



**City of St. Helena
Active Transportation and Sustainability
Committee
Regular Meeting
Wednesday, December 2, 2020 @ 5:00 PM**

PLEASE NOTE: Any person who wishes to speak regarding an item on the agenda or make a comment under the "Oral Communication" portion of the agenda may do so, but please observe the time limit of four minutes. Members of the public and other parties are welcome to email their comments to the Staff Liaison Preya Nixon at pnixon@cityofstheleena.org

In accordance with Executive Orders N-25-20, N-29-20, and guidance from the California Department of Public Health on gatherings, remote public participation is allowed. We will address the Order in the following ways: Members of the public may not physically attend meetings. Those members of the public wishing to participate must do so remotely via Zoom electronic meetings in the following ways; by either logging onto the Zoom link located on the meeting agenda (please download the app to your computer or mobile device) and enter the meeting ID or by calling a listed number and enter the meeting ID. Public comment for Active Transportation and Sustainability Committee meetings will be accepted via email to publiccomment@cityofstheleena.org. All public comments will be made publicly available and attached to the agenda item and will not be read out loud. All public comments that are received after 4:00 PM will be attached to the agenda the following day.

Please see the end of the agenda for detailed PUBLIC PARTICIPATION instructions

Please click the link below to join the meeting:

<https://us02web.zoom.us/j/86922255763>

Or iPhone one-tap :

US: +16699006833,,86922255763# or +13462487799,,86922255763#

Or Telephone:

Dial(for higher quality, dial a number based on your current location):

US: +1 669 900 6833 or +1 346 248 7799 or +1 253 215 8782 or +1 929 205 6099 or +1 301 715 8592 or +1 312 626 6799

Webinar ID: 869 2225 5763

International numbers available: <https://us02web.zoom.us/j/86922255763>

Page

1. CALL TO ORDER
2. ROLL CALL
Committee Chair: Vacant, Vice Chair: Glenn Smith
Members: Jeff Farmer, Madelyn Chandler, vacant,
Alternate Members: vacant, vacant
City Council Member Liaison: Paul Dohring, Vice Mayor
Staff Liaison: Preya Nixon, Asst. to the City Manager
3. PUBLIC FORUM:

An opportunity for the public to directly address the Committee on items of interest to the public that are not listed on the agenda. Any person addressing the Committee should provide his or her name and address, and limit comments to four minutes. **Because of restrictions imposed by the Brown Act, the Committee may not engage in substantive discussion, nor take action on matters not described on the agenda.**

4. REPORTS BY STAFF AND COMMITTEE:

Reports by staff and/or committee on items of general interest. ***Brief questions for clarification may be posed and answered, and Committee may request that items be placed on a future agenda. Except under certain circumstances, the Brown Act prohibits any other discussion or action by the Active Transportation & Sustainability Committee.***

5. CONSENT CALENDAR:

Members of the Active Transportation Committee or the public may ask that any items be considered individually for purposes of considering alternative action, for extended discussion, or for public comment. Unless that is done, on motion may be used to adopt all recommendation actions.

- 5.1. Active Transportation and Sustainability Committee Meeting Minutes of November 4, 2020

7 - 9

[Active Transportation and Sustainability Committee - 04 Nov 2020 DRAFT MINUTES](#)

6. SCHEDULED MATTERS:

Presentation from Paul Asmuth Regarding the Proposed Redwood Forest Expansion in St. Helena

- 6.1. Presentation from Paul Asmuth Regarding the Proposed Redwood Forest of St. Helena

11 - 47

Prepared By: Preya Nixon, Asst. to the City Manager

Recommendation:

Provided feedback on project proposal

[Staff Report](#)

[Project Description](#)

[Frequently Asked Questions](#)

[St. Helena Redwood Forest Presentation to ATSC](#)

[PublicCommentSierraClub](#)

[PublicCommentSusan Calcagno](#)

- 6.2. Committee Development Update (informational only, no staff report)

Prepared By: Preya Nixon, Asst. to the City Manager

Recommendation:

Not an action item

7. FUTURE AGENDA ITEMS

- 7.1. Grayson and South Crane Road Rehabilitation Project Update (Project R19-05) - January 6, 2021 (anticipated)

- 7.2. Committee Development Update

- 7.3. Overview of General Plan Climate Action Initiatives and discussion regarding prioritization of short term and long terms goals-second discussion

7.4. Integrated Pest Management Policy Overview

7.5. Electric Vehicle Charging Station Permitting Process

8. ADJOURNMENT

The next regular Active Transportation Committee meeting is scheduled for January 6, 2021 at 5:00 pm at a location to be determined.

I do hereby certify that a copy of the foregoing agenda was posted on the City website on November 25, 2020.

/s/ Preya Nixon

Preya Nixon, Asst. to the City Manager

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in the meeting, please contact City Hall at (707) 967-2792. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting (28 CFR35.102-35.104 ADA Title II). However, City staff will attempt to assist at any time with accessibility.

The ZOOM web link, meeting ID, and phone number will be listed at the top of the Active Transportation and Sustainability Committee Agenda. You will be required to enter the meeting ID, but there will be no password or participant ID.

