

Attachment
3

Stormwater Flood Management Grant Proposal
City of Redwood City
Work Plan

Attachment 3 consists of the following items:

- ✓ **Work Plan.** Attachment 3 contains detailed information regarding the tasks that were and will be performed for the proposed project.

Introduction

The Bayfront Regional Flood Protection System Improvements and 5th Avenue Pump Station Renovation project (Project) is proposed by the City of Redwood City (City). The Project, which has been ready for implementation since 2004, is key to improving flood management in the region. The project consists of two components vital for improving the region's flood management:

- 1) Upsizing the 5th Avenue pump station and
- 2) Infrastructure improvements to the regional drainage system along the city side of the Bayfront Canal and portions of the Atherton Channel

The component of the Project to upgrade the existing 5th Avenue pump station will strengthen the pump station to address seismic safety issues and handle more storm events. The component of the project to provide infrastructure improvement by constructing a sheet pile floodwall along the lower elevations of the Bayfront Canal and Atherton Channel to hold back stormwater from flooding developed land areas and address anticipated climate change impacts, such as rising sea-level. Additionally, both project components will aid in improving the San Francisco Bay (Bay) water quality by reducing sanitary system overflows due to flooding that cause's stormwater inflow.

The Bayfront Canal was originally built by the Leslie Salt Company (now Cargill) in 1945. The canal extends from Douglas Court to Marsh Road and is the single discharge point for stormwater runoff from Atherton Channel and the Bayfront Canal Drainage Basin. The Bayfront Canal Drainage Basin consists of five sub-basins totaling 1,387 acres, which are:

- Broadway Area (217 acres)
- Douglas Area (518 acres)
- Second Avenue (197 acres)
- Fifth Avenue (273 acres)
- East Bayshore Area (182 acres)

During rain events, stormwater flows downhill from the five sub-basins storm drainage system which feeds into the Bayfront Canal for transport to the Bay. However, during heavy rains and high tides the Bayfront Canal does not have enough capacity to transport stormwater to the Bay, thus causing the canal to back up, flooding property, streets, critical facilities and infrastructure. Additionally, the drainage pump station at 5th Avenue is undersized and inadequate to eliminating ponding which contributes to the flooding problem.

Chronic and persistent flooding has occurred in the neighborhoods and communities near the Bayfront community for decades. Those primarily impacted by the flooding are: the City, the City of Menlo Park, parts of the Town of Atherton and unincorporated regions of San Mateo County. Flooding is particularly severe in the 5th Avenue/Hoover Street area in Redwood City (See Figures 3-1 and 3-2).

Figure 3-1: 5th Avenue and Hoover Street



Figure 3-2: 5th Avenue and Broadway Street



The Project would increase the capacity of stormwater pumped and entering the Bayfront Canal into the Bay, thus reducing the regions flooding frequency during heavy rains and high tides. The Project is of high value to the region and has attracted the interest and participation of the City of Menlo Park, the Town of Atherton, the Town of Woodside, and County of San Mateo. Additionally, the Town of Atherton, Town of Woodside, and the County of San Mateo will be beneficiaries of the Project and are supporting the implementation of the Project. In going forward, the Project is expected to be a key piece in the region improving flood management and reducing flood damage costs.

Project Objectives

The City is a participant in the San Francisco Bay Area IRWM Plan and the Project is one of several projects that will aid in meeting the Bay Area’s IRWM Plan goals and objectives. **Table 3-1** highlights the Bay Area IRWM Plan goals along with the respective objectives to achieve each goal.

