Montana Department of
ENVIRONMENTAL QUALITY
Brian Schweitzer, Governor

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April 1, 2008

Vicki L. Dawson
Operations Manager
Bitter Root Humane Association
262 Fairgrounds Road
Hamilton, MT 59840

Dear Ms. Dawson:

Air Quality Permit #4175-00 is deemed final as of April 1, 2008, by the Department of Environmental Quality (Department). This permit is for the operation of a 2008 Universal Cremation Equipment A-500P animal crematory (crematorium) with a maximum incineration capacity of 75 pounds per hour (lb/hr) and associated equipment. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

Vickie Walsh
Air Permitting Program Supervisor
Air Resources Management Bureau
(406) 444-3490

VW:lr
Enclosure

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Air Resources Management Bureau
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FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued For: Bitter Root Humane Association
262 Fairgrounds Road
Hamilton, MT 59840

Permit Number: 4175-00

Preliminary Determination Issued: 2/8/08
Department Decision Issued: 3/14/08
Permit Final: 4/1/08

1. *Legal Description of Site*: The BRHA facility is located at 262 Fairgrounds Road in Hamilton, Montana. The legal description of the site is Section 19, Township 6 North, Range 20 West, in Ravalli County, Montana.

2. *Description of Project*: BRHA proposed to install and operate a 2008 Universal Cremation Equipment A-500P animal crematory (crematorium) and associated equipment. The crematorium is fired on natural gas and would be capable of incinerating up to 75 pounds per hour of animal remains.

3. *Objectives of Project*: The project would allow BRHA to install a crematorium to dispose of animal remains while maintaining compliance with negligible risk requirements as discussed in Section VI of the permit analysis.

4. *Alternatives Considered*: In addition to the proposed action, the Department also considered the "no-action" alternative. The "no-action" alternative would deny issuance of the air quality preconstruction permit to the proposed facility. However, the Department does not consider the "no-action" alternative to be appropriate because BRHA demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the "no-action" alternative was eliminated from further consideration.

5. *A Listing of Mitigation, Stipulations, and Other Controls*: A list of enforceable conditions for the crematorium, including a BACT analysis, would be included in MAQP #4175-00.

6. *Regulatory Effects on Private Property*: The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

7. The following table summarizes the potential physical and biological effects of the proposed project on the human environment. The "no-action" alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Terrestrial and Aquatic Life and Habitats			X			Yes
B	Water Quality, Quantity, and Distribution			X			Yes
C	Geology and Soil Quality, Stability and Moisture			X			Yes
D	Vegetation Cover, Quantity, and Quality			X			Yes
E	Aesthetics			X			Yes
F	Air Quality			X			Yes
G	Unique Endangered, Fragile, or Limited Environmental Resources			X			Yes
H	Demands on Environmental Resource of Water, Air and Energy			X			Yes
I	Historical and Archaeological Sites				X		Yes
J	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS: The following comments have been prepared by the Department.

A. Terrestrial and Aquatic Life and Habitats

Emissions from the proposed project would affect terrestrial and aquatic life and habitats in the proposed project area. However, as detailed in Section V and Section VI of the permit analysis, any emissions and resulting impacts from the project would be minor due to the low concentration of those pollutants emitted.

Further, the proposed crematorium would require only a limited amount of construction and would be located in between an existing shop/garage and animal shelter in a packed driveway area. Overall, any impact to the terrestrial and aquatic life and habitats of the proposed project area would be minor.

B. Water Quality, Quantity and Distribution

The proposed project would not affect water quantity or distribution in the proposed project area. The crematorium would operate within a building and would not discharge or use water as part of the project.

Emissions from the proposed project would affect water quality in the proposed project area. However, as detailed in Section V and Section VI of the permit analysis, any emissions and resulting deposition impacts from the project would be minor due to the low concentration of those pollutants emitted.

C. Geology and Soil Quality, Stability, and Moisture

The proposed project would not affect the geology, soil quality, stability, and moisture of the proposed project area. The proposed crematorium would require only a limited amount of construction and would be located in between an existing shop/garage and animal shelter in a packed driveway area.

Further, as described in Section V and Section VI of the permit analysis, the crematorium would result in minor air pollution emissions to the outside ambient environment. These pollutants would deposit on the soils in the surrounding area. Any impact from deposition of these pollutants would be minor due to dispersion characteristics and the low concentration of those pollutants emitted.

D. Vegetation Cover, Quantity, and Quality

Emissions from the proposed project would affect vegetation cover, quantity, and quality in the proposed project area. However, as detailed in Section V and Section VI of the permit analysis any emissions and resulting impacts from the project would be minor.

Further, the proposed project would not affect the vegetation cover, quantity, and quality of the proposed project area. The proposed crematorium would require only a limited amount of construction and would be located in between an existing shop/garage and animal shelter in a packed driveway area. No plants, trees, grasses, or crops are reported to be within 75 feet of the proposed site. Overall, any impact to the vegetation cover, quantity, and quality of the proposed project area would be minor.