How to Watch or Listen to Active Transportation and Sustainability Committee Meetings:

1. Watch and Listen on Zoom.us by clicking on the link in the Active Transportation and Sustainability Committee Agenda
2. Listen only by calling the Zoom number listed on the Active Transportation and Sustainability Committee Agenda

Watch the Active Transportation and Sustainability Committee Meeting by Joining the Zoom Meeting:

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- a. Before joining the virtual Active Transportation and Sustainability Committee Meeting, it is highly encouraged that you download the Zoom App. To sign up for your own free account, visit zoom.us/signup and enter your email address. You will receive an email from Zoom (no-reply@zoom.us). In this email, click Activate Account.
- b. If you are logged into your account, Enter the **Meeting ID** listed on the Active Transportation and Sustainability Agenda. If you have not created an account go to: <https://zoom.us/join> and enter the **Meeting ID**
- c. Select if you would like to connect audio and/or video and tap **Join Meeting**.
- d. For specific instructions for your device, go to: <https://support.zoom.us/hc/en-us/articles/201362193-Joining->

[a-Meeting](#)

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- a. **Dial** the number listed on the Active Transportation and Sustainability Committee Agenda.
- b. At the prompt, enter the **Meeting ID** provided on the top of the Active Transportation and Sustainability Committee Agenda and **Press #**. **A participate ID is not required.**
- c. To disconnect from the meeting, hang up the phone.

Ways to Provide Public Comment:

While attending the virtual Active Transportation and Sustainability Committee Meeting, the public will have the opportunity to provide live public comment during Public Forum and after each agenda item. When it is the appropriate time for public comment the Chair will verbally open public comment. At this time each individual is permitted 4 minutes to speak.

1. **Send a Public Comment in Advance to publiccomment@cityofsthelena.org**

The easiest way to provide public comment is to email your public comment. Public comments may be emailed to publiccomment@cityofsthelena.org. Please include in the subject line "COMMENT TO ATSC and the AGENDA ITEM". Any public comment is required to be submitted no later than 1 hour before the scheduled meeting and will be included as an attachment to the agenda.

1. **Provide Comment through Zoom meeting from a computer, tablet, or smart phone**

This option allows the public to virtually attend the meeting as a muted 'attendee' with no video or screen sharing capabilities. You will be able to see and hear those participating in the meeting, but they will not be able to hear you until the host unmutes you.

If you wish to provide public comment during a specific agenda item or during public forum, you can use the "**raise hand**" feature located in the control panel at the bottom of your screen. The icon is a small blue hand. In Windows you can also use the Alt+Y keyboard shortcut to raise or lower your hand. In Mac you can also use the Option+Y keyboard shortcut to raise or lower your hand.

The host will be notified that you've raised your hand and you will be placed in a queue with all incoming requests.

When it is your turn to speak, you will be notified that the host has unmuted you. To be removed from the queue, just click the '**raise hand**' button again.

1. **Call in to the ZOOM meeting from a cell phone or landline phone only**

This option allows the member of the public with the opportunity to verbally participate in public comment.

If you wish to speak during public comment time dial ***9** on your telephone.

The host will be notified that you would like to speak and you will be placed in a queue with all incoming requests.

When it is your turn to speak, you will be notified that the host has unmuted you. You may press ***9** again if you wish to be removed from the queue.

You will be notified at the end of your statement that you have been muted.



DRAFT MINUTES
City of St. Helena
Active Transportation and Sustainability
Committee
Regular Meeting
Wednesday, November 4, 2020 @ 5:00 PM

1. CALL TO ORDER

Vice Chair Smith called the meeting to order at 5:00 p.m.

2. ROLL CALL

The following were present:

Committee Chair: vacant, Vice Chair: Glenn Smith

Members: Jeff Farmer, Madelyn Chandler, vacant

Alternate Members: vacant, vacant

Staff Liaison: Preya Nixon, Asst. to the City Manager

Erica Ahmann Smithies, Public Works Director and City Engineer

Becky Dower, BKF Engineers

City Council Member Liaison: Paul Dohring, Vice Mayor-excused

3. PUBLIC FORUM:

No public forum was received.

4. REPORTS BY STAFF AND COMMITTEE:

Reports by staff and/or committee on items of general interest. ***Brief questions for clarification may be posed and answered, and Committee may request that items be placed on a future agenda. Except under certain circumstances, the Brown Act prohibits any other discussion or action by the Active Transportation & Sustainability Committee.***

4.1. Public Works Update

Director Smithies provided a public works update.

5. CONSENT CALENDAR:

Members of the Active Transportation Committee or the public may ask that any items be considered individually for purposes of considering alternative action, for extended discussion, or for public comment. Unless that is done, on motion may be used to adopt all recommendation actions.

5.1. Active Transportation and Sustainability Committee Meeting Minutes of the Special Meeting held on September 21, 2020

[Special Active Transportation and Sustainability Committee - 21 Oct](#)

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2020 - DRAFT MINUTES

A motion was made by member Farmer and seconded by member Chandler to approve the minutes as amended to include the following in the items that were discussed in the Vine Trail Presentation: possibly extending the Vine Trail south on the Wine Train Access.

The motion passed unanimously.

6. SCHEDULED MATTERS:

- 6.1. Presentation from BKF Engineers on Grayson and South Crane Road Rehabilitation Project (Project R19-05).

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Recommendation:

Provide Recommendations on Design Options for Grayson and South Crane Rehabilitation Project

[ATSC Presentation](#)

[Staff Report for Grayson and South Crane](#)

[Public Comment Rick Tooker](#)

[PublicComment Jeannie Kerr](#)

Presentation and report was given by Becky Dower, PE BKF Engineers and Project Manager for the City

Public comment was received from the following:

Jack Stuart

John Chen

John Thoreen

Rick Tooker

Carlotta Sianato

Jeannier Kerr

Discussion was held by the ATSC and the following feedback was recommended from the Committee:

-Move forward with design for segment 1 for the stripe "sharrows" in travel lanes

-Move forward with design for segment 4 with Class II Bike Lanes

-Receive more input and feedback including from the school district on segment 2 and segment 3 and have a second discussion at a future ATSC meeting to present this feedback and have the ATSC provide design recommendations for these two segments for design.