Table 3-1: Bay Area IRWM Plan Goals and Objectives

IRWM Plan Goals	IRWM Plan Objectives
A Contribute to the promotion of economic, social, and environmental sustainability	Avoiding, minimizing, and mitigating net impacts to environment
	Maintaining and promoting economic and environmental sustainability through sound water resources management practices
	Maximizing external support and partnerships
	Maximizing ability to get outside funding
	Maximizing economies of scale and governmental efficiencies
	Providing trails and recreation opportunities
	Protecting cultural resources
	Increasing community outreach and education for watershed health
	Maximizing community involvement and stewardship
	Reduce energy use and/or use renewable resources where appropriate
	Minimizing solid waste generation/maximize reuse
	Engaging public agencies, businesses, and the public in stormwater pollution prevention and watershed management, including decision-making
	Achieving community awareness of local flood risks, including potential risks in areas protected by existing projects
	Considering and addressing disproportionate community impacts
	Balancing needs for all beneficial uses of water
Securing funds to implement solutions	
B Contribute to improved supply reliability	Meeting future and dry year demands
	Maximizing water use efficiency
	Minimizing vulnerability of infrastructure to catastrophes and security breaches
	Maximizing control within the Bay Area region
	Preserving highest quality supplies for highest use
	Protecting against overdraft
	Providing for groundwater recharge while maintaining groundwater resources
	Increasing opportunities for recycled water use consistent with health and safety
	Maintaining a diverse portfolio of water supplies to maximize flexibility
	Securing funds to implement solutions
C Contribute to the protection and improvement of hydrologic function	Protecting, restoring, and rehabilitating natural watershed processes
	Controlling excessive erosion and managing sedimentation
	Maintaining or improving in-stream flow conditions
	Improving floodplain connectivity
	Preserving land perviousness and infiltration capacity
	Securing funds to implement solutions

D Contribute to the protection and improvement of the quality of water resources	Minimizing point and non-point source pollution
	Reducing salinity-related problems
	Reducing mass loading of pollutants to surface waters
	Minimizing taste and odor problems
	Preserving natural stream buffers and floodplains to improve filtration of point and non-point source pollutants
	Maintaining health of whole watershed, upland vegetation and land cover to reduce runoff quantity and improve runoff quality
	Protecting surface and groundwater resources from pollution and degradation
	Anticipating emerging contaminants
	Eliminating non-stormwater pollutant discharges to storm drains
	Reducing pollutants in runoff to maximum extent practicable
	Periodically evaluating beneficial uses
E Contribute to the protection of public health, safety, and property	Continuously improving stormwater pollution prevention methods
	Securing funds to implement solutions
	Providing clean, safe, reliable drinking water
	Minimizing variability for treatment
	Advancing technology through feasibility studies/demonstrations
	Meeting promulgated and expected drinking water quality standards
	Managing floodplains to reduce flood damages to homes, businesses, schools, and transportation
	Minimizing health impacts associate with polluted waterways
	Achieving effective floodplain management by encouraging wise use and management of flood-prone areas
	Maintaining performance of flood protection and stormwater facilities
F Contribute to the creation, protection, enhancement, and maintenance of environmental resources and habitats	Partnering with municipalities to prepare mitigation action plans that reduce flood risks to the community
	Coordinating resources and mutual aid between agencies to enhance agency effectiveness
	Securing funds to implement solutions
	Providing bet benefits to environment
	Conserving and restoring habitat for species protection
	Acquiring, protecting and/or restoring wetlands, streams, and riparian areas
	Enhancing wildlife populations and biodiversity (species richness)
	Providing lifecycle support (shelter, reproduction, feeding)
	Protecting and recovering fisheries (natural habitat and harvesting)
	Protecting wildlife movement/wildlife corridors
	Managing pests and invasive species
Recovering at-risk native and special status species	
Improving structural complexity (riparian and channel)	
Designing and constructing natural flood protection and stormwater facilities	
Securing funds to implement solutions	

The Project will be consistent with three of the Bay Area’s IRWM Plan goals. **Table 3-2** provides an overview of the Bay Area IRWM Plan goals that are expected to be indirectly (◊) or directly (●) achieved through implementation of the project.

Table 3-2: Contribution to IRWM Plan Goals

Proposal Project	Contribution to IRWM Plan Goals					
	A	B	C	D	E	F
Bayfront Regional Drainage System Improvements and 5 th Avenue Pump Station Renovation Project	◊			◊	●	

● = directly related; ◊ = indirectly related

This project contributes to the IRWM Plan goals in the following ways:

- **Goal A – Contribute to the promotion of economic, social, and environmental sustainability:** by effectively reaching out to neighboring cities and obtaining community and

financial support for the Project. Community awareness of the current flood risks to the region have lead to better stakeholder buy-in and support for implementation of the Project.

- **Goal D – Contribute to the protection and improvement of the quality of water resources:** by preventing flood events that cause sanitary sewer overflows (SSO) caused by stormwater inflow and entering the Bay. The Project will prevent pollutant loading from SSO and protect the water quality of the Bay.
- **Goal E – Contribute to the protection of public health, safety, and property:** by reducing flood damages to homes, business, and roads through improvements of local flood protection and stormwater facilities. The Project will upsize the 5th Avenue pump station to handle large storm events and strengthen the pump to address seismic safety concerns. Additionally, the Project will construct a sheet pile floodwall along the city side of the Bayfront Canal and a portion of the Atherton Channel to prevent stormwater from flooding homes, business, and other developed land areas.

