

1. PROJECT AREA DESCRIPTION AND PLANS FOR REVITALIZATION. a. Target Area and Brownfields. i. Background and Description of Target Area: The Target Area for this project is the small, predominantly ranching community of Indian Valley, California. Home to approximately 2,500 people, the populated area includes the census designated places (CDPs) of Greenville, Crescent Mills, and Taylorsville. The proposed remediation site is located in Crescent Mills. Located in Plumas County, Crescent Mills lies at the intersection of the northern Sierra Nevada and southern Cascade mountain ranges and is revered for its clean air and water, beautiful natural surroundings and geologic wonders. The county has a rich history of diverse land users including; Native American Tribes such as the Mountain Maidu, multi-generational ranching and logging families, as well as numerous other residents who moved from urban areas to enjoy peaceful, mountain settings to raise their families. With over a million acres of forestland, roughly 80% of which is federally-owned, this area forms the headwaters of the Feather River Watershed, a critical water source for the State Water Project that serves approximately 27 million Californians and 750,000 acres of farmland.

Rural communities in Plumas County, including the Target Area, are heavily impacted by the compounding effects of the declining timber, mining, and building industries, as well as the Great Recession of 2008 which further hampered the socioeconomic development of the area. These impacts are exacerbated by stressors such as climate change, drought, and catastrophic wildfire. A century of reduced wood utilization and intense fire suppression has created a landscape with dense, insect and disease prone forests that are susceptible to catastrophic wildfire and contribute to declining watershed and socioeconomic health. According to the USFS 2017 report, Tree Mortality in the Pacific Southwest Region, between 2010-2017, 129 million trees died in California as a result of prolonged drought, higher temperatures and altered forest conditions. In 2021, California witnessed the second largest wildfire of its time, the Dixie Fire, which occurred in the heart of this proposed project area. The Dixie Fire began on July 13, 2021 and as of full containment in October 2021 had consumed over 950,000 acres. The fire has caused significant impacts to the diverse forested landscapes of the Northern Sierra which serves as the headwaters to states predominate water supply. Furthermore, this fire has proven to be a devastating materialization of our current climate crisis; unique habitats have been lost, communities destroyed, economies and livelihoods consumed by flames and stifled by smoke. Despite all of this, the Sierra Institute is committed to collaborating with our numerous partners and community members to advance efforts to help the region recover from the Dixie fire, increase the pace and scale of forest restoration efforts that build resilience against climate stressors, and develop the next generation of stewards. The impacts of the wildfires across the nation emphasizes the importance of our collective work as we strive to improve the health of our forests and watersheds as well as the many communities which rely upon them.

The State is continuously enacting new regulations and emergency proclamations to keep up with the exponential growth of fire-related damages; however, rural communities such as those in Plumas County lack the capacity to advocate for and utilize these tools at the pace and scale necessary to address environmental and socioeconomic stressors in a timely manner while simultaneously recovering from a catastrophic fire. Consequently, Indian Valley residents must navigate the struggling local economy with limited job opportunities and scarce chances to pursue new industry development.

In addition to the challenges brought forth by lack of social and financial capital, local revitalization and redevelopment efforts are further compromised by a lack of new or existing sites suitable for development. Plumas County is composed primarily of public land – private parcels are situated on rough terrain or located far from primary transportation routes, complicating and driving up costs of development. For these reasons, communities within this region rarely garner support from investors and have been continuously challenged to improve socioeconomic development since the mid-1980's. However, the formerly robust wood products industry provides opportunities for revitalization in the form of abandoned industrial sites formerly home to sawmill and other industrial operations, which have been vacant for over 25 years. These sites often require remedial actions

prior to redevelopment – a time consuming and expensive process that many rural communities lack the capacity and resources to pursue.

ii. Description of the Brownfield Site. The location for this cleanup grant is within a 28-acre property formerly owned by Louisiana Pacific (LP, the “Property”) and operated as a sawmill until it closed in the mid-1980s. Sierra Institute for Community and Environment (SI) obtained ownership in 2017. It lies immediately off of Highway 89 in Crescent Mills, within the Indian Valley community. Specifically, the Property is located at 15690 Highway 89, Crescent Mills, California, 95934. No structures remain on the Property from sawmill operations, but it contains a significant number of structural remnants including asphalt, concrete footers, and railing. The Property runs parallel between Indian Creek, a tributary of the North Fork of the Feather River, and Highway 89 through the Crescent Mills. A BNSF rail line and spur track runs between the Property and Highway 89. The populated area of Crescent Mills is located west of the Property, with some houses abutting the railroad line that separates them from the Property. The eastern edge is bordered by a wetland mitigation site owned by Caltrans, the state transportation department, that is working to restore wetland habitat along Indian Creek.

The focus of this grant includes one site in the southernmost portion of the property which has been designated the “Southern Stockpiles Area”. The site is approximately 9 acres and includes two large stockpiles of soil, rocky sediment and decomposed wood waste excavated during a wetlands mitigation project on an adjacent property which was formerly part of the historic mill site. The stockpiles, which are impacted by elevated arsenic concentrations exceeding site background levels, will be regraded, compacted, leveled and capped with clean fill which will provide an additional 6 acres of redevelopment land. Drainage improvements will be implemented in areas surrounding the remediated area to contain runoff on site. This new site was characterized during a 2017 Targeted Site Investigation and a 2017 Community Wide Brownfield Assessment Grant (99T61701) but has not been addressed by any cleanup awards.

