

# **Emerald Ash Borer**



## **Community Preparedness and Management Plan for the City of Zimmerman**

**As Approved by the Council on February 24, 2014**

**Resolution No. 2014-02-02**

## **Purpose**

In developing this plan we are resolving to be part of the solution to a serious regional pest that has caused massive tree loss throughout 18 states. The intent of this plan is to:

1. Proactively mitigate the spread of EAB
2. Address public needs in an efficient and effective manner
3. Identify existing resources and needs for staff to implement management plan
4. Distribute costs and losses over a manageable time period
5. Lessen social and economic impact
6. Maximize and maintain long-term benefits of the urban forest
7. Maintain consistency and coordinate actions across jurisdictions and with surrounding communities
8. Provide education and outreach to elected officials, special interest groups and citizens
9. Assure a plan and infrastructure is in place to re-plant as removals occur

## **Applicability**

This plan is applicable to all public properties where ash trees are currently growing in the City, on private properties where such trees may negatively impact public right-of-ways, on private properties where such trees threaten the safety of people or property, and on private properties where infested trees generally threaten the health of the urban forest overall.

## **Administration**

This plan will be administered through the cooperative efforts of the Public Works Department and the Parks Department. All efforts will be effectively communicated between departments. The implementation of certain plan objectives will be in cooperation with the Sherburne County Urban Forestry Committee.

## **Executive Summary**

Emerald Ash Borer (EAB) is an exotic pest introduced to the US from Asia. It was first detected in Detroit in 2002, although based on the population level at that time; it is speculated to have first arrived in the 1990's. Since being discovered in the U.S., it has spread to 18 states as well as into Canada. EAB was found in St. Paul, MN in May of 2009 and several months later in the cities of Minneapolis and Falcon Heights. In 2012, EAB was detected in Ramsey County. Major Travel Corridors coming from quarantined counties enter and border our community: US Hwy 10 out of Ramsey County and through Anoka County to Sherburne County, US Hwy 101 out of and I94 out of Hennepin County. The primary method of spread is not natural movement of the insect; rather it is in infested firewood. The proximity of our community to these roadways places our ash trees at a high risk. The pest attacks and kills *all* species of ash trees (*Fraxinus spp*). Ash trees have been heavily planted through the City of Zimmerman, especially during and since the Dutch Elm Disease Epidemic and in response of wide spread oak wilt mortality. A recent tree inventory reveals that **6.6%** of our total urban canopy is made up of ash, while 16.2% of public trees (in parks, boulevards, publicly owned properties...) are ash.

Once detected in an area, EAB populations are often high and at damaging levels. Based on the experience of hundreds of communities that are mitigating the impacts of EAB, our City can expect significant mortality of ash trees 8 – 10 years after infestation. It is also true that most infestations are not detected until affected trees are showing symptoms that become evident approximately 3 years after infestation. Early detection is an invaluable tool that could buy time enabling us to carry out recommendations that could reduce EAB populations earlier; spreading the impact over a longer period of time and easing the day-to-day burden on staff time and resources.

The ramifications associated with this level of tree loss will be felt in the City budget, through negative environmental impacts such as a loss of storm water absorption, aesthetic degradation and decreases in property value.

This plan guides management of ash trees prior to detection so as to reduce the potential impact through a combination of practices including, but not limited to: pre-emptive removals of low value ash (improperly placed, structurally defective or hazard, small diameter (< 3") ash trees or those causing damage to infrastructure), chemical treatment of high value ash, diversification of canopy through annual planting, as well as early detection through regular monitoring and survey work.

## **Ash Management**

Management techniques are based on the latest available information and recommendations from leading state agencies such as the Minnesota Department of Agriculture (MDA), Minnesota Department of Natural Resources (DNR), and the University of Minnesota (U of M). Techniques may be altered as the EAB situation evolves and new technologies are made available.

