

County of Yolo, California

WILD WINGS COUNTY SERVICE AREA

WATER AND WASTEWATER ENGINEER'S FEE REPORT

Fiscal Year 2017-2018

April 10, 2018

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1. County of Yolo, County Administrator's Office
2. CSA Contributor – Cascade Engineering, Woodland, CA
3. Wastewater Facilities – LEE & RO, Inc., Sacramento, CA
4. Water Facilities – Luhdorff & Scalmanini Consulting Engineers, Woodland, CA

I. SUMMARY

This Engineer's Fee Report (the "Report") was prepared for the Wild Wings County Service Area within the unincorporated area of Yolo County, California (the "CSA"). The improvements and services to be provided by the CSA, and to be funded by annual property-related fees in the CSA include:

- Sewage disposal (treatment) system/corporation yard
- Wastewater collection system
- Water supply and storage system
- Water distribution system
- Arsenic treatment

Collectively, these systems shall herein be described as the "Services".

This report is an update to the information contained within the original Engineer's Fee Report for the CSA, prepared by Shilts Consultants, Inc. of Fairfield, California, and dated June 7, 2004. This report includes a new increment of cost for additional services beyond the 2004 report that are determined to be necessary to improve and sustain both near and long term regulatory compliance for both the wastewater and potable water systems. Those projects and their costs are reflected within the following narratives and tables.

The Services contained within the original report have also been updated to reflect the current equipment, conditions and costs to operate, maintain and replace the facilities with current and future considerations. The technical information within the original 2004 Engineer's Fee Report is preserved within this Report and expanded to include those additions made to Services since 2004. Costs for Services were updated to current 2018 values using historic and actual operating and maintenance costs for Fiscal Year (FY) 2016/2017 to current. The hourly rates shown are a composite hourly rate and reflect the expense of contract services for operations and maintenance. The hourly rate for the wastewater system as shown in Table 2, is greater than the hourly rate for the water system as shown in Table 6. The basis of this difference is due to the requirement that a 24-hr/day stand-by operator be on call for the facilities. The standby operation costs are assigned to the sewage system due to the frequency of the callouts. In the absence of available information, estimates were made by the respective engineering consultants for the Wastewater System and Water System.

These property-related fees, which are levied pursuant to County Service Area Law (Government Code Sections 25210 et. seq.) and Article XIID of the California Constitution, will provide funding for the operation, maintenance, repair and capital replacement of the Services.

This report summarizes the estimated costs for all Services, establishes the annual fees required to pay for all Services, determines the benefits from all Services, defines the method of apportionment of the fees and provides other related data.

II. LAND USES

The following Table 1 outlines the dwelling units and property types for the CSA.

Table 1

Summary of Land Uses

Land Use	Number of Units	Building (SF)	Acres
Single Family	338		85.48
Non-Residential			
• Golf Clubhouse, Cart Barn, Maintenance Building & Parking (Lot I)		4,000	2.97
• Sewer Disposal System/Corp yard (Lot H)			3.72
• Water System Supply/Storage Sites (Lots O and S)			0.55
• Nine Hole Golf Course (Lots C through F)			90.68
• Recreation Area (Lot A)			0.94
• Open Space Pedestrian Access (Lot N)			0.08
• Landscaped Areas (Lots G, Q, R and U)			9.07
• Road Right-of-Ways (Lots P and PP)			26.53
• Emergency Vehicle Access (Lot B)			1.83
Totals – Within CSA	338	4,000	221.85

Source: Wild Wings Engineer's Fee Report by Shilts Consultants, Inc. dated June 7, 2004
 Ref. Engineering Consultants; Nolte and Associates and EPS.

III. DESCRIPTION OF SERVICES

The fees developed by this report are to fund the operation, maintenance, repair and eventual replacement of a sewage disposal (treatment) system/corporation yard, a sewer collection system, water supply/storage, distribution systems and arsenic treatment system. In addition, the fees include funding for capital improvements, capital replacements, contingencies, reserve funds and administration. Reference is made to the plans and specifications for the Services on file with the County of Yolo.

The annual costs for maintenance, operation and repair were assembled by using the most current and archival file information available from Yolo County's administration of the Wild

Wings CSA. The engineering consultants, as noted, have provided their updates and projections for Services. The estimated costs for capital replacement and capital projects were calculated by the project engineering consultants, as noted. The estimated annual cost of capital replacement is based on the estimated and remaining service life of the improvements.

A. Sewage Disposal System (treatment)/Corporation Yard

The sewage treatment and disposal systems are designed and permitted to meet service needs of the Wild Wings community. The treatment facility is currently permitted by the State's Regional Water Quality Control Board, WDR Order No. R5-2002-0077 to operate at an average dry weather flow of 101,000 gallons per day (gpd). The sewage disposal system is an extended aeration facility that produces Title 22 tertiary effluent which is used to supplement the irrigation supply for the Wild Wings Golf Course.

The estimated costs for maintenance, operation and repair/replacement include site maintenance, control/restroom/storage buildings, pumping/piping, lift stations, head works, aeration facilities, flocculation facility, clarifiers, tertiary filtration, disinfection, sludge dewatering/disposal, emergency power, recycled water storage pond, emergency bypass storage pond, storm water retention pond, service and supplies, labor, supervision and on-site contract operators.

An existing corporation yard houses all equipment and materials required for the maintenance of the Home Owners Association and CSA facilities. All costs to operate, maintain, repair and replace the corporation yard are included in the sewage disposal system costs.