Site assessments completed to date include: Preliminary Assessment/Site Inspection Report (Ca DTSC, 1990); Property Transfer Site Assessment (CH2M Hill, Inc., 1991); Supplemental Site Investigation Report (Geocon Consultants, Inc., 2002); Phase I ESA (Ecology & Environment Inc.(E&E), 2014); Targeted Brownfield Assessment (E&E, 2014); Targeted Site Investigation (TSI, Geosyntec Consultants, 2017); and Site Characterization, Removal Action Workplan and Appendices ([RAW], SI, Sierra Streams Institute, and EKI Environment & Water Inc.).

These assessments established that the arsenic and total petroleum hydrocarbon (TPH) contamination present on the Property is a result of mill practices such as spreading oil and incinerator ash on the roadways, and chemical treatments of wood products. The Phase I assessment revealed that tanks were removed and monitoring wells were installed under the guidance of the California State Water Resources Control Board. As a result of these monitoring efforts, no continued oversight was deemed necessary.

Arsenic in soil appears to be the most widespread soil contaminant (TSI, 2017). Groundwater tests indicate that the arsenic in the soil has not resulted in groundwater impacts at the site. The source of arsenic that is present on the Property may be related to lumber mill operations as identified above, but may also have been present in the import fill material brought to the site to raise the surface grade. If present, import fill was likely derived from off-site gold mining operations which are commonly associated with the presence of arsenic. Regardless of source, the level of arsenic concentrations in shallow soil exceeds the established 9.8 mg/kg background levels across several areas of the Property.

As with many of the brownfield sites in Plumas County, the Property lies within the Feather River Watershed. This watershed is a critical contributor to California’s State Water Project, which delivers water to over two thirds of California’s population and provides an average of 3.2 million acre-feet of water per year to downstream urban, industrial, and agricultural users. The Property is adjacent to Indian Creek; a tributary of the North Fork of the

Feather River and eastern portions are in a federally designated 100-year flood plain. Documented flooding events establish that a majority of the site has been flooded, some parts numerous times, suggesting contaminated soil has repeatedly washed into the creek and the Feather River. Negative environmental impacts to humans and wildlife result from flood water erosion of arsenic contaminated soil that is deposited in downstream areas of the watershed. Water quality impacts include potential exposure to suspended sediment or dissolved contaminants of a concern, which are more likely to occur following the devastating Dixie Fire. The latter underscores the importance of remediating contaminated sites in order to minimize the amount of toxins washing downstream and negatively impacting beneficiaries and critical habitats.

Over the past four years, SI has successfully completed four stages of remediation resulting in nearly 7 acres of clean land available for redevelopment. Redevelopment efforts on these remediated acres have been successfully initiated through the creation of a wood chip processing business to supply a local biomass boiler and a community scale lumber mill aimed at utilizing “waste” material from the devastating 2021 Dixie Fire to support and expedite the sustainable and economically feasible redevelopment of the town Greenville and other rural communities obliterated by the fire. This new site addresses a 9-acre unit located on the southernmost portion of the Crescent Mills property. Work completed to date includes; on-site relocation of stockpiled soil and wood waste (14,000 cy); excavation of clean on-site fill and placement over contaminated areas (14,700 cy); demolition of remnant concrete foundations; on-site processing of concrete and asphalt debris to create aggregate base (1,200 cy) and disposal of rebar and metal debris; placement of crushed concrete aggregate as fill as cap in key redevelopment areas (1,200 cy). An additional 2,000 cubic yards of clean fill material has been identified from the on-site borrow area and is scheduled to be placed during the spring and summer of 2022 utilizing the remainder of Brownfields Cleanup funds (Grant Nos. 99T74301, 98T06801). An additional off-site source of clean fill has been identified and is currently being imported to the site from demolished concrete from burned properties in Greenville which will be crushed on-site and used as fill for site redevelopment. If needed, additional fill material may need to be identified and imported from off-site sources to facilitate complete remediation of the site and enable the continued development of a wood products campus.

b. Revitalization of the Target Area i. Reuse Strategy and Alignment with Revitalization Plans. SI has been working to redevelop the Property into an integrated wood products campus for the past eight years with its partners as described below (see 2.b.i & ii). This campus will utilize a variety of technologies to generate value-added wood products out of low-value woody material coming out of the forest from restoration and fire risk reduction efforts. Site reuse has begun in the form of a wood chip storage and processing yard that supplies chips to the boiler in the Plumas County Health and Human Services building in Quincy, California; as well a lumber mill owned by SI and operated by local contractor J&C Logging for the purposes of expediting the recovery of communities impacted by the Dixie Fire through cleanup and rebuilding efforts. Future businesses to be developed include: dried/package firewood operation, cross-laminated timber production facility, a community-scale bioenergy facility that will sell electricity to Pacific Gas & Electric pursuant to the Bioenergy Market Adjusting Tariff program, and a biomass to hydrogen production facility. This project supports the struggling forest products industry, a major employer in the northern Sierra region. It also supports wood biomass utilization from forest restoration and hazardous fuels reduction activities, importantly helping to reduce fire risk in this at-risk area.

The reuse of this Property aligns with the Plumas County General Plan (“General Plan”), which calls for greater utilization of biomass to reduce forest fuel buildup and to increase use of renewable fuels while reducing reliance on fossil fuels. The remediation and redevelopment of the Property is supported by the County Board of Supervisors, Community Development Commission, and Plumas County Department of Environmental Health and will help to achieve the goals of the General Plan: 1) Create and retain jobs, and reinvest wealth through our economy, community, and natural resources; 2) Improve health and well-being of all Plumas County residents; and 3) Promote a future for Plumas County citizens in which land use decisions balance social, economic, and natural resource health.

