

Generating Renewable, Green Energy, Protecting Air & Water Quality, Creating Local Jobs



SCOTTS VALLEY BAND OF POMO INDIANS
BIOENERGY/BIOCHAR FACILITY

Scotts Valley Indian Energy, LLC | Red Hills Road Project | May 7, 2020

The Scotts Valley Band of Pomo Indians through its tribally owned company, Scotts Valley Energy Company, LLC, (SVEC) is submitting this response to the appeal of its bioenergy/biochar production project as submitted by Clint Nelson, Beckstoffer Vineyards, but said to be representing the “Red Hills AVA Stakeholders Alliance” comprised of vineyard, winery, and property owners in the vicinity. We do not know specifically who this stakeholder alliance represents, but we remain willing to speak with them directly.

About This Project

In the most current version of the Community Economic Development Strategy for Lake County, one of the opportunities listed is to, “Expand alternative energy systems” with a listed goal of, “Energy Independence & Sustainability: Work to develop energy independence and other sustainable living practices.” This project meets both of those goals.

Imagine utilizing a patent-pending technology to generate electricity in a closed system (no smoke, no particulates) utilizing waste wood trimmings instead of burning wood in an open burner (old technology) to generate electricity, or just pile burning, that sends smoke and particulates into the air we breathe on a regular basis January - May every year.

Imagine creating BioChar - a type of charcoal created in a high-temperature system - from that waste woody biomass that has been used for thousands of years to amend agricultural soils to retain soil moisture and nutrients, lessening the amount of fertilizer needed on crops, or utilizing this biochar to filter sediment- and nutrient-laden waters before reaching Clear Lake - a state-designated “impaired waterway” for nutrients.

Imagine creating local jobs to mitigate hazardous vegetation (that otherwise can become fuel for uncontrolled wildfires) who bring that vegetation - tree trimmings under power lines, previously burned brush in past wildfires - to a centrally-located facility pre-chipped.

Imagine no more: The Scotts Valley Energy Company, LLC, (SVEC), in partnership with Omni BioEnergy, are developing a patent-pending closed system that can produce from 50 - 500 kilowatts of green, renewable energy, produce biochar, and protect the air and soil quality in Lake County, as well as offer microgrid opportunities to high-demand users.

BioEnergy

Bioenergy is an important tool to reduce fuels for wildfires and restore carbon to California’s forested and agricultural lands. Decreasing woody biomass on forested lands - both public and private - can reduce the devastating impacts of wildfire, protect public health and safety, and provide local jobs and economic development. Woody biomass can provide the source for 24x7 power generation to meet the state’s renewable electricity goals.

California's forested lands provide a critical carbon sink that is quickly going up in smoke. Wildfire now causes two-thirds of California's black carbon emissions, a powerful climate pollutant and threat to public health. For the first time in decades, Lake County no longer is in the top 20 Counties for the cleanest air due to wildfire smoke. A single large wildfire can emit as much climate pollution as several million cars and a bad wildfire season can produce as much climate pollution as the state's entire transportation or energy sector in a year.

Utilizing Waste Biomass Provides Jobs and Economic Development. Woody biomass can save millions of dollars in avoided wildfire damages and fire-fighting costs while producing jobs and economic development:

- Hundreds of millions of dollars in avoided wildfire damages;
- Tens of millions of dollars in reduced firefighting costs;
- Local income, tax revenues, and energy supply;
- Twice as many jobs per megawatt as energy from natural gas;
- Economically valuable byproducts such as biochar that can be used to increase crop yield, improve soil health and conserve water.

BioChar

The conversion of biomass into charcoal and/or energy is as old as civilization. It is well understood that controlling aeration during burning optimizes the process for energy versus charcoal production. Modern pyrolysis and carbonization technology offers significant improvements in terms of energy efficiency and levels of pollution over traditional charcoal production technologies. The Major Use Permit SVEC seeks will utilize the latest advancements on this technology to produce biochar and bioenergy in a closed pyrolysis system to maximize energy production output, produce biochar, and protect the environment.