The overall Project objectives are to reduce flooding frequency in the region, reduce the risk of flood damages, and improve current flood management through improvements to the regional drainage system along the Bayfront Canal and upsizing the 5th Avenue Pump Station. The direct goals of the Project include improve flood management, protect public health and safety from damages due to flooding, and protect property, businesses, and transportation from damages due to flooding.

Purpose and Need

The purpose of the Project is to increase the capacity of the regional drainage system to handle stormwater that enters the system and is ultimately pumped into the Bay. The Project is needed to reduce flooding frequency during heavy rains and high tides, to improve flood management, and to reduce flood damage costs to the region. Implementation of this Project will provide immediate and long-term relief to portions of the City, City of Menlo Park, parts of the Town of Atherton, and unincorporated regions in San Mateo County that regularly flood when Bay high tides coincide with storm events. Without the Project, during heavy rain events, the region will continue to experience flooding of property, businesses, and streets, increasing the flood cost damages and endangering public health and safety.

Project Specifics

Table 3-3 provides an abstract of the proposed project, the current status of the project in terms of percent completion of design, implementing agencies (as applicable), the site specific geographic location, and the project’s function with relation to other stormwater or sewage conveyance systems.

Table 3-3: Proposed Project

Project	Description	
Bayfront Regional Drainage System Improvements and 5th Avenue Pump Station Renovation Project	<i>Abstract:</i>	The Bayfront Regional Flood Protection System Improvements and 5 th Avenue Pump Station Renovation project is proposed by the City of Redwood City (City). The proposed project will eliminate frequent flooding in the low end of the drainage basin and reduce flood damage costs to the region. The project will consist of two components: 1) upsizing the 5 th avenue pump station and 2) construction of sheet pile floodwalls along the lower elevations of the Bayfront Canal and portion of the Atherton Channel. The proposed project improvements include: flood prevention in the low end drainage basin, reduced flood damage costs, improving Bay water quality through the reduction of SSO due to stormwater inflow, strengthening stormwater facilities to address seismic concerns, addressing climate change impacts, and protecting public health and safety.
	<i>Status:</i>	Component 1: Environmental Documentation Component 2: Design Phase
	<i>Implementing Agency:</i>	City of Redwood City

Project	Description	
	<i>Location:</i>	Sheet Pile Flood Wall: from West End of the Bayfront Canal at Douglas Court to tide gate structure off Marsh Road and along both sides of Atherton Channel Pump Station: located inside the Harbor Village Trailer park within the 5 th Avenue basin
	<i>Stormwater Conveyance:</i>	Increase stormwater conveyance capacity of Bayfront Canal and upsize pump station capacity to pump stormwater into Bayfront Canal into the Bay.
	<i>State Plan for Flood Control:</i>	Not applicable.

