Climate Resilience Fund Project Proposals

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Rainwater Catchment Rebate Pilot Project

Project Summary

Through a partnership between Sonoma Water, the Gold Ridge and Sonoma RCDs, Sonoma-Marin Saving Water Partnership, and the non-profit Daily Acts, this proposal seeks to build upon the partners' current success in fostering community water conservation, security, and awareness, by developing and implementing a county-wide pilot rebate and training program to promote household-level water storage through rainwater catchment.

Many county residents are currently facing significant water insecurity, whether through diminishing supplies from urban or community distribution systems, decreased streamflow, or compromised groundwater aquifers. Many rural residents with dry wells are currently forced to have water trucked to meet basic needs. This project is meant to not only provide residents technical and financial assistance to construct onsite winter water storage for dry season use, thereby protecting water sources, but is also meant to empower citizens to take action towards self-sufficiency and emergency preparedness while normalizing such efforts at the household level.

In addition to providing rebates for rainwater catchment system construction, the project will also conduct two workshop series: one targeting homeowners interested in designing and installing their own systems, a second for professional landscapers to receive certification through the Qualified Water-Efficient Landscapers (QWEL) program in rainwater catchment system design and construction.

Project success will be measured through quantitative metrics: # systems (>60) and # gallons of water storage constructed (>250,000); # homeowner workshop participants (>80); # landscapers who receive QWEL certification (>40).

Implementation Timeline

- Rebate structure development: January 2022
- Program Outreach: January 2022 – April 2022
- QWEL rainwater catchment training module development: January 2022 – June 2022
- Workshop planning: January 2022 – June 2022
- Homeowner rebate application period and prioritization: February 2022 – April 2022
- Workshop series implementation: April 2022 – October 2023
- Catchment system design and construction: May 2022 – October 2024
- Project Completion: November 2024

Implementation Budget

Item	Cost
Gold Ridge RCD staff (as Project Lead)	
Lead Scientist (250 hours @ $114/hr)	$28,500
Program Manager (200 hours @ $114/hr)	$22,800
Project Assistant (200 hours @ $68/hr)	$13,600
Bookkeeper (50 hours @ $96/hr)	$4,800
Rural residential rebates (GRRCD district)	$25,000
GRRCD mileage (800 mi @ $0.56/mi)	$448
Printing/workshop materials	$1,400
Subcontracted Project Partners	
Sonoma Water (includes rebate administration through city partnerships)	$40,000
Sonoma RCD (includes Shared RCD Engineer and rebate administration)	$35,000
Daily Acts (workshop facilitation)	$14,000
Total	**$185,548**

Alignment with County Strategic Plan

N/A

Decarbonization

While not all rebated systems will go to properties that would otherwise rely on importing water, the project benefits will greatly exceed the number of rebates provided, as we anticipate many workshop participants or others receiving technical assistance will install systems on their own even if they aren't prioritized for a rebate, particularly those on private wells suffering from critical water insecurity. Other participants will receive their rebates through the City of Santa Rosa's existing program. We therefore estimate the project as a whole will result in the construction of at least 250,000 gallons of water storage that will specifically offset water deliveries. Assuming freight truck emissions averaging 160 g CO2/ton-mile (https://business.edf.org), with the distance of water delivery averaging 40 miles roundtrip, we estimate the project will reduce GHGs by 83 MT CO2/year through offsetting trucked water deliveries totaling 250,000 gallons.

The total amount requested is $185,548, which divided by an annual benefit of 83 MT CO2 reduced emissions is $2,235/MT CO2 reduced annually for at least 20 years. Rain catchment systems will likely be constructed following workshops, primarily in the second year of the project. Systems are estimated to last at least 20 years. With an estimate of 20 systems constructed by Year 2 (28 MT CO2/year), and an additional 40 in Year 2 for the full benefits of 83 MT CO2/year for at least 20 years. As climate change models indicate that water security from groundwater basins or surface water will most likely decrease over time, we anticipate project participants will be willing to maintain their systems in perpetuity.

Carbon Sequestration and Ecosystem Services

N/A

Resilience and Adaptation

The project will serve as a pilot effort to improve drought water security and emergency preparedness at the household level. Going beyond environmental benefits of offsetting summer stream diversions, groundwater withdrawals, and GHG emissions from imported water delivery, the project seeks to engage vulnerable community households in taking steps to provide for their basic needs through uncertain times. Summer drought resilience aside, few households have sufficient and resilient water storage to provide for basic human health and safety for even a few days through other inevitable disruptions, such as earthquakes that compromise water distribution lines and aquifers, fires that divert or impede water truck deliveries or threaten water supply infrastructure, and power outages that compromise well pumps. Additionally, larger systems can be constructed with the appropriate fittings to serve as a community water supply for fire protection, in coordination with district fire departments. While this pilot project will directly facilitate construction of systems for at least 60 households, we anticipate the benefits to be much more far-reaching, in both providing training for residents and landscapers to design and construct simple systems themselves, and demonstrating a cost-effective, feasible, immediate measure most households can take to better prepare themselves for an unpredictable future.

Equity and Community Engagement

Identify potential negative impacts of the project on communities of color and low-income communities, and describe what strategies your Department recommends to mitigate any potential adverse impacts:
None identified

While technical assistance and system design services will be available to all program applicants, rebates will be allocated according to a prioritization structure each application round, with household water insecurity and financial need as the primary considerations. Rebates will be administered on a per-gallon basis; however, applicants with documented financial need, such as the City of Healdsburg's CARE program participants, may be rebated at a higher rate. Additionally, QWEL training modules and technical assistance materials will be developed in both English and Spanish to improve accessibility.

The project was designed in response to high levels of demand from the community for assistance with water security. The workshop series targeting at least 80 residents, to be conducted by nonprofit Daily Acts, will provide a forum for engaging a diversity of community members in emergency preparedness and climate resiliency.

Leveraging Funds and Community Partnerships

This project is leveraged with other funds. The partnership has received a grant for $420,324 through the Department of Water Resources North Coast Integrated Regional Water Management Plan, which requires 50% cost share from non-state sources. However, the funding has several limitations. First of

all, the secured funding source stipulates that the rebate program only be implemented in the North Coast IRWMP region, which excludes the southern part of the county. This cost share through the county will allow us to cover the entire county. Secondly, the existing funding focuses primarily on Sonoma Water's role in the partnership, which is to work with cities and other water suppliers participating in the Marin Sonoma Water Saving Partnership to develop rebate program. This model, while ultimately resulting in an ongoing program beyond the grant funding term, means that a large share of the secured IRWMP funding will to go to assisting city residents, rather than the rural well owners who are facing the most immediate water insecurity. Cost share through this Climate Resilience funding would allow the RCDs to administer significantly more rebates to rural residential well owners, while allowing the project team to continue expand the model to other cities and water suppliers.

The Climate Resilience funding will also allow the partnership to explore and develop new avenues for rebate administration to rural areas into perpetuity, including through the Santa Rosa Plain Groundwater Sustainability Agency. Throughout the grant period, the partnership will continue to seek funding from additional sources to continue to expand the rebate program, and further develop the program to provide rebates for other practices such as greywater and rain garden installation that conserve water and promote groundwater recharge.

The project represents a partnership between Sonoma Water, the Gold Ridge and Sonoma RCDs, the non-profit Daily Acts , and Sonoma-Marin Saving Water Partnership, which represents 11 water utilities in Sonoma and Marin counties who have joined together to provide a regional approach to water use efficiency. The project partners will work in coordination with cities and water providers throughout the county, including the City of Santa Rosa's existing rebate program, to ensure widespread outreach and programmatic synergy. The project will also leverage the RCDs' involvement with the Russian River Coho Water Resources Partnership, currently assisting landowners with larger-scale rainwater catchment systems along five key tributaries to offset summer streamflow diversions.

SW Assessment of Flood Risk Management

Project Summary

Sonoma County is one of the most flood prone counties in the Western United States. Compounding this issue, the increased risk of flooding in the future has been identified by Sonoma Water as part of its Climate Adaptation Plan process to be a significant climate change impact throughout the county. To address this issue in a meaningful way, there must be a more comprehensive approach than isolated actions by Sonoma Water alone. To that end, Sonoma Water is proposing an initial step towards more comprehensive and integrated climate adaptation for flood risks throughout Sonoma County.

Unlike many other counties, flood risk management responsibilities and services in Sonoma County are very fragmented among numerous organizations. Further, there is little coordination or comprehensive planning for countywide flood-risk management amoung these organizations. This project would conduct a countywide assessment of flood risk management, and result in a report documenting recommendations for integrated flood risk actions from the collective flood management agencies in Sonoma County. If desired, this assessment and report could be annexed to Local Hazard Mitigation Plans for involved entities. This project would be an initial step in developing a more coordinated, effective, and efficient approach toward providing flood-risk management services to the community.

Sonoma County has experienced the highest recurrent flood damages of any county in the eleven Western United States (Corringham, Thomas W. *et al*., "Atmospheric Rivers Drive Flood Damages in the Western United States," *Science Advances* 5 (12), December 4, 2019, pg. 2). Additionally, Sonoma County accounts for 34% of the total state dollar payments for National Flood Insurance Program repetitive loss assistance, and accounts for more than 52% of the payments to the top ten repetitive loss communities (2017 Sonoma County Local Hazard Mitigation Plan). Downscale climate models show that the intensity of flooding for Sonoma County will increase. And yet, flood risk management responsibilities and programs are spread across several local government entities (County, Cities, and Sonoma Water) in addition to the U.S. Corps of Engineers. This fragmented organizational structure has led to a lack of coordination and confusion regarding roles and responsibilities (planning/analysis, operations and maintenance, and emergency response). While Local Hazard Mitigation Plans and Climate Adaptation Plans throughout the County address flood risk per entity, we are still lacking a comprehensive regional understanding of shared flood risks, existing services and policies, responsibilities, and integrated opportunities. Our flood risks are great – the greatest in the 11 western states – while our regional flood management is fragmented.

This project represents an initial step in developing integrated climate adaptation strategies for flood management Countywide to address the increased threat of flooding for Sonoma County. Key elements of the project are: (1) documentation of the historic, current, and future flood risk; (2) documentation of where and how local and federal agencies currently provide flood risk management services including legal authorities, policies, and funding; (3) an interactive process among these entities to discuss areas for improvement; and (4) a report documenting recommendations from the collective flood risk management agencies operating in Sonoma County. The results of the project could inform science-based policies and decision making for flood risk management services that are more adaptive to climate change.

Co-benefits of the project would include improved interagency and inter-jurisdiction coordination; significantly reduced risk to life-safety and property; increased likelihood of receiving federal and state funds for implementation; enhanced organizational effectiveness as the regional-scale flood management responsibilities and opportunities are clarified; and enhanced environmental protection as impacts from flood damage are reduced.

The project goal is for Sonoma Water to convene a facilitated process that brings together all flood management entities within Sonoma County; Sonoma Water does not presume that it has all the answers or solutions, but rather that a collaborative process is necessary to bring all responsible entities together. To accomplish this, Sonoma Water will select and manage a neutral third-party flood management and policy facilitation consultant(s) to review, analyze, and synthesize historical flood data and evaluate downscaled climate models to assess projected flood risks. Further, the consultant will work with Sonoma Water to facilitate a process involving federal and local agencies with flood risk management responsibilities to evaluate the status quo (what's working, what's not), alternative models for governance, options for coordinated planning, and revenue models and operations. Lastly, the consultant will prepare a report describing the process with recommendations for policy and agency management.

Implementation Timeline

Activity	Start Date	End Date
Solicit Request for Proposal for flood management assessment facilitator and consultant Board approval to enter contract	Jan 2022	April 2022
Develop an Assessment of Flood Risk Management Programs Countywide that would integrate various elements including: 1) historic, current, and future flood risk 2) assessment of where and how local and federal agencies currently provide flood risk management services including legal authorities, policies, and funding 3) collaborative, facilitated process among all flood management entities to document the status quo and discuss areas for improvement 4) final report documenting recommendations from the collective of flood risk management entities	April 2022	Dec 2022

Implementation Budget

Item	Cost
Sonoma Water staff Personnel will include: Assistant General Manager Chief Engineer and Director of Groundwater Management Deputy Chief Engineer Deputy Chief County Counsel Principal Engineer	100,000

Stream Maintenance Coordinator Emergency Manager Staff Engineer Project Specialist	
Flood Management and Policy Facilitation Consultant(s)*	175,000
Total	$275,000

**See the Project Summary for a description of what the consultant's responsibilities would be.*

Note that this project will require a collaborative multi-stakeholder process, with engagement from County departments, Cities, and the United States Army Corps of Engineers (USACE). This budget assumes local agencies and USACE will support by providing staff participation, data, and engagement in interactive discussions for brainstorming and report review, while Sonoma Water manages the project and facilitator/consultant, and leads assessment/report development. Sonoma Water is confident that these partners will be willing to participate.

Alignment with County Strategic Plan

Pillar: Resilient Infrastructure

- **Goal**: Goal 5: Support, fund, and expand flood protection
    - **Objectives**:
        - Objective 1: Develop partnerships with cities, tribal governments, and private organizations regarding flood protection and sustainability to identify gaps and address climate change impacts.
        - Objective 2: Implement land use planning and assessments to address flood protection, including river setbacks and riparian corridors, and make resources available for residents.
        - Objective 3: Evaluate the feasibility, creation, and/or update of Flood Protection Plans and seek out financing mechanisms to establish protection zones countywide by 2026
- **Department Leads for these Objectives:** Permit Sonoma
- **Description**: This project would build and improve partnerships with flood risk managers throughout the County for the purpose of identifying gaps and addressing climate change impacts, thereby meeting Objective 1. By taking an initial step towards developing a more coordinated approach for flood management operations and comprehensive planning, this project will result in options and policy recommendations for improved flood-risk management services in the county, thereby meeting Objectives 2 and 3.

Pillar: Organizational Excellence

- **Goal 1:** Strengthen operational effectiveness, fiscal reliability, and accountability
    - **Objective 1:** Align the Board of Supervisors' strategic priorities, policy, and operational goals with funding and resources
    - **Department Lead for this Objective:** County Administrator's Office
- **Goal 2:** Increase information sharing and transparency and improve County and community engagement

    - **Objective 5:** Develop strategies that improve information and knowledge sharing within and between County Departments.
    - **Department Lead for this Objective:** County Administrator's Office and Human Resources
- **Description**: This project would evaluate the effectiveness of the status quo of flood-risk management services in the county and identify areas for improvements in terms of fiscal reliability, effective delivery of services, and accountability. Through the assessment process and final report with recommendations from the collective of flood risk managers, this project creates the opportunity to meet Objective 1 above for the Board of Supervisors' flood-related strategic priorities, policy, and operations goals. This project will also meet Objective 5 as a direct result of the assessment, final report, and facilitated discussions among flood risk managers.

Decarbonization

N/A

Carbon Sequestration and Ecosystem Services

N/A

Resilience and Adaptation

As noted above, the current flood management system in the County is fragmented, and yet we have the greatest flood damages of all counties in the 11 Western states. An assessment of flood risk management programs countywide culminating in a report with recommended actions and opportunities, created with the participation of the County's flood risk management entities would promote climate resiliency and adaptive land management across the entire county area and beyond (population 494,336 in 2019). This project would spearhead a collaborative process among flood risk managers throughout the County to build a shared understanding of risks, responsibilities, and opportunities to promote climate resilient and adaptive flood risk management. Without this initiative flood risk management will remain fragmented and less effective.

Equity and Community Engagement

Identify potential negative impacts of the project on communities of color and low-income communities, and describe what strategies your Department recommends to mitigate any potential adverse impacts:
This project promotes direct actions to benefit our vulnerable and disadvantaged communities. Flooding can strand our workforce, interrupt critical services, compromise public health and often dislocates our most disadvantaged and lower income communities. No negative impacts are associated with this project, conversely, the project provides a plan and series of strategies to address service and equity issues to our most vulnerable communities.

A critical component of this project is broad community engagement among flood risk management entities throughout the County. The purpose of the project is to reduce flood risks, enhance coordination, and clarify responsibilities among flood risk managers so that all responsible entities can better serve vulnerable communities. This project will address and daylight issues/impacts associated with flooding in our most vulnerable communities.

A comprehensive assessment of flood impacts, management responsibilities, and future opportunities is necessary to improve flood management among responsible entities Countywide and thereby improve public safety, fostering positive outcomes for our vulnerable communities (lower Russian River, Petaluma, key flood prone areas in watersheds).

There is a planned community engagement element to this project. This project will hire a facilitator to lead the multi-stakeholder engagement process among all entities in the County with flood risk management responsibility. This will not be an easy or straightforward task – but it is necessary to improve coordination and build a shared path forward towards more climate resilient and adaptive flood management.

Leveraging Funds and Community Partnerships

Sonoma Water's flood zones and other internal fund sources will cover Sonoma Water staff involvement and facilitator/consultant costs above the amount included in the project budget. This is currently anticipated to range from $25,000-$75,000 in leveraged funds.

This project is designed to result in a report documenting recommendations from the collective flood risk management agencies operating in Sonoma County. This report can inform science-based policies and decision making for flood risk management services that are more adaptive to climate change, and more integrated across the County. These recommendations will make it possible to leverage future State and Federal climate resiliency and infrastructure funds to implement the identified actions.

The project would align with State efforts, including implementation of Governor Newsom's Water Resilience Portfolio and the California Water Plan Update 2023, making its suite of recommendations strong candidates for state funding. Further, we know that significant funding will be available for flood resiliency projects from the Integrated Regional Water Management Plans (IRWMP) implementation grants round 2 (mid to late 2022), and the FEMA Building Resilient Infrastructure and Communities program (annual). These funding streams will make $100's of millions in funding available in 2022 and 2023. This project would make flood risk management agencies throughout the County ready to strategically seek funding for priority integrated flood resiliency actions, resulting in significantly more cohesive, coordinated, and resilient implementation overall.

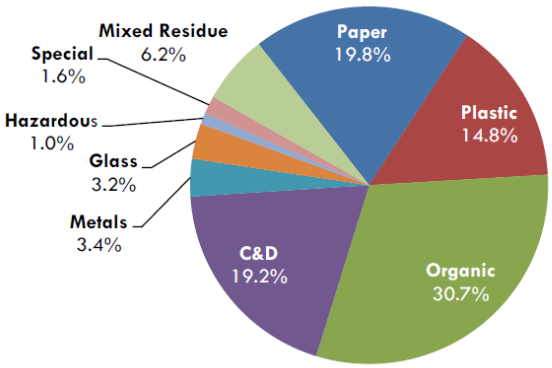
This project is focused on the assessment and coordination aspects of integrating flood risk management and opportunities throughout Sonoma County. Funding for this type of activity is rarely available from external sources. The County's Climate Resiliency Fund presents a unique opportunity to provide the seed money necessary to complete this assessment and coordination. Once completed, this project would set the County up to leverage readily available state and federal funding for implementation.

This project will rely on community partnerships heavily. All flood risk management entities within the County will be engaged to participate; this includes relevant County departments, Sonoma Water, cities, and USACE. This project may also leverage the Flood Zone Advisory Committees, federal partners at USDA NRCS with Central Sonoma Watershed Project, the Petaluma Watershed Collaborative, and the collaboratives associated with the Storm Water Resource Plans.

ZWS Construction, Demolition and Deconstruction Model Ordinance and Tracking System

Project Summary

Figure 1. Sonoma County Waste Characterization Results



In 2014, Zero Waste Sonoma (ZWS) completed a waste characterization study which reported that 19.2 percent (an esitmated 50,000 tons annually) of the waste disposed in the landfill is construction and demolition (C&D)waste. C&D waste is generated from construction, renovation, repair, and demolition of houses, large building structures, roads, bridges, and dams. C&D waste is made up of wood, steel, concrete, gypsum, masonry, plaster, metal, and asphalt and is highly recyclable. When organic materials like wood and cardboard wind up in landfills, over time they break down and produce methane, a greenhouse gas 23 times more potent than carbon dioxide. Reusing or recycling wood and cardboard instead of landfilling them puts a big dent in the amount of methane coming out of landfills. And when C&D debris like wood, cardboard, metal and concrete are reused or recycled into new products, a lot less energy is needed compared to making new products. New products require raw materials to be extracted from the earth which require burning fossil fuels – one of the main causes of global warming

ZWS proposed the development of Construction, Demolition & Deconstruction Model Ordinance that supports the County's zero waste goals (County adopted a Zero Waset Resolution on September 29, 2021) as well as the County's climate action and resilancy goals by reducing GHG emissions. This ordinance would require most construction projects to source separate material or use a third-party verified C&D processing facility to sort mixed loads of C&D, recycling as much material as possible. It would also require deconstruction versus demolition on buildings constructed prior to a threshold year in order to salvage more usable material and build markets for reuse. This requirement would create opportunities for economic development, spur the creation of jobs and contribute to overall resiliency. ZWS will request our Board of Directors to adopt the ordinance then propose the ordinance to the County's Board of Supervisors. Ather the County approves the ordinace then ZWS will all jurisdictions in the County to pass it.