E. Aesthetics

The proposed project would not impact the aesthetic nature of the proposed project area because the proposed crematorium would require only a limited amount of construction and would be located in between an existing shop/garage and animal shelter in a packed driveway area. Because the project area is currently used as an animal shelter, the project would not change the aesthetic nature of the area. Further, visible emissions from the source would be limited to 10% opacity and the permit would include emission control requirements. Also, the project would result in only a minor amount of noise from normal operations.

F. Air Quality

The proposed project would result in the emission of various criteria pollutants and HAPs to the ambient air in the proposed project area. However, as detailed through air dispersion modeling in Section V and Section VI of the permit analysis, any air quality impacts from the proposed project would be minor and would constitute negligible risk to human health and the environment.

The Department conducted air dispersion modeling to determine the ambient air quality impacts from HAPs that would be generated by the crematorium. The SCREENVIEW model was selected for the air dispersion modeling. The full meteorology option was selected to provide a conservative result. Receptors were placed from 100 to 5,000 meters in a simple terrain array.

Stack parameters and emission rates used in the SCREENVIEW model are contained in Section V of the permit analysis and are on file with the Department. Stack velocity and gas temperature were taken from data provided by the manufacturer of the crematorium. Due to the dispersion characteristics and low levels of pollutants that would be emitted from the proposed project, the Department determined that any impacts to air quality would be minor.

G. Unique Endangered, Fragile, or Limited Environmental Resources

In an effort to identify any unique, fragile, or limited environmental resources in the proposed area of construction and operation, the Department contacted the Montana Natural Heritage Program, Natural Resources Information System (NRIS). NRIS search results concluded that there are seven known species of concern within the search locale. The search locale is defined by the section, township, and range of the proposed site, with an additional 1-mile buffer. The

known species of concern include the gray wolf, Westslope cutthroat trout, Lewis's Woodpecker, Fringed Myotis, Bald Eagle, Bull Trout, and Townsend's Big-eared Bat. These species are listed as sensitive and/or threatened. While these resources may be found in specific habitats through the defined area, the NRIS search did not indicate that these species of special concern would locate directly on or relatively near the proposed site. Therefore, it is unlikely that these species of special concern would realize any impacts from the proposed project beyond minor air emissions impact.

Emissions from the proposed project could impact the previously identified unique endangered, fragile, or limited environmental resource located in the proposed project area. However, as detailed in Section VI of the permit analysis, any emissions and resulting impacts from the project would be minor due to the low concentration of those pollutants emitted. Overall, any impact to this unique endangered, fragile, or limited environmental resource of the proposed project area would be minor.

H. Demands on Environmental Resources of Water, Air, and Energy

The proposed project would result in minor demands on environmental resources of water and air as discussed in Section 7.B and 7.F, respectively, of this EA. Further, as detailed in Section V and Section VI of the permit analysis, project impacts on air resources in the proposed project area would be minor due to dispersion characteristics and the low concentration of those pollutants emitted. Finally, because the project is small by industrial standards, little energy would be required for operation and the resulting impact on energy resources would be minor.

I. Historical and Archaeological Sites

The Department contacted the Montana Historical Society - State Historic Preservation Office (SHPO) in an effort to identify any historical and/or archaeological sites that may be present at the proposed project site. Search results concluded that there are no previously recorded historical or archaeological sites within the project area. According to the SHPO, there would be a low likelihood cultural properties would be impacted. Therefore, no impacts upon historical or archaeological sites would be expected as a result of this project.

J. Cumulative and Secondary Impacts

Overall, the cumulative and secondary impacts from this project on the physical and biological environment in the immediate area would be minor due to the relatively small size and potential environmental impact of the proposed operation. The Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as outlined in MAQP #4175-00.

8. The following table summarizes the potential economic and social effects of the proposed project on the human environment. The "no-action" alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Social Structures and Mores				X		Yes
B	Cultural Uniqueness and Diversity				X		Yes
C	Local and State Tax Base and Tax Revenue			X			Yes
D	Agricultural or Industrial Production				X		Yes
E	Human Health			X			Yes
F	Access to and Quality of Recreational and Wilderness Activities				X		Yes
G	Quantity and Distribution of Employment			X			Yes
H	Distribution of Population			X			Yes
I	Demands for Government Services			X			Yes
J	Industrial and Commercial Activity			X			Yes
K	Locally Adopted Environmental Plans and Goals				X		Yes
L	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL ECONOMIC AND SOCIAL EFFECTS: The Department has prepared the following comments.

A. Social Structures and Mores

The proposed project would not cause a disruption to any native or traditional lifestyles or communities (social structures or mores) in the area because the project would be located at an existing animal shelter. The proposed project would not change the nature of the site.

B. Cultural Uniqueness and Diversity

The proposed project would not have an impact on the cultural uniqueness and diversity of the proposed area of operation because the crematorium would require only a limited amount of construction and would be located at an existing animal shelter. The predominant use of the surrounding area would not change as a result of the proposed project.