Table 2 reflects the estimated costs for maintenance and operation for the existing facilities. Table 2 also reflects those additional maintenance and operations requirements that have been determined necessary for system reliability and future facility operations to sustain regulatory compliance.

Table 3 reflects the existing equipment schedule for the Sewage Disposal (Treatment) System/Corporation Yard, the estimated service life, replacement value and the annual capital reserve requirements necessary for replacement. Table 3 also reflects those additional facilities, services and studies that have been determined necessary for system reliability and facilities operations, and to sustain regulatory compliance.

Table 2**Estimated Annual Maintenance, Operations and Repair Costs
for Wild Wings – Wastewater Recycling Facility/Corporation Yard)**

Item	Description	Category	Quantity	Units	Unit Cost	Annual Cost
1	Lift Station - Site B Pumps	Parts and Materials	1	LS/yr	\$5,000	\$5,000
		Labor	4	hrs/wk	\$100	\$20,800
2	Lift Station - Site B Generator	Parts and Materials	1	LS/yr	\$1,000	\$1,000
		Labor	2	hrs/wk	\$100	\$10,400
		Fuel	50	gal/yr	\$4	\$190
3	Influent Lift Station Pumps	Parts and Materials	1	LS/yr	\$7,000	\$7,000
		Labor	4	hrs/wk	\$100	\$20,800
4	Influent Automatic Bar Screen	Parts and Materials	1	LS/yr	\$1,000	\$1,000
		Labor	2	hrs/wk	\$100	\$10,400
5	WWTP Aeration System Diffusers, WAS, RAS Piping	Part and Materials	1	LS/yr	\$5,000	\$5,000
		Labor	6	hrs/wk	\$100	\$31,200
6	Chemical Feed System	Parts and Materials	1	LS/yr	\$3,500	\$3,500
		Labor	3	hrs/wk	\$100	\$15,600
7	Chemicals Chlorine, Lime, Polymer, Ferric Chloride,	Parts and Materials	1	LS/yr	\$38,000	\$38,000
		Labor	3	hrs/wk	\$100	\$15,600
8	Instrumentation/Reagents Chlorine Analyzers, Turbidity Meters, etc	Parts and Materials	1	LS/yr	\$10,500	\$10,500
		Labor	3	hrs/wk	\$100	\$15,600
9	Effluent Sampling	Parts and Materials	1	LS/yr	\$1,800	\$1,800
		Labor	6	hrs/wk	\$100	\$31,200
10	Laboratory Analysis	Outside Lab Analysis	1	LS/yr	\$32,000	\$32,000
		Labor	1	hrs/wk	\$100	\$5,200
11	Sludge Handling	Hauling/Sub-Contr.	1	LS/yr	\$50,000	\$50,000
		Labor	10	hrs/wk	\$100	\$52,000
12	Plant Washdown	Parts and Materials	1	LS/yr	\$1,400	\$1,400
		Labor	3	hrs/wk	\$100	\$15,600
13	Cathodic Protection	Parts and Materials	1	LS/yr	\$2,000	\$2,000
		Outside Contractor	1	LS/yr	\$7,000	\$7,000
14	Recycled Water Pond Cleaning	Parts and Materials	1	LS/yr	\$5,000	\$5,000
		Labor	1	hrs/wk	\$100	\$5,200

Table 2 - Continued

Item	Description	Category	Quantity	Units	Unit Cost	Annual Cost
15	Emergency Storage Pond Cleaning	Parts and Materials	1	LS/yr	\$3,000	\$3,000
		Labor	1	hrs/wk	\$100	\$5,200
16	Storm Drainage Pond Pumps & Cleaning	Parts and Materials	1	LS/yr	\$3,000	\$3,000
		Labor	1	hr/wk	\$100	\$5,200
17	Emergency Generator At WWTP	Parts and Materials	1	LS/yr	\$2,000	\$2,000
		Labor	1	hr/wk	\$100	\$5,200
		Fuel	50	gal/yr	\$4	\$190
18	Building Maintenance	Parts and Materials	1	LS/yr	\$1,800	\$1,800
		Labor	2	hrs/wk	\$100	\$10,400
19	SCADA/PLC Maintenance	Outside Programming	1	LS/yr	\$4,000	\$4,000
		Labor	1	hrs/wk	\$100	\$5,200
20	Computers/Printers/Software & Phones, IT Support	Parts and Materials	1	LS/yr	\$4,000	\$4,000
		Labor	1	hr/wk	\$100	\$5,200
21	Lighting	Parts and Materials	1	LS/yr	\$200	\$200
		Labor	1	hr/wk	\$100	\$5,200
22	Electrical Costs	PG&E	1	LS/yr	\$38,000	\$38,000
23	WWTP Ground Water Monitoring Wells	Parts and Materials	1	LS/yr	\$400	\$400
		Labor	1	hr/wk	\$100	\$5,200
		Report Sub-Contract	1	LS/yr	\$33,000	\$33,000
24	Permits	Fee	1	LS/yr	\$20,000	\$20,000
25	Operator Oversight - TPO 5	Labor	12	hr/mo	\$132	\$19,008
26	Administration Yolo County	Labor	1	LS/yr	\$30,000	\$30,000
	Sub-Consultants	Labor	1	LS/yr	\$30,000	\$30,000
Operations Hourly Total			60	hrs/wk		
Subtotal Annual O & M Costs						\$655,388

