Two Harbors Trees and Trails Commission
Agenda
January 21st, 2021 @ 6:00 p.m. via Zoom

The Trees and Trails Commission will meet on **Thursday, January 21st, 2021**, at 6:00 p.m. via Zoom.

Any or all members of the Trees and Trails Commission may potentially attend such meeting by Zoom Video Conference.

Additionally, the presence of the public at the regular meeting location is not feasible due to the COVID-19 health pandemic/emergency declaration, pursuant to Minn. Stat. Section 13D.021, subd. 1(3).

Jennifer A Sterbenz is inviting you to a scheduled Zoom meeting.

Join Zoom Meeting
https://us02web.zoom.us/j/87416206257?pwd=MVJwUEIyckRSNFQ1eXZYZTZyZEtUdz09

Meeting ID: 874 1620 6257
Passcode: 110884
One tap mobile
+13017158592,,87416206257# US (Washington D.C)
+13126266799,,87416206257# US (Chicago)

Dial by your location
+1 301 715 8592 US (Washington D.C)
+1 312 626 6799 US (Chicago)
+1 646 558 8656 US (New York)
+1 253 215 8782 US (Tacoma)
+1 346 248 7799 US (Houston)
+1 669 900 9128 US (San Jose)
Meeting ID: 874 1620 6257

Find your local number: https://us02web.zoom.us/u/kwnSZq7Ik

Members of the public will not be able to speak during the meeting. Public comments are to be submitted via email to: info@twoharborsmn.gov and must be received at City Hall or before 3 PM on the day of the meeting.

**THIS NOTICE OF REGULAR MEETING BY TELEPHONE OR OTHER ELECTRONIC MEANS IS GIVEN PURSUANT TO MINN. STT. SECTION 13d.04.**
Two Harbors Trees and Trails Commission
Agenda
January 21st, 2021 @ 6:00 p.m. via Zoom

1. Call to Order

2. Approval of Agenda

3. Approval of Meeting Minutes:
   a. December 17th, 2020

4. Public Discussion
   a. Public Comment on any item not otherwise listed on the agenda

5. Commission Business
   a. Clerk Nordean & Mayor Swanson - Presentation
   b. Commission Organization
   c. Odegard Park Trail
   d. Spruce Budworm
   e. Tree Replacement - Continued
   f. Tree Spade Attachment
   g. Thank You Letter from Commission to PW/Electric Dept.

6. Staff and Commission Member Reports
   a. Staff Report
      1. DSACF LOI – LOI Submitted
      2. Tree City USA Growth Award
      3. Transportation Alternative Funding – Final app submitted
      4. Segog Trail – County Approved 20’ segment, 2 ADA ramps. Work to begin in Spring
      5. Wayfinding Signs – 1 small sign and 2 large signs left to be installed in the Spring

   b. Commission Member Reports

7. Adjourn

Next meeting is tentatively scheduled for

February 18th, 2021 at 6:00 p.m. @ TBD
Trees and Trails Commission – Thursday, December 17th, 2020

Present: Passe, Hogfeldt, Fleming, Rennwald, Dover
Absent: Hukriede
Other: Sterbenz

Commissioner Passe called the meeting to order at 6:04 p.m.

Motion to approve the agenda made by Dover supported by Hogfeldt. Motion approved by all members present and voting.

Motion to approve the November 24th, 2020 minutes with a correction noting Hogfeldt was not present for this meeting. Motion made by Rennwald supported by Dover. Motion approved by all members present and voting.

Public Discussion – None

Commission Business:

1. Commission Business

   a. Motorized Trail – The proposed Odegard Trail will potentially be located near a current (non-regulated) ATV trail. This poses a safety risk for non-motorized trail users. Commission would like to work with local ATV & Snowmobile clubs to identify mutually beneficial locations for each entity to safely utilize. Commission to invite both clubs as well as Kevin Johnson from the DNR to our February meeting to start dialogue on incorporating motorized trails into the City’s plans. Sterbenz to extend invites.

   b. Segog – Commissioner Passe had inquired with Sterbenz about finishing the trail in Segog. Passe & Sterbenz worked with Jim Gilbert from Public Works and Jason DiPiazza the County Engineer and the County has approved the City to finish the approximate 20’ segment and install 2 ADA ramps. This is an inexpensive job and will be done with money from the Public Works budget. Work to take place this spring.

   c. Lumberyard Corridor – Commission discussed the desire to connect Segog to Castle Danger via the Lumberyard Corridor.

   d. Tree Spade – Public Works was not able to include a tree spade attachment in the CIP as the request was made too late in the process. Commission would like to see the City purchase a tree spade attachment for the skid steer so we can move larger white spruce trees. Larger trees require less maintenance. Sterbenz to obtain quotes for purchase and rental; also will explore grant opportunities.

