

Print Application

RFP Title: Urban Flood Protection Grant Program - January 2020

Project Title: Flood Risk Reduction in the Rheem Creek Watershed

Estimated Date of Completion: 01/01/2025

Funds Requested(\$): 1,639,344.00

Other Sources of Funds(\$): 0.00

Total Budget(\$): 1,639,344.00

Applicant Organization: City of Richmond

County: Contra Costa **City/Town:** Richmond

Applicant Address: 3201 Leona , Richmond , CA - 94804

Project Address: Fordham St & Greenwood Dr

Federal Tax ID: 94600040

Senate District 09,
09,
15

Assembly District 01,
11

US Congressional District 11,

Project Description:

For over 20 years, the Rollingwood neighborhood in unincorporated western Contra Costa County has suffered from flooding related to overflows from Rheem Creek. In 2019, the City of Richmond collaborated with American Rivers, The Watershed Project, Restoration Design Group, and other local partners to complete technical studies and prepare community-supported plans to solve flooding issues along Rheem Creek. Now, the City is requesting CNRA funding for (1) Final Design and Project Implementation for a restoration project at the Rollingwood reach of Rheem Creek, and (2) Planning and Design for multi-benefit green infrastructure to improve watershed health and reduce peak flows and flooding in the disadvantaged communities downstream. Construction of the proposed restoration project will reduce flooding by removing invasive species and excessive sediment, grading a geomorphically stable channel, and planting native riparian vegetation to improve creek habitat.

Latitude: 37.966690000 **Longitude:** -122.330640000 **Cordinates Represent:** approximate center of project
Coordinates Determined Using: google maps

Project Director (Applicant's Representative Authorized in Resolution) (Signature required at bottom of this page)

Name: Tawfic - Halaby **Title:** Project Director: Authorized Representative

Phone: 510-621-1612 **Email:** tawfic_halaby@ci.richmond.ca.us

Project Manager - Person with day to day responsibility for project (if different from authorized representative)

Name: Patrick - Phelan **Title:** Project Manager: Day to day contact

Phone: 510-307-8111 **Email:** patrick_phelan@ci.richmond.ca.us

I certify that the information contained in this project application, including required attachments, is complete and accurate

Signed: _____ **Date:** _____
Applicant's Authorized Representative as shown in Resolution

Print Name: _____ **Title:** _____

Application Overview

RFP Title: Urban Flood Protection Grant Program - January 2020
Submitting Organization: City of Richmond
Submitting Organization Division:
Project Title: Flood Risk Reduction in the Rheem Creek Watershed

Project Description: For over 20 years, the Rollingwood neighborhood in unincorporated western Contra Costa County has suffered from flooding related to overflows from Rheem Creek. In 2019, the City of Richmond collaborated with American Rivers, The Watershed Project, Restoration Design Group, and other local partners to complete technical studies and prepare community-supported plans to solve flooding issues along Rheem Creek. Now, the City is requesting CNRA funding for (1) Final Design and Project Implementation for a restoration project at the Rollingwood reach of Rheem Creek, and (2) Planning and Design for multi-benefit green infrastructure to improve watershed health and reduce peak flows and flooding in the disadvantaged communities downstream. Construction of the proposed restoration project will reduce flooding by removing invasive species and excessive sediment, grading a geomorphically stable channel, and planting native riparian vegetation to improve creek habitat.

APPLICANT DETAILS

Applicant Organization: City of Richmond
Applicant Organization Division:
Applicant Address: 3201 Leona , Richmond , CA - 94804

PROJECT LOCATION

Latitude : 37.966690000 **Longitude:** -122.330640000
County: Contra Costa
Estimated Date of Completion: 01/01/2025
Project Address (or nearest cross street): Fordham St & Greenwood Dr
Nearest City/Town: Richmond
Cordinates Represent: approximate center of project
Coordinates: google maps
Determined Using:

PROJECT BUDGET

Funds Requested(\$): 1,639,344.00
Other Sources of Funds(\$): 0.00
Total Budget(\$): 1,639,344.00

Funding Program

Proposition 68 - Urban Flood Protection Grant Program

Applied

Yes

Project Management Role	Title	First Name	Last Name	Phone	Fax	Email
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Project Director: Authorized Representative	Sr Civil Eng/City of Richmond	Tawfic	Halaby	510-621-1612	510-307-8116	tawfic_halaby@ci.richmond.ca.us
Project Manager: Day to day contact	Infrastructure Admin/City of R	Patrick	Phelan	510-307-8111	510-307-8116	patrick_phelan@ci.richmond.ca.us

Applicant Information

Name: City of Richmond
Division:
Address: 3201 Leona Richmond, CA , 94804
Federal Tax ID: 94600040

Person Submitting Information

Submitter Name: Lina Velasco
Submitter Phone: 510-620-6841
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Submitter Email: Lina_Velasco@ci.richmond.ca.us

Legislative Information	Primary	Additional District(s)
Senate District	09	09,
Assembly District	15	01,
US Congressional District	11	11,

Contacts	Name	Phone	Email
City of Richmond	Patrick Phelan	510-307-8111	patrick_phelan@ci.richmond.ca.us
The Watershed Project	Juliana Gonzalez	510-224-4085	juliana@thewatershedproject.org

Cooperating Entities	Role	Name	Phone	Email
There are no COOPERATING ENTITIES to display.				

Pre Submission Attachment Title	Phase	Submission Period	Date & Time
1.1 Rheem Creek Project Proposal Form Signature Page	PHASE1	PRE SUBMISSION	6/15/2020 12:38:49 PM
1.2 Rheem Creek Photographs	PHASE1	PRE SUBMISSION	6/15/2020 11:19:25 AM
1.3 Rheem Creek Cost Estimate	PHASE1	PRE SUBMISSION	6/15/2020 12:32:15 PM
1.4 Rheem Creek Community Engagement Summary	PHASE1	PRE SUBMISSION	6/15/2020 9:46:04 AM
1.5 Rheem Creek Site Plan	PHASE1	PRE SUBMISSION	6/15/2020 9:35:48 AM

Download all Pre Submission Attachments



Post Submission Attachment Title	Phase	Date & Time Attached
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No Post Submission Attachments Available to Display

Post Award Attachment Title

Phase

Date & Time Attached

No Post Award Attachments Available to Display

Questionnaire - Phase1

STEP 1: PROJECT PROPOSAL

Please go to <http://resources.ca.gov/grants/ufp/> to access the program guidelines and find the templates to upload on the Attachments tab.

PROJECT SUMMARY

Describe the discrete project including expected project deliverables and current site conditions.

Answer: Located in western Contra Costa County, Rheem Creek flows through a highly urbanized watershed impacted by degraded ecosystems, localized flooding, poor water quality, and extreme urban temperatures before it reaches the San Pablo Bay. The watershed is home to disadvantaged and low-income communities with few resources to address these challenges, so there is a critical need for a community-supported, nature-based approach to urban flood protection that provides multiple benefits.

Flooding in Upper Rheem Creek, particularly in the Rollingwood neighborhood, exemplifies this issue. For over 20 years, this community has suffered from repeated flooding related to creek overflows. Due to its location at the boundary of multiple jurisdictions, the Rollingwood reach has long been neglected and is choked with invasive vegetation, leading to sediment build up, obstructed channels, and worsening flood conditions.

The City of Richmond is currently working with American Rivers, The Watershed Project, Restoration Design Group and other local partners to help solve the flooding issues in the Rollingwood neighborhood. In 2019, the team obtained a planning and design grant from the California State Coastal Conservancy (SCC). The scope of work included community engagement activities, a topographic survey, hydraulic analysis, Preliminary Design plans (65% complete Construction Documents), permits submitted to regulatory agencies, and a restoration opportunities analysis report. The resulting Preliminary Design plans will be completed this fall and submitted for regulatory permits.

The City is requesting CNRA funding for the "Flood Risk Reduction in the Rheem Creek Watershed" project which includes two primary components: (1) Final Design and Implementation of the community-supported restoration project at the Rollingwood reach of Rheem Creek, and (2) Planning and Design for multi-benefit green infrastructure "interventions" upstream. These projects will reduce flooding, improve watershed health, enhance aesthetics and improve livability, provide economic opportunities, and engage the community in watershed stewardship activities.

TASK 1: ROLLINGWOOD REACH - FINAL DESIGN

The interdisciplinary design team will obtain agency permits based on the Preliminary Design plans and prepare 100% Construction Documents for public bid and construction. In partnership with the City, The Watershed Project will continue to lead community outreach and engagement to keep residents informed about the final design and planned construction activities.

TASK 2: ROLLINGWOOD REACH - PROJECT CONSTRUCTION

The City will manage the construction of this Capital Improvements Project with support from consultants. Construction of the Rheem Creek Rollingwood reach restoration project will reduce flooding by removing invasive species and excessive sediment, grading a geomorphically stable channel, and planting native riparian vegetation to improve creek habitat. The scope of work also includes project fencing and funder acknowledgement and educational signage.

TASK 3: ROLLINGWOOD REACH - MONITORING & ADAPTIVE MANAGEMENT

Under the SCC grant Scope of Work, the team developed and OM&M plan. We are requesting CNRA funding to conduct monitoring activities and post-project evaluation. Opportunities for employment and workforce development will be included in all project activities.

TASK 4: MULTI-BENEFIT GREEN INFRASTRUCTURE - PLANNING & DESIGN

Project partners will plan and design a network of rain gardens and bioretention features that will improve watershed health, enhance ecological resilience, and reduce peak flows and intensity of urban flooding in the Rollingwood reach of Rheem Creek and disadvantaged communities downstream. The Watershed Project will lead a community-based design process to select 3-5 green infrastructure project sites, develop concept-level design plans, and educate participants through hands-on stewardship activities.

PROJECT QUESTIONS

Applicants must answer the following questions, as applicable. If a question does not apply to the project, indicate "Not Applicable" with a brief explanation. Do not leave blank fields.