Table 3

**Estimated Wild Wings Wastewater Recycling Facility
Equipment/Materials Replacement Reserves**

Item	Description	Est. Service (yrs)	Quantity (ea)	Unit Cost	Capital Cost	Annual Replace Costs
1	PS Site B Vault & Piping	40	1	\$150,000	\$150,000	\$3,750
2	Pump Station Site B Pumps	10	2	\$10,000	\$20,000	\$2,000
3	Pump Station Site B Gen Set	25	1	\$75,000	\$75,000	\$3,000
4	Influent Lift Station Pumps	10	2	\$17,000	\$34,000	\$3,400
5	Influent LS Vault & Piping	40	1	\$150,000	\$150,000	\$3,750
6	Automatic Bar Screen	20	1	\$140,000	\$140,000	\$7,000
7	EQ Pumps	10	2	\$3,000	\$6,000	\$600
8	EQ & Filter Blowers w/ Motors	10	3	\$7,500	\$22,500	\$2,250
9	Air Diffusers, Ras/Piping/Valving	30	1	\$75,000	\$75,000	\$2,500
10	Floc. Tank & Flash Mixer	30	1	\$10,000	\$10,000	\$333
11	Surge Pumps (Mudwell)	10	2	\$7,500	\$15,000	\$1,500
12	Filter Media	5	2	\$28,000	\$56,000	\$11,200
13	Backwash Pumps (Clearwell)	10	2	\$10,000	\$20,000	\$2,000
14	Steel Tanks	30	1	\$750,000	\$750,000	\$25,000
15	Epoxy For Steel Tanks, spot repair	10	1	\$150,000	\$150,000	\$15,000
16	Cat Walks & Railing for Tanks	20	1	\$20,000	\$20,000	\$1,000
17	Sludge Batch Tank	15	1	\$10,000	\$10,000	\$667
18	Sludge Plate Press	20	1	\$85,000	\$85,000	\$4,250
19	Yard Piping	30	2,500	\$51	\$127,500	\$4,250
20	Plant Process Piping	10	600	\$40	\$24,000	\$2,400
21	Plant Process Valving	10	38	\$200	\$7,600	\$760
22	Plant Process Pressure Sensors	10	8	\$2,000	\$16,000	\$1,600
23	Flow Meters & Transmitters	10	2	\$2,500	\$5,000	\$500
24	Telemetry	20	1	\$128,000	\$128,000	\$6,400
25	Electrical, Trans., Switchboards	20	1	\$280,000	\$280,000	\$14,000
26	Plant Emergency Generator	25	1	\$100,000	\$100,000	\$4,000
27	Chemical Storage Tanks	15	3	\$4,000	\$12,000	\$800
28	Recycl Water Stor. Pond, spot repair	30	1	\$50,000	\$50,000	\$1,667
29	24-hr Emerg. Stor. Pond, spot repair	30	1	\$40,000	\$40,000	\$1,333
30	Storm Water Pond	75	1	\$20,000	\$20,000	\$267
31	SW Pond Wet Well & Piping	40	1	\$65,000	\$65,000	\$1,625
32	SW Pond Sump Pumps	10	2	\$10,000	\$20,000	\$2,000
33	Irrigation Wet Well	15	1	\$150,000	\$150,000	\$10,000
34	Irrigation Pumps/Telemetry	15	4	\$50,000	\$200,000	\$13,333
35	Control & Blower Buildings	30	2	\$48,000	\$96,000	\$3,200
36	Process Blowers	10	2	\$7,500	\$15,000	\$1,500
37	Blower Motors	10	2	\$4,000	\$8,000	\$800
38	Office Air Conditioner	8	1	\$4,000	\$4,000	\$500
39	Restroom Building	30	1	\$12,000	\$12,000	\$400
40	Site Improv. & Corporate Yard	30	1	\$50,000	\$50,000	\$1,667
41	AC Paving	15	23,000	\$1.60	\$36,800	\$2,453
42	Storage Shed (Tuff Shed)	10	1	\$5,000	\$5,000	\$500
43	Safety Equipment	5	1	\$10,000	\$10,000	\$2,000
44	Misc. Equip.	5	1	\$10,000	\$10,000	\$2,000
45	Wastewater Master Plan County to Pay	10	1	\$50,000	\$0	\$0
Subtotal Capital Replacement Costs					\$3,280,400	\$169,155

B. Sewage Collection System

The sewage collection system consists of gravity sewer pipelines, a force main, manholes, lift stations and other related sewage collection facilities. The original estimated costs for maintenance, operation and capital replacement were developed by Nolte and Associates (2004) with input from the County and Harris & Associates. These costs have been updated by Lee & Ro with input from Yolo County (2017). Costs for the lift stations are reflected in Tables 2 and 3 as their maintenance and capital reserve requirements are similar in nature to the treatment facility protocol reflected therein.

Table 4 reflects the estimated costs for maintenance and operations for the existing collection system facilities. Table 4 also reflects those additional services that are necessary for facility operations, reliability and to sustain regulatory compliance. Table 5 reflects the estimated service life, replacement value and the annual capital reserve requirements necessary for rehabilitation and replacement.