Pyrolysis is a chemical process that converts decomposable organic matter into biochar, a relatively inert organic material. In other words, the process of biochar production changes the chemical composition of the organic material so that it more slowly converts back into atmospheric CO₂ compared to the feedstock from which it is derived under comparable environmental conditions. Even though both the original feedstock and the resulting biochar will eventually convert back to atmospheric CO₂, the timeframe of when this will happen for biochar is thousands of years, while the timeframe is only a couple of years for the original feedstock.

Since it is believed that incorporating biochar material into agricultural soils also improves soil quality and productivity, soils are considered to be ideal sinks for biochar. This concept is illustrated in Figure 1:

Evaluation of the opportunities for generating carbon offsets from soil sequestration of biochar

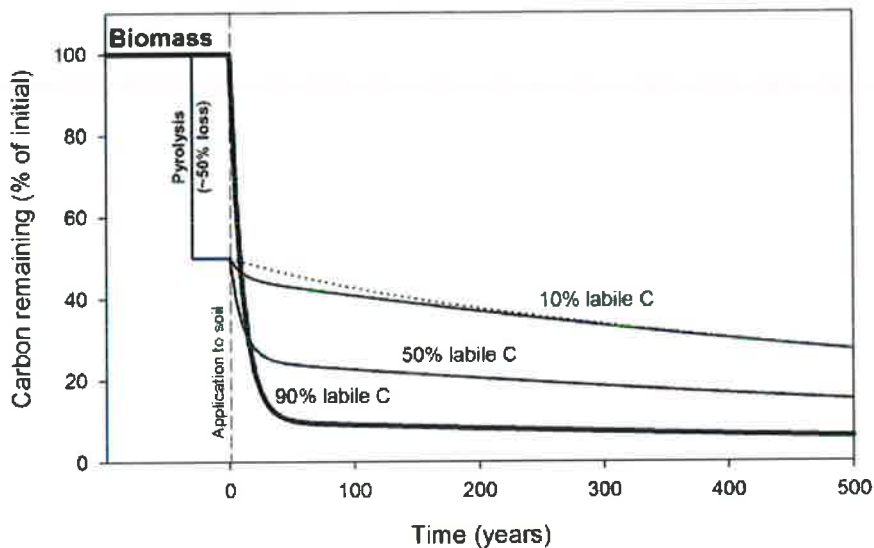


Figure 1. Conceptual model of C remaining from biomass using a decay model with a MRT of 10 years for the labile C pool and 1000 years for the stable C pool, but different proportions of labile C. Source: Lehmann and Joseph 2009

The thick line represents the baseline decomposition of the original biomass, which contains up to 90% labile carbon (C). The thin lines represent scenarios of conversion of biomass into biochar, with different levels of chemical recalcitrance, ranging from 50% labile C to 10% labile C. Carbon losses by pyrolysis average approximately 68% at high temperature and 30% at low temperature (depending upon feedstock and production conditions).

This locally-produced biochar can be available for local agricultural producers, as well as water treatment applications.

Appeal Rebuttals

“Appeared to be Fast-Tracked” - SVEC submitted its Major Use Permit application in February 2019. It was not until July a following supplemental information submission that the Community Development (CD) staff provided approval to proceed. It was an additional six weeks before SVEC staff was informed that the Initial study was not scheduled until late fall. Accordingly, it was agreed that SVEC would commission and pay an independent planner to complete the Initial Study (IS) which was submitted on October 29, 2019. It took another 90 days for the CD staff to post the public comment period in the state clearinghouse and approximately another 30 days to

place the permit before the Planning Commission. There was no public comment submitted by the "Red Hills AVA Stakeholders Alliance" during this time.

"Nonchalantly Declared" - Neither Mr. Nelson, nor any member of the "Red Hills AVA Stakeholders Alliance" attended or provided public comment at any stage of this Major Use Permit including the April 9, 2020 session of the Lake County Planning Commission. The nearly 90-minute discussion of this project covered all major issues brought forward by neighbors, specifically noise and dust, as well as aesthetic concerns presented by two of the commissioners. Only four Commissioners were present at this first meeting, so it was agreed to continue final action on the project until April 23 to give SVEC time to review and address the issues raised. Prior to the second meeting held on April 23, SVEC staff prepared and submitted a supplemental project report outlining clarifying information on how the project would address three major concerns noted above (see report: Supplemental Project Description). Additionally, SVEC staff held an on-site meeting with Mr. Nelson and via correspondence with the first neighbor to raise concern, Mr. Mark Barnes, who has provided his support for the project.

