

CITY COUNCIL AGENDA ITEM
CITY OF SHORELINE, WASHINGTON

AGENDA TITLE: Approval of a Professional Services Contract for the Thornton Creek Corridor Preliminary Design Project
DEPARTMENT: Public Works
PRESENTED BY: Jesus Sanchez, Public Works Operations Manager Jerry Shuster, Surface Water and Environmental Services Manager

EXECUTIVE SUMMARY

During the Summer of 2005, Council approved the Surface Water Master Plan (SWMP) and the 2006-2011 Capital Improvement Plan (CIP). Both these documents included several CIP projects in the vicinity of Ronald Bog that are scheduled to begin in 2006. This contract will provide preliminary engineering design services for one of these projects, the Thornton Creek Corridor Project.

Many of the CIP projects for this basin were initially proposed in 2001 in response to localized flooding. Over the past 5 years, several CIP and maintenance projects have been implemented in the Upper Thornton Creek basin. The combined effect of these projects has changed the hydraulic response of the basin.

The focus of this project will be to evaluate flooding problems downstream of Ronald Bog, recommend solutions, and identify opportunities for implementing project features that provide a water quality, habitat, and community benefit. The end result of this project will be a 30% design that will be submitted to the regulatory permitting agencies for review.

The scope of work for this award includes:

- Existing data review
- Identification of early action elements that can be implemented in 2006
- Development of alternative solutions
- Production of 30 % design submittals
- Preparation of the Joint Aquatic Resources Permit Application (JARPA)

RW Beck, Inc. was selected from five firms that responded to a request for qualifications based on their experience in the basin and on projects of similar scope

and size. The RW Beck team includes a habitat specialist firm and a geotechnical specialist firm.

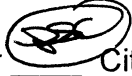
FINANCIAL IMPACT

In 2001, the City obtained a loan from the Public Works Trust Fund for surface water projects in the Ronald Bog basin. Approximately 60% of this loan remains for surface water projects in the basin. The term of this loan will end in 2007. The 2006 -2011 CIP includes approximately \$1,367,000 for the Thornton Creek Corridor Project.

The value of this design contract is \$128,902, approximately 9.4% of the total dollars identified for this project. This contract will be entirely funded by a Public Works Trust Fund loan obtained by the City in 2001.

STAFF RECOMMENDATION

Staff recommends Council approve this professional services contract.

Approved By: City Manager  City Attorney _____

INTRODUCTION

During the Summer of 2005, Council approved the Surface Water Master Plan (SWMP) and the 2006-2011 Capital Improvement Plan (CIP). Both these documents included several CIP projects in the vicinity of Ronald Bog that are scheduled to begin in 2006. This contract will provide preliminary engineering design services for one of these projects, the Thornton Creek Corridor Project.

II. BACKGROUND

In early 2002, Council approved the *Ronald Bog Drainage Improvements, Phase 1, Thornton Creek Tributary Flood Reduction Study*, prepared by Otak, Inc. (dated December 7, 2001). Several of the projects that were recommended by Otak in the study, have been implemented in the basin. Additional local flooding correction projects were also implemented. The other projects contained in the Otak plan have been included SWMP for future implementation. The projects that have been implemented include:

- Ronald Bog Drainage Improvements
- 10th Ave NE/11th Ave NE & 175th improvements
- Serpentine project –pipe and lift station improvements
- Drainage improvements on 1st Ave NE between NE 180th and NE 192nd St.
- North City Drainage Improvements
- WSDOT I-5/N. 175th St drainage modifications

These implemented projects, as well as now established regular maintenance of the storm drainage system, have changed the hydraulic regime of the basin compared to 2001. Regular maintenance includes root cutting, pipe jetting, and repair of damaged infrastructure. As discussed in the City's Surface Water Master Plan (item F2a, page 59) these improvements necessitate a re-evaluation of the alternatives for the corridor from Ronald Bog south to the culvert under N.167th St.