Funding is being requested for Green Halo, a web-based service for waste diversion and recycling tracking because it's essential to executing the ordinance and will save staff time in tracking material diversion and enforcement. Green Halo can easily manage construction recycling policy, customize recycling programs for project or building types, and generate comprehensive recycling reports and statistics to make your program a success. Green Halo's cloud based system allows for anywhere, anytime access. Inspectors can access project recycling data in the field or in the office and work directly with clients to make sure they meet their recovery requirements. Below is a sample of the reporting received monthly from Green Halo including carbon footprint savings monthly through construction and demolition recycling. More information on Green Halo can be found at http//:greenhalosystems.com.

Figure 2. Sample of Green Halo Data Tracking and Carbon Saving Platform

Implementation Timeline

Description	Start Date	Completion Date
Research and development of the draft ordinance language	In Progress	November 2021
Meet with Permit Sonoma on ordinance and solicit their feedback on ordnance language	December 2021	January 22
Meet with local C&D recycling facilities companies on C&D facility certification	December 2021	January 2022
Meet with local deconstruction companies on model ordinance language	December 2021	January 2022
Zero Waste Sonoma bring the ordinance to the Agency Board for adoption	February 2022	February 2022
Zero Waste Sonoma bring ordinance to Board of Supervisors	March 2022	March 2022
Education and outreach to partner stakeholders listed in Figure 2	March 2022	Ongoing
Acquire the Green Halo tracking system for greater oversight and verification of diverted C&D materials	March 2022	May 2022
Green Halo training to County and jurisdiction staff	May 2022	May 2022
Continuation of project tasks and reporting monthly	May 2022	Ongoing

Implementation Budget

Item	Cost
Green Halo System one-time setup fee ($2500 x 10 jurisdictions)	$25,000
Green Halo Monthly tech support, maintenance, and service ($1440 x 60 months)	$86,400
Deconstruction Training & Partnership Building	$10,000
Total (5 years of service)	$121,400

Additional funds to implement and manage the project would come from ZWS's annual budget. If this project is funded then ZWS would hire an additional staff person to execute the project, provide education and outreach, and enforce the ordinance.

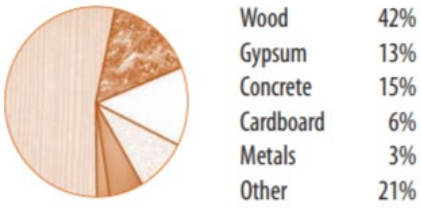
Alignment with County Strategic Plan

Pillar: Climate Action & Resiliency

- **Goal 3:** Make all County facilities carbon free, zero waste, and resilient
  - **Objective 1:** Design or retrofit County facilities to be carbon neutral, zero waste and incorporate resilient construction techniques and materials.
- **Department Leads:** GSD
- **Description:** Implementation of a C&D ordinance will help Sonoma County meet its goal of sending no waste to landfill by 2030 and reducing GHG emissions.

Decarbonization

Figure 3. Construction Waste Generated from Building a 2,000 Square Foot Home



Building a typical California house produces 8.5 pounds of waste per square foot. That's 17,000 pounds of waste for a 2,000 square-foot house. The avoided methane emissions and reduced energy consumption from recycling C&D materials from 1 home is the equivalent of taking 1 car off the road for a year, or avoiding 5.7 metric tons of CO2 emissions. Recycling 6.4 tons of materials from the construction of a new 2,000 square-foot GreenPoint Rated home (which is an environmentally sound home - visit www.GreenPointRated.org for more information) results in a 75% reduction of greenhouse gas emissions for the first year. Deconstructing instead of demolishing a 2,000 sq. ft. house reduces greenhouse gas emissions equivalent to taking three cars off the road for a year. (Source: ReBuilding Center). From an environmental perspective, deconstruction reduces construction and demolition (C&D) waste, reduces air pollution created by demolition, reduces carbon dioxide emissions, abates the need for new landfills and incinerators, preserves resources and saves energy by decreasing the extraction and processing of raw materials, and supports sustainable building processes (ILSR, 2008).

EPA developed a calculator that expands the Waste Reduction Model (WARM) framework to include a community's existing waste stream and policy and program options. EPA's excel spreadsheet calculator is designed to help municipalities, counties, and tribes estimate reductions in life cycle GHGs from implementing new or expanded solid waste policies and programs in their communities.

Using EPA's WARM version 14 emissions factors, the calculator generates projected results for annual and accumulative tons of waste diverted and GHGs reduced over a 10-year planning timeframe. The results can inform comparisons of the estimated GHG impact from implementing different policies and programs, consistent with user-entered assumptions. ZWS will use the WARM calculator to track GHG reductions through recycling of C&D materials and reusing deconstructed materials.

Carbon Sequestration and Ecosystem Services

N/A

Resilience and Adaptation

Deconstruction offers historical, social, economic and environmental benefits. This means that climate change gas emissions, environmental impact, pollution (air, land and water) and energy use are all reduced. Deconstruction also means that less waste goes to landfill because materials are salvaged for

reuse. Deconstruction can help to reduce the reliance on virgin building materials by extending the life of high quality, existing materials. Many actors can participate in the reclaimed building materials marketplace, and these connections may be a valuable piece to community resiliency in the face of emergency events.

Equity and Community Engagement

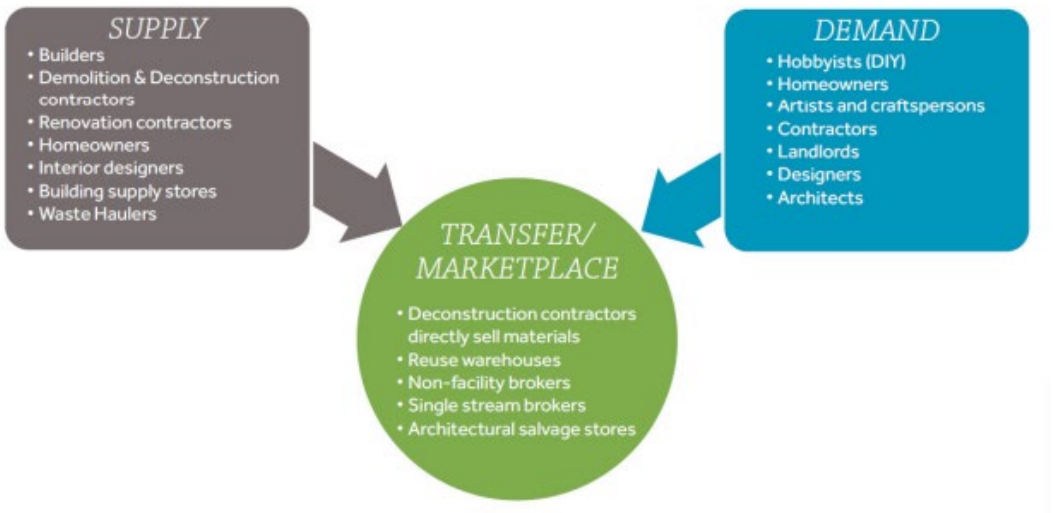
Identify potential negative impacts of the project on communities of color and low-income communities, and describe what strategies your Department recommends to mitigate any potential adverse impacts:
No negative impacts on communities of color and low-income communities have been identified

The Deconstruction component of the ordinance will support the connection of various stakeholders in the community. For example, reuse deconstruction companies provide a positive activity space where community members and those from outside the community come to shop for salvaged items, donate materials, learn about home repair and crafts, and socialize. These companies are a critical vehicle to develop the building material reuse industry, because they develop both supply and demand in tandem. Community development practitioners also want to attract building material reuse warehouses, not only because of their positive impact on host communities, but because they support deconstruction – a job-rich alternative to demolition. Not only does deconstruction provide more jobs in the structure removal process, but it also supports transportation, warehousing, reuse, and production jobs.

Leveraging Funds and Community Partnerships

ZWS would be responsible for the research and development of the ordinance language as well as coordination with Permit Sonoma and Sonoma County jurisdiction's building permit departments upon implementation. We will also engage with supply, demand, and market stakeholders listed in Figure 2 with our education and outreach to diverting C&D materials from the landfill.

Figure 4: Community Partners



Polling for Potential Climate Measure

Project Summary

In September 2019, the County of Sonoma Board of Supervisors declared a Climate Emergency and made addressing climate change impacts a top Board priority. In 2020 and early 2021, your Board established a Climate Action Ad Hoc Committee, authorized the addition of four FTEs to be housed in the new Climate Action and Resiliency Division, and established Climate Action and Resiliency as a pillar of the County Strategic Plan.

The County's dedication to addressing the climate crisis is clear. But, in order to adequately act on this dedication, serious funding must be aquired. The County is currently funding the vast majority of its climate-focused projects via one-time funds, such as this Climate Resilience Fund from the PG&E settlement. In order to grow the County's response to the climate crisis in a sustainable and effective manner, more permanent funding sources, such as a new county-wide climate tax measure, must be located. Additionally, support for climate action is loud and strong amongst Sonoma County residents. The Sonoma County Board of Supervisors hosted a two-hour Climate Action and Resilience Zoom Town Hall on April 6, 2021, which yielded a total of 429 participants and 980 comments. Support for dedicated action was loudly voiced by members of our community.

Polling Sonoma County residents on a potential climate tax would provide the County with critical information that could be used to build up a successful measure. The outreach would be broad and outeach to communities experiencing vulnerabilities would be prioritized. How big of a tax would be acceptable, where would the funds go, what kind of projects/initiative have the most support; all of these questions, and more, would be posed to our community and the collective responses would be used to build a more successful measure.

Implementation Timeline

- Funding acquired from Climate Resilience Fund: February 2022
- Initial research and RFP building: March and April 2022
- RFP open: May 2022
- RFP decision: June 2022
- Contract with successful proposer: July 2022
- Final deliverable: January 2023

Implementation Budget

Item	Cost
Consultant fees	$50,000
Total	**$500,000**

Alignment with County Strategic Plan

The Strategic Plan has numerous objectives around leveraging or locating funds for climate-related work. This project would indirectly support the implementation of all of those objectives, and has the potential to indirectly lead to progress on all Climate Action and Resiliency objectives if funding is acquired through the tax measure and used to push work forward.

Decarbonization

As a polling/community outreach project, this specific work would not lead to decarbonization. The work that if might one day fund, however, could be.

Carbon Sequestration and Ecosystem Services

As a polling/community outreach project, this specific work would not lead to sequestration or improving ecosystem services. The work that if might one day fund, however, could be.

Resilience and Adaptation

As a polling/community outreach project, this specific work would not lead to improved resiliency. The work that if might one day fund, however, could be.

Equity and Community Engagement

Identify potential negative impacts of the project on communities of color and low-income communities, and describe what strategies your Department recommends to mitigate any potential adverse impacts:
None identified

As a community engagement project, this work will ensure that voice is given to all communities, including those experience vulnerabilities. Effort will be focused in the area to ensure that voices typically silenced are actually amplified. Additionally, the feedback received from this community engagement would directly influence the way in which a polling measure might be pursued, which gives not only voice, but power, to the people. Outreach would be offered in multiple languages and in multiple platforms.

Leveraging Funds and Community Partnerships

This project is not directly leveraged with other funds, but if successful, could indirectly lead to significant funding opportunities.

SW Drought Resiliency Planning

Project Summary

County of Sonoma Drought Resiliency Planning: The goal of this project is to improve resiliency and minimize economic impacts from future droughts through an assessment and evaluation of the 2012-2014 and current droughts. This project's first phase will establish a countywide programmatic framework and create potential mitigation projects and actions for each Supervisorial District which could be used to seek and advocate for local, State, and Federal funding opportunities. The next phase of the project will be to implement these actions to improve drought resiliency across the County. This project would complement drought resiliency adaptation strategies described in Sonoma Water's Climate Adaptation Plan for areas that are not within the geographic and jurisdictional scope of that plan.

This project will do the following:

(1) gather, consolidate, and analyse data on water system, environmental, economic, and social impacts from current and prior droughts;

(2) evaluate the cause of impacts (bad aquifer, bad reservoir, no water system interties, etc.);

(3) identify potential mitigation projects and actions that would reduce drought impacts for vulnerable populations and vulnerable areas/systems in each Supervisorial District while providing for some multi-district actions and projects; and

(4) develop a coordinated legislative/funding strategy for pursuing priortized projects and actions.

While this Planning Project would not directly implement immediate on-the-ground drought resiliency projects/actions, it will identify and prioritize discrete actions that would improve resiliency and enhance potential grant funding opportunities prior to the next drought.

Additionally, this project will develop an Operational Area Drought Response Plan designed to minimize drought impacts through improved agency coordination, enhanced procedures for monitoring drought conditions and early warning capability, improved assessment of drought impacts, and more effective response to drought emergencies. This component would be co-led by Sonoma Water and the Sonoma County Department of Emergency Management and serve as an annex to the Operational Area Emergency Operations Plan.

Success would be measured by:

(1) The number of County residents who are able to avoid water scarcity in the next drought;

(2) The amount of external-sourced funding obtained by County stakeholders to conduct drought mitigation projects/actions;

(3) Development of a stakeholder-supported County Operational Area Drought Response Plan;

(4) District-specific actions and project plans that could be used to pursue immediate upcoming drought funding particularly from State and Federal sources in 2022/2023.

Co-benefits will include enhanced interagency coordination and planning for emergency preparedness and drought resiliency actions.

Implementation Timeline

Activity	Start Date	End Date
Solicit Request for Proposal for drought resiliency consultant and workshop facilitator and get board approval to enter into contract	Jan 2022	April 2022
Synthesize existing information and evaluate the cause of variable drought impacts across the County: • Synthesize data regarding drought impacts from current and prior droughts countywide and by County region. We all experienced the same weather, but some areas of the county were affected more severely than others. What did we learn from past and current droughts? Where were drought impacts most severely felt? Why? What areas were relatively resilient? Why? Characterize the data and information regarding how each area performed. • Evaluate the cause of variable drought impacts (bad aquifer, bad reservoir, no interties, water sources, delivery systems, etc.).	April 2022	July 2022
Looking forward – What can be done to position the County to be more resilient for the next drought? • Action Plans per Supervisorial District • Legislative/Funding Strategy • Operational Area Drought Response Plan	July 2022	Feb 2023
Action Plans per Supervisorial District: Sonoma Water will work with Supervisorial District staff to develop district-specific outreach activities that will engage the public and stakeholders. Outreach will be geared at identifying project ideas, issues, and opportunities per district. Sonoma Water will collate input, and identify projects and management actions that would improve drought resiliency for vulnerable areas/systems on a Supervisorial District basis, recognizing that there will be some cross-cutting actions and projects. Identify and resolve data gaps and increase collaboration with proactive monitoring and scientific research including climate projections, temperature, variability (including droughts), NIDIS. *Partners will include: Sonoma Water, Supervisorial District staff, County-Ag Commissioner, Permit Sonoma, Cities, agriculture, others*	*July 2022*	*Oct 2022*
Legislative/Funding Strategy: Develop a coordinated legislative/funding strategy focused on local, State, and Federal funding and program opportunities for pursuing the identified drought resiliency projects in the Action Plans	*Sept 2022*	*Dec 2022*
Operational Area Drought Response Plan: Develop a drought response plan designed to minimize drought impacts through improved agency coordination, enhanced procedures for monitoring drought conditions and early warning capability, improved assessment of drought impacts, and more effective response to drought emergencies. Annex to the Operational Area Emergency Operations Plan. *Co-led by Sonoma Water and Department of Emergency Management.*	*Sept 2022*	*Feb 2023*

Implementation Budget

Item	Cost
Sonoma Water and Department of Emergency Management staff Personnel will include: Deputy Director, Department of Emergency Management Chief Engineer, Sonoma Water Principal Engineer, Sonoma Water Emergency Manager, Sonoma Water Project Specialist, Sonoma Water	100,000
Drought Resiliency Planning and Facilitation Consultants	150,000
Operational Area Drought Response Plan Consultants	50,000
Total	$300,000

Alignment with County Strategic Plan

Pillar: Organizational Excellence

- **Goal 2:** Increase information sharing and transparency and improve County and community engagement
  - **Objective 5:** Develop strategies that improve information and knowledge sharing within and between County Departments.
  - **Department Lead for this Objective:** County Administrator's Office and Human Resources
- **Goal 4:** Seek out grant funding to enhance programs and improve infrastructure
  - **Objective 1:** Secure a total of $60 million in grant funding by 2026 for strategic priorities, including technology tools, **climate resiliency**, and other capital projects.
  - **Department Lead for this Objective:** County Administrator's Office
- **Description**: This project will further both identified objectives within the pillar of Organizational Excellence. One of the products of this project will be a list of projects for drought resiliency that can be used to pursue drought funding opportunities, thereby furthering Goal 4, Objective 1. It will also increase transparency and information sharing by increasing information about drought impacts and opportunities across the county through the Action Plans, thereby helping the County meet Goal 2, Objective 5.

Decarbonization

N/A

Carbon Sequestration and Ecosystem Services

N/A

Resilience and Adaptation

Making all potable water in Sonoma County resilient to climate change would benefit the entire population of Sonoma County, about 489,000 people according to the 2020 Census. Approximately 30% of Sonoma County's population, or about 145,000 people live in unincorporated areas per Sonoma County DHS. Sonoma Water's water system serves primarily the county's incorporated "urban" centers. In addition, some cities like Sebastopol, Cloverdale, Windsor, and Healdsburg do not rely on Sonoma

Water's system. Sonoma Water's system is relatively more adaptive to climate impacts than these cities and unincorporated communities, indicating that more than 30% of the County have potentially vulnerable water supplies during droughts (unincorporated areas plus the identified cities). This project will serve the whole County, with a focus on vulnerable areas such as the unincorporated areas and certain cities. So, at a minimum, the project would make the water supply more adaptive and climate resilient for more than 145,000 people, and could benefit the entire community and adjacent communities within the same watersheds and service areas.

Equity and Community Engagement

Identify potential negative impacts of the project on communities of color and low-income communities, and describe what strategies your Department recommends to mitigate any potential adverse impacts:
The project's goal is to minimize water scarcity in vulnerable areas and communities. The goal of the project is to daylight key strategies to lessen the impacts of future drought and strengthen the County and its communities with information, planning, and preparedness. No negative impacts can be expected to communities of color or low-income communities by making potable water more climate resilient. Community engagement would be needed to include these communities and solicit feedback. Part of the process would be to find out if the drought is impacting all communities, and if the impacts are inequitable across race, gender, and socioeconomic lines.

Three Stormwater Resource Plans (covering the watersheds of Russian River, Sonoma Creek, and Petaluma River) identify issues of equity and community vulnerabilities. Disadvantaged and underserved areas that have been disproportionately impacted by the current and historic droughts will be identified to assist in planning for water supply resiliency and climate change. Project will focus on coordinated drought response and through its strategies and mapping of vulnerable locations will be able to correlate the intersection of drought risk to communities of color and underserved communities.

The project will include a community engagement element as part of its implementation. The planning schedule described above includes an explanation that this project will work with Supervisorial District staff to create District-specific outreach for the District's Action Plan. This project will collate stakeholder input from these outreach activities per supervisorial district, which will result in Action Plans outlining the interests, issues, and opportunities per district.

Leveraging Funds and Community Partnerships

A primary goal for this project is that it will enable Sonoma County to leverage future local, State, and Federal funding to implement drought resiliency projects. Future implementation funding for the identified drought projects would be directly tied to the implementation of Sonoma Water's Climate Adaptation Plan, ensuring the work is complimentary and synchronized throughout the County.

Specifically, this project will enable Sonoma County to target funding for implementation of the identified drought resiliency actions by late 2022, 2023, and beyond. We know that significant funding will be available for exactly these types of projects from the State's 2021-2022 Drought/Water Resilience Funding Package (through the State Water Board and DWR programs, which will carry into 2022/2023), Integrated Regional Water Management Plans (IRWMP) implementation grants round 2 (mid to late 2022), and the FEMA Building Resilient Infrastructure and Communities program (annual). These funding streams will make $100's of millions in funding available in 2022 and 2023. This project will make the County ready to strategically seek funding for priority drought resiliency actions that are

integrated across County departments and Supervisorial Districts, resulting in a significantly more cohesive, coordinated, and resilient suite of implementation actions overall.

