



**BOLTON  
& MENK**

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January 24, 2017

Board of Supervisors  
Palo Alto County Courthouse  
Emmetsburg, IA 50536

Re: Engineer's Report  
2014 Flood Damages Repairs  
Drainage District No. 80 Lower Main

To the Board Members and Landowners in the Drainage District:

**Background.** The very heavy rains of June 2014 damaged several drainage district open ditches in Palo Alto County. It resulted in a presidential disaster declaration for a broad area which included Palo Alto County. Drainage Districts in the county had three or four times before secured funding from this source for the repair of damages incurred during disasters. In order to position drainage districts with eligible damages to be able to apply for disaster recovery cost share funding from the Federal Emergency Management Agency and from the State Department of Homeland Security the board directed Bolton & Menk, Inc. to assess open ditches selected by the county engineer for possible damages and to assist the board in applying for funding as may be needed.

The Drainage District No. 80 Lower Main open ditch was one of approximately 24 ditches reviewed. Ultimately, applications for disaster recovery funding assistance was filed for nine drainage districts. Eligible projects would receive cost share of 75% federal and 10% state for the costs of the repairs to the public drainage facilities plus partial funding for engineering and administration. Drainage District No. 80 Lower Main reported \$59,210 in damages.

The board was surprised by an initial FEMA decision that the repairs were not eligible, as identical repairs were eligible in prior disaster recoveries. The denial decision had been based upon an interpretation of the FEMA rules which required regular maintenance of the ditches and regular review. Regular was strictly interpreted to mean annually. The repairs were delayed awaiting the results of the appeals. Unfortunately the appeal is still ongoing although a final appeal decision is anticipated soon.

The board has determined to proceed with a public hearing that would be required if funding assistance is not secured so that the district can be put in a good position to receive bids for the work. Doing the work before funding assistance is secured will not affect the district's eligibility for funding assistance from either agency.

**Damages.** The open ditch of Drainage District No. 80 Lower Main suffered extensive damage during and immediately following the June 2014 storms. These damages are described and tabulated in the first attachment to this letter report.

**Proposed Work.** Attached to this report is a summary of the identified disaster recovery repairs that were submitted to federal and state officials for cost share assistance. The locations of these repair sites are shown on the accompanying map. An estimate of the cost of accomplishing these repairs is presented in the same attachment. We recommend that these repairs be accomplished. We further recommend that the district also make similar bank and pipe repairs that will likely be discovered during the work.

**Estimated Cost.** This cost estimate is based upon bids received for similar projects of which we are familiar and we believe it to be conservative. However, no guarantee is made or implied.

Drainage District No. 80 Lower Main

Disaster-recovery repairs (2014)	\$ 59,210
Inflation Adjustment (10%)	<u>5,921</u>
Construction Subtotal	\$ 65,131
Construction-related Damages	2,500
FEMA Assessment and Administration	5,200
Engineering Services thru Public Hearing	3,000
Bid Letting Services	2,500
Construction Staking, Observation & Admin.	12,000
Legal, Publications and Admin.	3,000
Contingency	<u>5,000</u>
<b>Total Estimated Project Cost</b>	<b>\$ 98,331</b>
Potential Funding Assistance	<u>\$ 55,000</u>
Potential Net Cost	\$ 43,331