C. Local and State Tax Base and Tax Revenue

The proposed project would have a minor impact on the local and state tax base and tax revenue. The project is small by industrial standards, thus any economic impact to the area would be minor. Further, the project would require only a minor amount of new construction and a limited amount of employees/operators for normal operations. The animal shelter currently employs seven fulltime staff members, and anticipates adding one additional employee within the year.

D. Agricultural or Industrial Production

Because the crematorium would require only a limited amount of construction and would operate at an existing animal shelter, the project would not affect or displace any land used for agricultural production. Further, no additional industrial production would result from the proposed project.

E. Human Health

The peak annual ambient HAP impact from the operation of the crematorium would be 6.713E-03 $\mu g/m^3$. The predicted annual ambient impact of each individual HAP was determined by multiplying the peak annual ambient concentration by the emission rate of the HAP. The impacts calculated for each HAP are compared to the cancer and non-cancer levels specified in Tables 1 and 2 of ARM 17.8.770. If the predicted ambient impact of a particular HAP is less than the level specified in the table and the inhalation pathway is the only appropriate pathway, that HAP can be excluded from the human health risk assessment. The table summarized in Section V of the permit analysis indicates the calculated ambient impacts of the HAPs, the cancer and non-cancer levels, and whether or not each HAP passes the screening criteria.

As detailed in Section VI of the permit analysis, a health risk assessment was conducted to determine if the proposed crematorium would comply with the negligible risk requirement of MCA 75-2-215 and ARM 17.8.770. The emission inventory did not contain sufficient quantities of any pollutant on the Department's list of pollutants for which non-inhalation impacts must be considered; therefore, the Department determined that inhalation risk would be the only necessary pathway to consider. As defined in ARM 17.8.740(10), negligible risk is "*an increase in excess lifetime cancer risk of less than 1.0×10^{-6} for any individual pollutant, and 1.0×10^{-5} for the aggregate of all pollutants, and an increase in the sum of the non-cancer hazard quotients for all pollutants with similar toxic effects of less than 1.0 in order to determine negligible risk.*" For the purposes of determining the negligible risk of the crematorium, all pollutants were included in the human health risk assessment.

All of the individual pollutant concentrations for the Chronic Non-cancer Reference Exposure Level (CNCREL) meet the acceptable risk limit because they are less than 1.00E-06 for each pollutant and less than 1.00E-05 for the aggregate of all pollutants. Further, the sums of the chronic and acute non-cancer hazard quotients are less than 1.0. Therefore, the crematorium proposed for the BRHA facility meets the criteria of ARM 17.8.770 and operation of the incinerator would be considered a negligible risk to public health, safety, welfare, and to the environment. Overall, any impacts to human health in the proposed project area would be minor.

F. Access to and Quality of Recreational and Wilderness Activities

Because the crematorium would require only a limited amount of construction and would operate at an existing animal shelter, the project would not affect any access to or quality of any recreation or wilderness activities in the area.

G. Quantity and Distribution of Employment

The proposed project would result in only minor impacts to the quantity or distribution of employment at the facility and surrounding community. The project would require only a minor amount of new construction and a limited amount of employees/operators for normal operations. The animal shelter currently employs seven fulltime staff members, and anticipates adding one additional employee within the year.

H. Distribution of Population

The crematorium would require only a limited amount of employees/operators for normal operations. The animal shelter currently employs seven fulltime staff members, and anticipates adding one additional employee within the year. Therefore, the proposed project would have only a minor impact, if any, on the distribution of population in the area.

I. Demands for Government Services

Government services would be required for acquiring the appropriate permits from government agencies. In addition, the permitted source of emissions would be subject to periodic inspections by government personnel. Overall, demands for government services would be minor.

J. Industrial and Commercial Activity

The proposed project would result in only a minor impact on local industrial and commercial activity because the crematorium would require only a limited amount of new construction, would operate at an existing animal shelter, and would not result in additional industrial production. Overall, any impacts to industrial and commercial activity in the proposed area of operation would be minor.

K. Locally Adopted Environmental Plans and Goals

The Department is not aware of any locally adopted environmental plans or goals in the immediate area affected by the proposed project. The state standards would be protective of the proposed project area.

L. Cumulative and Secondary Impacts

Overall, cumulative and secondary impacts from this project would result in minor impacts to the economic and social environment in the immediate area due to the relatively small size of the operation. The Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as would be outlined in MAQP #4175-00.

Recommendation: No Environmental Impact Statement (EIS) is required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permit action is for the construction and operation of a crematorium. MAQP #4175-00 includes conditions and limitations to ensure the facility would operate in compliance with all applicable rules and regulations. In addition, as detailed in the above EA, there are no significant impacts associated with the proposed project.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Historical Society – State Historic Preservation Office; Natural Resource Information System – Montana Natural Heritage Program

Individuals or groups contributing to this EA: Department of Environmental Quality – Air Resources Management Bureau; Montana Historical Society – State Historic Preservation Office; Natural Resource Information System – Montana Natural Heritage Program

EA prepared by: Moriah Peck, P.E.
Date: February 1, 2008