

OFFICE OF THE
COUNTY ADMINISTRATOR

December 14, 2021

Matthew H. Hymel
COUNTY ADMINISTRATOR

Daniel Eilerman
ASSISTANT COUNTY
ADMINISTRATOR

Angela Nicholson
ASSISTANT COUNTY
ADMINISTRATOR

Marin County Civic Center
3501 Civic Center Drive
Suite 325
San Rafael, CA 94903
415 473 6358 T
415 473 4104 F
CRS Dial 711
www.marincounty.org/cao

Marin County Board of Supervisors
3501 Civic Center Drive
San Rafael, CA 94903

SUBJECT: Approve climate change and sea level rise projects to be funded by the federal American Rescue Plan Act, and related budget adjustments

Dear Supervisors:

RECOMMENDATION:

1. Approve list of climate change projects to be funded in Fiscal Year 2021/2022 under the Proposed Spending Plan for federal American Rescue Plan Act funds; and,
2. Authorize the Department of Finance to increase transfer appropriations by \$4.0 million in the American Rescue Plan Act Fund (3500); and,
3. Authorize the Department of Finance to increase expenditure appropriations for the Community Development Agency, Marin County Parks, and Department of Public Works projects in the Countywide Capital Projects Fund (1420), Measure A Parks and Open Space Fund (2560) and Miscellaneous Project Fund (1010) as outlined in the Fiscal Impact section.

BACKGROUND:

Climate change is a global issue with significant local impacts for Marin including increased risks of wildfire, smoke, high heat days, flooding from increased storm intensity, and sea level rise. Marin County desires to be a leader in addressing climate change and to do so requires taking action to respond through coordinated efforts across multiple departments, making the best and highest use of the talents and skills available. Responsive actions require both mitigation and adaptation. Mitigation efforts reduce or prevent greenhouse gas (GHG) emissions by reducing them directly or initiating actions to sequester carbon. GHGs reduce the ability of the atmosphere to release trapped heat, causing climate change induced impacts such as extreme storms and droughts, sea level rise, and an extended fire season. Adaptation projects address the impacts of climate change, such as sea level rise, drought, fire, and increased flooding.

As part of the FY 2021-22 Budget, your Board approved a spending plan for the County's American Rescue Plan Act (ARPA) funds which included a \$5 million set-aside for climate change mitigation and sea level rise adaptation projects. The Board had previously allocated \$1 million for the Gallinas Levee

Upgrade Project due to timing grants associated with grant funding. County staff were asked to develop a comprehensive evaluation process to prioritize mitigation and adaptation projects. Due to significant differences in scale, budget, and impact, mitigation and adaptation projects were evaluated separately. While this process focused on allocating limited one-time revenues toward the highest priority short-term needs, the process will ultimately be used to fund high priority work beyond the initial allocation and will be revisited and updated as funding, priorities and opportunities evolve.

PROJECT FUNDING RECOMMENDATIONS:

A working group of staff from Marin County Parks (Parks), the Community Development Agency (CDA), and the Department of Public Works (DPW) recommends your Board approve funding for the projects listed below. One-page descriptions are attached and describe the project, location, requested funding, future funding sources, and total project costs are included in Attachment A.

The recommended mitigation projects include projects identified in the Climate Action Plan 2030 and Drawdown Marin Strategic Plan. The projects are focused on smaller scale, high emission reduction potential projects that address the three largest sectors accounting for the County's community GHG emissions (transportation, agriculture, and natural gas), and could be developed and launched within one year.

Adaptation projects reflect countywide priorities as well as a range of project phases: construction, design, and planning studies/engagement. The projects span the county and largely reflect nature-based adaptation measures that plan for sea level rise and improve diverse habitats and wildlife.

Based on the identified criteria and scoring outlined on the next page, the below projects were identified as priorities for the federal ARPA funding:

Table 1: Proposed 2021-22 Climate Change Mitigation Projects

Rank	Project Name	Budget Amount	Location	Estimated Emissions Reductions
1	Carbon Farm Plan Design Assistance	\$125,000	West Marin	250
2	E-Mobility Education and Outreach Program	\$360,000	Countywide	491
3	Continuation of Electrify Marin Program	\$447,000	Countywide	261
	TOTAL	\$932,000		1,002 MTCO2e