Eligibility, Statutory Requirements and Project Need

- 1 Explain how the project addresses flooding in an urbanized area and will protect persons and property from flood damage. Include information on current conditions and a brief history of flooding on the project site.**

Answer: Located in western Contra Costa County, Rheem Creek flows through a highly urbanized watershed impacted by degraded ecosystems, localized flooding, poor water quality, and extreme urban temperatures before it reaches the San Pablo Bay. The watershed is home to disadvantaged and low-income communities with few resources to address these challenges. In addition to health, economic, and environmental issues, residents lack access to safe and verdant parks and open spaces for recreation and connection with nature. There is a critical need for a community-supported, nature-based approach to urban flood protection that provides multiple benefits.

Flooding in Upper Rheem Creek, particularly in the Rollingwood neighborhood, exemplifies this issue. For over 20 years, this community has suffered from flooding related to creek overflows. In this reach, the creek emerges from a large culvert that drains steep developed hillsides in Richmond, and becomes a low-gradient, engineered, mostly open channel that travels about two miles through disadvantaged communities in unincorporated Contra Costa County, Contra Costa College, and the city of San Pablo before entering San Pablo Bay. Due to its location at the boundary of multiple jurisdictions, the Rollingwood Reach has long been neglected and is choked with invasive vegetation, leading to sediment build up, obstructed channels, and worsening flood conditions.

As the flood easement holder at this site, the City of Richmond is currently working with American Rivers, The Watershed Project, Restoration Design Group and other local partners to help solve the flooding issues in the Rollingwood neighborhood. In 2019, the team obtained a planning and design grant from the California State Coastal Conservancy (SCC). The scope of work included community outreach and engagement activities, a topographic survey of existing conditions, hydraulic analysis, Preliminary Design plans (65% complete Construction Documents), permits submitted to regulatory agencies, and a restoration opportunities analysis report. The resulting Preliminary Design plans will be completed and submitted for regulatory permits in the next 6-8 months.

The City is requesting CNRA funding for the "Flood Risk Reduction in the Rheem Creek Watershed" project which includes two primary components: (1) Final Design and Implementation of the community-supported restoration project at the Rollingwood Reach of Rheem Creek, and (2) Planning and Design for multi-benefit green infrastructure "interventions" upstream.

The goal of the Rollingwood Reach Final Design and Construction Project at Rheem Creek is to

reduce flooding by removing invasive species and excessive sediment buildup*, grading a geomorphically stable channel, and planting native riparian vegetation to shade out invasives and improve creek habitat. (*In some locations, the creek thalweg is higher than the adjacent street, leading to ongoing and worsening flood conditions.)

The goal of the Multi-Benefit Green Infrastructure Planning and Design component of our project is to reduce peak flows and flooding in the Rollingwood neighborhood while improving ecosystem conditions and climate resilience in the watershed as a whole. We are requesting funding for community-based planning and design activities for a network of upstream rain gardens and bioretention features. We will identify strategic locations for 3-5 projects and develop concept-level plans.

2 How does the project provide flood mitigation in accordance with applicable design storm requirements (local, state or federal standards)?

Answer: There is no governing design storm requirement for this reach of Rheem Creek. The current channel floods into people's yards, garages, and streets several times a year. When built in the 1950s, this reach of Rheem Creek had a capacity of approximately 100 cfs. Due to sediment accumulation, the channel capacity has reduced to approximately 10 cfs at its most constrained. The intent of the restoration actions is to increase the capacity to 50-100 cfs which is roughly equivalent to the 5- to 10-year peak flood under today's urbanized watershed conditions.

3 How will the project be implemented with Low Impact Development (LID) techniques? If not, describe why LID is not feasible.

Answer: Since our ability to intervene in the channel itself is quite limited due to the narrow, confined creek channel surrounded by dense housing, we have determined that a network of upstream green infrastructure such as rain gardens and bioretention features are important interventions to reduce peak flow and minimize flood events in the Rollingwood neighborhood. These actions are identified in our Restoration Opportunities Analysis (from the SCC grant) and focus on four potential areas upstream of the Rollingwood neighborhood where green infrastructure can potentially be installed: a memorial park, a recreational park, a school, and sidewalk/streets that feed into the stormwater system contributing to flooding downstream. Funds from the CNRA grant would be used to work with the local community to select/prioritize project locations and design a network of green infrastructure projects that will reduce flooding downstream while providing local residents more opportunities to engage in and meaningful watershed stewardship activities. Grant deliverables will include Concept Designs for 3-5 multi-benefit green infrastructure projects.

4 Describe any innovative techniques to reduce flooding to be implemented in the project.

Answer: Multiple techniques will be utilized to reduce flooding and improve watershed function in the Rollingwood neighborhood: (1) restore a section of Rheem Creek to increase channel capacity, (2) establish adaptive management strategies and provide maintenance access, (3) select strategic locations and develop concept level plans for multi-benefit green infrastructure in the Rheem Creek watershed upstream of the Rollingwood Reach. These nature-based techniques are developed in partnership with the community and are intended to be low cost, low impact, low maintenance, and replicable design solutions.

The core of this grant request will provide construction funding to remove excessive sediment, grade a geomorphically stable channel, and plant native riparian vegetation along an urban creek. According to our flooding analysis, excessive sedimentation in the channel causes the bulk of the flooding in the Rollingwood neighborhood and is most likely due to construction during historical dense development in past decades. This indicates that ongoing sedimentation will not pose significant problems in maintaining the channel since the watershed is almost or completely built out, and any further development would require adherence to sediment control regulations. However, part of the project design includes a sediment basin that will also function as a small floodplain habitat - the only place for

this kind of intervention along this narrow, engineered channel between dense housing. The sediment basin/floodplain will serve as a way for the city of Richmond to address any ongoing sediment issues, should they arise, while also providing floodplain inundation/peak flow reduction and ecosystem benefits.

As noted in question #3, reduction in flooding will also be addressed by a community engagement process to plan and design a network of rain gardens and bioretention features to reduce peak flow in the downstream Rollingwood neighborhood.

5 How will the effectiveness of the project be monitored and assessed?

Answer: Development of a well-designed adaptive management and monitoring plan and allocation of adequate funding to conduct monitoring, analyze data, and implement adaptive management is critical to the long-term success of any watershed restoration effort. The currently funded SCC grant includes the development of a community-based maintenance and monitoring plan that will include educational and economic opportunities for local students and residents. All monitoring activities in the CNRA-funded Final Design and Implementation Phase of the project will be based on the maintenance and monitoring plan developed during the SCC grant. The project team (American Rivers, RDG, and The Watershed Project) have considerable experience designing adaptive management and monitoring plans for restoration projects.

Monitoring will be focused on measuring success in terms of: (1) reductions in residential flooding; (2) community use, access, and perception of green spaces; and (3) ecosystem function. Flood reduction and community use metrics will primarily be measured through neighborhood surveys. Ecosystem function will be measured in terms of metrics such as vegetation survival and growth, canopy cover, and habitat surveys, and may include benthic macroinvertebrate surveys using the most recent SWAMP bioassessment or CRAM protocols.

6 Describe the multiple benefits offered by the project (e.g., economic, environmental, social, improved physical and mental health, etc.).

Answer: This project is designed to achieve multiple benefits in low-income and disadvantaged communities, while providing an opportunity to reverse damage that began with the intensive urbanization of the watershed in the 1950s and to deepen the community's connection with and stewardship of the creek. One of the project's primary aims is to reduce flood risks to households. For decades, flood control activities intended to protect residents have diminished the watershed's resilience and disabled its ecological and hydrological function. Today, many sections of Rheem Creek are engineered, trapezoidal channels choked with invasive vegetation, which flood during increasingly intense storms. This project will reduce flood risk, while also improving ecological and hydrologic function.

The overall goal of this project is to use nature-based solutions to improve the ecological function of the Rheem Creek watershed while reducing flood risk, sequestering carbon, enhancing green space, and providing economic and education opportunities for low-income and disadvantaged communities. The design maximizes carbon sequestration, enhances habitat and connectivity for multiple species, reduces the urban heat island effect, increases stormwater infiltration, and improves water quality with native vegetation and green infrastructure elements.

The creek planting plan focuses on native riparian trees resulting in a canopy cover that minimizes flood risk while providing shade, cover and habitat to both aquatic and terrestrial species. The final design will optimize the potential for greenhouse gas reduction and community benefits, in addition to regional flood reduction efforts.

Our community-based planning approach has helped forge long-term partnerships, build trust, and strengthen social cohesion. Residents are engaged in watershed restoration efforts and aware of long-

term stewardship needs and opportunities. Local residents, agencies, and other stakeholders are helping to facilitate nature-based solutions, restoration and multiple-benefit green infrastructure projects throughout the watershed. This project will improve neighborhood livability and increase a sense of community well-being. This low-income community has experienced flooding multiple times each year for the past 20 years and felt neglected and disheartened. Our approach and the resulting multi-benefit project shows that their community and government agencies care about their lives and homes.

This project provides economic benefits by reducing flooding and resulting flood damage to residential properties. The Watershed Project works with community partners, Contra Costa College and Vista High School to provide regular and ongoing educational opportunities serving the low-income and disadvantaged neighborhoods within the project area and the watershed, including environmental literacy programs. The Watershed Project provides career training, hands-on educational opportunities, and workforce development. Community-led organizations will be contracted to plant riparian trees and vegetation. The OM&M funding plan will be rooted in community input, and include ongoing maintenance contracts with community-led organizations like Urban Tilth.

This project contributes to greater public health. The project helps reduce stress/worry about potential flooding and resulting personal health and environmental impacts. Also, studies show that visual and audible access to even small patches of natural habitat reduces stress and engenders a sense of connectedness and well-being that lead to tangible health benefits. The leafy canopy and music of birdsong will help mask the noise of urban traffic from busy streets nearby.

7 If the project is serving either a disadvantaged or a severely disadvantaged community, specify which type of community and the tool used to make the determination.

Answer: The project serves an AB 1550 low-income community per CalEPA. According to the Community FactFinder listed in Appendix O, the project serves a Severely Disadvantaged Community.

