



**Professional Services Amendment
CITY OF AUSTIN
RECOMMENDATION FOR COUNCIL ACTION**

**AGENDA ITEM NO.: 23
AGENDA DATE: Thu 05/12/2005
PAGE: 1 of 3**

SUBJECT: Authorize negotiation and execution of an amendment to the professional services agreement with CAROLLO ENGINEERS, P.C., Austin, TX, for additional preliminary site assessment work and professional preliminary engineering design services for the Water Treatment Plant 4, in an amount not to exceed \$6,500,000, for a total contract amount not to exceed \$10,000,000.

AMOUNT & SOURCE OF FUNDING: Funding in the amount \$6,500,000 is available in the Fiscal Year 1995-1996 Amended Capital Budget of the Austin Water Utility.

FISCAL NOTE: A fiscal note is required.

REQUESTING Public Works
DEPARTMEN for Austin Water Utility;
T:

**DIRECTOR'S
AUTHORIZATION:** Sondra Creighton

FOR MORE INFORMATION CONTACT: Jay Ulary, 974-7113; George Hill, 972-1953; Laura Bohl, 974-7064

PRIOR COUNCIL ACTION: 4/04/02 Initial selection of Carollo Engineers for Preliminary Engineering to conduct a Site Assessment and Environmental Studies on the existing Water Treatment Plant (WTP) 4 site.

BOARD AND COMMISSION ACTION: Recommended by the Water and Wastewater Commission 2/2/05. Recommended by the Environmental Board 4/20/05.

PURCHASING: N/A

MBE / WBE: 15.29% MBE and 14.37% WBE subcontractor participation to date.

The City currently operates three surface water treatment plants to meet the needs of the City's residents and businesses: the Green Water Treatment Plant, Davis Water Treatment Plant and Ullrich Water Treatment Plant. The City needs future incremental water treatment and distribution system capacity expansions to meet projected water demand growth.

Based on current demand projections, the Austin Water Utility (AWU) has determined that a new water treatment facility must be on line between 2009 and 2012 to meet future summer peak day demands. The needed infrastructure includes intake structures, treatment facilities and water transmission mains to deliver water to the City's distribution system. A separate solicitation will be used to select a consultant to design the transmission mains.

The Preliminary Site Assessment Report on the City-owned Water Treatment Plant (WTP) site located at the north end of River Place Boulevard concluded that this particular site is suitable for construction of new facilities capable of producing up to 300 million gallons per day (300MGD). A separate Alternate Land Acquisition or Exchange Site Evaluation is being conducted to determine if there is a suitable, alternative site outside the Bull Creek Watershed for the proposed plant. A separate water resource planning consultant, already on contract, will conduct an independent Alternate Land Acquisition or Exchange Site Evaluation. This work should be completed within five months. If an acceptable site is



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not found, the Alternate Land Acquisition or Exchange Site Evaluation Report will be presented to Council and the funds authorized herein will be used for the present site's preliminary engineering design. Should the report identify a potential alternative site; additional, in-depth site assessment work will be required to confirm that the proposed site is suitable for construction of the new WTP. It is anticipated that Carollo Engineers would perform the secondary, in-depth assessment of the new site under this authorization. At the conclusion of the site assessment analysis, remaining funds will be used to begin the preliminary engineering design on the new site.

Concurrent with the Alternate Land Acquisition or Exchange Site Evaluation by the water resource planning consultant, Carollo Engineers will develop cost estimates for implementation of best management practices to mitigate potential disturbances to the environment if the current site is determined to be the best location to build the new WTP. Carollo Engineers will also implement a Communication Plan to help all interested parties keep abreast of all developments on this project.

Staff will return to Council for approval of additional funding to Carollo Engineers in the range of \$40-\$50 million for the completion of preliminary engineering services if an alternate site is selected and for the design and construction phase services regardless of where the WTP is ultimately located.

The separate water resources planning consultant will also review the City's Conservation Program and review water demand projections and compare to the projected need and timing of the proposed WTP.

