

# **Pierre South Dakota Emerald Ash Borer Preparedness and Response Plan**



**Green ash trees are showing a decline from EAB infestation.**

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# **Managing the threat posed by Emerald Ash Borer (EAB)**

## **Purpose**

This plan outlines the preparations, cost distribution methods, and response actions necessary to mitigate the effects of the emerald ash borer. It is a living document that complements the “South Dakota Emerald Ash Borer Readiness Plan” (Appendix A) and is intended to be modified as necessary to preserve the benefits of the City of Pierre’s community forest.

## **Applicability**

The scope of this plan is confined to EAB-infested trees on private or public lands within the city limits of Pierre. Public lands include city-owned lots, parks, Hillsview Golf Course, Riverside Cemetery, Pierre Native Plant Arboretum, Pierre Sports Complex, tennis courts, baseball and softball fields, and boulevards between curbs and sidewalks.

## **Administration**

This plan will take effect once EAB is detected within Hughes County. The entities responsible for implementing the plan are:

- City of Pierre Parks and Recreation Department (P&R)
- Pierre City Arbor Board (AB)

In cooperation with the following agencies as outlined in the South Dakota Emerald Ash Borer Plan:

- South Dakota Department of Agriculture and Natural Resources (DANR)
- South Dakota Department of Agriculture and Natural Resources, Resource Conservation and Forestry (DANR RCF)
- SDSU Extension (SDSU Ext)
- United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine (USDA APHIS PPQ)

## Executive Summary

This plan outlines the preparations, cost information, and actions to be taken in case of an EAB infestation within Hughes County and/or the city limits of Pierre, South Dakota. The plan includes eight elements of EAB: detection, reporting, monitoring, applicable ordinances, ash management plan, incident organization, authority, communication and outreach, and a contact list.

USDA APHIS PPQ and DANR will continue monitoring EAB infestations. All suspected specimens should be sent to:

- DANR Resource Conservation and Forestry, Rapid City Field Office – EAB Screener, 3305 ½ West South Street, Rapid City, SD 57702, phone (605) 394-2395,
- USDA APHIS, 314 South Henry Street, Pierre, SD 57501, phone (605) 224-1713
- SDSU, <https://www.sdstate.edu/agronomy-horticulture-plant-science/sdsu-plant-diagnostic-clinic>

[Pierre City Ordinance: Section 6-4-120](#). Dead or diseased tree removal on private property will apply in the event of an infestation. An Ash Tree Management Plan will be implemented that addresses information about Pierre’s ash tree population from the 2005 Pierre Street Tree Inventory, EAB infestation cost assessment, ash tree removal plan, insecticide treatment, wood disposal and utilization options, permits and licenses required, and a tree planting and reforestation plan.

The Incident Command System, a Unified Command organization, will be implemented in the event of an infestation. The City of Pierre will decide on actions to be taken in coordination with representatives of DANR RCF, USDA APHIS PPQ, and Hughes County. Local, state, and federal authorities and regulations will be followed.

When EAB arrives in Hughes County, workshops will be scheduled to inform tree care professionals and the public about safety and techniques related to tree removals and how to minimize the spread of EAB to areas outside quarantined boundaries.

## **Detection, Reporting, and Monitoring**

In preparation for an infestation, DANR RCF and SDSU Ext will train interested parties on detection techniques and proper reporting protocols where EAB is suspected. This training will be requested for P&R employees, AB members, interested groups, and individuals.

USDA APHIS PPQ and DANR RCF will implement a pheromone trapping program to assist in the detection effort.

### *Specimen Submission Protocol*

All suspected specimens should be sent to:

- DANR Resource Conservation and Forestry, Rapid City Field Office – EAB Screener, 3305 ½ West South Street, Rapid City, SD 57702, phone (605) 394-2395,
- USDA APHIS, 314 South Henry Street, Pierre, SD 57501, phone (605) 224-1713
- SDSU, <https://www.sdstate.edu/agronomy-horticulture-plant-science/sdsu-plant-diagnostic-clinic>

If EAB is confirmed, DANR and/or USDA APHIS PPQ will conduct a delimiting survey to determine the extent of the infestation. The extent of the infestation will define the boundaries of any necessary quarantine. DANR will determine intrastate quarantines, and USDA APHIS PPQ will determine interstate quarantines. P&R will monitor any work conducted to minimize the spread of infestation.

## **Applicable Ordinance**

[Pierre City Ordinance: Section 6-4-120](#). Dead or diseased tree removal on private property.

