

QUICK TIPS FOR SUCCESS

KENNEL DESIGN WITH BEHAVIOR & WELFARE CONSIDERATIONS



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Steps for Designing Kennels Informed by Canine Behavior

Designing animal facilities to accommodate behavior is particularly important for dogs, who are intended to serve as or produce lifelong companions and “good citizens” in their homes and communities. (Learn more: Kennel Design with Behavior and Welfare Considerations Handout).

All kennels should be built to meet state and federal requirements. Several additional factors should also be considered when planning a new kennel or modifying an existing facility:

1. The breeds, breed-specific behaviors, individual dog preferences, and sizes of the dogs to be housed and cared for
2. The type of kennel to be constructed — indoor, outdoor, or indoor/outdoor
3. Special needs and uses (e.g., exam rooms, quarantine areas, whelping areas)
4. Construction design and materials to ensure the physical safety of dogs, compliance with state and federal requirements, and to optimize the usability of the space by people and animals
5. Accommodations for dog behavior that set dogs and puppies up for success in the kennel and in their future homes

Areas in which the behavioral needs and welfare of dogs can be incorporated into kennel design include: **noise reduction**, **effective use of space**, and **building enrichment** (Learn more: Environmental Enrichment Handout and Quick Tips for Success: Environmental Enrichment in Kennels).

Noise Reduction

- Incorporate sound reducing panels.
- Muffle noise from gates and doors with soft close hardware.
- Use visual blockers (e.g. solid-sided panels) on the sides of outdoor pens and lower halves of interior pen doors to minimize startling and distractions to dogs.



- Avoid designs that create main thoroughfares in front of the kennels and arrange kennel areas to minimize unnecessary traffic (e.g. place high-visit areas in the front and low-visit areas in the back).
- Provide enrichment, social interaction, and exercise. These activities decrease high arousal, frustration, and fear that fuel barking.



While much of the noise in kennels is produced by the dogs themselves, equipment (e.g. water hoses) can also contribute (Coppola et al., 2006). Self-contained rooms that can accommodate multiple dogs (Coppola et al., 2006) and environmental enrichment (Kogan et al., 2012) can help minimize barking.

Effective Use of Space

- Create whelping spaces that are easily monitored and maintained (e.g., kept clean, dry, and warm enough to ensure comfort for both mother and puppies) away from the main kennel, this minimizes maternal stress by helping dams feel secure and limiting disruptions for them and their puppies.

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- Incorporate separate nesting and elimination areas so that pups can practice being clean and prepare for successful housetraining.
- Plan puppy housing access to allow for easy introduction of objects and novel surfaces (Learn more: Puppy Socialization and Early Exposure Handout, Quick Tips for Success, and Checklist).
- Include enough pen space to accommodate social housing.
- Consider the location of drains and layout design to facilitate ease in providing enrichment and to prevent problems when adding items such as toys and chews to the pen.
- Design spaces that include indoor and outdoor options to allow for variation, enrichment, and exercise even in inclement weather.
- Avoid positioning exercise areas directly adjacent to home pens which may create increased high arousal and frustration in kenneled dogs.
- Utilize gates and alleyways to promote efficiency and ease for handlers when moving dogs between the home pen and detached areas.
- Position vents to effectively and safely provide airflow and maintain appropriate temperatures across different zones. This will also help minimize odors from ammonia or cleaning supplies.
- Install flooring that supports the physical welfare of dogs (e.g. minimizing saturation of urine and feces, ensuring grip that will not be slick even when wet).

Building Enrichment

- Provide raised platform areas that allow dogs to rest and elevate themselves.
- Install steps and ramps to provide additional exercise and prepare dogs to navigate these common surfaces.



- Incorporate multiple surfaces (e.g. grass, gravel, mats, cement, tile) into both the home pen and the exercise/play areas to create a complex environment.
- The variety of substrates can be particularly helpful in promoting successful housetraining as puppies learn which surfaces to use for toileting during early developmental periods that occur before eight weeks of age and create lifelong preferences for elimination.
- Allow for sizeable outdoor yards or interior play areas that can accommodate safe structures (e.g. slides, tunnels, climbing structures) that enhance learning and exercise and the safe opportunity to express rewarding natural behaviors outdoors (e.g. sandboxes for digging, shallow pools for swimming and temperature regulation, and opportunities to explore by sniffing).
- Incorporate spaces where dogs can choose to either see or hide from people/dogs/objects outside the home pen (e.g. solid barriers, visual access windows, built-in furnishings that allow for perching or hiding).
- Design the front of pens to allow for easy and comfortable contact between caretaker and dogs. Avoid systems that force handlers to lean in over dogs to visualize, interact, or perform daily husbandry activities. This position limits caretaker ability to monitor dogs, can be threatening to sensitive dogs, and can cause injury to caretakers over time.



Multiple flooring types have been associated with cleanliness and foot and joint health (Stella et al., 2018).

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