



**CHAMPAIGN COUNTY BOARD  
COMMITTEE OF THE WHOLE – ELUC/Highway/County  
Facilities**

*County of Champaign, Urbana, Illinois  
Tuesday, January 10, 2012 – 6:00 p.m.*

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*Lyle Shields Meeting Room, Brookens Administrative Center  
1776 E. Washington Street, Urbana, Illinois*

**VIII. County Facilities**

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<i>(Colored copies of maps to be distributed at meeting)</i>	

**Physical Plant Monthly Expenditure Report**

**November, 2011**

EXPENDITURE ITEM	FY09/10 YTD 11/30/2010	FY09/10 ACTUAL	FY09/10 as % of Actual	FY10/11 ORIGINAL BUDGET	FY10/11 BUDGET 11/30/2011	FY10/11 YTD 11/30/2011	FY10/11 as % of Budget	FY10/11 Remaining Balance
Gas Service	\$364,461	\$400,422	91.02%	\$400,000	\$398,913	\$328,328	82.31%	\$70,585
Electric Service	\$835,452	\$898,374	93.00%	\$900,000	\$897,648	\$798,888	89.00%	\$98,760
Water Service	\$59,536	\$67,215	88.58%	\$67,373	\$69,473	\$69,472	100.00%	\$1
Sewer Service	\$42,267	\$46,741	90.43%	\$43,190	\$43,503	\$43,502	100.00%	\$1
All Other Services	\$231,800	\$237,132	97.75%	\$243,530	\$261,069	\$248,288	95.10%	\$12,781
Cths R & M	\$44,757	\$48,905	91.52%	\$30,113	\$76,149	\$73,246	96.19%	\$2,903
Downtown Jail R & M	\$8,238	\$9,255	89.01%	\$26,498	\$16,998	\$15,462	90.97%	\$1,536
Satellite Jail R & M	\$32,744	\$32,744	100.00%	\$27,342	\$49,328	\$46,746	94.77%	\$2,582
1905 R & M	\$8,688	\$9,690	89.66%	\$10,075	\$10,851	\$10,647	98.12%	\$204
Brookens R & M	\$24,560	\$35,390	69.40%	\$31,020	\$33,907	\$33,168	97.82%	\$739
JDC R & M	\$6,167	\$6,662	92.57%	\$11,366	\$9,674	\$8,367	86.49%	\$1,307
1701 E Main R & M	\$14,136	\$15,607	90.58%	\$45,000	\$17,277	\$17,277	100.00%	\$0
Other Buildings R & M	\$8,287	\$8,287	100.00%	\$7,520	\$5,906	\$4,864	82.35%	\$1,042
Commodities	\$60,989	\$62,286	97.92%	\$64,207	\$71,296	\$67,265	94.35%	\$4,031
Gas & Oil	\$7,465	\$7,940	94.02%	\$10,810	\$10,792	\$9,714	90.01%	\$1,078
<b>Totals</b>	<b>\$1,749,546</b>	<b>\$1,886,650</b>		<b>\$1,918,044</b>	<b>\$1,972,784</b>	<b>\$1,775,233</b>		<b>\$197,551</b>

Other buildings R & M includes storage outbuildings, Animal Control, Gill Bldg and 202 Art Bartell  
 This report does not include information on personnel, intergovernmental loans and capital projects.

Prepared by:  
 Ranae Wolken  
 12/19/2011

Electric Utilities - FY2011

Period	Courthouse	204 E Main	502 S Llerman	JDC	1905 E Main	1701 E Main			Brookens	ITC	1705 E Main North Garage	1705 E Main South Garage	202 Art Bartell	Monthly Totals
						Rear	EMANETCAD	Nite Lite						
December	\$15,611.23	\$7,314.97	\$8,923.56	\$4,266.86	\$3,967.14	\$141.28	\$211.08	\$8,680.03	\$6,569.50	\$68.41	\$135.07		\$55,909.13	
January	\$15,934.81	\$6,380.42	\$8,397.25	\$3,329.37	\$4,805.99	\$160.58	\$199.76	\$9,686.60	\$7,555.01	\$66.09	\$162.74		\$56,676.62	
February	\$16,464.78	\$12,483.90	\$8,024.68	\$3,447.12	\$3,934.93	\$124.74	\$196.56	\$8,260.86	\$6,369.83	\$62.01	\$177.48		\$59,546.89	
March	\$16,863.63	\$5,473.54	\$8,665.31	\$3,416.43	\$3,949.82	\$130.45	\$177.98	\$8,349.58	\$6,083.22	\$58.68	\$135.47		\$53,304.11	
April	\$18,691.29	\$6,638.71	\$8,404.47	\$3,432.89	\$4,086.15	\$124.20	\$172.17	\$8,359.25	\$5,549.20	\$53.95	\$127.61		\$55,639.89	
May	\$25,683.28	\$6,982.87	\$11,335.68	\$3,716.46	\$5,094.20	\$154.32	\$162.57	\$11,704.76	\$6,583.96	\$57.31	\$89.45	\$57.00	\$71,621.86	
June	\$30,700.71	\$6,541.61	\$15,288.93	\$5,102.27	\$6,773.15	\$120.06	\$161.00	\$14,936.01	\$8,624.72	\$60.76	\$116.51	\$705.32	\$91,111.05	
July	\$32,928.80	\$9,883.14	\$17,045.31	\$6,133.93	\$7,469.31	\$121.09	\$157.90	\$17,664.63	\$8,870.40	\$73.91	\$94.19	\$988.96	\$101,431.57	
August	\$32,536.41	\$9,025.19	\$17,159.83	\$6,776.56	\$6,754.46	\$122.82	\$160.05	\$15,280.79	\$8,384.50	\$62.36	\$105.90	\$727.29	\$97,096.16	
September	\$31,218.60	\$8,571.14	\$15,984.88	\$5,456.36	\$5,645.55	\$127.37	\$172.47	\$14,254.73	\$8,289.90	\$64.05	\$104.44	\$753.69	\$90,653.18	
October	\$24,289.17	\$6,889.67	\$10,711.71	\$3,906.19	\$4,965.28	\$115.45	\$179.59	\$11,882.69	\$7,989.30	\$58.94	\$102.32	\$619.92	\$71,690.23	
November	\$19,481.69	\$7,557.10	\$10,349.43	\$3,647.21	\$3,917.48	\$118.34	\$199.21	\$10,687.92	\$8,300.09	\$72.85	\$90.57	\$516.12	\$64,938.01	
Total to Date	\$280,404.40	\$95,742.26	\$140,271.04	\$52,631.65	\$61,363.46	\$1,560.70	\$2,150.34	\$139,727.85	\$89,199.63	\$759.32	\$1,441.75	\$4,368.30	\$869,620.70	

Prepared by Ranae Wolken  
12/16/2011

Nite Lites are billed by Ameren - all other electric is provided by Integrys Energy

Gas Utilities - FY2011

Period	Courthouse	204 E Main	502 S Llerman	JDC	1905 E Main	1701 E Main Rear			ITC	1705 E Main North Garage	1705 E Main South Garage	202 Art Bartell	Monthly Totals
						EMAMETCAD	Brookens	Brookens					
December - Ameren	\$3,452.38	\$730.03	\$1,967.17	\$598.61	\$372.17	\$135.73	\$1,067.44	\$3,291.70	\$128.29	\$240.75		\$11,984.27	
December - Integrys	\$10,972.68	\$2,871.84	\$5,890.51	\$2,304.47	\$1,327.16	\$306.48	\$4,328.27	\$10,422.87	\$274.33	\$759.79		\$39,458.40	
January - Ameren	\$3,577.15	\$757.15	\$3,092.73	\$593.19	\$374.08	\$141.96	\$1,118.94	\$3,363.48	\$132.08	\$324.90		\$13,475.66	
January - Integrys	\$11,573.18	\$3,034.33	\$9,890.33	\$2,315.81	\$1,355.64	\$338.48	\$4,619.78	\$10,830.91	\$295.13	\$1,140.10		\$45,393.69	
February - Ameren	\$2,786.98	\$529.66	\$2,030.72	\$407.69	\$305.78	\$109.06	\$803.81	\$2,654.23	\$236.67	\$223.78		\$10,088.38	
February - Integrys	\$9,726.60	\$2,301.63	\$6,831.94	\$1,697.81	\$1,193.29	\$219.38	\$3,658.67	\$9,218.45	\$197.29	\$787.34		\$36,832.40	
March - Ameren	\$2,867.26	\$453.04	\$1,885.05	\$315.99	\$332.22	\$86.68	\$680.17	\$2,588.07	\$86.68	\$176.14		\$9,471.30	
March - Integrys	\$9,314.01	\$1,764.76	\$5,824.26	\$1,141.93	\$1,215.70	\$99.77	\$2,797.10	\$8,322.05	\$99.77	\$506.36		\$31,085.71	
April - Ameren	\$2,230.96	\$262.78	\$1,212.58	\$183.09	\$284.64	\$67.50	\$428.24	\$1,596.81	\$68.71	\$112.06		\$6,447.37	
April - Integrys	\$7,420.04	\$957.41	\$3,613.72	\$572.11	\$1,063.12	\$13.45	\$1,757.24	\$5,048.84	\$19.28	\$228.85		\$20,695.06	
May - Ameren	\$2,409.26	\$132.53	\$1,181.80	\$135.20	\$292.53	\$66.62	\$383.83	\$352.30	\$64.61	\$79.71	\$21.04	\$5,119.43	
May - Integrys	\$7,134.99	\$297.78	\$3,093.39	\$309.48	\$996.68	\$9.94	\$1,395.47	\$382.01	\$1.20	\$67.14		\$13,668.08	
June - Ameren	\$2,397.76	\$127.00	\$1,259.55	\$91.43	\$275.67	\$66.71	\$304.81	\$259.39	\$64.34	\$68.41	\$263.64	\$5,178.71	
June - Integrys	\$5,935.82	\$217.02	\$2,801.31	\$93.87	\$731.99	\$8.24	\$832.89	\$46.90	\$0.00	\$14.07		\$10,682.11	
July - Ameren	\$1,735.71	\$111.88	\$1,006.43	\$79.53	\$199.41	\$66.45	\$127.71	\$256.40	\$64.34	\$67.64	\$199.80	\$3,915.30	
July - Integrys	\$4,959.46	\$210.07	\$2,537.51	\$67.09	\$596.88	\$9.33	\$280.06	\$46.66	\$0.00	\$14.56		\$8,721.62	
August - Ameren	\$2,081.29	\$122.68	\$1,080.20	\$86.39	\$187.72	\$66.47	\$365.07	\$259.07	\$64.62	\$87.75	(\$111.84)	\$4,269.42	
August - Integrys	\$5,633.39	\$233.52	\$2,566.67	\$88.29	\$493.84	\$8.56	\$3,065.14	\$51.26	\$1.17	\$13.67		\$12,155.51	
September - Ameren	\$2,157.14	\$133.22	\$1,065.20	\$137.11	\$208.58	\$66.29	\$664.19	\$395.11	\$77.60	\$67.46	\$64.11	\$5,036.01	
September - Integrys	\$6,237.54	\$299.74	\$2,680.51	\$316.68	\$627.73	\$8.50	\$1,374.20	\$497.63	\$57.68	\$13.58		\$12,113.79	
October - Ameren	\$2,547.27	\$279.78	\$1,098.64	\$189.69	\$206.27	\$88.37	\$843.39	\$542.02	\$79.75	\$71.25	\$172.35	\$6,098.78	
October - Integrys	\$7,156.47	\$892.53	\$2,658.65	\$519.32	\$587.98	\$16.77	\$1,866.21	\$930.41	\$63.85	\$28.67		\$14,720.86	
November - Ameren	\$2,862.97	\$411.17	\$1,089.10	\$276.08	\$222.56	\$72.14	\$1,179.52	\$981.68	\$92.41	\$116.44	\$413.24	\$7,717.31	
November - Integrys	\$8,241.97	\$1,457.34	\$2,663.06	\$889.70	\$664.83	\$32.73	\$2,947.47	\$2,325.20	\$117.90	\$218.88		\$19,559.08	
Total to date	\$125,412.28	\$18,588.89	\$69,021.03	\$13,410.56	\$14,116.47	\$2,085.61	\$36,889.62	\$64,644.45	\$2,287.70	\$5,409.30	\$1,022.34	\$352,888.25	