The proposed reuse for the property also aligns with California Governor Brown’s October 2015 Emergency Proclamation on tree mortality for increased forest restoration efforts and provides an outlet for dead tree material. The Property’s chip sorting and storage operation already accepts small diameter trees and other woody biomass from local forest restoration and wildland-urban interface (WUI) fuels reduction projects. The ability to utilize this material reduces the number of pile burns that occur in the forest and contributes to decreased wildfire risk, thereby improving air quality for Plumas County residents. The proposed reuse is also in line with the California Natural Resources Agency’s SB 859 Wood Products Working Group Recommendations to Expand Wood Products Markets in California (2017) which outlined three goals: 1) Remove state barriers and create pathways to success, focusing on challenges to redeveloping sites 2) Promote innovation, focusing on building the institutional infrastructure necessary to bring new wood products to market, and 3) Invest in human capital, focusing on assuring the necessary workforce is available and trained appropriately to staff new wood products operations, and that the building blocks of innovation in this sector exist in the California’s public technical and higher education systems. These recommendations are repeated in the State’s 2018 Forest Carbon Plan and are similarly presented in the Joint Institute for Wood Products Innovation’s 2020 Draft Recommendations for Wood Biomass Utilization. Specifically, the Joint Institute recommends “to identify any statutes that unnecessarily restrict the conversion of brownfield sites to forest product and/or bioenergy facilities” and to create brownfields coordinators to support local governments to redevelop these sites.

Plumas County is within the sphere of influence of the Sierra Economic Development Corporation (SEDCorp) which identifies biomass utilization as one of two region wide development priorities and calls for “the continued exploration of the economic, environmental and triple bottom-line benefits of managing our forest by-product material. SI prioritizes utilizing sustainable development practices while redeveloping the Property. For example, the wood products campus will support broader efforts to improve local air quality – businesses on site will provide a local outlet to send forest biomass material, which is otherwise burned in piles in the woods and releases harmful emissions. Establishing a local outlet for wood material will also help to increase the pace and scale of nearby forest restoration and fuels reduction activities and reduce the risk of catastrophic wildfire – which has repeatedly resulted in detrimental social, economic, and environmental impacts throughout California.

ii. Outcomes and Benefits of Reuse Strategy. As a designated Opportunity Zone in Plumas County, the remediation and redevelopment of the Property as a wood utilization campus will catalyze revitalization in the Target Area. As previously mentioned, the proposed operations include an assortment of businesses that will generate value-added products out of low value woody material coming from forest restoration, post-fire remediation and wildfire risk reduction activities. The heart of this campus will be a biomass to hydrogen facility which will utilize small biomass as a renewable energy source, supplying power to the grid and help to produce various other wood products using excess heat from facility operations. The campus will promote increased forest restoration and will create a number of jobs for the local community, spurring economic development. Jobs resulting from the campus build out and operations will support a diverse range of skill sets including but not limited to: forestry, social and environmental specialists, haulers, facility operators, and a variety of managerial and administrative positions. The range of new positions will help facilitate growth in local employment diversity and availability.

At full build out, the campus will:

- 1) Provide an outlet for burned trees from the catastrophic Dixie Fire and dead trees from prolonged drought and beetle kill that are currently widespread across the Sierra Nevada, posing a fire hazard to surrounding communities;
- 2) Increase the capacity of and incentive for local forest managers to conduct forest and watershed restoration and hazardous fuels reduction treatments - thereby improving forest health, reducing the risk of catastrophic wildfire, and increasing carbon sequestration in northern Sierra Nevada forests;
- 3) Improve air quality for local residents by reducing the amount of forest biomass openly burned;
- 4) Strengthen the local economy in Indian Valley through development of new wood-product businesses;

- 5) Develop between 15 and 25 much needed jobs at the site for the socio economically-depressed communities of Indian Valley and Plumas County—the cleanup itself will generate a temporary work opportunity for at least 3-4 people. This does not account for numerous off-site jobs needed to ensure a steady supply of biomass.

c. Strategy for Leveraging Resources i. Resources Needed for Site Reuse. Funding has been secured from a variety of sources to support site assessment, cleanup and redevelopment efforts that are described in this document. Sources of funds leveraged to support Property redevelopment are listed in Table 1.

Table 1: Funds Leveraged to Support Crescent Mills Property Redevelopment

Source	Funding Name	Purpose/Products	Amount	Status
U.S. EPA	Targeted Brownfields Assessment 2014	Phase I, Phase II, and Analysis of Brownfield Cleanup Alternatives	\$200,000	Secured, completed
USDA Rural Development	Rural Business Development Grant 2015	To support Crescent Mills site buildout and provide support to potential business owners, increase capacity for site reuse	\$65,000	Secured, completed
Sierra Nevada Conservancy	Proposition 84 Grant Program 2015	Site development and mechanical work for wood chip operations	\$350,000	Secured, completed
U.S. Forest Service	Wood Innovations Grant 2016	Site engineering and planning for development of a bioenergy facility and wood utilization campus at the Crescent Mills site	\$250,000	Secured, in progress
Private donor funds, coordinated by Northern Sierra Partnership	2017	For purchase of Crescent Mills site	\$191,500	Secured, completed
Ca Department of Toxic Substance Control	Targeted Site Investigation 2017	Crescent Mills site characterization	\$149,000	Secured, completed
U.S. EPA	Brownfields Assessment Grant 2017	Crescent mills site characterization and cleanup planning	\$200,000	Secured, completed
U.S. EPA	Brownfields Cleanup Grant 2018	Funding to clean up three brownfields sites in Crescent Mills, Ca	\$600,000	Secured, in progress
U.S. EPA	Brownfields Cleanup Grant 2020	Funding to clean up two Brownfields sites in Crescent Mills, Ca	\$500,000	Secured, in progress
Sierra Nevada Conservancy	Resilient Sierra Nevada Communities Program 2020	Crescent Mills site development and mechanical work for wood chip operations along with development of another biomass boiler in Plumas County.	\$937,075	Secured, in progress
U.S. EPA	Brownfields Cleanup Grant 2021	Funding to clean up three Brownfields sites in Crescent Mills, Ca	\$500,000	Secured, in progress