Respectfully submitted  
**Bolton & Menk, Inc.**



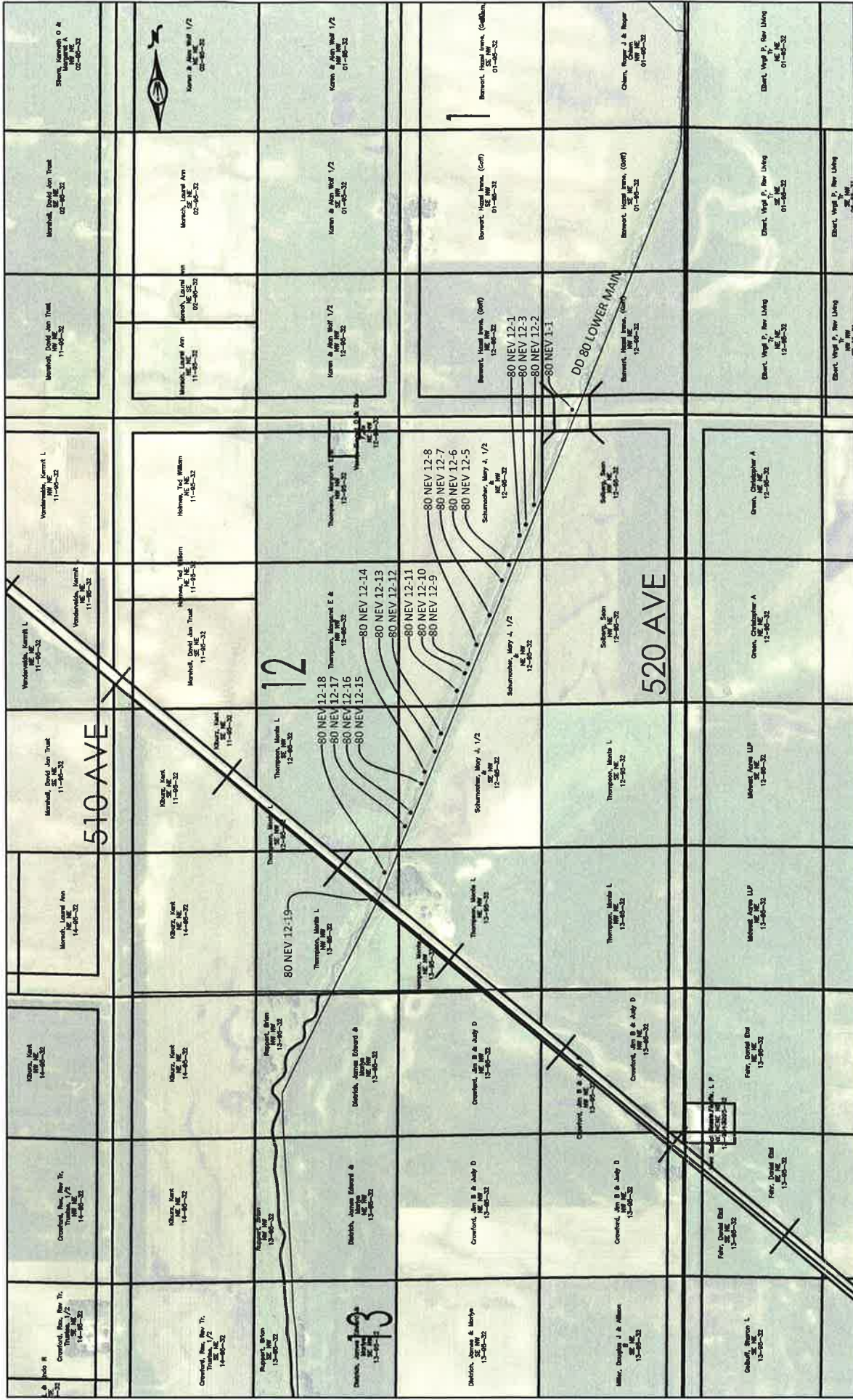
**Donald D. Etler, P.E.**  
Senior Project Manager



Attachments (2)

PALO ALTO COUNTY, IOWA 2014 FLOOD DAMAGE - FEMA REPAIRS DRAINAGE DISTRICT 80 LOWER MAIN							
H:\PAA\IP11108645\FEMA Palo Alto\DD 80\LowerCosts\BQM 80 LOWER.xls\QUANT							23-Jan-17
<b>ESTIMATED PROJECT QUANTITIES</b>							
ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL	AS BUILT QUAN.	UNIT PRICE	TOTAL
<b>DIVISION 1 - GENERAL PROVISIONS AND COVENANTS</b>							
1	11020-108-0	MOBILIZATION	LS	1		\$5,000.00	\$5,000.00
<b>DIVISION 2 - EARTHWORK</b>							
2	2010-108-X-0	CHANNEL EXCAVATION	LF	2,120		\$2.50	\$5,300.00
3	2010-108-X-1	BANK SHAPING	LF	1,470		\$2.50	\$3,675.00
4	2010-108-X-2	BANK FILL	LF	390		\$2.50	\$975.00
<b>DIVISION 9 - SITE WORK AND LANDSCAPING</b>							
5	9010-108-A-0	SEEDING AND FERTILIZING, ONE SIDE	LF	3,980.0		\$1.40	\$5,572.00
6	9040-108-J-0	RIP RAP, TYPE E	TON	1,040.0		\$38.00	\$39,520.00
<b>APPROXIMATE ESTIMATED COST OPINION:</b>							<b>\$60,042.00</b>
*Corrected Cost Opinion, previous estimate was found to have errors.							

DD	Township	Section	Site No	Ditch Depth	Channel Excavation (LF)	Bank Shape (LF)	Bank Fill (LF)	Riprap (Ton)	Tile Ext Size (in)	Tile Ext (ft)	SD Size (in)	SD Length (ft)
80	NEV	12	1	10	140							
80	NEV	12	2	10	130							
80	NEV	12	3	12	130							
80	NEV	12	5	12	80							
80	NEV	12	6	12		130	130					
80	NEV	12	7	12	110							
80	NEV	12	8	12	60	180		140				
80	NEV	12	9	12		160	120	120				
80	NEV	12	10	12		140		80				
80	NEV	12	11	12	130	90		70				
80	NEV	12	12	12	210	160		140				
80	NEV	12	13	12	130	100		80				
80	NEV	12	14	12	160	130		110				
80	NEV	12	15	12	160							
80	NEV	12	16	12		180	140	140				
80	NEV	12	17	12	160							
80	NEV	12	18	12	340	150		130				
80	NEV	12	19	12		50		30				
80	NEV	1	1	10	180							



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<b>BOLTON &amp; MENK</b>		<b>2014 FEMA REPAIRS</b> PALO ALTO COUNTY, IDWA	
DD 80 LOWER MAIN FEMA LOCATIONS		D.01	



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