Ameren - gas delivery and tax charges  
Integrys - gas usage

Prepared by Ranae Wolken  
12/19/2011

Building/Grounds Maintenance work hour comparison

Weekly Period	Repair & Maintenance	Scheduled Maintenance	Nursing Home	Special Project	Grounds Maintenance	Other Tenants	TOTAL
11/28/10 to 12/4/10	280.75	0.00	2.00	14.00	78.00	0.00	374.75
12/5/10 to 12/11/10	270.25	0.00	3.75	38.00	73.50	0.00	385.50
12/12/10 to 12/18/10	327.75	0.00	2.50	0.00	82.75	0.00	413.00
12/19/10 to 12/25/10**	183.25	0.00	1.25	24.00	33.00	0.00	241.50
12/23/10-1/1/11*	153.25	0.00	0.00	12.00	45.00	0.00	210.25
1/2/11-1/8/11	279.50	0.00	3.50	40.00	30.00	0.00	353.00
1/9/11-1/15/11	227.00	0.00	7.00	86.50	66.25	0.00	386.75
1/16/11-1/22/11*	180.75	0.00	10.00	44.00	71.50	0.00	306.25
1/23/11-1/29/11	233.25	7.50	2.00	65.00	15.00	0.00	322.75
1/30/11-2/5/11	164.75	7.50	0.00	21.00	190.75	0.00	384.00
2/6/11-2/12/11	216.25	0.00	0.00	55.00	35.50	0.00	306.75
2/13/11-2/19/11	242.50	0.00	0.00	74.50	8.00	0.00	325.00
2/20/11-2/26/11	211.25	0.00	3.75	30.50	21.25	0.00	266.75
2/27/11-3/5/11	243.75	0.00	2.00	58.50	10.50	0.00	314.75
3/6/11-3/12/11	195.25	0.00	1.25	89.75	0.00	0.00	286.25
3/13/11-3/19/11	234.75	7.50	0.00	48.25	30.00	0.00	320.50
3/20/11-3/26/11	200.25	16.00	2.00	77.75	22.50	0.00	318.50
3/27/11-4/2/11	268.75	0.00	0.00	121.00	0.00	0.00	389.75
4/3/11-4/9/11	285.25	14.50	2.00	14.50	37.50	0.00	353.75
4/10/11-4/16/11	134.75	66.25	2.00	30.50	67.50	0.00	301.00
4/17/11-4/23/11*	162.00	41.00	5.00	15.00	43.50	0.00	266.50
4/24/11-4/30/11	186.25	42.00	3.00	0.00	30.00	0.00	261.25
5/1/11-5/7/11	246.00	12.00	4.25	44.00	66.25	0.00	372.50
5/8/11-5/14/11	228.25	0.00	0.00	53.00	66.00	0.00	347.25
5/15/11-5/21/11	247.00	0.00	1.00	52.00	24.75	0.00	324.75
5/22/11-5/28/11	217.50	0.00	2.50	64.50	58.00	0.00	342.50
5/29/11-6/4/11*	125.00	24.00	8.75	28.00	45.00	0.00	230.75
6/5/11-6/11/11	139.75	32.00	0.00	36.00	67.50	0.00	275.25
6/12/11-6/18/11	206.75	0.00	0.00	44.75	60.00	0.00	311.50
6/19/11-6/25/11	221.00	0.00	0.00	54.00	51.00	0.00	326.00
6/26/11-7/2/11	219.25	1.50	2.00	44.50	28.25	0.00	295.50
7/3/11-7/9/11*	184.75	4.50	2.00	15.00	52.50	0.00	258.75
7/10/11-7/16/11	179.25	7.50	3.75	73.00	75.00	0.00	338.50
7/17/11-7/23/11	217.75	7.50	6.50	31.25	52.50	0.00	315.50
7/24/11-7/30/11	162.50	10.00	0.00	82.50	54.00	0.00	309.00
7/31/11-8/6/11	167.50	6.00	3.75	112.00	47.50	0.00	336.75

1 employee on FMLA until May 1

resignation of 1 employee

Building/Grounds Maintenance work hour comparison

8/7/11-8/13/11	204.25	3.00	1.50	61.00	67.50	0.00	337.25
8/14/11-8/20/11	148.75	6.00	0.00	114.50	36.50	0.00	305.75
8/21/11-8/27/11	125.25	16.50	2.00	165.00	61.00	0.00	369.75
8/28/11-9/3/11	197.50	16.50	0.00	46.50	51.00	0.00	311.50
9/4/11-9/10/11*	157.00	18.00	12.25	32.75	37.75	0.00	257.75
9/11/11-9/17/11	203.25	23.50	0.00	49.50	58.00	0.00	334.25
8/18/11-9/24/11	279.75	24.50	1.00	2.50	66.00	0.00	373.75
9/25/11-10/1/11	255.25	18.00	0.00	20.50	44.50	0.00	338.25
10/2/11-10/8/11	238.00	17.00	2.00	0.75	56.50	3.00	317.25
10/9/11-10/15/11*	182.75	11.00	3.00	0.00	50.75	7.25	254.75
10/16/11-10/22/11	224.25	28.00	54.00	20.50	30.00	0.00	356.75
10/23/11-10/29/11	219.00	25.00	56.75	16.00	41.50	0.00	358.25
10/30/11-11/5/11	180.50	18.00	50.25	0.00	30.00	0.00	278.75
11/6/11-11/12/11*	157.75	12.00	47.25	33.00	30.00	0.00	280.00
11/13/11-11/19/11	272.00	7.50	21.00	8.00	45.00	0.00	353.50
11/20/11-11/26/11**	145.00	4.00	19.00	0.00	10.00	0.00	178.00

\*week includes a holiday  
 One regular work week = 435.00 hours with full staff

There are currently 189.21 comp time hours available to the maintenance staff

Total comp time hours earned in FY11 to date- 812.77

Total spent to date on overtime in FY10 - \$58.36 (Original Budgeted Amount - \$0)

Prepared by: Ranae Wolken  
 12/20/2011

202 SOUTH ART BARTELL ROAD CONSTRUCTION PROJECT

Prepared By: E. Boatz January 10, 2012

	ORIGINAL CONTRACT	CHANGE ORDERS	CONTRACT TOTAL	PAYMENTS THIS MONTH	PAYMENTS YEAR TO DATE	BALANCE TO FINISH
<b>Original Project Budget</b>						
<b>Current Budget w/Change Orders</b>	\$1,945,722.00					
Design/Build						
Roesler Construction	\$1,355,005.00	-8,655.00		\$15,184.12	\$1,346,350.00	\$0.00
<b>Total Design/Build</b>	\$1,355,005.00	-8,655.00	\$1,346,350.00	\$15,184.12	\$1,346,350.00	\$0.00
Licensing & Permitting (Includes Insurance)	\$14,700.00			\$0.00	\$7,035.54	\$7,664.46
Owner Items for New Building	\$46,000.00			\$3,202.07	\$36,199.22	\$10,800.78
Maintenance Area Build-Out for New Building	\$30,000.00			\$840.74	\$12,897.77	\$17,102.23
Complete Fiber Optic Loop for East Campus	\$33,560.00			\$0.00	\$33,560.00	\$0.00
Generator Back-Up System for Brookens Facility	\$14,000.00			\$0.00	\$4,866.01	\$9,133.99
ILEAS South Garage Lighting & Heating	\$6,000.00			\$0.00	\$4,149.25	\$850.75
East Campus Site Storm Water Project	\$447,457.00			\$0.00	\$35,677.50	\$411,779.50
<b>Total Building Costs</b>	\$590,717.00	\$0.00	\$590,717.00	\$4,042.81	\$133,385.29	\$457,331.71
<b>PROJECT TOTAL</b>	\$1,945,722.00	-8,655.00	\$1,937,067.00	\$19,226.93	\$1,479,735.29	\$457,331.71

% of Project Paid to Date 76.39%



**BERNS, CLANCY AND ASSOCIATES**

PROFESSIONAL CORPORATION

**ENGINEERS • SURVEYORS • PLANNERS**

September 6, 2011

**SUMMARY OF  
2006 STORM WATER MANAGEMENT PLAN**

THOMAS BERNS  
EDWARD CLANCY  
CHRISTOPHER BILLING  
DONALD WAUTHIER

DAN ROTHERMEL  
JOHN LYONS  
ROGER MEYER

MICHAEL BERNS  
OF COUNSEL

**“EXISTING CONDITIONS” RELEASE RATE (Agricultural)**

Area	<u>Area 1 (West Watershed)</u>	<u>Area 2 (East Watershed)</u>
Area	11.3 acres ±	31.8 acres ±
Time of Concentration	0.35 hours	0.64 hours
Peak Flow Rate	16.5 cfs	31.8 cfs