ii. Use of Existing Infrastructure. The Property’s historic use as a sawmill provides the ideal foundation for the redevelopment of a wood products campus. The entire site is 28 acres and is zoned “Heavy Industry”, with

approximately 11 acres that were previously graded and/or paved for mill operations. The site is optimally located adjacent to a BNSF spur track historically used for transporting materials to and from the sawmill. SI has initiated the development of the wood products campus and supporting infrastructure (Quincy boiler, chip sorting equipment, hauling equipment, lumber mill, etc..) through the acquisition of supportive funds from various federal, state, and private sources. Additional infrastructure needs key to the revitalization plan include a biomass to hydrogen facility, additional biomass boilers throughout Plumas County, and other wood extraction and utilization operations. SI is actively searching for and acquiring additional funding.

2.COMMUNITY NEED AND COMMUNITY ENGAGEMENT. a. Community Need. I. Community’s Need for Funding. Plumas County has been designated as one of fifteen “Frontier Counties” of California due to its small population and geographic isolation. Table 2 below provides data on selected demographic factors that highlight social and economic hardships faced by communities within the Target Area of this proposal in comparison to county, state, and national standings based on the 2018 American Community Survey (ACS) 5-Year Estimates and 2017 ACS Estimates. A majority of the county’s 18,699 residents live in or near the four small communities of: Portola, the county’s only incorporated city; Quincy, the county seat; Greenville, the largest community in Indian Valley; and Chester. Like other rural counties in California and throughout the U.S., Plumas County struggled economically even before the Great Recession of 2008, and mirrors stagnant timber industry communities throughout the Pacific Northwest. The county’s timber-based economy is seasonal, with forest workers laid off in winter. Consequently, winter months typically have the highest rates of unemployment during the year—above 20%. The 2018 unemployment rate of 6.4% for Plumas County is greater than the rates for most counties in the state, and higher than California and the United States, at 6.7% and 5.9%, respectively. With the erosion of jobs, Plumas County’s population has been decreasing over the past decade.

Greenville, at 1,108 people, is one of the more impoverished communities in the county. The ACS estimates a poverty rate of 18.3% (compared to 11.67% for Plumas County and 14.3% for California). The Target Area far exceeds national, state, county, and local poverty rates with 26.3% of the community below the poverty level. Eligibility among children for Free or Reduced-Price Meals in Indian Valley is approximately 56.9% for the 2019-2020 school year, 6.3% higher than the 2018-2020 school year (Education Data Partnership, 2020).

Table 2: Selected demographic factors comparing the Target Areas (Crescent Mills, Greenville, and Taylorsville) against regional, state, and national standings. Note that the impacts from the 2021 Dixie Fire are not accounted for in this table.

Demographic Factors	United States	California	Plumas County	Crescent Mills CDP	Greenville CDP	Taylorsville CDP
Total Population	322,903,030	39,148,760	18,699	287	1,108	244
Median Household Income ^{1,2}	\$ 60,293.00 ¹	\$ 71,228 ¹	\$ 53,270 ¹	-	\$ 29,328.00 ²	\$ 81,277.00 ²
American Indian and Alaska Native	0.8%	0.8%	2.3%	27.9%	5.0%	0.0%
Hispanic or Latino	17.8%	38.9%	8.7%	6.8% ³	5.0% ³	0.0% ³
Unemployment Rate ⁴	5.9%	6.7%	6.4%	-	2.5% ³	33.3% ³
Below Poverty Level	14.0%	14.3%	11.67%	26.3% ³	18.3% ³	0.0% ³
Households Receiving Cash Public Assistance or Food Stamps/SNAP	12.9%	10.2%	9.0%	13.9% ³	7.3% ³	21.9% ³

Source: 2018 American Community Survey (ACS) 5-Year Estimates
 (-) no data available
 1. Dollar amount in 2018 inflation adjusted dollars. Data from 2018 ACS 5-Year Estimates.
 2. Dollar amount in 2018 inflation adjusted dollars. Data from 2017 ACS Estimates.

3. Data from 2017 ACS Estimates. Not available from 2018 ACS 5-Year Estimates.

4. For civilian population in labor force 16 years and over.

As shown above, the Indian Valley community is one of the most impoverished in Plumas County. The County has no economic development agency, thus it is difficult to raise capital for developing business opportunities and attracting experienced entrepreneurs to advance business development. Its small population has extremely limited capacity to initiate and sustain economic development. Further, due to the remoteness of this area there are few existing linkages to markets to raise funds necessary to assess and remediate sites such as Crescent Mills for redevelopment.

Until recently, the impacts of the declining timber industry were softened by a coinciding increase in tourism and construction of second homes in Plumas County. Plumas County retained some timber industry due to the presence of two mills, but the local economy shifted from a resource-based economy to one dependent on construction and service industry jobs. The Great Recession worsened economic conditions in Plumas County, and unemployment reached a high point of 16.8% in 2010, with some communities experiencing rates over 20%. The 2021 Dixie Fire exacerbated the latter through the devastation of entire communities and landscapes; the longer term repercussions are yet to be seen, but no doubt will contribute to significant socioeconomic decline without prompt intervention.