Motion made by Hogfeldt supported by Rennwald to recommend purchase of
the tree spade attachment for the skid steer to the City Council for approval. 
Motion approved by all members present and voting.

2. Staff and Commission Member Reports

   a. Staff Reports – Sterbenz reported that the Odegard Park Trail is going to be handled internally. Commission would like to be a part of this process and would also like to see multiple quotes for design work. Ongoing discussion. Tree City USA renewal application was submitted, and the City was encouraged to apply for the Tree City USA Growth Award. LOI for Transportation Alternative Funding was submitted and the City will be submitting the full application on January 8th, 2021. This includes a connection from the RR bridge to the Visitor’s Center.

   b. Commissioner Passe – Commissioner Passe reported that Lake County SWCD was applying for a Lake Superior Costal Grant for E-Coli identification. This can benefit the waterfront area.

Next Meeting Date – The next meeting date is set for Thursday, January 21st, at 6:00 p.m. location TBD.

There being no more business, a motion to adjourn was made by Hogfeldt and supported by Fleming. Motion approved by all present and voting.

Adjourned at 7:20 p.m.

Recorded and submitted by Jennifer A Sterbenz, Community Development Planner
Project: Odegard Park Trail

Background on Project:

The City of Two Harbors Trail’s Plan identifies the Odegard Park Trail as a segment of trail the City desires to complete. The trails plan identifies this segment as T2a. And alternative on-street route was identified as well T2b.

The City received a grant from Duluth Superior Area Community Fund in 2017. It’s a 5-year grant ($20k each year). The City has to match this. Ultimately giving the City a total of $200,000 to use for trails by 2022.

When staff was creating the City’s Capital Improvement Program (CIP), the Odegard Park Trail was identified as a top priority. The DSACF grant requires us to complete the project by December 2022. The trail was included in the CIP for 2022. The amount budgeted is $300,000. This is for approximately 1,100 feet of paved trail. Staff included $105,000 in the 2021 budget for trail design (3,000 feet of trail).

Finance Director Pietila will track all expenses incurred for the trail and bill them against the project. This includes design and construction.

Segment T2a is approximately 3,000 feet as is segment T2b. It’s typically safe to estimate $1,000,000 per mile for a paved trail. Essentially between the DSACF grant and the match from the City, we will still need to leverage quite a bit of money to complete the project. Possible funding sources: IRRRB, DNR. The $1,000,000 estimate includes design and construction.

Bolton and Menk provided the City with a quote that included both the design and construction oversight on the project. That quote is $102,000. They have indicated that they are willing to work with the City on reducing costs where permissible. The City has had a long-standing working relationship with Bolton and Menk.

Attachments:

a) Trail Segment Map
b) Bolten & Menk Proposal for Design & Construction Management
c) Potential Timeline
VIA EMAIL

September 30, 2020

Jennifer Sterbenz, Community Development Planner
City of Two Harbors
522 First Avenue
Two Harbors, MN 55616

RE: Proposal for Professional Services
Odegard Trail Connection
Two Harbors, MN

Dear Jennifer:

Bolton & Menk is pleased to present this proposal for Professional Services required to complete the design, prepare plans and bidding documents, and perform construction administration for the Odegard Park Trail Connection as shown in the Two Harbors Master Trail Plan. This document will present our understanding of the project, our proposed scope of work, and a summary of our estimated fees.

We propose to perform the work under the guidance and supervision of the Two Harbors City Engineer, with primary support from our Duluth Office. Our staff is experienced with City requirements and can efficiently produce the final construction documents required. We are able to meet the City’s desired schedule for the project, including capacity to begin work immediately if needed.