**PROPOSED CONDITIONS FOR PLANNING / DESIGN**

**Assumptions:**

Area 1 – Fleet Maintenance	11.3 acres ±	72% impervious
Area 2 – West Portion	16.5 acres ±	65% impervious
Area 2 – East Portion	15.3 acres ±	55% impervious

Time of Concentration Area 1 – 0.14 hours  
Time of Concentration Area 2 – 0.30 hours

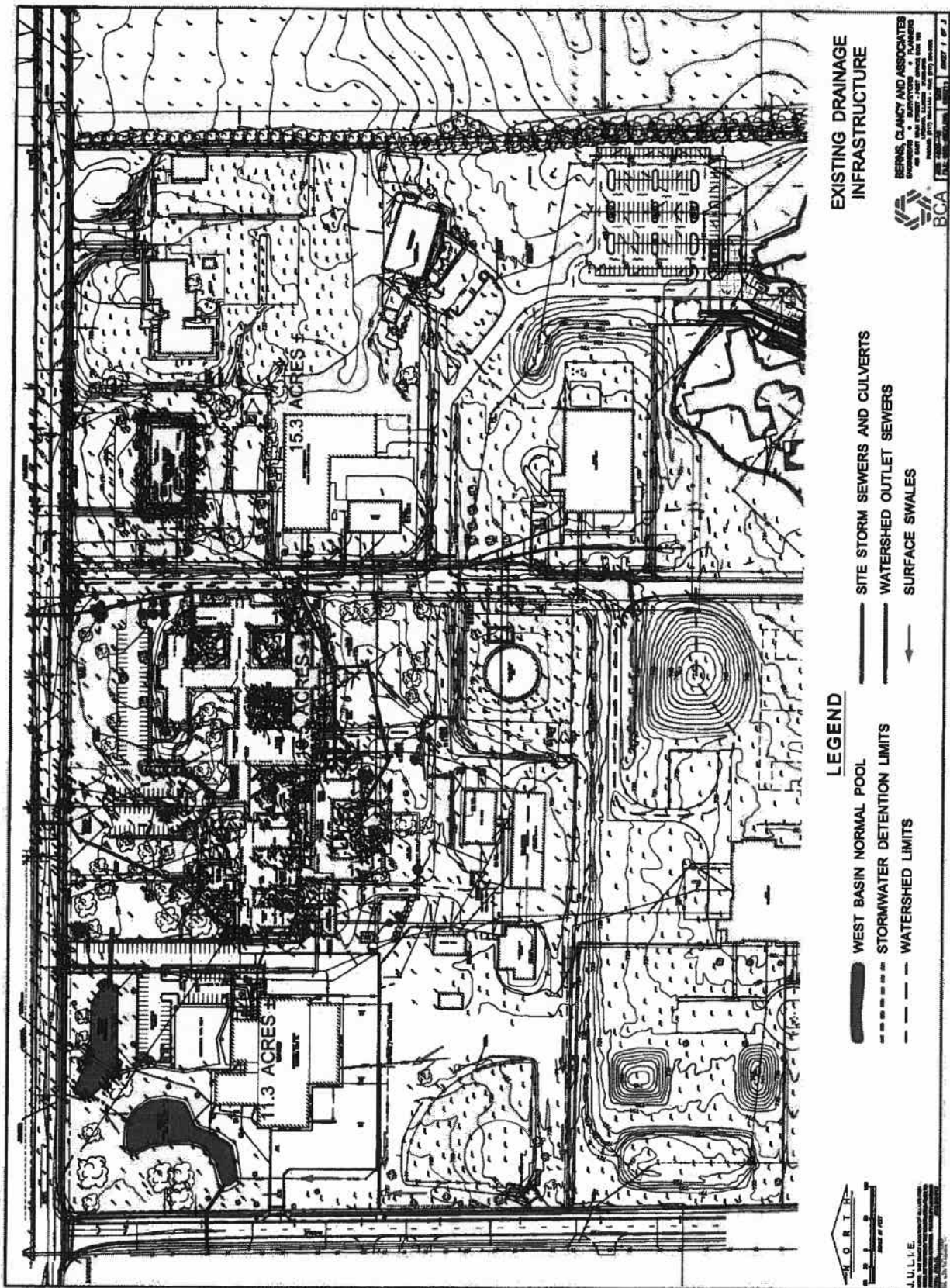
Fleet Maintenance Ponds Storage Volume =	5.4 acre-feet
Box Culvert Storage Volume =	0.4 acre-feet
East Future Detention Pond =	<u>0.9 acre-feet</u> 6.7 acre-feet

**Northern Watershed Storm Water Management Plan Summary Table  
Proposed Peak Discharge and Elevations**

Design Storm Period Return	Peak Inflow	Area 1 Peak Outflow	Area 2 Peak Outflow	Total Peak Outflow	Peak Storage	High Water Surface
100-Year	226 cfs	14 cfs	37 cfs	51 cfs	6.5 acre-feet	728.77 ft.
50-Year	193	13	29	42	5.4	728.10
25-Year	159	12	26	38	4.5	727.30
10-Year	126	11	22	33	3.2	726.46
5-Year	104	11	20	30	2.5	725.81
2-Year	75	10	18	28	1.6	724.94
1-Year	54	9	14	23	1.0	724.33

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**BERNS, CLANCY AND ASSOCIATES**

PROFESSIONAL CORPORATION

**ENGINEERS • SURVEYORS • PLANNERS**

September 2, 2011

THOMAS BERNS  
EDWARD CLANCY  
CHRISTOPHER BILLING  
DONALD WAUTHIER

DAN ROTHERMEL  
JOHN LYONS  
ROGER MEYER

MICHAEL BERNS  
OF COUNSEL

**ENGINEER'S PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COSTS  
SCHEMATIC DESIGN PHASE  
NORTH WATERSHED STORM WATER MANAGEMENT  
CHAMPAIGN COUNTY EAST CAMPUS SITE**

**STORM SEWER APPROACH**

	Item	Quantity	Unit	Unit Price	Total
1	Mobilization	1	Lump Sum	\$20,000	\$20,000
2	Traffic Control	1	Lump Sum	\$5,000	\$5,000
3	Temporary Erosion Control	1	Lump Sum	\$10,000	\$10,000
4	Temporary Culvert Plug	1	Lump Sum	\$1,000	\$1,000
5	Remove Temporary Concrete Box Blocking	1	Lump Sum	\$1,000	\$1,000
6	6 Foot x 4 Foot Concrete Box Culvert	625	Lineal Feet	\$200	\$125,000
7	Install Box End Blocking	1	Lump Sum	\$2,000	\$2,000
8	Manhole Break-in Connection	3	Each	\$600	\$1,800
9	Manhole Removal	1	Each	\$1,200	\$1,200
10	6 Foot Diameter Manhole	1	Each	\$4,500	\$4,500
11	5 Foot Diameter Manhole	2	Each	\$3,000	\$6,000
12	4 Foot Diameter Manhole	7	Each	\$2,200	\$15,400
13	36 Inch Storm Sewer	15	Lineal Feet	\$130	\$1,950
14	30 Inch Storm Sewer	65	Lineal Feet	\$100	\$6,500
15	24 Inch Storm Sewer	705	Lineal Feet	\$50	\$35,250
16	15 Inch Storm Sewer	730	Lineal Feet	\$40	\$29,200
17	12 Inch Storm Sewer	20	Lineal Feet	\$50	\$1,000
18	Granular Trench Backfill	700	Cubic Yards	\$35	\$24,500
19	Remove and Replace Pavement	570	Square Yards	\$80	\$45,600
20	Fertilize, Seed and Mulch Lawn	1.5	Acres	\$6,000	\$9,000
				Subtotal	\$345,900
				15% Contingency	\$52,100
				<b>Total</b>	<b>\$398,000</b>

J:\4605 CC East Campus\474605-47 EPO SS.xls



**BERNS, CLANCY AND ASSOCIATES**

PROFESSIONAL CORPORATION

**ENGINEERS • SURVEYORS • PLANNERS**

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SCHEMATIC DESIGN PHASE  
NORTH WATERSHED STORM WATER MANAGEMENT  
CHAMPAIGN COUNTY EAST CAMPUS SITE**