Project Partners

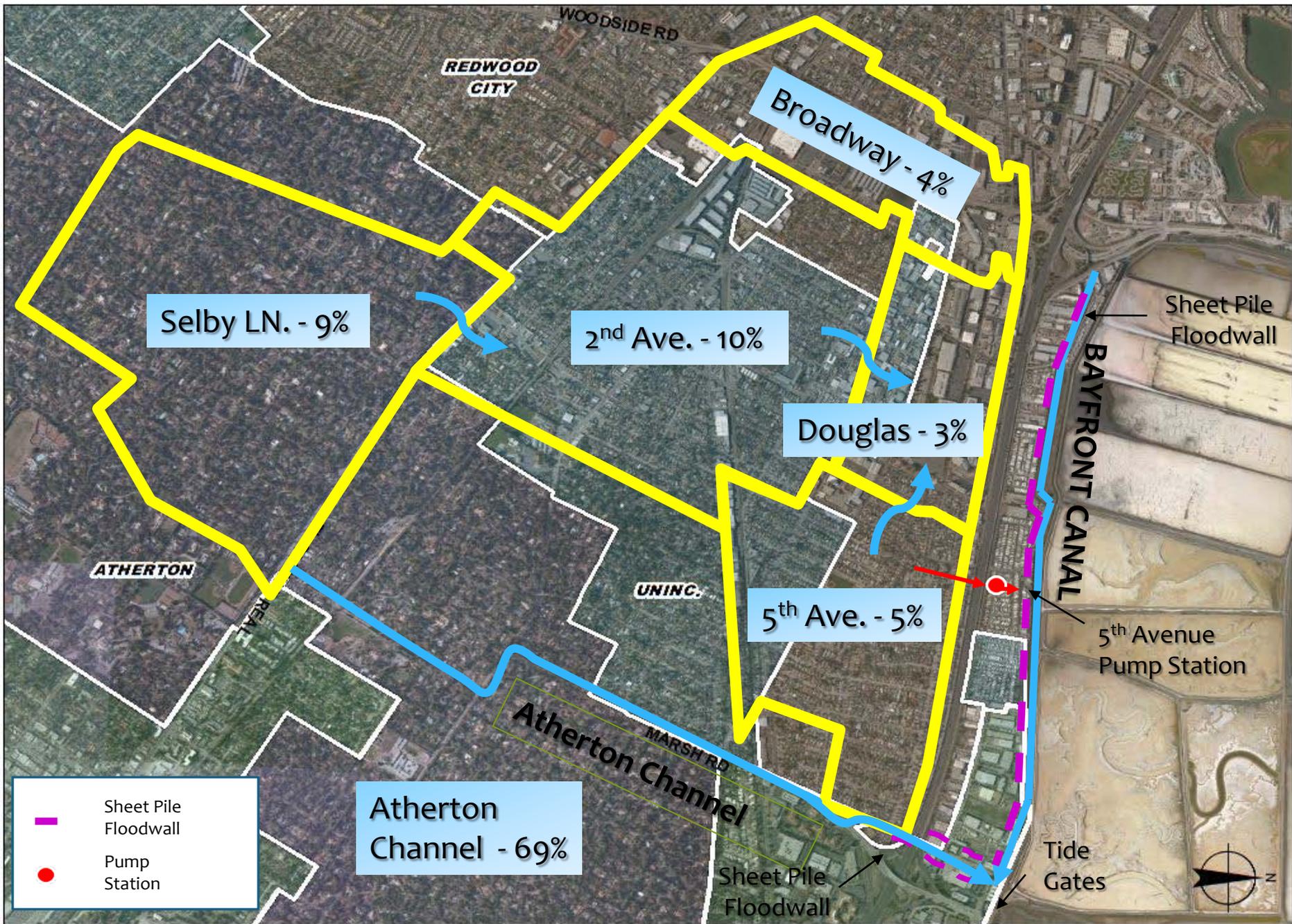
The Project is proposed by the City of Redwood City.

Integrated Elements of Projects

This project integrates with other Bay Area IRWM Plan projects through meeting the following IRWM Plan goals: Contributes to the protection of public health, safety, and property through the reduction of flooding and water quality impairments associated with flooding.

Regional and Project Maps

The following regional maps illustrate the proposed geographical location of the Project and monitoring locations.