Note 1: MTCO2e = metric tons of carbon dioxide equivalents

Note 2: 1,002 MTCO2e is equivalent to 218 passenger vehicles driven for one year

Table 2: Proposed 2021-22 Climate Change Adaptation Projects

Rank	Project Name	Budget Amount	Location	Project Type
1	Bolinas Lagoon Wye Wetlands Project	\$700,000	Bolinas	Construction
2	Novato Creek "Bird Ponds" Fluvial/Tidal Marsh Restoration	\$1,018,000	Novato	Construction
3	Bothin Marsh Evolving Shorelines Project Design	\$200,000	Mill Valley	Design
4	Lower Corte Madera Creek Habitat Restoration Project	\$750,000	Kentfield	Construction
4	Stinson Beach Adaptation and Resilience Collaboration: Match Funds	\$100,000	Stinson Beach	Feasibility
4	Pacific Way Bridge Feasibility Study	\$300,000	Muir Beach	Design
	TOTAL	\$3,068,000		

Note 3: The Gallinas Levee Upgrade Project was approved for funding by your Board on August 24, 2021.

PRIORITIZATION PROCESS:

Staff from Parks, CDA, and DPW lead the countywide sustainability, adaptation, and mitigation work. The Climate Action Plan 2030, Drawdown: Marin, C-SMART, and BayWAVE are a few of the programs that have guided initiatives countywide and within specific geographies. Historically, identification of projects and priorities through these programs and agencies have been determined as grant opportunities and willing partners and communities are identified; however, the federal stimulus funds create an opportunity for a different approach to be taken.

Staff identified 47 potential mitigation and adaptation projects to address climate change with a total estimated cost of \$120 million. Through cross-departmental staff meetings and committee meetings of county leadership, the current prioritized work has been selected and includes a mix of project types.

The prioritization criteria can be summarized into four categories: Environmental Benefit and Urgency, Project Feasibility, Equity, and Community Leadership. Each category was prioritized based on feedback received from the Working Group, and weights were assigned accordingly. The projects identified for funding include the use of repurposed funds for qualifying countywide activities and must be encumbered by 2024 and spent by 2026 in order to meet the ARPA guidelines. Therefore, current

commitments and identified projects in work plans are given higher points which is reflected in the weighting and recommended projects. Projects that did not receive funding in this initial round and other projects will be evaluated for subsequent funding from ARPA and other sources and presented for Board discussion as part of the budget workshops scheduled for March 2022.

1. Environmental Benefit and Urgency (35%):

Adaptation projects that provide environmental benefits, address near term climate change impacts, and do not adversely impact natural resources were regarded as high priorities for funding. Points were awarded to adaptation projects on the basis of whether or not it would contribute to a reduction in more than one climate change-related impact (e.g., sea level rise, heat, air quality, storm related flooding, wildfire risk, etc.); provide flood reduction benefits; provide multiple benefits (ex. improving infrastructure and improving natural systems) or enhance/restore natural processes and ecosystem functions; and would have low potential for adverse impacts to the environment.

Projects were awarded points for addressing near term and long-term impacts that would occur with sea level rise and would reduce the potential for loss of life or livelihood, property or resource damage, or harm to public services, key infrastructure or the local economy. Additional points were awarded for projects that do not result in the need for significant infrastructure maintenance in the future to prevent catastrophic failure.

Mitigation projects were scored on their potential to result in significant and sustainable greenhouse gas reductions in the high emissions sectors as identified in the County's Climate Action Plan 2030 including the transportation, agriculture, and natural gas sectors. Points were also awarded for projects that would likely lead to behavior changes in consumption-based emissions and/or included health and environmental co-benefits such as improved local air quality, water retention, and/or soil productivity.

2. Project Feasibility (35%)

The second most important criteria for ranking adaptation and mitigation projects were how feasible it would be to construct or launch. Points were awarded based on the readiness to implement the program or project. For adaptation projects, points were awarded based on the completion of milestones (e.g. conceptual designs, landowner approval/easements, environmental review, final designs). For all projects, points were also awarded for those that identified future funding sources for operation and maintenance for its lifespan, projects with leveraged funding, and/or projects demonstrating past County investment.

3. Equity (15%)

Frontline communities often suffer first and worst from climate disasters because these communities, often made up of low-income and people of color, are located in areas that lack sufficient infrastructure to respond to climate change. In Marin County, vulnerability for low-income communities of color increases with climate change as flooding, housing insecurity, prolonged heat or smoke may result in decreased resilience and post-disaster recovery. The criteria used to prioritize projects included an equity lens such that projects that directly benefit a disadvantaged community or are designed to address a compounding risk for these communities are awarded points.