8 If the project is serving a disadvantaged or severely disadvantaged community, explain how the project is serving the community and list the direct benefits provided. (See definition of Serving a Disadvantaged or Severely Disadvantaged Community in Appendix P of the Guidelines.)

Answer: The project serves low-income and severely disadvantaged communities by reducing the risk of flooding that currently occurs multiple times each winter. Reduced flooding will have direct monetary and quality-of-life benefits to property owners and residents who will no longer have to defend their homes from rising waters nor worry about flooding during winter storms. Some residents have built concrete walls between their properties and the creek. Many residents set up sandbags during storms, and though sandbags can be acquired via local jurisdictions for free, residents may not know of these programs. Furthermore, setting up and removing sandbags can be strenuous and time consuming. The work of keeping flood waters out of a house can affect residents' ability to leave the house and go to their jobs. Lack of flooding and any associated damages will raise property values and ensure owners can receive full market rates for their investments should they want to sell.

The project will increase resilience to climate change and reduce pollution. Climate change will bring more erratic and larger rain events, which the neighborhood will be better prepared to handle if Rheem Creek has been rehabilitated, reggraded to original design standards, and brought back into ecological function. Native plantings will shade the creek, helping stave off the regrowth of invasive plants and mitigating urban heat island effects. Any pollutants that are collected upstream of the project are spread around the affected area during flooding, so reducing flooding will keep these pollutants off the street. Green infrastructure such as bioretention features upstream of the project will sequester pollutants on site instead of flowing into the creek via stormwater pipes. These basins will also slow stormwater and reduce the frequency of future flooding.

This project includes multi-benefit urban greening that sequesters carbon and reduces energy usage by planting at least 700 native riparian plants and trees along 40,000 square feet of an urban creek. The project terms include maintenance access for trees and vegetation.

Though the project does not include public access, the results of the creek rehabilitation and native habitat restoration will be most visible where the creek crosses under Fordham Street. This location is the border between the Fairmede neighborhood of Richmond, and the unincorporated Rollingwood neighborhood. It acts as a gateway between two neighborhoods and is also a common route for students traveling to nearby Contra Costa College. Dilapidated chicken wire fencing will be replaced with more attractive and permanent fences, through which the creek and its riparian habitat will be visible. This project promotes environmental education by including interpretive signage to engage the community and connect residents with their watershed. The Watershed Project provides regular and ongoing field-based educational opportunities through partnerships with Contra Costa College, nearby K-12 schools and community-based organizations.

As much as possible, the project will engage and hire local residents and organizations. The Watershed Project has already interviewed many residents to learn about their experiences and share information about the project. This work will continue as part of the rehabilitation project. Richmond staff have included Contra Costa College in the planning process and presented at the college sustainability club. Partnering with the college and other schools will create further educational opportunities. A local organization, Urban Tilth, will collaborate with The Watershed Project to manage the native planting and establishment via Urban Tilth's Watershed Technician Training Program and The Watershed Project's Green Careers Program.

9 If the project is not serving a disadvantaged or severely disadvantaged community, describe how the 25 percent match requirement will be met (private, federal, state, or local funding; in-kind services; etc.).

Answer: Requested funding is for improvements within and directly benefiting a Severely Disadvantaged Community (DAC). Requested funding for planning and design of a green infrastructure network proposed upstream of the DAC serve to improve water quality and reduce localized flooding occurring in the DAC due to conditions higher in the drainage area.

10 If the project is subject to the Stormwater Resource Planning Act, provide the name of the Storm Water Resource Plan (SWRP) or functionally equivalent plan that incorporates the project.

Answer: The Contra Contra Watershed Stormwater Resource Plan includes this Rheem Creek project.

11 If the project is subject to the Stormwater Resource Planning Act but is not included in a SWRP or functionally equivalent plan, explain why. Describe steps taken to incorporate the project into a new or existing SWRP or functionally equivalent plan and the anticipated timeline for plan completion or project incorporation.

Answer: The Contra Contra Watershed Stormwater Resource Plan includes this Rheem Creek project.

12 If applicable, how will the project impact communities upstream or downstream from the project site?

Answer: This project reduces flood impacts on downstream communities. Richmond neighbors who own the creek are upslope and do not experience flooding in their yards, homes, or along Shane Drive and most of Moyers Road. This distinction in ownership is important as neighbors in the unincorporated Contra Costa County community of Rollingwood, who do not own the creek, suffer from frequent flood impacts.

The proposed project provides an array of positive impacts to the disadvantaged communities upstream and downstream of the project site by removing invasive species and sediment to reduce public safety threats from flooding while providing habitat for fish and wildlife. Urban stream restoration, green infrastructure, and urban greening will help build local resilience to climate change in this highly vulnerable community. Revegetation helps improve habitat connectivity along the stream corridor

between the upper and lower watershed. This project will capture stormwater to reduce stormwater runoff, and reduce water pollution.

As with many urban streams, there is a critical need for a community-supported plan for improvements as well as a coordinated maintenance and management strategy. Coordinating multiple jurisdictions, maintenance, and access with limited resources has been a huge challenge in this community. This project demonstrates innovative solutions that can be replicated in similar local projects in nearby watersheds.

Finally, this project allows residents in an underserved area to connect with nature and enjoy healthy benefits near where they live, work, and play.

13 Explain how the project addresses the State's critical need to address flooding and how it is consistent with the California Water Action Plan.

Answer: The creek currently floods dozens of homes several times a year in an AB 1550 low-income community and Severely Disadvantaged Community. The reduction of flooding is necessary to improve the quality of life for these neighbors and to protect the investment these families have made in their homes.

Two of the three California Water Action Plan objectives are the restoration of important species and habitat, and a more resilient, sustainable managed water resources system. The project will restore a corridor of creek and riparian habitat in an otherwise densely urban watershed. The project reach is upstream of the recently restored Dotson Family Marsh (a \$14 million tidal marsh and upland ecotone habitat restoration project by the East Bay Regional Park District). By reducing overbank and neighborhood flooding in Rollingwood, the project will greatly reduce the number of flood events that collect oils, trash, and pollutants from streets, driveways, and yards and deliver them downstream to the Dotson Family Marsh and the San Pablo Bay.

14 For development projects, how will the project provide workforce education and training, contractor, and job opportunities for disadvantaged communities? If not applicable or practicable, explain why.

Answer: The Watershed Project will collaborate with the Conservation Corps and Urban Tilth Watershed Stewards to plant trees and vegetation along the riparian corridor, irrigate the plantings, and remove invasive species before each year's plantings. This will ensure that local interns are learning about restoration projects and gaining skills for maintenance and operations of these types of restoration sites. TWP will also collaborate with the Conservation Corps, Urban Tilth and other local community groups to maintain the riparian corridor. Monitoring will include neighborhood, Urban Tilth, and or Contra Costa College student activities and will be led by The Watershed Project in partnership with Contra Costa College.

15 For development projects, describe how the following is included in the project design. If not feasible, explain why:

- a. Efficient use and conservation of water supplies.**
- b. Use of recycled water.**
- c. Storm water capture to reduce storm water runoff, reduce water pollution and/or recharge groundwater supplies.**
- d. Provision of safe and reliable drinking water supplies to park and open-space visitors.**

Answer: a. Efficient use and conservation of water supplies.

For the Rheem Creek Rollingwood Reach of the project, we anticipate that any irrigation needed will be temporary or the plants will be hand watered during the plant establishment period (three years). Appropriate native riparian plants will be utilized to take advantage of existing site water from the creek and high water table. The project will avoid drip or spray irrigation systems due to the excessive costs. Spray irrigation would also encourage invasive species.

The plant palette for the rain gardens and green infrastructure features will be designed for low maintenance and drought tolerance. Designs will include native and low-water use plants, deep mulching and soil amendments, and efficient irrigation design to meet WELO standards.

b. Use of recycled water.

We do not anticipate the use of recycled water for temporary irrigation, given the proximity to the creek.

c. Storm water capture to reduce storm water runoff, reduce water pollution and/or recharge groundwater supplies.

The project will include planning and designing of a network of rain gardens and bioretention features in the upper watershed that will reduce peak flows and water pollution in the downstream Rollingwood neighborhood.

d. Provision of safe and reliable drinking water supplies to park and open-space visitors.

No public drinking fountains are proposed as part of this project. More broadly, this project does contribute to water supply, watershed health, and water quality in the creek and San Pablo Bay.

16 What will happen to the project if grant funding is not awarded (e.g., loss of matching funds, impacts on overall project vision, project momentum, timing difficulties, etc.)?

Answer: This project is poised to take advantage of a confluence of opportunities. Without CNRA funding, these advantages will diminish, carbon sequestration enhancement will not occur, and the low-income residents will be left to continue grappling with chronic flooding that will likely worsen under climate change. In 2007, Natural Heritage Institute completed an assessment of Rheem Creek watershed, which identified general needs and opportunities and included community visioning events; however, it did not include project-specific surveys or designs. American Rivers and our partners have come together to build on this foundation by focusing on the high-priority actions needed along specific stretches of the creek. The Coastal Conservancy provided critical initial funding for the partners to complete planning and design for the Rollingwood reach of Rheem Creek. The SCC-funded project conducted significant outreach in the community and the topographic survey involved light vegetation removal in the creek. The community has finally seen the City of Richmond take action on the flooding issues, but without construction funding, no real change will be seen. The community may feel like they have been let down again. Positive relationships that have been built over the last year may wither.

CNRA support at this time for the high-priority Rollingwood flood reduction project would allow the project team to advance other local opportunities identified in the Restoration Opportunities Analysis developed under the SCC-funded grant, such as five creekside acres owned by the City of San Pablo, on which new development could include beneficial elements such as a creek setback and restoration of floodplain and riparian habitat. Given the current pandemic and economic impacts, we look forward to future grant opportunities and economic incentives to build climate resilience. We want to plan and design green infrastructure projects now so that they are ready for implementation should future opportunities arise. If the critical early on-the-ground steps proposed here are not funded, such opportunities could be lost.

