermal envelope requirements of the IECC standards.

For any HVAC system requiring a mechanical permit, the following will be required as part of the mechanical permit application: Please provide a dimensioned or scaled floor plan indicating the size and location of proposed fenestration within the building thermal envelope. Also, provide a building cross section indicating the proposed “R” value for the exterior walls and roof. Finally, a mechanical system design in the form of a Manual “Q” and a mechanical ductwork design in the form of a Manual “N” and a Comcheck for the proposed system(s) will be needed. This information is required to be submitted prior to issuance of an “Agricultural Structure” Certificate.

Agriculture Buildings and the National Electrical Code

Why is this important to my building construction?

Article 547 of the current National Electrical Code requires that certain energized agriculture applications include an Equipotential (Grounding) Plane throughout the floor slab. Because the grounding plane must set in concrete, it is important to determine if the requirement exists before placing the building foundation and slab.

Indoor and outdoor sites with concrete floors AND metal stalls or metal equipment which may become energized AND are subject to dust and water AND are accessible to livestock require the Grounding plane.

For Questions call Frank Quillen at 240-313-2472 or Rich Eichelberger at 240-313-2480.

