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ENGINEERS • SURVEYORS • PLANNERS

December 5, 2002

Joseph Sawyer, Manager  
City of Corunna 402 N.  
Shiawassee Corunna, MI  
48817-1036

DEC 6 2002

RE: Corunna Dam Improvements  
City of Corunna

Joe:

As a follow up to our previous discussions regarding improvements to the Corunna Dam we have prepared an updated preliminary estimate of cost and have included it for your review. The update reflects a recent project for which we received a bid.

Enclosed is a hand sketch of each option so you can compare them to the PEC. Option one was to construct a RCC structure along the downstream side of the existing dam and reconstruct the top of the existing structure with RCC. The second option is to construct a RCC structure along the downstream side of the existing dam.

I have also enclosed an estimated timeline for the proposed improvements to the structure for your review. This timeline was prepared assuming a tentative construction start date of summer 2004. Though it seems early to be thinking about the project you can see the time will disappear quickly. The permitting process for this project could take anywhere from 3 to 8 months to receive final approvals.

Once you have had an opportunity to look this material over please give me a call. We look forward to the opportunity to work with you on this project.

Sincerely,

SPICER GROUP, INC.  
Peter N. Chapman, P.E.  
Project Manager

Q:\Proj2002\105574.02\\_Correspondence\pnCSaw.doc

cc: SGIFile 105574.02

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**Principals:** Dale K. Deibel, P.E., James J. Cook, Ronald B. Hansen, P.E., Mark A. Latsch, P.E., Shawn P. Middleton, P.E., Larry J. Protasiewicz, P.E., Donald R. Scherzer, Christopher G. Townley, P.E., Daniel R. Wolf, P.E., Jeffrey E. Wood, P.S.  
**Senior Associates:** Robert R. Eggers, A.I.T.P., Charles W. McDonald, Wayne A. Zolnierok, P.E.  
**Associates:** Kirm J. Donaghy, CftT, Eric D. Harger, Darrick W. Huff, P.E., Jean M. Inman, P.E., Tim A. Inman, P.E., Marissa J. Irish, P.E., John E. Olson, P.E.

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**ESTIMATED TIMELINE  
CORUNNA DAM IMPROVEMENTS  
CITY OF CORUNNA  
SHIAWASSEE COUNTY, MICHIGAN**