Table 4

**Estimated Wild Wings Wastewater Collection System
Annual Maintenance & Operations Costs**

Item	Description	Category	Quantity	Units	Unit Cost	Annual Cost
1	Line Cleaning	Labor/Subcontract	1	LS/yr	\$15,000	\$15,000
2	I&I Assessments (Flow Monitoring)	Labor/Subcontract	1	LS/yr	\$15,400	\$15,400
Subtotal Annual O & M Costs						\$30,400

Table 5

**Estimated Wild Wings Wastewater Collection System
Replacement Costs**

Item	Description	Est'd Service Life (yrs)	Quantity (ea)	Unit Cost	Current Capital Cost	Annual Cost
1	Sanitary Manhole, 48"	100	70	\$3,500	\$245,000	\$2,450
2	Sanitary Sewer, 4" FM	100	1,625	\$80	\$130,000	\$1,300
3	Sanitary Sewer, 6" VCP	100	570	\$72	\$41,040	\$410
4	Sanitary sewer, 8" VCP	100	17,230	\$80	\$1,378,400	\$13,784
5	Services	100	340	\$1,200	\$408,000	\$4,080
Subtotal Capital Replacement Costs					\$2,202,440	\$22,024

C. *Water Supply and Distribution*

The water system consists of two water wells, three monitoring wells, well head treatment, well pumps, storage tanks, booster pumps, hydro-pneumatic tanks, electrical, telemetry, well site improvements, 6-inch, 8-inch and 10-inch water distribution mains, valves, fire hydrants and other associated improvements. The Pintail well is currently used to serve the homeowners and the common areas with domestic service. The Canvas Back well was taken off-line for domestic service and changed to standby status in 2009 due to the detection of arsenic at just over the legal threshold of 10 mg/l. The Canvas Back well is currently used to supplement the irrigation needs of the golf course not met by the treated water from the sewage disposal system, and to fill the ponds on the golf course as needed.

The same consultant who prepared the original 2004 report has prepared the update to the costs with input from Yolo County in 2017. The water system maintenance, operation and repair costs are outlined in Table 6. Table 7 presents the estimated annual capital replacement costs for the water system.

The original 2004 Engineer's Fee Report identified property-related fees for additional water treatment facilities to remove both manganese and arsenic from the CSA's domestic water supply system. The collection of fees for the treatment of arsenic was not implemented until 2014 in response to the decommissioning of the Canvas Back well for domestic purpose in 2009 by the State of California due to elevated arsenic levels. Improvements for the removal of manganese have not been necessary as the well water quality continues to meet drinking water standards for manganese.

The State of California requires that the Wild Wings community have two potable water wells available for water supply reliability. Therefore, this report makes estimates for arsenic treatment facilities to facilitate bringing the Canvas Back well back into fully commissioned operations for domestic use. The projected cost for annual maintenance of the arsenic treatment facility has been included in Table 6 and the Capital Replacement costs have been included in Table 7. The cost to design and construct the project will be funded by the existing Arsenic Treatment funds which have been set aside for this purpose.

Table 6
Estimated Annual Maintenance, Operation and Repair Costs
for Wild Wings Water Supply and Treatment Facilities

Item	Description	Item	Quantity	Units	Unit Cost	Annual Costs
1	Well Maintenance	Labor	0.5	hrs/wk	\$75	\$1,950
2	Well Pumping	Parts and Materials	2	LS/yr	\$63	\$125
		Labor	0.5	hrs/wk	\$75	\$1,950
3	Booster Pumping	Parts and Materials	4	LS/yr	\$63	\$250
		Labor	0.5	hrs/wk	\$75	\$1,950
4	Pump & Chemical Bldgs.	Parts and Materials	2	LS/yr	\$250	\$500
		Labor	0.3	hrs/wk	\$75	\$1,170
5	MCC Equipment	Labor	0.5	hrs/wk	\$75	\$1,950
6	Station Piping & Valves	Parts and Materials	2	LS/yr	\$2,000	\$4,000
		Labor	1	hrs/wk	\$75	\$3,900
7	Emergency Diesel Generator	Parts and Materials	1	LS/yr	\$1,500	\$1,500
		Labor	0.25	hrs/wk	\$75	\$975
		Fuel	520	gal/yr	\$4	\$2,000
8	Storage Tanks	Parts and Materials	2	LS/yr	\$125	\$250
		Labor	0.25	hrs/wk	\$75	\$975
9	Cathodic Protection	Outside Inspection	2	LS/yr	\$750	\$1,500
		Labor	0.25	hrs/wk	\$75	\$975
10	Hydro-Pneumatic Tanks	Parts and Materials	2	LS/yr	\$250	\$500
		Labor	0.3	hrs/wk	\$75	\$1,170
11	Treatment (Chlorine)	Parts and Materials	2	LS/yr	\$1,250	\$2,500
		Labor	3	hrs/wk	\$75	\$11,700
		Chemicals	35	#/wk	\$4	\$7,280
12	Treatment (Arsenic)	Parts and Materials	1	LS/yr	\$2,500	\$2,500
		Labor	8	hrs/wk	\$75	\$31,200
		Chemicals	35	#/wk	\$5	\$9,100