**BEST MANAGEMENT PRACTICES APPROACH**

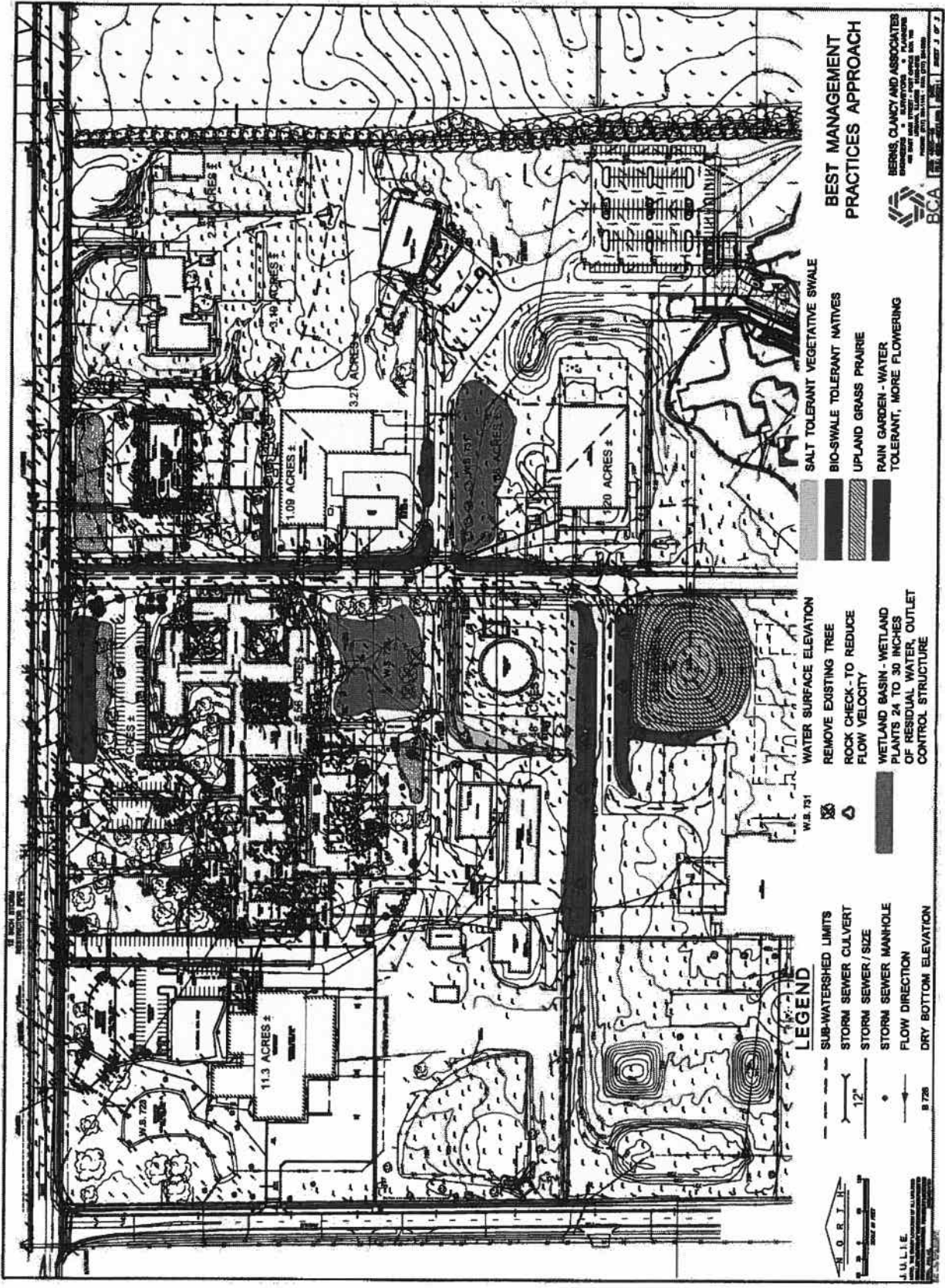
	Item	Quantity	Unit	Unit Price	Total
1	Mobilization	1	Lump Sum	\$20,000	\$20,000
2	Traffic Control	1	Lump Sum	\$5,000	\$5,000
3	Temporary Erosion Control	1	Lump Sum	\$10,000	\$10,000
4	Tree Removal	8	Each	\$1,000	\$8,000
5	Temporary Culvert Plug	1	Lump Sum	\$1,000	\$1,000
6	Concrete Box Connection	1	Each	\$1,000	\$1,000
7	Manhole Breakin Connection	2	Each	\$600	\$1,200
8	4 Foot Diameter Manhole	7	Each	\$2,200	\$15,400
9	24 Inch Storm Sewer	755	Lineal Feet	\$50	\$37,750
10	15 Inch Storm Sewer	115	Lineal Feet	\$45	\$5,175
11	12 Inch Storm Sewer	65	Lineal Feet	\$50	\$3,250
12	12 Inch Culvert	60	Lineal Feet	\$40	\$2,400
13	24 Inch Storm Sewer Plug	1	Each	\$300	\$300
14	Manhole Removal	1	Each	\$1,200	\$1,200
15	18 Inch Storm Sewer Removal	330	Lineal Feet	\$10	\$3,300
16	8 Inch Storm Sewer Removal	130	Lineal Feet	\$10	\$1,300
17	Inlet Removal	1	Each	\$300	\$300
18	2 Foot Diameter Inlet	1	Each	\$1,000	\$1,000
19	Prep Upland Grass Prairie	1.25	Acres	\$2,000	\$2,500
20	Seed Upland Grass Prairie	1.25	Acres	\$2,500	\$3,125
21	Prep Vegetated Swale	0.5	Acres	\$4,000	\$2,000
22	Seed Vegetated Swale	0.5	Acres	\$2,500	\$1,250

J:\4605 CC East Campus\474605-47 EPO BMP.xls

□ 405 EAST MAIN STREET • POST OFFICE BOX 755 • URBANA, IL 61803-0755 • 217/384-1144 • FAX 217/384-3355  
□ 28 WEST NORTH STREET • 301 THORNTON BLDG. • DANVILLE, IL 61832-5729 • 217/431-1144 • FAX 217/431-2929

**Engineer's Preliminary Opinion of Probable Construction Costs**  
**Schematic Design Phase**  
**Best Management Practices Approach**  
September 2, 2011  
Page 2 of 2

	<b>Item</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Total</b>
23	Prep Bioswales	1.8	Acres	\$12,000	\$21,600
24	Plant Bioswales (plugs)	1.8	Acres	\$8,000	\$14,400
25	Bioswale Seeding	1.8	Acres	\$2,500	\$4,500
26	Excavate Main Street Bioswale Basin and Short Haul	1,160	Cubic Yards	\$15	\$17,400
27	Excavate Rain Gardens and Short Haul	1,000	Cubic Yards	\$15	\$15,000
28	Prep Rain Gardens	0.6	Acres	\$4,000	\$2,400
29	Plant Rain Gardens	0.6	Acres	\$8,000	\$4,800
30	Excavate Wetland Basin and Short Haul	8,300	Cubic Yards	\$15	\$124,500
31	Prep Wetland Basin	1.3	Acres	\$5,000	\$6,500
32	Wetland Basin Seeding	1.3	Acres	\$2,500	\$3,250
33	Plant Wetland Basin (plugs)	1.3	Acres	\$9,000	\$11,700
34	Wetland Basin Outlet Structures	2	Each	\$4,000	\$8,000
35	Wetland Habitat Features	4	Each	\$600	\$2,400
36	Rock Checks	35	Tons	\$150	\$5,250
37	Erosion Blanket	4.6	Acres	\$14,500	\$66,700
38	4 Inch Underdrain	650	Lineal Feet	\$12	\$7,800
39	Granular Trench Backfill	100	Cubic Yards	\$50	\$5,000
40	Remove and Replace Pavement	200	Square Yards	\$80	\$16,000
41	Fertilize, Seed, and Mulch Lawn	0.5	Acres	\$6,000	\$3,000
				<b>Subtotal</b>	<b>\$466,650</b>
				<b>15% Contingency</b>	<b>\$70,350</b>
				<b>Total</b>	<b>\$537,000</b>



**BEST MANAGEMENT PRACTICES APPROACH**

- [Hatched pattern] SALT TOLERANT VEGETATIVE SWALE
- [Hatched pattern] BIO-SWALE TOLERANT NATIVES
- [Hatched pattern] UPLAND GRASS PRAIRIE
- [Hatched pattern] RAIN GARDEN - WATER TOLERANT, MORE FLOWERING

- [Symbol] WATER SURFACE ELEVATION
- [Symbol] REMOVE EXISTING TREE
- [Symbol] ROCK CHECK - TO REDUCE FLOW VELOCITY
- [Symbol] WETLAND BASIN - WETLAND PLANTS 24 TO 30 INCHES OF RESIDUAL WATER, OUTLET CONTROL STRUCTURE

- [Symbol] SUB-WATERSHED LIMITS
- [Symbol] STORM SEWER CULVERT
- [Symbol] STORM SEWER / SIZE
- [Symbol] STORM SEWER MANHOLE
- [Symbol] FLOW DIRECTION
- [Symbol] DRY BOTTOM ELEVATION

