

Design Considerations for Outdoor Areas for Pet Related Businesses

A guide for dog daycare, groomers, commercial kennels, and animal shelters in King County



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Introduction:

Outdoor areas are popular and desirable as they allow for fresh air and exercise for active dogs. However, some construction considerations are necessary to provide a safe and sanitary outdoor area. Therefore, considering the pros and cons of the different types of surfaces that are available is vital when planning your outdoor pet space.

This document will discuss common types of outdoor areas and design considerations as you are planning for your pet related businesses in King County. This document does not address outdoor areas for cats or “catios”. If you are planning a cat space, contact our office directly.

Planning your outdoor area (why it matters)

There are several considerations for outdoor environments when planning your facility. The size of the area, number of dogs, surface material, and weather affect the durability and drainage of the outdoor space. A large natural area with wood chips that is used by 20 dogs a day will have different disinfection, maintenance, and drainage needs than a small compact indoor space with the same number of dogs. Ultimately, the materials used for the outdoor space will affect your facility's maintenance and labor costs and contribute to its impact on the environment.

Outdoor spaces have distinct water and waste disposal challenges. Wastewater runoff from animal related businesses is considered **industrial wastewater** and should not drain to a septic system, storm drain, stream, wetland, or sensitive areas. Wastewater from pet facilities can have worms, germs and chemicals that can harm nearby rivers, lakes, streams, or Puget Sound. This runoff can negatively affect shellfish and marine and freshwater habitats. In addition, some disinfectants used to clean outdoor areas can persist in the ground and water. Proper drainage for outdoor are reduces the risk of damage to sensitive habitats.

Regulations

State and local regulations

Wastewater

Government organizations at the local and state level regulate wastewater. These regulations prevent pollution from outdoor pet areas from entering wastewater or stormwater conveyance systems, contaminating groundwater, or damaging sensitive environments such as wetlands, creeks, and salmon habitats. Your local utility is responsible for managing all nonpoint source pollution into the environment as required by WA Dept. of Ecology.

Land use

Agencies that oversee local zoning, building and land use requirements have regulations that define how an outdoor space may meet their requirements such as grading, filling, or creating impervious surfaces. Contact your local land use department if you are changing or adding a new outdoor space before you begin construction.

King County Public Health regulations

In addition to state and local wastewater disposal requirements, King County Board of Health Title 8, Section 8.03.210 requires the following for outdoor pet business areas.

- Adequate fencing to prevent escape.
- Shelter to protect from weather conditions such as snow, wind, sun, and rain.
- Adequate drainage to prevent standing water, liquids, mud, debris, etc.
- Surface material that prevents mud and standing water. Options of acceptable surface material include natural lawn/turf, concrete, asphalt, wood chips, gravel, etc. *Note: This code does not consider “artificial turf” as “turf”.*
- Waste disposal by sanitary means.

For the full code requirement visit [King County Board of Health Code, Title 8: Zoonotic Disease Prevention Regulations](#).

Types of outdoor surfaces considerations, installation, pros/cons

Surface Type	Installation Recommendations	Cleaning /Maintenance	Pros/Cons
Woodchips	<ul style="list-style-type: none"> • 4+ inch min depth • Landscape fabric underlayment is recommended to reduce mud 	<ul style="list-style-type: none"> • Rake regularly to cover ground • Replenish quarterly 	<p>Pros: Easy to maintain, cedar or pine woodchips are a natural repellent for fleas, naturally reduces odors, drains easily</p> <p>Cons: Some may have concerns about splinters or dogs ingesting chips. Costs may change with the market.</p>
Gravel	<ul style="list-style-type: none"> • 4+ inch depth • Landscape fabric underlayment is recommended to reduce mud 	<ul style="list-style-type: none"> • Daily disinfection • Rake regularly to cover ground • Replenish when needed 	<p>Pros: Easy maintenance, visually appealing, drains easily</p> <p>Cons: Rough on paw pads, can trap odors, can get hot and burn skin or paws in summer, noisy. Some dogs may ingest small rocks.</p>
Concrete/ Asphalt	<ul style="list-style-type: none"> • Professional installation and drainage (sewer, storm, other) should be considered. • Prevent standing water. 	<ul style="list-style-type: none"> • Daily disinfection and cleaning • Wastewater should drain appropriately and should not leave the property. 	<p>Pros: Easy to clean and deodorize</p> <p>Cons: Rough on paws , can get hot and burn skin/paws, wastewater from cleaning has to go somewhere, expensive to install or repair when damaged.</p>