Table 6 - Continued

Item	Description	Item	Quantity	Units	Unit Cost	Annual Costs	
13	Fire Hydrants & Flush.	Parts and Materials	1	LS/yr	\$1,000	\$1,000	
		Labor	1	hrs/wk	\$75	\$3,900	
		Chemicals	1	LS/yr		\$750	
14	Mainlines, Valves, & Fittings	Parts and Materials	1	LS/yr	\$1,000	\$1,000	
		Labor	1	Hrs/wk	\$75	\$3,900	
15	Underground Service Alert	Labor	1	hrs/yr	\$75	\$75	
16	Laboratory Analysis	Outside Lab Analysis	1	LS/yr	\$8,000	\$8,000	
		Labor	1	hr/wk	\$75	\$3,900	
17	Instrumentation	Sub-Contractor	1	LS/yr	\$7,000	\$7,000	
		Labor	0.3	hrs/wk	\$75	\$1,170	
18	SCADA	Outside Programming	1	LS/yr	\$500	\$500	
		Software Annual Fee	1	LS/yr	\$2,500	\$2,500	
		Labor	0.25	hrs/wk	\$75	\$975	
19	Water Meter Reading Assume Every Month	Parts and Materials	1	LS/yr	\$500	\$500	
		Labor	4	hrs/mt	\$75	\$3,600	
20	Backflow Protection	Parts and Materials	1	LS/yr	\$200	\$200	
		Labor	8	hr/yr	\$75	\$600	
21	Electrical Costs		1	LS/yr	\$45,000	\$45,000	
22	Monitoring Wells	Parts and Materials	1	LS/yr	\$500	\$500	
		Labor	0.3	hr/wk	\$75	\$1,170	
23	Permits	Fee	1	LS/yr	\$3,500	\$3,500	
24	Administration	Yolo County	Labor	1	LS/yr	\$20,000	\$20,000
		Sub-Consultants	Labor	1	LS/yr	\$25,000	\$25,000
		Operator (CSA Meet.)	Labor	1	LS/yr	\$2,600	\$2,600
Operations Hourly Total			30	hrs/wk			
Subtotal Annual O & M Costs						\$229,210	

Table 7

**Estimated Wild Wings Water Supply and Treatment Facilities
Equipment/Materials Replacement Reserves**

Item	Description	Est'd Service (yrs)	Quantity (ea)	Unit Cost	Current Capital Cost	Annual Repl. Cost
1	Water Wells	40	2	\$335,000	\$670,000	\$16,750
2	Well Pumps	20	2	\$150,000	\$300,000	\$15,000
3	Well Pump Bowl Assembly Rebuild (Pintail)	15	2	\$20,000	\$40,000	\$2,667
4	Well Pump Lowering Project (Pintail)	20	1	\$100,000	\$100,000	\$5,000
5	Jockey Pumps	20	2	\$10,000	\$20,000	\$1,000
6	Booster Pumps	20	4	\$35,000	\$140,000	\$7,000
7	Monitoring Wells - WL Measuring Equip	5	3	\$750	\$2,250	\$450
8	Station Piping & Valves	50	2	\$75,000	\$150,000	\$3,000
9	Rebuild Control Valves	20	1	\$18,000	\$18,000	\$900
10	Storage Tank (360,000 gal @ 2)	50	2	\$500,000	\$1,000,000	\$20,000
11	Storage Tank Coating	25	2	\$75,000	\$150,000	\$6,000
12	Storage Tank Cathodic Protection	10	2	\$10,000	\$20,000	\$2,000
13	Hydro pneumatic Tanks (5,000 gal @ 2)	50	2	\$40,000	\$80,000	\$1,600
14	Hydro pneumatic Tanks Coating	25	2	\$10,000	\$20,000	\$800
15	Electrical	20	2	\$400,000	\$800,000	\$40,000
16	MCC Units	20	2	\$200,000	\$400,000	\$20,000
17	Telemetry/SCADA	15	1	\$300,000	\$300,000	\$20,000
18	Instrumentation, Flow Meters	15	2	\$30,000	\$60,000	\$4,000
19	Pump and Chemical Buildings	75	2	\$150,000	\$300,000	\$4,000
20	Emergency Diesel Generator	40	1	\$125,000	\$125,000	\$3,125
21	Chemical Treatment Metering Pumps etc	10	2	\$2,500	\$5,000	\$500
22	Chlorine Analyzers	10	2	\$5,000	\$10,000	\$1,000
23	Safety Equipment (chemical, climbing, ect.)	10	1	\$1,500	\$1,500	\$150
24	Lab & Field Equipment	10	1	\$14,000	\$14,000	\$1,400
25	Site Improvements (Paving, Drainage, etc.)	50	2	\$80,000	\$160,000	\$3,200
26	10-inch mainline and valves	75	13,000	\$125	\$1,625,000	\$21,667
27	8-inch mainline and valves	75	7,100	\$120	\$852,000	\$11,360
28	6-inch mainline and valves	75	1,800	\$115	\$207,000	\$2,760
29	Fire Hydrants	75	70	\$5,000	\$350,000	\$4,667
30	Water Services (Meters and Piping)	50	345	\$3,500	\$1,207,500	\$24,150
31	Water Meter Transponders and Software	15	345	\$75	\$25,875	\$1,725
32	Backflow Devices & Valving	20	5	\$6,000	\$30,000	\$1,500
33	Misc Tools (Fire Hose, Hydrant Diffusors,	10	1	\$2,000	\$2,000	\$200
34	Pond Batteries and Solar System	10	5	\$7,000	\$35,000	\$3,500
35	Design Arsenic Treatment Facility	30	1	\$145,000	\$145,000	\$4,833
36	Arsenic Facility Construction Management	30	1	\$35,000	\$35,000	\$1,167
37	Arsenic Treatment Facility & Pump Rebuild	30	1	\$950,000	\$950,000	\$31,667
Subtotal Capital Replacement Costs					\$10,350,125	\$288,737

D. Total CSA Costs

The total estimated CSA costs for operation, maintenance, repair and capital replacement of the Services are presented in Table 8. The estimated annual costs include a 5% contingency. The administration costs are included in the Annual Operations and Maintenance Tables 2 and 6, respectively. As shown below, the total estimated annual costs for the CSA in fiscal year 2017-2018 are \$920,815 for the Wastewater System and \$543,845 for the Water System. Future increases in the annual costs due to inflation and cost of living increases will be funded by the provision for annual increases in the maximum authorized fees, as further defined.

