



STAFF REPORT

Approving Amendment 1 to the Professional Services Agreement with Cotton Shires & Associates for Investigation and Design of Creek Bank Stabilization for an Amount not to Exceed \$17,382, 1133-1145 Alameda de las Pulgas Drainage, City Contract Number 419

July 22, 2003

Honorable Mayor and City Council:

Summary

The City Council is requested to approve Amendment 1 to the Professional Services Agreement with Cotton Shires & Associates for Investigation and Design of Creek Bank Stabilization at 1133-1145 Alameda de las Pulgas Drainage, City Contract Number 419.

Background and Discussion

The City accepted a drainage easement for the open drainage channel between 1133 and 1145 Alameda de las Pulgas in 1960. This channel begins at an outfall beneath the ivy-covered fence across the street from the Belmont Library and runs 90 feet between two apartment buildings to a culvert beneath the parking lot at 1101 Alameda de las Pulgas. The City stabilized the channel soils at the culvert outfall and installed the Alameda de las Pulgas sidewalk over the culvert outfall soon after accepting the easement. These structures have failed and the creek has incised its channel, deepening and widening the banks in this process. Damage to the adjacent apartment building foundations may occur if the creek banks are not stabilized. The California Department of Fish and Game, who have jurisdiction over work in and about creeks, requires that the stabilization retain the open channel and use bioengineering techniques to enhance the habitat. Bioengineering refers to a class of techniques using live plantings such as willows in an engineered matrix to protect stream banks and dissipate the energy of fast-flowing floodwaters.

The City Council approved a Professional Services Agreement with Cotton Shires & Associates (teamed with Schaaf and Wheeler, a bioengineering firm) with a not to exceed amount of \$24,456 on September 26, 2002. The scope of work consisted of a site investigation and geologic mapping, geologic and geotechnical engineering analysis, bioengineering alternative analysis, and design plans and specifications for a bioengineered creek bank stabilization project. Cotton Shires & Associates met with staff in May 2003 after completing their conceptual analysis and presented two design alternatives for staff consideration. Among their findings was that bioengineering alone will not be sufficient to strengthen an eroded bank supporting the foundation of a garage and a pool deck at 1133 Alameda de las Pulgas. They recommend adding

an engineered structure. They further requested that they be allowed to complete a hydraulic analysis of the wet and dry flow through the channel to give them better understanding of the typical summer and winter water levels. This information is needed for plant selection and planting technique. Plants frequently in or below the water must be anchored until established while plants frequently above the water must be drought-tolerant.

Staff has reviewed Cotton, Shires & Associates request for an agreement amendment and finds it provides additional services that are necessary for this project. These additional services are hydraulic analysis and hydrologic modeling of wet and dry season flows in the channel, design plans and specifications for a shear pin retaining structure at the top of the bank supporting the garage and pool deck, and plans and specifications for two additional bioengineering techniques appropriate for the relatively deep banks of this channel. The three bioengineered designs proposed are live stacking with geotextile in low-impact high bank area, brush layering midbank, and vertical bundling with rip-rap toe at the high-impact base of the bank.

Cotton Shires & Associates will complete this design work this summer to allow certain phases of construction to begin this fall. The shear pin retaining structure can be completed before the October 15 moratorium for work in the creek. A contractor with specialized expertise will be procured to collect and store willow cuttings in the winter when the plants are dormant and will plant in the early spring. Work requiring relayering of the banks with geotextiles for willow bundles cannot be started before the construction moratorium ends next April 15.

Fiscal Impact

Amendment 1 to this professional services agreement with Cotton Shires & Associates has an additional not to exceed amount of \$17,382, bringing the total not to exceed value of this agreement to \$41,838. Funding will be drawn from the Capital Improvement Program FY04 1133-1145 Alameda Storm Drainage budget, account number 525-4315-6042-9030. This account has sufficient funds for this purpose.

Recommendation

The City Council is requested to approve Amendment 1 to the Professional Services Agreement with Cotton Shires & Associates for Investigation and Design of Creek Bank Stabilization at 1133-1145 Alameda de las Pulgas Drainage.

Alternatives

1. Refer back to staff for additional information.
2. Deny approval.

Cotton Shires PSA, Amendment 1
July 22, 2003
Page 3

Attachments

1. Resolution
2. Scope of Work

Respectfully submitted,

Kathleen E. Phalen, P.E.
Acting City Engineer

Raymond E. Davis, P.E., PTOE
Director of Public Works

Jere A. Kersnar
City Manager

RESOLUTION NO. _____

**CITY OF BELMONT
San Mateo County California**

**RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BELMONT APPROVING
AMENDMENT 1 TO THE PROFESSIONAL SERVICES AGREEMENT WITH
COTTON SHIRES & ASSOCIATES FOR INVESTIGATION AND DESIGN OF CREEK
BANK STABILIZATION FOR AN AMOUNT NOT TO EXCEED \$17,382, 1133-1145
ALAMEDA DE LAS PULGAS DRAINAGE, CITY CONTRACT NUMBER 419**

WHEREAS, on November 26, 2002 the City of Belmont completed a professional services agreement with Cotton Shires & Associate, Inc for a not to exceed amount of \$24,456 for geotechnical and bioengineering investigation and design services for the 1133-1145 Alameda de las Pulgas channel bank stabilization investigation and design project; and,

WHEREAS, Cotton Shires & Associates has completed investigation of the site and has prepared conceptual bioengineering alternatives; and,

WHEREAS, this investigation has identified additional design services of that are needed to successfully design a creek bank stabilization project; and,

WHEREAS, Cotton Shires has proposed to complete these additional services consisting of hydraulic analysis and hydrogeologic modeling, design of an engineered structure, and design of two additional bioengineering techniques for an additional cost not to exceed \$17,382.

NOW, THEREFORE, BE IT RESOLVED:

1. The City Council of the City of Belmont directs the City Manager to execute Amendment 1 to the Professional Services Agreement with Cotton Shires & Associates, approved as to form by the City Attorney, in an amount not to exceed \$17,382 and directs the City Clerk to affix her signature thereto.
2. Funding in the amount of \$ 17,382 will be drawn from the Capital Improvement Program FY04 budget, account number 525-4315-6042-9030.

* * * * *

I hereby certify that the foregoing Resolution was duly and regularly passed and adopted by the City Council of the City of Belmont at a regular meeting thereof held on July 22, 2003.

AYES, COUNCILMEMBER(S): _____

NOES, COUNCILMEMBER(S): _____

ABSTAIN, COUNCILMEMBER(S): _____

ABSENT, COUNCILMEMBER(S): _____

City Clerk of the City of Belmont

APPROVED:

Mayor of the City of Belmont