## 1. Tree Survey

A tree survey was completed using trained volunteers during the leaf-on season of 2013. The survey was conducted using stratified random sampling of both public and private property. This method enabled the City to define the scope of the problem. The SWCD coordinated with the U of MN Urban and Community Forestry Department and the St. Cloud State University (SCSU) Spatial Analysis & Research Center to:

- Create maps
- Conduct the pre-sample
- Design the survey
- Train & support the volunteers
- Manage & process the data
- Compile inventory report

The City supported the inventory process by recruiting and providing volunteer contacts to the SWCD.

## 2. Removals

Public Works staff or contracted tree services may begin proactively removing ash based on the results of the survey and other inventory/monitoring efforts, that are, but not limited to, in poor condition or improperly placed (such as under utility lines).

Tree removals are a normal component of urban forest management, as poor condition and dead trees need to be removed for reasons of aesthetics and liability. Post EAB detection, the number of removals per year could easily overwhelm existing staff and resources.

Removal of EAB infested trees on public property will be prioritized highest to lowest as follows:

- Hazardous Trees
- Dead
- Dying
- Improperly placed
- Trees with poor structure (visible internal rot, included bark, stems cracks, cambium loss)
- All other trees

When the tree survey is complete, data will be run through Purdue University's EAB cost calculator <http://extension.entm.purdue.edu/treecomputer/> to generate a cost projection for the City.

Cost estimates for existing staff to do tree removals:

- a. \$30 per stump (contract) with City employees cleaning and seeding
  - b. 7 worker hours per tree for removal and disposal
  - c. \$150 per tree to replace
- Total Cost per removal: \$180 plus 7 staff hours

Difficult removals justify hiring Contractors for removal operations which on average can cost:

- a. \$450 per tree removed + \$75 per stump
  - b. \$325 per tree to replace and guarantee for one year
- Total Cost per removal: \$850

Post EAB detection, removals will be critical to reduce hazard and liability posed by dead standing trees. Removals will be executed by existing Public Works staff, unless extraordinarily precarious removals require the expertise of a certified arborist or the number of removals overwhelms staff and funds are sufficient to contract with a private certified tree service.

Removals may be done between October 1 and April to reduce the spread of EAB. This recommended timing for removal will reduce the strain on staff during the busy summer season when many other priorities are competing for limited time.

Tree removal on private property will be the responsibility of the landowner. Ash trees that are infested with EAB will be subject to the applicable sections of City Code regarding diseased trees and public nuisance.

In cooperation with the Sherburne County Urban Forestry Committee, the City has and will continue to co-host an *EAB Awareness and Best Management Practices* workshop for the local green industry. By attending, contractors or service providers will earn an endorsement by the committee and be listed on the list of recommended contractors that can be used county-wide.

### 3. Tree Replacement

- a. Annual tree replacement will be accomplished through the shared resource of the Gravel Tree Bed Nursery. The SWCD will be available to work with Public Works staff to determine priority planting locations. The City and SWCD may train, supervise and work with volunteers to plant gravel bed grown trees in late September through early November.

- b. Species grown in the gravel bed will be selected from the list of *“Recommended trees for Southeast Minnesota: An Ecosystem Approach”* by Gary R. Johnson, University of Minnesota Extension Service – Urban and Community Forestry & Katie M. Himanga, Heartwood Forestry, or other published references as they become available.
- c. Bare root stock will meet the MnDOT 3861 Plant Stock Specifications available at <http://www.dot.state.mn.us/pre-letting/spec/2000/sp3861.pdf>
- d. All trees will be planted according to MnDOT 2571 Plant Installation Specifications available at <http://www.dot.state.mn.us/pre-letting/prov/order/2571.pdf>
- e. After planting, up to the time of killing frost the SWCD will establish communication with staff (identify who) and volunteers to ensure adequate watering of new trees.
- f. The SWCD may annually request sufficient funds to purchase bare root stock for spring gravel bed installation.

4. Insecticide Treatment of Trees

Insecticide may be considered for ash trees that have been condition rated above a 3 and are providing ecological services when EAB has been detected within 15 miles. This will be useful to stagger removals and reduce EAB populations – not to save trees in perpetuity.