Table 8

Estimated Wild Wings CSA Costs for Services

Costs	Sewage Collection System	Sewage Disposal System	Water Supply & Distribution System
Est. Annual O & M Costs	\$30,400	\$655,388	\$229,210
5% Contingency	\$1,520	\$32,769	\$11,461
<i>Subtotal</i>	<i>\$31,920</i>	<i>\$688,157</i>	<i>\$240,671</i>
Est. Annual Capital Replacement Costs	\$22,024	\$169,155	\$288,737
5% Contingency	\$1,101	\$8,458	\$14,437
<i>Subtotal</i>	<i>\$23,125</i>	<i>\$177,613</i>	<i>\$303,174</i>
<i>Total</i>	<i>\$55,045</i>	<i>\$865,770</i>	<i>\$543,845</i>
Grand Total Sewage System	\$920,815		
Grand Total Water System			\$543,845

V. RATE AND METHOD OF APPORTIONMENT OF FEES

A. Apportionment of Costs

Table 9 presents the allocation formula for the Fees. These Fees are allocated solely to the single family residential parcels and the golf course parcels in the CSA. This formula is determined to apportion the total cost in a manner that is fair and uniform, based on benefit from and use of the Services. The allocation methodology for the Waste Water System has been changed from that established in the previous 2004 Engineer’s Fee Report. The new allocation method is based on the direct relationship of waste water discharge to water consumption and water meter size. Table 10 lists the calculations of the allocation of costs by the facility for the water system and Table 11 shows the allocation of costs for the Waste Water System.

Table 9

Wild Wings Fee Allocation

Allocation Assumptions	Totals	Residential	Non-Residential	Source
		Single Family	Golf Course & Nest	
Total Developed Acres	88.45 Acres	85.48 Acres	2.97 Acres	2004 Eng Report
% Distribution of Acres	100.0%	96.6%	3.4%	
Total Units	338 Homes	338 Homes		Assessors Role
% Distribution of Units	100.0%	100.0%	0.0%	
Sewage Disposal System				Water Meter Equivalence
Total Equivalent Connections	348 Connections	338	10	
% Distribution of Sewage	100.0%	97.1%	2.9 %	
Domestic Water System				Average Actual Usage
Total Water Usage	154,100,000 gal	90,300,000 gal	63,800,000 gal	
% Distribution of Water	100.0%	58.6%	41.4%	

Table 10

**Wild Wings
Water System Cost Allocation**

Facility	Total Est.	Residential	Non-Residential	Source
	Annual Costs	Single Family	Golf Course	
Operations, Repairs, & Maintenance				
Water Supply and Distribution				
Total	\$240,671	\$141,033	\$99,638	Water Usage
Per Unit (338 Units)		\$417.26	NA	
% Allocation	100%	58.6%	41.4%	Table 9
Annual Cap Replacement Cost				
Water Supply and Distribution				
Total	\$303,174	\$177,660	\$125,514	Water Usage
Per Unit (338 Units)		\$525.62	NA	
% Allocation		58.6%	41.4%	Table 9
Total Water System Annual Cost	\$543,845	\$318,693	\$225,152	
Total Per Unit		\$943		

Notes:

1. Per unit cost rounded up to the nearest dollar.
2. Total Estimated Annual Costs include 5% contingency.
3. The existing Arsenic Fund Fee of \$241/year/single family unit for new construction of the arsenic facilities is independent (not included within) of these calculations for maintenance, operations and capital equipment replacement reserves.

Table 11

Wild Wings Wastewater Cost Allocations

Facility	Total Estimated	Residential	Non-Residential	Source
	Annual Costs	Single Family	Golf Course	
Operations, Repairs, & Maint.				
Sewage Disposal System				
Total	\$688,157	\$668,200	\$19,957	Table 8
Per Unit (338 Units)		\$1,977	NA	Number of Units
% Allocation	100%	97.1%	2.9%	Table 9
Sewage Collection System				
Total	\$31,920	\$30,994	\$926	Table 8
Per Unit (338 Units)		\$92	NA	Number of Units
% Allocation	100%	97.1%	2.9%	Table 9
Annual Cap Replacement Cost				
Sewage Disposal System				
Total	\$177,613	\$172,462	\$5,151	Table 8
Per Unit (338 Units)		\$510	NA	Number of Units
% Allocation	100%	97.1%	2.9%	Table 9
Sewage Collection System				
Total	\$23,125	\$22,454	\$671	Table 8
Per Unit (338 Units)		\$66	NA	Number of Units
% Allocation	100%	97.1%	2.9%	Table 9
Total Wastewater Annual Costs	\$920,815	\$894,111	\$26,704	
Total Per Unit		\$2,645		

Notes:

1. Per unit cost rounded up to the nearest dollar.
2. Total Estimated Annual Costs include 5% contingency.

B. Fee Amounts

The annual fee amounts shown may be increased by no more than the Consumer Price Index, as compiled by the Bureau of Labor Statistics. The Consumer Price Index to be used will be for the San Francisco-Oakland-San Jose, CA area from the most recent February to February. Fees will be increased as described to pay for the costs of providing Services. The fees will continue annually without a sunset or ending date.

Each year, the CSA will establish the fee rate for the upcoming fiscal year. The maximum authorized fee rate for any fiscal year cannot exceed the fee rates presented in Tables 10 and 11, plus the Annual Adjustment. In the event that the CSA determines that the maximum authorized fee rate is not needed for the upcoming fiscal year, the CSA can establish a lower rate for that fiscal year. The levy of a fee rate below the maximum authorized fee rate will not preclude or in any way limit the CSA's ability to levy a higher fee rate in a future fiscal year, up to the maximum authorized fee rate.