4. Community Leadership (15%)

Community support is integral to climate change. In order to combat the impacts of climate change communities must engage and participate, whether by taking actions like eliminating the use of their single occupancy gas-powered vehicles, going Deep Green with MCE to mitigate greenhouse gas emissions, or by joining together to address flooding along a shoreline to protect the larger community. Additionally, Marin County has been regarded as a leader in planning and piloting novel approaches to address climate change.

The scoring awarded points for adaptation and mitigation projects that honored existing community-based efforts by partnering and supporting local non-profit organizations, as well as projects that have built a strategic partnership with academic and research institutes, technology vendors, community groups, faith-based groups, and others to help meet climate and equity goals. Projects that are scalable and replicable (physically or through sharing of innovative work) and demonstrate leadership in climate action by piloting novel technologies, community empowerment approaches, financing mechanisms, etc. received points.

NEXT STEPS:

Staff will formally develop each project and return to the Board in coming months to award specific project agreements. These project funds must be fully spent by 2026 and staff will report back on the results of all selected projects. Additionally, staff will continue to revisit, revise, and update the prioritization criteria, and the projects list to ensure that they reflect identified staff and agency needs, funding opportunities, current science, and accurate information.

The cross-department collaboration efforts that were launched with this project will also continue moving forward. Staff will work towards developing an interdepartmental process for planning and implementing projects and programs that will advance identified needs for near- and long-term climate change adaptation and mitigation, and actions required and recommended in federal, state, and local regulations and guidance documents. In addition,

strategies that enable staff to be nimble to future funding opportunities, and to actively participate, collaborate and support local and regional partnerships will be explored.

FISCAL IMPACT:

Your Board's approval of the recommended projects will not increase General Fund net county costs. All project costs will be funded by the County's allocation of federal stimulus funds under the American Rescue Plan Act (ARPA). For elements of projects that do not fully qualify for reimbursement, the County will utilize reimbursable funds from other qualifying activities such as revenue backfill, as permitted by Treasury guidelines.

Expenditure appropriations will be increased by a total of \$4.0 million in the funds noted below to implement the recommended projects. In addition, transfer appropriations will be increased by \$4.0 million in the American Rescue Plan Act Fund (3500) to provide the funding for each project.

Action	Fund	Department	Project Title	Object Type	Amount
Increase	1010 - Miscellaneous Projects	Community Development Agency	Carbon Farm Plan Design	Expense	\$125,000
Increase	1010 - Miscellaneous Projects	Community Development Agency	Carbon Farm Plan Design	Transfer In	(\$125,000)
Increase	1010 - Miscellaneous Projects	Community Development Agency	E- Mobility Outreach	Expense	\$360,000
Increase	1010 - Miscellaneous Projects	Community Development Agency	E- Mobility Outreach	Transfer In	(\$360,000)
Increase	1010 - Miscellaneous Projects	Community Development Agency	Electrify Marin	Expense	\$447,000
Increase	1010 - Miscellaneous Projects	Community Development Agency	Electrify Marin	Transfer In	(\$447,000)
Increase	1010 - Miscellaneous Projects	Department of Public Works	Stinson Beach Adaptation	Expense	\$100,000
Increase	1010 - Miscellaneous Projects	Department of Public Works	Stinson Beach Adaptation	Transfer In	(\$100,000)

Action	Fund	Department	Project Title	Object Type	Amount
Increase	1420 - Countywide Capital Projects	Department of Public Works	Novato Creek Restoration	Expense	\$1,018,000
Increase	1420 - Countywide Capital Projects	Department of Public Works	Novato Creek Restoration	Transfer In	(\$1,018,000)
Increase	1420 - Countywide Capital Projects	Department of Public Works	Lower Corte Madera Creek Restoration	Expense	\$750,000
Increase	1420 - Countywide Capital Projects	Department of Public Works	Lower Corte Madera Creek Restoration	Transfer In	(\$750,000)
Increase	1420 - Countywide Capital Projects	Department of Public Works	Pacific Way Bridge Feasibility	Expense	\$300,000
Increase	1420 - Countywide Capital Projects	Department of Public Works	Pacific Way Bridge Feasibility	Transfer In	(\$300,000)

Action	Fund	Department	Project Title	Object Type	Amount
Increase	2560 – Measure A Parks and Open Space	Marin County Parks	Bolinas Lagoon Wye Wetlands	Expense	\$700,000
Increase	2560 – Measure A Parks and Open Space	Marin County Parks	Bolinas Lagoon Wye Wetlands	Transfer In	(\$700,000)
Increase	2560 – Measure A Parks and Open Space	Marin County Parks	Bothin Marsh Evolving Shorelines	Expense	\$200,000
Increase	2560 – Measure A Parks and Open Space	Marin County Parks	Bothin Marsh Evolving Shorelines	Transfer In	(\$200,000)

