CRISPELL-SNYDER, INC.
PROFESSIONAL CONSULTANTS

July 10, 2006

Village of East Troy
P.O. Box 166
East Troy, WI 53120

Attn: Ms. Judy Weter
Administrator

Re: East Troy Lake Study
Village of East Troy
Project No. 05249

Dear Board Members:

We are writing to update the Village on the current status of the lake study and to present discussion items for determining where this project goes from here.

Bathometric Survey

We recently completed the bathometric survey to determine total lake depth and sediment depth. Lake depths are shown on a map previously delivered to the Village. Sediment depths, with corresponding clear water depths, are shown on an enclosed map.

Sediments varied from 2.2 to 8.0 feet in depth and averaged 4.9 feet in depth over the entire lake. Water depth (above sediments) ranged from 0.6 feet to 4.5 feet near the dam. We calculated that there is approximately 200,000 cubic yards of sediment in the lake.

Dredging Cost

The estimated cost of dredging was shown in a December 9, 2005 letter (enclosed) from Triad Engineering, Inc. The cost of dredging the entire lake, using Triad's numbers, is shown below.

200,000 cu yd of dredging	@ $6.00 cu. yd.	=	$1,200,000
14,550 hours of trucking	@ $80.00/hr	=	$1,164,000
200,000 cu. yd. of land application	@ $3.00 cu yd	=	$ 600,000
	Subtotal		$2,964,000
	Engineering & Contingencies (15%)		$ 436,000
	Total Dredging Cost		$3,400,000

The trucking costs, possibly including land application, could be reduced, if not eliminated, per Triad's report if sediment could be pumped directly to a nearby field for spreading. There does not appear to be any close fields available (Chris Mann does not want this material spread over his fields), but there is an old gravel pit (owned by Terry Larsen) that could possible be used for dewatering sediments. Dried sediments could possible be sold. This option needs further study and Terry's approval.

Sediment Testing

Two composite sediment samples, per DNR requirements, were previously analyzed and appear to be satisfactory for land spreading (see attached January 17, 2006 DNR memo). However, in the same memo the DNR states that an additional 3 to 4 composite samples will be required for analysis prior to removing and landspreading sediments. We will contact the DNR, upon Village authorization, to determine the number of additional samples to be tested, their location and sampling requirements. Samples would then be obtained and analyzed.

Sediment Testing Cost

The two initial sediment samples cost a total of $8,076.84 of which $3,000 was paid for by a grant. Assuming $4,000 per sample, the cost of analyzing 3 to 4 more samples could run from $12,000 to $16,000.

Wetland Mapping

Originally, wetland mapping was proposed to identify landspreading limits over fields on Chris Mann's property. Once it became clear that Chris did not want sediments spread over his fields, wetland mapping was canceled.

Discussion

The Village must now decide how, when, or if to proceed to the next step and what the next step may be. Based on previous sampling, sediments may be landspread, but the DNR requires 3 to 4 additional samples to verify consistency of sediments. The Village must decide if they will proceed with additional sampling at an estimated cost of $12,000 to $16,000 ($4,000 $\pm$ per sample).

The cost of dredging is estimated at $3,400,000; however the Village could consider dredging only part of the sediment. If sediments were pumped directly to a site such as the old gravel pit,

then trucking and land application costs could be reduced or eliminated. There would be additional costs for preparing and using the gravel pit and for hauling dried materials out of the pit (material could possibly be sold). The former gravel pit appears to have the capacity to hold from 200,000 to 250,000 cubic yards of dredged material if a berm is constructed on the west side of the pit to contain the dredged material.

The Village needs to consider the increased costs including the additional $12,000 to $16,000 sampling costs and the increased dredging cost based upon the volume of sediment found in the lake. The dredging cost has increased from a range of $1,300,000 to $2,600,000 (December 9, 2005 Triad Letter) for 2 to 4 feet of sediment to a current cost of $2,964,000 for 4.9 feet of sediment. Adding 15% for engineering and contingencies brings the total cost to $3,400,000.00

If you have any questions, please feel free to contact me at our Lake Geneva office.

Sincerely;

Crispell-Snyder, Inc.

George King

George W. King, P.E.
Senior Project Manager

GWK/jmb

Encl: As Noted

cc: Tom Rossmiller
Joyce Ketchpaw, w/maps
Tina Reese