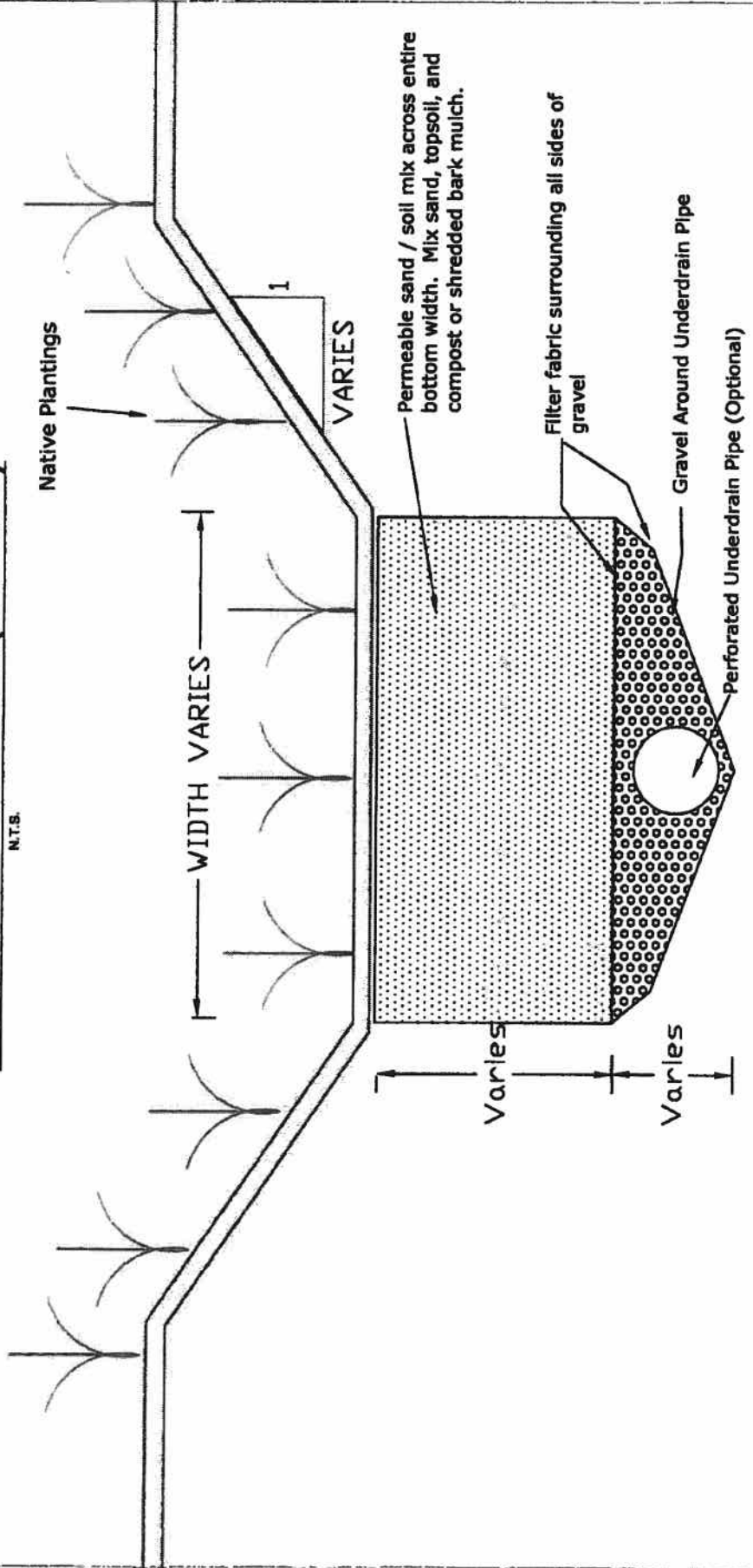
**LEGEND**

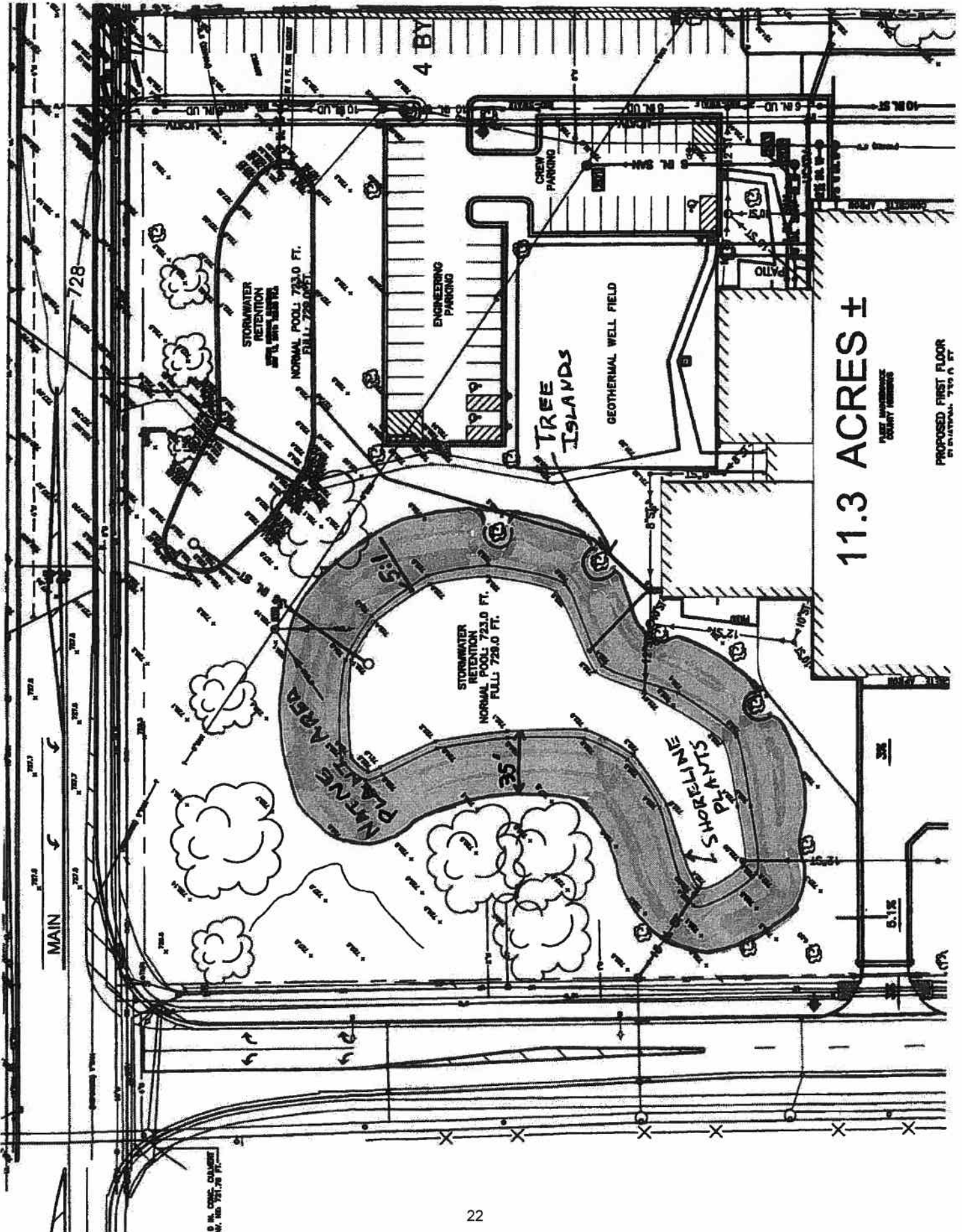


**BCA**  
 BERNS, CLANCY AND ASSOCIATES  
 100 WEST MAIN STREET - SUITE 200  
 CHICAGO, ILLINOIS 60601  
 PHONE: (312) 541-1100 FAX: (312) 541-1101  
 WWW: WWW.BCA-ILL.COM  
 PROJECT: 17-001

# VEGETATED BIOSWALE (SECTION)

N.T.S.





11.3 ACRES ±

FACE IMPROVEMENT  
COUNT NUMBER

PROPOSED FIRST FLOOR  
BY ORIGINAL 7' TO 6' FT

10 M. CONC. CHANNEL  
W. 100' 751.76 FT.



# BERNS, CLANCY AND ASSOCIATES, P.C.

ENGINEERS • SURVEYORS • PLANNERS

URBANA, IL 61803-0755 • TEL 217/384-1144 • FAX 217/384-3355  
DANVILLE, IL 61832-5729 • TEL 217/431-1144 • FAX 217/431-2929

Job # 4605

Computer CB

Date 9-6-11

Sheet 1 of 1

## PROPOSED EDGE TREATMENT EXISTING WEST DETENTION BASIN

Excavate to normal pool and regrade pond banks to 1:5 and seed and plug with Native Plant mixture. Install "wetland plants along shoreline. Include "goose grid" along shoreline and 3 tree islands.

Excavation and Grading	1,500 cy @ \$15	\$22,500
Prep Graded Area	0.62 Ac @ \$2,500	1,500
Seed Graded Area	0.62 Ac @ \$2,500	1,500
Native Veg. Plugs	0.62 Ac @ \$8,000	5,000
Wetland Plants	0.1 Ac @ \$8,000	800
Tree Island Structures	3 Eq @ \$1,500	4,500
Goose Grid	750 Lf @ \$1.50	1,200
		<hr/>
		\$37,000
15% Contingency		5,000
		<hr/>
		\$42,000





**BERNS, CLANCY AND ASSOCIATES, P.C.**

ENGINEERS • SURVEYORS • PLANNERS

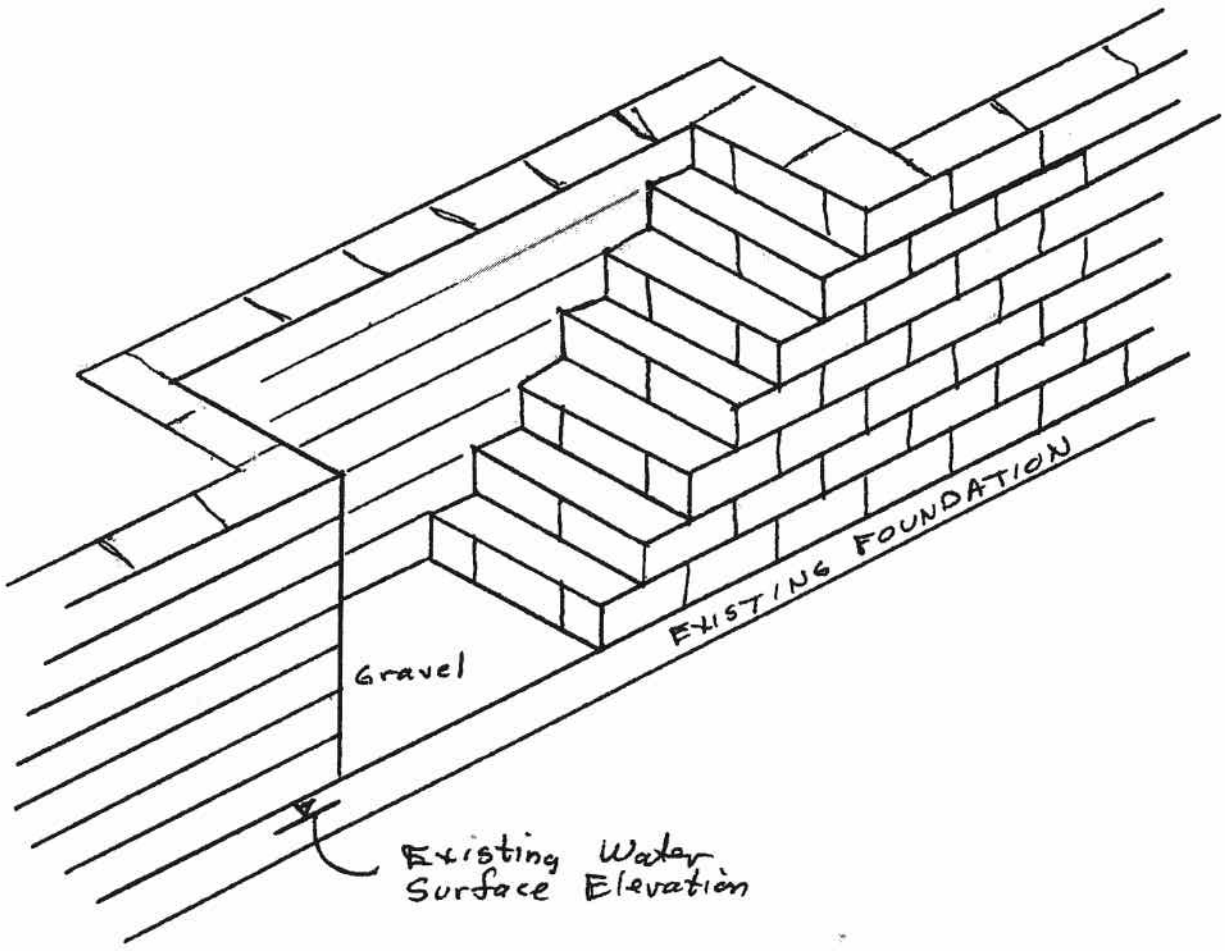
- URBANA, IL 61803-0755 • TEL 217/384-1144 • FAX 217/384-3355
- DANVILLE, IL 61832-5729 • TEL 217/431-1144 • FAX 217/431-2929

Job # 9605

Computer CB

Date 9-6-11

Sheet      of



EMERGENCY EXIT FROM  
STORM WATER DETENTION BASIN

\$5,000 to \$6,000



## CHAMPAIGN COUNTY ADMINISTRATIVE SERVICES

1776 EAST WASHINGTON  
URBANA, IL 61802  
(217) 384-3776  
(217) 384-3785 – PHYSICAL PLANT  
(217) 384-3898 – FAX  
(217) 384-3884 – TDD  
Website: [www.co.champaign.il.us](http://www.co.champaign.il.us)

ADMINISTRATIVE SUPPORT  
INFORMATION TECHNOLOGY  
MICROGRAPHICS  
PURCHASING  
PHYSICAL PLANT  
SALARY ADMINISTRATION

### MEMORANDUM

**DATE:** 9-13-2011

**TO:** Tom Betz, Deputy Chair County Facilities and Champaign County Board Committee of the Whole

**FROM:** Alan Reinhart, Facilities Director

**RE:** Northern Watershed Storm Water Management

The two (2) designs submitted for the Northern Watershed Storm Water Management on September 6, 2011 to the C.O.W. by Berns Clancy and Associates both meet the minimum standards required by the City of Urbana Stormwater Management program.