7. FUTURE AGENDA ITEMS

- 7.1. Overview of General Plan Climate Action Initiatives and discussion regarding prioritization of short term and long terms goals-second discussion
- 7.2. Integrated Pest Management Policy Overview

7.3. Electric Vehicle Charging Station Permitting Process

8. ADJOURNMENT

Vice Chair Smith adjourned the meeting at 6:32 p.m.

The next regular Active Transportation Committee meeting is scheduled for December 2, 2020 at 5:00 p.m., at a location to be determined.

Approved

Attest

Chair

Preya Nixon,
Assistant to the City Manager

DRAFT



Report to the Active Transportation and
Sustainability Committee
December 2, 2020

Subject: Presentation from Paul Asmuth Regarding the Proposed Redwood Forest Expansion in St. Helena

Prepared By: Preya Nixon, Assistant to the City Manager

BACKGROUND

The Redwood Forest of St. Helena Project ("Project") proposes to plant, grow and sustainably harvest 3,000 coast redwood trees on approximately 10 acres of land currently located within the City of St. Helena's ("City") wastewater spray fields. This project would also help reduce local greenhouse gases by providing highly efficient carbon sequestration within the redwood forest and producing more oxygen for our community.

An experimental forest of 1.5 acres was planted in 2011 on the southeast corner of the WWTP spray fields, and these 450 trees are healthy with some more than 30 feet tall.

A full project description is attached to the agenda.

The site for this project is at the Wastewater Treatment Plant (WWTP). The land is currently used as spray fields, which is part of the requirement for discharging the effluent from the WWTP per the City's permit, which the City must adhere to.

For additional background, the City is in the process of redesigning the WWTP. The City currently has 90% of the design plans and it is anticipated that the City will have 100% of the plans by the end of January 2021. Staff has discussed the Redwood forest proposal with the City's engineering firm for the WWTP and are recommending that the formal approval of the Redwood forest expansion (if approved) is contingent upon the final full design of the WWTP and the draft discharge permit and any feedback from the regional water board.

Action requested from the ATSC: Staff is looking for feedback from the ATSC on this project.

Attachments:

Presentation from Paul Asmuth on the proposed redwood expansion
Project Description with draft site map
Question and Answer Handout

St. Helena Redwoods

A future community forest

Project Summary

November 2020



Project Description

The Redwood Forest of St. Helena Project (“Project”) proposes to plant, grow and sustainably harvest 3,000 coast redwood trees on approximately 10 acres of land currently located within the City of St. Helena’s (“City”) wastewater spray fields. This project would also help reduce local greenhouse gases by providing highly efficient carbon sequestration within the redwood forest and producing more oxygen for our community.

The City currently uses approximately 100 acres of land on the south side of their Wastewater Treatment Plant (“WWTP”) for disposal of treated effluent. This land has been used for decades as a spray field for the disposal of treated wastewater and remains fallow and unproductive. Each year the noxious weeds and low value plants that grow are disked under and the cycle repeats. If approved, this Project proposes to reforest a portion of the designated spray fields that are not currently used, for future timber harvest, beneficial carbon sequestration, spray field buffer zone, and forest ecosystem restoration.

This project is in the Napa County Agricultural Preserve on slopes of less than 5 percent and would be classified as “Agriculture” under Napa County Code section 18.08.040:

“Agriculture means the raising of crops or livestock and includes the following:

- A. Growing and raising trees, vines, shrubs, berries, vegetables, nursery stock, hay, grain and similar food crops and fiber crops.”*

Purpose

The purpose of this Project is to:

1. Plant a coast redwood forest that is planned for sustainable timber production while maintaining a high level of carbon sequestration in the redwood trees and root systems.
2. Utilize unused land to plant coast redwood trees that will be irrigated with effluent from the City’s WWTP.
3. Create a buffer zone between utilized spray field areas and nearby vineyards.
4. Establish forest walking paths that connect with citywide system.
5. Offer an area for nature viewing and education.
6. Reforest unused lands with a high value crop.
7. Restore a forest ecosystem.
8. Improve soil health for higher water retention.
9. Reduce soil erosion from high volume water events.

California Coast Redwood Trees (*Sequoia sempervirens*)

Coast redwood trees are native to Napa County and other northern and central California coastal areas and are one of the most productive timber trees in the world. Redwood trees grow very well in the Napa County soils and climate provided there is enough available moisture during dry summer months. The available soil and water in the unused areas of the WWTP lands have grown healthy redwood trees that are now 20 to 30 years old. These large trees are located along the southern edge of the WWTP ponds and the Napa River.

In addition, an experimental forest of 1.5 acres was planted in 2011 on the southeast corner of the WWTP spray fields, and these 450 trees are healthy with some more than 30 feet tall.

Based on established timber planting plans, approximately 300 trees per acre would be planted on an 11' x 13' spacing. Each tree will have a drip irrigation emitter for watering during summer months. After approximately 15 years, 50% of the planted forest will be harvested to allow the remaining 150 trees per acre, more room to grow and mature. The trees that are harvested will send up new sprouts for a second timber harvest in future years. Beginning in approximately 20 years, 20% of the planted forest would be harvested every 5 years and continue on this harvest rotation into the future.

Carbon Sequestration

Coast redwood trees sequester carbon better than any tree in the world. Based on carbon sequestration studies, "On average, one acre of new forest can sequester about 2.5 tons of carbon annually. Young trees absorb CO₂ at a rate of 13 pounds per tree each year. Trees reach their most productive stage of carbon storage at about 10 years at which point they are estimated to absorb 48 pounds of CO₂ per year. At that rate, they release enough oxygen back into the atmosphere to support two human beings."