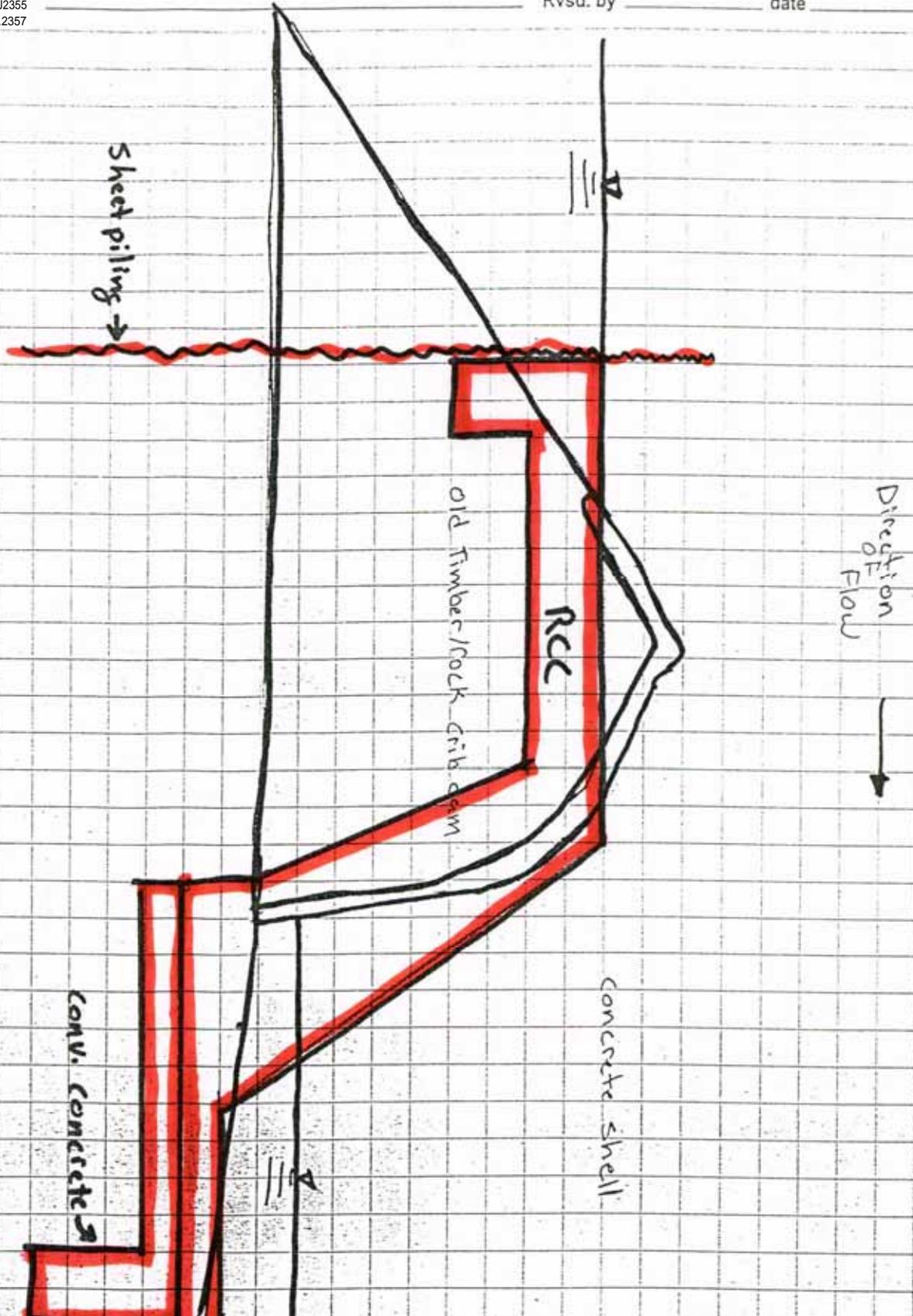
<b><u>Description</u></b>	<b><u>Date</u></b>
Evaluate alternatives for dam reconstruction (I.e. materials, fish ladder?, type of spillway, Etc.) (Possibly include MDEQ in this process)	February 2003
Generate Preliminary Estimate of Cost for the alternatives considered	February 2003
Meet with City Staff or Council to review the alternatives considered and their associated costs and select the alternative to be implemented	March 2003
Meet with MDEQ and City Staff to develop a conceptual plan of the Proposed Improvements	April 2003
Begin final design	May 2003
Prepare bidding documents and specifications for the final design	July 2003
Submit plans, technical specifications and accompanying study information with a completed permit application for MDEQ approval.	August 2003
Receive review comments and questions back from MDEQ	October 2003
Respond to MDEQ concerns	November 2003
Receive the MDEQ permit to implement the improvements to the dam	December 2003
Complete the final plans and bidding documents	January 2004
Advertise for construction bids	January 2004
Receive construction bids & award contract	February 2004
Financing of Project	March - May 2004
Begin Construction	July 2004
Completion of Construction	September 2004



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Project option 7 Sheet # \_\_\_\_\_ of \_\_\_\_\_  
 Project # \_\_\_\_\_  
 Subject \_\_\_\_\_ Comp. by \_\_\_\_\_ date \_\_\_\_\_  
 Chkd. by \_\_\_\_\_ date \_\_\_\_\_  
 Rvsd. by \_\_\_\_\_ date \_\_\_\_\_

OPTION 2



**PRELIMINARY ESTIMATE OF COST**

**Corunna Dam**

**City of Corunna**

12/3/02

Option #1 - This option is constructing a RCC structure along the downstream face and reconstructing the top of the existing structure.

