GREEN PROJECT RESERVE BUSINESS CASE

Ho-Chunk Nation

Upgrade WWTP & Collection System; New Interceptor

CWFP No. #5479-02

November 2011 (Revised)

Prepared by:
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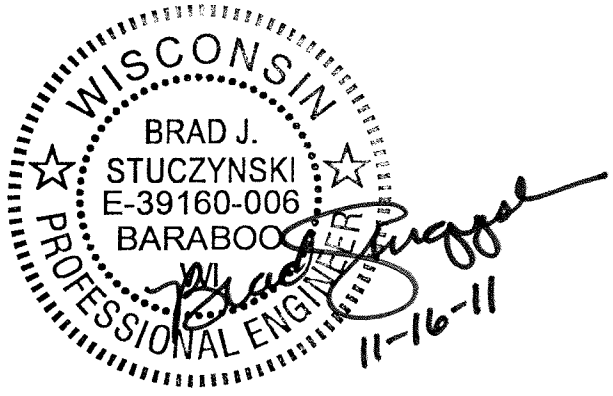

1.0 GENERAL INFORMATION

1.1. Introduction

This business case demonstrates that the Ho-Chunk Nation WWTP Upgrade project achieves identifiable and substantial "green" benefits in the project components listed below. This business case was developed according to the "2010 Clean Water and Drinking Water State Revolving Fund 20% Green Project Reserve: Guidance for Determining Project Eligibility" publication, dated April 21, 2010.

1.2. Project Need & Scope

The project is intended to provide the Wazee Area Wastewater Commission with the necessary facilities to adequately transport and treat the current and design wastewater loads. The project includes construction of a wastewater treatment facility upgrade consisting of: headworks facilities, chemical addition systems, activated sludge biological treatment process, secondary clarification, sludge treatment and storage facilities, activated sludge return and waste pumping facilities, phosphorus removal systems, effluent disinfection improvements, electrical distribution and controls, buildings for process equipment, other treatment processes or facilities as determined by design site conditions, site work on existing site, and underground process piping. The project will also include necessary collection system work to eliminate pump station #3, increase pumping capacity at the other two lift stations and a construct a new interceptor sewer. In addition, project will include a generator and related emergency equipment, rehab/reuse of some units, any additional or different processes as identified in the facility plan or required by subsequent conditions, necessary equipment for the Wastewater Commission, personal safety equipment, and all other necessary work and equipment needed for a complete project.

1.3. Green Components Summary

COMPONENT	DESCRIPTION	BUSINESS CASE No.	GREEN COST
A	Water Efficient Devices (2.2-1)	n/a	$4,750
B	Plant Effluent (W3) System (2.2-6)	n/a	$68,600
C	Gravity Sewer Eliminates Lift Station	3.5-3	$343,200
	TOTAL GREEN COMPONENTS		$416,550

2.0 COMPONENT C JUSTIFICATION

2.1. Technical

According to CWSRF Technical Guidance project 3.5-3, the proposed project cost effectively eliminates a pumping station by replacing the existing lift station and force main with gravity sewer.

2.2. Financial

Option A – Eliminate Lift Station and Replace with New Gravity Sewer

TOTAL ESTIMATE OF 50-YEAR PRESENT COST =	$353,000

Option B – Upgrade Existing Lift Station & Upsize Forcemain

Estimate of Annual Electrical Consumption=	54,000 kWh
TOTAL ESTIMATE OF 50-YEAR PRESENT COST=	$704,000

The client will save an estimated $351,000 in component costs over a 50 year life cycle and an estimated 54,000 kWh per year. (See attached present value calculations).

Sanitary Sewer System Options
Option A - Eliminate Lift Station and Install New Gravity Sewer

Capital Costs Item	Quantity	Units	Unit Price	Capital Cost	Design Life	Replace. Cost	Salvage Value
Install New Gravity Drain Sewer Interceptor	1	L.S.	$ 250,000.00	$ 250,000.00	50		
Abandon Existing Lift Station	1	L.S.	$ 10,000.00	$ 10,000.00			
Capital Subtotal				$260,000			
Capital Contingencies			10%	$26,000			
Engineering & Admin			20%	$57,200			
Subtotal				$343,200			
Capital Cost				**$343,200**		**$0**	**$0**