Atherton Channel - 69%

Broadway - 4%

Selby LN. - 9%

2nd Ave. - 10%

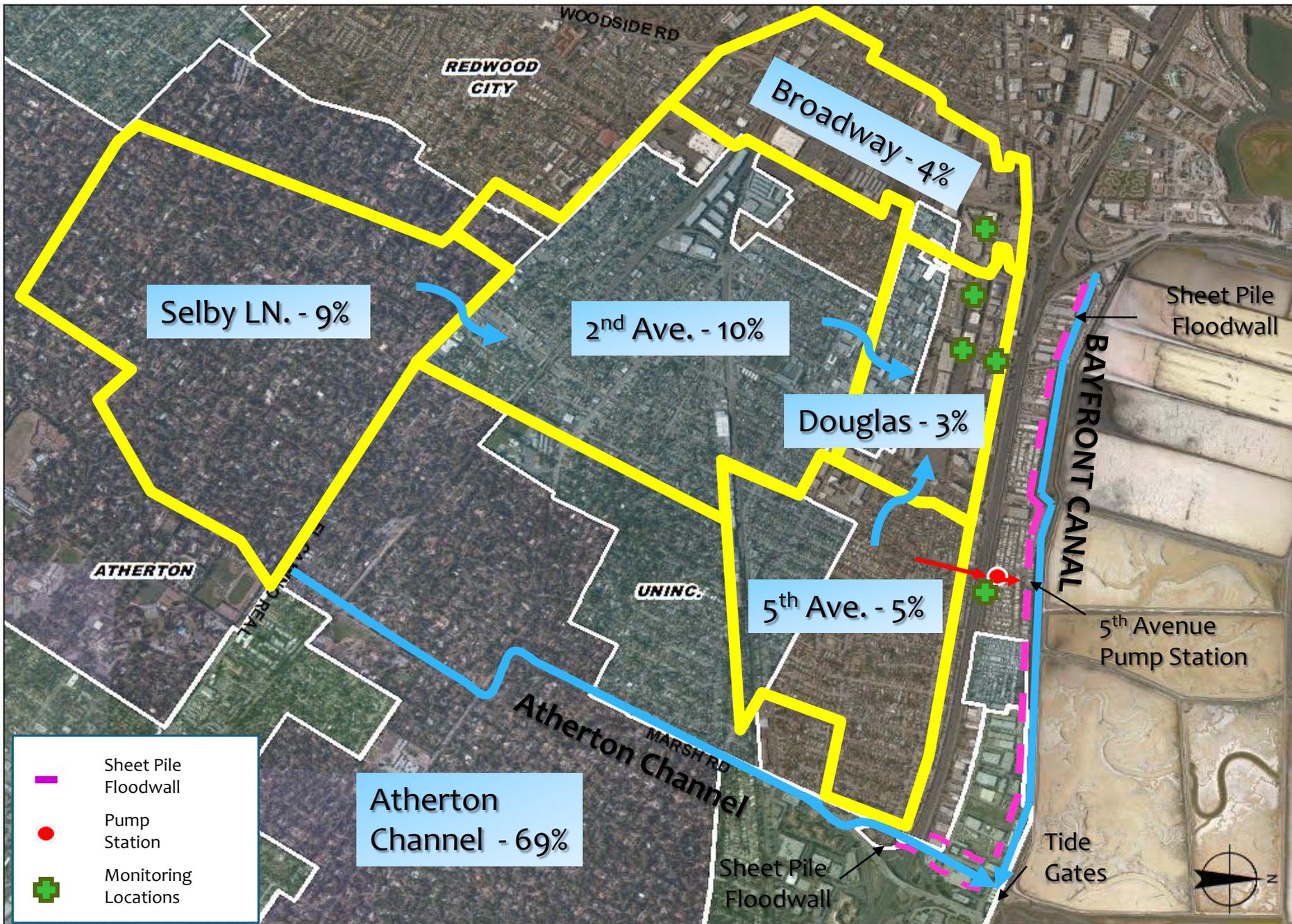
Douglas - 3%

5th Ave. - 5%

Sheet Pile Floodwall

Pump Station





Completed Work

The first component of the Project completed its planning and design tasks in September 2004. The second component of the project had planning and preliminary designs completed in October 2003.

All matching funds for the Project have been secured and will come from the City. The City has a CIP account for the Project with \$8 million in funds.

Existing Data and Studies

Studies completed for this project include:

- Bayfront Canal Drainage System, City of Redwood City Council Study Session, November 22, 2010 (Data)
- Flood Management in Bayfront Canal Drainage Basin, Stanford Hospitals & Clinics, November 22, 2010 (Data)
- Feasibility Study of Increasing Existing Fifth Avenue Storm Drain Pump Station Capacity, August 2006, BFK Engineers
- Bayfront Canal Improvement Project Design Development Report, December 2003, Winzler and Kelly
- Geotechnical Engineering investigation report, December 2003, Winzler and Kelly
- Biological Resources Constraints Analysis, December 2003, Winzler and Kelly
- Fifth Avenue Storm Drainage Pump Station for City of Redwood City, September 2002, BKF Engineers
- Storm Drainage, Water System, and Sanitary Sewers Master Plan (City of Redwood City), February 1986, Kennedy/Jenks/Chilton Consulting Engineers

Project Timing and Phasing

The Project consists of two components which will have separate design, environmental permitting, and construction phases. Component 1 of the project consists of upsizing the 5th Avenue Pump Station. Component 2 of the project will consist of installing sheet piles along the lower elevation segments of the Bayfront Canal and Atherton Channel. A summary of the projected start and end dates for each component of the Project are listed in the time frames shown in **Table 3-4**.

This project is not part of a larger multi-phased project and will be fully functional without implementation of other projects.

