

*Cost Proposal for
Engineering Services*

Return Flow Pump Station and Advanced Phosphorus Treatment with Facilities Enhancement for Clean Water Plant



Submitted to:

City of Waukesha
Department of Public Works

Submitted by:

JACOBS[®]

September 2018



Pricing

Level of Effort and Compensation

For the Return Flow Pump Station and Advanced Phosphorus Treatment with Facilities Enhancement for Clean Water Plant Project (Project), Jacobs proposes the not-to-exceed lump sum fee of \$1,593,454 to complete the professional engineering services described in Appendix B Detailed Scope of Services, Design Assumptions, and Estimated Final Design Drawing List.

Our proposal is based on a 2.5 gross multiplier on raw labor cost, inclusive of all markups, fringe, overhead, general and administrative expenses, and profit, which is reflected in Table 1. Jacobs Rates and Expenses Schedule. Jacobs' historical corporate profit before taxes varies, but for the past 3 years it has ranged from 2.61% to 3.55% of total contract revenue.

The proposed compensation is presented by number of hours, labor category/project role, and by task, as follows:

Table 2. Return Flow Pump Station Level of Effort and Compensation

Table 3. Advanced Low Phosphorus Treatment Facility and CWP Improvements Level of Effort and Compensation

We understand that the scope of the Project includes some uncertainties and are keenly interested and willing to negotiate our proposed level of effort and fee to best meet project requirements.

**Table 1.
Jacobs Rates and Expense Schedule**

<u>Classification</u>	<u>Hourly Rate</u>
Senior Consultant, Senior Project Manager	\$200 - \$250
Senior Design Manager, Senior Construction Manager	\$180 - \$230
Senior Technologist, Senior Designer, Senior Engineer	\$160 - \$200
Project Designer, Project Engineer	\$130 - \$180
Staff Engineer, Staff Cost Estimator, Staff Construction Inspector	\$100 - \$150
Associate Designer, Associate Engineer	\$80 - \$120
Senior CAD Technician	\$90 - \$140
CAD Technician	\$70 - \$100
Senior Clerical, Graphic Designer	\$90 - \$150
Clerical	\$75 - \$100
Project Accountant	\$50 - \$100

Expenses		
Expense Type	Estimating Method	Rate
Photo Copies	Service Center	\$0.05
Reprographics	Service Center	varies
Auto mileage	Travel	Current IRS rate
Auto Rental	Travel	Actual
Other Travel (FTR Guidelines)	Travel	Actual
Equipment Rental	Operating Expense	Actual
Postage/Freight	Operating Expense	Actual