Statutory and Program Priorities

17 For development projects, what is the status of applicant's consultation with the California Conservation Corps or a certified community conservation corps about the project?

Answer: We have sent our consultation forms to the Conservation Corps and have exchanged emails with Prop 68 Community Corps staff to identify the local Corps our project team has already worked with. Our

team worked with the Conservation Corps in the SCC-funded planning & design project to remove vegetation in preparation for the topographic survey. We anticipate that the Corps would also help with site clearing and weed removal in preparation for construction work as well as planting in the riparian corridor in coordination with local non-profit organizations.

18 For development projects, describe any water efficiencies, storm water capture for infiltration or reuse, or carbon sequestration and greenhouse gas emissions reduction features included in the project design. If not feasible, explain why.

Answer: The planting plan that is being developed for the Rollingwood Reach with community engagement under the SCC grant is using the Urban and Community Forestry Calculator Tool and i-Tree Planting Calculator to quantify specific carbon sequestration and usage reduction effects of a range of trees typically used in urban settings. This allows us to calculate greenhouse gas sequestration provided by various native trees, and design the planting plan to maximize carbon sequestration while incorporating residents' preferences for different types of trees.

Designs incorporate Water Efficient Landscape Ordinance (WELO) standards to ensure that the project is sustainable, low maintenance, and requires very little water.

The multi-benefit green infrastructure component of the project will include a community-based engagement process for planning and designing a network of rain gardens and bioretention features in the upper watershed that will reduce peak flows and reduce water pollution in the downstream Rollingwood neighborhood. The resulting designs will integrate water efficiencies, stormwater capture and infiltration or reuse, trees for carbon sequestration and to reduce urban temperatures. Priorities and design details from the Urban Greening Master Plan and the Bicycle and Pedestrian Plan will be integrated to promote sustainable, walkable neighborhood streetscapes that support active transportation that contributes to GHG emissions reduction.

19 How does the project leverage private, federal, or local funding?

Answer: The State Coastal Conservancy granted the project \$274,515 to prepare 65% designs, submit permits and environmental compliance documentation, and engage local agencies and the residential community in planning and design activities. Project partners provided an in-kind match of \$106,389. Therefore, a total of \$380,904 has already been allocated to this project.

20 If the project will result in displacement (e.g., unsheltered individuals, neighborhood gentrification, etc.), what solutions are included in the project design?

Answer: No displacement of unsheltered individuals or neighborhood gentrification is anticipated as a result of this project.

21 If the project is to be publicly accessible, what features in the design are intended to maximize safe and equitable access to the project?

Answer: As noted in the project description, the creek is on private property and therefore public access is limited. However, the creek is most visually accessible where it crosses under Fordham Street. Fordham Street is a heavily used thoroughfare that also has considerable foot traffic of students walking to nearby Contra Costa College. The project will take advantage of this location to replace dilapidated chicken wire fences with more attractive and sturdy fencing, and to provide signage about the Rheem Creek ecosystem and other items of interest to the local community, that provide a historical and ecological context to the project. Instead of a mess of ivy and trash collected on fencing, passersby will have a view of a restored ecosystem, with bilingual signage to inform and engage. In addition, ongoing maintenance and monitoring activities will include students from Contra Costa College and neighborhood residents in annual vegetation and water quality monitoring, riparian vegetation planting, and ongoing trash clean up days.

Upstream rain gardens and bioretention areas will be placed in publicly-accessible locations such as streets, sidewalks, a school, a park and a memorial park.

22 How does the project utilize natural infrastructure?

Answer: Rheem Creek in this reach is very narrow and surrounded by dense housing, thus limiting design potential. However, the project will take advantage of some natural design elements to include single stemmed riparian trees and low vegetation that will allow floodwaters to pass more easily than multi-stemmed trees and bushes. The shade of these native riparian trees, along with aggressive weeding in the first few years and ongoing weeding in subsequent years, will limit invasive weed reestablishment using a natural systems approach. At the upper end of the project reach, a sediment basin will be constructed that will also serve as a small floodplain in an otherwise trapezoidal channel. This will allow for sedimentation maintenance if needed (though we do not expect this to be an issue in the future - see discussion in question #4) while also providing valuable floodplain habitat.

Rain gardens and bioretention features will be strategically designed throughout the watershed to reduce peak flows and improve stormwater quality. Potentially larger interventions at a memorial park, a recreation park, and a local school, along with a network of smaller interventions in residential streets and sidewalks, could significantly reduce peak flows and improve water quality. Some features will include watershed stewardship education and more equitable access to nature.

23 How does the project use multi-benefit approaches that meet multiple needs at once?

Answer: The Rollingwood Reach implementation project reduces flood risk for a disadvantaged community that has suffered from annual flooding for over 20 years, improves water quality, shade, and habitat for a neglected urban creek, and sequesters carbon by planting riparian trees. The rain gardens and bioretention features will reduce peak flows, improve stormwater quality, and increase biodiversity in streets, schools and parks. Both the Rollingwood Reach Final Design and Implementation project and the green infrastructure planning project will engage the local community in creative problem solving and watershed education and stewardship, as well as provide economic opportunities through local jobs created from project development and ongoing watershed stewardship activities.

24 How was the project developed with local community engagement?

Answer: As part of the SCC-funded planning & design project, in the summer of 2019, The Watershed Project conducted door-to-door surveys in English and Spanish of the neighbors adjacent to Rheem Creek in the Rollingwood and Fairmede-Hilltop neighborhoods. TWP staff, Green Collar Corps members, and high school interns visited 120 homes to inform neighbors of the project and ask about their experiences with flooding. Of the 120 homes visited, TWP interviewed 43 neighbors (36% response rate). Questions ranged from specifics regarding flood frequency and spatial patterns to general quality of life issues. The summary below covers questions and responses relating to flooding.

Residents reported that the flooding began approximately 20 years ago, and that the creek now floods 3-5 times per year. Flooding tends to last between 3 and 5 hours though some respondents said it lasts a few days. Approximately half (48%) of the residents surveyed responded that the flooding had impacted the quality of their lives. Residents noted property damage caused by the flooding including damage to cars, floors, fences, driveways, foundations, and other structures. Some neighbors identified damages in excess of several thousand dollars.

According to the neighbors interviewed, the most significant areas of flooding are the Annapolis/Moyers intersection at the upstream end of the project, along Greenwood Drive between Rollingwood Drive and Fordham Street, Fordham/Greenwood intersection, and the end of Greenwood Court. Residents reported that the street flooding begins upstream - water comes out of the storm drain in front of the EBMUD property near the upstream end of the project area and flows down the street toward Fordham and beyond depending on the amount of rainfall and flooding. Some neighbors have floodwaters flow

across their property from the street to the creek and vice versa, from the creek to the street.

Regarding the management of the creek, many residents whose property includes the creek (north side) were unaware that they owned and were responsible for the creek. Nor were they aware if anyone else was responsible for management of the creek. The top recommendations from residents for how to address flooding included clearing out debris and vegetation, creating a larger channel, adding more storm drains, and implementing a more effective maintenance plan.

During a community workday in the fall of 2019, residents assisted with clearing vegetation in preparation for a topographic survey, which provided additional insight into the channel's capacity. In summer 2020, The Watershed Project plans to conduct additional outreach to neighbors to share the results of the flooding assessment and gather feedback on the proposed project design.

Project Readiness

- 25 If the requested funds are insufficient to cover all project costs, what is the funding gap and how will it be bridged?**

Answer: The funds requested will cover all costs associated with this project.

- 26 On a scale of 1-10 (with 1 being the least and 10 being the most), how ready is the project for implementation? Explain.**

Answer: 9.000

Answer: Once the SCC grant deliverables are completed in late 2020/early 2021, the project will be at a "9" on the readiness scale. SCC awarded funding for 65% plans and permitting for the Rollingwood Reach of Rheem Creek. If this CNRA grant request is awarded and contracted by November 2020, we anticipate completion of final design (100% Bid Documents) during the spring/summer of 2021 while permits are being secured. At that point the project will be "shovel ready"-- a "10" on the readiness scale. We would be able to hire a contractor to construct the project in 6-8 months, depending on the season.

The design team is ready to begin the green infrastructure site selection, planning, and design immediately -- a "10" on the readiness scale for that component of the project.

- 27 Describe the status of the following items, including anticipated timing for completion of each:**

- a Preliminary design.**

Answer: 65% plan set ready for permit submittal (October 2020)

- b Environmental documentation (CEQA - see definition in Appendix P of the Guidelines).**

Answer: Negative Declaration (to be submitted October 2020)

- c Necessary permits and long-term operation and maintenance commitments/agreements.**

Answer: --Permits - to be submitted in October 2020

--OM&M plan - completed during SCC grant, early 2021

--OM&M commitments/agreements - significant work towards this will be done during OM&M plan work under SCC grant activities

- d Other funding sources needed to complete the project.**

Answer: --Rollingwood Reach final design and construction - funds requested under Urban Flooding Grant (6-8 months after contractor under contract, depending on season)

--Green Infrastructure final design - funds requested under Urban Flooding Grant (to be completed one year after grant contracting)

--Green Infrastructure project construction - seek implementation funding in the future

- e For acquisitions, willing seller (e.g., purchase agreement, option, discussions, etc.).**

Answer: No acquisitions planned.

28 List the legal owners for each parcel within the project footprint and the status of notifications, negotiations, agreements, etc. to implement the project.

Answer: The public utility easement through which this section of Rheem Creek runs includes the following parcel owners. In the summer of 2019, The Watershed Project conducted door-to-door outreach to inform residents of the project and ask about their experiences with flooding from the creek. Each residence was visited 2-3 times in the event that no one answered on the first visit, and a door hanger was left with additional information about the project. The Watershed Project reached and conducted interviews with seven of the neighbors as indicated below. These neighbors were all supportive of the project and happy to provide the project team with creek access whenever possible. (last name, first name, address)

Ajero, Danilo Gonzales Tre, 2528 Moyers Rd, Richmond, CA

Ashley, Robert E Jr Tre, 2540 Moyers Rd, Richmond, CA

Chaiyasith, Sompil & Nhay, 2536 Moyers Rd, Richmond, CA

Chen, Xiaojing, 2520 Moyers Rd, Richmond, CA

Clay, Tanya Casanares, 2566 Moyers Rd, Richmond, CA - The Watershed Project interviewed this property owner in July 2019.