ACTION	DESCRIPTION	AMOUNT
03/21/02	Professional Services Agreement	\$ 3,500,000.00
Proposed	Supplemental Amendment	<u>\$ 6,500,000.00</u>
	Total	\$10,000,000.00

Subconsultant participation stated in the original agreement was 1.1% African American, 7.3% Hispanic, 2.31% Native/Asian American and 18.35% WBE. Participation for this amendment:

NON M/WBE TOTAL - PRIME	36.1%
Carollo Engineers, P.C., Austin, TX	36.1%
MBE TOTAL - SUBCONTRACTORS	14.1%
African American Subtotal	3.4%
(FB) Group Solutions RJW, Austin, TX (advertising/public relations, communications, public relations consulting)	2.4%
(MB) HVJ Associates, Inc., Austin, TX (geotechnical-soils)	1.0%
Hispanic Subtotal	8.2%
(MH) Jose I. Guerra, Inc., Austin, TX (structural engineering)	3.5%
(MH) Negrete& Kolar, Austin, TX (architectural)	2.4%
(MH) Macias & Associates, Inc., Austin, TX (surveying)	1.0%



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(FH) Kurkjian Engineering Corporation, Austin, TX (drainage)	0.4%
(MH) Casabella Architects, Austin, TX (project history, architect)	0.9%
Native/Asian American Subtotal	2.5%
Frank Lam & Associates, Inc., Austin, TX (structural engineering)	2.5%
WBE TOTAL – SUBCONTRACTORS	18.6%
(FR) Harutunian Engineering, Inc., Austin, TX (electrical engr. cost estimating)	14.4%
(FR) A. K. Young Associates, Austin, TX (landscape architecture)	0.9%
(FR) Hicks & Company, Austin, TX (analytical studies & surveys)	0.8%
(FR) Susan Kane Booth Consulting Engineer, Austin, TX (water supply)	2.5%
NON M/WBE TOTAL – SUBCONTRACTORS	31.2%
Turner, Collie & Braden, Inc., Austin, TX (civil engineering, computer assisted design, drainage, environmental, mechanical, water supply)	24.8%
Chiang, Patel & Yerby, Inc., Dallas, TX (buildings, structures & components, consulting, civil engineering, communications, designing, electrical, fire protection, structural, water supply)	2.4%
Fugro South, Inc., Austin, TX (geotechnical-soils, testing, laboratory & Field testing, boring, drilling, testing & soundings)	2.4%
Brierley Associates, Somerville, MA (geotechnical-soils)	1.6%
Overall subconsultant participation, including this amendment: 3.31 % MB, 10.03 % MH, 1.95 % NA, 14.37% WBE and 28.46% Non M/WBE.	

CIP FISCAL NOTE

DATE OF COUNCIL CONSIDERATION:
WHERE ON AGENDA:
DEPARTMENT:

05/12/05
Resolution
Austin Water Utility

DESCRIPTION:

Authorize negotiation and execution of an amendment to the professional services agreement with CAROLLO ENGINEERS, P.C., Austin, TX, for additional preliminary site assessment work and professional preliminary engineering design services for the Water Treatment Plant 4, in an amount not to exceed \$6,500,000, for a total contract amount not to exceed \$10,000,000.

FINANCIAL INFORMATION:

Parent Project Name:	1984 Water Improvements Prop. 4
Project Authorization:	1995-96 Amended Capital Budget
Funding Source:	1984 Revenue Bonds
Number:	3840 227 1008

Current Appropriation	\$ 147,100,183.00
Unencumbered Balance	90,979,882.91 *
Amount of This Action	<u>(6,500,000.00)</u>
Remaining Balance	<u>84,479,882.91</u>
 Current Available Balance	 \$ 90,979,882.91
Less Outstanding Commitments	0.00
Estimated Unencumbered Balance	<u>\$ 90,979,882.91</u>

Utility Finance:


David Anders, Utilities Finance Manager

Date:

5/3/05

REF. # 3840 227 0951



ENVIRONMENTAL BOARD MOTION 042005-C1

Date: April 20, 2005

Subject: Travis Water Treatment Plant

Motioned By: Mary Ruth Holder

Seconded By: Phil Moncada

Recommendation

The Environmental Board recommends that Council approve the Austin Water Utility's phased approach for the amendment to the professional services agreement for preliminary design engineering professional services for the Travis Water Treatment Plant to include the following items for: 1.) a review of alternatives; 2.) cooperation between the Water Utility and the Watershed Protection staffs for environmental impact studies, water quality protection and mitigation measures; 3.) mitigation funding for enhancements to the BCCP program; and 4.) communication with the Board and stakeholders as set forth in detail below. The details below are recommended as essential components for Phase I of the contract.