In addition, one of the major assumptions used to formulate the solutions suggested by Otak was that no property would be acquired for stormwater management purposes. This project will re-examine this option of acquiring property for stormwater management purposes pursuant to Council Goal no. 7.

The City would like to address historic flooding of private property in the Thornton Creek Corridor, defined for this project as the drainage system from the outlet of Ronald Bog to 167th Street (Project Area). Despite all the work done in this area, the outflow pipe from the Bog still has inadequate capacity for large storm events, is at reverse grade, and is in poor condition. Up to 20 homes have had damage in major storm events.

In addition to alleviating flooding problems in the Project Area, the goal of this project is to construct features that also provide a water quality, habitat, and community benefit in accordance with the goals and objectives established by City policies and the Surface

Water Master Plan. These features will be incorporated to the extent possible given budgetary and physical constraints.

The focus of this project will be to evaluate flooding problems downstream of Ronald Bog, recommend solutions, and identify opportunities for implementing project features that provide a water quality, habitat, and community benefit. The end result of this project will be a 30% design that will be submitted to the regulatory permitting agencies for review.

The scope of work for this award includes:

- Existing data review
- Identification of early action elements that can be implemented in 2006
- Development of alternative solutions
- Production of 30 % design submittals
- Preparation of the Joint Aquatic Resources Permit Application (JARPA)

The analysis will include evaluation for one or more of the following options:

- Construction of an engineered outlet structure for Ronald Bog that will enable the City to better manage the water level/storage volume.
- A high flow bypass to reduce peak flows in the creek
- Possible property acquisition

CONSULTANT SELECTION

RW Beck, Inc. was selected from five firms that responded to a request for qualifications based on their experience in the basin and on projects of similar scope and size. The RW Beck team includes a habitat specialist firm and a geotechnical specialist firm.

FINANCIAL IMPACT

In 2001, the City obtained a loan from the Public Works Trust Fund for surface water projects in the Ronald Bog basin. Approximately 60% of this loan remains for surface water projects in the basin. The term of this loan will end in 2007. The 2006 -2011 CIP includes approximately \$1,367,000 for the Thornton Creek Corridor Project.

The value of this design contract is \$128,902, approximately 9.4% of the total dollars identified for this project. This contract will be entirely by a Public Works Trust Fund loan obtained by the City in 2001.

IV. RECOMMENDATION

Staff recommends Council approve this professional services contract.

Attachments

A Scope of Services for the Upper Thornton Creek Basin Preliminary Design Project.

B Project Cost Estimate

Exhibit A

City of Shoreline Thornton Creek Corridor Project

Project Objectives

The City would like to address historic flooding of private property in the Thornton Creek Corridor, defined for this project as the drainage system from the outlet of Ronald Bog to and N. 167th Street (Project Area). Based on previous work, the outflow pipe from the Bog has inadequate capacity, is at reverse grade, and is in poor condition. Up to 20 homes have had damage in major storm events.

Previous investigation and analyses recommended construction of a new conveyance system between Ronald Bog and 167th Street (Otak 2001). In the five years since completion of the Otak study, the City has completed several capital and maintenance projects in the Ronald Bog/Thornton Creek drainage basin. As discussed in the City's Surface Water Master Plan (item F2a, page 59) these improvements necessitate a re-evaluation of the alternatives for the corridor between the outlet from Ronald Bog and N 167th Street, updating the recommended solutions for the problem site.

In addition to alleviating flooding problems in the Project Area, the goal of this project is to construct to the extent possible given budgetary and physical constraints, features that also provide a water quality, habitat, and community benefit in accordance with the goals and objectives as established by City policies and the Surface Water Master Plan.

The focus of this project will be to evaluate flooding problems in the Project Area and prepare 30% design drawings of the preferred project to submit to the regulatory permitting agencies for review.

Proposed Project Schedule

April 2006 to October 2006 (6 month duration)

Project Assumptions:

- The City's GIS department will provide land use data, soils data (very limited) and available drainage inventory data needed for the modeling.
 - The project duration will be six (6) months.
 - Other assumptions are listed in the following tasks.
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Task 2 Deliverables:

1. Staff meeting agendas (emailed prior to the meeting and available at the time of the meetings)
2. One 22"x34"graphic showing the conceptual design of the recommended project for one Public Meeting.
3. Staff meeting minutes (summary email provided following each meeting) .