Debnar, Andrew J, 3206 Annapolis Ave, Richmond, CA

Demillion, Joseph & Ethel, 2524 Moyers Rd, Richmond, CA

Dhinjal, Bhupinder, 2512 Moyers Rd, Richmond, CA

Dominguez, Rosa I, 2534 Moyers Rd, Richmond, CA

Flores, Miguel Angel, 2509 Shane Drive, Richmond, CA

Henry, Hosea Tre, 2574 Moyers Rd, Richmond, CA - The Watershed Project interviewed the tenant at this residence in July 2019.

Iau, Man Tou, 2515 Shane Drive, Richmond, CA

Ibarra, Jose G, 2504 Moyers Rd, Richmond, CA

Khamsomphou, Khamphone, 2525 Shane Drive, Richmond, CA

Lee, Violet, 2544 Moyers Rd, Richmond, CA

Lie, Goat H Tre, 2496 Fordham St, Richmond, CA

Liu, Puda, 2521 Shane Drive, Richmond, CA - The Watershed Project interviewed the tenant at this residence in July 2019.

Mendez, Noe & Tiffanie, 2533 Shane Drive, Richmond, CA

Miles, Harvey & Myrna, 2558 Moyers Rd, Richmond, CA - The Watershed Project interviewed this property owner in July 2019.

Pham, Hoanh Quang, 2516 Moyers Rd, Richmond, CA

Quality Investment Group Inc, 2562 Moyers Rd, Richmond, CA

Regier, Lorraine June, 2552 Moyers Rd, Richmond, CA - The Watershed Project interviewed this property owner in July 2019.

Robles, Damian & Nicolasa, 2548 Moyers Rd, Richmond, CA

Rocha, Jose Armando, 2508 Moyers Rd, Richmond, CA - The Watershed Project interviewed the tenant at this residence in July 2019.

Roos, Earl Iii, 2539 Shane Drive, Richmond, CA

Scott, Ruthie G Tre, 2529 Shane Drive, Richmond, CA - The Watershed Project interviewed this property owner in July 2019.

Singh, Surjit, 2497 Fordham St, Richmond, CA

Williams, Ollie M, 2519 Shane Drive, Richmond, CA

East Bay Municipal Utility District owns a vacant parcel on the south side of the creek, outside of the easement. EBMUD participated in initial scoping meetings and has allowed the City of Richmond to use the property for access and staging via an encroachment permit.

29 List all entities with jurisdiction over the project and the status of notifications, agreements, meetings, etc. with each jurisdictional entity.

Answer: The project is fully within the City of Richmond, either in the public right-of-way or on public utility easements on private properties. The easement grants the City access to the project area, as deemed by the City Attorney's Office. As part of the current SCC grant, all property owners have been interviewed for their experience living along the creek or at least contacted and informed of the project. The site is in the Fairmede-Hilltop neighborhood of Richmond, and staff have presented the project to the neighborhood council.

The project abuts the unincorporated Contra Costa County neighborhood of Rollingwood, where the bulk of the flooding takes place. The county public works department is a project partner and fully supports this effort. The project is also just upstream of the City of San Pablo and Contra Costa College, both of whom have also participated in numerous planning meetings and outreach events.

As part of the current planning project, site access was gained via a vacant East Bay Municipal Utility District (EBMUD) parcel. The City has a temporary encroachment permit with EBMUD and the district has committed to being a partner in the construction project.

Organizational Capacity

30 Describe applicant's experience in completing similar projects.

Answer: The project team includes the City of Richmond, The Watershed Project (a community-based environmental group), Restoration Design Group (a highly regarded restoration engineering firm with 15 years' experience working in the watershed), and American Rivers (a national non-profit with a California office and deep local connections and partnerships). Over the past several years, these entities have been building relationships, conducting community outreach, and identifying shared goals. This project is the direct outgrowth of that history and synthesizes the city's knowledge of the built environment.

The Restoration Design Group's work focuses primarily on urban creek restoration. It has designed three restoration projects on nearby Wildcat Creek in the City of San Pablo, concept designs for five sites on Rheem Creek, and its staff has a long history of involvement in the Rheem Creek Watershed dating back to the 2007 Watershed Plan that identified many of these opportunities.

Based in Richmond, The Watershed Project has been working for over 20 years to educate, engage, and empower highly diverse, historically overlooked and underfunded local communities to protect local watersheds. They have a wealth of experience in community engagement, as well as existing community contacts. TWP has successfully completed similar projects in the area, including a North Richmond visioning project where they surveyed 300 North Richmond residents regarding their preferences and opinions regarding shoreline development; drafted a resiliency plan for El Sobrante with community input through charrettes; and hosted community creek cleanups on private property in Bay Point, where homeowner support was needed for every property on a section of Willow Creek in order to plan community work parties to remove trash and invasive vegetation from the creek.

American Rivers has extensive experience designing and implementing multiple benefit projects that restore waterways, enhance habitat, reduce flood risk, improve ecological function, and engage local communities in long-term stewardship. The Three Creeks Parkway Project on Marsh Creek in East Contra Costa County, is a similar project that will restore a mid-century flood control channel for ecological and flood protection benefits. For the past two decades, AR has built strong local partnerships and to-date the project has provided Chinook salmon volitional passage, restored 3 acres along a creek that was formerly a treeless ditch, launched restoration of 1,100 acres of freshwater tidal marsh at the creek's mouth, and assisted a local community group with multiple volunteer cleanup

days and educational programs for underserved youth.

For decades, the City of Richmond has worked effectively with community partners and professional consultants to complete Capital Improvement Projects such as this one. Recent experience includes three stream restoration projects on Baxter Creek: the Richmond-Ohlone Greenway Gap Closure Project, the Baxter Creek Sustainable Community Greenbelt at Miraflores, and green infrastructure at Booker T. Anderson Park. In the Gap Closure Project, the City combined a state Urban Greening Grant with a regional Safe Routes to Transit Grant and local Environmental & Community Investment Agreement funds to remove a concrete lined ditch and restore a meandering creek with a total of one and a half acres of native vegetation, install 750 linear feet of multi-use path with a pedestrian bridge over the restored creek, and install a bicycle and pedestrian activated signal for a new crossing across San Pablo Avenue. The City has been a critical stakeholder in Rheem Creek and North Richmond Shoreline planning efforts as well as small and large stormwater and green infrastructure projects throughout the city, including multi-benefit projects on Rheem Creek, San Pablo Creek, and Wildcat Creek.

31 Describe applicant's experience in managing other grant-funded projects.

Answer: The interdisciplinary, collaborative design team is experienced in a broad range of capital improvement projects, many related to urban flooding and green infrastructure in the public realm. The City of Richmond recently completed and is currently managing similar state-funded projects with CNRA and the Coastal Conservancy.

--Baxter Creek - Richmond-Ohlone Gap Closure \$1.946 million state Urban Greening Grant, regional Safe Routes to Transit Grant, and local Environmental & Community Investment Act funds

--Baxter Creek - Booker T Anderson \$500,000 (TWP)

--Miraflores Sustainable Community Greenbelt (SCC) - \$500,000 / CNRA - (\$1,600,000)

--Goodrick Avenue Bay Trail Gap Closure Project - \$1.236 million in regional ABAG funds and

--Contra Costa County Measure J Pedestrian, Bicycle, and Trail Facilities funds.

--Richmond Greenway - Iron Triangle Urban Greening (SCC Prop 1) \$500,000 (TWP)

--Richmond Greenway - Unity Park (Prop 84) - \$4.2 million

--Boorman Park (Prop 68) - \$4.65 million

--Moody Underpass (Prop 1B Trade Corridor Improvement Fund, CTC, Measure J Transportation Sales Tax, Developer Impact Fees) - \$37.5 million

--Full Trash Capture Device Installations at Meeker Ditch and Meeker Slough (CALTRANS Cooperative Implementation Agreement) - \$3.125 million

--Green Stormwater Infrastructure at Cutting Blvd and South 1st Street, and Nevin St to Evaluate Effectiveness of PCBs and Mercury in Stormwater (USEPA San Francisco Water Quality Improvement Fund) - \$1.3 million

--Yellow Brick Road - \$6.209 million Active Transportation Grant funds, \$4.1 million Urban Greening Grant, and \$2 million Environmental & Community Investment Agreement funds

--Richmond Transit Village. Various federal, regional, and local funds for Nevin Improvements: BART to 19th Street \$8.38 million; and Nevin Improvements: 19th Street to 27th Street Complete Streets project \$7.08 million.

32 Describe applicant's fiscal capacity to carry out the proposed project.

Answer: The City's fiscal policies assist in ensuring its long-term fiscal stability. These policies are intended to provide direction so that the City's finances are managed in a manner that will continue to provide for the delivery of quality services; maintain an enhanced service delivery; ensure a balanced budget; and establish reserves necessary to meet known and unknown future obligations. Fiscal policies are included in the City's budget, and are an essential component of long-term forecasts and contingency plans. The City annually adopts a budget for the upcoming fiscal year. Through this budget, City Council establishes public policy by setting funding levels for departments and exercises control over City spending. The budget further serves as a financial planning tool to ensure that the inflow of resources (revenues) is adequate to meet both anticipated and unanticipated needs (expenditures). The expenditures for any grant funded projects are allocated in the upcoming fiscal year to ensure they are fully funded and implemented within the proposed time frame, with the assumption that most grant funded projects are subjected to reimbursement mechanisms.

33 Describe applicant's plan for long-term operations and maintenance of the project (see Appendix I of the Guidelines for requirements).

Answer: The current SCC-funded planning & design project includes the development of an Operation, Maintenance and Monitoring Plan which will include details about the frequency of inspection, required maintenance, and the mechanism for tracking of inspection and maintenance data. The City will utilize this Plan as a guideline to long-term operations and maintenance of the restored Creek. The Plan will be completed by early 2021.