The city shall have the right to remove any dead or diseased trees on private property when such trees constitute a hazard to life and property or harbor insects or disease constituting a potential threat to other trees within the city. The Utilities Director will notify the occupants of the premises or the owner of such trees in writing. Said owners shall do removal at their own expense within 60 days after the date of service of notice. In the case of an EAB infestation, removal shall be done by said owners at their own expense after Labor Day, before Memorial Day the following year, and after the date of service of notice. In the event of failure of owners to comply with such provisions, the city shall have the authority to remove such trees at the expense of the occupant or owner.

## **Ash Management Plan**

### **a. Ash Tree Inventory and Assessment**

Pierre's latest Street Tree Inventory was completed in 2005 (Appendix B). This inventory did not include parks and other public area trees. At that time, ash trees comprised 24.91% of the total street tree population. A total of 1,235 ash were identified in the inventory. Large diameter ash (13" diameter or greater) numbered 273. Medium diameter ash (7" – 12") numbered 431, and small diameter trees (0" – 6") numbered 525. The population, in general, was in good shape, with 89% of the trees in that category.

Removal costs range from \$600 for a large mature tree to \$300 for a medium-diameter tree based on fees charged by Pierre area tree removal companies. Using those figures, the removal cost for 273 large street trees would be \$163,800. The removal cost of 431 medium-diameter trees would be another \$129,300. The total street tree removal cost would be approximately \$293,100.

According to the latest SDSU Ext estimates, replacement costs for those removals would be an average of \$310.00 per tree. Planting 704 street trees would cost approximately \$218,240. If no treatment is attempted, the total cost of removal and replacement would be roughly \$511,340 over the years.

Chemically treating high-value trees (mature trees 13' in diameter or greater) to the infestation is becoming more tested and viable. However, the cost of treatment can be somewhat high, and there is no guarantee of success. The cost to treat a mature ash tree can be as high as \$200 per tree, and the treatment would have to be repeated every two or three years for 20 or more years. The total treatment cost will range from \$1,200 to \$2,000 per tree over the 20 years.

### **b. Ash Tree Removal Plan**

#### **Pre-mitigation**

Until EAB is found, ash trees will provide a public service. Select various species, excluding ash, for new streets, parks, and landscape plantings.

#### **Mitigation**

When EAB is detected in Hughes County, DANR RCF And USDA APHIS PPQ will execute EAB detection efforts. All infested trees within the community of Pierre shall be removed after Labor Day and before Memorial Day the following year to reduce the risk of EAB spreading during their flight period. Removal of infested trees during the flight period may cause more rapid spread if the removed trees are not treated immediately because the emerging borers that would typically attack previously infested trees may instead move to trees that are not infested. Each homeowner will be responsible for chemically treating unaffected ash trees if they remove and properly dispose of any infested trees on their property. The City P&R will be responsible for marking infested street trees and for the removal of trees located in the city-owned lots, parks, Hillview Golf Course, Riverside Cemetery, Pierre Native Plant Arboretum, Pierre Sports Complex, tennis courts, baseball and softball fields and boulevards between curbs and sidewalks.

If trees are not removed from private property within the Labor Day to Memorial Day period after detection, the City will remove them and levy the cost of removal to the homeowner through the City billing process.

At the point of detection, DANR RCF and PPQ will also begin other control methods, such as using pheromone traps and trap trees to try to contain the spread of EAB.

### **c. Insecticide Treatment of Trees**

Insecticide treatments are not recommended before the detection of EAB within 15 miles of the City of Pierre. However, cultural practices that promote and maintain ash tree health will help deter attacks from many tree pests, including EAB. Healthy practices include watering, mulching, fertilizing, and pruning out dead wood and defects.

When EAB is confirmed in Hughes County, insecticide treatments may be an option worth considering for selected high-value trees. At the point of detection, the AB and DANR RCF will disseminate information on current insecticide options and application considerations. Biological controls can help slow the spread or buy time, but they will not save a tree. Treatment or removal is the ultimate option.

Some excellent and resources on treatment are available for review at the following websites:-

EAB Network Information for Homeowners (includes information on insecticide options)  
<https://www.emeraldashborer.info/homeowners>

SLAM, Emerald Ash Borer Slow Ash Mortality Pilot Project  
<https://research.fs.usda.gov/treesearch/35023>

### **d. Wood Disposal and Utilization**

Wood generated from removing EAB-infested trees will be stockpiled at the Pierre Solid Waste Facility site. EAB-infested wood will be kept separate from the wood of other tree species. Large wood unsuitable for chipping will be piled and burned at the Landfill. Smaller wood may be chipped to a size less than one inch and may be sold or distributed for mulch.