Beyond the impoverished nature of Plumas County, this funding is essential because the applicant, SI, is a 501(c)(3) non-profit organization and does not have the reserves needed to complete this work. The past eight years of work dedicated by the organization has enabled industry redevelopment and community revitalization efforts to begin on what would have otherwise remained a vacant, contaminated site.

ii. Threats to Sensitive Populations. 1. Health or Welfare of Sensitive Populations. Demographic indicators comparing the Target Area to state, regional, and national standings reveal that the Target Area is within the 56th, 56th, and 57th percentiles respectively for low-income populations; the 12th, 14th, 45th percentile respectively for minority populations; the 88th percentile for children (under age of 5), and 51st, 50th, 40th percentile respectively for persons over the age of 64. In addition, the American Indian population of Crescent Mills (27.9%) far exceeds county (2.3%), state (0.8%), and national (0.8%) levels. The remediation of the site will directly reduce threats to the health and welfare of sensitive population by preventing ongoing exposure to harmful contaminants that likely would have gone unaddressed in perpetuity given the lack of local capacity to fund and navigate the remediation process and avoidance of brownfield sites by investors.

2. Greater Than Normal Incidence of Disease and Adverse Health Conditions. Compared to national data, Indian Valley is within the 54th percentile for NATA Air Toxics Cancer Risk and 53rd percentile for NATA Respiratory Hazard Index. Emergency department visits due to asthma in Plumas County exceed state occurrences with 61.1 per 10,000 people; this number is likely to increase as the area continues to be subjected to catastrophic wildfire and associated hazardous smoke emissions. Furthermore, in 2015 100% of 72 children tested positive for childhood lead poisoning and in 2016 11.6% of the adult population was diabetic (up 2% from the previous year). Historically, Plumas County also has a higher death rate 302 people per 100,000 when compared to the state (151) and the nation (185) (CDC Cancer Data 2013). As common throughout rural communities of the Sierra, environmental and health statistics are limited and fail to accurately reflect conditions.

3. Disproportionately Impacted Populations. Environmental issues faced by Plumas County residents in the Target Area can be primarily attributed to declining forest and watershed health as a result of prolonged drought, changing climate, and a century of forest management practices that have significantly altered the structure of California's forests. These dense forested landscapes are highly susceptible to drought, insect, and disease related mortality and prone to catastrophic wildfires. Indian Valley has repeatedly endured the social, environmental, and economic impacts associated with large wildfires. Recent occurrences include: the 2007 Moonlight Fire (65,000

acres [ac.]); the 2012 Chips Fire (75,000 ac.); the 2019 Walker Fire (54,000 ac.); the 2020 North Complex Fire (318,900 ac.); and the 2021 Dixie Fire (over 963,300 ac.). Classified as the second largest fire in California history, the Dixie Fire spanned five counties; destroyed over 1,200 structures; consumed the rural mountain communities of Indian Falls, Greenville, and Canyon Dam; and inflicted devastating damage to the region's natural resources. Smoke from fires such as these settle in Indian Valley and nearby communities for weeks to months exposing the population to significantly increased levels of three primary pollutants: 1) Particulate matter (PM 2.5 and PM 10), 2) Ground level ozone, and 3) Carbon monoxide; leading to increased rates of respiratory, cardiovascular, and other related illnesses. [add Mental health/trauma impacts as a result of fire? other]

In addition to the negative environmental and health impacts brought forth by wildfires, Plumas County residents are also impacted by open pile burning. Pile burning is the primary method for disposal of material generated from fuels reduction projects in the county, but the process creates harmful emissions like fine particulate matter and reduces air quality in the county's populated valleys. Pile burning that is poorly managed can also lead to forest fires that emit massive harmful emissions, including black carbon as described above. Poor air quality resulting from wildfires and pile burning contribute to increased rates of respiratory and cardiovascular illnesses and directly affect sensitive populations in the Target Area where poverty is high and access to proper health care services is limited.

The redevelopment of the Property into a wood products campus with a biomass-fired combined heat and power or biomass to hydrogen facility will provide a local outlet for woody biomass – and simultaneously improve air quality for the above sensitive populations while producing renewable energy. Specifically, burning biomass in a controlled setting versus an open pile or wildfire significantly reduces emissions that are harmful to respiratory health in disadvantaged Indian Valley communities (with the exception of nitrous oxides) by 93% (Springsteen 2011, Emission Reductions from Woody Biomass Waste for Energy as an Alternative to Open Burning). Thus, the remediation and subsequent campus development will help address some of the underlying health issues in the local area from previous industrial activities as well as current environmental hazards.

b. Community Engagement. i. Project Involvement and ii. Project Roles.

Partner Name / contact	Description / Specific Role in the Project
Plumas County Board of Supervisors Lori Simpson, lorisimp@inreach.com , (530) 368-6110	Supports the redevelopment of the site, especially the development of a wood utilization campus.
Plumas County Department of Environmental Health Rob Robinette, RobRobinette@countyofplumas.com , (530) 283-6355	Provides technical and permitting assistance for assessment and cleanup efforts.
Plumas County Community Development Commission (530) 283-2466	Is the awardee of the 2017 EPA Brownfield Assessment Grant under which they coordinate assessment efforts with sub-awardees (SI and Sierra Streams Institute)
Plumas County Planning Department Tracey Ferguson, traceyferguson@countyofplumas.com , (530) 283-7011	Provides technical and permitting assistance for cleanup and redevelopment efforts.
USDA Rural Development	Supported redevelopment and wood utilization in Indian Valley as part of a Rural Community Development Initiative grant.
U.S. Forest Service Dave Kinateder, david.kinateder@usda.gov , 530-283-7671	Supports the development of a local wood products campus that can utilize small diameter trees and other woody biomass from forest restoration projects.