"Deliberately Abusing the Zoning System" - The zoning ordinance as set forth in the General Plan is intended to be a framework in which unknown future development can occur. Within the Rural Residential (RR) zone a number of non-family services are allowed including power generation. One can only assume that the creators of this zone did not envision its sole use would be family structures.

As noted in the Initial Study and Community Development staff's report, the RR area of this parcel is 25 acres with another 10 acres zoned commercial highway, yet there are severe limits placed on the number of family units allowed in an RR zone. The intent would seem to be a meshing of surrounding properties with different zones by limiting future development via a very low density factor, i.e., a ratio of structures to acreage. This project meets this density ratio. It will encompass less than 1 acre or 1/25th of the RR area.

Of this small size, the majority will present as undeveloped because it is intended to hold low height piles of wood chips as they await processing. This feature will easily blend into the existing walnut orchard, the most recent prior use of the property. The major concern appears to be the project's proposed structure - a building with a height of 16' and a 2,000 square foot footprint, and will be shorter and smaller than the closest home southwest of the project and clearly much smaller than 4,000 to 5,000 square foot 2-3 story home that this property's current value suggests.

"Industrial Complex" - This concept conjures up images of the Allegheny Valley at the height of steel production with multiple factories taking in train loads of coal and iron ore to be heated in kilns that are kept heated 24 x 7, billowing smoke and ash into the environment with 50' smoke stacks. The small size of the bioenergy plant proposed does not meet the standards of an industrial complex. The main operation occurs fully contained within an enclosed building, the size of a medium-sized house. The chip storage area will be shielded from Red Hills Road by the building and the proposed 8' fence. To be considered a "blemish" both the building and storage area would have to dramatically stand out from multiple vista points. This is not the case as was demonstrated before the Planning Commission.

“Fuel Burning Facility & Smoke” – One of the key considerations in the development of this project was and is environmental impact. Carbon waste to green energy, planet stewardship and community improvement are all key components of our strategy. The Artis systems have no open flames, no atmospheric emissions and are designed to be carbon neutral to carbon negative. The appellants appear not to fully understand the concept of pyrolysis, the core process used in our systems. Simply stated this process heats a carbon-based material in an environment of limited oxygen. Oxygen is one of the three elements required to “burn” material. Without it, burning cannot occur. In the small bioenergy plant proposed in this project, forest material is reduced to a very small size less than ½ inch in all three dimensions. It is loaded into a chamber that is SEALED and HEATED to between 600 and 900 degrees Celsius. This high temperature in absence of oxygen causes the carbon-based material to be reduced to its primary elements. 80% - 85% is in the form of a gas, known as syngas, primarily hydrogen and carbon monoxide, and the remaining 15% - 20% is in the form of carbon, referred to as biochar. Because this process does not “burn” the forest material and because the process is in a sealed chamber intended to capture the syngas without producing any emissions - *no smoke occurs* - hence no smoke enters the environment.

Unlike open pile burning, which vineyard, orchard, and forested landowners and stewards do on a regular basis in Winter and Spring causing air quality alerts from particulate-laden smoke and ash - and just as importantly carbon into the atmosphere which contributes to climate change - the proposed bioenergy process qualifies for the state's carbon neutral standard because of its positive impact on the environment.

When the biochar is used as a soil amendment, the process meets the carbon negative **standard** which means that carbon is being removed from the atmosphere by virtue of being sequestered back into the soil, where it first originated. It is a building block of what is called “carbon farming” - sequestering carbon in soils.

“Dust” - SVEC staff are sensitive to and recognize that chipping of forest material can lead to the creation of dust. However, as described in the attached supplemental report, measures have been taken to reduce the volume of dust to below significant levels. These measures include bringing in only pre-chipped material that will be processed a second time to meet the small size standard noted above. This process is a modification of the original process whereby non-commercial grade forest material would be brought for both primary and secondary chipping. Additionally, the chipping process will occur between the building and the proposed 8' fence again with the objective of containing dust. As noted at the April 23, 2020 Planning Commission meeting, a water spray system can be used if the dust release is greater than anticipated. The property already has a chip-sealed drive and paved parking lot to further minimize dust.