Champaign County has issued easement along the Art Bartell Road corridor traveling south from Main Street and then west to Lierman Avenue to Illinois American Water Company in 2005 for the water Main Extension Agreement & 1<sup>st</sup> & 2<sup>nd</sup> Amendments.

Champaign County has issued easement along the Art Bartell Road corridor traveling south from Main Street and then east to the Champaign County Nursing Home to AmerenIP in 2005 for the Electric and Gas Easement agreement.

Champaign County has issued easement along Main Street across the property at 1905 E. Main (EOC) & 1701 E. Main (ILEAS) to Urbana & Champaign Sanitary District in 2009 for the U&CSD Main Street Force Main Routing agreement.

The Best Management Practices Approach design submitted by BCA proposes Bio-swales & Rain Gardens either across or through these known easements. If the BMP approach is implemented for this project, at any time, any of these utility companies may access these areas to perform repairs or replacements, forcing us to reconstruct the area affected.

The BMP approach utilizes approximately 3 acres of space located around the EOC and ILEAS facilities, greatly reducing the possibility of building and/or parking lot expansions for these properties.

The Wetland Basin proposed directly north of the Juvenile Detention Facility in the BMP approach will force the area used by the EOC for a Helicopter landing site to be moved further away from their building deeper into the East Campus.

The Storm Sewer Approach presented is estimated at \$398,000. The BMP approach submitted is estimated at \$537,000. The Resolution approving project budget for 202 Art Bartell Drive and County East Campus Construction Project listed the East Campus Site Storm Water Project for \$447, 457.00. The current available balance of this project budget, after payments for engineering services to get us to this point, is \$411,779.50.

With the probability that Bio-swales and Rain Gardens will be disturbed in future, forcing reconstruction, the restrictions placed on building and/or parking lot expansions and the funds available for the East Campus Site Storm Water Project budget, I recommend that we accept the Storm Sewer Approach.

**RECOMMENDED ACTION**

***The Finance Committee of the Whole recommends to the County Board approval of the Storm Sewer Approach submitted by Berns, Clancy and Associates at an estimated cost of \$398,000.***



## CHAMPAIGN COUNTY ADMINISTRATIVE SERVICES

1776 EAST WASHINGTON  
 URBANA, IL 61802  
 (217) 384-3776  
 (217) 384-3765 – PHYSICAL PLANT  
 (217) 384-3896 – FAX  
 (217) 384-3864 – TDD  
 Website: www.co.champaign.il.us

ADMINISTRATIVE SUPPORT  
 INFORMATION TECHNOLOGY  
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 PURCHASING  
 PHYSICAL PLANT  
 SALARY ADMINISTRATION

### Standard Landscaping to Best Management Practices (SL) (BMP) Maintenance Comparison

- Converting SL to BMP acreage will not require extra or specialized equipment to be purchased.
- The proposed conversion from SL to BMP is not significant enough to warrant reducing current equipment inventory.
- The northern watershed areas affected include approximately 24 acres. The BMP approach presented removes approximately 3 acres from the SL area, which is about 12% of the total area.
- 12% reduction in labor and equipment maintenance for this area will be a value of approximately \$2,000 annual savings.
- The initial first 3 years are the most critical and labor intensive periods in establishing the Rain Gardens and Bioswales. Removing invasive plants and weeds, checking and re-plugging as needed, etc. Our first year labor cost is estimated at 140 hours. The second year, as plants are more established the estimated labor cost is reduced to 80 hours. The third year the labor is reduced to 30 hours, as the planting is fully established.
- BMP potential savings estimate:

Year	Labor Reduction	BMP Maint. Cost	Accumulative Totals +(-)
1	\$2,000	(\$3,500)	(\$1,500)
2	\$2,000	(\$2,000)	(\$1,500)
3	\$2,000	(\$750)	(\$250)
4	\$2,000	-	\$1750
5	\$2,000	-	\$3750

October 19, 2011

1802 E. Lakeshore Dr.  
Mahomet, IL 61853

Ms Deb Busey  
Champaign County Administrator  
Brookens Administrative Center  
1776 East Washington St.  
Urbana, IL 61802

Dear Ms. Busey:

Attached is a marked up copy of Berns, Clancy and Associate's Best Management Practices Approach to solving the storm water management problem at the east campus. Davis Atchley, PE, PLS at MSA Professional Services assisted in the preparation of the following comments as a courtesy to the County.

- Planting salt tolerant grasses around the salt dome is a good idea.
- Planting an upland grass prairie on the mound located south of the salt dome is a good idea.
- Eliminate the proposed wetland basin on the east side of Art Bartell Road and replace it with a vegetated swale.
- Eliminate the wetland basin north of the salt dome, grade to drain and replant with grasses as needed.
- Construct a storm sewer south near Main Street a sufficient distance and of a sufficient size to carry the water from the southerly portion of the area through the high spot to the existing detention at the maintenance facility.
- Increase the size of the bio-swale / rain garden / detention along Main Street as needed.
- Constructing the bio-swailes along the roadways with an under drain is good practice from a highway engineering perspective. Under drains would also discourage the growth of cat tails. It should also be noted that salt runoff from the salt dome area would react with clay in the bio swales and make the bio-swailes less pervious. Therefore it's a good idea to construct the bio swales in the salt dome area with low clay content soils.

I have reviewed the memo from Jim Patchett of CDF to Patsi and Astrid and found his comments to be sound and constructive. I concur with his suggestion that BCA should check their quantities and further suggest BCA should recheck their unit costs. As an example I am attaching an estimate from an area contractor to install the 6'x4' concrete box culvert listed in BCA's storm sewer approach design.

**Please pass these comments along to Berns, Clancy and Associates. Call me if you have any questions.**

**Sincerely,**

A handwritten signature in black ink, appearing to read "Gary", written in a cursive style.

**Gary W. Maxwell  
Champaign County Board Member, District 1**



10/7/11

BRIAN JOHNSON - Co MATERIALS COORDINATOR  
SAID 6 X 4 CULV DELIVERED TO USGAVA = 215/100 FT  
gary maxwell <maxwell.gary58@gmail.com>

## Box Culvert Estimate

2 messages

Steve Blair <Steve@feutzcontractors.com>  
To: "maxwell.gary58@gmail.com" <maxwell.gary58@gmail.com>  
Cc: BJ Thomey <bj.thomey@feutzcontractors.com>

Fri, Oct 7, 2011 at 12:04 PM

Gary

Please see below our budget estimate on this installation, based on the following assumptions. Should you have any questions regarding this issue, please call me.

Steve Blair

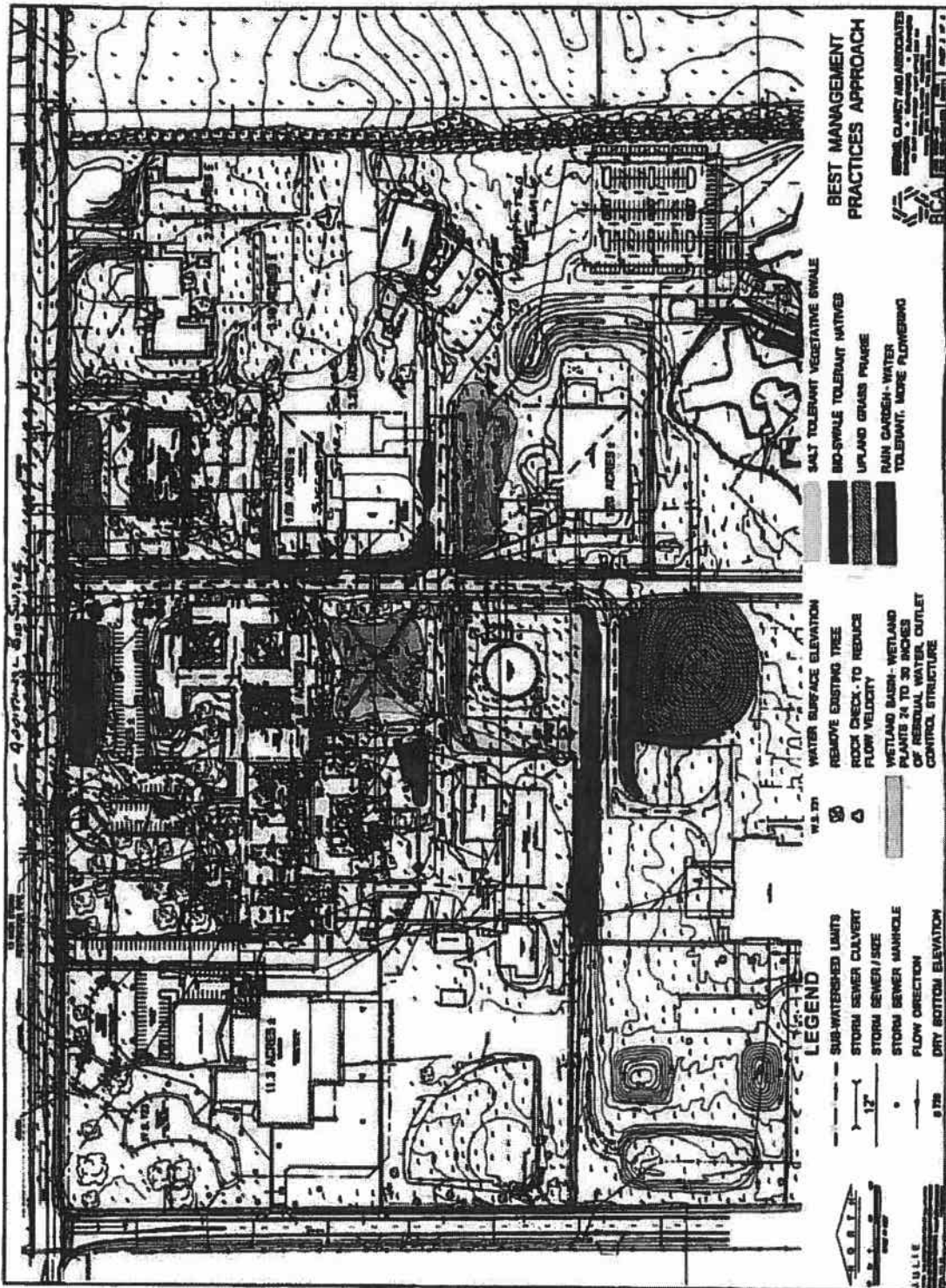
### Assumptions

1. One line of precast box culvert 6'x4' at 625 lineal foot. No access problems for equipment and/or trucks
2. Budget price for box material based on 0-2 ft cover and C850 design criteria. No headwalls included in pricing
3. Bedding beneath box culvert - 8 inch aggregate
4. Placed in landscape area, all backfill to be excavated material. Excess spoil trucked away from the site.
5. No surface feature restoration. Allowed for generally shaping and grading to match adjacent contours after completion of culvert installation.