Feather River Resource Conservation District; (530) 927-5299	Is working with Cal Trans to restore a wetland mitigation site on the eastern border of the Crescent Mills site. Provides input on cleanup and redevelopment efforts as it pertains to the development and maintenance of the mitigation site.
Cal Trans Kelly Kawsuniak, Kelly.m.kawsuniak@dot.ca.gov, 530-225-2789	See Feather River RCD role above. Is also coordinating with the SI to explore options for suitable fill material.
Plumas County Fire Safe Council Hannah Hepner, plumasfiresafe@plumascorporation.org, (530) 927-5281	Coordinates with the SI to identify outlets for forest biomass coming from their fuels reduction projects. Crescent Mills has already been used to store chips from a local WUI fuels reduction project for use in the Quincy boiler.
Center for Creative Land Recycling (CCLR) Ignacio Dayrit, ignacio.dayrit@cclr.org, (415) 728.3848	Has supported assessment and cleanup efforts to date. Provides technical assistance on the cleanup process and provides connections to experienced brownfield professionals.
Crescent Mills, Greenville, & Taylorsville CDPs, N/A*	Supplies information regarding historic site uses. Provides input on future development ideas and community needs.
* Due to the small size of Indian Valley there are a very limited number of community organizations; however, SI frequently reaches out to various community members for support.	

iii. Incorporating Community Input. The project will implement a community engagement process in the Indian Valley area. Due to the small and dispersed nature of our community, it is difficult to effectively reach a large audience. A handful of people will attend public meetings, while others may not have interest in or the capability to come to such an event. Beyond public meetings and bulletins, many rely on the local paper for news and events. With this in mind, SI will pursue a variety of measures to ensure the Indian Valley community is aware of the project and has sufficient opportunities to provide feedback throughout its development. Regular outreach will be conducted throughout the cleanup process, especially to keep the community apprised of when remediation work is occurring in an effort to reduce impacts during the process. Strategies to engage and inform the community include: virtual community meetings, press releases in the local newspaper, social media updates, flyers, and web-based information. To mitigate exposure and risk associated with Covid-19, SI will prioritize virtual outreach and other socially distant events as needed.

The local newspaper, Plumas News, has tracked progress on Crescent Mills redevelopment and, more recently, the cleanup efforts completed to date. SI will continue to communicate closely with reporters from Plumas News so that updates are published in the paper to educate and inform the local community. SI will continue to update their “Brownfields Program” section on its website which provides regular updates and resources for other rural forested communities interested or already engaged in brownfield redevelopment. Relevant project updates will also be shared directly with the county Board of Supervisors and other relevant local government personnel.

Results and lessons learned from the project will continue to be shared by SI with its network of 15 forest collaboratives. Dissemination of information and resources with these groups and associated communities will increase awareness of the remediation process in California for assessing, cleaning up, and removing liabilities associated with brownfields. Moreover, it will help build rural community capacity and success around biomass utilization, brownfield assessment, and site redevelopment.

3. TASK DESCRIPTIONS, COST ESTIMATES, AND MEASURING PROGRESS. a. Proposed Cleanup Plan. The primary constituent of concern at the Site is arsenic in the soil. Following an Analysis of Brownfield Cleanup Alternatives, SI is pursuing a cleanup remedy involving capping with institutional controls. This method will include laying clean fill as a cap and barrier to contaminated soil in areas where arsenic levels are above

background levels. Institutional Controls in the form of land use covenants will be recorded to limit future use of the property to industrial use. This strategy will require ongoing monitoring and maintenance of the cap over time, but is significantly less expensive than an “excavate and dispose” remedy as it does not involve transportation and disposal of excavated soil to an offsite landfill. A capping method is cost effective and can be instituted relatively quickly. It will allow for timely redevelopment of the property, and effectively ensure the health and safety of future workers on site. Cost effectiveness is a priority for the SI as the cleanup will need to be fully grant funded given the limited financial capacity of this community based non-profit organization.

This remedy is described in detail in the official RAW finalized in August 2019. If awarded, SI will continue cleanup and redevelopment immediately after execution of the cooperative agreement.

b. Description of Tasks/Activities and Outputs.

Task 1: Programmatic Management, Oversight and Reporting				
<i>i.</i> Project Implementation: provides funds for SI staff oversight and overall project management costs, including communicating with EPA project officer, selecting qualified contractor to perform cleanup implementation, managing project budget, developing progress reports (consistent with EPA reporting requirements and process), developing the final project report, and any other miscellaneous project oversight activities				
<i>ii.</i> Anticipated Project Schedule: FY Quarter 3 2022 to FY Quarter 3 2025				
<i>iii.</i> Task/Activity Lead(s): Jonathan Kusel & Danielle Berry				
<i>iv.</i> Output(s): Performance reports, final report, photos (before/after cleanup).				
Task 2: Community Engagement and Outreach				
<i>i.</i> Project Implementation: SI staff will implement a community engagement process in the Indian Valley/Crescent Mills area to ensure residents are aware of the cleanup process, and provide opportunities for public comment and input. The SI will also share lessons learned and results with a statewide peer learning network of rural forested communities also striving to redevelop brownfields for biomass utilization campuses, referred to as the Rural Community Development Initiative, led by the SI. Personnel funds will be used to support staff time and supply costs needed for enhancing public awareness of the project (including posters, signs) and for informational meetings (including fact sheets, posters, and other informational documents), and to maintain web-based information.				
<i>ii.</i> Anticipated Project Schedule: FY Quarter 3 2022 to FY Quarter 3 2025				
<i>iii.</i> Task/Activity Lead(s): Jonathan Kusel & Danielle Berry				
<i>iv.</i> Output(s): Presentation and outreach materials.				
Task 3: Cleanup Implementation				
<i>i.</i> Project Implementation: Funds for a cleanup remedy on the eastern portion of the site as described above, to be conducted by the selected remediation contractor. The site will be cleaned up in accordance with the completed Removal Action Plan (RAW). Work will be performed in accordance with applicable federal, state and local regulations. Cleanup activities include soil capping and stockpile relocation. The RAW describes cleanup activities and institutional controls.				
<i>ii.</i> Anticipated Project Schedule: Primarily FY Q3 2022 and FY Q1 2023 with remaining work to be completed as needed FY Quarter 4 2023 to FY Quarter 1 2024				
<i>iii.</i> Task/Activity Lead(s): Jonathan Kusel & Danielle Berry				
<i>iv.</i> Output(s): Soil capping, and a Removal Action Cleanup Report				