Work on this project would be performed under our existing City Engineer Agreement for Professional Services with Two Harbors. If this proposal is acceptable, a signatory block is provided on the final page for convenience. Please have this document signed by the appropriate party to acknowledge acceptance of this proposal and authorize us to proceed. We understand City Council approval may be needed before work can be authorized. Once signed, this document should be returned to me in person, or via email.

We appreciate the excellent working relationship we have with the City of Two Harbors, and thank you for this opportunity to provide further service. We look forward to helping the City with the Odegard Park Trail connection project, which will provide an important asset for the community. If you have questions regarding this proposal or wish to discuss the project further, please call me at (651) 968-7384.

Sincerely,

Bolton & Menk, Inc.

Joseph R. Rhein, P.E.
City Engineer

Enclosure
PROFESSIONAL SERVICES PROPOSAL – ODEGARD PARK TRAIL

DESCRIPTION OF PROPOSED PROJECT
The City of Two Harbors wishes to investigate development of the Odegard Park Trail Connection. The project will be in accordance with recommendations of the Master Trail Plan. The Master Trail Plan shows two potential routes for the trail, labeled as 2A and 2B. Our understanding is 2A is the preferred route. In general, the proposed trail would extend from the existing trail terminus at the west end of 11th Avenue north past Odegard Park and residential neighborhood to City property north of 16th Avenue, connecting to the existing trail located along 8th Street. (CR 105). The length of the proposed trail is approximately 3,000 feet. The trail would be surfaced with bituminous pavement, be compliant with ADA requirements, and would be intended for non-motorized use. Some amount of landscaping is also anticipated to be incorporated with the trail development.

A portion of the proposed trail is anticipated to be located on property owned by Wisconsin Central Ltd. (CN Railroad). It is our understanding City will perform all necessary coordination and communication with the railroad to obtain permission for the proposed improvements.

Professional services for the project would include data collection and preliminary layout, design of proposed improvements, preparing plans and bidding documents, and performance of construction services and administration. The plans would be based on topographic site survey completed by Bolton & Menk, Inc. More information on specific Tasks within the professional services are given below:

SCOPE OF WORK

Task 1 – Project Management, Coordination, and Communications
- Overall management and coordination of the project team.
- General communications with City on project questions, issues, and progress.

Task 2 – Meetings
- Attend three (3) meetings with City Staff: project kickoff; preliminary review; final review.
- Attend three (3) Trees & Trails Commission meetings: present trail options; review preliminary (40%) plans; review final plans.

Task 3 – Layout and Exhibits, Cost Opinions
- Review of route alternatives to determine the pros and cons of each option with preliminary cost opinion. Options will include:
  - East along 13th Avenue
  - East along 16th Avenue
  - Along City property behind residential properties on the north side of 16th Avenue.
- Create trail layout figure based on selected trail route location.
- Provide summary memo and preliminary cost estimate for review and approval to move forward with design.

Task 4 – Location and Topographic Survey
- Perform site topographic survey along selected trail route and locate existing property corners as necessary for placement of trail improvements and establishing base drawing for design.
Task 5 – Wetland Determination – Level 1

- Evaluation of Existing Site for Wetlands:
  o Assessment of trail route for wetlands.
  o Preliminary investigation of site information does not indicate the presence of wetlands.
- This task fee excludes field wetland delineation, mitigation plans and permitting of impacts for the site. We can forward a separate proposal for accomplishing permitting impacts, if requested.

Task 6 – General Plan Design

- Design and plan preparation: Title Page, Typical Sections, and Details.
- Provide Existing Conditions, Removals, and Erosion Control.
- Design and preparation of the Storm Water Pollution Prevention Plan (SWPPP) in compliance with NPDES Stormwater Permit requirements as administered by the MPCA.
- Trail and Landscaping plans with cross sections.

Task 7 – Construction Documents, Bidding and Contracts

- Preparation of construction documents and specifications for project improvements.
  o Note this Task does not include preparation of electrical / lighting plans.
- Preparation of bidding documents for advertising and solicitation of bids by contractors.
- Provide summary of bids received, recommendation to City for selecting contractor, preparation of contracts, and assistance with contract execution.