<b>Item</b>	<b>Estimated No.</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Amount</b>
<b>RCC Construction</b>					
1.	230	LinFt.	Sheet Piling (20 ft. high - water tight)	\$475.00	\$109,250.00
2.	1	Lump Sum	Excavate For RCC Spillway (includes removal and disposal)	L.S.	\$15,000.00
3.	3,300	Cu. Yds.	Rollar Compacted Concrete	\$85.00	\$280,500.00
4.	530	Tons	Cement	\$115.00	\$60,950.00
5.	650	Cu. Yds.	Concrete Footing	\$125.00	\$81,250.00
6.	200	Lin. Ft.	PVC with Sock	\$20.00	\$4,000.00
7.	40	Lin. Ft.	PVC without Sock (includes rodent guard)	\$25.00	\$1,000.00
8.	1,500	Sq. Yds.	Filter Fabric for RCC	\$3.50	\$5,250.00
9.	150	Sq. Yds.	Filter Fabric for PVC	\$3.50	\$525.00
10.	1	Lump Sum	Site clearing, Leveling and Grading	L.S.	\$15,000.00
<b>Miscellaneous Items</b>					
11.	100	Sq. Yds.	Heavy Riprap Protection	\$80.00	\$8,000.00
12.	1	Lump Sum	Mobilization/demobilization	L.S.	\$45,000.00
13.	1	Lump Sum	Seeding	L.S.	\$7,500.00
14.	1	Lump Sum	Cleanup and Restoration	L.S.	\$15,000.00
Sub - Total - Construction Costs					<b>\$648,225.00</b>
Study and Report (hydraulic report for MDEQ dam safety)					\$4,500.00
Survey and Preliminary Design					\$33,000.00
Final Design					\$12,000.00
Construction Administration, Staking and Inspection					\$27,000.00
Material Testing, Quality Control/Quality Assurance					\$17,000.00
MDEQ Permit Application					\$4,000.00
Contingencies (10%)					\$75,275.00
<b>Sub-Total - Construction and Administration Costs</b>					<b>\$821,000.00</b>



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Project Option 2 Sheet # \_\_\_\_\_ of \_\_\_\_\_  
 Project # \_\_\_\_\_  
 Subject \_\_\_\_\_ Comp. by \_\_\_\_\_ date \_\_\_\_\_  
 Chkd. by \_\_\_\_\_ date \_\_\_\_\_  
 Rvsd. by \_\_\_\_\_ date \_\_\_\_\_

