

## CIP EXPENSE DETAIL

**DATE OF COUNCIL CONSIDERATION:**  
**CONTACT DEPARTMENT(S):**

8/25/11  
Parks and Recreation

**SUBJECT:** Authorize negotiation and execution of a two-year interlocal agreement between the City of Austin and the University of Texas at Austin, for services to study the hydrodynamics of water flow in Barton Springs Pool, in an amount not to exceed \$272,357.

**CURRENT YEAR IMPACT:**

|                        |   |
|------------------------|---|
| <b>Department:</b>     | <b>Parks and Recreation</b>                     |
| Project Name:          | Barton Springs Hydrodynamic Related Study/Imps. |
| Fund/Department/Unit:  | 8741-8607-3025                                  |
| Funding Source:        | Certificates of Obligation                      |
| Current Appropriation: | 310,809.00                                      |
| Unencumbered Balance:  | 300,809.00                                      |
| Amount of This Action: | <u>(272,357.00)</u>                             |
| Remaining Balance:     | <u>28,452.00</u>                                |

**ANALYSIS / ADDITIONAL INFORMATION:** From the late 1920's through 1974, dams and a bypass culvert were built creating Barton Springs Pool (BSP) and disconnecting it from Barton Creek, except during floods which exceed the capacity of the bypass culvert. This isolation from the natural flows of Barton Creek has shifted the hydrodynamics of BSP from a naturally, free-flowing creek to a small reservoir. The shift is most apparent in the reduced efficiency of natural scouring and transport of suspended material, particularly during floods. This results in increasing requirements for human labor to remove this material and maintain the desired, clear, clean, and safe swimming hole. Although there were some changes in operations and environmental management, none can eliminate or reverse the effects of the existing infrastructure, particularly the dams.

Therefore, the City of Austin's long-term goal for improving Barton Springs Pool is to create maximum operational flexibility to respond to all creek and climatic conditions in ecologically sound ways while ensuring continued recreational use. More specifically, the long-term goal for improving the aquatic environment in Barton Springs Pool is to determine how to reconstruct a more natural creek-like flow regime and thereby shift the ecological character back toward historical conditions while maintaining the major characteristics that attract recreational users. The first step in meeting these goals requires hydrodynamic modeling of Barton Springs Pool for a variety of inflow/outflow conditions with potential physical modifications of infrastructure.

This hydrodynamic flow modeling will provide the City with information as to what infrastructure and/or other changes may be needed at Barton Springs Pool to improve the water quality, reduce accumulation of flood debris within the pool and improve the habitat for the endangered Barton Springs Salamander.