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October 8, 2021

Via Email and Hand Delivery

Inland Wetlands Commission
Town Hall Annex
238 Danbury Road
Wilton, CT 06897
Attn: Mr. Mike Conklin – Director of Environmental Affairs

Re: Connecticut Humane Society – Application for Significant Regulated Activity Permit
(WET#2724)
Premises: 863-875 Danbury Road, Wilton, CT

Dear Mr. Chairman and Members of the Commission:

In addition to the material we submitted on October 7, 2021, enclosed is a supporting letter on the Environmental Design Approach for the new Connecticut Humane Society Project prepared by Ms. Heather Lewis, AIA, of Animal Arts Design dated October 8, 2021, for your review in advance of the hearing on October 14, 2021.

We look forward to providing evidence and testimony on this topic at the public hearing.

Respectfully submitted,
Gregory and Adams, P.C.
By: *James D'Alton Murphy*
James D'Alton Murphy

JD'AM/ko
Enclosures

cc: Mr. James Bias – Connecticut Humane Society
Mr. Thomas Quarticelli, Mr. Michael Tyre and Ms. Debra Seay – Amenta Emma Architects
Mr. Michael Galante and Mr. Steve Cipolla – Hardesty & Hanover
Mr. Craig Flaherty and Mr. Vincent Hynes – Redniss & Mead
Ms. Kate Throckmorton – Environmental Land Solutions
Ms. Heather Lewis – Animal Arts Design

October 8, 2021

James D'A. Murphy
Principal
Gregory and Adams, P.C.

RE: The Environmental Design Approach for the new Connecticut Humane Society Project

Dear Mr. Murphy,

Thank you for the opportunity to discuss the proposed new construction for the Connecticut Humane Society at 863 Danbury Road in Wilton, Connecticut. Animal Arts is a nationwide specialist in animal care design, with more than 1,000 completed projects, and as such, we often provide information about modern animal shelter best practices, which help to reduce health and environmental impacts. The Connecticut Humane Society brought us in at the very beginning of the programming and design process to consult with them and Amenta Emma to ensure the new Wilton facility will perform at the highest level.

We care deeply about environments, and we prioritize the design of environmentally sustainable animal shelter buildings. As an example, the first LEED Platinum animal shelter in the nation, designed by our firm, is located on a brownfield reclamation site along the Platte River in Denver, Colorado. Protecting the river from the shelter activities, as well as the pre-contaminated soil was a primary project priority.



The LEED Platinum Denver Animal Shelter – the site was designed to reduce runoff into the riparian zone.

Principals:

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As indicated, we understand the need to protect environments and we are fully committed to continuing to consult with Connecticut Humane Society to ensure protection of the proposed project site.

In the case of this new Wilton building, the nearby wetlands require a sensitive design approach. The following information enclosed in this memo will help describe how the drainage and septic systems have been designed to both meet or exceed best practices and in turn, protect the wetland.

A Community-Centric Approach

Twenty years ago, animal shelters were crammed with animals. There were never enough resources to care for homeless animals, and animal shelters were glorified kennels, with vast plumbing systems. Animal shelters of the past were loud, smelly, and water hogging. Over the past two decades, a combination of societal changes and efforts toward building humane communities has resulted in animal shelters that are NOT centered on animal housing. Today's animal shelters are community centric, meaning that they provide proactive resources such as education, counseling, and veterinary care to help **keep pets in homes**. Nowhere is community-centric animal sheltering more prevalent than the northeastern United States. There are far fewer animals entering shelters in Connecticut than in the past, and because these trends have been steady for decades, they're predictable from a statistical standpoint. Nearly three quarters of this CHS building in Wilton is programmatically dedicated to people and clinic related spaces, which contribute far less wastewater to a project site than does animal housing.



Mountain Humane in Hailey, Idaho was designed to be an environmentally friendly, community-centric animal shelter.

Cleaning Best Practices Make for Healthy Animals and Healthy Sites

Kennels of the past were heavily cleaned. Below are the best practices for designing modern shelters, including those that will be used at CHS's new project:

- Veterinary clinic spaces (with the exception of runs in dog wards) are dry. Clinics are not hosed during cleaning.



Prescott Animal Hospital shown above was the dvm360 Hospital of the Year in 2019. Medical and public spaces in the hospital are not hose cleaned.