Table 3-4: Project Status and Schedule

Stage	Duration	Start Date	End Date
Planning	Component 1 – 10 months	Mar 2003	Dec 2003
	Component 2- 10 months	Mar 2003	Dec 2003
Design	Component 1- Completed Design (95%)- 10 months	Dec 2003	Sep 2004
	Component 2- Prelim. Design- 3 months	Oct 2003	Dec 2003
	Component 2- Final Design- 10 months	Jan 2012	Sept 2012
Environmental Documentation/Permitting	Component 1- 5 months	Sep 2011	Jan 2012
	Component 2- Two years	Jan 2013	Jan 2015
Construction	Component 1- One year	Sep 2012	Jan 2013
	Component 2- One year	Jan 2015	Jan 2016

Work Plan Tasks

The following sections outline the specific activities that will be performed to implement each project in the *Stormwater Flood Management Grant Proposal*.

A. Direct Project Administration Costs

Task 1 – Project Administration:

The project administration tasks include preparation of reports and plans, administration of grants and construction contracts, and other administrative activities required to complete the design and construction phases. This project will be coordinated by a designated project manager employed by Redwood City to manage both components of the Project. The project manager will be responsible for day-to-day activities of the project, all reporting to the grant agency, coordination between parties involved in project implementation, and compliance with the IRWMP. Additionally, the project manager will coordinate with various agencies regarding permitting, environmental, design and construction issues.

Labor Category	Status
AFTER September 1, 2011	
Project Manager	Will be assigned once grant award is received

Task 2 – Labor Compliance Program:

The City will hire a designated consultant from the approved list of third party Labor Compliance Program (LCP) providers, as required by the California Department of Industrial Relations. The LCP will be in Place prior to the time of awarding the project contract.

Labor Category	Status
AFTER September 1, 2011	
Labor Compliance Program	Will be hired prior to awarding of project contract

Labor Compliance Program Submittals	Date	Status
AFTER September 1, 2011		
LCP Annual Reports	Annually	Not started

Task 3 – Reporting:

The project manager will prepare and submit quarterly progress reports and invoices to be forwarded to the granting agency, the State of California. The progress reports will describe activities undertaken of each task when milestones have been achieved and when any problems are encountered in performance of work. A final project report will be prepared and submitted to the grant agency once the project is completed.

Redwood City will enter into a MOU regarding compliance with Proposition 1E Stormwater Flood Management Grant requirements and terms of reimbursement payments with the State of California, who would serve as the grantee for the Proposition 1E Stormwater Flood Management Grant funding. This MOU between Redwood City and the State of California is anticipated to be completed by October 2011.

Project Administration Submittals	Date	Status
AFTER September 1, 2011		
Quarterly Reports and Invoices	Quarterly	Not started
MOU with Redwood City and the State of California	October 2011	Not started
Final Report	March 2016	Not started

*Based on completion of project by January 2016. Project completion report due 90 days after end of term.

B. Land Purchase Easement

Redwood City will acquire an easement from the Harbor Village Mobile Home Park for construction activities needed for component 1 of the project.

Land Purchase Easement Deliverables	Date	Status
AFTER September 1, 2011		
Easement	January 2012	Not started

*Based on completion of project by January 2016. Project completion report due 90 days after end of term.

C. Planning/Design/Engineering/Environmental Documentation

Task 4 – Assessment and Evaluation:

The Storm Drainage, Water System, and Sanitary Sewers Master Plan (City of Redwood City) was completed in February 1986 by Kennedy/Jenks/Chilton Consulting Engineers. This report was an update to the City’s Master Plan which outlined major findings and recommendations, two of which included upgrading the 5th Avenue pump station and improvements to the Bayfront Canal.

The Fifth Avenue Storm Drainage Pump Station for City of Redwood City prepared by BFK Engineers in 2002 is the initial report that led to Component 1’s 95% design. The report outlines preliminary engineering design alternatives for the 5th Avenue pump station.

A Geotechnical Engineering Investigation report was completed in 2003 by Winzler and Kelly. The purpose of this report was to evaluate the general subsurface conditions at the project site, to evaluate their engineering properties, and to provide geotechnical recommendations for the overall project.

A Biological Resources Constraints Analysis was completed in 2003 by Winzler and Kelly. The purpose of this analysis was to perform a biological constraints analysis for the each of the detailed alternatives presented in the Bayfront Canal Improvement Project Design Development Report (see Task 5- Final Design for details) for improvements to the Bayfront Canal.

A Feasibility Study for Increasing Existing Fifth Avenue Storm Drain Pump Station Capacity was completed in 2006 by BFK engineers. The purpose of this report is to identify the most feasible method to increase pumping capacity of the existing pump station without acquiring additional easements for the project. However, an easement will be acquired and the project will continue forward with the original 95% design (2004) specifications.