Action	Fund	Department	Project Title	Object Type	Amount
Increase	3500 - American Rescue Plan Act	Non Departmental	Climate Change and Sea Level Rise	Transfer Out	\$4,000,000
Increase	3500 - American Rescue Plan Act	Non Departmental	Climate Change and Sea Level Rise	Use of Fund Balance	(\$4,000,000)

Chris Choo, Dana Armanino, and Veronica Pearson, are the authors of this report.

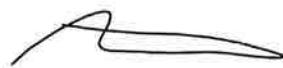
Respectfully submitted,



Matthew H. Hymel
County Administrator



Rosemarie Gaglione
Director Department of Public Works



Max Korten
Director of Marin County Parks



Thomas Lai
Director of Community Development
Agency

REVIEWED BY:

<input checked="" type="checkbox"/>	Dept. of Finance	<input type="checkbox"/>	N/A
<input checked="" type="checkbox"/>	County Counsel	<input type="checkbox"/>	N/A
<input type="checkbox"/>	Human Resources	<input type="checkbox"/>	N/A

Munis Journal Number: 2021-05-2188

Attachment A: Project descriptions

Attachment B: Project map

Carbon Farm Plan Design Assistance

PROJECT INFORMATION

Location:	West Marin
Program:	Climate Change Mitigation
Department	Community Development Agency/Marin RCD
Project Contact:	Dana Armanino/Nancy Scolari
Cost Estimate:	\$125,000
Project Type:	Sequestration
Emission Reduction	250 MTCO2e



PROJECT DESCRIPTION & BACKGROUND

The Drawdown Marin Strategic Plan and CAP 2030 include strategies to expand Carbon Farm (CF) planning and execution by engaging 60 farms across 30,000 acres by 2030. Reaching this 2030 goal would sequester more than 55,000 MTCO2e annually. In the next four years Marin RCD is expanding Marin County's CF Program by: implementing 15-20 shovel-ready CF practices, designing 20-40 more CF practices, writing 6 new CF plans, and strengthening the Program through DEI initiatives. Although much of this proposed work will be funded by the CA Wildlife Conservation Board, CA State Coastal Conservancy and Measure A, a large gap remains in meeting demand and providing farmers and ranchers with project development and design assistance. County funding (\$125,000) will help Marin RCD work with local partners, to provide farmers with technical expertise (planners, agroecologists, biologists, and soil scientists) to develop 20-40 CF practices that will result in shovel-ready projects for implementation. Funding will continue to allow Marin RCD to work with Federated Indians of Graton Rancheria in designing 5-10 practices.

PROJECT OBJECTIVES

Development of 20-40 carbon farm practices that will result in shovel-ready projects for implementation (leveraging existing grant funds). Estimated carbon sequestration from implementing these designs is 250 MTCO2e/year.

FUNDING SOURCES AND SPENDING PLAN

Prior Year Funds	FY 21/22 Proposed	FY 22/23 Planned	FY 23/24 Planned	FY 24/25 Planned	FY 25/26 Planned	5-Year Totals
Climate Change Fund	\$125,000					\$125,000
State Coastal Conservancy Grant	\$25,000	\$250,000	\$300,000	\$300,000	\$125,000	\$1,000,000
Other Grant & Match Funds	\$25,000	\$250,000	\$300,000	\$300,000	\$125,000	\$1,000,000
Totals:	\$0	\$175,000	\$500,000	\$600,000	\$600,000	\$2,125,000

E-Mobility Education and Outreach Program

PROJECT INFORMATION

Location:	Countywide
Program:	Climate Change Mitigation
Department	Community Development Agency
Project Contact:	Dana Armanino
Cost Estimate:	\$360,000
Project Type	Public Outreach and Education
Emission Reduction	491 MTCO2e



PROJECT DESCRIPTION & BACKGROUND

The County's Climate Action Plan 2030 (CAP 2030) includes a measure that states that the County will take actions that will result in 45% of passenger vehicles in the County shifting to zero emission vehicles (ZEVs) by 2030. This is also an endorsed solution of the Drawdown Marin countywide effort to drastically reduce greenhouse gas (GHG) emissions. In order to achieve such a drastic shift in purchasing choices, there will need to be a combined effort of building out infrastructure, pushing state/national policies to encourage and facilitate ZEVs, and concerted local customer education and engagement. This 2-year project would address the need for education and outreach throughout the county. The project would recruit an appropriate team of outreach specialists to develop a collaborative campaign to accelerate widespread adoption of ZEVs by Marin's residents and employees. The campaign may include educational programs, demonstration events, vehicle discounts, and communications toolkits. There will also be a focus on both ZEVs and e-bikes as transportation options.