The proposed increase of 3,000 trees over 10 acres would sequester approximately 48 pounds per tree at 10 years of age or 144,000 pounds of CO₂ per year. CO₂ sequestered would increase as redwood trees continue to grow and absorb carbon their whole lives. The average age of this forest would be approximately 20 years old yielding annual carbon sequestration of 288,000 pounds.

Prior Approvals

The experimental forest was planted in 2011 with the approval of Mayor Del Britton and then Director of Public Works, John Ferons. The concept of expanding the forest by 50 acres and using the City's WWTP effluent to plant coast redwood trees on the spray field lands, was previously approved in 2012 by the St. Helena Tree Committee and St. Helena Climate Protection Task Force. This much larger project of up to 15,000 redwood trees, was proposed to

the City Council in 2013 and a decision was delayed until after the City's General Plan was approved.

The Team

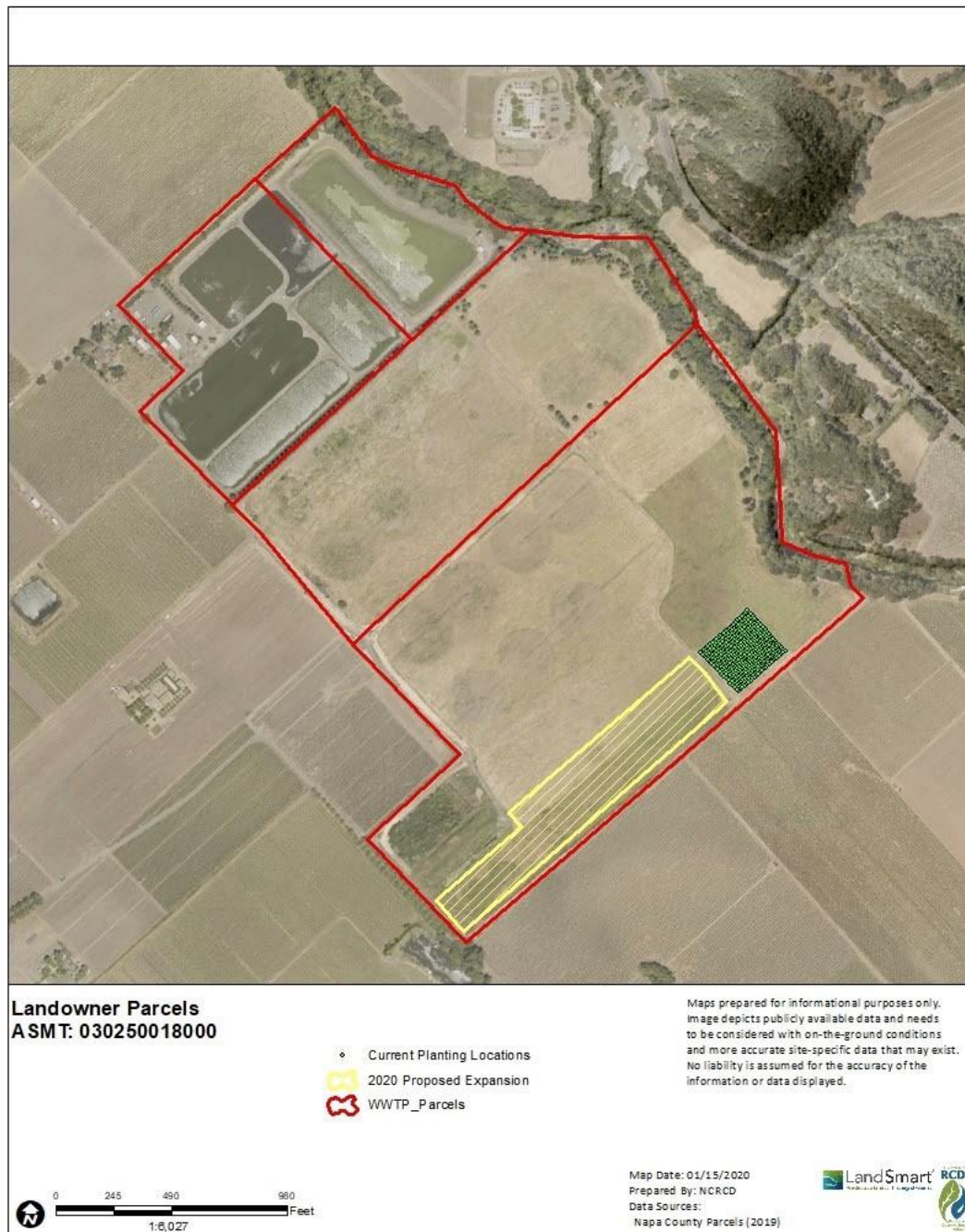
With project approval, a new nonprofit entity will be established that will be responsible for the planting, farming, and harvesting of the redwood trees including hiring of qualified foresters. Currently Paul and Marilyn Asmuth are directing the project along with Nicholas Kent, a Registered Professional Forester.

Napa County Resource Conservation District is currently providing technical assistance regarding healthy trees and forest conditions, advice on stand density and potential harvests, and will help direct an appropriate Forest Management Plan that would be required for a future timber harvest.

Summary

The planting of a coast redwood forest on some of the City's underutilized lands for future timber harvests, environmentally beneficial carbon sequestration, spray field buffer zone, and restoration of a forest ecosystem will benefit our community for many future generations.