“Noise” - Again as noted in the supplemental report, additional steps have been taken to mitigate the impact of noise on neighbors. These include first changing the entire acceptance of forest material to a pre-chipped state thereby eliminating the primary chipping process, and second to reduce the hours to no more than four hours per day with no chipping on Sunday. We believe that the secondary chipping process can occur in less than four hours a day, however, we have not had any chipper manufacturer give us a more accurate time frame. Given that most wine tasting rooms open after 10 am, it is proposed to start chipping between 7:30 and 8:00 a.m. with a goal of

completing the process prior to their opening. SVEC staff have already committed to not chipping on Sunday and will work to reduce hours on Saturday to the maximum extent feasible.

As noted above the secondary chipping process will occur between the building and fence area which should act as a buffer to noise. Again as noted, in the supplemental report, we have developed a rapid mitigation response plan that would allow us, should it prove necessary, to further sound isolate the chipping process. This plan includes use of portable fencing and acoustic absorption blankets.

“Generators” – The two (2) Gillette Generators (catalogue cut sheet included in primary report) function at 83 dba at a distance of 23 feet unenclosed. When installed inside a Level 2 enclosure designed with a selective catalytic reduction/residential silencer, the dba is reduced to 79 dba, well within the established noise standards. At 150kW each, these are not big generators. Each unit fits inside its own separate, noise reducing enclosure. Given the distance to the nearest neighbor, approximately 1,500 feet, it is highly unlikely that noise will be heard at their residence, outside or inside.

“Trucking” - The plant requires four tons of chipped material daily. The optimum plan would be to take delivery of one-five ton load each day for 3 days and two-five ton loads on the fourth and fifth days, presumably in the late afternoon; and, no deliveries on the weekends. On the output side, the biochar will be held in enclosed bags until five tons are amassed. At 15% of the input weight, (four tons), this equals 1,200 lbs. per day, or four days to acquire a five-ton load. For purposes of clarity one may assume two biochar pickups per week, with each accessing the project via highway 29. Thus, the total number of weekly trips for both input and output material is 9 trips or an average of 1.3 trucks per day. Given this low shipping demand it is hard to imagine when “trucking” will create a negative impact on the neighbors or scenic corridor.

“Scenic Corridor” – This issue was addressed at the first Planning Commission meeting on April 9. As noted in the supplemental report, the project’s building will be seen for a distance of not more than 75 yards with the center of this distance being the center of the main entrance to the project’s property. No other vantage point on either the north-south axis or east-west axis has been identified from which the building or storage area could be seen. The building will be in earth tones to blend into the surrounding environment. In addition, SVEC is proposing that a quilt block mural be installed on the front end of the building, which is the most viewed elevation seen traveling northbound on Red Hills Road.