V. ADMINISTRATION OVERVIEW

A. General Administrative Requirements

The property-related fee levies are calculated for all parcels on the new fiscal year's Assessor Roll. This roll includes all parcels that are in existence prior to January 1 of the previous fiscal year. After the fee levies have been calculated, the levy data must be filed with the County Auditor prior to August 10 for inclusion on property tax bills.

After submission of the fee levies, the final levies will be confirmed with the County Auditor prior to the preparation of the tax bills, which typically occurs in October. The fees are collected in two equal installments on the tax bills that are due by December 10 and April 10. Alternatively, the fees could be collected by direct bills to the property owners.

B. Delinquency Procedure

The CSA participates in the "Teeter Plan" with the County of Yolo whereby the County pays all delinquent fees to the CSA. In return, the County institutes collection proceedings and when collected, keeps all delinquent payments with interest and penalties. This plan allows the CSA to maintain reliable fee revenues and reduces the cost of collection.

VI. FEE DIAGRAM

The existing Boundary Map/Fee Diagram for the Wild Wings County Service Area (CSA), as adopted by Yolo Local Agency Formation Commission (LAFCO) July 28, 2016, is on file with the Yolo County Recorder's office. A copy of the Boundary Map/Fee Diagram is attached to this report as Exhibit "A". There has been one change as reflected on the Boundary Map since the original approval in 2004. No additional service connections are anticipated at this time.

VII. CERTIFICATIONS

1. The undersigned respectfully submits the enclosed Engineer's Fee Report and does hereby certify that this Engineer's Fee Report has been computed by me in accordance with the required statutes.



Rudi Golnik 4-3-18

Rudi Golnik, P.E.
Ponticello Enterprises Consulting Engineers, Inc

2. I, the County Auditor of the County of Yolo, California, hereby certify that the Fee Roll and the fee levies for the Wild Wings County Service Area for FY 2017/2018 were filed with me on 4-20-, 2018.