Current Redwood Forest and Proposed Expansion



St. Helena Forest

A future community forest

Frequently Asked Questions for Expanded Forest

November 2020



1. Why use coast redwood trees (*Sequoia sempervirens*) for this project?

- Native tree to northern and central California including Napa County
- Sequester more and faster carbon dioxide (CO₂) than any tree in the world
- Accept quality of wastewater treatment plant (WWTP) effluent
- Disease resistant
- Grow well in climate and soil of WWTP
- High value wood and locally marketable timber
- Harvestable commercial lumber that can be milled regionally
- Trees re-sprout after harvesting
- Established trees will reduce soil erosion

2. Why use this location?

- There are approximately 100 acres that the City of St. Helena uses to dispose of treated wastewater from the City's WWTP. The spray field areas located along the southern border are too close to viticulture operations for overhead irrigation to be used due to the risk of effluent drift.
- Experimental 1.5-acre forest of 450 coast redwood trees have grown very well
- Forested area will act as a buffer from effluent drift between irrigated spray fields and vineyards
- This land has been fallow for decades and grows noxious weeds and low value plants that are annually disked under
- Secondary treated effluent is available for irrigation of non-consumable products
- Soil and climate are suitable for coast redwood trees
- Proposed planting lands are located primarily in undevelopable floodway and floodplain areas and have limited uses
- Reforested area has established new ecosystem for birds, amphibians, and mammals as well as generate large amounts of oxygen while providing cooling shade from summer heat

3. How much carbon sequestration can be expected from this project?

Based on carbon sequestration studies, “On average, one acre of new forest can sequester about 2.5 tons of carbon annually. Young trees absorb CO₂ at a rate of 13 pounds per tree each year. Trees reach their most productive stage of carbon storage at about 10 years at which point they are estimated to absorb 48 pounds of CO₂ per year. At that rate, they release enough oxygen back into the atmosphere to support two human beings.”

The proposed increase in trees of 3,000 over 10 acres would sequester approximately 48 pounds per tree at 10 years of age or 144,000 pounds of CO₂ per year. This number would increase as redwood trees continue to grow and absorb carbon their whole lives. The average age of this forest would be approximately 20 years old yielding annual carbon sequestration of 288,000 pounds.

4. How is the land currently used?

This plot of land is not currently used as a “spray field” due to the proximity to the vineyards along the southern border of the wastewater disposal field. Noxious weeds and low value plants grow in this area and are disked under annually.

5. How is the treated wastewater currently used?

The treated effluent is disposed of over approximately 100 acres of spray fields. Only noxious weeds and low value plants grow in the disposal area which are mowed or disked under annually.

6. Will the redwood trees have an impact on ground water replenishment currently occurring from the effluent discharge on these spray fields?

The redwood trees will be located on land that does not currently receive any effluent and therefore there would be no impact to the groundwater recharge from the spray field areas.

7. What are the main challenges for growing redwood trees on this land?

- Seedlings are fragile to grow in the early years and very susceptible to extreme cold/hot temperatures
- Gophers, voles, rabbits, coyotes, and other varmints kill young trees and damage irrigation systems
- Noxious weeds with large and deep tap roots sever the root systems and kill young trees
- Approximately 20% tree loss in first growing year

8. Are there farming challenges using treated wastewater to water redwood trees?

- Algae growth in the wastewater treatment ponds impedes the flow of water through the irrigation system filter increasing labor and material costs
- Water is only available on certain days each week. Extremely hot temperatures and limited watering days may increase the loss of young redwood trees
- Rodents, weeds, and other animals damage small trees and the irrigation system

9. How many trees per acre will be planted?

Based on proven redwood tree planting formulas for timber, there will be 300 trees per acre planted. After approximately 15 years, 50% of the forest will be harvested to allow more room for the remaining 150 trees per acre to grow. Harvested trees will send up new sprouts for future timber harvest.

10. How many acres will be planted in redwood trees?

We are proposing an additional 10 acres of land (3,000 trees) be planted to redwood trees in areas that are not currently used as spray fields.

11. What is the expected tree planting schedule based on 10 acres?

2021 – 1000 trees

2022 – 1000 trees

2023 – 1000 trees

12. What is the anticipated sequencing for the project?

- Agreement with the City of St. Helena to utilize the land
- Order redwood tree seedlings
- Land preparation of weed removal and mowing
- Installation of irrigation system
- Planting new trees February/March
- Annual farming, i.e. weeding, mowing, irrigation maintenance, tree pruning
- Year 15 - 1st timber harvest 50% of forest
- Years 20, 25, 30, 35, 40, ... selective timber harvest of 20% each year

13. What will the average age of the redwood forest be?

The redwood forest will have an average age of 20 years based on 20% of the trees being selectively harvested every 5 years beginning in year 20.

14. What type of irrigation system will be used for the redwood trees?

Drip irrigation will be used because the treated effluent has higher than normal levels of salt from standard chlorine sanitation. Redwood trees can tolerate higher than normal levels of salt in the soil but not when sprayed on their needles.

15. How big will the redwood trees be at harvest?

Marketable redwood trees are approximately 60 - 75 feet tall with trunks of about 20" in diameter.

16. Who will be responsible for the cultivation of the redwood trees?

A new nonprofit corporation will be formed that will be responsible for all cultivation and harvesting of the redwood trees, including hiring qualified personnel to harvest the trees. We are currently working with Sustainable St. Helena to become the 501(c)(3) organization for this project.

17. Who is the certified California Forester on the project?

Nicholas Kent, RPF of Cloverdale is the registered forester on the project. Nick is a California Registered Professional Forester with more than 30 years of experience who specializes in redwood trees. We are also working with Napa County Resource Conservation District's forester, Amanda Benton.

18. Who is the director of the project?

Paul and Marilyn Asmuth are the project directors and local St. Helena citizens since 1993.

19. Who has funded the project so far?

Paul and Marilyn Asmuth have personally contributed for the startup of this project over the last 10 years. There have also been generous donations of equipment, time, and resources by local friends and family.