Task 8a – Construction Administration

- Pre-construction meeting with City and Contractor, including preparation of agenda, facilitate and lead meeting, and prepare and distribute meeting minutes.
- Construction Progress meetings as necessary.
- Review of contractor submittals for conformance with project requirements.
- Facilitation of monthly construction payment approval process with Contractor and City.
- Review of contractor payroll submittals in accordance with City Project Labor Agreement.
- Review of documentation for final project payment and closeout.
- Prepare final record drawings.

Task 8b – Construction Observation

- Perform field observation, and documentation of contractor work.
- Review of project quantities, and preparation of monthly request for project payments.
- Inspection to ensure compliance of construction with project requirements.
- Preparation of project punch lists.

Task 8c – Construction Staking

- Construction staking to provide necessary control for horizontal and vertical construction of project elements.
- Staking of property lines and/or easement lines as necessary to identify allowable work areas.
- Shoot and record horizontal and vertical location of completed improvements as necessary.
Added Services
The following services are not part of the base scope of the proposed work, but can be added to the work as needed, upon request by the City.

- Trail easement exhibits and descriptions.
  - As noted previously, our understanding is City will obtain necessary permission from the railroad. This added service would be for preparation of figures, exhibits and/or descriptions by BMI as needed for use by City in securing permission for placement of trail facilities.

- Project funding.
  - Provide assistance / supporting information for City use in funding applications.
  - Prepare assistance / required documents for funding agencies for project close out.

- Lighting plans
  - Prepare lighting plans for the proposed trail improvements.

ASSUMPTIONS
The following assumptions are made as part of this proposal:

1. Stormwater will be predominantly surface flow across the existing surfaces. For the purposes of this proposal, it is anticipated the proposed trail will meet the threshold (1 acre disturbance) for NPDES stormwater management.

2. Funding:
   a. City will prepare and submit funding applications.
   b. City will prepare and submit project close out documents required by funding agencies.

3. The City will prepare and submit easement / licensing / permit applications for placement of improvements on properties not owned by the City. Bolton & Menk can support by preparing exhibits, figures, and description for the proposed improvements.

4. Bolton & Menk will prepare and submit the application for the NPDES Stormwater Construction Permit. Permit fee will be paid by Bolton & Menk and will be passed through for reimbursement by City as part of Bolton & Menk project invoicing.

5. This fee excludes title search documents, owner & encumbrances research.

6. No soil borings or geotechnical information for the site has been obtained for this preliminary analysis. Soils are assumed to be satisfactory on this site for the proposed improvements. We do, however, recommend a soil investigation (Geotechnical Report) be completed prior to design and bidding of site improvements. If requested, coordination of acquiring a geotechnical evaluation can be provided as Additional Services.

7. Bolton & Menk, Inc. proposes to perform the services outlined in the Proposal for the stated fee arrangement. Changes required by the Owner or other controlling entities (regulatory agencies, contractors, courts, etc.) from the scope of services, shall be considered “Additional Services” and will be invoiced on an hourly basis in addition to the stated fee arrangement.
**DELIVERABLES**

- Preliminary Plan (40%) to be submitted for review and comment by the City of Two Harbors.
- Intermediate Set of Plan (85%) to be submitted for use in funding applications.
- A Final Set of Construction Plans and Contract Documents (Project Manual) will be completed and submitted for approval and authorization to bid by the City of Two Harbors.

All deliverables will be provided in both hard copy and electronic (PDF) formats.

**FEES**

Bolton & Menk fees to provide professional services in accordance with the previously described scope of work is summarized below.

- **Task 1** – Project Management, Coordination, and Communications $3,000 Est.
- **Task 2** – Meetings $4,500 Est.
- **Task 3** – Layout and Exhibits, Cost Opinions $5,000 Est.
- **Task 4** – Location and Topographic Survey $5,500 Est.
- **Task 5** – Wetland Determination (Level 1) $3,000 Est.
- **Task 6** – General Plan Design $27,000 Est.
- **Task 7** – Construction Documents, Bidding and Contracts $12,500 Est.
- **Task 8a** – Construction Administration $10,000 Est.
- **Task 8b** – Construction Observation (Standard Level*) $24,000 Est.
- **Task 8c** – Construction Staking $7,500 Est.

**Total Estimated Fee:** $102,000 Est.

*Task 8b assumes a standard level of construction observation. If only a minimal amount were needed on the project, this number could be reduced by at least 50%.