1. Review of Alternatives

The Phase I review of alternatives proposed to the Environmental Board by the
Water Utility regarding the location and timetable for development of Travis
Water Treatment Plant (Travis WTP or WTP) to include the following to be
factored into the review and analysis of alternatives:

- Review alternatives for a new location for the Travis WTP in cooperation with the Public Works Real Estate Services Division staff and include consideration of adding the present site to the BCCP preserve system. Present list of criteria for alternate site to Environmental Board prior to developing and executing final draft of Phase I Scope of Work/Services;
- Consider, among other alternatives for location of the plant, using the present site for a reservoir or other raw water storage and, if appropriate, pre-treatment for water pumped from Lake Travis and distribute this water to treatment facilities at another site;

- Provide information on range of whole plant facility footprint, including likely number of acres needed and amount of impervious cover at each of 50MGD, 100 MGD, 150 MGD, and 300 MGD and make final determination on final total ultimate capacity and treatment technology of plant;
- Based upon Alan Plummer and Associates Water Resources Management Study, outline all additional opportunities and funding for the Utility to design and implement additional water conservation and reuse strategies to lower peak day demand;
- Make a final determination about the feasibility and costs of a new Green WTP, particularly the feasibility and costs of relocating (and expanding capacity at a relocated site) this facility based upon information from the study of a “new Green” already underway;
- Determine whether either or both of the existing Davis and Ullrich Water Treatment Plants could be further expanded or otherwise remodeled to increase their treatment capacity; and
- Provide updated and accurate costs for construction of Travis WTP in its present location that includes all costs of environmental controls, mitigation, and costs of constructing (tunneling) water line from Lake Travis to the plant and all water transmission lines.

2. Cooperation between Water Utility and Watershed Protection Development Review Department for Environmental Impact Study and Review of Water Quality Protection Measures and Mitigation Strategies

The Water Utility (WU) and the Watershed Protection Development Review Department (WPDRD) will work cooperatively by entering into a written memorandum of understanding (MOU) for purposes of Phase I, including development of the criteria to be included in the Scope of Work/Scope of Services. The MOU to include the following related to the design, construction, operation and expansion of the Travis WTP at the present location including the raw water intake structure, gate shaft and the water transmission lines:

- The MOU will provide that the departments to work cooperatively to develop, and the WU will commit to fully fund and (if it becomes necessary to develop the present site) to fully implement environmental controls and elements of mitigation that, in all respects, provide the maximum protection necessary to preserve the integrity of the karst ecosystem and springs, the surrounding BCCP preserve woodlands, golden checked warbler habitat, and the water quality in the Bull Creek watershed;
- The water quality protection elements addressed by the MOU shall not be limited to requirements currently applicable to the Bull Creek watershed under current the City Land Development Code. Rather, WU and WPDRD to review, develop, and provide

funding (by WU) for implementation of appropriate standards and methods that will ensure the greatest amount of protection for the karst ecosystems and aquatic habitat in the vicinity of and downstream from the plant during construction, operation and expansion of the plant. For example, the staffs will review and, if appropriate, apply the protective standards found in each and both of the "January 2005 Draft Barton Springs Salamander Recovery Plan" and all TCEQ Edwards Aquifer rules and technical guidance documents, including "Optional Enhanced Measures for the Protection of Water Quality in the Edwards Aquifer, An Appendix to RG-348." Water quality protections will not be limited to the standards found in these documents but will, if necessary, go beyond these standards;