c. Cost Estimates

Table 4. Budget Summary

Budget Categories	Project Tasks (\$)			Total
	Task 1: Project Management and Reporting	Task 2: Community Outreach	Task 3: Cleanup Implementation	

Direct Costs	Personnel	\$34,907	\$7,050	\$14,920	\$56,877
	Fringe Benefits	\$0	\$0	\$0	\$0
	Travel	\$1,245.84	\$71.92	\$793.44	\$2,111.20
	Equipment	\$0	\$0	\$0	\$0
	Supplies	\$500	\$500	\$0	\$1,000
	Contractual	\$0	\$0	\$414,307.80	\$416,307.80
	Other	\$7,204	\$1,500	\$17,000	\$23,704
Direct Costs	\$43,856.84	\$9,121.92	\$447,021.24	\$500,000	
Indirect Costs	\$0	\$0	\$0	\$0	
20% Cost Share			\$100,000	\$100,000	
Total Budget	\$43,856.84	\$9,121.92	\$547,021.24	\$600,000	

Task 1: Programmatic Management, Oversight, and Reporting

-Personnel Costs: \$34,907 for SI staff time including Executive Director, Project Manager, and Financial Manager

-Travel Costs*: 1) To Crescent Mills to facilitate, report on, and coordinate cleanup efforts- 12 miles roundtrip, 31 trips = \$215.76; 2) To Quincy to provide updates to local government and other interested organizations- 44 miles roundtrip, 4 trips = \$102.08; 3) To Sacramento to provide updates and distribute lessons learned to other agency personnel – 300 miles round trip, 2 trips = \$348.00; 4) Additional funds to conference(s)/workshop(s) yet to be determined relevant to brownfield cleanup = \$580

-Supply Cost: Supplies for miscellaneous office needs including but not limited to, printing, postage, phone, and computer supplies = \$500

-Other Cost:1) Sub-award to Sierra Streams Institute to advise project = \$4,300; 2) Permit fees for California State Water Resources Control Board Stormwater Pollution Prevention Plan (SWPPP) [\$904], building permits from Plumas County, and other required permits to be determined = \$2,904

-Cost Share: \$0

Task 2: Community Engagement and Outreach

-Personnel Costs: \$7,050 for SI staff to lead this task.

-Travel Costs*:1) To Crescent Mills to provide community updates and facilitate public engagement- 12 miles roundtrip, 3 trips =\$20.88; 2) To Quincy to provide updates and facilitate public engagement with local community members, organizations, and government and other interested organizations- 44 miles roundtrip, 2 trips =\$51.04

-Supply Cost: Supplies for outreach meeting materials including printing and expenses associated with informational handouts=\$500

-Other Cost:1) Sub-award to Sierra Streams Institute to advise and participate in community outreach efforts (assumes two visits to Crescent Mills) =\$1,500

-Cost Share: \$0

Task 3: Cleanup Implementation

-Personnel Costs: \$14,920 for SI staff to oversee, coordinate, and report on implementation/construction activities.

-Travel Costs*:1) To Crescent Mills to provide implementation/construction oversight and conduct inspections and monitoring as needed- 12 miles roundtrip, 100 trips = \$691.36; 2) To Quincy to for permitting purposes and to coordinate with and report to state and local officials- 4 trips, 4 miles round trip = 102.08

-Contractual Cost:1) Cleanup implementation on 6-9 acres = \$361,839; 3) Compaction testing = \$7,000; 4) SWPPP inspections and reporting = \$8,000; 5) Engineering and construction management = \$5,000; 6) Hydroseeding = \$23,068.80 6) water and water truck for implementation activities such as dust control and

hydroseeding- water truck at \$120 per hour and water at 2.5 cents per gallon = \$6,000; and 7) other contractual activities as needed to carry out remedial efforts = \$4,400

-Other Cost:1) Sub-award to Sierra Streams Institute for cleanup implementation supervision and reporting = \$17,000.

-Cost Share: \$100,000.00 from fill

(*) Travel costs estimated using IRS Mileage Reimbursement Rate.

A detailed description of the cost share is included in the Threshold Eligibility attachment. Direct costs for this proposal were generated based on actual values for cleanup work being conducted under the previous Brownfield grant.

d. Measuring Environmental Results. 1. Outputs from this project include Quarterly Progress and final reports, 2-3 community meetings and supporting documentation, project updates for community via local news outlets, soil capping and site cleanup, and a cleanup report. These outputs will be tracked quarterly throughout the grant term.