Surface Type	Installation Recommendations	Cleaning /Maintenance	Pros/Cons
Artificial Turf No longer approved as of January 2023	<ul style="list-style-type: none"> Professional installation to ensure installed for drainage and maintenance. Do not install over storm drains or other drains unless approved by your utility. Do not install directly over concrete or other impervious surfaces. 	<ul style="list-style-type: none"> Daily cleaning and disinfection Replace for wear and tear Plan for labor to clean and maintain the artificial turf 	<p>Pros: Aesthetically pleasing to customers, drains well when installed correctly to allow for natural filtration.</p> <p>Cons: Not approved by Public Health due to PFAS and harmful chemicals. Traps odors, some types are harder to clean and trap fecal material in the loops, labor intensive to maintain and clean, freezes over and may not drain in winter, can become waterlogged, has been a source of transmission of giardia in dogs in some settings due to difficult nature to clean.</p>
Surface Type	Installation Recommendations	Cleaning /Maintenance	Pros/Cons
Natural Turf	<ul style="list-style-type: none"> Best for large open spaces that allow for grass to grow. Best for open spaces where you can rotate the use of the grass areas. 	<ul style="list-style-type: none"> Mowed to keep health and reduce tall weeds. Bare patches covered with woodchips or other material. Rotate areas so that grass can be reseeded and for fresh growth. Avoid pesticides and fertilizers that may harm dogs. 	<p>Pros: May be less expensive and maintenance.</p> <p>Cons: Dog wear down the grass and dig. Takes a long time to repair and re-grow an area. Increases mud tracking to indoor areas.</p>

Surfaces not to use for outdoors:

Bare dirt is not allowed as it cannot be cleaned. It is harder to remove fecal contamination from bare dirt, and dogs can bring dirt and mud inside your facility, making your indoor areas harder to clean. It also contributes to some extra muddy dogs on those rainy days.

Rubber mats cannot be used as a primary outdoor cover as they are hard to clean and maintain. Mats can be used in a limited capacity to provide soft resting surfaces, but they need to be removed, cleaned, and disinfected regularly.

Siting your outdoor area

Where your outdoor area is sited should be one factor that influences the type of cover or substrate that you'd use. Carefully choose the location of your outdoor pet area.

- Large concrete areas may require more cover to prevent rainwater from entering the sewer and to prevent stormwater contamination during heavy rain events. Large concrete areas may require more cover from the weather. It is essential to prevent rainwater from draining from the concrete areas into sewers or contaminating stormwater during heavy rain events.
- Natural filtration may need to be engineered and installed to prevent water runoff from your outdoor area.
- Outdoor areas in sensitive areas where rainfall or wastewater can enter a protected area, nearby stream, or groundwater may be prohibited.

Special considerations for artificial turf or synthetic grass

We don't recommend installing artificial grass indoors or outdoors due to challenges of cleaning and disinfection needs, environmental contamination, and maintenance needed due to wear and tear. As of 2023 these installations are no longer approved for pet related facilities in King County.

Specifically, we have seen these concerns at facilities that use these products.