- All elements of a mitigation plan developed by staff for this project to be funded by the WU for application to the project by the WU without regard to cost, except as the cost of the mitigation elements will be factored into the review of alternatives as set forth above;
- The MOU between the WU and WPDRD to address, but not be limited to, the following:
 - ◆ site envelope control;
 - ◆ advanced erosion, sediment and spill controls during clearing, construction, operation and expansion;
 - ◆ soft armoring drainage channels;
 - ◆ performance goals including instream effects;
 - ◆ retention/irrigation structural controls;
 - ◆ communication plan (regulator/designer/contractor/inspector);
 - ◆ a plan to adapt to changing conditions (contingency planning and monitoring);
 - ◆ a study of the existing stock pond to determine whether it may be enhanced to serve a greater water quality function;
 - ◆ a plan for a long-term tree protection and replacement program to ensure the protection of trees and tree roots during construction, operation and expansion of the treatment plant including a strategy to immediately treat any "cut" to a tree susceptible to disease and provide for replacement trees;
 - ◆ a plan to acquire and apply information for methods and technology for tunneling of water transmission lines across BCCP lands that will adequately protect springs and karst features;
 - ◆ a plan for the preserve acreage (138 acres) portion of the WTP tract to be contiguous and in all other respects be designed to maximize un-fragmented habitat for the golden cheeked warbler;
 - ◆ specify a tree clearing and construction schedule/strategy to maximize protection of nearby golden cheeked warbler nesting activity during clearing and construction; and
 - ◆ a plan for Travis WTP, intake structure and gate shaft to be designed and constructed to meet highest standards for energy efficiency, resource conservation and operational efficiencies.

3. Mitigation funding for enhancements to the BCCP program

The Phase I mitigation strategy proposed by WU to include a plan for the WU to provide additional immediate permanent funding (by transferring funds or positions within the WU or other immediate funding) for the following enhancements to the City's BCCP preserves/program:

- Develop, maintain and implement a permanent written protocol ensuring that both BCCP and WPDRD staff will have easily administered and permanent access to the entire preserve area (138 acres) on the water treatment plant site to survey, and if necessary take management actions to improve or restore, terrestrial and aquatic habitats and water quality;
- Implement an ongoing and effective program to remove feral hogs, control red imported fire ants and control deer for each and all of the Travis WTP, Lanier, Franklin and Hanks tracts located in the BCCP Bull Creek macrosite;
- Create a new position within the BCCP for a biologist adequately trained and knowledgeable about neo-tropical bird biology in order to conduct surveys and study the effects of edge and fragmentation on the golden cheeked warbler territories within and adjacent to the Travis WTP property during the development, operation and expansion of the water treatment plant, intake structure and transmission water lines and other utility infrastructure within the BCCP Bull Creek macrosite;
- Implement an effective program to trap and remove cow birds within the water treatment plant site and throughout the BCCP Bull Creek macrosite;
- Create a permanent position within the WPDRD for a qualified and adequately trained environmental inspector knowledgeable in erosion controls and tree protection to be on-site during all phases of plant construction and expansion to conduct daily inspections and maintain a daily log. WU must ensure that all contractors and sub-contractors will make any corrections identified by this inspector to the erosion controls and tree fencing immediately upon identification of needed corrections. After construction is completed, a written MOU between the WU and WPDRD will provide that the inspector's duties will be to inspect, on a continuing and permanent basis, erosion and water quality problems from any and all development in the upper Bull Creek watershed and in any other areas where any type of development has a potential to impact the resources in BCCP preserves. Reports of the inspector's inspection and enforcement activities shall be made to the Environmental Board monthly during construction of the Travis WTP and quarterly thereafter; and
- Provide additional funding to implement a program to monitor, stabilize and restore water quality and aquatic habitat in tributaries 5 and 6 of upper Bull Creek and to add water quality retrofit for older development where appropriate and help to fund

and participate in a voluntary alliance of landowners and developers within the upper Bull Creek watershed to develop voluntary strategies for improving and protecting water quality throughout the upper Bull Creek watershed.