This project is focused on the planning and analysis of drought resiliency in Sonoma County. Funding for planning from state and federal sources is extremely limited and rarely available. This seed money would complete the necessary planning step, and set the County up to leverage readily available state and federal funding for implementation.

This project will have department meetings and community meetings to gather Countywide input throughout the planning effort.

Regional Parks Class 1 Bikeway Acquisition Acceleration

Project Summary

The project goal is to accelerate the creation of Class 1 Bikeways (multi-use trails separated from motorized traffic that support bicycle and pedestrian use) used for commuting, recreation, health, and green economic tourism benefits that are a proven way to reduce GHG's from residents and visitors. The Board of Supervisors has been increasingly vocal about the need to speed up the acquisition and development of key regional multi-use trails that link communities, employment centers, residences, businesses, schools, parks, wineries, and other destinations.

This Project is designed to overcome the biggest barrier to Class 1 Bikeway development in Sonoma County for over 50 years: acquisition. Because Regional Parks only acquires property rights from willing landowners, we must be well positioned to communicate the benefits of these trail sections while having the resources to support private landowners understanding the specific footprint and physical design of the trail.

This funding request is addressing the largest barrier through two key approaches: First, $400,000 is proposed for the hard acquisition transaction costs to accelerate the acquisition process for each trail easement or fee purchase which will ensure that logistical portions of the acquisition can move without delay and that there are matching funds for securing the purchase amount. Second, $40,000 is proposed for landowner information and professional marketing materials designed to support a successful partnership, acquisition strategy. These materials will address landowner concerns, inform landowners of options, educate landowners of benefits, and otherwise facilitate securing a landowner agreement. The collateral targeted to landowners will be customized for at least three key regional trails and have base material to be used for any Class 1 acquisition. The collateral will be peer reviewed by stakeholders, including individual and corporate landowner influencers (such as vineyard owners or prominent businesses and residents) in order to optimize messaging, raise awareness, and build community momentum.

Active negotiations are occurring in the following areas Forestville, Hacienda, Monte Rio, Sonoma Springs, Kenwood, Glen Ellen, Graton, Schellville, Cloverdale, Santa Rosa, Rohnert Park, Sebastopol, Windsor, and Bodega Bay. In addition, negotiations are poised to begin in additional areas along the Petaluma – Sebastopol Trail. The funding will be directed to the acquisitions that have secured landowner agreements.

Implementation Timeline

Regional Parks provides press releases, e-news, and other forms of updates on progress of key acquisitions, funding, and development. By early 2022, a variety of acquisitions and other milestones will be ready to share with the community.

Regional Parks is currently in negotiation with over a dozen property owners along more than 15 miles of planned Class 1 Bikeway, and is poised to be negotiating with more than a dozen more landowners by January 2022 and more than an additional dozen by July 2022. Regional Parks only works with willing sellers and often property negotiations involve many family members or corporate representatives. Negotiations with willing sellers can be emotional, technical, and require extensive back and forth the acquisition timeline is the most unpredictable part of the regional bike and pedestrian system

development. Once property rights have been secured for a particular segment, the project delivery can take 18-36 months, depending upon funding and permitting complexity. Depending upon which Class 1 Bikeway and which phase, the start date and milestones vary.

Implementation Budget

Costs below are averages used for estimating based upon Regional Parks 40 years' experience raising the funds for and constructing more than $41M of Class 1 Bikeways to date. Some transaction costs for easement and fee acquisitions will be higher or lower. Costs do not include purchase price, which varies widely depending upon the width, location, and character of the land. Costs do not include staff time nor County Counsel time. Costs not identified below are proposed to come from other funding sources, which are further discussed in the later section regarding fund leveraging.

Item	**Cost**
Acquisition Transactional Hard Costs	
Appraisal	$9,000
Legal Descriptions, Plats, Survey	$5,000
Phase 1 Hazardous Material Environmental Site Assessment	$3,000
Title Insurance, Escrow, Closing Costs, Filing fees, Notifications	$3,000
Average transactional costs per acquisition	**$20,000**
20 Class 1 Bikeway Easement or Fee Title Acquisitions x $20,000	$400,000
Landowner Information Collateral for all Class 1's, and specific products for the Petaluma-Sebastopol Trail, Sonoma Valley Trail, and the Lower Russian River Trail	$40,000
Total Request	**$440,000**

Alignment with County Strategic Plan

Pillar: Resilient Infrastructure

- **Goal**: Goal 3: Continue to invest in critical road, bridge, bicycle, and pedestrian infrastructure.
  - **Objective**: Objective 3: Invest $5 million by 2024 on new pedestrian and bicycle facilities, and adopt maintenance guidelines on roads to consider bicyclists and pedestrians.
- **Department Lead for this Objective:** TPW
- **Description**: Strategic Plan states "Transportation & Public Works" is the lead for this objective, however per the General Plan and 40 years of practice, Regional Parks is the lead agency on Class 1 Bikeways and Transportation & Public Works is the lead on Class 2 & Class 3 Bikeways. The two departments coordinate as needed, however the majority of Class 1 Bikeways are not associated with County roads.

Decarbonization

One example from a recent successful Air Quality Control District grant, the 19 mile Lower Russian River Trail (Class 1 Bikeway) when complete will reduce CO2 by 142.7 metric tons/year, 379,245 Vehicle Miles Traveled (VMT), 19,650 trips, 0.21 metric tons of ROG, NOx & PM/year.

An estimation is $24,740/metric ton of CO2 and higher depending upon which Class 1 Trail. This does not include other greenhouse gases and pollutants.

A gross estimation is that for every mile of Class 1 Bikeway, 74 tons of CO2 will be reduced. Regional Parks is ramping up to deliver 2-3 miles of Class 1 Bikeway per year. 20 easements could potentially support between 2 and 6 miles of Class 1 development (approximately 148-444 tons of CO2), depending upon which specific easements. More importantly, this potential grant will jump start the completion of the entire 13 mile trail which can ultimately save over 220 tons of CO2 and has numerous co-benefits.

Class 1 Bikeways steadily reduce GHG emissions through time for several reasons and are proportional to the rapid increase of bicycle and pedestrian use. Reasons for this increase include: longer trails and more connected trails are more functional; bicycling, hiking and walking have exploded in use from Covid; electric-bikes have broadened made replacing automobile trips more practical; bike share and bike rental programs have increased, cycling education and awareness has increased.

Carbon Sequestration and Ecosystem Services

N/A

Resilience and Adaptation

Class 1 Bikeways not only provide non-carbon dependent, affordable, and healthy transportation options, they also can be critical for emergency responders by providing another route accessible to emergency vehicles during fires or other type of evacuation when main routes are clogged.

Class 1 Bikeways function as a fuel break for both prescribed fire and wildfires. The majority of planned Class 1 Bikeways parallel Caltrans highways, which also helps to contain accidental fire starts from trailer chains, tossed cigarettes, and other highway associated ignition sources. Prescribed fire results in far less toxic emissions and infrastructure impacts than wildfire.

In addition, Regional Parks has locally pioneered fire proof infrastructure including the first permitted fire proof bridge, fire proof retaining walls, drainage structures, and other elements to reduce fire recovery costs, support prescribed fire and wildfire suppression operations, and reduce the climate impacts from rebuilding with new materials and construction associated emissions.

Equity and Community Engagement

No potential negative impacts from this project on communities of color or low-income communities are anticipated.

Class 1 Bikeways such as the Lower Russian River Trail connect disadvantaged communities between Monte Rio and Forestville while the Sonoma Valley Trail connects the densely populated and disadvantaged Sonoma Springs area to Santa Rosa and communities between. Because of the lack of car ownership from social and economic factors in disadvantaged areas, many residents utilize or rely on bicycle and pedestrian infrastructure for their transportation, often in conjunction with public transit.

Class 1 Bikeways encourage a healthy population and reducing health related disparities by promoting safe active transportation to those who need it the most. In addition, Class 1 Bikeways encourage green tourism and economic investment by businesses in all areas.

The Class 1 Bikeways have been identified through numerous broad planning processes and there has been detailed designs with extensive partners and a range of community engagement approaches. More detail of the community engagement process is documented in the Board adopted studies, some of which are listed below. After construction of the Class 1 Bikeways, the Regional Parks Community Engagement Division and the Sonoma County Bicycle Coalition assist with promoting the use focusing on underserved populations and safety and etiquette classes.

Detailed studies including the documentation of community engagement during the planning and preliminary design phase can be downloaded here:

https://sonomacounty.ca.gov/Parks/Planning/Lower-Russian-River-Trail/

https://sonomacounty.ca.gov/Parks/Planning/Petaluma-Sebastopol-Trail/

https://sonomacounty.ca.gov/Parks/Planning/Sonoma-Valley-Trail/

Leveraging Funds and Community Partnerships

Regional Parks has raised over $1M from external public and private grants, park mitigation fees, and other non-general fund sources to develop the Board adopted plans that are the basis for the proposed Bikeway acquisitions. In addition, Regional Parks has invested over $1M from Parks for All Measure M Sales Tax for active engineering and acquisition. Regional Parks has developed over $41M worth of Class 1 Bikeways that will be leveraged by additional connecting sections. Depending upon the specific Class 1 Bikeway section and the timing relative to funding cycles, this proposed funding will be leveraging a minimum of an additional $2M from Parks for All Measure M, Go Sonoma, and other transportation, recreation, park, climate, and sustainable community related grants. Until there is a willing seller and a purchase agreement with the landowner, Regional Parks is unable to meet the eligibility requirements of nearly all funding sources.

This project will be leveraged with at least $3M of additional other funds including but not limited to federal, state, regional, and local public and private grants and donations. For every dollar Regional Parks has, we typically leverage an additional $7-12, sometimes much higher depending upon the project. Regional Parks has a full time grant writer dedicated to capital projects and regularly outcompetes much larger jurisdictions.

Regional Parks partners with numerous organizations depending upon which specific Class 1 Bikeway. Regional Parks partners with agencies such as SCTA, TPW, Ag + Open Space, the cities (Petaluma and Sebastopol have provided matching funds for Regional Parks' Class 1 grants), SSU, Sonoma Water, State Parks, Vision Zero coalition, and community groups such as the Sonoma County Bicycle Coalition, Santa Rosa Cycling Club, and the Redwood Trail Alliance. During the community engagement phase, Regional Parks have worked with numerous public schools, several social service providers, and Latinx organizations to gather input from hard to reach populations that can benefit the most from affordable and active transportation solutions.

SW Flood Managed Aquifer Recharge (Flood-MAR) Feasibility Study

Project Summary

Flood Managed Aquifer Recharge (Flood-MAR) Feasibility Study: The goal of this project is to conduct a feasibility study of Flood-MAR opportunities in the Alexander Valley, resulting in identified locations where Flood-MAR could be implemented based upon the geologic, hydrogeologic, land use, and landowner characteristics. This project may include a small-scale pilot project and/or preliminary design for identified favorable locations, further detail on options is below.

Flood-MAR is a strategy that utilizes flood waters resulting from, or in anticipation of, rainfall and snow melt for managed aquifer recharge. Recharging groundwater aquifers with excess flood waters simultaneously lowers the risk of flooding to communities, improves stressed groundwater resources, and can improve summer and fall stream baseflows thereby providing benefit to aquatic ecosystems. These are the co-benefits that would result from implementing Flood-MAR projects within Sonoma County.

This project would conduct a feasibility study to evaluate the viability of Flood-MAR projects in the Alexander Valley to improve water supply reliability (drought mitigation), reduce flood risk, and enhance aquatic ecosystems. Sonoma Water would investigate Flood-MAR opportunities at sites in Alexander Valley under a stormwater management-groundwater recharge initiative, which would improve integration of surface and groundwater resources. Potential locations for assessment would focus on agricultural lands and working landscapes such as refuges, floodplains, and flood bypasses. The proposed feasibility study will include field investigation such as soil borings, geophysics, infiltration testing, and possibly monitoring well installation. Where feasible, a small-scale pilot study may be conducted under the proposed scope of work. The study would be supported by Sonoma Water's recently completed hydrologic and hydraulic model that simulates surface water flow and flood impacts in the Alexander Valley, in addition to any applicable hydrogeologic information made available to Sonoma Water through the USGS' ongoing study of the Russian River watershed. Investigation of Flood-MAR would also help ensure that information provided by stormwater management-groundwater recharge studies is implemented in relevant programs and operations. Increases in aquifer groundwater levels would be the measure of success of the project.

Water supply reliability will continue to be challenged by large, heavy winter storms that flood local communities, and periodic droughts that stress groundwater and surface water resources. Sonoma Water has had ongoing discussion including field meetings with agricultural landowners in the Alexander Valley who are interested in pursuing Flood-MAR projects to address these recurring flooding and drought issues.

It is often difficult to obtain funding for feasibility studies and preliminary design of projects. By providing the seed funding for this project, these typical challenges would be overcome and the initial information would get developed that can lead to funding for implementation projects which is much more readily available. At this time, there is no alternative funding that has been identified to develop a viable Flood-MAR project.

In contrast to initial planning efforts, Flood-MAR implementation projects are supported and often funded by California Department of Water Resources and Federal Emergency Management Agency. This project would set Sonoma County up for success to pursue future implementation funds, as soon as late 2022 or 2023. Flood-MAR sites could be constructed new or managed through easements with existing landholders.

Implementation Timeline

Activity	Start Date	End Date
Solicit Request for Proposal for Flood MAR consultant, then Board approval to enter into contract	Jan 2022	April 2022
Evaluate suitable pilot project sites in Alexander Valley based on the following: • size up to 10 acres • relationship with landowner • hydrogeologic conditions • soil conditions • availability of water for recharge etc.	April 2022	June 2022
Obtain right of way for selected pilot site	July 2022	Oct 2022
Perform field investigations to evaluate recharge capacity at several sites, including small-scale pilot project where feasible	July 2022	Apr 2023
For any locations deemed favorable for recharge, prepare preliminary design for pilot or full-scale system	Dec 2022	May 2023
Report on test results and share with stakeholders	May 2023	August 2023

Note that this project could either focus more time on completing a small pilot project as outlined above, with reduced time devoted to identifying other favorable locations; or alternatively it could emphasize identifying favorable locations and preliminary design, with no pilot study at this early stage. The project could also be condensed to complete by June 2023 if preferable, although this would compress reporting results.

Implications of Optional Project Approaches:

Pilot Project – CHALLENGES: we would need a willing landowner who would be an early partner, and sufficient winter flows. Results would be more geographically limited. BENEFITS: project results would provide direct lessons learned from first Flood-MAR implementation pilot project in Sonoma County.

Recharge Capacity Study – CHALLENGES: no direct lessons learned from implementation experience. BENEFITS: more comprehensive geographically and more likely to finish within allotted timeframe. Less variables for completion, such as uncertainties inherent in working with landowners and sufficient winter flows. More capacity to identify greater number of favorable locations and accomplish more preliminary designs for future Flood-MAR implementation projects.

Implementation Budget

Item	Cost
Sonoma Water staff Personnel will include: Chief Engineer and Director of Groundwater Management Principal Hydrogeologist Staff Hydrogeologist Staff Engineer	150,000
Flood-MAR Consultants	250,000
Total	$400,000

Alignment with County Strategic Plan

Pillar: Climate Action and Resiliency

- **Goal 5:** Maximize opportunities for mitigation of climate change and adaptation through land conservation work and land use policies
    - **Objective 1**: By 2025, update the County General Plan and other county/special district planning documents to incorporate policy language and identify areas within the County that have the potential to maximize carbon sequestration and provide opportunities for climate change adaptation. The focus of these actions will be to increase overall landscape and species resiliency, reduce the risk of fire and floods, and address sea level rise and biodiversity loss.
    - **Department Leads:** Permit Sonoma, Sonoma Water, Ag+Open Space
- **Description:** One of the most significant impacts of climate change for our region is an increased variability of precipitation so that the intensity of both floods and droughts are likely to increase in severity. This project will increase climate change resiliency by identifying areas within the County that have the potential to provide opportunities for reducing flood-risk and enhancing groundwater supplies, thereby meeting Objective 1.

Pillar: Resilient Infrastructure

- **Goal 5:** Support, fund and expand flood protection
    - **Objective 1:** Develop partnerships with cities, tribal governments, and private organizations regarding flood protection and sustainability to identify gaps and address climate change impacts.
    - **Department Leads:** Permit Sonoma
    - **Objective 2:** Implement land use planning and assessments to address flood protection, including river setbacks and riparian corridors, and make resources available for residents.
    - **Department Lead:** Permit Sonoma
- **Description**: This project would develop the necessary information and preliminary design for a public-private partnership for a Flood-MAR project which would provide multiple benefits: improved flood risk management, enhanced water supply, and ecosystem restoration, thereby meeting Objective 1 and 2.

Decarbonization

N/A

Carbon Sequestration and Ecosystem Services

While the project does not result in carbon sequestration, it will result in significant ecosystem services.

The current business-as-usual is for Alexander Valley and the entire Russian River system to experience periodic large flood events from atmospheric rivers, which impact communities and landowners throughout the river system leading Sonoma County to be the greatest repetitive flood loss community in CA; and then conversely to also experience recurring severe droughts with insufficient surface flows for water rights holders and fisheries. Development patterns and river channelization across the last 100 years have concentrated flows and reduced the rivers' ability to meander and flood in restorative ways. This lack of aquifer-recharging flood patterns has also reduced groundwater storage, which impacts in-stream base flows and significantly impairs our already stressed fisheries. We have lost significant aquifer recharge capabilities through the current business-as-usual, and additionally increased flood risk to life and property.

Resilience and Adaptation

Although the demonstration of a Flood MAR pilot project would initially serve a small area, up to 10 acres, in the Alexander Valley region groundwater recharge and flood risk reduction benefits would be realized on a larger scale. By proving the project's replicability, this project would enhance the resilience of the upper Russian River watershed and could alleviate flooding downstream in the lower Russian River as well. Recharging aquifers with flood waters would leverage the varying precipitation intensities expected due to climate change, creating a perfect example of adaptive land management practices. Increases in aquifer groundwater levels would be the measure of success of the project.

Equity and Community Engagement

Identify potential negative impacts of the project on communities of color and low-income communities, and describe what strategies your Department recommends to mitigate any potential adverse impacts:
No potential negative impacts from the project on communities of color and low-income communities. This project would reduce flood risk, which is a natural hazard that disproportionately impacts vulnerable communities.

This project will include community engagement with landowners along the Russian River in Alexander Valley that have potentially favorable Flood-MAR sites. Discussions with landowners are ongoing, and this project will take this community engagement to the next level of identifying landowners that are willing to participate in site testing and implementation projects.

This project will increase aquifer groundwater levels, which will enhance drought resiliency that negatively impacts vulnerable communities. It will also reduce flood risk impacts to life and property, which disproportionately impacts communities of color and low-income communities. Community engagement will be a key aspect of the direct engagement with landowners to identify favorable Flood-MAR locations.

Leveraging Funds and Community Partnerships

Sonoma Water will self-fund costs for the consultant, Sonoma Water staff labor, and any equipment or testing costs that exceed the amount requested in the budget. These leveraged additional funds are currently anticipated to range from $20,000 - $50,000.

This project will produce a list of implementable projects, with preliminary design completed, that will be very attractive for state and federal climate resiliency and climate adaptation funds. Specifically, this project will enable Sonoma County to target funding for implementation of large-scale Flood-MAR projects by late 2022, 2023, and beyond. We know that significant funding will be available for exactly these types of projects from the State's 2021-2022 Drought/Water Resilience Funding Package (through CA Department of Water Resources programs, which will carry into 2022/2023), Integrated Regional Water Management Plans implementation grants round 2 (mid to late 2022), the FEMA Building Resilient Infrastructure and Communities program (annual), and United States Bureau of Reclamation programs. These funding streams will make $100's of millions in funding available in 2022 and 2023.

Obtaining funding for preliminary design work is extremely difficult. The County's Climate Resiliency Fund creates an important opportunity to provide the seed money necessary to complete this difficult-to-fund task. Completing preliminary designs for the identified favorable locations will position Sonoma Water to compete and obtain implementation funding for Flood-MAR from other funding sources which often prioritize projects with completed design work. Flood-MAR is a priority project type at this time, and both State and Federal programs are eager to fund its implementation.

This project would collaborate with the Sonoma County Agricultural Preservation and Open Space District, agricultural property owners, and with the collaborative partnerships associated with the Storm Water Resource Plans.