20. Will the City be paid?

An agreement will need to be entered into between the City of St. Helena and the new nonprofit for this project for the lease of the land and the sharing of future timber harvest revenue after deducting applicable costs.

27. How much will the planting the redwood forest cost?

Based on planting cost for the existing experimental forest, we estimate that planting 10 acres will be approximately \$10,000 per acre or \$100,000 plus a new water filtration system of \$20,000.

28. How will the project be funded?

The project will be funded through private donations, fundraising events, and possibly California reforestation grants.

29. What other local agencies will be involved?

- **Napa County Resource Conservation District** will provide technical assistance with environmental consultation including forestry, mapping, irrigation, education, and volunteer coordination.
- **Napa County Agricultural Commissioner's Office** will provide farming advice as needed.

St. Helena Redwoods *a future community forest*

- ▮ **St. Helena Active Transportation and Sustainability Committee**
- ▮ **Presented by Paul Asmuth**
- ▮ **December 2, 2020**



City of St. Helena

Location of WWTP and Redwood Forest

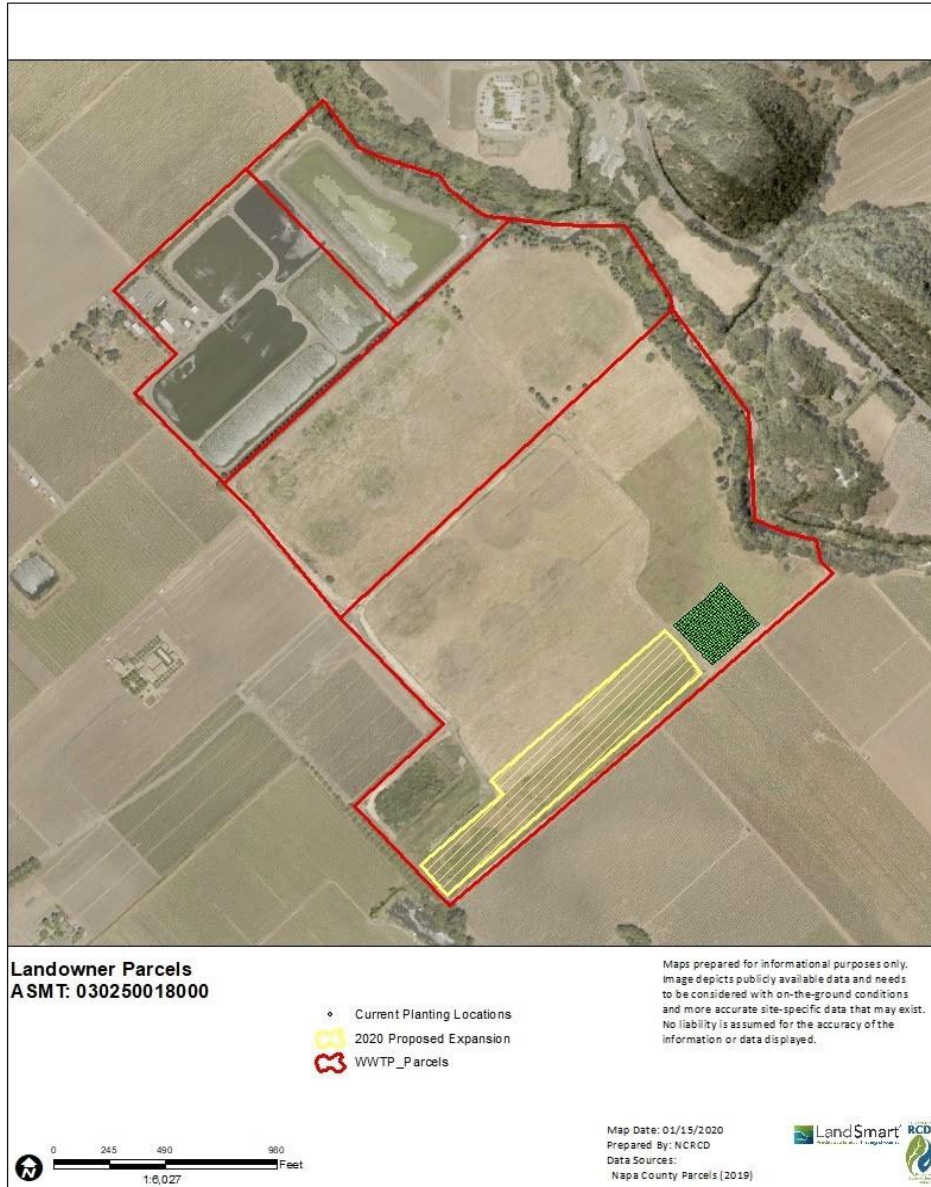


City of St. Helena

WWTP and
Effluent Spray Fields

Green Area Current
Redwood Trees

Yellow Area Proposed
Expansion





Project Overview

- With the permission of St. Helena Mayor Dell Britton, now deceased, an experimental forest of coast redwood trees *Sequoia sempervirens*, was started in 2011 at the City of St. Helena's Wastewater Treatment Plant (WWTP) effluent spray fields.
- The first planting of trees was in December 2011, all died due to the very cold and extremely dry winter. In February 2012, new trees were planted and today there are about 450 trees over 1.5 acres that are irrigated with secondary treated effluent.
- The entire effluent spray field area is approximately 100 acres, and the City uses a portion of this area for water dispersal.
- Vineyards for wine grapes are located along the southern property line of the effluent spray field. No effluent can be sprayed near the vineyards. This fallow area is approximately 10 acres.
- Based on the success of the current forest, we are proposing that the project be expanded into this fallow land, adding nearly 3,000 coast redwood trees.
- Seedlings will be planted at 300 per acre, and ideally this would begin in February 2021.
- Some portion of the 10 acres would be set aside for a "Legacy Forest" where trees would not be harvested.
- A walking path through the forest will be developed and connected to future walking paths along the Napa River and the city of St. Helena.
- Amanda Benton, Forester, with the Napa Resource Conservation District is consulting on the project.
- Nick Kent, who has extensive coast redwood experience is the Registered Professional Forester on the project.
- Dr. William Libby, retired UC Berkeley professor has been instrumental in providing guidance and unique coast redwood clones.