34 What is the source of funds for ongoing operations and maintenance?

Answer: Funding for maintenance is often the Achilles heel of ecological restoration projects, because funding agencies and foundations are reluctant or forbidden by statute to pay for ongoing costs beyond project planning and installation. For this reason, many municipalities and counties hesitate to pursue restoration projects because of tight public budgets and limited resources. The City of Richmond recognizes that part of the solution to the flooding issues in the Rollingwood neighborhood must be addressed by ongoing maintenance of the creek channel, and the city commits to the grant funding requirements to provide maintenance for at least 25 years.

This grant proposal includes working with the local community to identify innovative ways to pay for ongoing maintenance and monitoring, including hiring local organizations engaged in job training for residents. This process is described in more detail in the community involvement summary of this grant application. It is our hope that this model will allow Richmond and other municipalities to pursue more restoration opportunities and build the local economy by addressing ongoing maintenance costs in a sustainable manner that involves the input and consent of the local communities.

Collaboration

35 Describe partnerships with other entities and their corresponding roles in the project.

Answer: The project team consists of the City of Richmond, The Watershed Project, American Rivers, and Restoration Design Group. This collaboration began during the current SCC-funded planning and design project and has proven very effective. Richmond will be the project lead and will conduct higher-level management of the project. The Watershed Project is our outreach expert in multiple aspects of the grant, including community engagement in planting, monitoring, maintenance, and green infrastructure planning. The Watershed Project will also provide overall project management, relieving understaffed Richmond employees. American Rivers will focus efforts on the planning and design of upstream green infrastructure, as well as work with the community to develop mechanisms to fund

ongoing maintenance. Restoration Design Group is the technical lead and will bring the SCC-funded 65% designs to 100% construction documents, finish permitting and environmental documentation, provide some construction oversight, and develop green infrastructure conceptual designs and cost estimates with community partners.

The project team is excited to bring Urban Tilth into the development project. Urban Tilth hires and trains local residents to care for their watersheds, communities, and the creeks that run through them with the Basins of Relations Watershed Program. The program engages the community through four related efforts, the Watershed Technician Training Program, Watershed Community Events, Urban Naturalists Youth Program, and Visioning Wildcat Creek Trail Project. This program is uniquely suited to perform the native plant installation and establishment portions of the project while providing training and education for community members.

The project team has created partnerships with several other entities, some of whom will have specific roles in the project. The current SCC-funded project has a working group that includes staff from Contra Costa County Public Works and the City of San Pablo. The project fully takes place within the City of Richmond, but most directly benefits residents in the unincorporated Rollingwood neighborhood, so the County is keen on the success of the project. The City of San Pablo is just downstream of the project site, and the two cities collaborate on multiple programs and projects in the Rheem Creek watershed, as well as have a history of working together on street planning and construction projects. The County and San Pablo will continue to be members of a technical review committee should the grant be awarded and construction ensue.

The project site abuts Contra Costa College. The college has rehabilitated and cared for portions of the creek on its campus and is interested in this project proposal, which connects directly to a section of creek along one of the campus' main parking lots. Future projects in the watershed include proposed bioswales between the lot and the creek, which would filter polluted runoff and improve water quality, as mentioned in the SCC-funded Restoration Opportunities document. The college has also helped with access to the project site from the downstream end. Richmond staff attended the college's sustainability club and will continue to engage that group for participation in creek maintenance projects.

When Richmond staff first tackled the issue of flood issues in the Rollingwood neighborhood, they met with several agencies that have utilities in the creek easement. PG&E has power lines and West County Wastewater has sewer lines running along the easement. East Bay Municipal Utility District has drinking water transmission pipes that run under the creek and through their adjacent vacant property. These agencies support the project because it will make their work safer and easier. EBMUD has been a very helpful project partner by allowing the use of their property for access and staging free of charge.

36 Describe past, current and future community involvement (neighbor/user groups, etc.), outreach, partnerships, and support for the project.

Answer: Decades of groundwork has already been done in the Rheem Creek watershed, leading to a conceptual restoration plan for Lower Rheem Creek marsh in 2002, and a Rheem Creek watershed assessment conducted in 2007 that was developed with significant input from community members. In 2017, The Watershed Project and the San Francisco Estuary Project collaborated with community members on the North Richmond Shoreline Vision: a community based approach to planning for the upland transition zone.

In the early 2000s, the Urban Creeks Council held community meetings and hosted workdays in the community to try to address the same issue of flooding in the Rollingwood neighborhood. The end

result was the removal of cattails and other vegetation that grew back almost as quickly as it was removed. In 2018, City of Richmond staff engaged leaders and residents of the Fairmede neighborhood and presented at the Fairmede-Hilltop Neighborhood Council meeting. County Supervisor John Gioia presented at the same meeting and showed his support for the project and spoke about the history of this issue for his constituents. City of Richmond staff worked with Supervisor Gioia's staff who coordinated community efforts for residents in the Rollingwood neighborhood. Contra Costa College participated in several meetings and site visits and has committed to managing student involvement and maintenance. Future collaborations are also planned, including a concept for a bioswale along a college parking lot adjacent to the creek.

As part of the SCC-funded project, in the summer of 2019, The Watershed Project conducted door-to-door surveys in English and Spanish of the neighbors adjacent to Rheem Creek in the Rollingwood and Fairmede-Hilltop neighborhoods. Community involvement also included a neighborhood workday (to prepare for the topographic survey) and presentations at neighborhood and watershed council meetings, to engage the communities and solicit their input and support. Additional outreach is planned for the summer of 2020 to share results of the neighborhood flooding assessment and solicit community input on the proposed design. This relationship-building in the early stages of the project has been critical to its success, with neighbors demonstrating overwhelming support.

Agency and Stakeholder coordination was also critical for this early phase because with multiple jurisdictions involved, it is important for all to pull in the same direction so that inevitable obstacles can be overcome. This approach has helped ensure success during planning & design and set the stage for future work on both Upper and Lower Rheem Creek.

37 What steps are being taken to ensure the project will not cause unanticipated negative consequences to neighboring communities?

Answer: Negative consequences are not expected because the main goals of this project are to reduce flooding and restore native habitat. Nevertheless, project partners and contractors will be sensitive to residents' needs and well-being during construction and plant establishment phases. There will be construction activities that will be noisy and messy - massive amounts of invasive plants will be removed, and the use of heavy equipment may be required during sediment removal. Project partners and contractors will use best management practices (BMPs) to keep disturbance of the neighborhood to a minimum and ensure that all stormwater quality and sensitive habitat regulations are followed. The project team has already practiced BMPs during the current SCC-funded planning and design project. Limited vegetation trimming was necessary in the creek channel in order to conduct a topographic survey. The Conservation Corps spent several weeks working with chainsaws and hand tools to clear lines of site and paths for the surveyors to follow. The Corps, the project contractor, surveyor, project team, and City of Richmond and Contra Costa County staff all worked together to respond to inquiries or complaints. For the most part residents were pleased to see something finally happening in the overgrown, neglected channel behind their backyards. It is also very convenient and advantageous for this project that East Bay Municipal Utility District has a vacant parcel adjacent to the creek that they allow to be used for access and staging. No resident's private property need be traversed (outside of the easement) to come and go from the project area.

After the rehabilitation project and before plantings have grown in, the creek channel will be sparse compared to the nearly impenetrable existing invasive vegetation. One of the few worries that residents mentioned during the outreach process was that the more open creek channel would invite people into the easement space and the creek could become a vector for break-ins. Gates currently block access at entry points, but the project design will improve on this with more attractive and sturdier fencing. Richmond and County staff will keep a close eye on this situation. Currently, the creek is considered an eye sore and threat by most residents, who have wood fences if not concrete walls separating their

yards from the channel. However, a few residents are able to enjoy the creek and have yards and landscaping that open to the channel. Once the creek has been rehabilitated, the channel should be more visually attractive and the danger of flooding reduced. It is hoped that more residents will look toward instead of away from their creek. More attention to the creek should also deter nefarious activity. An appreciation for the creek will encourage residents to perform extra maintenance and trash removal on a regular basis.

Additional Project Characteristics

38 Describe American with Disabilities Act (ADA) access and/or improvements included in the project. If not applicable, explain.

Answer: The development project site is not publicly accessible, so an accessible path of travel is not included in the improvements. All signage will incorporate universal design standards and will be physically and visually accessible. Signage will include Spanish translation.

The planning and design of upstream rain gardens and bioswales will include ADA access improvements where possible. A common method of fitting rain gardens into a built-up community is by building bulb-outs at intersections, where storm drain inlets are often found. The bulb-out has multiple benefits - it creates a larger area for stormwater capture, pollutant sequestration, and landscaping. It "bulbs out" into the roadway which calms traffic by forcing drivers to slow down around the tighter turn. The width of the roadway is narrowed, making the crossing distance shorter and safer for pedestrians. Any time a bulb-out is created at an intersection it will include ADA-compliant curb ramps, and the larger area allows for better-aligned ramps. Nine locations have been identified where an intersection corner is in need of a compliant curb ramp and also has a storm drain inlet. These locations provide the best possibilities for multiple benefits at the lowest cost, because bioswale underdrains can be tied directly into existing storm pipes, and an existing ramp does not need to be demolished and rebuilt.

39 Explain how the project incorporates climate adaptation strategies to help protect against climate change impacts.

Answer: The project team includes multiple partners who have extensive experience with projects that are designed and implemented to result in lasting benefits for watersheds and communities. As is true for many urban creeks, restoring Rheem Creek's functional habitat, reducing flood risk and increasing carbon sequestration is deeply needed and yet daunting due to years of neglect. Despite its condition, the watershed offers opportunities to improve and expand green space and riparian and floodplain habitat, and is home to a community of people who will engage directly in the protection and restoration of the creek.