The City of Redwood City Council gave a presentation titled “Bayfront Canal Drainage System, City of Redwood City Council Study Session” on November 22, 2010 to discuss Redwood City’s current stormwater flooding issues and the necessary measures/actions the City needs to take to put in place long term solutions.

Stanford Hospital & Clinics gave a presentation titled “Flood Management in Bayfront Canal Drainage Basin” to the City Redwood City Council on November 22, 2010 to discuss damages caused to the Hospital from stormwater flooding and to urge the City to implement long-term solutions to reduce flooding in the Bayfront Canal Drainage Basin.

Study Performed	Date	Status
BEFORE September 1, 2011		
Flood Management in Bayfront Canal Drainage Basin	November 2010	Completed
Bayfront Canal Drainage System, City of Redwood City Council Study Session	November 2010	Completed
BEFORE October 1, 2008		
Feasibility Study for Increasing Existing Fifth Avenue Storm Drain Pump Station Capacity	August 2006	Completed
Geotechnical Engineering Investigation Report	December 2003	Completed
Biological Resources Constraints Analysis	December 2003	Completed
Fifth Avenue Storm Drainage Pump Station	September 2002	Completed
Storm Drainage, Water System, and Sanitary Sewers Master Plan	February 1986	Completed

Task 5 – Final Design:

The Bayfront Canal Improvement Project Design Development Report completed by Winzler and Kelly in December 2003 is a preliminary design report that includes a detailed alternatives analysis for the Bayfront Canal drainage system including the 5th Avenue pump station and conceptual designs for the sheet pile floodwall. This report also includes preliminary cost estimates for each of the proposed alternatives.

The project consists of two separate design phases. Component 1 of the project, upsizing the 5th Avenue pump station, completed its 95% design drawings in September 2004. The 100% design drawings will be used for bidding. (See end of attachment for 95% construction drawings). Component 2 of the project will start its design stage January 2012 and anticipates the 100% design completed by September 2012.

Design Submittals	Date	Status
BEFORE September 1, 2011		
None		
BEFORE October 1, 2008		
Preliminary Design Report - Bayfront Canal Improvement Project Design Development Report for Component 1 & 2	December 2003	Completed
95% Design Drawings– Component 1	September 2004	Completed
AFTER September 1, 2011		
100% Design – Component 1	January 2012	Not started
100% Design – Component 2	September 2012	Not started

Task 6 – Environmental Documentation:

Component 1 of the Project will involve an existing facility and will obtain a CEQA exemption within five months of when the grant is awarded. For Component 2 of the Project, CEQA compliance will commence in January 2012 and anticipates all documentation/compliance to be completed by January 2015.

Environmental Documentation	Date	Status
AFTER September 1, 2011		
CEQA exemption for Component 1	January 2012	Not started
CEQA Initial Study for Component 2	January 2015	Not started

D. Construction/Implementation

Task 7 – Construction Contracting:

The Project will consist of two separate bid processes for each of the project components. Construction contracting for component 1 of the project will commence immediately after grant funding has been awarded. The construction contracting for component 2 will begin after the design is complete. Tasks to secure a contractor and awarding of contract include: advertisement for bids, a pre-bid meeting, bid opening, bid evaluations, selection of contractor, board approval, award of contract, and notice to proceed.

Construction Submittals	Date	Status
AFTER September 1, 2011		
Notice Request for Bids- Component 1	January 2012	Not started
Notice to Proceed – Component 1	September 2012	Not started
Notice Request for Bids – Component 2	September 2014	Not started
Notice to Proceed – Component 2	January 2015	Not started

Task 8 – Construction/Implementation:

Implementation of this project will occur after initiation of the Grant Agreement on September 1, 2011.

Materials and/or Design Standards

The Project will be designed and constructed in accordance with the appropriate standards, including The City of Redwood City Engineering Standards (all three volumes: Vol. 1 Standard Technical Specifications, Vol 2. Standards Details, and Vol. 3 Design Criteria), Caltrans Standards, Industry Standards, OSHA Safety Standards, and other construction industry standards as applicable. All stormwater pollution prevention BMPs and California Department of Public Health (CDPH) requirements will be strictly enforced.

