

BIDWELL/GRAPE AVENUE STORMWATER PROTECTION AND RESTORATION PLAN (SWRP PROJECT 73)

General Project Information

The project is a plan to maintain and restore pre-development hydrology and improve water quality in Big Chico Creek, and consequently, the Sacramento River by managing urban runoff at its source through the integration of Low Impact Development (LID) practices along Bidwell Avenue, and Grape Way.

- **Water quality:** The water quality in Big Chico Creeks is declining as a result of urban development and increasing stormwater runoff. Use of techniques such as LID has been shown to reduce pollutants and urban runoff. As part of this plan, opportunities for low impact development projects will be identified and prioritized. LID techniques that will be evaluated include pervious pavement, infiltration trenches, vegetated buffer strips, bioretention, media filters, constructed wetlands, green streets, *etc.* Additionally, nonstructural techniques to improve water quality through public education will be evaluated in the plan, including providing water quality public education workshops. The plan will also identify opportunities to collaborate with existing watershed protection groups, including Butte Environmental Council and The Stream Team, and others to evaluate the efficacy of the projects for improving water quality.



Imagery: Google © 2018, Map Data: Google © 2018

- **Erosion and Sediment Management:** The plan will include a comprehensive erosion and sediment management evaluation. Control of erosion and sediment is critical to protect and improve the quality of habitat. Areas of erosion along the banks and beds of Big Chico Creek will be mapped from Bidwell Avenue to the terminus of Grape Way. Solutions to control the erosion and reduce the sediment in the creek will be developed. Several erosion areas of concern include agricultural land, and residential areas, adjacent to Big Chico Creek.
- **Water Supply:** Opportunities to increase groundwater recharge will be evaluated. The feasibility of using setback levees to increase floodplain width and provide additional area for infiltration will be evaluated.
- **Ecosystem:** The plan will also evaluate the ecosystem health and identify ways to improve the ecosystem; including adding buffers between orchards to reduce pesticide runoff and erosion and riparian habitat improvements. The setback levees, if appropriate, will also be evaluated for improving habitat by providing greater connections between the floodplain and the stream. The plan will identify invasive species and plan to remove invasive species and plant native vegetation.
- **Public Outreach and Education:** The plan will evaluate existing education and outreach programs and utilize organizations (such as Butte Environmental Council, Stream Team, Friends of Bidwell Park, etc.) and develop a plan for continued involvement by these existing programs to protect watershed health, including in disadvantaged communities. The plan will identify how these organizations will help monitor project efficacy and water quality, and provide education and outreach events. The plan will also identify a budget, and grant program local match funding

requirements that can be met by volunteer hours. Examples of existing efforts include Clean Water Science Ambassadors, Clean Creeks in the Classroom, Citizen Monitoring Program, and Block Parties with a purpose. Some topics for education include residential landscaping to conserve water, dry weather runoff capture, river-friendly landscaping, and residential pesticides and fertilizer management.

- **Watershed and Location:**

- Big Chico Creek downstream (west) of Nord Avenue.

- Residential and agricultural locations along Bidwell Avenue and Grape Way.

Benefits Resulting from this Project

When the Bidwell/Grape Avenue Stormwater Protection and Restoration Plan is fully implemented, the following benefits are expected to occur:

- **Water Quality:** Water quality is expected to be improved because of the implementation of LID techniques that will capture and reduce stormwater and dry weather runoff.
- **Water Supply:** Water supply is expected to be improved because implementing infiltration areas will allow some flows to recharge groundwater.
- **Flood Management:** Is expected to be improved because solutions identified in this plan will help reduce flooding problems.
- **Environmental:** The environment is expected to be improved because implementing this plan will help manage sediment and erosion and will improve receiving waters.
- **Community:** The community is expected to be improved because the plan evaluates creation of job opportunities, especially for DACs.

Project Costs

- **Estimated Plan Preparation Cost:** The estimated cost of preparing this plan is to be determined (TBD). This cost does not include the costs of designing and constructing the improvements that will be identified in the plan.

Project Photographs:



Photograph 1: Bridge over Big Chico Creek along Bidwell Avenue.



Photograph 2: Bank erosion on Big Chico Creek along Bidwell Avenue.

Initial Projects Included

No other initial projects were included in this plan.