Regional Parks Doran Resilient Solar Project

Project Summary

Doran Beach is a popular destination that is increasingly losing power with brown outs and PSPS events. The restrooms at Doran Beach are attached to the sewer system and function via a grinder pump that pumps the sewage from the restrooms and low elevation to the processing center at the Bodega Bay Public Utility District (BBPUD). During power outages, the restrooms are closed, based on the inability to pump the sewage to the BBPUD. During these outages, portable restrooms are ordered and cost approximately $40,000 per year. Doran Beach has five restrooms that serve up to 5,000 day use visitors and almost 200 campers. This project identifies solar panels for each restroom, along with backup batteries that will not only significantly reduce the amount of grid supplied electricity needed on a daily basis, but also allow the restrooms to function when there are power outages. With backup battery and solar, Doran Beach infrastructure will remain functional and with cost savings from reduced electricity and utility "buy back" as well as reduction of portable restrooms the system will pay for itself in an estimated 6 years.

Implementation Timeline

- November 2021 – RFP written
- January 2022 – RFP submitted to purchasing
- February 2022 – Proposal awarded
- April 2022 – Installation and Construction begins
- May 2022 – Construction complete
- June 2022 – Solar system turned on with immediate reduction in electrical needs from the grid

Implementation Budget

Item	**Cost**
Solar System with Battery back up (one unit) – JBL Solar Energy Quote	$50,000
Total – 6 Units	$300,000*

Alignment with County Strategic Plan

Pillar: Climate Action and Resiliency

- **Goal**: Goal 3: Make all County facilities carbon free, zero waste and resilient.
    - **Objective**: Objective 1: Design or retrofit County facilities to be carbon neutral, zero waste and incorporate resilient construction techniques and materials.
- **Department Lead for this Objective:** GSD
- **Description**: Decarbonization of Doran Beach infrastructure through Solar generation and backup power. The reduced cost of electricity, the reduced cost of providing emergency portable restrooms, the significant reduction in GHG emissions both from reduction of grid electricity and delivery of restrooms along with the popularity of Doran Beach makes this an ideal pilot project for Regional Parks and the County. This pilot project is scalable to other

facilities. Regional Parks envisions these solar and backup batteries to be instrumental in lowering GHG emissions throughout the parks.

Decarbonization

This calculation is based on the amount of electricity used from the 2019 baseline GHG emissions study. The total Kwh/year and multiplier are shown below.

189517.4849 Total kWh/year

0.000019784 MT C02e/kWh

3.749413921 MT C02/year at Doran total

The cost of decarbonization in dollars / metric ton of CO2 reduced per year is $80,012*

*Note that this number does not include the decreased cost for electricity or the saved cost of purchasing portable restrooms. The savings in these two areas should pay for the system in 6 years providing a $0 per 3.74 metric tons CO2 annually after that date.

The GHG reduction per year is 3.75 metric tons per year, every year. The system is guaranteed under warranty for 20 years, with a slight reduction in performance as the system ages. As outlined previously, the system should pay for itself in six years, which creates a significant benefit for the fourteen plus years in both a fiscal sense but also in decarbonization.

Carbon Sequestration and Ecosystem Services

N/A

Resilience and Adaptation

The Doran Beach Resiliency Restroom project will allow the thousands of daily visitors to continue to find respite from wildfire smoke, extreme heat conditions and wildfire. Doran Beach is a natural cooling center for Sonoma County residents from all communities. Reliable restrooms provide a facility that is resilient to PSPS, brown outs and other extreme weather events.

Equity and Community Engagement

Identify potential negative impacts of the project on communities of color and low-income communities, and describe what strategies your Department recommends to mitigate any potential adverse impacts:
No potential negative impacts are anticipated.

The positive aspects are that the Doran Beach facility serves all communities in Sonoma County. Those that are low income are eligible for a $5 annual parking pass creating equity.

Leveraging Funds and Community Partnerships

The funding is not currently leveraged. The requested amount is the total amount of the project. The Sonoma County Regional Parks Foundation has offered to fund a small amount of the project and to find donors as needed to complete the project if there is an overage.

RCPA, Ag + OSD… Carbon Sequestration

Project Summary

The Sonoma County Regional Climate Protection Authority (RCPA) will work in coordination with the Sonoma County Agricultural Preservation and Open Space District, Zero Waste Sonoma, Sonoma Resource Conservation District, Gold Ridge Resource Conservation District, Carbon Cycle Institute, Daily Acts, and several additional community partners to increase carbon sequestration through the application of compost on multiple properties in both agricultural and community settings throughout the county. Ideal properties will have an existing carbon farm plan or a natural habitat management plan already developed, along with the ability to incorporate community engagement or public participation as part of the project. Potential co-benefits of this project include soil water retention, erosion control, an increase in soil organic matter, and the ability for the County and other local jurisdictions to meet SB1383 requirements for the purchase and use of recovered organic waste products. Success will be measured by acres of land treated, tons of compost applied, and number of local residents engaged through project implementation and/or community education.

Implementation Timeline

Task	Date
Identify and solicit community partners	Jan 31, 2022
Evaluate and select project locations throughout county • 5 agricultural sites at ~25 acres/site = ~125 acres • 5 community sites at ~2 acres/site = ~10 acres	May 31, 2022
Determine amounts and availability of needed compost and/or equipment	Jun 30, 2022
Secure project workforce for large-scale properties	Aug 31, 2022
Develop schedule for larger agricultural properties using hired workforce	Aug 31, 2022
Schedule volunteer project work-days for smaller community properties	Sep 30, 2022
Purchase and apply compost at selected project sites	Oct 30, 2022
Monitor results, evaluate expanded opportunities, and prepare final reports	Dec 31, 2022

Implementation Budget

Item	Cost
Project Coordination & Reporting (Regional Climate Protection Authority)	$ 20,000
SB1383 Coordination and Tracking (Zero Waste Sonoma)	$ 15,000
Technical Analysis and Consultation (Carbon Cycle Institute)	$ 10,000
Project Implementation - 4 agricultural sites (Sonoma RCD)	$ 50,000
Project Implementation - 1 agricultural site (Gold Ridge RCD)	$ 15,000
Project Implementation - 5 community sites (Daily Acts)	$ 31,000
Volunteer Support - 5 community sites (Daily Acts)	$ 2,000
Compost, Equipment, Project Labor - 5 agricultural sites	$ 325,000
Compost, Equipment, Project Labor - 5 community sites	$ 25,000
Development of Educational Materials	$ 7,000
Total	**$ 500,000**

Partner Organizations and Roles

- Regional Climate Protection Authority - Project Coordination & Reporting
- Zero Waste Sonoma - SB1383 Coordination and Tracking
- Carbon Cycle Institute - Technical Analysis and Consultation
- Sonoma Resource Conservation District - Project Implementation @ 4 agricultural sites
- Gold Ridge Resource Conservation District - Project Implementation @ 1 agricultural site
- Daily Acts - Project Implementation @ 5 community sites
- Daily Acts - Volunteer Support @ 5 community sites
- Outside Vendor - Compost, Equipment, Project Labor - 5 agricultural sites
- Outside Vendor - Compost, Equipment, Project Labor - 5 community sites
- All Partners - Development of Educational Materials

Alignment with County Strategic Plan

Pillar: Climate Action and Resiliency

- **Goal**: Goal 5: Maximize opportunities for mitigation of climate change and adaptation through land conservation work and land use policies.
    - **Objective**: Objective 2: Develop policies to maximize carbon sequestration and minimize loss of natural carbon sinks including old growth forests, the Laguna de Santa Rosa, and rangelands. Encourage agricultural and open space land management to maximize sequestration. Develop a framework and policies to incentivize collaboration with private and public land owners.
- **Department Lead for this Objective:** Ag + OSD
- **Description**: This project would encourage agricultural and open space land management practices that maximize carbon sequestration in both agricultural and community settings. By working with both SCAPOSD and the RCDs, this project will collaborate with both private and public landowners, in addition to incorporating community engagement and public participation for education and promotional purposes.

Decarbonization

Decarbonization exists within this project, but is limited. Carbon Cycle Institute will work with the larger project team to identify and calculate reductions of GHG emissions resulting from this project. Potential direct sources fall into three areas:

- Reduced need for fertilizers – with more compost applied to agricultural lands, nutrients and microbes will be more plentiful in soils and fewer fertilizers will be needed
- Increased soil water retention – with more compost on the selected sites, overall soil health and organic content will increase and additional water will be retained for plant usage
- Reduced need for irrigation – with more water retained in the soil, plants will have greater access to on-site water reserves and less irrigation will be needed to maintain healthy crops

Indirectly, we hope that the outreach and education opportunities will encourage additional GHG emission reductions in the future through increased household composting, increased municipal purchase of finished compost products, and increased application of compost to Sonoma County soils.

Carbon Sequestration and Ecosystem Services

Under a baseline scenario (with no project work complete), we have reduced application of compost, reduced opportunities for increasing carbon sequestration, reduced soil water retention, reduced erosion control, reduced stored soil organic matter, reduced ability to meet SB1383 requirements for the purchase and use of recovered organic waste products, reduced education/engagement opportunities with private rural landowners, and reduced education/engagement opportunities with urban residents.

The proposed project would apply compost to an estimated area of 135 acres (5 agricultural sites @ 25 acres each + 5 community sites @ 2 acres each.) The COMET Planner for CDFA HSP says that compost application on 25 acres of rangeland or pasture sequesters 110 Metric Tonnes CO2e per year. Vineyard/orchard can sequester slightly more.

Being conservative, we expect that this project will sequester an approximate total of 550 metric tonnes CO2e on the 125 acres of agricultural lands. We expect additional sequestration potential from the 10 acres of compost application of community sites, but the selection process for these sites will focus on public engagement opportunities first and foremost. For the purpose of these calculations, we are assuming another 40 MTCO2e for a total of 590 MTCO2e.

The following "carbon calculators" have been identified to assist with quantification of sequestration potential as final sites are identified and selected:

- https://calccarbon.com/calculator/
- https://ww2.arb.ca.gov/sites/default/files/classic/cc/waste/cerffinal.pdf
- https://ww2.arb.ca.gov/sites/default/files/classic/cc/capandtrade/auctionproceeds/calrecycle_organics_finalqm_6-15-20.pdf
- http://comet-planner-cdfahsp.com/

An estimation of cost per tonne of GHG removed is: $500,000 / 590 MTCO2E = $847.46 / MTCO2e.

This is for one year only. Depending on the agricultural system where the compost is applied, there could be ongoing annual CO2e accrual that would significantly reduce the per tonne price.

This project is currently being envisioned as a one-year project with a single application of compost to ~135 acres of land. If applied to a non-tilled setting, carbon from compost will persist for several years. Additionally, photosynthetic carbon gains in response to the compost application could persist for at least 2 decades. During the selection process, agricultural properties with existing carbon farm plans or a natural habitat management plan will be prioritized. The best management practices identified in each plan will be used as guidance for any subsequent land management techniques applied after the application of compost. Sonoma Resource Conservation District and Gold Ridge Resource Conservation District will follow-up with selected property owners on an annual basis for at least three years to verify if there have been any tilling or significant changes at the site.

Resilience and Adaptation

This project aims to revitalize healthy soils and enhance resilient agriculture throughout Sonoma County. The application of compost to agricultural lands has been shown to increase long-term farm productivity, soil and plant health, and resilience to extreme weather, flooding, and drought.

Additionally, Goal 5, Objective 1 aims to identify areas for the General Plan 2025 Update that have the potential to maximize carbon sequestration. This project looks to move forward with implementation prior to the completion of the larger prioritization effort. By building relationships with private rural landowners, public open space and land management agencies, and non-profit community-based organizations, we hope to provide early input to the General Plan update that will be useful in the full prioritization of carbon sequestration opportunities.

During site selection, we will attempt to identify locations that represent the full extent of Sonoma County working lands. Five sites will be predominantly agricultural in nature and five will be community-oriented. We anticipate that the lessons learned by the project team through the process will lead to better methods of land management, better communication methods with private landowners, and improved education of local community residents.

Equity and Community Engagement

We are not aware of any negative impacts to communities of color or low-income residents other than the decision to direct funding toward this carbon sequestration project as opposed to direct investment in equity initiatives.

Two potential outcomes that could potentially impact everyone nearby (regardless of socio-economic status) are dust and odor from spreading overly-dry compost. Given these potential issues, the solicitation for the compost purchase will specify “fully mature compost with a moisture content of 35% or higher.”

Community engagement opportunities will be taken into strong consideration when selecting sites for compost application on community properties. Our goal is to incorporate both direct action and climate education into the process. Ideally, half of our sites will be on private agricultural land with the RCDs taking the lead on landowner outreach and communications. Project implementation on these sites will cover a larger area and will consider where feasible the use of workforce development programs that work with low-income populations or offer job training opportunities.

The remaining half of the sites will be located in more community settings and will offer a spectrum of options for working directly with the community. Potential engagement opportunities involve participating in the application of compost, learning about climate science and carbon sequestration, or monitoring the impacts of the project over time. As properties are identified and evaluated, we will work with each of the receiving site hosts to determine what actions best match the local community in the surrounding area.

As mentioned above, we hope to work with a workforce development partner to provide landscape crews for the application of compost on the agricultural sites. The community sites will allow for more direct engagement with local residents for both direct climate action and for environmental education opportunities.

Final sites have not yet been selected for this project and careful consideration will be given to social equity and community engagement opportunities as these decisions are made. Early ideas for community sites with public engagement potential include locations such as community gardens, City parks, school sites, urban farms, etc.

Leveraging Funds and Community Partnerships

Other funding that has been supporting compost application on agricultural lands in Sonoma County includes funds from CA Department of Food & Agriculture's Healthy Soils Program, and Zero Foodprint's Restore CA program. To date, Restore CA has funded 9 on-farm carbon sequestration projects in Sonoma County. While data on exact grant numbers isn't publicly available, grants under this program are generally capped at $25,000. To date, CDFA's Healthy Soils Program has awarded 25 incentives grants to support soil health and carbon sequestration in Sonoma County, totaling over $970,000.

There is potential to pair this project with additional funds from the grant programs identified above. Because these are competitive grant programs, future funding leverage from these sources cannot be guaranteed.

All of the project partners identified in the proposal are working on related climate issues and will integrate this project with their existing work plans. As an example, RCPA is leading the Sonoma Climate Mobilization Strategy implementation effort, with carbon sequestration as one of the four main initiative areas. Additionally, Daily Acts has potential matching funds from existing contracts that could be investigated further if this project is chosen for funding.

In addition to the public agencies leading this effort (RCPA, SCAPOSD, Zero Waste Sonoma), we are already working with a number of community partners to implement this project. Specifically, Carbon Cycle Institute will be providing scientific review and GHG calculations, Daily Acts will be our lead community engagement partner, and the Sonoma Resource Conservation District and the Gold Ridge Resource Conservation District will be leading site agricultural property selection and private landowner engagement.

Additionally, we are reaching out to multiple other partners who may be interested in participating in the project and/or offering input on site selection. Examples include, Conservation Corps North Bay as a potential staffing provider for workforce development, LandPaths as a potential site host, and Petaluma People Services Center for additional community connections and as a potential site host.

The Sonoma and Gold Ridge RCDs actively participate in the North Coast Soil Hub (http://soilhub.org/) and will leverage this network to share project information with regional partners.

Permit Sonoma Forester Position

Project Summary

Fund a new position for a County Registered Professional Forester to develop and manage the County's tree preservation and enhancement programs, and coordinate between staff working on resource management issues (ag/open space, Permit Sonoma, ag weights/measures, fire prevention, RCPA, CAL FIRE). The position would be responsible for the development of a comprehensive forest management plan, annual work plans, defining performance measures and establishing tracking efforts, assisting with processing large scale tree removal/timber harvest permits, and developing programs to support equitable access to green space through urban tree planting programs. This in-house position would also save consulting fees often paid by county departments.

Within Permit Sonoma, this position will develop and implement a tracking system for tree and forest related projects, tracking removals, conversions and the permits that impact these resources.This data can then be used to develop performance measures and be used in policy making decisions (e.g. support and inform carbon farming and sequestration programs). This position would aso serve as the Registered Professional Forester licensing requirement to make the county eligible for state funding opportunities related to forest and vegetation management. This position would also serve as an in-house and public facing technical advisor to assist County departments and the public with forest and tree related issues and projects.

Implementation Timeline

The job classification would be developed in coordination with County Human Resources and Labor Relations. A position description would be developed after assessing the needs of other County departments, and consulting with technical professionals in the community to assess the gaps that a County forester position would fill. The position would then be advertised, noticed and interviewed, with the selected candidate receiving an offer by Summer of 2022. The position would potentially be based within the Natural Resources Section of Permit Sonoma.

Implementation Budget

Item	Cost
County Forester – yearly salary	$90-115k
Supplemental expenses – data/software/etc.	$20k
Overhead/Benefits	$75k
Total (for minimum term of 3 years)	**$585,000**
- **Permit Fees (approx. 35% of work load)**	**-$204,750**
Total Requested	**$380,250**

Alignment with County Strategic Plan

Pillar: Racial Equity and Social Justice

- **Goal 3:** Ensure racial equity throughout all County policy decisions and service delivery.
    - **Objective 1:** Establish a racial equity analysis tool by 2022 for departments to use for internal decision-making, policy decisions and implementation, and service delivery.

        - **Department Lead for this Objective:** Office of Equity
    - **Objective 2:** Establish regular and publicly available reports on racial equity in County policies, programs, and services.
        - **Department Lead for this Objective:** Office of Equity
- **Description:** A forester position that can serve as a technical expert on vegetation and forest management issues would supplement the County's expertise in fire prevention. This expertise would support fire prevention and climate mitigation efforts that protect the communities that are disproportionately exposed to the damaging effects of these impacts. This position would serve as a centralized position to coordinate the efforts and implementation of the County's tree and forest management policies with the Office of Equity to ensure that communities at-need and at-risk would not be negatively impacted or abandoned as a result of these policies.

Pillar: Climate Action and Resiliency

- **Goal 1: Continue to invest in wildfire preparedness and resiliency strategies**
    - **Objective 2:** Expand outreach and education on vegetation management and provide additional resources to land owners to help mitigate fire risk.
        - **Department Lead for this Objective:** County Administrator's Office
    - **Objective 3:** Leverage grant funding to support sustainable vegetation management program.
        - **Department Lead for this Objective:** County Administrator's Office
- **Goal 5: Maximize opportunities for mitigation of climate change and adaptation through land conservation work and land use policies**
    - **Objective 1:** By 2025, update the County General Plan and other county/special district planning documents to incorporate policy language and identify areas within the County that have the potential to maximize carbon sequestration and provide opportunities for climate change adaptation. The focus of these actions will be to increase overall landscape and species resiliency, reduce the risk of fire and floods, and address sea level rise and biodiversity loss.
        - **Department Lead for this Objective:** Permit Sonoma, Sonoma Water, and Ag + Open Space
    - **Objective 2:** Develop policies to maximize carbon sequestration and minimize loss of natural carbon sinks including old growth forests, the Laguna de Santa Rosa, and rangelands. Encourage agricultural and open space land management to maximize sequestration. Develop a framework and policies to incentivize collaboration with private and public land owners.
        - **Department Lead for this Objective:** Ag + Open Space
- **Description**: Public Resources Code 750-783 (Professional Foresters Law) requires that activities on forested landscapes be overseen by a licensed forester to ensure the protection of the shared resource that is California's forests. State wildfire grant programs often require that a licensed forester be involved in the development of fuel reduction and vegetation management prescriptions. The County forester position would serve as this requirement, ensuring consistency in the application across County implemented fire prevention projects. A County forester would serve as a technical expert on the regulatory and environmental requirements for County departments and the public implementing wildfire preparedness and resiliency strategies. A County forester can serve as a technical expert to assist in developing the County General Plan, other county/special district planning documents, and policies to maximize carbons sequestration and minimize loss of natural carbon sinks including old growth forests, the Laguna de Santa Rosa, and rangelands. The successful management of the County's forest

resources ensures that carbon loss from management activities reduces the potential for carbon loss from wildfire events.

Pillar: Resilient Infrastructure

- **Goal 3:** Continue to invest in critical road, bridge, bicycle, and pedestrian infrastructure.
  - **Objective 1:** Continue to maintain road segments, including designated turnouts where feasible, increase efforts on vegetation removal and drainage features, and improve pavement conditions in neighborhoods
    - **Department Lead for this Objective:** Transportation and Public Works
- **Goal 5:** Support, fund, and expand flood protection.
  - **Objective 2:** Implement land use planning and assessments to address flood protection, including river setbacks and riparian corridors, and make resources available for residents.
    - **Department Lead for this Objective:** Permit Sonoma
- **Description**: A County forester can assist multiple departments in implementing Resilient Infrastructure goals. The forester would serve to develop and oversee vegetation management prescriptions that balance efficacy and environmental protection. The forester would also serve as a technical expert on relationships between riparian forests and riparian corridors and flood impact mitigation.