Annual Operation and Maintenance Costs	Units/Yr	$/units	Annual Cost
Labor: 1 hour/6 months	2	40	$80
Maintenance and Repair			$400
Admin, Insurance, Fees			$0
Laboratory Testing			$0
Electrical Power Costs			$0
Annual O & M Cost			$500

50 Year Present Cost	Actual Cost	Present Cost
Initial Capital Cost	$343,200	$343,200
Replacement Cost	$0	$0
Annual O & M Cost	$500	$10,000
Salvage Value	$0	$0
TOTAL ESTIMATE OF PRESENT COST		**$353,000**

Note: Present Worth estimated using discount rate = 4.375%

Sanitary Sewer System Options
Option B - Upgrade Existing Lift Station & Upsize Forcemain

Capital Costs

Item	Quantity	Units	Unit Price	Capital Cost	Design Life	Replace. Cost	Salvage Value
Lift Station Upgrades	1	L.S.	$ 100,000.00	$ 100,000.00	20	$100,000	$50,000
Replace and Upsize Forcemain	1	L.S.	$ 100,000.00	$ 100,000.00	50	$0	
Replace and Upsize Interceptor Sewer	1	L.S.	$ 150,000.00	$ 150,000.00	50	$0	
Capital Subtotal				$350,000			
Capital Contingencies			10%	$35,000			
Engineering & Admin			20%	$77,000			
Subtotal				$462,000			
Capital Cost				**$462,000**		**$100,000**	**$50,000**

Annual Operation and Maintenance Costs	Units/Yr	$/units	Annual Cost
Labor: 1.0 hours/week x 52 weeks/year	52	40	$2,080
Maintenance and Repair			$2,500
Admin, Insurance, Fees			$0
Laboratory Testing			$0
Pump Electrical Power Costs (20 Hp) = 54,000 kWh x $0.10/kWh			$5,400
Annual O & M Cost			$10,000

50 Year Present Cost	Actual Cost	Present Cost
Initial Capital Cost	$462,000	$462,000
Replacement Cost (20 year)	$100,000	$42,500
Replacement Cost (40 year)	$100,000	$18,000
Annual O & M Cost	$10,000	$202,000
Salvage Value	$50,000	($21,000)
TOTAL ESTIMATE OF PRESENT COST		**$704,000**

Note: Present Worth estimated using discount rate = 4.375%

Scott, Rebecca L - DNR

From: Brad Stuczynski <BStuczynski@msa-ps.com>
Sent: Thursday, April 11, 2013 11:05 AM
To: Scott, Rebecca L - DNR
Cc: Cargill, Jeanne H - DNR; Mary MSA Wagner
Subject: RE: Ho-Chunk/Wazee 5479-02 GPR

Categories: Green Project Reserve

Becky-

This email serves as an Amendment to the November 2011 Green Business Case for the Ho-Chunk/Wazee CWF project #5479-02. The updated green project costs have been updated to reflect actual bid prices and are detailed as follows:

1.3.Green Components Summary (Pre-Bid)

COMPONENT	DESCRIPTION	BUSINESS CASE No.	GREEN COST
A	Water Efficient Devices (2.2-1)	n/a	$4,750
B	Plant Effluent (W3) System (2.2-6)	n/a	$68,600
C	Gravity Sewer Eliminates Lift Station	3.5-3	$343,200
	TOTAL GREEN COMPONENTS		$416,550

1.4.Green Components Summary (Post-Bid)

COMPONENT	DESCRIPTION	BUSINESS CASE No.	GREEN COST
A	Water Efficient Devices (2.2-1)	n/a	$4,750
B	Plant Effluent (W3) System (2.2-6)	n/a	**$53,000**
C	Gravity Sewer Eliminates Lift Station	3.5-3	**$360,000**
	TOTAL GREEN COMPONENTS		**$417,750**

Let me know if you need any further information for this project.

Brad Stuczynski, PE, LEED AP | Project Engineer
MSA Professional Services, Inc.
(608) 356-2771

From: Mary MSA Wagner
Sent: Monday, April 08, 2013 5:00 PM
To: Scott, Rebecca L - DNR
Cc: Brad Stuczynski; Cargill, Jeanne H - DNR
Subject: RE: Ho-Chunk/Wazee 5479-02 GPR

Thank you for checking. They are the pre-bid costs and I will ask Brad to take a look at these right away.
Mary Wagner, MSA

Mary MSA Wagner, PE | Project Engineer
MSA Professional Services, Inc.
(608) 356-2771