The project design will incorporate ecosystem improvements and revegetation that preempt invasive plant species turbo-charged by a warming, CO₂-enriched environment while establishing drought-tolerant native trees to facilitate carbon sequestration and watershed health. The design will take into account natural considerations, such as weather anomalies, as well as community involvement in a low-income area, while creating an attractive demonstration project to inspire residents and officials to advance additional efforts throughout the watershed.

The project team will design restoration to improve natural riparian habitat that will help to regulate water temperature, protect water quality, moderate downstream floods, and provide food and refuge for wildlife. The proposed project will build on recent community-driven restoration projects such as the Dotson Family Marsh and Wanlass Park, expanding the healthier ecosystem network and helping to create a vibrant green corridor in a dense urban landscape.

40 Describe any other project characteristics not previously discussed that would assist in evaluating the Project Proposal.

Answer: The increased attention to the issues on Rheem Creek, and to some extent this grant proposal, are the result of partnerships forged at the Wildcat-San Pablo Creeks Watershed Council. Since 1985, the

Council has brought together nonprofits, agencies and governmental groups to protect and restore the San Pablo and Wildcat Creek Watersheds. The Council provides a collaborative forum for consensus planning among various agencies, citizen's groups and individuals and is a resource for those who seek solutions to technical, management, monitoring and funding issues for local creeks.

City of Richmond staff reported about the flood risks in the Rollingwood reach; Restoration Design Group had created a Rheem Creek watershed assessment and new the history of the watershed, The Watershed Project offered to provide outreach to the community, and American Rivers took the lead on the SCC-funded planning & design project. Urban Tilth is another member and their programs are a perfect fit for stewardship of the creek. Contra Costa County and San Pablo staff also attend Council meetings and were able to provide input and support for Rheem Creek initiatives. This project proposal is a great example of partnerships leading to action.

End of Project Questions

Certification And Submission Statement

Please read before signing and submitting application.

I certify under penalty of perjury:

- The information entered on behalf of Applicant Organization is true and complete to the best of my knowledge;
- I am an employee of or a consultant for the Applicant Organization authorized to submit the application on behalf of the Applicant Organization; and
- I understand that any false, incomplete or incorrect statements may result in the disqualification of this application.

By signing this application, I waive any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent provided in this RFP.

Submission By: RichmondCA

Submitter Initials:

Submission Date:

Print Application

RFP Title: Urban Flood Protection Grant Program - January 2020

Project Title: Flood Risk Reduction in the Rheem Creek Watershed

Estimated Date of Completion: 01/01/2025

Funds Requested(\$): 1,639,344.00

Other Sources of Funds(\$): 0.00

Total Budget(\$): 1,639,344.00

Applicant Organization: City of Richmond

County: Contra Costa **City/Town:** Richmond

Applicant Address: 3201 Leona , Richmond , CA - 94804

Project Address: Fordham St & Greenwood Dr

Federal Tax ID: 94600040

Senate District 09,
09,
15

Assembly District 01,
11

US Congressional District 11,

Project Description:

For over 20 years, the Rollingwood neighborhood in unincorporated western Contra Costa County has suffered from flooding related to overflows from Rheem Creek. In 2019, the City of Richmond collaborated with American Rivers, The Watershed Project, Restoration Design Group, and other local partners to complete technical studies and prepare community-supported plans to solve flooding issues along Rheem Creek. Now, the City is requesting CNRA funding for (1) Final Design and Project Implementation for a restoration project at the Rollingwood reach of Rheem Creek, and (2) Planning and Design for multi-benefit green infrastructure to improve watershed health and reduce peak flows and flooding in the disadvantaged communities downstream. Construction of the proposed restoration project will reduce flooding by removing invasive species and excessive sediment, grading a geomorphically stable channel, and planting native riparian vegetation to improve creek habitat.

Latitude: 37.966690000 **Longitude:** -122.330640000 **Cordinates Represent:** approximate center of project
Coordinates Determined Using: google maps

Project Director (Applicant's Representative Authorized in Resolution) (Signature required at bottom of this page)

Name: Tawfic - Halaby **Title:** Project Director: Authorized Representative


Phone: 510-621-1612 **Email:** tawfic_halaby@ci.richmond.ca.us

Project Manager - Person with day to day responsibility for project (if different from authorized representative)

Name: Patrick - Phelan **Title:** Project Manager: Day to day contact

Phone: 510-307-8111 **Email:** patrick_phelan@ci.richmond.ca.us

I certify that the information contained in this project application, including required attachments, is complete and accurate

Signed:  **Date:** June 15, 2020

Applicant's Authorized Representative as shown in Resolution

Print Name: Tawfic N. Halaby **Title:** Sr Civil Engineer

PHOTOGRAPHS - Flood Reduction in the Rheem Creek Watershed



1) After flowing through the Fairmede neighborhood in storm pipes and culverts, Rheem Creek emerges in an engineered channel running between the backyards of two parallel streets. Approximately 150 feet further downstream (shown above), waters diverge with some flows continuing down the creek channel and some overtopping the left bank and flowing toward a vacant EBMUD parcel (below).



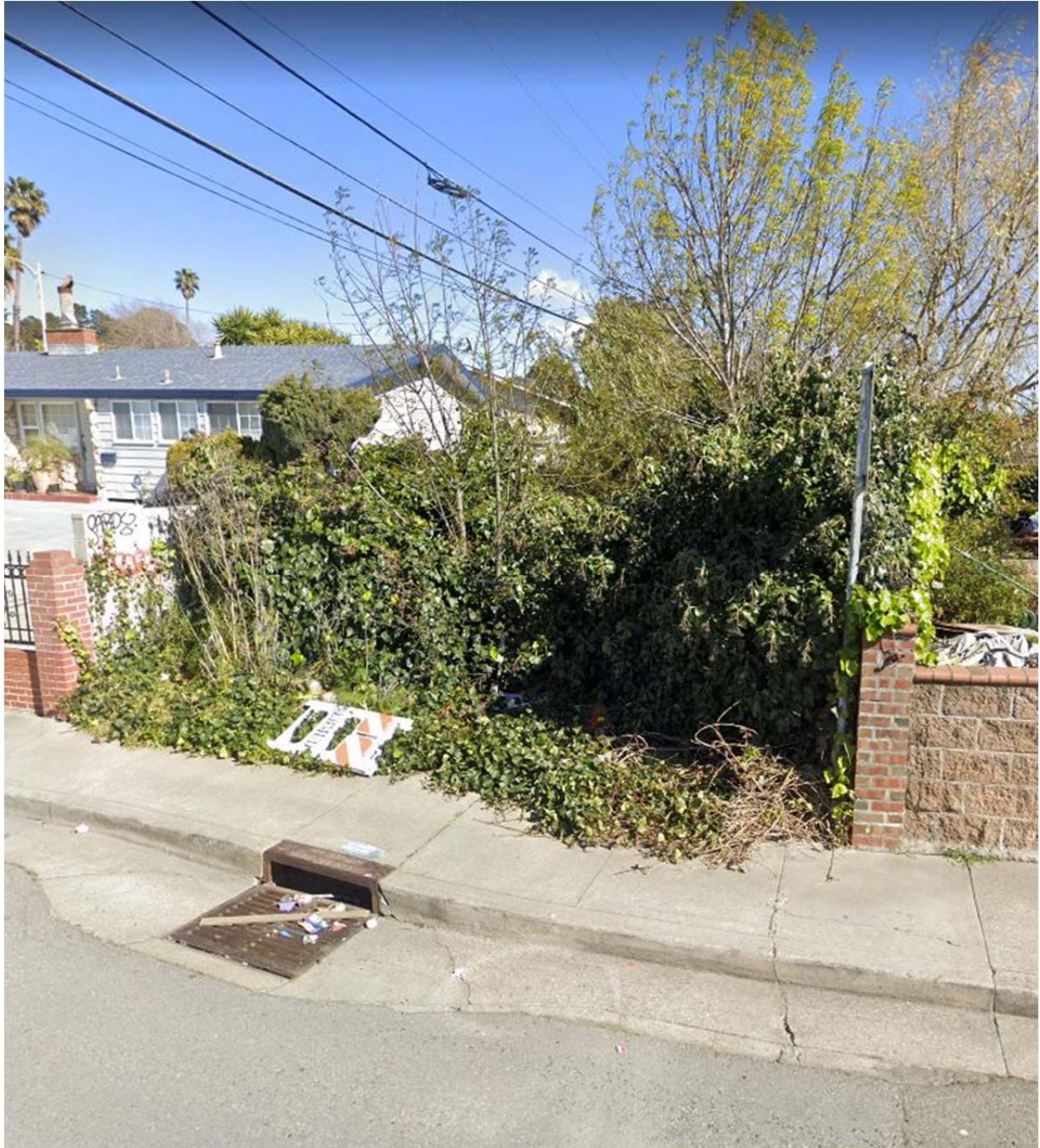
2) The overbank flows continue behind a house and flow across a vacant EBMUD parcel toward Greenwood Drive. In addition, a storm drain immediately adjacent to this parcel, that is intended to drain Greenwood Drive into the creek, flows the opposite direction during storm events and delivers floodwaters from the creek into the street.



3) Floodwaters flow through private properties and west down Greenwood Drive. Many residents defend their properties with sandbags.



4) The Rheem Creek channel during normal non-storm conditions. Cattails and invasives have clogged the channel. The south side is to the left. Many property owners on Greenwood Drive have built flood walls to attempt to keep the creek at bay. The north side, to the right, is the back of the properties on Moyers Road. The creek runs in an easement belonging to the property owners on the right, on Moyers Road and Shane Drive. Most of these properties, such as here, are much higher and do not experience flooding.



5) The only place the creek is visible to the public is where it crosses under Fordham Street. Chain link fences are covered in ivy and, if visible at all, the creek looks like an eyesore. Project plans at this location include new fencing and informational signage that will connect the neighborhood to its watershed.