**Added Services**

Estimated cost of the Added Services described in this proposal are shown below. These services would only be performed upon request by the City.

- **Trail Easement Figures / Exhibits / Descriptions** $5,500 Est.
- **Geotechnical Report and Quality Testing (includes subconsultant)** $15,000 Est.
- **Trail Lighting Plans** $8,500 Est.

All work performed by Bolton & Menk, Inc. on this project, both for base scope of work and any added services requested, will be on an hourly basis. The estimated total for each Task is shown; the actual amount invoiced would only be for the actual hours spent in performance of each Task.

The hourly rates for Bolton & Menk, Inc. labor, general business and other normal and customary expenses associated with operating a professional business. Unless otherwise agreed, the above rates include vehicle and personal expenses, mileage, telephone, survey equipment, survey stakes and routine expendable supplies; no separate or additional charges will be made for those activities and materials.
SCHEDULE
Bolton & Menk, Inc. has the staff to begin design within a week of the authorization to proceed. The preliminary layout design can be completed in 10 to 15 working days after the site topography survey has been completed. Final design can be completed in 25 to 30 days after review from the City. The working day estimate does not include days for Committee or City review. Permit review timelines are estimated between 1 and 3 weeks.

TERMS
This proposal is subject to the existing City Engineer Agreement for Professional Services between the City of Two Harbors and Bolton & Menk, Inc. If this proposal is acceptable, please have this document signed by the appropriate party to authorize work to proceed. We understand City Council approval may be needed before work can be authorized. Once signed, this document should be returned to me in person, or via email.

ACCEPTANCE
This proposal is accepted, and work described herein is authorized to proceed:

CLIENT: City of Two Harbors, MN

By: ______________________________

Printed Name: ______________________________

Title: ______________________________

Date: ______________________________

Attest: ______________________________

Printed Name: ______________________________

Title: ______________________________

Date: ______________________________
Project: Odegard Park Trail

Preliminary Timeline:

Council & Resolution to apply and accept funds for grants: March 2021
Apply for additional funding – March 2021
Preliminary design: September 2021
Trees and Trails review preliminary design: October 2021
Final design: November 2021
Trees and Trails review final design: November 2021
Council review final design: December 2021
Solicit bids: February 2022
Award Project: April 2022
Construction begins: Spring 2022 (Potentially May)
Final Completion (including signage): September 2022
Western spruce budworm

Quick facts

- Spruce budworm activity has been observed in Minnesota every year since at least 1954.
- Management strategies include commercially thinning healthy stands to retain trees with greater than 40% live crown ratio.
- Using pesticides to control spruce budworm is expensive and not very successful at treating forests, but is an option for saving yard trees.
- If dead and dying trees are not removed, they become a fire hazard around homes and buildings and contribute to increased fire risk.

Managing spruce budworm in Minnesota's forests

The eastern spruce budworm (Choristoneura fumiferana) is a native forest insect of concern across Minnesota's coniferous forests. Spruce budworm is responsible for defoliating and/or killing vast acreages of balsam fir and spruce annually in Minnesota.

Despite its name, balsam fir trees are most susceptible to budworm while spruces are moderately susceptible. Fortunately, these important conifer species can be protected through effective forest management.

The impact of spruce budworm

Large-scale outbreaks of spruce budworm in the eastern Canadian provinces and northern New England typically occur cyclically every 30 to 40 years.

In Minnesota, budworm activity has been observed every year since at least 1954, representing an endemic budworm population for over 60 years. Budworm outbreaks in Minnesota typically occur in the same area every 25 to 40 years.

Estimates from the Department of Natural Resources suggest that annual budworm defoliation averaged 94,500 acres of Minnesota’s forests from 2010 through 2014.

Spruce budworm life cycle and symptoms

Life cycle

The eastern spruce budworm is a native insect that has evolved with forests across the U.S. Great Lakes region.

Moths lay up to 10 egg masses on spruce and balsam fir needles in July. Larvae soon hatch from the eggs and spin down on a silk thread which can blow a considerable distance by wind. After overwintering, young larvae emerge just before balsam fir budbreak in the spring.