4. Communication with the Environmental Board and Stakeholders

The WU and WPDRD to ensure good communication about the Phase I review of alternatives, cooperation between the departments for the environmental impact study and review of water quality protection measures and mitigation strategies and mitigation funding for enhancements to the BCCP as follows:

- Provide timely opportunity for Environmental Board to review and make recommendations prior to developing and executing final draft of the Phase I Scope of Work/Services;
- Provide periodic updates (in the form of twice monthly report as staff memo in Environmental Board agenda packets) to Environmental Board on review of alternatives (including all cost comparisons and costs of environmental controls and mitigation) with understanding that any confidential real estate information will not be included in this report;
- Present final findings from complete Phase I review to the Environmental Board for recommendations prior to presentation of Phase I findings and scope of Phase II to City Council. In the interim, substantial deviations, if any, from the present Phase I plan to be presented to the Environmental Board;
- Present Phase II Scope of Work/Services to Environmental Board for recommendations prior to presenting Phase II Scope to City Council;
- All requests for variances related to the construction of the Travis WTP, if any, will follow the normal city process including review and recommendation by the Environmental Board; and
- Immediately develop a stakeholder process to include group meetings for all interested stakeholders and that includes information about the specific plans for the WTP, water quality concerns in upper Bull Creek, and efforts the Water Utility has committed to undertake to address those concerns.

Rationale

Austin's citizens indisputably need reliable and safe drinking water but the plan to develop a new Travis WTP (potentially doubling or even tripling the city's present water treatment capacity) should ensure that the WTP project is cost effective, optimizes water conservation and reuse, and causes the least possible harm to the environment. Austin should not have to choose between safe drinking water and environmental protection.

The Travis WTP will include water intake structures, treatment facilities, and water

intake and transmission lines tunneled through rock: not only will it require a major expenditure of public funds, but at a potential eventual 300 or 600 MGD it will also be a major development project in the highly environmentally sensitive headwaters of Bull Creek. The public should be fully aware of all costs. The site selected in 1984 for the Travis WTP is located within the Jollyville Plateau karst region immediately above the "main stem" of the Bull Creek headwaters.

There has been no review of a possible alternative site since a 1984-85 Site Selection and Preliminary Design Report resulted in the facility being proposed for its present location. Alternative sites have not been reconsidered despite drastic changes in surrounding land use, impacts on water quality in upper Bull Creek, effects on sensitive species and current knowledge about those issues, potential opportunities to relocate a new Green WTP and occasions to address peak day demand through conservation and reuse.

The WU has explained that the purpose and timetable for the Travis WTP is to address anticipated peak day demand. The physical condition of the Green WTP and its location at a site that appears to be better suited for redevelopment of a different nature offers an opportunity to help meet peak day demand by relocating and expanding the treatment capacity of a new Green WTP. Also, water conservation and reuse strategies can be applied to reduce peak day demand. In this regard, the Board acknowledges and supports the resolution adopted by the Resource Management Commission on April 19, 2005 concerning the draft 2005 Water Conservation Plan and recommending that Council instruct city staff to work with the Resource Management Commission to draft a new peak day reduction goal. The Board also acknowledges and supports the April 6, 2005 Water and Wastewater Commission Resolution urging the city staff to aggressively pursue a conservation goal to achieve a 1% water use reduction goal as set forth by the State of Texas Water Conservation Task Force. Adequate funding must be provided to implement these goals, however.

The Environmental Board is concerned that development and eventual expansion of a water treatment plant at the present site has the potential to cause irreparable harm in an area where neither city water quality ordinances, city staff inspections, enforcement actions, expenditures for capital projects for water quality controls nor public awareness about the deterioration of water quality has kept pace with the pressures of increasing development. Some of the special resources likely to be impacted by development of the Travis WTP in its present site include: the karst ecosystem underlying the site, the headwaters of Bull Creek, Jollyville Plateau salamander habitat that occurs just downstream of the site, and the federally listed endangered golden cheeked warbler in surrounding BCCP preserves.

Based upon a recent report to the Board, two tributaries of upper Bull Creek within a city BCCP preserve have been severely and perhaps irreversibly damaged from upstream construction sedimentation and the physical and chemical alteration of aquatic habitat. Staff reported that devastating losses in Jollyville salamander populations, benthic macroinvertebrates and aquatic plant habitat in these two tributaries occurred within the last several years. The Travis WTP will sit immediately above the "main stem" of Bull Creek, a tributary that contains the last best water quality supporting a significant Jollyville Plateau salamander population in a city BCCP preserve in upper Bull Creek. The Board is concerned not only that construction, operation and expansion of the plant may degrade this water quality, but that these activities may also dewater springs and physically alter aquatic habitat in the Bull Creek main stem.