Decarbonization

N/A

Carbon Sequestration and Ecosystem Services

Hiring a full-time forester means the County will have a staff member dedicated to the preservation and enhancement of our most significant carbon sink – our trees and forests. Trees cover more than 35% of the County's land area but impacts to this resource are largely unregulated. With limited exception, removal of trees is not tracked or overseen by any dedicated county staff. Since tree removal is not tracked at a level that provides baseline data, the current state of our local forests is largely unknown to county staff and decision makers. Having a permanent staff member dedicated to forest management would:

- support collection of data to inform management decisions regarding forest resources, carbon sequestration and ecosystem services;
- develop and implement a cohesive management strategy for local forests to sequester carbon and support essential ecosystem services;
- provide consistent and efficient enforcement of regulations; and
- serve as a technical expert on public and private actions affecting the resource.

Resilience and Adaptation

Trees and forested lands can and do play a significant role in local resiliency to climate change, in part by limiting the intensity and scope of wildfires, reducing the force of rainfall in heavy rain events, supporting biodiversity that shields against biological vulnerabilities, by reducing heat impacts and energy demands during high heat events, and by contributing to quality outdoor spaces that support mental and physical wellbeing. A professional forester will ensure that this massive community resource

and the community benefits it provides will be supported and enhanced into the future despite climate induced challenges facing the community and the resource itself.

Equity and Community Engagement

This position would help address existing challenges for communities of color and low income communities such as excess heating and cooling costs and heat related health impacts due to lack of tree cover, limited access to green spaces and hazards to pedestrians and cyclists from tree roots. These are some of the impacts that can be addressed through both the hiring process and the primary work of the forester.

The hiring process should be open and broadly advertised to provide accessibility to all qualified candidates. The application or interview process could include questions regarding an applicant's awareness of the relationship between their work, climate resiliency and consequences for vulnerable communities. The process could also consider applicant experience and approaches to engagement with the public to ensure that in addition to consideration of their technical expertise, applicants are also evaluated based on their ability to practice inclusion and equity in their work.

Once hired, a forester would typically being by preparing a comprehensive forestry management plan for the County. Done with a high level of public engagement to support collaboration instead of prescriptive or top-down approaches, the plan would identify goals, objectives and implementation measures to achieve the county's vision for local forest resources and street trees. Development and implementation of these plans and programs can support vulnerable and underserved communities by:

- working with the public to develop goals and objectives rooted in public feedback;
- identifying and addressing maintenance needs associated with existing trees (e.g. addressing root damage and sidewalk impacts to improve walkability and safety);
- anticipating and avoiding future conflicts between trees and public/private infrastructure
- supporting tree planting to improve public spaces and provide natural features and high-quality nature-based spaces for residents in areas with limited access to parks; and
- helping to connect residents with arboricultural professionals and funding sources to aid in maintenance and tree planting on private property.

Leveraging Funds and Community Partnerships

It is estimated that approximately 35% of the county forester's work would be the review of private projects requiring county permits. This work would require project applicants to pay review fees to cover the cost of staff review. It is anticipated that funding for this position could be supplemented in part by the collection of these fees, as highlighted in the implementation section above.

Numerous public and private organizations including Sonoma Water, Resource Conservation Districts, Regional Climate Protection Authority, Sonoma County Ag and Open Space District, and Cal Fire work with forests concurrently but often discretely. A county forester can help to bring these groups together, along with other public stakeholders, to develop a unified forest management plan that can coordinate and build on existing momentum while enhancing community capacity, to support the role of forests in natural hazard mitigation, carbon sequestration, climate adaptation, resiliency, equity and community health and wellbeing.

UCCE Managed Grazing Program & Vegetation Management

Project Summary

This project creates climate-resilient communities and ecosystems, through a University of California Cooperative Extension (UCCE) lead effort that educates landowners and managers on vegetation management tool(s) to assist with fuels reduction and ecological enhancement on private and public lands, especially in the Wildlands Urban Interface (WUI). UCCE will create a grazing program that works with Resource Conservation Districts (RCDs), Natural Resource Conservation Service (NRCS), and other county departments managing grazing lands. This project builds on Match.Graze, an online platform that already has over 200 users throughout the Bay area. Sonoma County has a unique opportunity to support the economic development of a full-scale grazing program – from cooperative grazing units, contract grazing, and commercial grazing for commercial livestock producers. The project provides trainings, resources and mentorships on grazing management and business / workforce development to increase grazing enterprises. UCCE will work with organizations focused on youth, high school agriculture programs, and the Santa Rosa Junior College to train individuals interested in providing fuel management services, principally grazing. Hired staff will work with Dr. Stephanie Larson, educating landowners on how to utilize grazing as a vegetation management tool, providing qualified grazers for work on public and private wildfire prone lands. The project addresses both decarbonization and carbon sequestration, resulting in a more resilient, climate neutral county.

If the project is not approved, many of these lands would remain ungrazed meaning that fire risk could likely increase in the short and long term, improved sequestration potential would not be met and the County would neglect a critical opportunity to reduce GHG emissions. Sonoma County's natural and working landscapes play an essential role in carbon sequestration, responsible for sequestering over 229 million metric tons of CO2 equivalent, as identified in the Sonoma County Agriculture and Open Space District Vital Lands Initiative. While this current carbon sequestration estimate should not be undervalued, the County should look towards actions to not only maintain, but increase, carbon sequestration rates to ensure long-term resiliency. In the current business-as-usual context, there are several factors limiting the County's carbon sequestration potential; these include: 1) many of the identified grazable lands are not currently being grazed and/or are not accessible for grazers to access in order to implement grazing, thus missing potential for additional sequestration, 2) many of these grazable lands (approximately 580,296 acres or 87% of the total grazable lands in Sonoma County) are also designated by CAL FIRE Fire Hazard Severity Zones as moderate, high, or very high hazard classes, and 3) these lands could be vulnerable to growing urban development and sprawl (according to the FMMP, from 2014-2016, approximately 1,102 acres of grazing lands were converted).
In the current scenario, there is a need for increased grazing across the County on grazable lands to maintain and enhance carbon sequestration and reduce fire risk and associated GHG emissions. The project will ensure that Latinx and indigenous communities are served, along with traditional agriculture communities; improving community resiliency, ecosystem services and/or increased economic stability.

Success will be measured by the increase in grazable lands managed, number of grazing business created, long-term community resiliency and overall impacts to decarbonization, carbon sequestration and GHG reduction on the approximately 665,400 acres of grazable lands.

Implementation Timeline

January 2022 – December 2023

- Create a county-wide grazing plan that evaluates all potential grazing lands and recommends grazing as a management tool where appropriate.

January 2022 – February 2022: (staffing)

- Hire program lead, work with Dr. Stephanie Larson, Certified Rangeland Manager, & Livestock and Range Management Advisor.

March 2022 – August 2022: (Working with Landowners)

- Analyze all potential grazable lands, land ownerships, grazing potential evaluated;
- Contact landowners, educational outreach, opportunities, etc.
- Development of infrastructure needs, fencing, water, determine funding needs, align with appropriate grants, funding sources, etc.
- Create a manages a loan program, which will facilitate individuals needing financial assistance to start a grazing business;

March 2022 – August 2022: (Working with Grazers)

- Host grazing schools that provide hands on training to current and new grazers; provide training on business development, assessments of lands and bid development, labor, insurance, etc.;
- Create an equipment and tools share program.

May 2022 – December 2023: (Mentorship Program)

- Develop mentorship program; work with established local grazers to provide internships and/or mentoring to increase program success and ensure a workforce reflective of the community.

August 2022 – December 2023: (Grant / Loan Assistance)

- Provides grant application assistance for landowners and grazers through County's PGE funds, NRCS, RCDs, Cal Fire, NGOs, etc.

Implementation Budget

Item	Cost
Staffing @ 2- year Program Manager	$225,000
Grazing Schools	25,000
Equipment and Tools	50,000
Mentorship	50,000
Grant assistance / Loan program	100,000
Total	$450,000

Alignment with County Strategic Plan

Pillar: Climate Action & Resiliency

- **Goal 1:** Continue to invest in wildfire preparedness and resiliency strategies

  - **Objective 1:** Provide educational resources to the community that promote and facilitate carbon neutral and fire hardening construction for new and existing homes. *Department Lead(s): General Services Department and Permit Sonoma*
  - **Objective 2:** Expand outreach and education on vegetation management and provide additional resources to land owners to help mitigate fire risk. *Department Lead(s): UCCE*
  - **Objective 3:** Leverage grant funding to support a sustainable vegetation management program. *Department Lead(s): County Administrator's Office*
- **Goal 5:** Maximize Carbon Sequestration through land conservation work and land use policies
  - **Objective 1:** By 2025, update the County General Plan and other county/special district planning documents to incorporate policy language and identify areas within the County that have the potential to maximize carbon sequestration and provide opportunities for climate change adaptation. *Department Lead(s): Permit Sonoma, Sonoma Water, and Ag + Open Space*
  - **Objective 2:** Encourage agricultural and open space land management to maximize sequestration. Develop a framework and policies to incentivize collaboration with private and public land owners. *Department Lead(s): Ag + Open Space*

Description: UCCE provides education and research-based information to both private and public landowners and managers, and while not listed as direct leads, UCCE will work with Department leads to ensure that goals are reached. Given UCCE's resources and long-standing connections with landowners, agencies, NGOs, and other science-based affiliates, UCCE is the best county department to implement a robust countywide grazing program that will address decarbonization, carbon sequestration, water retention, and reduced wildfire risk as it relates to grazable lands.

Decarbonization

In total, the project could result in an estimated GHG emissions reduction of 3,241,906.92 metric tons of CO2/year. This estimate was derived by combining 1) estimates of County grazable lands, 2) reduced GHG emissions/carbon sequestration of prescribed grazing on 332,700 acres of grazable lands, added to 3) reduced GHG emissions from potential reduced wildfire risk and related emissions.

1. ***Estimation of County Grazable Lands:*** The approximate acreage of grazable lands in the county is 665,400 acres; in which the proposed project aims to ensure 50% (332,700 acres) of these grazable lands that are not already grazed are accessible to grazers and ultimately used for prescribed grazing over two years (Table 1).
2. ***Estimation of GHG emissions reduction/carbon sequestration of prescribed grazing on grazable lands:*** The project could result in County GHG emissions reductions/carbon sequestration estimated at 1,322.5 metric tons of CO2/year by implementing prescribed grazing (a total of 2,645 metric tons of CO2 equivalent by implementing prescribed grazing on the total 332,700 acres over two years) (Table 1).

Table 1: ***Estimation of GHG emissions reduction/carbon sequestration of prescribed grazing on grazable lands***

Total # Grazable Lands (ac.)	Total Expansion of Grazable Lands in Proposed Project (50% of Total Grazable Lands) (ac.)	Year 1 Expansion of Grazable Lands (ac.)	Year 2 Expansion of Grazable Lands (ac.)	Metric Tons of CO2 equiv./year (from COMET-Planner)	Total Metric Tons of CO2 equiv. throughout Project Duration (Year 1 + Year 2)

665,400	332700	166350	166350	1,322.50	2645

3. Estimation of GHG emissions reduction of reduced fire hazard and related wildfire emissions:
The project could reduce wildfire risk and related emissions; estimated reduction of GHG emissions, roughly 6.5 million metric tons CO2 equivalent for the total 332,700 acres proposed project area (Year 1 + 2); 3.25 million metric tons CO2 equivalent/year (Table 2).

Table 2: ***Estimation of GHG emissions reduction of reduced fire hazard and related wildfire emissions***

Metric Tons of CO2 equiv./year (Derived from COMET-Planner)	**Estimated GHG Reductions Per Year Due to Reduced Wildfire (Metric Tons CO2 Equivalent)**	**Total Reduced GHG Emissions in Metric Tons CO2 Equivalent/Year *(COMET-Planner Results + Wildfire Reduction Results)***
1,322.50	3,240,584.42	3,241,906.92

Carbon Sequestration and Ecosystem Services

Estimation of GHG emissions reduction of reduced fire hazard and related wildfire emissions. The project estimates sequestration cost of approximately $340.26/metric ton of CO2 per year; ($450,000 / 1,322.5 metric tons of CO2/year). **GHG reduction will occur over the short-term and long-term:**

- **Year 1**: approximate GHG emission reduction of 1,322.5 metric tons of CO2/year;
- **Year 2**: approximate GHG emission reduction of 1,322.5 metric tons of CO2/year.
- **Total reduction**: 2,645 metric tons of CO2 on the total 332,700 acres throughout the duration of Year 1 and Year 2.

Resilience and Adaptation

This project creates a robust, county-wide grazing plan that evaluates all potential grazing lands and recommends grazing as a management tool where appropriate; focus on both small- and large-scale landscapes. Grazing will be implemented as a sustainable, long-term vegetation management tool.

Equity and Community Engagement

This project provides opportunities to influence a greater diverse work force development, by working with organizations focused on youth, high school agriculture programs, and Santa Rosa Junior College to train individual interested in providing fuel management services, especially grazing. An expansion of this currently small local industry could lead to more business opportunities for *new* and existing farmers, grazers, and herd managers. Eventually this new workforce could help build a more resilient, local, and sustainable industry.

Leveraging Funds and Community Partnerships

The project is leverage with the in-kind support from UC Cooperative Extension advisor, Stephanie Larson. She will provide her expertise along with other specialists from UC to ensure the success of this project. The project is supported by several community partners, including Straus Family Dairy, CAFF, Wild Oat Hallow Grazing Cooperative, Fibershed, RCDs, NRCS, and Farm Bureau.

UCCE Community Based Food Networks

Project Summary

UC Cooperative Extension Sonoma County (UCCE) seeks funding to conduct a 3-year project to create community based food networks to increase community resilience in the face of climate change and reduce greenhouse gas emissions from food waste. Our objective is to expand regional food system resilience, leverage the strengths of our local food system, and contribute to a more resilient economy. UCCE will coordinate and oversee the project including a mini-grant program and evaluation of the project's impacts. Funding would be allocated to a part-time, limited term position with the University of California, a consultant to facilitate mapping the Sonoma County emergency food network, sub-awards to community based organizations (CBOs) for community based food network coordination, and financial assistance to mutual aid networks.

Community networks are key to a community's ability to cope with and adapt to natural disasters. A significant value of community-based food networks is to build social capital between food system stakeholders to reduce food loss and facilitate food recovery. This project will engage a diverse set of stakeholders including mutual aid networks, community-based organizations, local food producers and food distributors with schools, food pantries, soup kitchens, grocers, restaurants, and government agencies. The networks will inventory emergency food resources, including mapping resources for safe storage and preparation of food (cold storage, generators, commercial kitchens, transportation).

Project outcomes will include:

- Development of a shared metric to measure reduced food loss aligned with Zero Waste Sonoma's mandate to reduce organic waste by 20% before 2025 and annual reporting on the amount of food recovered from the waste stream and redirected to the emergency food system
- Increased capacity of regions to be self-sufficient if isolated in a disaster
- Publication of local emergency food response inventory
- Improved public communication regarding disaster food response across CBOs, service providers, and County departments and increased awareness of opportunities for food assistance as a result of the network
- Leveraged funding to magnify impacts

This proposed project is data-driven and field-tested, responding to challenges and opportunities in the emergency food response system documented in evaluation efforts and after action reports led by UC Cooperative Extension after the 2017, 2019 & 2020 fires, and pandemic response evaluation.

Implementation Timeline

UCCE Sonoma will serve as overall project administrator. Key activities are listed below assuming funding start date of January 2021.

	Year 1: 2021	Year 2: 2022	Year 3: 2023
Sub-award for lead CBO to coordinate community based food networks	3/31/2021	*ongoing*	*ongoing*

Quarterly regional network meetings	6/30/2021	*ongoing*	*ongoing*
Creation of shared metric and food waste reduction reporting implemented	6/30/2021	*ongoing*	*ongoing*
Regional emergency food inventory and map	12/31/2021		
Establishment of sub-awards for community food networks	12/31/2021 *3 sub-awards*	12/31/2022 *+3 more sub-awards*	
Project evaluation			12/31/2023

Project activities

- **Coordinate and convene emergency food distribution stakeholders across the County** in quarterly meetings and during disasters
- **Recruit, establish sub-awards, and train up to 6 leads for the Community-based Food Networks** to mitigate food insecurity, address barriers to access existing emergency food distribution efforts, strengthen community-based food networks, and support Mutual Aid Networks located within communities to expand awareness and reach of existing emergency food distributions
- **Expand the capacity of and strengthen emergency food networks** (including producers, gleaners, distributors, food hubs, restaurants, caterers, grocery stores, and institutional food services) to establish and facilitate local connections that maximize food recovery efforts and build community resilience
- **Assess needs, inventory, and map emergency food infrastructure** including mapping resources for safe storage and preparation of food (cold storage, generators, commercial kitchens, transportation, community gardens, and farms).***Note**: The Recovery & Resiliency Framework, Strategy Area 4, Safety Net Services, Goal 1 includes a requirement to inventory and map local food resources available throughout the county during disasters. This project will achieve that goal.
- **Created shared metric on food waste reduction, collect data annually, conduct evaluation** of the project's impact, and disseminate findings.

Implementation Budget

Item	Cost
Salaries and Benefits: 3 year time limited position at .40 FTE for University of California employee to administer and coordinate project and manage project evaluation	$100,000
Services & Supplies: Materials & supplies, including meeting costs $10K/year/region; translation services ($7200); mapping and inventorying facilitation consultant ($10,000); publication costs ($8000)	$205,200
Other - Travel: local travel for community partners to attend quarterly meetings	$3,000

Other - **Sub-awards** to CBOs for community based food network coordination (6 contracts with community organizations at $15K/year/org; $5K/year for lead CBO org for total of $285,000)	$285,000
TOTAL	$593,200

Alignment with County Strategic Plan

Pillar: Racial Equity and Social Justice

- **Goal 4:** Engage community members and stakeholder groups to develop priorities and to advanced racial equity
    - **Objective 2:** Collaborate with community members and stakeholder groups to develop racial equity strategies for County emergency response, economic recovery and resiliency planning efforts.
- **Department Leads:** Office of Equity
- **Description:** The project will engage directly via community-based networks to elevate the voice of community members disproportionately impacted by food insecurity and natural disasters in creating a more just and resilient local food system.

Decarbonization

Supporting data:

- Organic waste accounts for 20% of California's methane emissions (Cal Recycle 2021)
- 45,500 tons food waste goes to Sonoma County landfill/year (Sonoma Waste Characterization Study, 2014)
- Only 3% of surplus food is donated nationwide (ReFED)

Our proposed project will result in an estimated **reduction of 3.06 metric tons of CO2**, based on a conservative estimate of diversion of 15,840 pounds of food waste per year or 7.2 tons from landfills. Measurement of actual diversion of food from the landfill will be a key evaluation component of this study. (Assumption: Each network saves a minimum of 100 pounds/month of unprepared food and 100 meals/month [1 meal equates to 1.2 pounds of unprepared food] = 2,640 pounds/year/network)

The cost of this reduction, based on project costs and the above calculation, is $193,856.21/metric ton of CO2 reduced per year. Although this may seem high, this number is a rough estimate based on nascent industry standards of measurement. One deliverable of the project will be to align this metric with ZeroWaste Sonoma efforts to measure food waste reduction efforts in alignment with SB 1383 and a recent CalRecycle Grant. Anticipated impact in year 1 with establishment of 3 of the community based food networks is ¼ of the total estimated tonnage or .765 MT CO2e. Anticipated full impact would commence in year 2 of the project at ½ of estimated tons of CO2 for 1.5 MT CO2e, and full realization in year 3 of 3.06 MT CO2e.

Carbon Sequestration and Ecosystem Services

While carbon sequestration is indirectly related to this project, this project may engage local agricultural producers who work to sequester carbon on their land and local compost manufacturers who produce essential inputs for carbon sequestration. Therefore we may include a carbon sequestration evaluation metric in our project.

Resilience and Adaptation

As seen during repeated wildfires and the pandemic, often the most effective community responses emerge from the community itself, based on local knowledge, effective social networks, and trusted messengers. The creation of a resilient and less wasteful local food system requires the participation of many different community stakeholders: producers, distributors, food insecure consumers, institutions, businesses, and government agencies. The proposed community based food networks will build relationships and connections between local food system stakeholders to increase community self-sufficiency through expanded food recovery while reducing food loss and mitigating hunger. Resilience and adaptation evaluation metrics will include: number of new food recovery connections established, total pounds of food recovered, and total number of people served.