- Budworm larvae feed on new foliage growth through May and June then pupate and emerge as moths by mid-July.
- Adult moths will mate, lay eggs, and eventually die in the summer.
- Moths are effective fliers and use wind currents to disperse over long distances.
• Populations remain in outbreak stage in a forest stand until much of its food source, such as mature and overmature balsam fir and spruce, is killed.
• When an outbreak of budworm occurs, it typically will remain in that area defoliating trees for the next 8 to 10 years.


Tree symptoms and vulnerability
• Budworm feeding damage is first noticed on outer branch shoots in the upper crowns of spruce and fir trees.
• Partially eaten needles are webbed onto branch tips and turn a reddish-brown color.
• Long-term damage of budworm defoliation can result in top kill in 2 to 3 years for balsam fir or 3 to 5 years in white spruce.
• Additional years of feeding cause tree mortality.

Species susceptibility to eastern spruce budworm

<table>
<thead>
<tr>
<th>Type</th>
<th>Balsam fir</th>
<th>White Spruce</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top kill</td>
<td>2–3 years</td>
<td>3–5 years</td>
</tr>
<tr>
<td>Mortality</td>
<td>3–4 years</td>
<td>5–7 years</td>
</tr>
<tr>
<td>Survival under repeated defoliation</td>
<td>Low</td>
<td>Moderate (higher than fir)</td>
</tr>
</tbody>
</table>

• It is rare that an entire stand will die following a budworm outbreak, but patches of trees located within stands may die.
• Although trees can tolerate repeated defoliations (white spruce more so than balsam fir), tree growth is reduced.
• Smaller-diameter trees that are in an intermediate or suppressed crown position within the stand are more likely to die first.
• Many years of repeated defoliation can result in death of the majority of overstory and understory fir trees.
• Dense stands made up mostly of balsam fir and that have fewer non-host species are most vulnerable to budworm damage. Less susceptible stands have more non-host species and are comprised of healthy and vigorous trees (indicated by large live crown ratios—in excess of 40% in white spruce).

Management strategies
Forest management actions can reduce losses from budworm damage.
If you start to notice budworm populations in stands of balsam fir, make plans to have them harvested as soon as possible to maintain their value. Don’t wait to harvest trees.

**Thinning strategies**

In white spruce stands, both pre-commercial and commercial thinning strategies can be used to promote healthy and vigorous trees that can be less susceptible to spruce budworm damage. In white spruce plantations, pre-commercial thinning should be considered in stands with greater than 800 trees per acre.

- Plantations between 35 and 45 years old are most likely to respond well to commercial thinnings.
- Avoid thinning from above—removing trees from dominant and codominant trees to favor the best trees in those crown classes.
- Keep trees with greater than 40% live crown ratio (the ratio of the size of a tree’s live crown to its total height).
- Plantations greater than 55 years old that have never been thinned are not likely to respond to thinning.
- Any stand and especially older stands thinned during a budworm outbreak will not respond favorably to thinning.
- Thinning adds additional stress to trees already stressed by budworm defoliation.

It is common for some trees to die following thinning. In particular, as white spruce is a shallow-rooted tree, injuries to roots, debarking and breakage may happen. Thinning can also lead to windthrow if too much basal area is removed.

If a stand is in a marketable condition and experiencing the beginning of a budworm outbreak, consider a pre-salvage harvest.

**Thinning white spruce plantations to offset spruce budworm damage**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Should you thin?</th>
<th>Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-commercial thinning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Young stands with greater than 800 trees per acre</td>
<td>YES</td>
<td>Remove 50% of trees. Retain trees with greater than 40% live crown ratios to promote a vigorous and healthy stand.</td>
</tr>
<tr>
<td>Commercial thinning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35 to 45-year old stands in a healthy condition</td>
<td>YES</td>
<td>Commercially thin to basal area of 90 to 110 ft²/ac, or 50% of basal area. Retain trees with greater than 40% live crown ratios.</td>
</tr>
<tr>
<td>Older stands currently experiencing a spruce budworm outbreak</td>
<td>NO</td>
<td>Trees are unlikely to respond to thinning. Consider clearcutting.</td>
</tr>
<tr>
<td>Stands greater than 55 years old that have never been thinned</td>
<td>NO</td>
<td>Trees are unlikely to respond to thinning. Consider clearcutting.</td>
</tr>
</tbody>
</table>