2.Outcomes include: Increased community awareness tracked by active participation in engagement efforts; remediation of approximately 9 additional acres; reduced community exposure to Property contaminants; and several temporary jobs during cleanup activities. Acres remediated, exposure reduction, and jobs created will be tracked through Progress and Final reports as well as the progression of business development on the Property.

*Long-term outcomes include utilization of at least 35,000-50,000 bone dry tons of biomass per year, equivalent to treating 3,000 – 5,000 acres of forest land for restoration and reduced fire risks. A fully developed wood products campus will include 3-4 new businesses in Crescent Mills, generating between 15 - 25 jobs.

4. PROGRAMMATIC CAPABILITY AND PAST PERFORMANCE. a. Programmatic Capability. i. Organizational Structure and ii. Description of Key Staff. This Cleanup Grant will be managed by a program lead, with overall oversight by an executive director/program director. SI's financial manager will be responsible for managing finances and submitting invoices to the EPA's invoicing system.

For over 25 years, SI has successfully managed a variety of local, regional, and national projects, along with local and regional networking projects. The organization has been engaged in forest issues since it was launched in 1992, and has actively focused on woody forest biomass utilization as an integral part of reducing risk of catastrophic wildfire, creating local jobs, and improving the ecological condition of forests since 2009. The SI is active in state and federal policy discussions, and works with multiple community organizations and businesses involved in the development of community-scale biomass utilization.

Dr. Kusel is the founder and the Executive Director of the SI. He received his Ph.D. from the University of California Berkeley in natural resource sociology and policy, and a Masters of Forest Science from Yale School of Forestry and Environmental Studies. He has led the organization for over 20 years, working to help rural communities thrive by bringing people and ideas together to improve socioeconomic conditions and natural resource management. He conducted pioneering work to develop the concept and assessment of community capacity. The Clinton Administration named Dr. Kusel to the Northwest Forest Management team to assess communities in the Northwest. Following this work, Dr. Kusel led both the community assessment and public involvement teams for the Congressionally funded Sierra Nevada Ecosystem Project during which he developed a new approach to assessing rural community well-being.

Danielle Berry is the Stewardship Project Manager at SI and is involved in the collaborative forestry and biomass utilization initiatives at the organization. Ms. Berry currently serves as the Project manager for ongoing cleanup efforts at Crescent Mills. She received her Master's in Environmental Policy and Management from University

California Davis and has over six years of professional experience in a variety of natural resource fields. Prior to joining SI, she served as the environmental compliance specialist for a design build contractor constructing a 22-mile segment of the California High Speed Rail. Ms. Berry is experienced in managing projects, budgets, contractors, field crews and timelines for a variety of projects and is also knowledgeable in a variety of environmental compliance permitting and project implementation processes for local, state, and federal agencies. She has been involved in the management, coordination and implementation of cleanup activities at the Property and will continue to serve this role.

iii. Acquiring Additional Resources. To date, SI has successfully secured contractors and subrecipients necessary to carry out assessment and implement cleanup activities which were supported through funds identified in Table 1. A subrecipient (SSI) and multiple contractors (NST Engineering, J&C Trucking, and various construction contractors) have been deeply involved in Property assessment and cleanup efforts and they are expected to continue this work. SI will conduct cost analysis and create new contracts for all new product and service needs in accordance with procurement provisions of 2 CFR Part 200.

b. Past Performance and Accomplishments. i. Currently Has or Previously Received an EPA Brownfields Grant. SI received three EPA Brownfields Grants (2018, 2020, and 2021). The cooperative agreements resulting from the awards are providing funding to clean up multiple brownfields sites on the Property. This funding is enabling the revitalization of the former LP lumber mill into the wood products campus described above and is helping to create local sustainable jobs. Work under this grant to date is outlined in Section 1.A. ii.

1. Accomplishments. Utilizing funding secured to date, SI and partners successfully completed a variety of site assessments/characterization reports (Section 1.a.ii). This has allowed cleanup to be completed on approximately 7- acres with additional acres in progress on the Property; this work is expected to be completed by the summer of 2022. Additional outcomes and outputs include a variety of public engagement efforts (meetings, news bulletins, etc.) that increase awareness of Property cleanup and redevelopment – the work is widely supported throughout the county. These outputs and outcomes have been reflected in the Assessment Cleanup and Redevelopment Exchange System (ACRES).

2. Compliance with Grant Requirements. SI has maintained compliance with the work plan, schedule, and terms and conditions under the current cleanup grant. Many outputs for the project have already been completed (or are ongoing throughout the duration of the project) including: 1) quarterly performance reports, contractor selection documentation, Regulatory oversight reporting, ACRES reporting; 2) creation, distribution, and documentation of public engagement materials; and 3) documentation of Addressing Changing Climate Concerns in the Analysis of Brownfield Cleanup Alternatives, and assessment/cleanup documents listed in Section 1.a.ii.

Progress towards achieving expected results has been documented in quarterly reports and is in the process of being updated in ACRES (ACRES reporting has been delayed by Dixie Fire impacts to SI). The last report for FY Quarter 4 was submitted on November 2nd, 2021. This report documented cleanup activities initiated in summer of 2021 and summarized budget expenditures to date.

SI's open Cleanup Grants started July 1st, 2018, July 1st, 2020 , and July XX, 2021 and end October 31st, 2022, October 23rd, 2023, and October XX, 202X respectively. Remaining funds will be used to continue remediation efforts on the sites identified in the Grant Agreements. Under these awards SI is currently undergoing additional site planning and investigations through the winter of 2021 to reinitiate capping of the contaminated sites in the 2022 field season.