Equity and Community Engagement

There are no anticipated negative impacts to communities of color and low-income communities from the proposed project. We will use an equity lens across all activities and engage with the County of Sonoma Office of Equity and project partners rooted in racial and economic justice to: center the voices of historically underrepresented communities, work to build positive relationships of trust and accountability, and diligently build partnerships in which the concept “nothing about us without us” holds true. Many of these relationships already exist through intentional listening, inclusion, and consultation in the past.

This project will support and build community-based emergency food access networks across the County’s geography that are inclusive and advance racial and economic equity in food access. We seek to create responsive mechanisms for the emergency food system to incorporate the lived experience, local knowledge, expertise, and resilience of low-income and communities of color. The proposed project is grounded in recognizing the critical role that community-based networks play in building trust to facilitate access to services. The project's engagement with Mutual Aid Networks will help address the immediate food needs of priority populations who are often hardest hit by disasters.

Leveraging Funds and Community Partnerships

In-kind time by UCCE North Bay Systems Advisor, Julia Van Soelen Kim, will be provided for program development, academic oversight, and evaluation. Complementary components of this proposal will be submitted to the County of Sonoma ARPA community application. There is the potential for this project to leverage grant funding from a USDA AMS Regional Food Systems Partnership grant application submitted in July 2021 (application pending) which requires a non-federal match and could offset funding requirements by $150,000. The project has been developed in community partnerships with members of the Sonoma County Food Systems Alliance, Sonoma County Food Recovery Coalition and the Sonoma County Community Organizations Active in Disaster (COAD). Key community groups who have and will be engaging directly on this project include: CURA, Petaluma Bounty, Farm to Pantry, and members of the COAD Food Access Group (representing 30+ community organizations involved in food access).

Vets Building Resilient

Project Summary

Goal: Upgrade the Santa Rosa Veteran's Building by adding solar and battery storage with the priority being providing a resiliency feature. This is intended to be a pilot project for future upgrades to the other County-owned Veteran's buildings in Sonoma. The solar and battery improvements are intended to increase the resiliency efforts for the community through self-generation and battery storage, especially in times of Public Safety Power Shutoffs or disasters where reliable power becomes an issue to this site. During regular, non-emergency times, the on-site generation will also result in lower the GHG's from the building sector, getting this location closer to carbon neutrality by offsetting the electrical usage from the site. While there is another effort to make this building more energy efficient through upgrades such as replacement of windows, water heating, etc., the priority for this project is to make the property as self sufficient when grid power in unreliable.

Benefits: The Santa Rosa Veteran's Hall acts as both a Community Hub and as a designated mass care and shelter site, and resource center to be used during PG&E Public Safety Power Shutdown events and has potential to be utilized as an extreme heat cooling center. Due to the critical nature of this facility, the Sonoma County General Services Department is looking to install a +/-100 Kilowatt Solar Electric System mounted in a shading structure fashion over the existing parking lot area along with a battery storage system to ensure backup power during PSPS events or power outages.

Success: Based on BayREN ZNE services, report and energy modeling completed by kW Engineering. Upgrading the facility to add solar + battery will get the County closer to achieving zero net energy. Once installed, tracking the utility bills over time to deliver actual performance and compare the offset provided by the solar. The battery storage will ensure the use of the building during critical needs to the community.

Implementation Timeline

- Preliminary identification of size of system is complete and RFP draft will be done ahead. RFP can be released as soon as funding is available for the selection of a contractor to install the upgrades. These upgrades will work in tandem with any identified and approved energy efficient upgrades for the same location. All potential improvements will be identified through the Investment Grade Audits performed and Board approved.
- Timeline: RFP for contractor selection – Q1 2022
- Installation of upgrades – Q2 2022
- Commissioning of new systems and upgrades – June-July 2022
- Community impacts: The Veteran's Building ready for events which involve the need for community resource centers related to power outages, shut downs or disasters with uninterrupted delivery of electricity to the site. Completion during mid-late Summer 2022.

Implementation Budget

Item	Cost

Estimated cost for installation of a 100kW solar system and a portion of the battery storage system	$600,000
Architect/Engineer fees	$90,000
initial scoping, scouring the archives for relevant as-builts, coordination with A/E team on scoping, proposals and agreements. Review of construction agreements and management of construction RFIs, submittals, change orders, requests for payments. Monitoring construction projects and responding to developments that occur. Construction close out and filing documents with CRA, State and others. Also includes Administrative staff and Management time.	$120,000
Contingency	$60,000
Total	$870,000

Alignment with County Strategic Plan

Pillar: Climate Action and Resiliency and Resilient Infrastructure

- **CAR Goal 3:** Make all County facilities carbon free, zero waste and resilient
  - **CAR Objective 3.1:** Design or retrofit County facilities to be carbon neutral, zero waste and incorporate resilient construction techniques and materials.
- **Department Lead for this Objective:** General Services
- **Description**: Installing solar and battery improvements meets the resiliency portion of this objective. Having this site be self-sufficient, especially in times of Public Safety Power Shutoffs or disasters where reliable power becomes an issue to this site is critical. The Veteran's Building is a key site for standing up a community resource center, shelter or warming center related to power outages, shut downs, pandemics or disasters with uninterrupted delivery of electricity to the site.

Pillar: Resilient Infrastructure

- **RI Goal 2:** Invest in capital systems to ensure continuity of operations and disaster response.
  - **RI Objective 2.2:** Invest in electric power resiliency projects at County facilities, including Veteran's Buildings, used for evacuation sites, warming/cooling centers, or as alternate work facilities for delivery of critical services.
- **Department Lead for this Objective:** General Services
- **Description**: Installing solar and battery improvements ensures continuity of electrical operations, especially as a disaster response community site. Having this site be self-sufficient, especially in times of Public Safety Power Shutoffs or disasters where reliable electrical power becomes an issue to this site is critical. The Veteran's Building is a key site for standing up a community resource center, shelter or warming center related to power outages, shut downs, pandemics or disasters.

Decarbonization

100 kW installed solar = 150,304 kWh/year based on PV Watts NREL calculator https://pvwatts.nrel.gov/

This equates to 107 MT CO2e eliminated annually. The MT GHG equation is based on the EPA 's GHG equivalencies calculator. https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator.

https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references

Solar PV comes with a warranty of 25 years on the panels. Batteries generally last 10 years.

Carbon Sequestration and Ecosystem Services

N/A

Resilience and Adaptation

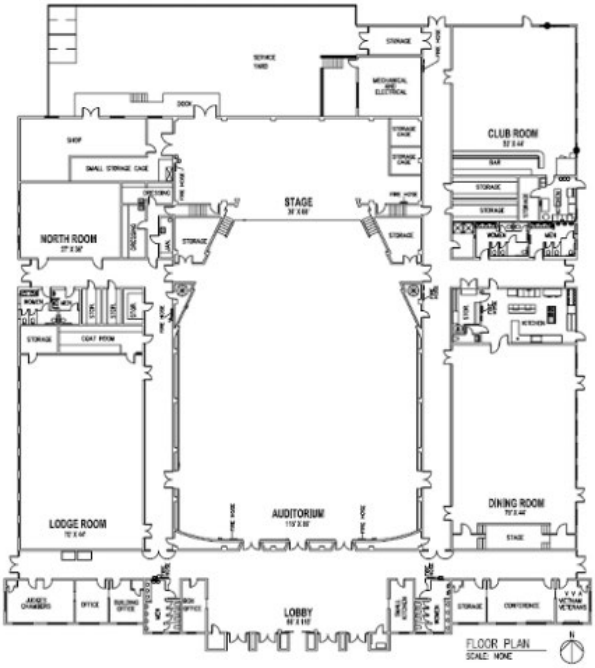
This would enable infrastructure in place to provide to the community a resource center as a continued shelter when electric grid power is not reliable or available. The building can accommodate varying occupancies based on the type of use. The occupancies listed are for indoor rooms only. The parking lot serves as an additional resource. There is plenty of room to accommodate vehicles driving to the site as a shelter, etc. Also, the site provides space for distribution of goods and services, like food distribution, shelter supplies, testing, etc. This can also provide additional resources for the building occupants, such

as portable toilets, sinks and showers for public use during times when the site is accessed for shelter use.

Floorplan and occupancy details: The floorplan and occupancy information is intended for when the building is working in normal capacity and for various community events. During times of emergency, considerations are taken into account for shelter beds, ADA access, social distancing, health of occupants, avoidance of virus spread, space for shelter occupants with small animals, etc.

Floorplan

Room	Capacity
Auditorium	Assembly: 1200 Seated: 1000 Dining: 653 Dine & Dance: 500
Dining Room	Assembly: 408 Seated: 250 Dining: 200 Dine & Dance: 150
Lodge Room	Assembly: 440 Seated: 275 Dining: 205 Dine & Dance: 150
North Room	Assembly: 139 Seated: 80 Dining: 65
Conference Room	Assembly: 55 Seated: 35 Dining: 26
Kitchen	not applicable



SANTA ROSA VETERANS MEMORIAL BUILDING
1351 MAPLE AVENUE, SANTA ROSA CA

Equity and Community Engagement

Identify potential negative impacts of the project on communities of color and low-income communities, and describe what strategies your Department recommends to mitigate any potential adverse impacts:
none identified

This building is a resource for the entire Veteran community. In addition, when used as a resource center or shelter, this often includes homeless. The type of center/shelter uses accommodate all people, regardless of color, age, gender, socio-economic status, etc. Often the types of patrons are low income or have limited resources to accommodate their needs and this is their only available option.

The Santa Rosa Veterans Building serves the entire veteran's community, as well as the broader community when it functions as a mass care and shelter site, evacuation site, food distribution site, etc. during disasters. This addresses safety, environmental, equity, mobility. These improvements will

improve the health and safety of hundreds of community members, including seniors, veterans, and children. Having this upgraded facility available for multi-purpose use in times of disaster or urgent response will aid the entire community. The function of the building is all about community.

Leveraging Funds and Community Partnerships

This project is leveraged with other funds. The energy storage system which has yet to be installed, but County has received approval on an incentive through California Public Utilities Commission Self Generation Incentive Program valued at $170,000. This incentive is expected to cover roughly 85% of the installation cost of the Energy Storage System. There was also a submittal provided to Congressman's Thompsons office for a potential federal earmark of funding for $600,000. This is pending.

The FY 21-22 County of Sonoma Capital Budget requested $200,000 for the project. The Board of Supervisors will consider the Veteran's project requests in October. The $200,000 would not complete the PV project but could support a matching funding obligation.

Regional Parks' Climate Action Plan (CAP)

Project Summary

Regional Parks' has prioritized reducing the impact of climate change throughout the organziation. As Regional Parks began to implement changes to reduce GHG emissions, we realized that we did not have the mechanism to track and report the changes and their impacts. To better track and report the changes being implmented and their impact, Regional Parks contracted a Greenhouse Gas Emissions Inventory Baseline Assessment. This inventory was requested in January of 2021 and finalized in August 2021.

Given the progress of Sonoma County Regional Parks' baseline assessment, Regional Parks is well-positioned to advance towards the development of a Climate Action Plan (CAP), establishing a GHG emissions forecast and reduction plan to achieve net carbon neutrality by 2045 in accordance with state legislated targets. With a CAP, Regional Parks will be able to chart a transparent pathway towards GHG reduction in line with the state and county goals. GHG reduction strategies can be identified through a comprehensive assessment of existing local and regional policies, programs, and actions and by assessing any gaps and identifying additional opportunities. These strategies will go beyond the scope of a countywide CAP. It will identify clear, tangible ways that Regional Parks as both a creator of GHG emissions, but also a provider of sequestation through parklands and open spaces can move forward to decrease GHG emissions, increase sequestration and report progress.

Implementation Timeline

- September 2021- RFP created
- January 2022 – RFP submitted
- February 2022 – Proposal Awarded
- March 2022 – Community Engagement begun by consultant
- July 2022 – Final CAP submitted to Regional Parks

Implementation Budget

Item	Cost
Climate Action Plan – Rincon Consulting Estimate	$250,000
Total	$250,000

Alignment with County Strategic Plan

Pillar: Climate Action and Resiliency and Resilient Infrastructure

- **Goal**: Goal 1, Goal 2, Goal 3, Goal 4, Goal 5
- **Objective**: Goal 1: Objective 1, Objective 2, Objective 3. Goal 2: Objective 1. Goal 3: Objective 1, Objective 2, Objective 3. Goal 4: Objective 1, Objective 2, Objective 3. Goal 5: Objective 1, Objective 2.
- **Department Lead for this Objective:** Multiple
- **Description**: The CAP identifies all the goals under the Climate and Action Resiliency pillar. Of the utmost importance is that it identifies the next steps for Regional Parks to implement climate change reduction strategies.

Decarbonization

Regional Parks received the following baseline GHG emissions data. The Climate Action Plan will create a roadmap for Regional Parks to reduce carbon emissions in the following categories. It will allow Regional Parks to return to this baseline data and assess our impact of reducing carbon in real time, while allowing for the continued expansion of parklands, which require increases in staffing, vehicles and equipment. An example that the CAP will identify is reducing vehicle use or transitioning to electric, however it will also identify where infrastructure is needed and where opportunities lie for maximum impact.

2019 Operational GHG Inventory Results

A discussion of the emissions by source follows for the eight primary emission sources of: buildings and other facilities, vehicle fleet, water delivery facilities, employee commute, water consumption, fugitive wastewater emissions, solid waste generation, and carbon sequestration.

Figure 1 2019 Operational GHG Emission Inventory Results

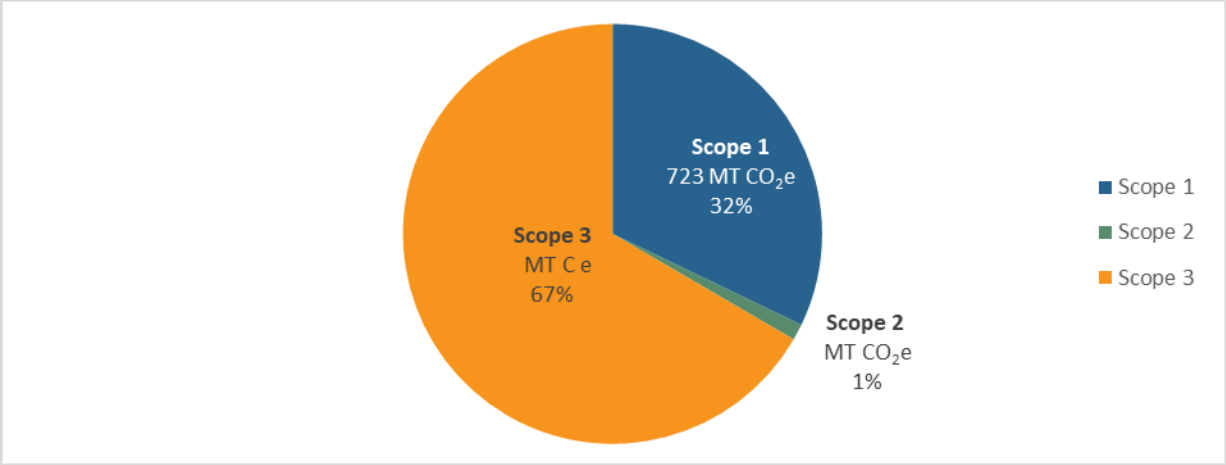


Table 1 2019 Operational GHG Emission Inventory Results (MT CO_2e)

Sector	Scope 1	Scope 2	Scope 3	Total

Buildings and Other Facilities	26.8	27.8	N/A	54.6
Vehicle Fleet	695.9	N/A	N/A	695.9
Water Delivery Facilities	N/A	0.1	N/A	0.1
Employee Commute	N/A	N/A	541.4	541.4
Water Consumption	N/A	N/A	2.7	2.7
Fugitive Wastewater Emissions	N/A	N/A	11.4	11.4
Solid Waste Generation	N/A	N/A	942.6	942.6
Cumulative Emissions	**722.7**	**27.9**	**1,498.1**	**2,248.7**

Notes: All values presented are in units of metric tons of carbon dioxide equivalent (MT CO_2e); N/A = Not applicable; Values may not add due to rounding

Buildings and Other Facilities

GHG emissions resulting from the buildings and other facilities include scope 1 and scope 2 emissions sources that relate to the combustion of propane in (scope 1) and the consumption of electricity (scope 2) in Regional Parks facilities.

As of 2019, Regional Parks sources its electricity from one provider, Sonoma Clean Power (SCP) and purchases electricity at the CleanStart level, sourcing 97% of its electricity from carbon-free sources. Regional Parks is provided propane by Ferrellgas, which is used for heating and cooling of buildings and facilities. The GHG emissions associated with buildings and other facilities sector sources in the Operational GHG Emissions Inventory totaled 54.6 MT CO_2e and are provided in Table 3.

Table 2 Buildings and Other Facilities Sector Operational GHG Emissions

GHG Emission Source	Emissions (MT CO_2e)	Emission Source Scope
Propane Consumption	26.8	Scope 1
Electricity Consumption	27.8	Scope 2
Cumulative Sector Emissions	**54.6**	

Notes: MT CO_2e = Metric tons of carbon dioxide equivalent

Vehicle Fleet

Vehicle fleet GHG emissions include scope 1 GHG emission sources that relate to the combustion of fossil fuels in Regional Parks' fleet vehicles, equipment rentals, and personal use of vehicles for work. Fleet vehicles include light and medium-duty vehicles, tractors, and off-road equipment. Equipment rentals include more off-road equipment and utility-focused tools, such as chippers, track loaders, stump grinders, and more. Personal use of vehicles for work entails employees who utilize their vehicle for operational activities. The GHG emissions associated with vehicle fleet sector sources in the Operational GHG Emissions Inventory totaled 2,112.8 MT CO_2e and are provided in Table 4.

Table 3 Vehicle Fleet Sector Operational GHG Emissions

GHG Emission Source	Emissions (MT CO_2e)	Emission Source Scope
Operational Fleet	**636.1**	**Scope 1**
On-road Vehicles	*401.7*	*Scope 1*
Off-road Vehicles	*234.3*	*Scope 1*
Equipment Rentals	**1.9**	*Scope 1*
Personal Vehicle Use for Work	**1,474.8**	*Scope 1*
Cumulative Sector Emissions	**2,112.8**	**Scope 1**

Notes: MT CO_2e = Metric tons of carbon dioxide equivalent

Employee Commute

Employee commute GHG emissions include scope 3 GHG emissions sources that relate to the combustion of fossil fuels generated by Regional Parks employees' vehicles. The employee commute sector sources account for emissions generated by Regional Parks employees' trips to and from work and is treated as separate from the use of personal vehicles for work trips described above under vehicle fleet sector emissions. The GHG emissions associated with employee commute sector sources in the Operational GHG Emissions Inventory totaled 504.8 MT CO_2e.

Water Delivery Facilities

Water delivery GHG emissions include scope 2 GHG emissions sources that relate to the electricity consumed by the pumping and distribution of local water resources by Regional Parks facilities. The GHG emissions associated with water delivery sector sources in the Operational GHG Emissions Inventory totaled 0.10 MT CO_2e and are provided in Table 4.

Table 4 Water Delivery Facilities Sector Operational GHG Emissions

GHG Emission Source	Emissions (MT CO_2e)	Emission Source Scope
Memorial Beach	0.04	Scope 2
Stillwater Cove	0.03	Scope 2
Riverfront Park	0.02	Scope 2
Putnam Park	0.01	Scope 2
Cumulative Sector Emissions	**0.10**	**Scope 2**

Notes: MT CO_2e = Metric tons of carbon dioxide equivalent

Water Consumption

Water consumption GHG emissions include scope 3 emissions from water consumption in buildings and facilities. GHG emissions associated with operational water consumption are generated by the electricity used to supply water to Regional Parks facilities. Regional Parks owns and operates several buildings and facilities across Sonoma County, receiving water service from 14 different retail water providers. Whereas the water delivery emissions sector focuses on emissions resulting from the electricity used to convey and distribute groundwater supplies, the water consumption emissions sector focuses on the electricity consumed by the treatment, delivery, and conveyance of water supplies to Regional Parks buildings and facilities for potable use. In 2019 operational water consumption totaled 47.47 acre-feet,

generating approximately 0.24 MT CO_2e. The total water consumption sector operational 2019 GHG emissions are provided in Table 6.