In Summary

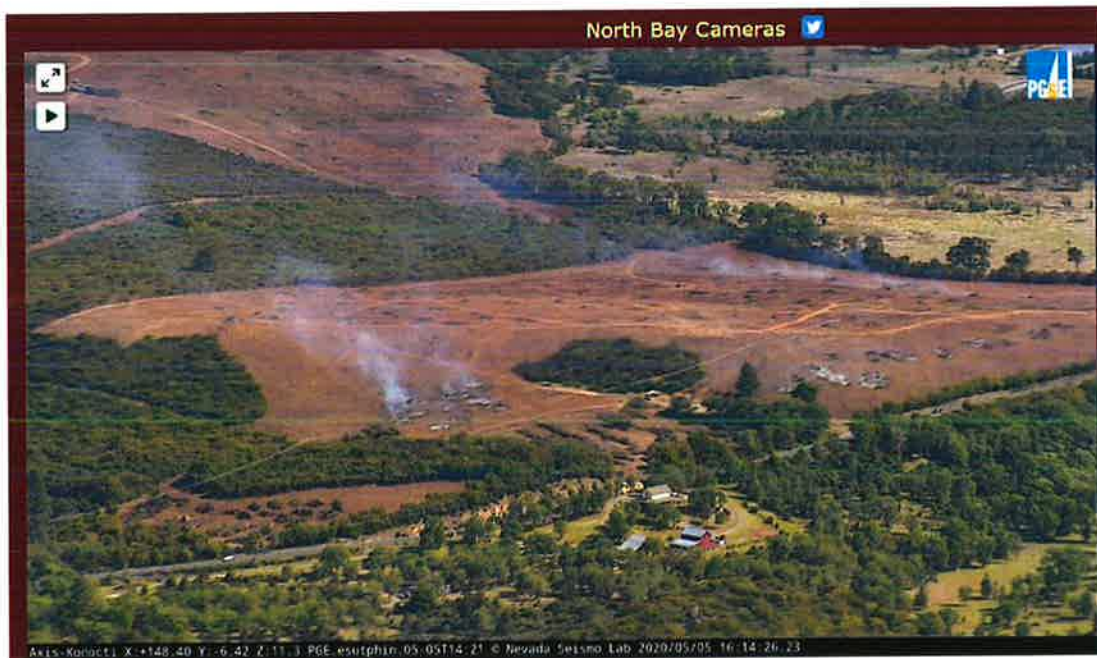
SVEC staff firmly believe that the small scale of this project will have none of the negative impacts presented in this appeal. Conversely, SVEC believes the project will support fire risk reduction efforts conducted by utilities, homeowner associations, fire safe councils, fire prevention agencies, forested land owners (both private and public) and residents.

Another positive side effect of this project would be an increase in local power grid resilience. As part of this project SVEC will be funding significant upgrades to the local grid as well as the addition of distributed bioenergy generation. These collectively add to local power availability and reliability.

This project also will support and protect the environment through a reduction in the release of carbon, provide local jobs and support local agricultural operations including winegrape vineyards if owners elect to use biochar as a soil amendment.

5/5/20, 4:15pm screenshot of live stream from the AlertWildfire webcam atop Mt. Konocti showing open pile burning of native chaparral cleared to make way for vineyards along Soda Bay Bay Rd/State Hwy 281 across from the Ely Stage Stop (in the foreground).

Instead of open-pile burning and sending smoke and particulates into the air and releasing carbon, this biomass could have been used to generate bioenergy and biochar in a facility a mile away.





United States
Department of
Agriculture

Forest
Service

Mendocino National Forest
Upper Lake Ranger District

10025 Elk Mountain Road
Upper Lake, CA 95485
707-275-2361
TDD: 711-Relay Service

File Code: 1580

Date: May 18, 2020

Mr. Mark Roberts
Principal Planner
Lake County Planning Division
255 N. Forbes Street
Third Floor, Rm 323
Lakeport, CA 95453

Subject: Bioenergy Production System: UP 19-05, IS 19-09, AB 20-01

Dear Mr. Roberts,

The Forest Service recognizes the value of biomass for the disposal of non-merchantable timber and brush to reduce fuel hazards. Currently there is no market for the biomass size class that makes up a large portion of fuel loading on the Upper Lake Ranger District. Specifically, haul distances to the closest facility makes the sale of biomass uneconomical. The only method to dispose of this class of hazardous fuels is to cut and pile, masticate, and burn. The Ranch fire showed that the last step of this process which is the removal of this fuel from the hillslope, currently limited to burning, is a critical last step to change fire behavior and protect habitat, soils, and slow wildfire spread in Wildland Urban Interfaces. Removing this fuel through burning is a slow process due to limited opportunities to burn and operational capacity. Any industry or market that can be developed within a hauling distance from the Forest will provide an additional tool in the tool box for fuel reduction. The proposed facility may not be within haul distance but, if economically and socially successful, may lead to the development of additional biomass facilities that can be used for fuel reduction and watershed protection on National Forest Lands.

In the interest of full disclosure, the Upper Lake Ranger district has been involved with a combined grant proposal with the tribe and other entities for CalFire funding of fuel reduction and the potential development of a biomass facility on tribal lands. This proposal was declined but may be reconsidered during future grant cycles.