- a. Large (>8” dbh) ash on public property that are a significant component of the urban infrastructure will be considered for treatment with Emamectin benzoate. Bids will be solicited from certified arborists for application to selected trees.
- b. Small (<8” dbh) ash on public property that are providing ecological services and are in good condition may be treated with imidacloprid by city/county staff that are licensed as chemical applicators. *(Treatment for trees of less than 8” dbh should be considered carefully – The investment is not necessarily worth the return. An ash tree does not start providing ecological services at a high enough rate to pay for itself until it is 8” dbh.)*

Treatment will be considered for high priority trees and will not be used on hazard trees, those planted in poor locations, those that have a poor condition rating or are causing damage to infrastructure.

As of 2013, the average cost for treatment:

Emamectin Benzoate (TREE-äge)	\$10 - \$12 / diameter inch at breast height
Imidacloprid (Merit)	\$5 - \$8 / diameter inch at breast height

## 5. Wood Utilization

Currently the City of Zimmerman manages a compost site that is open for public use. There are also similar compost sites in the cities of Big Lake, Becker and Elk River. Wood waste collected at these sites is contracted to be ground by a private company on an as needed basis during the summer. Ground material is taken off site; then processed into various grades of mulch.

In the face of EAB, Public Works staff will investigate the process necessary to acquire permitting or licensing needed to store wood infected with EAB.

The Urban Forestry Committee will contact GRE in Elk River to discuss the potential for them to accept ash material when volumes overwhelm the capacity of the compost sites.

Creative, innovative ideas will be considered for utilizing large diameter ash logs. Through collaborative efforts of the Urban Forestry Committee, the City may pursue contracts with sawmills that are within the county or in other quarantined counties that share a boundary with Sherburne. The list for the Metro and surrounding areas will be referred to: [http://files.dnr.state.mn.us/forestry/um/twincities\\_sawmill\\_drykiln\\_listing.pdf](http://files.dnr.state.mn.us/forestry/um/twincities_sawmill_drykiln_listing.pdf)

### **Monitoring & Reporting**

The Sherburne County Urban Forestry Committee will coordinate an annual volunteer monitoring survey with volunteers to monitor ash for signs and symptoms of EAB and to condition rate high priority ash trees.

1. Visual scouting of public trees can be conducted by Public Works staff when their daily work accommodates close proximity to ash trees.
2. Ash that are removed for reasons other than EAB will be inspected for “D-shaped” exit holes and “S-shaped, sinuous” galleries.
3. The City will participate in and support public outreach through current media.
4. Priority areas to monitor include parks, public open spaces, and boulevards, specifically Lion’s Park, as it lies within ½ mile of the compost site. Sink trees may be used as a method of detection. The City will work with MDA and SWCD on timing of setting, checking and removal.
5. Through the media, homeowners will be encouraged to visually survey their trees for signs associated with EAB.

6. All suspect trees will be reported to MDAs Arrest the Pest Program @ 1-888-545-6684 (voicemail) or [Arrest.The.Pest@state.mn.us](mailto:Arrest.The.Pest@state.mn.us) – so that a First Detector can be dispatched.

### **Update Ordinances & Policies**

1. The City currently references Dutch elm disease in Section 8.18 and other diseased trees in Section 5.08 of City Code, entitled Public Nuisances. Administrative staff will encourage the amendment of City Code to include EAB and all diseased or infested trees.
2. Administrative staff will work on development a tree policy or ordinance that addresses proper sanitation measures for diseased and insect infested wood.
3. The City has stopped accepting ash (*Fraxinus* spp) in landscape plans submitted for public/private infrastructure, and has discontinued planting of ash trees on public properties.
4. Private landowners will be encouraged to avoid planting ash through local newspaper articles, the city website, city cable channel, and other means of communication.