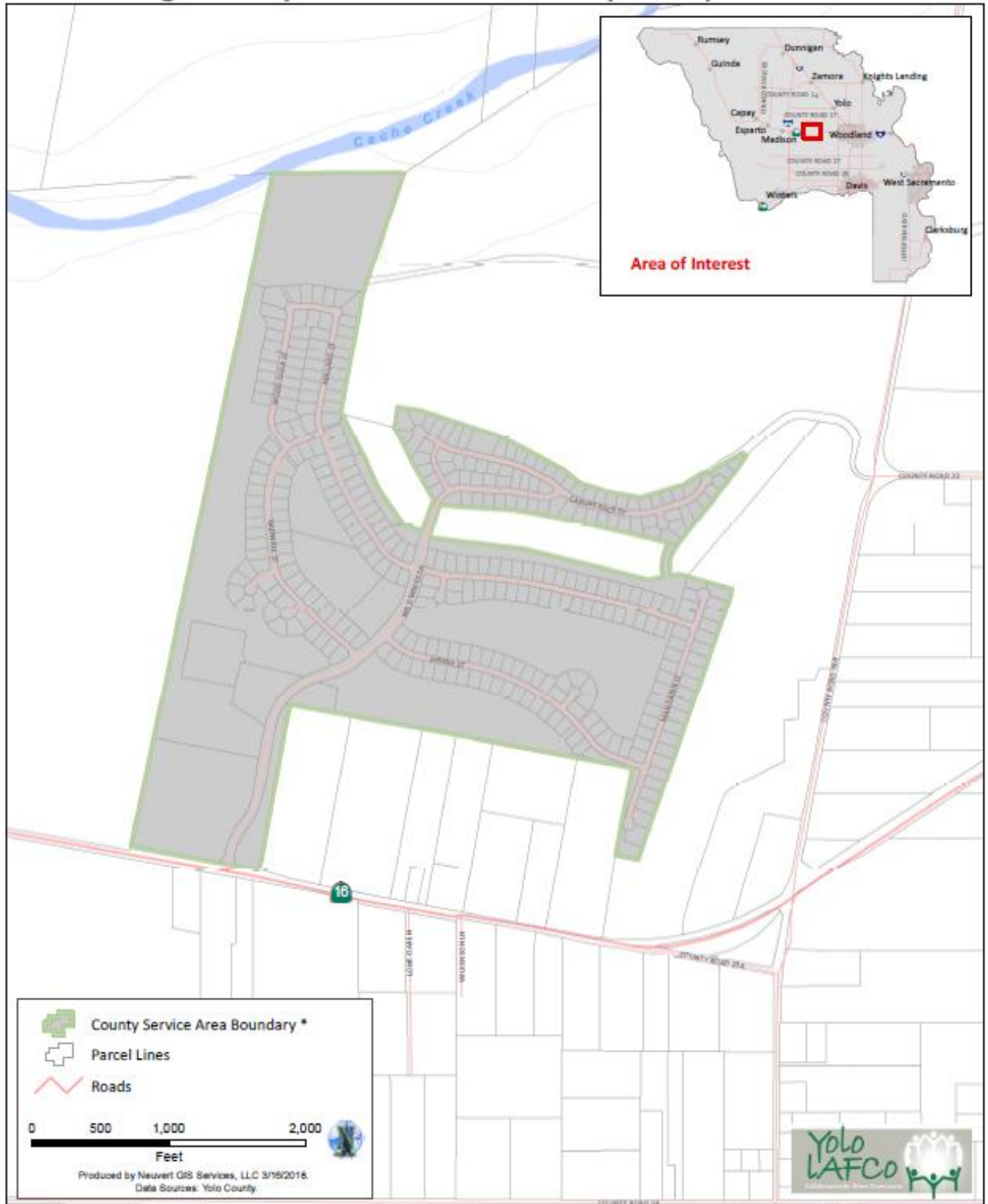
Howard Newens

County Auditor, County of Yolo

VIII. 2017/2018 FEE ROLL

The fee roll listing the fiscal year 2017/2018 fees for all Assessor's parcels of land within the boundaries of the Wild Wings CSA are incorporated into this report and attached to this report as Exhibit "B". The fees attributed to each parcel are computed in accordance with the approved fee methodology as confirmed by vote or agreement of the property owners that are subject to this fee.

Exhibit A – Wild Wings CSA Boundary Map



* Sphere of Influence is coterminous with Area boundary

Adopted by Yolo LAFCo July 28, 2016

Exhibit B – Assessment Roll

Wild Wings Assessor's Parcel Numbers				
25440044000	25504004000	25521004000	25533009000	25545003000
25491001000	25504005000	25521005000	25533010000	25545004000
25491002000	25504006000	25521006000	25534001000	25545005000
25491003000	25505001000	25521007000	25534002000	25545006000
25491004000	25505002000	25521009000	25534003000	25545007000
25491005000	25505003000	25521010000	25534004000	25545008000
25491006000	25505004000	25521011000	25534005000	25551001000
25491007000	25505005000	25521012000	25534006000	25551002000
25491008000	25505006000	25521013000	25534007000	25551003000
25491009000	25505007000	25521014000	25535001000	25551004000
25493001000	25505008000	25521015000	25535002000	25551005000
25493002000	25505009000	25521016000	25535003000	25551006000
25493003000	25505010000	25521017000	25535004000	25551007000
25494001000	25505011000	25521018000	25535005000	25551008000
25494002000	25505012000	25521019000	25536001000	25551009000
25494003000	25505013000	25521020000	25536002000	25551010000
25494004000	25511001000	25523001000	25541001000	25551011000
25494005000	25511002000	25523002000	25541002000	25551012000
25494006000	25511003000	25523003000	25541003000	25551013000
25494007000	25511004000	25523004000	25541004000	25551014000
25494008000	25511005000	25523005000	25541005000	25551015000
25501001000	25511006000	25523006000	25541006000	25551016000
25501002000	25511007000	25523007000	25541007000	25553001000
25501003000	25513001000	25523008000	25541008000	25553002000
25503001000	25513002000	25523009000	25543001000	25553003000
25503002000	25513003000	25523010000	25543002000	25553004000
25503003000	25513004000	25523011000	25543003000	25553005000
25503004000	25513005000	25523012000	25543004000	25553006000
25503005000	25513006000	25523013000	25543005000	25553007000
25503006000	25513007000	25531001000	25543006000	25553008000
25503007000	25513008000	25531002000	25543008000	25553009000
25503008000	25513009000	25531003000	25543009000	25561002000
25503009000	25513010000	25533001000	25543010000	25561003000
25503010000	25513011000	25533002000	25543011000	25561004000
25503011000	25513012000	25533003000	25543012000	25561005000
25503012000	25513013000	25533004000	25543013000	25561006000
25503013000	25513014000	25533005000	25543014000	25563001000
25503014000	25521001000	25533006000	25543015000	25563002000
25504001000	25521002000	25533007000	25545001000	25563003000
25504002000	25521003000	25533008000	25545002000	25563004000

Wild Wings Assessor's Parcel Numbers - Continued

25571001000	25591005000	25601013000	25614002000	
25571002000	25591006000	25601014000	25614003000	
25571003000	25591007000	25603001000	25614004000	
25573001000	25593001000	25603002000	25614005000	
25573002000	25593002000	25603003000	25614006000	
25574001000	25593003000	25604001000	25614007000	
25574002000	25593004000	25604002000	25614008000	
25574003000	25593005000	25604003000	25614009000	
25574004000	25593006000	25604004000	25615001000	
25574005000	25593007000	25604005000	25615002000	
25576001000	25593008000	25604006000	25615003000	
25576002000	25593009000	25604007000	25615004000	
25576003000	25593010000	25604008000	25622001000	
25576004000	25593011000	25604009000	25622002000	
25581001000	25593012000	25604010000	25622003000	
25581002000	25593013000	25604011000	25622004000	
25581003000	25594001000	25604012000	25622005000	
25581004000	25594002000	25611001000	25622006000	
25581005000	25594003000	25611002000	25622007000	
25581006000	25594004000	25611003000	25622008000	
25581007000	25594005000	25611004000		
25581008000	25594006000	25611005000		
25581009000	25595001000	25611006000		
25581010000	25595002000	25611007000		
25581011000	25595003000	25611008000		
25583001000	25596001000	25611009000		
25583002000	25596002000	25611010000		
25583003000	25601001000	25611011000		
25583004000	25601002000	25611012000		
25583005000	25601003000	25613001000		
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25583007000	25601005000	25613003000		
25583008000	25601006000	25613004000		
25583009000	25601007000	25613005000		
25583010000	25601008000	25613006000		
25591001000	25601009000	25613007000		
25591002000	25601010000	25613008000		
25591003000	25601011000	25613009000		
25591004000	25601012000	25614001000		