Table 2. Return Flow Pump Station Level of Effort and Compensation

Task Description	Senior Project Manager	Senior Technologist (Permitting & GWA Liaison)	Senior Design Manager	Senior Consultants (QA/QC Review)	Senior Technologist (Process Mechanical)	Staff Engineer (Process Mechanical)	Staff Engineer (Process Mechanical)	Project Engineer (I&C)	Associate Engineer (I&C)	Staff Engineer (Civil)	Senior Designer (HVAC & Plumbing)	Staff Engineer (Electrical)	Project Designer (Architect)	Senior Engineer (Structural)	Senior Engineer (Geotechnical)	Staff Cost Estimator	Senior Construction Manager	Staff Construction Inspector	Senior CAD Technician	CAD Technician	Clerical	Project Accountant	Jacobs Labor By Task	Jacobs Hours by Task	Jacobs Expense by Task	TOTAL BY TASK			
	Bill Desing, PE	Brent Brown, PE	Andy Schrank, PE	Varies	Jim Fisher, PE	Dustin Maas, PE	Colin Fitzgerald, PE	Darren Lecke	Rahul Shelgaonkar	Jared Wendt, PE	Sam Rizzi, PE	Robert Wood, PE	Richard Siebers, RA	Del Lange, PE	Robert Martin, PE	Kevin Butcher	Alan Jones, PE	Brice Windyg, PE	Varies	Varies	Varies	Tomasz Musial							
Task 1. Preliminary Design	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours							
WKSP #1. Kick-off & Confirm Existing Design Criteria	8	3	3			8	3				3										2		\$4,917	30	\$100	\$5,017			
WKSP #2. Screen Advanced Low Phosphorus Treatment Technologies	0	0		0	0		0														0		\$0	-		\$0			
WKSP #3. Select Advanced Low Phosphorus Treatment Technology	0			0	0	0	0																\$0	-		\$0			
WKSP #4. Select Phosphorus Treatment Vendor and Complete Design Criteria				6	8	14	8	3	6	6	3	6	6	6	1					7	14	3			\$10,872	95	\$400	\$11,272	
Preliminary Design Report	4	3	3		4	18		7	7	11	7	21	7	11	4	11				14	56	3			\$18,474	188	\$500	\$18,974	
TASK 1 TOTAL	13	6	6	6	12	40	8	13	13	16	10	29	13	16	6	11	0	0	21	70	8	0	\$34,263	314	\$1,000	\$35,263			
Task 2. Final Design & Permitting	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours							
Final Design Bid Documents	8	3	28		14	91	14	35	49	84	35	217	84	140	8	21	6			280	420	42			\$179,034	1,579	\$2,000	\$181,034	
Permitting		14	8			11														11	3				\$6,121	46	\$100	\$6,221	
TASK 2 TOTAL	8	17	36	0	14	102	14	35	49	84	35	217	84	140	8	21	6	0	280	431	45	0	\$185,155	1,625	\$2,100	\$187,255			
Task 3. Bid Phase	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours							
Bid Phase Services	4		11			11				3		3	1	3						7	7	7			\$7,238	55	\$3,000	\$10,238	
TASK 3 TOTAL	4	0	11	0	0	11	0	0	0	3	0	3	1	3	0	0	0	0	7	7	7	0	\$7,238	55.3	\$ 3,000	\$ 10,238			
Task 4. Services During Construction	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours							
Construction Meetings	14		28			11		6		3		6					140								\$40,441	207	\$400	\$40,841	
Shop Drawings, Sumbittals			11	7	8	28		21	21	18	14	35	14	21	6		28	28							\$43,205	329	\$400	\$43,605	
Requests for Information			7	4	3	7		14	11	11	6	14	7	8	3		28	14	6	11	18				\$23,311	169	\$400	\$23,711	
Change Orders, Field Orders	7		11			7		7		7		11	4	7	3		14		6	11	4				\$14,361	97	\$400	\$14,761	
As-Built Record Drawings			3			8		3	6	6		6	3	3			6		53	88					\$17,122	182	\$400	\$17,522	
O&M Manual				6		21		7	14												6					\$6,401	53	\$400	\$6,801
Construction Management & Administration	7		7			0		0									140								\$31,519	154	\$400	\$31,919	
Inspection Services			7			11		21		7		28	3	11			3	630							\$80,569	720	\$400	\$80,969	
Start-up Services, Milestone Punchlists			7		6	6		8				8	3	3			3	70							\$14,239	113	\$400	\$14,639	
TASK 4 TOTAL	28	0	80	16	17	98	0	87	51	50	20	107	33	53	11	0	361	742	64	110	97	0	\$271,166	2,024	\$ 3,600	\$ 274,766			
Task 5. Project & Quality Management	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours							
Project Management	63																				14	35			\$17,590	112	\$500	\$18,090	
Project Communication	7	7																								\$2,729	14	\$100	\$2,829
Quality Management	4		14	77																						\$18,985	95		\$18,985
TASK 5 TOTAL	74	7	14	77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	35	\$39,304	221	\$ 600	\$ 39,904			
	126	29	146	99	43	250	22	134	113	153	64	356	131	212	25	32	367	742	372	617	170	35	\$537,126	4,239	\$10,300	\$547,426			

Use or disclosure of data contained on this sheet is subject to the restriction on the cover letter of this proposal.

Table 3. Advanced Low Phosphorus Treatment Facility and CWP Improvements Level of Effort and Compensation