Construction Tasks

- **Subtask 8.1 – Mobilization and Site Preparation:**

Mobilization for the project will include moving the required equipment and materials onto each of the sites in preparation for construction. The site will be prepared by removing any trash, debris, and other obstructions.

- **Subtask 8.2 – Project Construction:**

- Component 1 construction summary¹:
 - Replace the current 30cfs 5th Avenue pump station with a 300 cfs pump station capacity for a 100-year event
 - Installation of three Flygt submersible propeller storm drain pumps (and one submersible pump station wet well dewater pump)
 - Three 100 cfs capacity pumps (total of 300 cfs)
 - Pump motor: 355 horse power per storm drain pump
 - Dewatering pump will have 14 horse power
 - Two variable-frequency-drive units for two of the three storm drain pumps to meet the low flow condition and one fix speed pump.
 - Six feet wide counter balance grate across pump station for access to trash rack cleaning
 - 4' x 12' access hatch for pump maintenance
 - 1250 KW diesel generator sets for three submersible pumps for power outages
- Component 2 construction summary²:
 - Installation of Sheet Piles- Preliminary designs include:
 - Locking Z-type sheet piles of 30 to 35 foot long of either PVC or fiberglass.
 - Piles will be driven into clay layers
 - Concrete caps will cover the ends and provide additional rigidity to the wall
 - Minor gravity inlets
 - Removal of tide gates to allow natural flow of tides

- **Subtask 8.3 – Performance Testing and Demobilization:**

A Project Assessment and Evaluation Plan (PAEP) will be prepared to provide a framework for the assessment and evaluation of project performance and to identify measures that can be used to monitor progress towards achieving project goals per the State Water Resources Control Board (SWRCB) PEAP guidance document. The PAEP will be prepared after receiving the SWFM grant.

A monitoring plan will be created to monitor, assess, and measure the performance of the project to ensure it meets its intended goals. For further details on performance measures see Attachment 6 Monitoring, Assessment, and Performance Measures.

¹ For further construction details see the Fifth Avenue Storm Drainage Pump Station for City of Redwood City and the 95% design drawings at the end of this attachment.

² Only preliminary design documentation currently exists for this project component. Construction details will not be finalized until further design work is completed.

Construction Submittals	Date	Status
AFTER September 1, 2011		
Project Assessment and Evaluation Plan (PEAP)	December 2011	Not started
Monitoring Plan	December 2011	Not started

E. Environmental Compliance/Mitigation/Enhancement

Task 9 – Environmental Compliance/Mitigation/Enhancement:

At this time, mitigation measures required for the project construction have not been defined. Mitigation will be identified as part of **Task 6**. Impacts requiring mitigation are only expected to occur during construction. Mitigation activities are anticipated to conclude once construction is completed for both project components. The cost associated with their implementation has been included in Task 9- Environmental Compliance/Mitigation/Enhancement under **Section E** in the project budget attachment.

The types of mitigation measures that are likely to be required during project construction activities include the following:

- Noise reduction measures depending on the type of construction equipment needed
- Development of a Dust Control Plan and Hazardous Materials Contingency Plan prior to commencement of construction for use of heavy equipment resulting in the potential for adverse air emissions and leaks or spills of hazardous materials (e.g. fuel)

F. Construction Administration

Task 10 – Construction Administration:

Construction administration activities will include general administration, construction management, and project management. The City Project Manger will hire construction management services to oversee the construction sites, provide daily on-site observation, coordinate with contractors, review schedules, prepare construction related invoices, and provide inspection services to ensure construction in is compliance with City standards and other governing standards. The project manager will complete quarterly progress reports to accompany invoices to the State. The project manager will require the construction management services to submit quarterly progress reports to accompany each invoice.

Labor Category	Status
AFTER September 1, 2011	
Construction Administration and Management	Not started
Project Manger	Not started

Construction Administration Submittals	Date	Status
AFTER September 1, 2011		
Quarterly Progress Reports (Including construction management services quarterly reports and invoices)	Quarterly once construction begins	Not started

G. Other Costs

Task 11 – Permitting, Legal Costs, and Licenses:

Any required permits as identified by the CEQA Initial Study and review will be obtained for Component 2 of the Project. A copy of the final environmental documents to the City will be available within 30 calendar days of approval of the documents.

H. Construction/Implementation Contingency

During construction or implementation of the project unknown and unspecified conditions can be encountered. Therefore, a 15% construction contingency cost was allocated under **Section H** in the Budget attachment based on the total anticipated construction costs for each project component.