PROJECT OBJECTIVES

Following the 2-year program period, ZEV registrations will have increased by at least 1,200 in Marin County.

FUNDING SOURCES AND SPENDING PLAN

Prior Year Funds	FY 21/22 Proposed	FY 22/23 Planned	FY 23/24 Planned	FY 24/25 Planned	FY 25/26 Planned	5-Year Totals
Climate Change Fund	\$360,000					\$360,000
Grant Fund						\$0
Special Fund						\$0
Other Funds						\$0
Totals:	\$0	\$360,000	\$0	\$0	\$0	\$360,000

Continuation of Electrify Marin Program

PROJECT INFORMATION

Location: Countywide
 Program: Climate Change Mitigation
 Department: Community Development Agency
 Project Contact: Dana Armanino/Mark Chhabria
 Cost Estimate: \$447,000

 Project Type: Mitigation
 Emission Reduction: 261 MTCO2e



PROJECT DESCRIPTION & BACKGROUND

In 2018, the County launched Electrify Marin using a grant from the Bay Area Air Quality Management District and Climate Action Plan funds. The program offers direct rebates for homeowners that remove natural gas burning appliances with high efficiency electric units. The 2019 countywide greenhouse (GHG) inventory identifies that 80% of the emissions from the built environment comes from the burning of natural gas. The Climate Action Plan 2030 includes several measures focused on the electrification of the built environment including the continuation of the Electrify Marin Program and the consideration of an ordinance that would require homeowners to replace natural gas appliances with high efficiency electric units at the time of replacement. To date, the program has provided direct rebates totalling \$333,100 to replace 270 natural gas appliances with high efficiency units reducing emissions annual GHG emissions by 266 metric tons CO2e. Without additional funds, this program will likely run out of funds in early 2022. If approved for this funding, the Electrify Marin rebate program could continue through June 2023 which would provide time and incentives to grow the market for high efficiency electric appliances and allow contractors time and demand to expand their offerings to include these measures ahead of a possible ordinance.

PROJECT OBJECTIVES

Provide direct rebates for approximately 275 high efficiency electric appliances while educating the public and contractors on the benefits of electric appliances.

FUNDING SOURCES AND SPENDING PLAN

Prior Year Funds	FY 21/22 Proposed	FY 22/23 Planned	FY 23/24 Planned	FY 24/25 Planned	FY 25/26 Planned	5-Year Totals
Climate Change Fund	\$447,000					\$447,000
BAAQMD Grant Funds	\$296,997					\$296,997
Previous County CAP Funds	\$394,542					\$394,542
Totals:	\$691,539	\$447,000	\$0	\$0	\$0	\$1,138,539

Bolinas Wye Wetlands Resiliency Project

PROJECT INFORMATION

Location:	Bolinas Lagoon
Program:	Sea Level Rise Adaptation
Department	Marin County Parks
Project Contact:	Veronica Pearson
Cost Estimate:	\$5,100,000
Start Date:	June 2024-December 2025
Project Type:	Construction and Permitting



PROJECT BACKGROUND, GOAL, AND NEED

BACKGROUND: Lewis Gulch Creek (LGC) has been significantly impacted by the surrounding roadways. It has been relocated to flow into a roadside ditch and culvert. It is eroding the left channel bank, undercutting SR-1, and is incised and disconnected from its floodplain. Along Olema Bolinas Road (OB Rd.), LGC has no riparian habitat, and coarse sediment accumulates upstream and within an undersized culvert that requires periodic dredging by DPW. Central California Coast Steelhead trout are present with the project area, but the culvert is a partial fish passage barrier, and the roadside ditch is poor habitat for steelhead. The Crossover Road adjacent to OB Road bisects wetlands and is an impediment to wetland migration with SLR. **GOAL:** To improve climate change resiliency of wetland habitats at LGC and road infrastructure with 5.5 feet of SLR and a 100 year storm event. **NEED:** To date Marin County Parks Measure A, Prop 1 Coastal Conservancy funds, and Prop 68 Ocean Protection Council funds have fully funded design development and CEQA. \$820,000 has been secured for construction with a USFWS grant. This request of \$700,000 would go toward construction and permitting, yet additional funding is needed. MCP is confident that the remaining funds will come from the Coastal Conservancy, Ocean Protection Council and Measure A.