Table 5 Water Consumption Sector Operational GHG Emissions

GHG Emission Source	Emissions (MT CO_2e)	Emission Source Scope
Kenwood Village Water Company	0.60	Scope 3
City of Sonoma	0.46	Scope 3
Valley of the Moon Water District	0.31	Scope 3
Bodega Bay Public Utility District	0.29	Scope 3
City of Santa Rosa	0.24	Scope 3
City of Sebastopol	0.25	Scope 3
Sea Ranch Water Company	0.25	Scope 3
Russian River County Water District	0.12	Scope 3
Sweetwater Springs Water District	0.09	Scope 3
Town of Windsor	0.06	Scope 3
California American Water	0.02	Scope 3
Occidental Community Services District	0.01	Scope 3
Sonoma County CSA 41 Fitch Mountain Water District	0.01	Scope 3
City of Petaluma	<0.01	Scope 3
Cumulative Sector Emissions	**2.71**	**Scope 3**

Notes: MT CO_2e = Metric tons of carbon dioxide equivalent

Fugitive Wastewater Emissions

Fugitive wastewater GHG emissions include scope 3 emissions from septic services and are the result of fugitive methane emissions. These septic services include portable toilets offered by Regional Parks to the community at various outdoor locations throughout the County, such as Doran Park, Gualala Point, and Stillwater Cove. Data were provided by Regional Parks through invoices that included the type of service used, equipment rented, frequency of service per rentals, and total volume of septic waste generated. The total fugitive wastewater sector operational 2019 GHG emissions totaled 11.4 MT CO_2e.

Solid waste

GHG emissions from solid waste include scope 3 emissions from waste generated by operational facilities. These GHG emission occur in the form of methane as disposed waste decays in landfills overtime. The GHG emissions captured here account methane commitment for the waste generated in 2019. In 2019 approximately 2,494 tons of solid waste were disposed of from Regional Parks operations, generating approximately 942.6 MT CO_2e.

Carbon Sequestration and Ecosystem Services

In the case of Regional Parks operations, the operation and maintenance of natural lands provides for the significant sequestration of carbon through biological process in the soil and vegetation. Both GHG emissions and sinks can occur from land use, but generally natural and working lands represent a negative emissions source. As part of the GHG inventory it is estimated that the total carbon stocks within Regional Parks' jurisdictional boundary of control at 995,351 MT CO2e. This value was calculated based on GIS data provided by Sonoma County Agriculture and Open Space. Collected by NASA's Carbon Monitoring System (CMS), these data represent 30-meter gridded estimates of aboveground carbon density in metric tons per hectare across Sonoma County. This value represents an estimate of the total carbon sequestered in Sonoma County Regional Parks natural land. It does not provide estimates for the annual carbon sequestration capacity for Regional Parks lands, nor does it serve as an additive value representing the carbon sequestration sector to supplement the 2019 Sonoma County Regional Parks Operational GHG Emissions Inventory.

As Regional Parks manages public lands, this element will be an important part of their carbon profile moving forward, requiring further investigation and technical analysis. Guidance for calculating GHG emission sources and sinks is provided in Appendix J of the United States Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions (US Community Protocol). The US Community Protocol follows the guidance provided by the Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories. To calculate the annual sequestration available from Regional Park's natural lands, further investigation and analysis is required. Data from one point in time can provide information only on carbon stocks; a GHG inventory requires information on GHG fluxes (changes in carbon stocks over time). For example, a managed forest comprised of 100 MT CO2e is not equivalent to an annual sequestration capacity of 100 MT CO2e every year. With the completion of appropriate tree surveys, Regional Parks carbon stocks can be supplemented and upgraded for sequestration estimates in subsequent years. Knowledge of pre- and and/or post-land use will provide more accurate estimates of carbon stock changes and thus effectively contribute to future inventories. Further investigation into software tools such as iTree and TerraCount have the capacity to significantly improve the management of data resources for future carbon sequestration studies of Regional Parks' natural and working lands in the future. Further research and more accurate data will be identified in the CAP.

Resilience and Adaptation

Many of the decarbonization benefits will also be recognized as resilience and adaptation benefits. Examples include solar systems with backup batteries, as well as vegetation management and fire proof infrastructure that defend sequestration. These are identified through the CAP.

Equity and Community Engagement

Identify potential negative impacts of the project on communities of color and low-income communities, and describe what strategies your Department recommends to mitigate any potential adverse impacts:
answered NA

There will be significant community outreach in the CAP. Regional Parks has also developed a Climate and Equity Innovation tool, which will lead toward making equity decisions. There is a robust community engagement portion throughout the CAP.

Leveraging Funds and Community Partnerships

Adopting a CAP optimally positions Regional Parks for acquisition of short and long-term funding opportunities at the local, regional, state, and federal level. With a CAP integrated into the core of the community, the agency is able to reliably refer to the CAP as an adaptive planning and resources management tool that champions Sonoma County Regional Parks' remaining core values of innovation, sustainability, and accountability.

GSD Vets Building Energy Upgrade

Project Summary

Goal: The Santa Rosa Veteran's Building is part of the County's aging infrastructure. As a rental space for community events it is a revenue source for General Services. Improving the overall energy efficiency and systems within the building will make it a more attractive space. The improvements would increase durability and effectiveness of operating systems. Better health benefits to the occupants through balanced, properly filtered airflows in HVAC systems and the addition of central air conditioning throughout the building. This project will serve as a pilot project for future upgrades to the other County-owned Veteran's buildings within Sonoma. These improvements will increase the energy efficiency, lower the greenhouse gas emissions and work towards achieving carbon neutrality in the existing County buildings. Through higher efficiencies of HVAC and water heating system specifications, proper air balancing, dual pane windows and upgrades to interior and exterior LED lighting, the building will use less energy and the County will spend less on gas and electricity bills for the building. The addition of high efficiency central air conditioning will provide cooling for normal and emergency operations. The central cooling will allow the building use as a cooling resource center on extreme heat days, something not currently possible. This acts as a resiliency measure.

Benefits: The Santa Rosa Veteran's building is a popular community resource center and shelter location during disasters, extreme weather and PSPS events. It has many benefits based on location, access to freeway and roads, large outside area for parking and staging of resources and proximity to the County Fairgrounds. In normal times, all Veteran's centers provide a meeting and social space for our service Veteran's. The building is host to numerous community groups and gatherings from real estate trade professionals to farmer's markets and quincineras.

Success: Based on BayREN ZNE services, report and energy modeling completed by kW Engineering. Upgrading efficiency of systems and switching to electric allows for achieving zero net energy. There is modeled performance and once installed, tracking the utility bills over time to deliver actual performance. In order to achieve zero net energy, an on-site solar system will need to be installed to offset the use of electrical power. This is a separate project submittal. Overall success will include a more attractive location due to these upgrades. In addition to the preliminary work provided by kW Engineering, the building will be part of the General Service's Investment Grade Audits. The audits will provide testing and in-depth tackoff and energy modeling of the site. The report will include all potential incentives, rebates and many financing options for the types of upgrades mentioned. These audits will take place in early 2022, once an Energy Services Company (ESCo) is selected through an RFP process. Upon completion of the audit, an Energy Master Plan will be adopted and upgrade work can begin through an RFP selection of a contractor.

Implementation Timeline

- Preliminary identification of improvements completed through energy modeling.
- RFP to select an ESCo to perform investment grade audits, generate reports, including recommendations of upgrades, types of incentives, rebates and financing options.
- Selection of all upgrades to be completed.
- An RFP can be released as soon as funding is available for the selection of a contractor to install the upgrades. The draft of this RFP will be done ahead of time.

Timeline:

- RFP for contractor selection – Q1 2022
- Installation of upgrades – Q2 2022
- Commissioning of new systems and upgrades – June-July 2022
- Community impacts: Increased energy efficiency and addition of air conditioning in the Veteran's Building ready for extreme heat events during mid-late Summer 2022. Location could be utilized as a Community Cooling Center.

Implementation Budget

Item	Cost
Estimated cost for energy efficiency upgrades provided through kW Engineering report completed 4/16/2021. Interior and exterior LED lighting, double pane windows w/ film, heat pump water heater, air conditioning. This is an estimate of installed costs associated, including permitting.	$609,000
Investment Grade Audit, Report and Energy Master Plan	6,000
Architect/Engineer fees	$91,350
initial scoping, scouring the archives for relevant as-builts, coordination with A/E team on scoping, proposals and agreements. Review of construction agreements and management of construction RFIs, submittals, change orders, requests for payments. Monitoring construction projects and responding to developments that occur. Construction close out and filing documents with CRA, State and others. Also includes Administrative staff and Management time.	$121,800
Contingency	$73,080
Total	**$901,230**

Alignment with County Strategic Plan

Pillar: Climate Action and Resiliency and Resilient Infrastructure

- **CAR Goal 3:** Make all County facilities carbon free, zero waste and resilient
    - **CAR Objective 3.1:** Design or retrofit County facilities to be carbon neutral, zero waste and incorporate resilient construction techniques and materials.
- **Department Lead for this Objective:** General Services
- **Description**: These improvements will increase the energy efficiency, lower the greenhouse gas emissions and work towards achieving carbon neutrality in the existing County buildings. Through higher efficiencies of HVAC and water heating system specifications, proper air balancing, dual pane windows and upgrades to interior and exterior LED lighting, the building will use less energy and the County will spend less on gas and electricity bills for the building. The addition of high efficiency central air conditioning will provide cooling for normal and emergency operations. Improvements made to the Veteran's Building is an investment to become carbon neutral, resilient and it will make it a more attractive resource for the public.

Pillar: Resilient Infrastructure

- **RI Goal 2:** Invest in capital systems to ensure continuity of operations and disaster response.
    - **RI Objective 2.2:** Invest in electric power resiliency projects at County facilities, including Veteran's Buildings, used for evacuation sites, warming/cooling centers, or as alternate work facilities for delivery of critical services.
- **Department Lead for this Objective:** General Services
- **Description**: Including the installation of high efficiency, central air conditioning allows this site to be utilized as a cooling center for the community, thus providing resiliency.

Decarbonization

The County of Sonoma leveraged BayREN's Municipal Zero Net Carbon/Zero Net Energy Technical Assistance Program to:

• Determine feasibility of achieving ZNE,

• Identify measures to improve energy efficiency at the existing facility, and

• Assess the impact of adding space cooling systems at its Santa Rosa Veterans Memorial Building.

The building envelope for the model was based on current architectural drawings. The model was used to estimate and compare the projected energy use after installing all the energy efficiency measures recommended in this report and addition of cooling equipment.

Information was collected on the building's existing HVAC system, referenced As-Built mechanical drawings, and obtained occupancy data from the space rental records for 2019 to build an energy model and calibrate it to the building's current energy use. An estimate was created for the building's energy use after installation of central air conditioning.

Recommendations:

• Install interior LED lamps & fixtures, and control them using occupancy sensors

- Install exterior LED fixtures
- Install Double Pane Windows with Low U-Value and Reflective Solar Film
- Replace Existing Natural Gas-Fired Domestic Water Heater with Electric Heat Pump
- Add Mechanical Cooling Equipment to the Building

Installing new air conditioning units to provide cooling will incur an energy penalty at the building but is necessary for the building to function as a cooling center for the County. This penalty can be minimized by implementing other measures. In addition, it is proposed to add on-site solar generation to the site. This is a separate residency request.

Savings:

7,000 lbs CO2 savings/year based on kW Engineering report, page 18.

The estimated amount is 7,000/year reduction. The average life of the individual improvements varies between 12-30 years.

Carbon Sequestration and Ecosystem Services

N/A

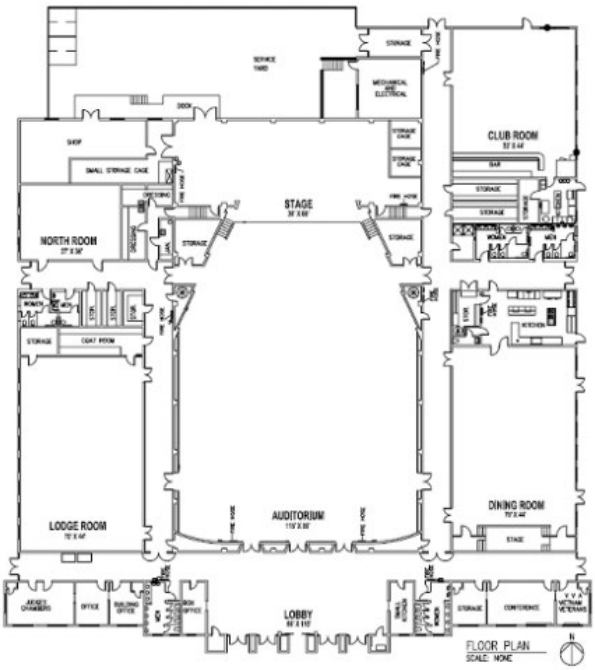
Resilience and Adaptation

This would enable infrastructure in place to provide to the community a resource center as a continued shelter but with adequate ventilation and conditioned for extreme heat events. The building can accommodate varying occupancies based on the type of use. The occupancies listed are for indoor rooms only. The parking lot serves as an additional resource. There is plenty of room to accommodate vehicles driving to the site as a shelter, etc. Also, the site provides space for distribution of goods and services, like food distribution, shelter supplies, testing, etc. This can also provide additional resources for the building occupants, such as portable toilets, sinks and showers for public use during times when the site is accessed for shelter use.

Floorplan and occupancy details: The building has a large auditorium, multiple meeting rooms, kitchen, dining room, and support spaces with offices and conference rooms. The floorplan and occupancy information is intended for when the building is working in normal capacity and for various community events. During times of emergency, considerations are taken into account for shelter beds, ADA access, social distancing, health of occupants, avoidance of virus spread, space for shelter occupants with small animals, etc.

Floorplan

Room	Capacity
Auditorium	Assembly: 1200 Seated: 1000 Dining: 653 Dine & Dance: 500
Dining Room	Assembly: 408 Seated: 250 Dining: 200 Dine & Dance: 150
Lodge Room	Assembly: 440 Seated: 275 Dining: 205 Dine & Dance: 150
North Room	Assembly: 139 Seated: 80 Dining: 65
Conference Room	Assembly: 55 Seated: 35 Dining: 26
Kitchen	not applicable



SANTA ROSA VETERANS MEMORIAL BUILDING
1351 MAPLE AVENUE, SANTA ROSA CA

Equity and Community Engagement

Identify potential negative impacts of the project on communities of color and low-income communities, and describe what strategies your Department recommends to mitigate any potential adverse impacts:
none identified

This building is a resource for the Veteran community. In addition, when used as a resource center or shelter, this often includes homeless. The type of center/shelter uses accommodate all people, regardless of color, age, gender, socio-economic status, etc. Often the types of patrons are low income or have limited resources to accommodate their needs and this is their only available option. This addresses safety, environmental, equity, mobility. These improvements will improve the health and safety of hundreds of community members, including seniors, veterans, and children. Having this upgraded facility available for multi-purpose use in times of disaster or urgent response will aid the entire community.

This project and the building is all about community engagement. The building needs upgrades and attention to deferred maintenance. This is an opportunity to also upgrade the systems to include the necessary conditioned air element.

Leveraging Funds and Community Partnerships

This project is leveraged with other funds. The initial energy assessment was completed through leveraged partnership with BayREN resources and completed at no cost to the County. There was also a submittal provided to Congressman Thompson's office for a potential federal earmark of funding for $609,000. This is pending.

This project will leverage a community partnership with local veterans. Through improvements completed, the building will provide a more attractive space for events, meetings and gatherings. The site is available for rental of events and the Veteran's and County use it as a source of revenue. The Veteran's are aware of the goal for upgrades to the building and will be direct beneficiaries of increased energy upgrades.

Regional Parks Drought Resilience Roof-Top Water Catchment & Water Distribution Project

Project Summary

Regional Parks has identified an urgent need to make new investments in water capture, storage and transportation onsite at multiple Regional Parks. The current drought conditions have created onsite water deficiencies at many parks with decreasing pond and spring production to support grazing, equestrian users, plant restorations and emergency water for prescribed or active fire management.

Enhanced onsite storage at multiple locations within Regional Parks and the ability to transport water from locations of abundance to scarcity in becoming increasingly important as water becomes a more limited resource. This project will:

- Extend the timeline of seasonal grazing and thus the timeline of fuels reduction and grazing for carbon sequestration;
- Reduces our demand on overtaxed aquifers thus benefitting already imperiled species;
- Provides ancillary water for fire suppression and prescribed fire activities; and
- Reduces GHG emissions associated with pumping water from offsite locations.
- Demonstrates an easy technology that has both small and large scale application for residences, businesses and rural land owners.

Regional Parks is proposing to partner with the local Resource Conservation Districts to evaluate 20 parks for potential large rooftop water catchment systems and then select the three highest priority sites for design and installation of large water catchment tanks (30,000-50,000 gallons) fed by rooftop rainwater catchment systems. The sites will be on existing park buildings at three geographically distributed locations within our nearly 60 park facility park system. The project will reduce groundwater pumping, reduce electricity use, improve creek flows in impaired waterways, provide water for grazing, critical water for prescribed fire or wildfire, and improve customer experience at our parks. We are also requesting funds for a 3,000 gallon mobile water truck that can access rugged parks areas to support prescribed fires, livestock watering and planting restoration projects.

Implementation Timeline

Jan-Feb 2022: contracting, site inventory, evaluation, and prioritization.

Mar-Jun 2022: engineering, geotechnical work, plans and bid document preparation for three high priority selected sites.

July-November permitting, bidding, construction. If unanticipated complexities arise, the latest time for project delivery would be spring 2023.

Implementation Budget

Item	Cost
Site Evaluation, Estimates, and Prioritization (20 priority locations at existing parks throughout the county)	**$25,000**
Priority Rooftop Water Catchment Implementation	
30,000-50,000 Gallon Fire Proof Metal Water Tank	$50,000 - 75,000
Earthwork, Foundation, Conveyance	$40,000 - 85,000
Geotechnical Testing, Report, Observation	$10,000
Design, Permitting, Construction Oversight	$20,000 - 25,000
Subtotal Cost Range Per System	$120,000 -195,000
Average Cost Per System (Subtotal /2)	$157,500
Implementation of 3 Priority Systems 3 x $157,500	**$472,500**
3,000 Gallon County Fleet Approved Water Truck, Ford 750 or equivalent	**$110,000**
Total	**$607,500**

Cost estimate does not include County Staff time that will be paid for with other funds, as discussed in the leveraging funds section below.

Alignment with County Strategic Plan

Pillar: Climate Action and Resiliency

- **Goal**: Goal 3: Make all County facilities carbon free, zero waste and resilient.
    - **Objective**: Objective 1: Design or retrofit County facilities to be carbon neutral, zero waste and incorporate resilient construction techniques and materials.
- **Department Lead for this Objective:** GSD
- **Description**: Water Scarcity in California is largely a result of limited water storage. The project invests in fire-proof water tanks and ability to transport and distribute water for the purpose of replacing non-sustainable water diversions and groundwater pumping, responding to drought impacts

Decarbonization

The primary focus of this project is drought resiliency, and this project will potentially support GHG emission reductions, depending upon the use of the water being replaced. For example, if the water from the rooftop catchment replaces pumped and treated water from off-site locations, the emissions from pumping and treating the water will be eliminated. Decarbonization metrics will be evaluated as part of the site prioritization report. If there is a reduction, it would be realized in the first year the project is completed and continued thereafter.

Carbon Sequestration and Ecosystem Services

The primary focus of this project is drought resiliency, and this project will also support carbon sequestration resulting from ecologically appropriate grazing as well as to support fire operations. The amount of CO2 sequestration is dependent upon location specific factors that will be evaluated in the site assessment. However, grazing land has been found to sequester half a ton of carbon per year per acre by Carbon Cycle Institute, a Petaluma-based climate solutions think tank. As a rough example, if a 50,000 gallon tank were supporting a 200-acre grazed area, there would be an annual sequestration of 100 tons of CO2. In addition, water storage allows for supporting prescribed fire that helps ecosystems to sequester carbon over the long term, while the water storage can help suppress damaging wildfires that reduce an ecosystems carbon sequestration capacity.

Resilience and Adaptation

Evident in our current drought and critical in a future flashier climate, water security and resilience are paramount. Enhanced onsite storage at multiple locations within Regional parks *and* ability to transport water from locations of abundance to scarcity will become more valuable over time as water becomes a more limited and taxed resource. We propose investments in water capture and storage onsite at multiple Regional Parks properties *and* transportation and distribution of water within and among Parks to improve water sustainability at each location.

This project will:

- Extend the timeline of seasonal grazing and thus the timeline of fuels reduction and grazing for carbon sequestration;
- Reduces our demand on overtaxed aquifers thus benefitting already imperiled species;
- Provides ancillary water for fire suppression and prescribed fire activities; and
- Reduces GHG emissions associated with pumping water from offsite locations.
- Demonstrates an easy technology that has both small and large scale application for residences and businesses

Equity and Community Engagement

No potential negative impacts of the project on communities of color and low-income communities are anticipated.