- The material is difficult to clean and disinfect. Regardless of the brand, it is prone to harboring odors and does not dry out completely between cleanings. The structure of synthetic grass does not allow thorough, effective, and repeated cleaning and disinfection. Physical removal of the stool combined with pressure washing does not effectively remove all of the feces, urine, and other organic material. After cleaning, water and organic material are retained in the tiny pockets created by the plastic grass blades and the plastic mesh backing, creating odors and areas where germs can multiply. Most disinfectants are not going to be effective.
- If installed directly over concrete or asphalt, the artificial turf does not dry out. The combination of urine, water, and chemicals may cause the concrete and asphalt to degrade and organic debris build-up under the product that cannot be easily removed. These installations may have a very short lifespan.
- Outdoor installations require good drainage, but the wastewater draining directly onto the ground can be a pollution source control issue if there is runoff. Approval from your city for wastewater and surface water runoff permits may be needed, and some have not allowed outdoor installation of artificial turf.
- In the winter months outdoor installations can't be easily cleaned or disinfected when the artificial turf is waterlogged and frozen.
- Artificial turf covering or blocking storm drains or sewer drains may allow for unapproved or contaminated drainage to these systems.
- There are no approved standards for installation and DIY installations can fall short of the engineering needed for drainage and environmental protection.

Potty boxes

Although potty boxes seem visually attractive, they are not encouraged. They are difficult to clean and maintain and they breakdown quickly. Due to the compact nature if not maintained correctly they can spread germs to other dogs. If you are going to consider one for your outdoor area, consider the following.

- Will require routine cleaning and disinfecting.
- Natural turf will be difficult if not impossible to maintain.
- If choosing an area that has natural filtration, heavy use will compact the soil making natural filtration difficult to maintain.
- May require a plan review or review by your local utility to ensure wastewater is managed appropriately.

How to clean your outdoor area

Routine cleaning and disinfection for surfaces is required to prevent the spread of germs. However, you do also need to be sensitive to chemicals entering the stormwater and sewer systems.

- ✓ Choose a product such as an accelerated hydrogen peroxide (AHP) such as rescue or a diluted bleach solution.
- ✓ Choose a product that is labeled for the application.

Consider safer cleaning products, [SF Environment institutes new screenings for safer disinfectants | SF Approved | Where to get green products approved by San Francisco City Depts or Disinfection 101 \(iastate.edu\)](#)

- ✓
- ✓ Schedule a safer cleaning consultation with the Hazardous Waste Management Program
 - Online - [Business Consultation | Hazardous Waste Management in King County, WA \(kingcountyhazwastewa.gov\)](#)
 - By phone 206-296-4692
- ⊗ Avoid products that have detergents that are not biodegradable
- ⊗ Avoid products that are labeled for indoor use as they may be harmful to fish and marine environments such as Trifectant, Nolvasan, Pinesol, and any products with commonly known as “quats” that contain active ingredients with chemicals such as Alkyldimethylbenzylammonium chloride, Didecyldimethylammonium chloride, or 1-cetylpyridinium chloride or similar formulations.
- ⊗ Do not use scented “deodorizers”. These products are marketed to the industry, but they can be ultimately harmful for the environment.

When a plan review is required

A plan review may be required when you install or remodel your indoor or outdoor space. If you are unsure email petbusinesses@kingcounty.gov and one of our team will provide you a consultation. If a new outdoor area is installed or modified without approvals, you may be required to make

modifications or remove it. Any outdoor area that cannot manage wastewater in a sanitary method, accumulate debris, standing water, or excessive odors may be required to discontinue use of the space.

You need a plan review or consultation for:

- New outdoor area installation.
- Changing types of material such as installing concrete when you had natural grass or wood chips.

*You **do not** need a plan review or consultation for:*

- Adding new wood chips.
- Changing substrates, for example from wood chips to pea gravel at an existing outdoor area.
- Routine repair and maintenance.

Checklist for planning your outdoor area

- Location of water source for cleaning (hose bib)
- What type of surface (woodchips, gravel, concrete, etc.)
- Understanding where the wastewater will drain.
- How will you clean and maintain it. Labor and chemical products.
- Installing a new surface – Contact public health and your local surface water agency to see if you need a plan review or if *there* are any restrictions on the type of area you are wanting to install

References and Resources

[Stormwater - Washington State Department of Ecology](#)

[King County Board of Health Code, Title 8: Zoonotic Disease Prevention Regulations](#)

[Disinfection 101 \(iastate.edu\)](#)

[Health impacts of artificial turf: Toxicity studies, challenges, and future directions - ScienceDirect](#)