If you have any questions please feel free to contact me at 707-275-1401 or by email at frank.aebly@usda.gov. Thank you.

Sincerely,

Frank A. Aebly, Ph.D., District Ranger
Upper Lake / Covelo Ranger District, Mendocino National Forest

RECEIVED

MAY 18 2020

**LAKE COUNTY COMMUNITY
DEVELOPMENT DEPT.**



Caring for the Land and Serving People

Printed on Recycled Paper





Laurie Hutchison
Coordinator

Lake County Fire Safe Council

Phone: 707-262-7093

P.O. Box 62, Lakeport, CA 95453-0062

Email: FireSafeLC@gmail.com

RECEIVED

Date May 12, 2020

MAY 14 2020

To: Lake County Board of Supervisors

**LAKE COUNTY COMMUNITY
DEVELOPMENT DEPT.**

Re: Support of Major Use Permit (UP 19-05) and Mitigated Negative Declaration based on Initial Study (IS 19-09), Scotts Valley Band of Pomo Indians Red Hills Rd BioEnergy/BioChar production facility

From: Laurie Hutchison, Lake Co. Fire Safe Council Coordinator

Lake County evolved with fire, and fire will continue to shape the landscape. Residents are all too familiar with the repercussions and reality of wildfire; they understand that it is not a question of *if* a wildfire will occur, but rather *when* and how large. The challenge is how to proactively prepare our homes, neighborhoods, communities, and wildlands for coexisting with wildfire instead of reacting to it.

The Lake County Fire Safe Council (LCFSC) consists of members from all local Fire Protection Districts, local Fire Safe Councils, CalFire, Homeowners Associations, community members, and more. LCFSC staff are funded through the Lake County Resource Conservation District (LCRCD) which is a "special district" of the state of California. As a locally governed agency with their own locally appointed or elected independent boards of directors, RCDs help private landowners conserve soil and water and manage their resources sustainably. They also act as a focal point for local conservation efforts, function as leaders in the conservation community, and sponsor educational efforts to teach children and adults alike the importance of conserving natural resources.

As part of the LCRCD, the LCFSC convenes monthly with stakeholders whose job or interest is protection of Lake County lands and homes from the threat of wildfire, which

exact a devastating toll on lands, residents, businesses, governments, and the community as a whole.

We support the BioEnergy/BioChar facility Major Use Permit on Red Hills Road at Highway 29. This location is centrally located within Lake County making it easily accessible to agencies, contractors, and others who are performing hazardous vegetation abatement to mitigate the effects of wildfire in our County.

The creation of BioChar as a byproduct of energy production is a benefit, and can be utilized as an amendment to retain soil moisture, which also may help to lessen the threat of wildland fire. This small facility will be a much-needed tool added to our toolbox to help prevent catastrophic wildfires in Lake County, as it will also reduce the need for permitted open pile burning, which can and has, in the past, escaped to become much larger wildland fires.

Again, the Lake County Fire Safe Council fully supports this project at this location.

Thank you,

Laurie Hutchison, LCFSC Coordinator



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MAY 14 2011

LAKE COUNTY COMMUNITY
DEVELOPMENT DEPT.

May 13, 2020

County of Lake
Board of Supervisors
255 N. Forbes Street
Lakeport, CA 95453

Re: Support of Major Use Permit (UP 19-05) and Mitigated Negative Declaration based on Initial Study (IS 19-09), Scotts Valley Band of Pomo Indians Red Hills Rd BioEnergy/BioChar production facility

Dear Supervisors:

Seigler Springs Community Redevelopment Association (SSCRA) strongly urges support for the above-named project. SSCRA focuses on community-building, working with neighborhoods and communities to tap their own strengths and develop or increase their collective capacity to improve their area's health, economy, sustainability, and resilience. The core of this work is backed by whole-systems thinking and field theories in ecology, community organizing, sacred architecture, integral healing, intentional community and group process as the most advanced community development practices today.