This project conserves water for all populations including those in heavily impacted aquifers, and supports fuels management in critical wild-urban-interface areas including in areas bordering and/or near disadvantaged communities. In addition, the project is a visible demonstration of underutilized technology that is applicable to residential, commercial, industrial, and institutional uses. Regional Park's broad reach in the community of millions of public visits a year and even more contacts on social media, e-news, department website and other marketing outlets will help promote this scalable technology. And, the experience and exposure gained in this initial pilot will potentially help accelerate the adoption of rooftop catchment in other county facilities.

Leveraging Funds and Community Partnerships

Regional Parks is paying for an estimated $6,000 staff time with Parks for All Measure M sales tax. This expense is not included in the budget. This project is likely to be leveraged with federal grants potentially to be secured by the Resource Conservation Districts.

In addition, there is very good potential for this project to be leveraged with additional funds depending upon the final site selection and ongoing and planned projects. Regional Parks has numerous ongoing capital, maintenance, and natural resource projects funded through external grants, department revenue, and other funding sources.

This project will leverage our close partnership with the Sonoma and Goldridge Resource Conservation Districts. Regional Parks has partnered for many years with both Districts on a broad range of project types, but never before on a water catchment project.

GSD EV Infrastructure Expansion

To maximize sustainability and emissions reductions, the County must move towards replacing carbon producing internal combustion engine (ICE) vehicles with zero-emission electric vehicles (EVs), and facilitate their operations by ultimately upgrading and expanding the EV charging infrastructure at County owned and leased properties.

To properly facilitate and manage EV charging infrastructure upgrades and expansion, Fleet Operation will need to expand its bandwidth by utilizing a portion of anticipated funding to hire additional staffing support though a Program Manager and Senior Office Assistant. The majority of the funding obtained will then be used to purchase portable and stationary EV infrastructure hardware and pay for capital project costs. Funding will also be used to pay for the overhead costs associated with the EV infrastructure; to include EV charger network fee, maintenance, and utility costs.

Pending funding and under the guidance Program Manager and Senior Office Assistant, the next steps will be to conduct and complete a more in depth fleet electrification study with outside vendor, Green Light Labs, which will inform a Fleet Transition Plan. Green Light Labs is technology company that specializes in EV transitions and their plan will help Fleet Operations inform and determine the optimal time and strategy for implementing permanent EV charging infrastructure and deploying County EVs. Fleet Operations has already conducted and completed the first phase of a fleet electrification study with Green Light Labs, to help inform the recommendations in their "Fleet Electrification Report". This report initially evaluates the financial, environmental, and charging infrastructure impacts of electrifying 81 vehicles due for replacement in FY21-22 (the "Replacement Vehicles") and provides a high-level overview of electrification potential for the County's entire fleet. Should all the Replacement Vehicles in this initial study be converted to EVs, the County has the potential to save as much as 320 metric tons of CO2 annually. The report provides some additional details on supporting these Replacement Vehicles as EVs to include the potential locations for charging stations, the types of charging equipment required, and the possible candidate EVs to support each usage case.

As part of their more in-depth study, Green Light Labs will work with Fleet Operations to develop a campaign to include software tools and workforce EV training to help County employees prepare for the transition to EVs (similar to their campaign for Los Angeles County – see www.electrifyze.la). Beyond this, Green Light Labs has the ability to provide (at an additional cost) an assessment of incentives and grant opportunities to secure funding and resources, and develop a plan to capture Low Carbon Fuel Standard (LCFS) credits.

Once the Fleet Transition Plan is conducted, completed, and reviewed, implementation of the findings will occur as quickly as possible. As an immediate solution to increase the County's EV charging infrastructure and community awareness, EV ARCs are planned for immediate implementation in the Regional Parks Department at the following parks: Helen Putnam Park, Taylor Mountain, Spring Lake, Schopflin Fields, Gualala Point and Spud Point Marina. The EV ARC is a rapidly deployable and highly transportable solar-powered EV charging infrastructure product that also has the capability of providing a reliable source of backup power to first responders during an emergency. Utilizing 100% renewable energy from the sun, the EV ARC operates fully independent of grid electricity, is built to withstand extreme weather (120 mph winds and floods up to 9.5 feet), and requires no construction or permitting. Because deployment of the EV ARC takes minutes, and it is highly transportable, the unit can be moved

to critical and strategic locations during emergencies, and as needed, to provide reliable power. Additionally, because this off-grid solar solution is mobile and requires no additional infrastructure, it can provide mitigation and resiliency benefits to every member of the community in every neighborhood. This is particularly important as there needs to be an emphasis on equity in the drive towards climate resilience and disaster mitigation.

As the EV ARCs are deployed and operational at the initial Regional Park locations, implementation of additional EV ARC units and stationary (level 2+) chargers will follow the guidance of the Fleet Transition Plan and the input of the Program Manager. The Program Manager and Senior Office Assistant will maintain specific oversight on servicing and repairing existing refueling and charging infrastructure and will help to inform the ongoing implementation of new infrastructure and the capability of supporting more EVs. Additionally, the Program Manager and Senior Office Assistant will continually seek and apply for new funding sources and opportunities to ensure longevity of the infrastructure.

Without a place to "refuel" (charge) EVs effectively and efficiently, adoption of EVs within the County Fleet and with the public will be severely hindered – bottlenecking EV acceptance as suitable replacements for ICE vehicles until more charging infrastructure is put in place. With the appropriate charging infrastructure implemented to support EVs, the hesitancy to embrace new technology due to range anxiety or charger availability is put at ease. The transition from ICE vehicles to EVs should, therefore, ideally occur simultaneously with the installation of new charging infrastructure. As the County establishes new EV infrastructure and the number of EV models available increase, there should be a natural transition and progression into a more sustainable world.

Project Summary

Goal: Expand the County's Electric Vehicle (EV) Charging Infrastructure: County Fleet only use charging, County employee workplace charging, and public use charging.
Measures of Success: Total number of EV chargers installed for each use case, utilization of each chargers (sessions, revenue, etc.), and reduction of GHG emissions.
Co-Benefits: Aligns w/ Strategic Plan, provides sustainable back-up power during power outages, GHG reductions, increases availability of EV Chargers for public whereby incentivizing more gasoline to EV procurement, improves community health.

Implementation Timeline

The following chart is provided with assumption of funding being made available by February 1, 2022.

Major Activities / Projects	Approximate Timelines
GLL: Fleet Electrification Report (Phase I)	Completed April '21
Recruitment Program Manager	February '22
Recruitment Senior Office Assistant	March '22
GLL: Fleet Transition Plan (Phase II)	Spring '22
Employee EV Education Campaign	Spring '22 (Campaign to be on demand)
Portable EV ARC Solar Chargers at Regional Park Locations	Spring '22
Portable EV ARC Solar Chargers Planning & Optimization	Spring '22 and Ongoing (Pending funding availability)

Stationary EV Charger Planning & Optimization	Spring '22 and Ongoing (Pending funding availability)
Maintain EV Infrastructure	Ongoing

Portable (Level 2) EV ARC Solar Chargers: Once funding is available, these units can be delivered within 90-120 days and will provide instant benefits (no permitting or construction required). Up to 6 of these chargers will be implemented in the Regional Parks Department at the following parks: Helen Putnam Park, Taylor Mountain, Spring Lake, Schopflin Fields, Gualala Point and Spud Point Marina. The EV ARC is a rapidly deployable and highly transportable solar-powered EV charging infrastructure product that also has the capability of providing a reliable source of backup power to first responders during an emergency. Utilizing 100% renewable energy from the sun, the EV ARC operates fully independent of grid electricity, is built to withstand extreme weather (120 mph winds and floods up to 9.5 feet), and requires no construction or permitting. Because deployment of the EV ARC takes minutes, and it is highly transportable, the unit can be moved to critical and strategic locations during emergencies, and as needed, to provide reliable power. As the EV ARCs are deployed and operational at the initial Regional Park locations, implementation of additional EV ARC units will follow the guidance of the Fleet Transition Plan and the input of the Program Manager. Beyond the emergency power source capabilities, the EV ARC units could also serve as a "bridge" solution (deployed as temporary charging infrastructure) for more permanent EV infrastructure projects in the near future that require construction and permitting.

Stationary (Level 2+) FLO or ChargePoint Chargers: Once funding is available, each candidate EV Charger location will need to be assessed separately to determine cost and timeline. Generally speaking, a single site requiring minimal construction can be operational within ~3-6 months, whereas a site requiring extensive construction could take up to 12-15 months. Given the total quantity of EV Chargers being installed (up to 30-35 stations), the entirety of this project could take several years to complete depending on resources (i.e. funding and staffing) available. Stationary EV chargers are necessity and provide a significantly higher charge rate that the portable EV ARCs cannot provide. Moreover, these stationary EV chargers offer a substantial savings when implemented in scale.

Implementation Budget

Item	Cost
1) Portable EV ARC Chargers (Qty 15 x ~$80K per unit)	$1.20M
2) Stationary FLO or ChargePoint Chargers (Qty 35 x ~$7K per unit)	$0.25M
3) Capital Project Costs (i.e. design, permitting, construction, PM Mgmt., etc.)	$0.75M
4) Consulting and EV Awareness/Education Campaign (Green Light Labs)	$0.05M
5) EV Charger Network Fees	$0.15M / Yr.
6) New FTEs for one EV Program Manager and one SOA (fully loaded costs)	$0.32M / Yr.
7) Utility Charges (~310,000 kW Demand x Average of ~$0.237/kWh)	$0.08M / Yr.
Total	$2.80M

Alignment with County Strategic Plan

- **Pillar**: Climate Action and Resiliency and Resilient Infrastructure
- **Goal 4**: Maximize sustainability and emissions reductions in all County Fleet vehicles

- **Objective 3**: Upgrade the existing County owned Electric Vehicle charging station infrastructure by 2023.

- **Department Lead for this Objective:** General Services
- **Description**: This project intends to upgrade and expand the existing County owned EV charging infrastructure. The funding amount will determine the extent of the upgrades and expansion.

Decarbonization

The project entails upgrading and expanding EV charging infrastructure, which directly influences and impacts the County's decision in replacing Fleet ICE vehicles with comparable EVs. Without direct influence (as of yet) on public adoption, the increase in available EV charging infrastructure has the potential to naturally encourage the public to explore EVs as an option.

Based on Green Light Lab's Fleet Electrification Report, and under the assumption the County replaces all 81 Internal Combustion Engine (ICE) vehicles due for replacement in FY21-22 with equivalent EVs, the annual GHG reduction would be 320 metric tons of CO2.

	All Replacement Vehicles (81)		
	Existing Fleet	**Electric Vehicles**	**Annual Savings**
Annual GHG Reductions (ton CO_2)	500	180	320

Based on this calculation and the projected cost of the project, it is estimated that the cost of decarbonization for FY 21-22 would be $2,800,000 / 320 = $8,750 per year. The cost of decarbonization is expected to decrease significantly after year one and over time as more EVs are adopted (increased GHG reductions) alongside the implementation of EV charging infrastructure, which is also expected to decrease in cost with economies of scale and need. EVs are also expected to be on the road longer and the GHG reductions would be cumulative over the years. With the assumption the average American drives 12,000 miles per year, the life expectancy of an EV battery pack is around 200,000 miles, equating to about 17 years of use. In comparison, a traditional ICE vehicle has a life expectancy around 100,000 miles, which equates to about 8 years of use.

Based on Green Light Lab's Fleet Electrification Report, the following chart is provided to summarize the potential GHG reductions over time and assumes 622 of the 951 County fleet vehicles are replaced with equivalent EVs.

	Year 2021 to 2025	**Year 2026 to 2029**	**Total**
Vehicles due for replacement	791	160	951
EV candidates	463	159	622
GHG reductions (metric tons CO2)	6000	7000	13000

Carbon Sequestration and Ecosystem Services

This project does not sequester carbon.

Resilience and Adaptation

The project as a whole will promote a better environment through decarbonization. Additionally, the project supplies adaptive infrastructure (in reference to the portable EV ARC Solar Chargers) that doubles as back-up generators during an emergency, and preserves the environment by requiring no construction and grid power. The EV ARC is a rapidly deployable and highly transportable solar-powered electric vehicle charging infrastructure product that has the capability of providing a reliable source of backup power to first responders during an emergency. Utilizing 100% renewable energy from the sun, the EV ARC operates fully independent of grid electricity, is built to withstand extreme weather (120 mph winds and floods up to 9.5 feet), and requires no construction or permitting. Because deployment of the EV ARC takes minutes, and it is highly transportable, first responders can move the unit to critical and strategic locations, as needed, to provide reliable power. After initial cost of acquisition, there are no utility costs associated with the units. The EV ARC units could also provide as a "bridge" solution (deployed as temporary charging infrastructure) for more permanent EV infrastructure projects in the near future that require construction and permitting. BEAM, the creator of the EV ARC, holds a piggy-backable State of California procurement contract with a lead time for procurement, delivery, and setup at the site of use of approximately 90-120 days.

Equity and Community Engagement

The potential negative impacts of the project on communities of color and low-income communities include providing an infrastructure they cannot readily use, due to being priced out of EV ownership. This issue will be negated over time as manufacturers increase EV production and obtain economies of scale which will drive down the price of EVs. Additionally, by providing public EV charging and charging at no cost within communities of color and low-income communities, combined with local, State, and Federal EV rebates, it incentivizes individuals to convert to EVs and make EVs more affordable for low-income communities. Other potential negative impacts include accessibility and availability of EV Charging stations to communities of color and low-income communities. Accessibility and availability will be addressed by optimizing the locations where these units will be placed, implementing a time limit on the charging stations (to avoid long term parking without charging), and for the County to potentially offer 'fuel cards' for charging at other public charging stations similar to pre-paid cards for using public transportation.

By providing public EV charging and charging at no cost within communities of color and low-income communities, combined with local, State, and Federal EV rebates, it incentivizes individuals to convert to EVs and make EVs more affordable for low-income communities. Additionally, the community engages by actively helping to reduce GHG.

There is no community engagement portion included in the budget. Specifically, the EV ARC units provide a very noticeable addition to any site, given the size and design, and can be augmented with applicable signage / graphics to advertise their targeted use and benefits.

Leveraging Funds and Community Partnerships

EV infrastructure upgrades and expansion is currently unfunded. Fleet has and will be actively seeking potential funding opportunities inside and outside of the County to help build and maintain EV infrastructure. Currently, Fleet is awaiting response on this funding requests for the Climate Resilience

Fund ($2.8M) and the Year 1 Strategic Plan Implementation Fund ($200K). Fleet has tried to leverage ARPA Funding ($1.25M) for this project; under the NACo Guidance to replace public sector revenue loss caused by the pandemic. The proposed project under ARPA supports new infrastructure as part of the general provision of government services and makes necessary investments in the community's sustainability and emergency preparedness planning. A request was made for $1.25M, specifically for the EV ARC Solar Chargers, however, funding was not approved because the County did not lose revenue during the pandemic. General Funds will be requested should Fleet be unsuccessful with the remaining listed funding opportunities.

Additionally, there is potential grant funding that can be sought, specifically for EV infrastructure development. This is all dependent on the bandwidth provided by additional staffing support through a Program Manager and Senior Office Assistant, which requires initial funding.

TPW Bikeable Sonoma County

Project Summary

TPW will continue to seek opportunities to include bike lanes in future projects to provide a safe alternative to vehicular transportation. A growth in number of bike lanes may lower vehicle-miles-traveled and also increase community health by providing disadvantaged communities access to safe bicycle transportation.

The Arnold Drive Bike Lane project will add nearly 2 miles of bike lanes on Arnold Drive in the Sonoma area. The project is partially funded with Sonoma County Transportation Authority Measure M funds. TPW is requesting $1.9M of Climate Resiliency funding to complete the construction of the bike lanes.

Implementation Timeline

August 2021 – Dec 2022; Project Design: Preliminary Engineering, Environmental and Public Outreach

January 2023- Dec 2023; Right of way acquisition

June 2024 – Dec 2025; Construction

Implementation Budget

Item	Cost
Project Cost Arnold Drive Bike Lanes	$4,200,000
Existing SCTA funding	<$2,300,000>
Requested funding	$1,900,000

Alignment with County Strategic Plan

Pillar: Resilient Infrastructure

- **Goal 3:** Continue to invest in critical road, bridge bicycle and pedestrian infrastructure
  - **Objective 3:** Invest $5 million by 2024 on new pedestrian and bicycle facilities
- **Department Leads:** TPW
- **Description:** TPW has 3 upcoming construction projects to support this objective: 1. Arnold Drive Bike Lane project which includes adding nearly 2 miles of bike lanes to Arnold Drive in the Sonoma area. Bike lanes provide transportation alternative to lower income populations. 2. Mark West Springs Sidewalk project involving addition of new sidewalk along Mark West Springs Road between Old Redwood Hwy and Ursuline Drive in the Larkfield area and serving John Riebli Elementary School. This area was affected by the 2017 Fires. 3. Crocker Bridge Sidewalk project which includes new pedestrian path on Crocker Road Bridge in the Cloverdale area. Benefits include providing a pedestrian link between disadvantaged neighborhoods to the east and downtown Cloverdale shops and businesses and safe access to the Russian River.

Decarbonization

N/A

Carbon Sequestration and Ecosystem Services

N/A

Resilience and Adaptation

N/A

Equity and Community Engagement

Identify potential negative impacts of the project on communities of color and low-income communities, and describe what strategies your Department recommends to mitigate any potential adverse impacts:
We plan to use multiple outreach efforts to fully engage the surrounding communities in our bike lane projects to address a potential adverse impact of not reaching everyone in our community engagement meetings.

Bike lanes have the potential to provide a source of safe transportation alternative of bicycling to disadvantaged communities who may not have access to vehicles. Community engagement will be through public meetings in the design phase of the bike lane project.

Leveraging Funds and Community Partnerships

This project leverages other funds through Sonoma County Transportation Authority Measure M funds of $2.3M bike/ped, remaining unfunded need $1.9M. If any upcoming Federal stimulus programs qualify the project might receive other funds.

Coordination with Sonoma County Bike and Pedestrian Advisory Council demonstrates this project's community partnerships.

TPW Fare-Free Pilot Program

Project Summary

This project will implement Fare-Free service on Sonoma County Transit with the goal of rebuilding transit ridership beyond pre-pandemic levels while reducing vehicle miles traveled and single occupant vehicle emissions. The project would be for a one-year demonstration period beginnig July 1, 2022. The proposed Fare-Free program would cover fares not already paid for by another source and has an estimated cost of $1.3M. The program will be promoted through social media, local media, sctransit.com, bus adversting and other outreach methods.

Implementation Timeline

The program would be for one year, beginning July 1, 2022, and provide Fare-Free service on all Sonoma County Transit routes. Program outreach programs will be implemented and ridership data will be available for program evaluation.

Implementation Budget

Item	Cost
Reimbursement for uncollected fares.	$1.300,000
(Marketing and promotion would be paid for within the Transit division budget.)	50,000
Total	$1.350,000

The program would seek reimbursement for actual trips taken. The cost estimate projects uncollected passenger fares during program implementation. $50,000 will be dedicated toward marketing and promoting the project during the demonstration period. Marketing and promotion funds will come from the Transit division budget.

Alignment with County Strategic Plan

N/A

Decarbonization

This project will result in a reduction of County GHG emissions based on projected ridership increases during the demonstration period. Baseline year for comparison will be FY 2020-21.

Carbon Sequestration and Ecosystem Services

N/A

Resilience and Adaptation

N/A

Equity and Community Engagement

Identify potential negative impacts of the project on communities of color and low-income communities, and describe what strategies your Department recommends to mitigate any potential adverse impacts:

The proposed Sonoma County Transit Fare-Free demonstration program will be available to all passengers who use the system. We do not foresee any negative impacts of the project.

The proposed Fare-Free program would provide unqualified access to the County's transit system by all passengers, benefitting especially those in lower-income communities. In addition, the program anticipates exceeding pre-pandemic levels of ridership and a reduction of single occupant vehicle miles travelled and related emissions. We will monitor the effectiveness of the program through daily ridership counts and adjust our marketing program accordingly.

Leveraging Funds and Community Partnerships

The proposed Fare-Free program includes existing Fare-Free program sponsorship from Santa Rosa Junior College, Sonoma State University and Sonoma County (for college student fares), contribution from the County for the existing Veterans Fare-Free program and existing local shuttle Fare-Free contributions from the cities of Sebastopol, Windsor, Healdsburg, Cloverdale, Sonoma and the County.

The proposed Fare-Free program will cover routes and passengers not already covered by an existing subsidy program. There are no other funds available to satisfy this request.