Task 3: Preliminary Engineering

The purpose of this task is to identify the causes and solution(s) of the flooding. Included will be the collection and analyses of new information as well as the incorporation of data from previous studies. The analyses will evaluate the cost-effectiveness of the potential solutions including the potential impact on flows passing downstream beyond the project limits.

3.1 Existing Data Review

The Consultant will assess current conditions in the Project Area by reviewing previous work done by Otak and Entranco, including the hydrologic models, SWMM and HEC-RAS models; review anecdotal flooding information; identify model data gaps and review as-builts of projects constructed since the 2001 Otak report.

In order to design a proper outlet, discussed in Subtask 3.3, a simplified model of the system upstream of Ronald Bog will be required.

3.2 Field Reconnaissance

The Consultant will conduct a field reconnaissance of the project site to review current conditions, determine the need for additional information, and identify potential solutions based on observed field conditions. This task will also identify the need for preliminary survey that would be conducted under Task 6.

3.3 Develop Alternative Solutions

The Consultant will conduct hydrologic and hydraulic analyses to determine causes and potential solutions to flooding immediately downstream from Ronald Bog. The analyses will rely on existing data as well as data collected as a part of this project. Improvements to conveyance will be assessed to determine if the changes cause potential increases in flows being passed downstream. Solutions will be assessed as to effectiveness, costs, and implementation constraints. A recommendation will be provided concerning the preferred solution.

Task 4 30% Design

This task includes development of 30% design drawings for the recommended solution. It is anticipated that the level of detail will be sufficient to develop permit submittals. The 30% design will form the basis for final design and preparation of contract documents to be completed in a subsequent contract.

4.1 30% Design Drawings

The Consultant will develop CADD drawings at the 30% level of design for the recommended project.

4.2 JOINT AQUATIC RESOURCES PERMIT APPLICATION PREPARATION

The Consultant will develop the JARPA submittal.

Task 4 Assumptions:

- Delineations of subbasins as they have been developed either by OTAK or Entranco will be used.
- Early action items will be presented as a schematic on a GIS drawing. Additional design will be done either under a separate scope of work or as an amendment to this scope of work.
- Design will be done using 2006 version of AUTOCADD
- For budgeting purposes, the 30% Design Drawings will be limited to the following sheets:

G1	Title Sheet and Drawing Index
G2	Vicinity Map and Project Location
G3	Standard Abbreviations and Reference Symbols
C1	Plan and Profile Sheets, Sheet 1 of 3
C2	Plan and Profile Sheets, Sheet 2 of 3
C3	Plan and Profile Sheets, Sheet 3 of 3
C4	Civil Details

- No additional drawings will be developed for the JARPA. The 30% CADD drawings developed under subtask 3.1 will be used for the JARPA submittal.
- The City will be responsible for submitting the JARPA
- Work does not include a Biological Assessment (BA) or Biological Evaluation (BE) or other supporting studies or documentation that may be required for permitting approval.

Task 6 Assumptions:

- Work is limited to the approved budget.
- Work does not include a Biological Assessment or Biological Evaluation or other supporting studies or documentation that may be required for permitting approval.

Task 6 Deliverables:

1. Meeting minutes or phone records documenting discussions with permitting agencies or adjacent jurisdictions.
2. Permitting Schedule

City of Shoreline
 Thornton Creek Corridor-30% Design
 Project Budget Subtask Summary