Task Description	Senior Project Manager	Senior Technologist (Permitting & GWA Liaison)	Senior Design Manager	Senior Consultants (QA/QC Review)	Senior Technologist (Process Mechanical)	Staff Engineer (Process Mechanical)	Staff Engineer (Process Mechanical)	Project Engineer (I&C)	Associate Engineer (I&C)	Staff Engineer (Civil)	Senior Designer (HVAC & Plumbing)	Staff Engineer (Electrical)	Project Designer (Architect)	Senior Engineer (Structural)	Senior Engineer (Geotechnical)	Staff Cost Estimator	Senior Construction Manager	Staff Construction Inspector	Senior CAD Technician	CAD Technician	Clerical	Project Accountant	Jacobs Labor By Task	Jacobs Hours by Task	Jacobs Expense by Task	TOTAL BY TASK
	Bill Desing, PE	Brent Brown, PE	Andy Schrank, PE	Varies	Jim Fisher, PE	Dustin Maas, PE	Colin Fitzgerald, PE	Darren Lecke	Rahul Shelgaonkar	Jared Wendt, PE	Sam Rizzi, PE	Robert Wood, PE	Richard Siebers, RA	Del Lange, PE	Robert Martin, PE	Kevin Butcher	Alan Jones, PE	Brice Windyg, PE	Varies	Varies	Varies	Tomasz Musial				
Task 1. Preliminary Design	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours				
WKSP #1. Kick-off & Confirm Existing Design Criteria	16	5	5			16		5				5									4	\$9,131	56	\$100	\$9,231	
WKSP #2. Screen Advanced Low Phosphorus Treatment Technologies	24	4		16	20		20														8	\$15,583	92	\$1,500	\$17,083	
WKSP #3. Select Advanced Low Phosphorus Treatment Technology	24			8	24	40	40															\$20,625	136	\$500	\$21,125	
WKSP #4. Select Phosphorus Treatment Vendor and Complete Design Criteria				10	16	26	16	5	10	10	5	10	10	10	3					13	26	5	\$20,191	177	\$400	\$20,591
Preliminary Design Report	8	5	5		7	33		13	13	20	13	39	13	20	8	20				26	104	5	\$34,308	350	\$500	\$34,808
TASK 1 TOTAL	71	14	10	34	66	114	76	23	23	30	18	55	23	30	10	20	0	0	39	130	22	0	\$99,839	810	\$3,000	\$102,839
Task 2. Final Design & Permitting	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours				
Final Design Bid Documents	16	5	52		26	169	26	65	91	156	65	403	156	260	16	39	10			520	780	78	\$332,491	2,933	\$2,000	\$334,491
Permitting		26	16			20														20	5		\$11,368	86	\$100	\$11,468
TASK 2 TOTAL	16	31	68	0	26	189	26	65	91	156	65	403	156	260	16	39	10	0	520	800	83	0	\$343,859	3,019	\$2,100	\$345,959
Task 3. Bid Phase	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours				
Bid Phase Services	7		20			20				5		5	3	5						13	13	13	\$13,442	103	\$3,000	\$16,442
TASK 3 TOTAL	7	0	20	0	0	20	0	0	0	5	0	5	3	5	0	0	0	0	13	13	13	0	\$13,442	103	\$ 3,000	\$ 16,442
Task 4. Services During Construction	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours				
Construction Meetings	26		52			20		10		5		10					260						\$75,105	384	\$400	\$75,505
Shop Drawings, Sumbittals			20	13	16	52		39	39	33	26	65	26	39	10		52	52			130		\$80,238	611	\$400	\$80,638
Requests for Information			13	7	5	13		26	20	20	10	26	13	16	5		52	26	10	21	33		\$43,292	315	\$400	\$43,692
Change Orders, Field Orders	13		20			13		13		13		20	7	13	5		26		10	21	7		\$26,670	179	\$400	\$27,070
As-Built Record Drawings			5			16		5	10	10		10	5	5			10			98	163		\$31,798	338	\$400	\$32,198
O&M Manual				10		39		13	26												10		\$11,887	99	\$400	\$12,287
Construction Management & Administration	13		13			0		0									260						\$58,534	286	\$400	\$58,934
Inspection Services			13			20		39		13		52	5	21			5	1170					\$149,627	1,338	\$400	\$150,027
Start-up Services, Milestone Punchlists			13		10	10		16				16	5	5			5	130					\$26,444	211	\$400	\$26,844
TASK 4 TOTAL	52	0	148	30	31	182	0	161	95	94	36	199	61	99	21	0	671	1378	118	204	179	0	\$503,595	3,760	\$ 3,600	\$ 507,195
Task 5. Project & Quality Management	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours				
Project Management	117																				26	65	\$32,667	208	\$500	\$33,167
Project Communication	13	13																					\$5,068	26	\$100	\$5,168
Quality Management	7		26	143																			\$35,258	176		\$35,258
TASK 5 TOTAL	137	13	26	143	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	65	\$72,993	410	\$ 600	\$ 73,593
	282	59	272	207	123	504	102	250	209	285	120	662	243	394	47	59	681	1,378	690	1,147	324	65	\$1,033,728	8,101	\$12,300	\$1,046,028

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