**Harvest operator considerations**

- Commercial thinning operations should occur on frozen ground with snow cover to minimize damage to roots.
- Avoid thinning operations on wet soil.
- Orient skid trails perpendicular to planted trees to allow harvesting equipment to keep a distance from the base of the tree.
- Leave 3 feet or more between equipment and trees to help prevent root damage.
Chemical control

For forest stands:

- Insecticides such as the bacterial pathogen Bacillus thuringiensis (Bt) have been successful in maintaining productivity in stands experiencing moderate infestations of spruce budworm.
- Spraying forests can keep trees alive while waiting for a harvest that will soon occur.
- The cost of multiple sprayings and the minimal success of treatments have led managers to seek less costly management strategies such as thinning.

Yard trees can be sprayed to protect foliage and kill spruce budworm.

- Pesticides must be applied early in the year prior to budworm needle feeding that begins in June.
- Applications will need to occur in each year during the budworm outbreak.
- Because the spray has to reach to the tops of tall trees, it is usually difficult for homeowners to get adequate spray coverage.

The Minnesota Department of Agriculture has a list of licensed pesticide applicators if a homeowner is considering pesticide application.

Otherwise, keep yard trees healthy by protecting root systems from damage, water during dry periods, and mulch around trees to help retain soil moisture.

Dead and dying trees are a fire hazard and must be removed from around homes and buildings.

CAUTION: Mention of a pesticide or use of a pesticide label is for educational purposes only. Always follow the pesticide label directions attached to the pesticide container you are using. Remember, the label is the law.

Sources


Firewise in Minnesota. <http://www.dnr.state.mn.us/firewise/index.html> MN Department of Natural Resources.


Tree Replacement Policy – Continued…

The Commission has created a Tree Replacement Policy and the Council has adopted it, but our work is not complete. We need to establish a short list of tree options for the residents to choose from.

Mac & Derrick have provided a list of possibilities. The preference would be to choose native species.

Large deciduous candidates in no particular order: Swamp White Oak, Northern Pin Oak, Bur Oak, Northern Red Oak, Black Walnut, Butternut, Hackberry, Shagbark Hickory, Bitternut Hickory, American Basswood, Sugar Maple, Red Maple, Silver Maple, Tamarack.

Shorter native deciduous candidates: American Mountain Ash, Showy Mountain Ash, Pin Cherry, Black Cherry, Choke Cherry.

Possible evergreen trees would include: White Pine, Red Pine, Jack Pine, Ponderosa Pine, White Spruce, Eastern Hemlock. (public works prefers not to have evergreens on the boulevards).

Mac’s possible short list would be swamp white oak, American basswood, black walnut, butternut, hackberry, hickories, sugar maple, silver maple.

He also stated that another possibility is thinking about the opportunity to plant a useful tree like apples (snow sweet and zest star are two of his favorites) or a producing cherry, like a big cherry. He thinks that this is an intriguing option. He suggested we provide opportunities for the community to engage with the planted urban forest as a “food forest”. He indicated that they would not take any more maintenance than the various crabapple we already have planted around town.
January 19, 2021

Dear Mark, Jim, & Blake –

The Trees and Trails Commission would like to thank you and your staff for doing such a great job maintaining the trails in town. We realize that you are busy plowing roads, clearing snow, and keeping the lights on and it may often appear that your work goes unnoticed. The Commission and Staff have received numerous compliments on your department’s efforts to keep the trails maintained and safe for the community and we thank you for that.

The Wayfinding Signs look amazing! They create a strong first impression for visitors. They’re also a great opportunity for residents to see the attractions and areas highlighted as featured experiences for the many annual visitors. Great job Jim!

The Commission has some fun and exciting plans and we look forward to a continued partnership with your departments to keep our positive momentum going in Two Harbors.

“Thank you” once again for the tremendous exemplary effort that is collectively put forth by each and every one of you. Much appreciated by all.

Respectfully,

Two Harbors Trees and Trails Commission

Chairperson – Derrick Passe
Jackie Rennwald
Mackenzie Hogfeldt
John Dover
Ben Fleming
Terry Hukriede
Jennifer A Sterbenz – City Planner