- Solids are disposed of in the trash prior to hosing animal care spaces. Forcing fecal material down drains is an unacceptable practice because it clogs lines and aerosolizes bacteria. Modern shelters are designed to prevent significant solids from entering drains.
- Point drains are used rather than trench drains. These use far less water to clean, and therefore have less impact on a site septic system.
- Spaces that do not need hosing are not hosed. We have learned that using more water than necessary degrades indoor environments, increases the growth of biofilms on surfaces, and increases indoor humidity. Thus, hosing is limited to only where necessary.

Disinfectants are Effective and Environmentally Friendly

Disinfectants used in animal care have revolutionized in recent years. The disinfectant of choice in animal care is an accelerated hydrogen peroxide made by Virox. This is the same disinfectant used in hospitals and human healthcare environments. Not only is it effective against environmental survivors such as non-enveloped viruses (norovirus in human health and parvovirus in animal health), it breaks down readily upon contact with surfaces into non-harmful biproducts. The following link provides more information about Virox's environmental

stewardship commitments, and it is recognized as an environmentally preferred disinfectant by the EPA, the FDA, and Health Canada. [Sustainability - Virox Technologies Inc.](#)

Accelerated hydrogen peroxide (AHP) will be used at the Wilton facility in a properly diluted form to disinfect animal care spaces daily. The diseases most commonly found in an animal shelter include non-zoonotic forms of parvovirus, calicivirus, and herpesvirus. These viruses are removed effectively enough by the AHP cleaning protocols to prevent the spread of viruses in the shelter. Other diseases that are more readily spread via airborne mode such as Bordetella (kennel cough), are prevented by not crowding animals and by preventing them from facing each other. The AHP protocols are so effective at reducing bacteria in the wastewater stream that a typical animal shelter septic tank lacks sufficient bacteria to percolate and break down the solids and must be pumped once per month. This is the normal and typical protocol for animal shelter septic tank maintenance, regardless of water usage and it will be followed by CHS in Wilton.

Outside Yards and Dog Walking

Most dogs at the Wilton shelter will be leash walked by human handlers across the site acreage. This limits loading in any one particular location, as does the existence of two separate play areas.

When pets use the two outside yards, the following best practices reduce environmental impact:

- Animals showing signs of disease do not use outdoor spaces. They are isolated indoors.
- Healthy animals may use outside spaces, but solids are removed and disposed of immediately.
- The few dogs that will be using the yards for elimination are either non-ambulatory or not socialized for walks.
- Disinfectants used outside are limited to AHP. Thus, the disinfectants do not increase nutrient load in the environment.

At the Wilton facility, there will be a sand filter/infiltration reservoir beneath the play area adjacent to the building. The play area will be surfaced with permeable pavers. These systems have gapped joints filled with chip stone that allow liquids from the surface to pass through the joints. The pavers will rest on a two-inch thick layer of levelling stone. Below the leveling stone, is an 18-inch +/- thick layer of absorbent sand. Rainwater and liquids from the surface will pass through the stone and be stored in the porosity of the sand layer while given an opportunity to soak into the ground below. A perforated drain will be added above the bottom of the sand layer to function as an overflow during significant rainfall events. This system will provide significant protection for the wetland.

Urine is a source of nitrogen, but we must consider that the shelter will mostly used for clinical and human use, and cats do not contribute as they eliminate in litter that is disposed of.

Medications

The veterinary hospital will be using no hazardous drugs. These types of drugs are limited to specialty veterinary medical hospitals that have oncologists, and they would never be used in a community clinic. Neither will any radioactive isotopes be used. The medications used at the Wilton clinic are very simple and non-hazardous.

In conclusion, the design of the new project for the Connecticut Humane Society will be a best practice design, as Connecticut Humane Society is a nationwide leader in animal care. Environmental stewardship, human health, and animal health, are high priorities for this project, as is protecting the site and its wetlands.

If we can be of assistance in answering specific questions, do not hesitate to contact me directly at Animal Arts.

Sincerely,

A handwritten signature in black ink, appearing to read "Heather E. Lewis". The signature is fluid and cursive, with a large, stylized initial 'H' and a long, sweeping underline.

Heather E. Lewis, AIA, NCARB, AAA
Principal, Animal Arts Design Studios, Inc.