PROJECT OBJECTIVES

Allow for an unimpeded flow of surface and groundwater in the Bolinas Wye wetland. Restore natural sediment transport processes in Lewis Gulch Creek by directing LGC into the wetland, and design channel system to promote natural geomorphic processes. Enhance the extent of estuarine and palustrine wetland vegetation. Use bioengineering methods along LGC to protect areas experiencing erosion. Reduce invasive non-native species by re-vegetating with native riparian and wetland species. Remove Crossover Road. Reconnect Lewis Gulch Creek to its alluvial fan and allow for future reconnection with Wilkins Gulch Creek. Raise roadways to allow for upslope habitat migration and lagoon expansion. Design a creek/floodplain/wetland mosaic with resiliency to withstand climate variability, including extended drought and excessive rainfall. Install crossings to allow for volitional fish passage and migration corridors for non-fish species. Realign roads and State Route 1/Olema-Bolinas Road intersection to improve safety and reduce roadway flooding during winter storms and high tide event, decrease need for vegetation management, and eliminate dredging of roadside channel.

FUNDING SOURCES AND SPENDING PLAN

Prior Year Funds	FY 21/22 Proposed	FY 22/23 Planned	FY 23/24 Planned	FY 24/25 Planned	FY 25/26 Planned	5-Year Totals	
Climate Change Fund	\$700,000					\$700,000	
Grants - secured	\$450,000	\$339,000		\$820,000		\$1,609,000	
Grants - unsecured				\$1,790,000	\$1,790,000	\$3,580,000	
Measure A	\$1,390,000	\$164,000				\$1,554,000	
Totals:	\$1,840,000	\$1,203,000	\$0	\$2,610,000	\$1,790,000	\$0	\$7,443,000

Novato Creek "Bird Ponds" Fluvial/Tidal Marsh Restoration

PROJECT INFORMATION

Location:	Novato Creek in the Baylands between the North/South SMART line and Highway 37
Program:	E-SLR and Novato Flood Zone 1
Department	Public Works
Project Contact:	Roger Leventhal
Cost Estimate:	\$5,275,000
Start Date:	late 2022 or 2023
Project Type:	Construction



PROJECT DESCRIPTION & BACKGROUND

The Bird Ponds Restoration Project is first and primary step of the restoration of tidal and fluvial wetlands in the Novato Baylands. These projects have been in planning for decades and were a primary focus of the Watershed Program. In 2018, the E-SLR program and Zone 1 applied for and won an SFBRA (Measure AA) grant for final design, CEQA and permitting and this work is currently in-progress and slated to be completed in 2022. Restoration of diked areas within the Novato Baylands (starting with this project) is the first major step towards longer term SLR adaptation in this area the project design incorporates eco-tone levees (so called "horizontal levees") designed for 3.5 feet of SLR per current State of California OPC guidance. Without these types of setback levee and restoration projects, there will be the types of levee failures we have seen in 2017 and 2019 along Highway 37 at a much larger scale and cost to the County. Flood Zone 1 does not have the funding to be able to raise and/or maintain levees in this area for sea level rise. This project seeks to leverage the County funding with future funding from SFBRA and the SCC to construct the project that also includes levee improvements to the Lynwood Levee and fits perfectly with regional goals for design with nature multi-benefit ecological based "green" projects - that have some elements of flood protection as well.

PROJECT OBJECTIVES

This project starts the long awaited restoration of tidal wetlands in the Novato Baylands. This has been in planning for many years and was one of three focus areas of the entire SF Bay of the 2017 SFEI Flood Control 2.0 Project and their Novato Baylands Visioning Document. The project will restore 30 acres to tidal and fluvial habitats for a variety of critical species but just as importantly, will lower flood water levels in this area and upstream into Nave Gardens and Downtown Novato as well as along Highway 37 in an area prone to flooding and levee failures and large County costs in recent years. The project will also leverage natural processes of tidal prism from restored marsh areas to naturally widen and deepen Novato Creek towards its historic depth and width and thus reduce the need to dredge which is a very costly item for Flood Zone 1.