Budget Price: PRECAST BOX CULVERT, 6'X4'..... 625 LINEAL FEET AT \$330.00 PER LINEAL FOOT.

J Steve Blair, P.E., Chairman and CEO  
FEUTZ CONTRACTORS, INC. since 1925  
reply to: 1120 N. Main St. Paris, IL 61954

<https://mail.google.com/mail/?ui=2&ik=d933c8932a&view=pt&search=inbox&th=132df5...> 10/7/2011



**BEST MANAGEMENT PRACTICES APPROACH**

SALT TOLERANT VEGETATIVE SWALE  
 BIO-SWALE TOLERANT NATIVES  
 UPLAND GRASS PRAIRIE  
 RAIN GARDEN-WATER TOLERANT, MORE FLOWERING

ENGINE, CLARKE AND ASSOCIATES  
 1000 N. W. 10th St.  
 Ft. Lauderdale, FL 33304  
 PHONE: 561-533-1111 FAX: 561-533-1112  
 WWW: WWW.CLARKEANDASSOCIATES.COM

**LEGEND**

SUB-WATERSHED LIMITS  
 STORM SEWER CULVERT  
 STORM SEWER SIZE  
 STORM SEWER MANHOLE  
 FLOW DIRECTION  
 DRY BOTTOM ELEVATION  
 WATER SURFACE ELEVATION  
 REMOVE EXISTING TREE  
 ROCK CHECK-TO REDUCE FLOW VELOCITY  
 WETLAND BASIN- WETLAND PLANTS 24 TO 30 INCHES OF ANNUAL WATER OUTLET CONTROL STRUCTURE





## Conservation Design Forum

### MEMORANDUM

**Date:** October 4, 2011  
**To:** Astrid & Patsi  
**From:** Jim Patchett  
**Re:** Berns Clancy Storm System  
**cc:**  
**Ref. #:** [Project #] – [2011-10-04] – [Berns Clancy Stormwater Review]

### MEMO

We have reviewed the documents including the Opinions of Probable Construction Cost for both the "Storm Sewer Approach" as well as the "Best Management Practices Approach". In all fairness to the consultant, it is difficult to adequately review and interpret the plans and documents without knowledge of the site, the existing conditions, and any flooding and/or drainage issues that need to be addressed. In other words, we don't know what problem the proposed improvements are designed to solve. We do, however, have some comments that may be relevant based on our cursory observations.

First of all, the standard storm sewer approach relies on the construction of a 4x6 foot box culvert at an estimated cost of \$125,000 for the purpose of stormwater runoff and flood conveyance. We presume the culvert is necessary to address existing site flooding. Apparently, the existing storm infrastructure is insufficient to convey runoff to the two (2) existing stormwater detention basins located in the northwest portion of the site. It is unknown whether these basins are sufficiently sized in their existing configuration to accommodate the larger peak flows that are likely to result from the "improved" storm infrastructure. If the higher peak flows resulting from the improved storm infrastructure cause the two basins to over flow or release higher flows downstream, this would be a concern. Obviously, the traditional "Storm Sewer Approach" does not provide any of the runoff volume reduction, peak flow control, and water quality benefits of the "BMP Approach".

It is likely that some alternative of the best management practices approach could be developed that would provide enhanced flood storage, increased on-site infiltration and corresponding runoff reduction, substantially improved water quality, and supplemental wildlife habitat enhancement at a competitive cost. A few suggestions might include:

- Elimination of the gravel drainage layer and amended topsoil in the proposed bio-swales, converting them to simple vegetated swales. Elimination of these components would mean that they would not perform quite as well from a runoff volume and water quality perspective but they would perform equally well from a peak flow control perspective and cost substantially less.
- Seeding of the bio-swales, vegetated swales, and rain gardens is more than sufficient to incorporate naturalized landscapes into this environment. Plug plantings are nice and result in quicker establishment but they could be considered a luxury that could either be eliminated altogether, or substantially downscaled.
- The design of the rain gardens is unclear. However, designing them as wetland basins may be less expensive than designing them as rain gardens.
- There is proposed regrading and naturalized planting around the existing detention area in the northwest portion of the site. While this may improve the water quality performance and

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www.cdfinc.com

Ann Arbor  
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potentially peak flow performance of the basin, it is unclear whether the additional storage is needed.

- The consultant should check their quantities. The cost estimates show more 24-inch storm sewer in the BMP plan than in the storm sewer plan but the drawings appear to show the opposite.

In summary, it is our opinion that it is likely possible to develop a sustainable site development and water management alternative that is comparable in cost to the proposed standard storm sewer plan. The flood reduction and environmental benefits of the sustainable approach should also be taken into consideration. It should also be noted that there are several state and federal funding programs including the Illinois Green Infrastructure Grant Program (IGIG) that routinely provide funding support to implement green infrastructure demonstration projects.

I hope that these comments may be of some benefit. Again, it is difficult to thoroughly assess the characteristics of each alternative without some knowledge of the site, but suffice it to say, that you can not simply compare these from an apples to apples comparison because of the multiple benefits that can be achieved through a more



**BERNS, CLANCY AND ASSOCIATES**  
PROFESSIONAL CORPORATION

**ENGINEERS • SURVEYORS • PLANNERS**

November 1, 2011

THOMAS BERNS  
EDWARD CLANCY  
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DONALO WAUTHIER

ROGER MEYER  
DAN ROTHERMEL  
KATHERINE LATHAM

MICHAEL BERNS  
OF COUNSEL

**TO: CHAMPAIGN COUNTY BOARD MEMBERS**

**PROJECT: NORTHERN WATERSHED STORM WATER MANAGEMENT  
CHAMPAIGN COUNTY EAST CAMPUS  
URBANA, CHAMPAIGN COUNTY, ILLINOIS**

**ITEM: Response to Letter of October 19, 2011  
Gary W. Maxwell, Champaign County Board Member, District 1**

We attach a copy of the letter from County Board Member Gary Maxwell we received for your reference. This letter is a suggestion to modify the proposed Best Management Practices Approach into another alternative. The major components of this new alternative removes some "Hybrid" Approach Best Management Practices and utilizes more components of a standard storm sewer approach which are summarized as follows:

1. Salt tolerant grass around the Salt Dome is retained.
2. Upland grass prairie on the earth mound is retained.
3. The wetland basin Best Management Practice east of Art Bartell Drive is deleted and replaced with a vegetated swale thereby reducing excavation and planting costs.
4. The wetland basin Best Management Practice north of the Salt Dome is deleted and replaced with a grassed, dry stormwater detention area thereby reducing excavation and planting costs.
5. Extend a 24 inch diameter storm sewer along the eastern edge of Art Bartell Drive from Main Street south to the access drive to the Humane Society to convey runoff through the high spot.
6. Increase the size of the proposed storm sewer south of Main Street from Art Bartell west to the existing storm water detention basins from 24 inch diameter to 48 inch diameter to transfer the increased runoff from the south (the new storm sewer) at an increased rate to the existing storm water detention basins.

7. Add bio-swale area to the west of the north driveway to I.L.E.A.S.
8. Bio-swales will continue to include underdrains.
9. Bio-swales will be constructed with amended topsoil as natural soils are typically very tight. Clay soils will be minimized in the areas around the salt dome area.

The estimated construction cost at this schematic design stage for this revised "Hybrid" Approach alternative is \$659,000 as is documented on the attached Engineer's Opinion of Probable Construction Costs. This is a higher cost than either of the two (2) approaches.

The final issue raised related to quantities and unit costs. The breakdowns provided are more detailed than is typical for a schematic design level, but were provided in an effort to give consideration to as many factors and details as may be involved in these differing approaches.

The unit cost for the 6 foot x 4 foot concrete box culvert suggested in the estimate attached to the Gary Maxwell letter from a contractor is \$330 per lineal foot. Our estimate for this box culvert of September 2, 2011 showed this unit price at \$200 per lineal foot. We projected forward from past project experience but with a low escalation factor to match current economic conditions. However, we acknowledge upon further investigation that there is a change in fabricators in this area during this time period and that costs may have escalated to a greater degree. We spoke to the material supplier and received pricing. The contractor providing the price estimate is reputable. But we also know that contractor and material supplier provided prices when not bidding are usually not as low as when work is publicly bid. This is why we bid public projects.

Therefore, we suggest a unit cost of \$300 per lineal foot would be appropriate to substitute into the estimate of construction costs to match in the same confidence level as other unit prices. This would add another \$62,500 to this item and increase the total estimated cost of the Storm Sewer Approach from \$358,000 to about \$470,000. For reference, the previous Best Management Practices Approach cost was \$537,000.

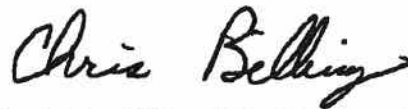


**Northern Watershed Storm Water Management  
Champaign County East Campus  
Urbana, Champaign County, Illinois  
November 1, 2011  
Page 3 of 3**

One last item of importance that is different in approaches is the use of currently undeveloped land within the watershed. In the Storm Sewer Approach, the larger areas of undeveloped space which are currently kept in lawn remains essentially unused and available for the future. Both the Best Management Practices Approach and the "Hybrid" alternative suggested and addressed above consume these areas for Best Management Practices and storm water detention, so they are not available for future use. This watershed is therefore, by-in-large fully developed and provides little opportunity for expanded parking, material storage, building expansions or other alternative uses. This consideration is not addressed in the comparative estimates of construction costs, but is worthy of note.

We would be pleased to help you address any other concerns or questions you may have. We appreciate being of assistance to you as you consider the best approach to watershed drainage improvements.