Dr. William Libby

- Retired UC Berkeley Professor
- World renowned coast redwood and tree expert
- Worked with forest in most states and many countries
- Helped establish coast redwood timber industry in New Zealand



Coast Redwood
Sequoia sempervirens
Seedlings Grown at Nursery



One Year Old Trees
May and October 2013
Total Trees Planted 450
1.5 Acres



2 years old
July 2014



3 years old
August 2015



3 ½ Years Old
15 – 18 feet tall
November 2015



St. Helena Redwoods July 2019

Some trees 35 tall and 12 – 14
inches in diameter



Special Clones May 2016

- **Dyersville Giant** – from seed (see photo) 370 feet tall when uprooted
- **Luna** – seeds orbited the moon in Apollo 14
- **Del Norte County** – Clone 4
- **Humboldt County** – 7 different clones
- **LaMc** – From Dr. Libby's neighbor's redwood tree
- **Korbel KT** – discovered in Korbel, Humboldt County





August 2020 Korbel KT Clones

- Discovered in 1966 in Korbel, Humboldt County
- Mutated from normal growing redwood trees
- Grows more slowly
- Does not “bronze” in winter
- Maximum height under 100 feet tall
- Make very good Christmas trees and hedges

Forest Benefits

- Aesthetic Beauty
- Carbon Sequestration
- Oxygen Generation
- Walking Paths Connected to City of St. Helena Trails
- Future Timber Crops
- Protection of special coast redwood clones and cultivars
 - Las Posadas coast redwoods
 - Dyersville Giant
- Afforestation
 - Land previously in vineyards
 - Currently fallow
- Creation of Forest Ecosystem
 - Arachnids, insects, earthworms, and other invertebrates
 - Amphibians – Pacific tree frogs
 - Birds – raptors and nesting birds
 - Mammals – coyotes, rodents, skunks, and bobcats

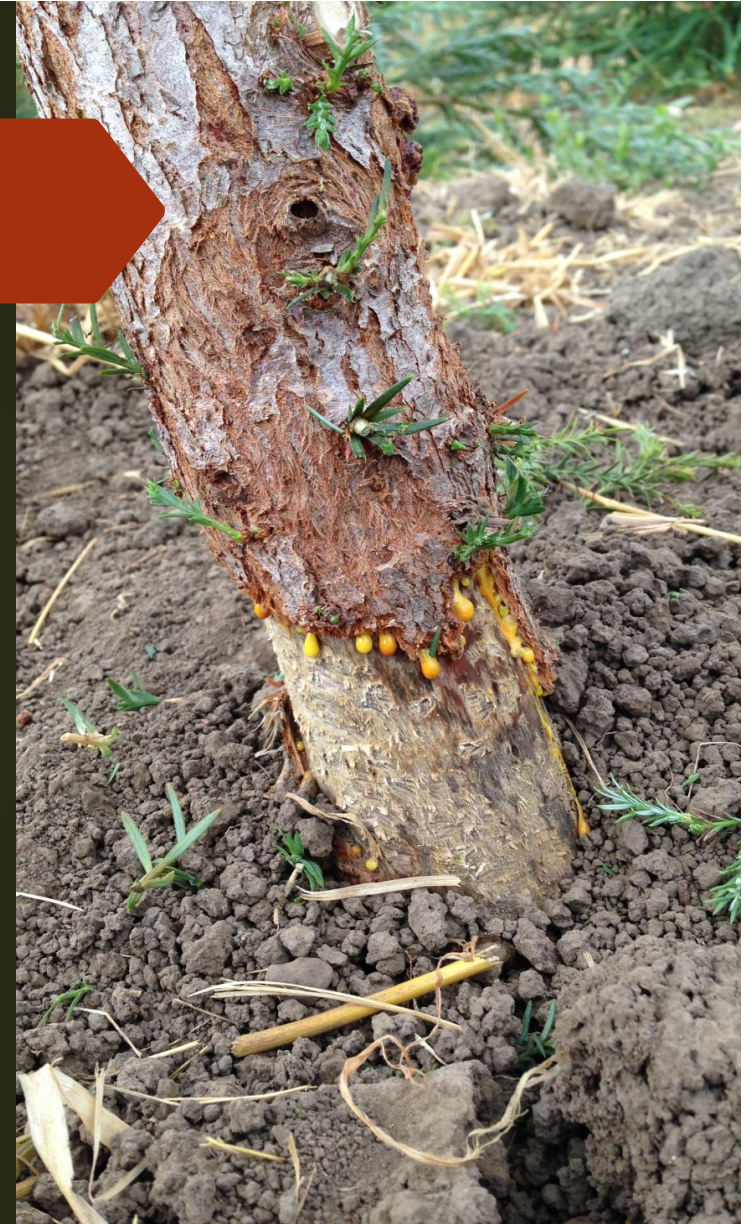




Wildlife

Challenges

- Climate
 - Winter lows kill small seedlings grown in exposed areas
- Pests
 - Rodents and mammals damaging trees and drip irrigation system
- Water Quality
 - Algae in effluent requires filtration
- Weed Control
 - Noxious weeds overtake and kill small trees