FUNDING SOURCES AND SPENDING PLAN

Prior Year Funds	FY 21/22 Proposed	FY 22/23 Planned	FY 23/24 Planned	FY 24/25 Planned	FY 25/26 Planned	5-Year Totals
Climate Change Fund	\$1,018,000	\$982,000				\$2,000,000
Grant 1 - SFBRA awarded 2018	\$675,000					\$675,000
Grant 2 - SFBRA planned for 2022		\$2,000,000				\$2,000,000
County watershed program	\$600,000					\$600,000
Flood Control Zone 1 funds	\$600,000					\$600,000
Totals:	\$1,875,000	\$1,018,000	\$2,982,000	\$0	\$0	\$5,275,000

Bothin Marsh Evolving Shorelines Project

PROJECT INFORMATION

Location: Mill Valley
 Program: Sea Level Rise Adaptation
 Department: Marin County Parks
 Project Contact: Veronica Pearson
 Cost Estimate: \$900,000
 Project Type: Design



PROJECT GOAL, BACKGROUND, NEED

BACKGROUND: The Bothin Marsh Open Space Preserve (the Preserve) is Marin County Parks' most visited park unit and the most vulnerable to sea level rise. The Bay Trail segment that runs through the Preserve will be increasingly compromised by tidal flooding. Bothin Marsh is the largest remaining tidal marsh habitat in Richardson Bay, supports higher than average biodiversity, supports rare plants, and provides critical habitat for wildlife in the region, such as the federally and State endangered Ridgway's rail. The Preserve will likely lose all high marsh if no actions are taken to provide needed sediment to the wetlands and to reduce shoreline erosion within the next ten years. **GOAL:** Adapt the tidal marsh complex to 3.5 feet of sea level rise and ensure continued public access to the shoreline through nature-based strategies. **NEED:** Additional studies are required to analyze design constraints. To date Marin County Parks Measure A, Coastal Conservancy, and philanthropic funds have supported the conceptual designs and public outreach. This project would fund studies to get to a 65% designs for CEQA and environmental review. To date \$470,000 has been secured and staff is confident that additional funds can be secured from philanthropic sources and grants

PROJECT OBJECTIVES

This project will develop a conceptual design into preliminary designs (30-60%) to protect, restore, and enhance the Bothin Marsh Open Space Preserve. Design development includes property line surveys, geotechnical exploration, archeological studies, utilities mapping, rare plants and wetlands mapping.

FUNDING SOURCES AND SPENDING PLAN

Prior Year Funds	FY 21/22 Proposed	FY 22/23 Planned	FY 23/24 Planned	FY 24/25 Planned	FY 25/26 Planned	5-Year Totals
Climate Change Fund	\$200,000					\$200,000
Grants - secured	\$200,000	\$455,000				\$655,000
Grants - unsecured						\$0
Measure A	\$450,000					\$450,000
Totals:	\$650,000	\$655,000	\$0	\$0	\$0	\$1,305,000

Lower Corte Madera Creek Habitat Restoration

PROJECT INFORMATION

Location:	Kentfield and Larkspur
Program:	SLR
Department	DPW-Flood District
Project Contact:	Jo Dixon
Cost Estimate:	\$750,000
Start Date:	Jun-22
Project Type:	SLR



PROJECT DESCRIPTION & BACKGROUND

The Lower Corte Madera Creek Habitat Restoration Project would restore wetlands, transition zones, and upland habitats in a former tidal wetland that have been converted to a concrete channel. The restored wetlands would provide improved habitat for fish and wildlife, including Ridgway's rail, and improved water quality. It is one component of a larger flood management project so, importantly, it has been designed to accommodate increased flood flows that will be delivered to the creek from projects being implemented upstream. Project provides a location for wetland and riparian vegetation to persist as sea level rises. The gently sloping transition zone will narrow over time as wetland vegetation moves upslope. This will preserve the habitat and water quality benefits of the project for the expected 50-year life of the project

PROJECT OBJECTIVES

FUNDING SOURCES AND SPENDING PLAN

Prior Year Funds	FY 21/22 Proposed	FY 22/23 Planned	FY 23/24 Planned	FY 24/25 Planned	FY 25/26 Planned	5-Year Totals
Climate Change Fund	\$750,000					\$750,000
Grant 1						\$0
Grant 2						\$0
Other Funds						\$0
Totals:	\$0	\$750,000	\$0	\$0	\$0	\$750,000

Stinson Beach Adaptation and Resilience Collaboration: Match Funds

PROJECT INFORMATION

Location:	Stinson Beach
Program:	Sea Level Rise Adaptation
Department	Community Development Agency
Project Contact:	Jack Liebster
Cost Estimate:	\$100,000
Start Date:	Jan-22
Project Type:	Planning