Project Summary	
Total Budget	\$128,902

Task No.	Task/Subtask	Hours		Charges,				Total Charges
		R.W. Beck Labor	R.W. Beck Labor Revenue	General Expenses	Travel Expenses	Subcontractor Charges	(Subtotal - All Expenses)	
1.00	PM	96.0	\$ 10,940	\$325			\$325	\$ 11,265
2.00	Meetings							
2.10	Staff Meetings	41.0	\$ 6,275	\$175	\$240		\$415	\$ 6,690
2.20	Public Meeting	26.0	\$ 2,261	\$240	\$60		\$300	\$ 2,561
3.00	Preliminary Engineering							
3.10	Existing Data Review	28.0	\$ 3,431	\$130	\$60		\$190	\$ 3,621
3.20	Field Recon	24.0	\$ 2,817	\$100	\$120		\$220	\$ 3,037
3.30	Alternative Solutions	308.0	\$ 35,823	\$1,175	\$60		\$1,235	\$ 37,058
3.40	Engineering Report	148.0	\$ 14,325	\$695	\$60		\$755	\$ 15,080
4.00	30% Design							
4.10	30% Drawings	271.0	\$ 26,876	\$1,638			\$1,638	\$ 28,514
4.20	JARPA Prep	98.0	\$ 9,129	\$560	\$60		\$620	\$ 9,749
5.00	Survey							
5.10	Preliminary Survey	12.0	\$ 1,207	\$55			\$55	\$ 1,262
5.20	Base Map Survey	28.0	\$ 2,751	\$130	\$60		\$190	\$ 2,941
6.00	Permitting							
6.10	Prelim Permitting Coord	36.0	\$ 4,424	\$180			\$180	\$ 4,604
6.20	Permitting Schedule	20.0	\$ 2,492	\$100			\$100	\$ 2,592
GRAND TOTALS		1,136.0	\$122,751	\$5,503	\$720		\$6,223	\$128,902

Task No.	Task	Enter names and rates from left to right										Task Totals		
		Select Name, Class, OR	Nelson, Ralph David	Pacanovsky, Donna L.	Charlish, Beverley L.	Ernst, John D.	Nupcharoen, Dacha	Prociv, Samantha Jean	Crandell, Todd	Dunn, Stuart	Kuo, Jeanette Marie Ruud	McLellan, Tracie Lynn	Hours	Labor
		Classification°	Proj Liason/Eng	PM/Eng	Engineer	Jr. Eng	CADD	GIS	Technical Editor	Graphics	Project Assist	Financial		
		Rate	\$195.00	\$137.25	\$92.85	\$68.23	\$82.74	\$71.26	\$87.77	\$67.49	\$85.49	\$75.00		
1.00	PM	4.0	42.0	10.0						24.0	16.0	96.0		
2.00	Meetings													
2.10	Staff Meetings	16.0	16.0	9.0								41.0	\$6,275	
2.20	Public Meeting		4.0	6.0			8.0		8.0			26.0	\$2,261	
3.00	Preliminary Engineering													
3.10	Existing Data Review	4.0	8.0	16.0								28.0	\$3,431	
3.20	Field Recon		12.0	12.0								24.0	\$2,817	
3.30	Alternative Solutions	50.0	72.0	106.0	40.0		40.0					308.0	\$35,823	
3.40	Engineering Report	4.0	12.0	70.0				46.0	16.0			148.0	\$14,325	
4.00	30% Design													
4.10	30% Drawings	8.0	51.0	82.0	40.0	90.0						271.0	\$26,876	
4.20	JARPA Prep		12.0	30.0	8.0	48.0						98.0	\$9,129	
5.00	Survey													
5.10	Preliminary Survey		2.0	8.0		2.0						12.0	\$1,207	
5.20	Base Map Survey		4.0	16.0		8.0						28.0	\$2,751	
6.00	Permitting													
6.10	Prelim Permitting Coord	8.0	4.0	24.0								36.0	\$4,424	
6.20	Permitting Schedule	4.0	4.0	12.0								20.0	\$2,492	
Total Hours		98.0	243.0	401.0	88.0	148.0	48.0	46.0	24.0	24.0	16.0	1136.0		
Total Labor		\$19,500	\$34,038	\$37,976	\$6,141	\$12,494	\$3,492	\$4,125	\$1,654	\$2,095	\$1,238	\$122,751	\$122,751	

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