Quarantines implemented by USDA APHIS PPQ will restrict EAB infested wood from being moved outside the quarantined area, especially during adult emergence (May 1 – August 31). State and Federal rules and regulations regarding the movement of any ash material outside of the area must be followed. See “South Dakota Emerald Ash Borer Readiness Plan” (Appendix A) for details.

### **e. Permits and Licenses**

In the event of an EAB infestation in or near Hughes County, the City of Pierre may consider adopting ordinances addressing permits or license requirements for contractors involved with treating and/or removing EAB-infested trees.

## **f. Tree Planting and Reforestation Plan**

Before planting new trees, homeowners are encouraged to consult local forestry, extension professionals, or the City of Pierre/Pierre Arbor Board's "Tree Landscape Planting" brochure (Appendix C) for assistance with selecting locally adapted tree species that will perform well in the Pierre area.

Homeowners should consider diversity when selecting tree species. No one genera of tree should occupy more than 5-10% of a community's tree population. This rule of thumb was established to prevent a monoculture tree population, where pests, such as EAB, can decimate a community forest with the elimination of a single species.

To make use of the materials accumulated during the removal process, the practice of using EAB-infested wood for mulch around new trees, as long as the mulch is chipped to a size of less than one inch, can be implemented.

## **Incident Organization**

An Incident Command System "Unified Command" type of organization will be used to respond to EAB detection. The City of Pierre in consultation with representatives from DANR RCF, USDA APHIS PPQ and Hughes County will establish goals and objectives and determine what actions will be taken to mitigate the infestation. This group will oversee the finance, planning, safety, public information, operations and logistics (including communications) sections. A lead person will be assigned to coordinate each section.

Operations will define the tasks to be completed and decide on the number of people and resources needed for each task. Tasks may include:

- Monitoring ash tree population for EAB infestations
- Coordinating with local emergency response staff and communication team
- Removals
  1. Contractors (compile list of potential contractors)
  2. In-house (public property)
- Disposals
- Replanting
- Communication with Residents

## **Authority**

### *Local authority*

Possible new city ordinances adopted relating to EAB and its management.

### *State and Federal regulatory authority*

The emerald ash borer is a quarantined pest under the regulatory authority of USDA APHIS and the DANR. As such, areas where EAB is detected and placed under state or federal quarantines and movement of any material could pose a threat of moving EAB outside the quarantine area will be regulated. The South Dakota Emerald Ash Borer Readiness Plan (Appendix A) should be referenced for further details.

## **Communication and Outreach**

When EAB arrives in Hughes County, workshops will be scheduled to inform tree care professionals and the public on tree felling safety and techniques, rigging techniques and chemical application techniques. Appropriate officials or educators will communicate how to minimize the spread of EAB during the tree removal process. Selected officials must enforce policies and ordinances to ensure the safety and health of residents and natural resources.

The general public will be informed throughout the EAB response process. Methods may include public service messages, notices in monthly utility bills, newspaper articles, and town hall meetings with question-and-answer sessions. The Pierre City Website will have periodically updated information available. Pierre City officials, AB members, DANR RCF, and SDSU Extension should all be involved with the education efforts.

Information on the identification of the various life stages and other signs and symptoms of EAB and related concerns can be found on the following websites:

- Emerald Ash Borer in South Dakota <https://emeraldashborerinsouthdakota.sd.gov/>
- Michigan Department of Agriculture – Emerald ash borer <https://www.mda.state.mn.us/plants-insects/emerald-ash-borer>

## Contact List

- Original Plan Author (2013) – Dan McCormick
- City of Pierre Arbor Board chairman – Adam Kulesa
- City of Pierre – Pierre Parks and Recreation Dept. Director – Bryan Tipton (605) 773-2527
- South Dakota Department of Agriculture and Natural Resources – (605) 773-3724  
<https://danr.sd.gov/>
- South Dakota Department of Agriculture and Natural Resources, Resource Conservation and Forestry <https://danr.sd.gov/Conservation/Forestry/default.aspx>
- SDSU Extension Pierre Regional Center – (605) 773-8120 <https://extension.sdstate.edu/>
- SDSU Extension Forester – Dr. John Ball (605) 688-4737  
<https://extension.sdstate.edu/about/our-experts/john-ball>
- USDA APHIS, PPQ – (605) 224-1713 [www.aphis.usda.gov](http://www.aphis.usda.gov)

## Appendices

- South Dakota Emerald Ash Borer Readiness Plan (Appendix A)
- Pierre Street Tree Inventory (Appendix B)
- City of Pierre/Pierre Arbor Board “Tree Landscape Planting” brochure (Appendix C)