PROJECT DESCRIPTION & BACKGROUND

The Stinson Beach Adaptation and Resilience Collaboration process led by the County is setting up a sea level rise adaptation framework that analyzes local adaptation strategies and incorporates them into adaptation pathways with recognition of the long term need for realignment of existing infrastructure. This process is currently funded by a \$396,000 Prop 68 planning grant from the Ocean Protection Council. Given the value Stinson Beach provides as a free/low-cost recreation option and destination during high heat days, the project currently includes a \$50,000 cell phone locational data analysis to identify patterns of beach use by underserved and disadvantaged communities from Marin County and beyond, to inform targeted engagement of disadvantaged communities through the Stinson ARC community outreach process. Additional funds toward the Stinson ARC planning process will allow the County to work more closely with the broad Stinson Beach community on design of a resilient adaptation framework and further detailed analyses of adaptation strategies and development of adaptation pathways. Analyses that would be furthered by additional funding including performance efficacy and technical feasibility, benefit cost and economic impact analysis, and social equity impacts.

PROJECT OBJECTIVES

- 1) Project results in publicly driven development of a long-term sea level rise Adaptation Strategy Roadmap that addresses critical infrastructure, natural resources, community assets and risks in the Stinson Beach area; 2) Community input actively solicited to reflect diverse stakeholder concerns and interests; 3) Progress made toward ensuring resilience of the beach itself and equitable public access to Stinson's natural and recreational coastal resources into the future; 4) Document actionable lessons learned for future adaptation planning processes in West Marin and beyond.

FUNDING SOURCES AND SPENDING PLAN

	Prior Year Funds	FY 21/22 Proposed	FY 22/23 Planned	FY 23/24 Planned	FY 24/25 Planned	FY 25/26 Planned	5-Year Totals
Climate Change Fund		\$100,000					\$100,000
CDA Admin Designation	\$107,574						\$107,574
Grant 1: OPC Prop 68	Grant executed June 2021	\$132,000	\$132,000	\$132,000			\$396,000
Grant 2: FEMA HMGP	\$42,000						\$42,000
Grant 3: Coastal Conservancy 2018	\$190,000						\$190,000
Grant 4: Coastal Commission 2014	\$54,000						\$54,000
Grant 5: OPC 2014	\$200,000						\$200,000
Totals:	\$593,574	\$232,000	\$132,000	\$132,000	\$0	\$0	\$1,089,574

Pacific Way Bridge Feasibility Study

PROJECT INFORMATION

Location: Muir Beach
 Program: Sea level rise adaptation
 Department: Public Works
 Project Contact: Eric Miller
 Cost Estimate: \$300,000
 Start Date:
 Project Type: Feasibility



PROJECT DESCRIPTION & BACKGROUND

The National Parks Service 'Big Lagoon' EIR identified replacement of the Pacific Way concrete box culvert with a 250-foot-long bridge as the preferred alternative. County DPW then secured federal funding for preliminary engineering work in 2008, however construction estimates exceeded available funding, and there was strong community opposition to the project scope. The EIR also identified a 160-foot-long bridge alternative that has since gained community support. Unfortunately, despite multiple attempts by County DPW to secure grant funding for final design and construction, the project has no funding to continue progress. The federal grant funding secured in 2008 has since expired and Public Works is at risk of facing repayment to the Federal Highway Authority for grant funds spent to date, approx. \$700,000, in the event that the efforts do not result in a tangible project.

PROJECT OBJECTIVES

This project aims to address climate change and sea level rise by raising the elevation of Pacific Way and by improving hydraulic conditions of the adjacent lagoon.

FUNDING SOURCES AND SPENDING PLAN

Prior Year Funds	FY 21/22 Proposed	FY 22/23 Planned	FY 23/24 Planned	FY 24/25 Planned	FY 25/26 Planned	5-Year Totals
Climate Change Fund	\$300,000					\$300,000
Grant 1	\$700,000					\$700,000
Grant 2						\$0
Other Funds						\$0
Totals:	\$700,000	\$300,000	\$0	\$0	\$0	\$1,000,000



PRIORITY PROJECTS FOR ARPA FUNDING

DECEMBER 2021

ADAPTATION PROJECTS



MITIGATION PROJECTS

Name	Location
Carbon Farm Plan Design Assistance	West Marin
E-Mobility Education and Outreach Program	Countywide
Continuation of Electrify Marin Program	Countywide

0 2.5 5 10 Miles

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