Through our Cobb Area Community Based Fuel Reduction Project, SSCRA is helping private residents in the Cobb Area clear defensible space around their homes and along access routes (driveways and property roads) through a three-year Fire Prevention grant from the California Department of Forestry and Fire Protection (Cal Fire) under the 2018 California Climate Investment Fire Protection Grant Program. The grant supports the formation of neighborhood organizations known as Firewise Communities by providing financial incentives for residential lot-clearing, sponsoring one of the local, semi-annual community fire safety workshops, and supporting local adaptation of the homeowner's guide, Living with Wildfire.

Both as area residents and as a mission-driven organization, we are very interested in projects that can help landowners remove these mitigated hazardous fuels and transform into useful BioChar what would have been waste material requiring landfill resources or causing damage to air quality.

A centrally-located bioenergy facility that could utilize some of this mitigated biomass gleaned from larger property owners in the Cobb area and that would be easily accessible on Red Hills Rd is an ideal location for our community, as we continue to recover economically and for long-term resilience in an area at very high risk for wildfire.

12312 Highway 175, Middletown, CA 95461



(Support for UP 19-05, IS 19-09, AB 20-01, p.2)

And there is added benefit for BioChar, a premium soil amendment, to be utilized to restore lands devastated by previous fires, where the runoff can impair the water quality of Clear Lake via Kelsey Creek, as well as Sacramento River via Putah Creek.

SSCRA has reviewed the appellant's filing as well as the measures that SVBPI has taken. We believe that SVBPI has mitigated all concerns in the Initial Study and those concerns of nearby properties, and therefore we again urge full support of this project at the Red Hills Road location.

Thank you,

A handwritten signature in blue ink, which appears to read 'Eliot Hurwitz', is positioned below the 'Thank you,' text. The signature is fluid and cursive.

Eliot Hurwitz
Executive Director
on behalf of the SSCRA Board of Directors



Lake County Resource Conservation District
889 Lakeport Blvd. Lakeport, CA 95453
Phone (707) 263 4180
E-mail info@lakercd.org

Harry Lyons
President

10 June 2020

To: Lake County Board of Supervisors

Re: Support of Major Use Permit (UP 19-05) and Mitigated Negative Declaration based on Initial Study (IS 19-09), Scotts Valley Band of Pomo Indians Red Hills Rd BioEnergy/BioChar production facility

From: Harry Lyons, President, Lake County Resource Conservation District

The Lake County Resource Conservation District (LCRCD) is dedicated to locally-led, long-term sustainable conservation and stewardship of natural resources and agriculture in Lake County, California. We act as a focal point for local conservation efforts, function as leaders in the conservation community, and sponsor educational efforts to teach children and adults the importance of conserving natural resources. Activities include soil and water conservation programs, wildlife habitat enhancement and restoration projects, invasive species management, watershed restoration, conservation planning, demonstration of new technologies, education, etc.

We support the Scotts Valley Band of Pomo Indians in citing the corner of Red Hills Road and State Highway 29 as an ideal location for a small-scale bioenergy facility. This central location will allow efficient processing of waste biomass produced in wildfire mitigation and other healthy forest practices. The facility will aid the clean-up of past fires and mitigate impact from future fires; the byproduct, biochar, will be used in innovative projects to improve soil and water resources, initiating a carbon-neutral process. These projects, particularly in wetlands, will benefit the watershed of Clear Lake.

The RCD has written letters of support for funding this project at this location, and believes that SVBPI has mitigated all concerns in the Initial Study and all concerns of nearby property owners.

Board members of the LCRCD are acquainted with both the proponents and opponents of the project and are willing to attend meetings to share information and allay concerns.

Thank you,
Harry Lyons
President, Lake County Resource Conservation District

RECEIVED

JUN 10 2020

LAKE COUNTY COMMUNITY
DEVELOPMENT DEPT.

Mark Roberts

From: Harry Lyons <lyons.harry@att.net>
Sent: Wednesday, June 10, 2020 10:20 AM
To: Mark Roberts
Cc: Terre Logsdon
Subject: [EXTERNAL] Re: UP 19-05, IS 19-09, AB 20-01
Attachments: LOSLCRCD1.pdf

Mr. Roberts,

Attached is a letter of support for the efforts of the Scotts Valley Band of Pomo Indians from the Lake County Resource Conservation District.

Harry Lyons
President, Lake County Resource Conservation District