The Travis WTP site is surrounded by prime golden cheeked warbler habitat within BCCP preserves and its development will create an increased amount of woodland "edge" and significant human activity adjacent to this habitat. City and county staff reported their concern to the Balcones Canyonlands Preserve Citizen Advisory Committee that current information and analysis appears to indicate no recent overall gains from nesting productivity in the BCCP's population of golden cheeked warblers. Staff has observed low nesting productivity particularly in areas where the woodland canopy is broken along "edges" or where fragmented by infrastructure. In the absence of a further study of this issue, the Board is concerned that development of the Travis WTP may contribute to low nesting productivity and a greater risk of predation of the endangered bird in the preserves surrounding the plant.

In order to examine the issues, a subcommittee of the Board met with staff from the Austin Water Utility, Public Works, and Watershed Protection Development Review Departments nearly every week over the past two months. The Board subcommittee members reviewed numerous documents provided by staff including, among others, the 2003 Travis WTP Preliminary Site Assessment. The subcommittee also received staff presentations on water demand and treatment capacity, pressure zones, treatment technology, conservation efforts and a history of the city's water utility facilities. The WU also provided a site visit to the Travis WTP site. The Board expresses its appreciation for the staff's cooperation.

The Water Utility is now proposing a phased approach for the amendment to the professional services agreement for preliminary design engineering professional services for expanding the City's water treatment capacity. Phase I would include a review of alternatives to the location and timetable of the Travis WTP, environmental impact study, and water quality protection measures, and mitigation strategies. The WU plans to communicate findings from the Phase I review to the Board and has committed to maintain better communication with the Board and interested stakeholders. Although Phase I will include both a review of alternatives *and* a review of environmental controls and mitigation, the WU proposes that these reviews occur simultaneously. It may seem unusual to follow two mutually exclusive courses at the same time, but the WU has assured the Board that the Utility's review of alternatives will be thorough and sincere. The Board also believes that it is preferable to consider environmental controls and mitigation in detail in Phase I in order to accurately evaluate all costs of developing the current WTP site. Thus, the Board recommends that Council approve a phased approach to preliminary design for the Travis WTP being proposed by the WU to allow a thorough review of alternatives to the location and timetable for the plant and a close look at all costs, including the potential environmental costs, of developing this site.

Having embarked on this course, the city must pursue it without abdicating its role as environmental steward.

Dissenting Rationale – Provided by Karin Ascot

I fully support the Board's recommendations pertaining to the analysis, evaluation and construction of WTP # 4. However, I cannot support spending more public funds for any purpose at the existing site in the headwaters of Bull Creek before plans for the redevelopment of Green WTP have been finalized and prior to sincere and thorough re-examination of City of Austin water conservation analysis and capacity planning, and prior to sincere and thorough

analysis of potential alternative sites.

Vote 6-1-1-1

For: Ahart, Curra, Holder, Maxwell, Moncada, Riley

Against: Ascot

Abstain: Jenkins

Absent: Anderson (recusal)

Approved By:

Mary Ruth Holder, Chair

No.020205-A
WATER AND WASTEWATER COMMISSION RESOLUTION
AN AMENDMENT TO THE PROFESSIONAL SERVICES AGREEMENT WITH CAROLLO
ENGINEERS, P.C., FOR PRELIMINARY DESIGN ENGINEERING PROFESSIONAL SERVICES FOR
THE TRAVIS WATER TREATMENT PLANT IN AN AMOUNT NOT TO EXCEED \$6,500,000 FOR A
TOTAL CONTRACT AMOUNT NOT TO EXCEED \$10,000,000

February 2, 2005
REGULAR MEETING
VOTE: 7-0-0-1

Motion made by: Friesc
Commissioners Consenting: Lee, Warner, Coleman, Chan, Pool, Raun
Commissioners Dissenting:
Commissioners Abstaining:
Commissioners Absent: Kirfman

The Water and Wastewater Commission recommends the Council authorize negotiation and execution of an amendment to the professional services agreement with CAROLLO ENGINEERS, P.C., for preliminary design engineering professional services for the Travis Water Treatment Plant in an amount not to exceed \$6,500,000 for a total contract amount not to exceed \$10,000,000.


Michael Warner Chairperson
Water and Wastewater Commission

2/2/05
Date