### **Identification of Resources & Needs**

1. Development of a preparedness plan is being done with existing resources and City staff.
2. Tree survey work will be completed with additional resources from the MN DNR Community Forestry Department, the Sherburne SWCD, the U of M Urban & Community Resources Department and St. Cloud State University Spatial Analysis and Research Center.
3. Tree removal will be done with existing staff, although at the height of tree mortality – additional funding will be needed in order to keep up with removals and minimize hazard and liability.
4. Existing City compost sites will be used for wood disposal.
5. Tree chemical treatment will require additional sources of funding.
6. Tree replacement is anticipated to be increased with the stock coming from the gravel tree bed or contracted services, with SWCD staff and volunteers assisting with planting.

## Resources and Needs Further Defined

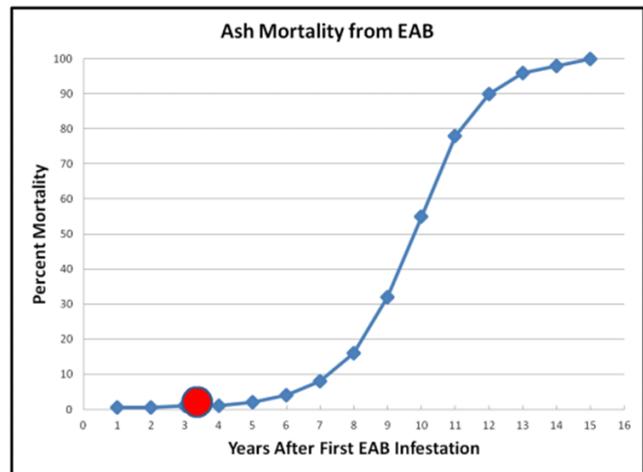
### 1. Existing Resources for Managing EAB:

- a. Public Works staff includes employees who are licensed pesticide applicators, and they are capable of treating trees on public property with Imidacloprid.
- b. Public Works staff are trained and equipped to conduct limited tree removals on public property. Contracted services are utilized for problem or excessive sized trees.
- c. Infested wood will be transported to an approved compost facility to be sorted, processed and dispatched.
- d. City-operated compost sites are located in Becker, Big Lake, Elk River and Zimmerman.
- e. The Public Works staff may also include individuals that maintain their Tree Inspector CEUs and status.
- f. The City may also utilize the Forest Health and First Detector Services of the Sherburne Soil & Water Conservation District.

### 2. Additional Resources Needed for Managing EAB:

- a. The current budget cannot support the expected increase in necessary tree removals. Additional sources of funding will be needed to follow through on proactive removals and to keep up with removals of dead trees.
- b. A tree inventory survey will be conducted with the additional resources of SWCD staff, U of M staff, SCSU staff and volunteers.

## Minneapolis/St. Paul



- c. EAB infested ash trees on private property will also need to be managed through removal and sanitation of wood or chemical treatment or a combination of the two. The City will make an effort to arrange for a contract price extension for landowners dealing with EAB.

- d. Through the collaborative efforts of the Urban Forestry Committee, grant funds will be sought when available to assist with the cost of managing EAB on both public and private land.
- e. EAB Cost Calculator: <http://extension.entm.purdue.edu/treecomputer/> will assist with projecting budget needs for removals and treatment.
- f. The City may need to contract tree removal services when mortality peaks, requiring additional funding not currently in the budget.
- g. The City may need to contract with certified arborists to administer Emamectin benzoate (injected with Arborjet®) – also requiring additional funding not currently in the budget.

### Potential Competing Priorities

It is unreasonable to believe that existing City staff will be able to manage the impacts of EAB without assistance. As it stands, staff time is dedicated to essential services and does not have time built in to accommodate such an increase in workload.

### Authority

1. Local Authority – City Code or specific ordinances will be reviewed and may be updated to include reference to EAB in the definition of a nuisance tree.
2. State of MN Regulation and Quarantine – “The emerald ash borer (EAB) is a serious invasive tree pest, and consequently quarantine has been placed on Ramsey, Hennepin, Houston, and Winona Counties to help slow the spread of EAB to other areas. Materials such as: ash logs and lumber, ash tree waste, ash chips and mulch, all hardwood firewood; are now considered regulated articles by the Minnesota Department of Agriculture (MDA).