PROJECT ELEMENTS		Total Cost*	Urban Flood Protection Grant	Other Funding (Specify Cash or In-Kind)	Other Funding (Specify Cash or In-Kind)	Other Funding (Specify Cash or In-Kind)
NON-CONSTRUCTION (not to exceed 25% of grant)						
1.0	Direct Project Management & Administration					
1.1	Staff Time	70,000.00	70,000.00			
1.2	Technical Consultants	5,000.00	5,000.00			
2.0	Planning, Design & Permitting					
2.1	Design and Engineering Services	77,500.00	77,500.00			
2.2	Environmental Documents	18,000.00	18,000.00			
2.3	OM&M Funding Planning	10,000.00	10,000.00			
3.0	Green Infrastructure Planning and Design	40,500.00	40,500.00			
4.0	Monitoring	27,000.00	27,000.00			
5.0	Signage	3,000.00	3,000.00			
6.0	Community engagement	50,000.00	50,000.00			
	TOTAL NON-CONSTRUCTION (not to exceed 25% of grant)	301,000.00	301,000.00	-	-	-
CONSTRUCTION						
7.0	Site Preparation					
7.1	Mobilization	183,380.00	183,380.00			
7.2	Site Control	4,142.00	4,142.00			
7.3	Storm water management	59,867.00	59,867.00			
7.4	Dewatering	65,540.00	65,540.00			
7.5	Clearing and Grubbing	111,587.00	111,587.00			
7.6	Demolition	24,700.00	24,700.00			
7.7	Grading	111,008.00	111,008.00			
8.0	Construction and Materials					
8.1	Erosion Control	23,400.00	23,400.00			
8.2	Storm Drain	90,000.00	90,000.00			
8.3	Fencing and Gate	28,250.00	28,250.00			
9.0	Access Elements					
9.1	Maintenance Roads	21,083.00	21,083.00			
10.0	Revegetation					
10.1	Container plants, Live Cuttings and Mulch	122,575.00	122,575.00			
10.2	Three Year Planting Installation	198,550.00	198,550.00			
10.3	Seeding	9,300.00	9,300.00			
11.0	Other					
11.1	Funding Acknowledgment Sign	1,000.00	1,000.00			
11.2	Cleaning Site and Miscellaneous	15,000.00	15,000.00	-	-	-
11.3	Signage installation	3,500.00	3,500.00			
12.0	Construction Oversight					
12.1	Heavy construction (site preparation, sediment removal)	113,795.00	113,795.00			
12.2	Planting	30,000.00	30,000.00			
	TOTAL CONSTRUCTION	1,216,677.00	1,216,677.00	-	-	-
Contingency (not to exceed 10% of grant)		121,667.00	121,667.00			
	PROJECT GRAND TOTAL	1,639,344.00	1,639,344.00	-	-	-

*All invoices and receipts for project expenditures from all funding sources will be retained and made available for state audit.

**No overhead/indirect costs are reimbursable. In-service payroll may not include a "billable rate" or administrative cost allocation.

FLOOD RISK REDUCTION IN THE RHEEM CREEK WATERSHED

4. COMMUNITY ENGAGEMENT SUMMARY

Provide a detailed overview of the community engagement strategy for the project. The summary should include past, current, and future activities to engage the community in the project planning, design, and implementation process.

SCC-FUNDED ENGAGEMENT ACTIVITIES

As part of the SCC-funded project, in the summer of 2019, The Watershed Project (TWP) conducted door-to-door surveys in English and Spanish of the neighbors adjacent to Rheem Creek in the Rollingwood and Fairmede-Hilltop neighborhoods. TWP staff, Green Collar Corps members, and high school interns visited 120 homes to inform the neighbors of the project and ask about their experiences with flooding. Of the 120 homes visited, TWP interviewed 43 neighbors (36% response rate). Community involvement also included a neighborhood workday (to prepare for the topographic survey) and presentations at neighborhood and watershed council meetings, to engage the communities and solicit their input and support. This relationship-building in the early stages of the project has been critical to its success, with neighbors demonstrating overwhelming support.

In the summer of 2020, as part of the SCC-funded project, TWP will conduct additional outreach to share results of the neighborhood flooding assessment and solicit community input on the proposed design. Due to public health guidelines as a result of COVID-19, door-to-door outreach and in-person events are no longer possible; instead, TWP will conduct outreach via mail, phone, and email. TWP will work with an artist to produce a bilingual story booklet describing the history of the creek, cause of the flooding, and conceptual design to address the flooding. This booklet will be mailed to all 120 homes in the project area, along with an insert and prepaid remittance envelope asking neighbors for their feedback on the draft design. The booklet and an electronic version of the survey will also be available online on the project website. TWP will communicate with residents by phone and email to let them know to expect the mailer and answer any additional questions or concerns they may have.

Moving forward, the project team expects not only to continue to foster meaningful relationships with neighbors adjacent to the creek, but also to increase awareness and gather input from community members within the broader Rheem Creek watershed, as we work to implement a watershed-wide approach to restoration.

PROPOSED CNRA-FUNDED ENGAGEMENT ACTIVITIES

Community members will be invited to participate in 1-2 vegetation planting work days each year during construction. TWP will continue to conduct door-to-door, phone, and/or email outreach to neighbors prior to each workday to maintain consistent relationships with neighbors and share information about the project with new renters or homeowners in the neighborhood. Community members will also have a key role in deciding on the content and format of interpretive signage, and will be invited to a community meeting for this purpose. Alternative forms of communication (mail, phone, email, web, social media, etc.) will be used to solicit input from any community members who are unable to attend the community meeting.

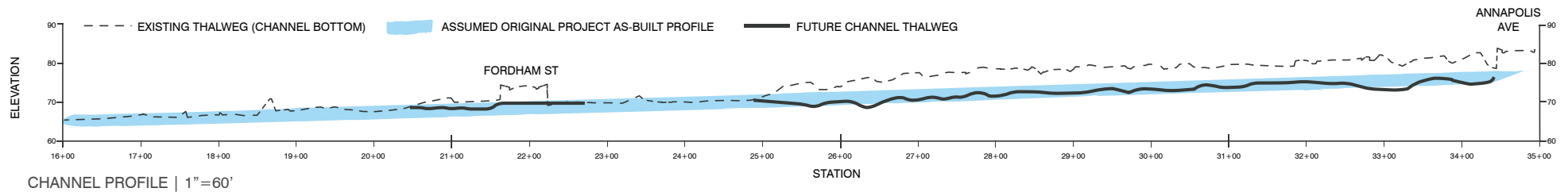
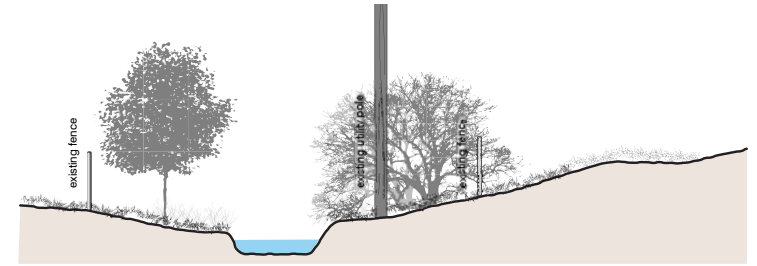
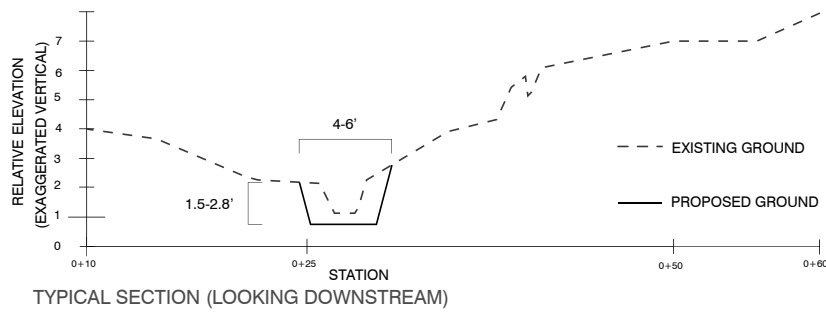
The events and outreach efforts described above will provide opportunities to recruit 3-5 creek-adjacent neighbors to participate in a working group to develop a community-based funding plan to support ongoing creek maintenance activities. These neighbors will receive a \$150 stipend to participate in at least 3 meetings, in which they would evaluate feasible options, solicit feedback from the rest of the neighborhood on a preferred approach, and work with project partners to formulate an action plan. Students and/or community members will

be actively involved in maintenance and monitoring through flood reduction and community use data collection, water quality testing, creek surveys, vegetation monitoring, and trash cleanup days.

Additionally, funds from this grant would be used to work with the local community to identify and design a network of green infrastructure projects that will reduce flooding in the Rollingwood neighborhood while providing local residents more opportunities to engage in and experience watershed stewardship. TWP will work with its Green Collar Corps team and Urban Tilth Watershed Apprentices to ensure local interns are learning about restoration projects and gaining skills for maintenance and operations of these types of restoration sites.

TWP will work with Contra Costa College and/or Vista High School students and faculty to involve the school community in the project. This effort will include a minimum of two classroom-based lessons about watershed health, creeks, and green infrastructure, one field trip to the restoration site, and ongoing stewardship opportunities for service learning during workdays and monitoring events.

TWP and City of Richmond staff will provide updates about the project at stakeholder meetings such as the Fairmede-Hilltop Neighborhood Council, Wildcat-San Pablo Creeks Watershed Council, and Contra Costa Watershed Forum. TWP and the City of Richmond will provide periodic online updates about the project on project web pages. All project partners will celebrate the completion of the project with a press release, a grand opening event and an eblast to over 8,000 people from around the region.





FLOOD RISK REDUCTION IN THE RHEEM CREEK WATERSHED

PROJECT LOCATION MAP

0 125 250
Feet
1 Inch = 200 Feet



--- City Boundaries

□ Catch Basin

□ Outfall

→ Storm Drain Pipe

→ Culvert

--- Virtual Edge

→ Stream

Private Properties

CCC JUNIOR COLLEGE DISTRICT

EAST BAY MUNICIPAL UTILITY DIS

WEST CC UNIFIED SCHOOL DIST

Project (Not Public) Access

