

The building systems at the new Eastside Veterinary facility are designed to be exceptional both in animal safety and comfort as well as energy efficiency. The floor planning, mechanical engineering, lighting and plumbing systems work together to reduce energy and resource consumption, increase staff efficiency, reduce animal stress and mitigate odor and disease.

The floor planning in this facility is specifically designed to create separate zones of noise limited construction. In most cases, animal areas can be accessed without walking through adjacent animal areas. Wall and floor construction is designed to include mass, such as layers of cement board and gypsum wallboard, in a manner that creates high Sound Transmission Classes. This greatly limits the barking noise from larger and noisier dogs reaching timid dogs and cats.

The mechanical systems are designed to reduce animal stress, permit a wide range of temperature and humidity control simultaneously in multiple area of the facility, and create a disease and odor mitigated environment. Animals often identify their environments through olfactory stimulation first, followed by auditory and then visual stimulation. Creating multiple, small mechanical zones that are entirely independent greatly help to eliminate olfactory and, to an extent, auditory stimulation from one animal area to another; smells and sounds from one animal zone are never introduced to other animal zones. For example, there are seven zones, rather than the two or three that would be typical of a building of this size. The multiple zones also allows for increased energy efficiency as some zones require as little as 15% fresh air while the most concentrated dog area has 46% outside air. Overall airflow rates also vary, with an average of 2 cubic feet per minute per square foot: twice the rate that is typical of equivalently sized human buildings.

Ionization systems that are specifically designed for animal care are included in the mechanical ductwork to kill airborne bacteria such as Bordetella. These systems are also proven to mitigate specific airborne animal viral disease and breakdown airborne volatile organic compounds. Finally all mechanical equipment is designed to operate in a dehumidification mode. Humidity in the air is strongly correlated with increased bacterial virulence. Humidity also correlates with surface moisture on walls and floors, which can encourage fungal and bacterial colonies. Dedicated humidity control is a key issue in this facility, one that is especially important in the Pacific Northwest climate.

Plumbing systems are designed to be efficient, effective and safe. Water conservation is important in any building but in animal care facilities specifically, humidity is a constant concern. Using low consumption fixtures in animal cleaning areas minimizes water vapor creation. Drying time on surfaces is also reduced, which increases safety from slip accidents and the incidence of bacterial and fungal growth.

Lighting is designed to be highly efficient through the use of many LED fixtures. Human areas include occupancy controls to reduce energy when unoccupied or during periods of greater natural illumination. Animal areas are designed to have multiple lighting levels such that illumination can be very bright during cleaning and reduced during periods when animals are resting.