No regulated articles are legally allowed to move outside of a quarantine (untreated or treated), unless they are accompanied by a MDA certificate. MDA Certificates are only available when a Compliance Agreement (CA) is signed between the Minnesota Department of Agriculture and the company, city, county, agency, or organization interested in moving the regulated article.”-MDA.

Further information can be found in MINNESOTA DEPARTMENT OF AGRICULTURE STATE FORMAL QUARANTINE EMERALD ASH BORER **AG: #2488080-v1**

3. Federal Regulation & Quarantine - USDA **7 CFR 301.53-1 through 301.53-9** addresses federal regulations on EAB.

## Communication

Currently, consistent communication regarding EAB is conducted through the Sherburne County Urban Forestry Committee, where staff from the municipalities within Sherburne County are collaborating, planning, and performing preparedness efforts.

When EAB is detected in Zimmerman:

- The Public Works Director or City Administrator will contact MDA, the MN DNR and the Sherburne SWCD.
- The City will send out a press release to the local newspapers in the surrounding communities.
- Education and Outreach materials will be posted on cable channel and website.

## Education and Outreach

1. The City Council and management staff have been informed of the seriousness of the EAB threat through a live presentation given by the Sherburne SWCD on behalf of the Urban Forestry Committee. They will view the “Cycle of Destruction” animation and be able to examine the larvae and adult beetle samples in addition to a sample ash branch complete with galleries. They are encouraged to learn more by visiting [www.emeraldashborer.info](http://www.emeraldashborer.info) and [www.mda.state.mn.us/plants/pestmanagement/eab](http://www.mda.state.mn.us/plants/pestmanagement/eab) and <http://www.dnr.state.mn.us/invasives/terrestrialanimals/eab/index.html>
2. Public Works staff has and will continue to attend necessary training to obtain CEUs for “Tree Inspector” status. In so doing, they will have repeated exposure to the seriousness of EAB. Staff of other departments could be informed at staff meetings or department head meetings. SWCD may be asked to give a presentation at such meetings.
3. The City may coordinate efforts through the Urban Forestry Committee and the MN DNR in posting “Don’t Move Firewood” signs at compost sites, in city newsletters, on billboards as well as other possible areas.
4. The Sherburne County Urban Forestry Committee will communicate with lake associations and townships to encourage including the “Don’t Move Firewood” message in regular newsletters.
5. In conjunction with the tree inventory survey, door hangers will be used on private homes to increase awareness about EAB with links to websites where more information can be found.

6. The City may make available on the website links to the most recent publications made available by leading experts in the field.
7. The City may coordinate educational opportunities for staff, local utilities and green industry on EAB, detection and management.
8. More technical information on EAB can be found at:

EAB University - <http://www.emeraldashborer.info/>  
MN Department of Agriculture, Plant Protection Division -  
<http://www.mda.state.mn.us/plants/pestmanagement/eab.aspx>

## **Definitions**

*Tree inventory survey* – a method of inventorying a random sampling of urban trees to affordably establish a database of urban tree information necessary for adequate planning.

*dbh* – Stands for diameter at breast height. It is a standard measurement of a tree's trunk taken at 4.5' above the ground.

*EAB* – Stands for Emerald Ash Borer, *Agrilus planipennis* Fairmaire in any stage of development.

*Hazard tree* - Any tree or tree part that poses a high risk of failure or fracture; that would result in damage to people or property.

*Quarantine area*—A defined geographic area from which goods may not be transported; quarantines will be established by federal or state agencies to restrict ash wood movement out of infested areas to avoid emerald ash borer infestation of new areas; *quarantines* can be applied to an individual property, township, county, or entire state.

## Contact List

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Arrest the Pest	MDA			<a href="mailto:Arrest.The.Pest@state.mn.us">Arrest.The.Pest@state.mn.us</a>
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## Sherburne County Urban Forestry Committee

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