OPTION 2

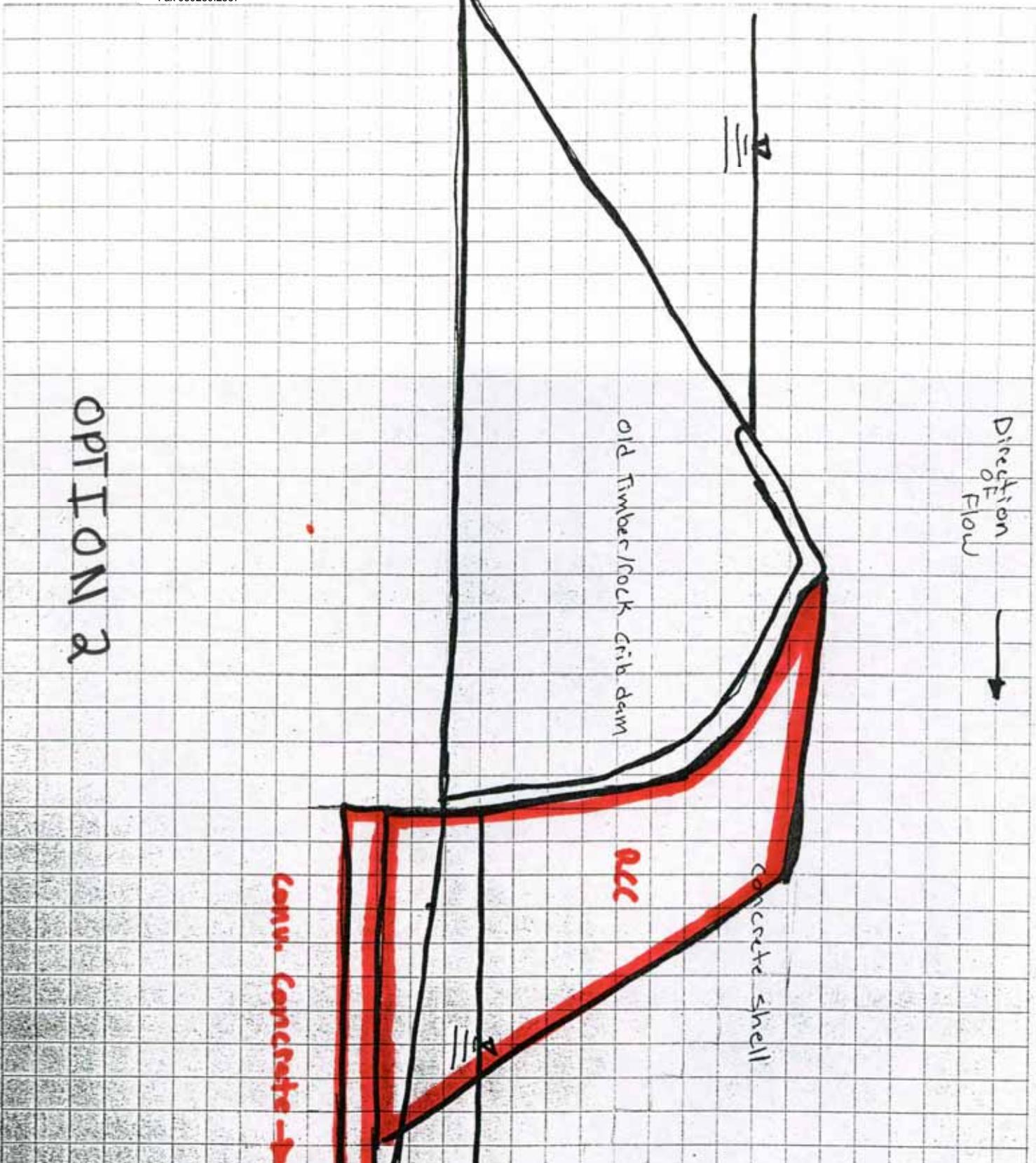
Old Timber/Rock crib dam

Direction of Flow →

Conv. Concrete ->

acc

concrete shell



**PRELIMINARY ESTIMATE OF COST**

**Corunna Dam  
City of Corunna**

12/3/02

Option #2 - This option is constructing a RCC structure along the downstream face of the existing structure.

<b>Item</b>	<b>Estimated No.</b>	<b>Description</b>	<b>Quantity Unit</b>	<b>Unit Price</b>	<b>Amount</b>
<b>RCC Construction</b>			Coffer dam/Sheet Piling	\$475.00	\$47,500.00
1.	100	LinFt.			
2.	150	Cu. Yds.	Excavate For RCC Spillway (includes removal and disposal)	\$50.00	\$7,500.00
3.	2,000	Cu. Yds.	Rollar Compacted Concrete	\$85.00	\$170,000.00
4.	325	Tons	Cement	\$115.00	\$37,375.00
5.	300	Cu. Yds.	Concrete Footing	\$130.00	\$39,000.00
6.	1	Lump Sum	Stoplog System	L.S.	\$75,000.00
7.	200	Lin. Ft.	PVC with Sock	\$20.00	\$4,000.00
8.	40	Lin. Ft.	PVC without Sock (includes rodent guard)	\$25.00	\$1,000.00
9.	1,500	Sq.Yds.	Filter Fabric for RCC	\$3.50	\$5,250.00
10.	150	Sq. Yds.	Filter Fabric for PVC	\$3.50	\$525.00
11.	1	Lump Sum	Site clearing, Leveling and Grading	L.S.	\$15,000.00
<b>Miscellaneous Items</b>			Heavy Riprap Protection	\$80.00	\$8,000.00
12.	100	Sq. Yds.			
13.	1	Lump Sum	Mobilization/demobilization	L.S.	\$45,000.00
14.	1	Lump Sum	Seeding	L.S.	\$7,500.00
			Cleanup and Restoration	L.S.	\$15,000.00
15.	1	Lump Sum Sub			
<b>- Total - Construction Costs</b>					<b>\$477,650.00</b>
Study and Report (hydraulic report for MDEQ dam safety)					\$4,500.00
Survey and Preliminary Design					\$22,000.00
Final Design					\$12,000.00
Construction Administration, Staking and Inspection					\$20,000.00
Material Testing, Quality Control/Quality Assurance					\$12,500.00
MDEQ Permit Application					\$4,000.00
Contingencies (15%)					\$83,350.00
<b>Sub-Total - Construction and Administration Costs</b>					<b>\$636,000.00</b>