Respectfully Submitted,  
**BERNS, CLANCY AND ASSOCIATES, P.C.**



Christopher Billing, P.E., Vice President

CB:bk  
Enclosure  
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November 1, 2011

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ROGER MEYER  
DAN ROTHERMEL  
KATHERINE LATHAM

MICHAEL BERNS  
OF COUNSEL

**ENGINEER'S PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COSTS  
SCHEMATIC DESIGN PHASE  
NORTH WATERSHED STORM WATER MANAGEMENT  
CHAMPAIGN COUNTY EAST CAMPUS SITE**

**MODIFIED "HYBRID" APPROACH PER GARY MAXWELL**

	Item	Quantity	Unit	Unit Price	Total
1	Mobilization	1	Lump Sum	\$20,000	\$20,000
2	Traffic Control	1	Lump Sum	\$5,000	\$5,000
3	Temporary Erosion Control	1	Lump Sum	\$10,000	\$10,000
4	Tree Removal	8	Each	\$1,000	\$8,000
5	Temporary Culvert Plug	1	Lump Sum	\$1,000	\$1,000
6	Concrete Box Connection	1	Each	\$1,000	\$1,000
7	Manhole Breakin Connection	2	Each	\$600	\$1,200
8	4 Foot Diameter Manhole	2	Each	\$2,200	\$4,400
9	7 Foot Diameter Manhole	5	Each	\$4,400	\$22,000
10	8 Foot Diameter Manhole	1	Each	\$6,500	\$6,500
11	48 Inch Storm Sewer	695	Lineal Feet	\$200	\$139,000
12	24 Inch Storm Sewer	680	Lineal Feet	\$50	\$34,000
13	15 Inch Storm Sewer	115	Lineal Feet	\$45	\$5,175
14	12 Inch Storm Sewer	65	Lineal Feet	\$50	\$3,250
15	12 Inch Culvert	60	Lineal Feet	\$40	\$2,400
16	24 Inch Storm Sewer Plug	1	Each	\$300	\$300
17	Manhole Removal	1	Each	\$1,200	\$1,200
18	18 Inch Storm Sewer Removal	330	Lineal Feet	\$10	\$3,300
19	8 Inch Storm Sewer Removal	130	Lineal Feet	\$10	\$1,300
20	Inlet Removal	1	Each	\$300	\$300
21	2 Foot Diameter Inlet	1	Each	\$1,000	\$1,000
22	Prep Upland Grass Prairie	1.25	Acres	\$2,000	\$2,500
23	Seed Upland Grass Prairie	1.25	Acres	\$2,500	\$3,125

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□ 405 EAST MAIN STREET • POST OFFICE BOX 755 • URBANA, IL 61803-0755 • 217/384-1144 • FAX 217/384-3355  
□ 28 WEST NORTH STREET • 301 THORNTON BLDG. • DANVILLE, IL 61832-5728 • 217/431-1144 • FAX 217/431-2828

**Engineer's Preliminary Opinion of Probable Construction Costs**  
**Schematic Design Phase**  
**Modified "Hybrid" Approach per Gary Maxwell**  
 November 1, 2011  
 Page 2 of 2

	<b>Item</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Total</b>
24	Prep Vegetated Swale	0.5	Acres	\$4,000	\$2,000
25	Seed Vegetated Swale	0.5	Acres	\$2,500	\$1,250
26	Prep Bioswales	1.9	Acres	\$12,000	\$22,800
27	Plant Bioswales (plugs)	1.9	Acres	\$8,000	\$15,200
28	Bioswale Seeding	1.9	Acres	\$2,500	\$4,750
29	Excavate Main Street Bioswale Basin and Short Haul	1,460	Cubic Yards	\$15	\$21,900
30	Excavate Rain Gardens and Short Haul	1,000	Cubic Yards	\$15	\$15,000
31	Prep Rain Gardens	0.6	Acres	\$4,000	\$2,400
32	Plant Rain Gardens	0.6	Acres	\$8,000	\$4,800
33	Excavate Wetland Basin and Short Haul	4,400	Cubic Yards	\$15	\$66,000
34	Prep Vegetated Swales	1.3	Acres	\$2,500	\$3,250
35	Seed Vegetated Swales	1.3	Acres	\$4,000	\$5,200
36	Outlet Structures	2	Each	\$3,000	\$6,000
37	Rock Checks	35	Tons	\$150	\$5,250
38	Erosion Blanket	4.6	Acres	\$14,500	\$66,700
39	4 Inch Underdrain	650	Lineal Feet	\$12	\$7,800
40	Granular Trench Backfill	560	Cubic Yards	\$50	\$28,000
41	Remove and Replace Pavement	200	Square Yards	\$80	\$16,000
42	Fertilize, Seed, and Mulch Lawn	0.5	Acres	\$6,000	\$3,000
				<b>Subtotal</b>	<b>\$573,250</b>
				<b>15% Contingency</b>	<b>\$85,750</b>
				<b>Total</b>	<b>\$659,000</b>



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October 28, 2011

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**TO: CHAMPAIGN COUNTY BOARD MEMBERS**

**PROJECT: NORTHERN WATERSHED STORM WATER MANAGEMENT  
CHAMPAIGN COUNTY EAST CAMPUS  
URBANA, CHAMPAIGN COUNTY, ILLINOIS**

**ITEM: Response to Questions and Suggestions  
Jim Patchett, Conservation Design Forum  
Memorandum of October 4, 2011**

We attach a copy of the memorandum from the Conservation Design Forum we received for your reference. We respond to issues noted therein and provide information for consideration as follows:

**Paragraph 1 –**

The "flooding and / or drainage issues that need to be addressed or solved" include flooding that occurs in the central portion of this northern watershed which is the area south of I.L.E.A.S., around the Salt Dome, and around the Animal Control and the Physical Plant Maintenance buildings. The issues also include reducing the peak runoff rate from the property under the currently developed conditions to reduce impacts on downstream properties to the north.

**Paragraph 2 –**

The existing storm infrastructure is not only insufficient to convey runoff from Art Bartell Drive to the two (2) existing storm water detention basins to the west, it is non-existent. There is no subsurface sewer or surface drainageway to transfer the storm water to the constructed storm water detention basins. This important component of the overall Storm Water Management project that constructed the two (2) storm water detention ponds several years ago was delayed "to a later date". That "later date" is now.

The existing storm water detention basins to the west are sized to accommodate the flows from this 31.8 acre watershed. These basins presently receive runoff only from the western 11.3 acres around the Fleet Maintenance building and have been underutilized all this time.



At the present time, there is no peak flow volume reduction in runoff from the developed conditions from this eastern 31.8 acre watershed - - other than some attenuation that results from the surface flooding that occurs in the central area of the watershed. Runoff from this developed 31.8 acre watershed flows northward to Main Street and then continues, without reduction, to downstream properties to the north. Making the connection to the storm water detention basins to the west will reduce the peak flows to downstream properties by storing runoff and releasing it at a lower, regulated rate.

**Paragraph 3 –**

There is a virtually unlimited number of alternatives to the proposed "Best Management Practices" BMP approach that can be suggested and studied. Some of the five (5) goals listed, and potentially others, are complementary and some are competing. The priority of some may be greater than others. Any analysis must begin with at least a relative valuation of priorities as a means of judging the outcomes.

**Bullet Point 1 –**

Eliminating the soil amendments in the bio-swales will certainly save costs. But these bio-swales are proposed in existing lawn and grass swale areas. If these amendments are not made, there will be no change in runoff from the current conditions.

**Bullet Point 2 –**

Plug plantings were included in addition to seeding to enhance and accelerate the establishment of the naturalized landscapes. Without accelerated establishment, additional maintenance and attention will be required for the first several years to promote growth of the new plantings over weeds. In consultation with County staff, a relatively equivalent level of required maintenance was desired between the two (2) alternatives (naturalized landscaping versus lawn). Otherwise, the higher ongoing annual maintenance cost will not be reflected in the cost comparison.

**Bullet Point 3 –**

The detailed design of specific rain garden areas will be tailored to the precise environmental and hydrologic conditions at each location. But designing those areas as wetland basins would be more expensive, not less, due to the additional excavation and inclusion of wetland vegetation.



**Bullet Point 4 –**

The attention to the perimeter of the western storm water detention basin was an additional issue, not included in either the Storm Sewer Approach or the "Best Management Practices" Approach proposals. County staff requested a "non-structural" approach to bank stabilization around the western pond. The original design of the detention basin called for a modular concrete block wall for bank stabilization and erosion control similar to what was constructed at the northeastern pond. This aspect of construction was deferred. The flattening of the existing steep slope is not at all about increasing storm water detention volume, it is about providing a stable bank with natural vegetation to enhance water quality. Other alternatives can also be considered.

**Bullet Point 5 –**

The quantities for 24 inch diameter storm sewer were checked and they are accurate. There are about 50 more feet of 24 inch diameter storm sewer pipe in the "Best Management Practices" Approach. There is a 24 inch diameter storm sewer extended all the way from Art Bartell Drive back to the storm water detention basins to the west.

**Paragraph 4 –**

It is reasonable to anticipate it will be possible to reduce the costs of either of the two (2) alternatives or a hybrid approach during the final design phase of the project when all potential details are evaluated, weighed and discussed with County staff. The two (2) approaches presented were developed from very different starting points with a goal of accomplishing similar flood control goals. Both approaches also produce different benefits.

One consideration not reflected in the construction costs of these two (2) alternatives is the value of currently undeveloped land. Lawn areas within this watershed area available for alternative development at any time in the future when so desired. The Storm Sewer Approach essentially consumes none of this available area within the watershed. The "Best Management Practices" Approach uses much of this undeveloped (lawn) space leaving little area available for future alternative use. This consumption of land should be recognized and may be given a value in the estimate of costs if desired to provide a more equitable comparison between the two (2) approaches.

There may be state and federal grant programs available as a funding source for some of the costs. It is unknown what the likelihood of selection success, amount available, or timing might be.

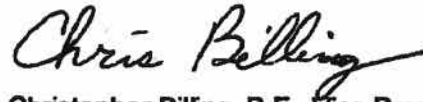


**Northern Watershed Storm Water Management  
Champaign County East Campus  
Urbana, Champaign County, Illinois  
October 28, 2011  
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**Summary –**

We offer the above information for the consideration of the Champaign County Board as the consideration of this project continues.

Respectfully Submitted,  
**BERNS, CLANCY AND ASSOCIATES, P.C.**



Christopher Billing, P.E., Vice President

CB:bk  
Enclosure  
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**BERNS, CLANCY AND ASSOCIATES BCA**