Winter Bronzing



Rodent Challenges

California Vole

Microtus californicus



Vole Damage to Tree Trunk



Water Quality and Irrigation Challenges

Coyote

Canis latrans

Destruction of Drip System



Algae in Effluent Clogs Filters



Weed Challenges

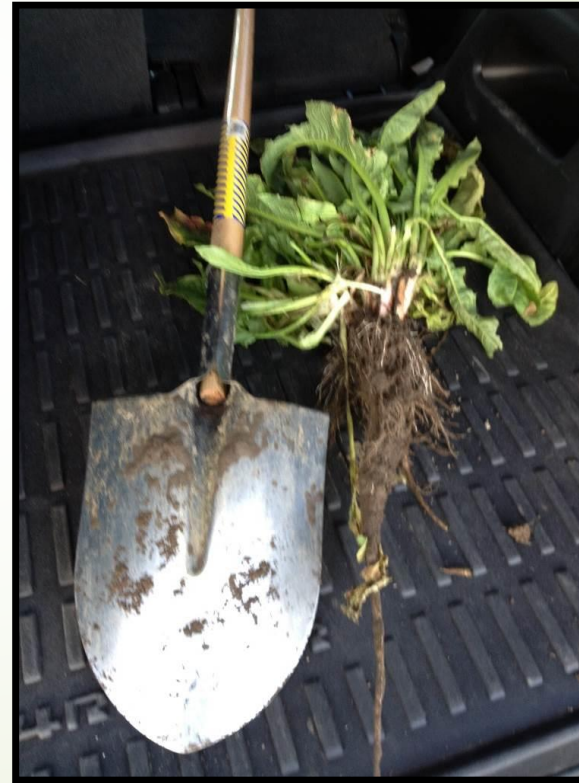
Daikon Radish

Raphanus sativus



Curly Dock

Rumex crispus



Conclusions

- Expanding the current coast redwood forest by another 10 acres is a good use of fallow land.
- Creating a forest in this area has high future benefits for aesthetics, ecosystems, walking paths, carbon sequestration, oxygen generation and timber harvests.
- After the initial thinning in 15 years, revenues would exceed costs and the investment would have positive returns because coast redwood trees regenerate and there would no replanting or other startup expenses.
- Future revenue sharing from timber harvests with the City of St. Helena.
- Benefits to the community and our environment ultimately far outweigh the initial investment costs while offering a worthwhile project for St. Helena and the Napa Valley.





November 17, 2020

To: St. Helena City Council members
St. Helena Active Transportation and Sustainability Committee members

Dear City Council and AT&S Committee members,

We are writing on behalf of the Napa Sierra Club to add our support to the St. Helena Redwood Forest project proposed by Paul Asmuth. We heard a presentation by Mr. Asmuth on this project and were very impressed with the benefits it will bring to St. Helena including:

- A working forest on currently fallow land
- A recreational and education resource for the community
- Expanded forest habitat with concurrent ecosystem and climate benefits

In addition, this project would support the following policies and implementing actions in the 2040 St. Helena General Plan update:

- Open Space Policy 4.1: Protect and enhance tree resources in developed and undeveloped areas.
- Open Space Implementing Action 2.E: Explore the possibility of public use or agricultural option of the waste-water treatment plant spray field in the form of trails and passive open space or other agricultural option.
- Climate Change Implementing Action 4.C: Establish programs and plans that create and enhance urban forests and greenways.

St. Helena is fortunate that two private citizens have used their resources to initiate this project which will benefit us all into the far future. In these times of increasing damage to our forests and woodlands due to climate change, planting a redwood forest using readily available treated wastewater is wonderful step forward. We ask that you support this project in every way possible.

Thank you,
Sierra Club Napa Group Executive Committee
Chris Benz, Chair
Chris Sauer, Vice Chair
Patricia Damery
Nick Cheranich

PO Box 5531, Napa, CA 94581
napavalleyssierraclub@gmail.com

www.sierraclub.org/redwood/napa

December 1, 2020

City of Saint Helena
Active Transportation and Sustainability Committee

Re: Redwood Forest Expansion Proposal

Dear Committee Members:

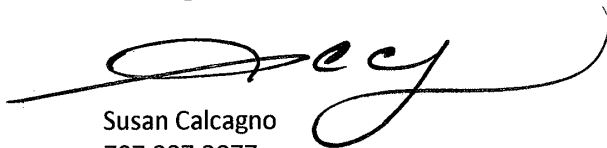
I respectfully submit this letter of support for Paul Asmuth's Redwood Forest Expansion proposal based upon my sincere belief that any and every action to improve the environment of St. Helena, the surrounding Napa Valley and beyond, is worth the effort.

I have known Paul for over 15 years, originally in my capacity as Human Resource Director of Meadowood Napa Valley. In those years I came to witness and understand Paul's vision, experience and dedication to ensuring that the Meadowood and Reserve grounds were forward thinking in terms of sustainability. I was involved in the original planting of the experimental redwood forest on 1.5 acres of the WWTP spray fields and maintained contact with Paul and the development of that forest, which Paul personally financed.

Now, given the environmental challenges that we face today, the proposed addition of 10 more redwood forest acres is needed more than ever. Given the ongoing support of organizations and team members described in "The Team" section of the proposal, the foundation for this project has been built over the past 11 years and there would be little to no drawback to moving forward with this project.

I strongly urge the Committee to accept this proposal.

Kind regards,

A handwritten signature in black ink, appearing to read 'Susan Calcagno', with a long, sweeping horizontal line extending to the left.

Susan Calcagno
707.287.2077
sccalcagno@gmail.com