

APPENDIX F
CAPACITY OF EXISTING WWTP TREATMENT UNITS

Design Data for the City of Woodland Existing Wastewater Treatment Plant

1. Population (2010)	4,380
2. Sewage Quantity	
Design Flow	0.48 MGD
Minimum Flow	0.24 MGD
Maximum Flow	1.20 MGD
3. Design Loading	
BOD	800 LB/DAY
Suspended Solids	880 LB/DAY
4. Design Efficiency	
BOD	85-90%
Suspended Solids	85-90%
5. HYCOR	
Number	1
Capacity	2.5 MGD
6. Grit Removal	
Number	1
Type	Aerated Grit Chamber
Volume	700 CF
Air Required	26-35 SCFM
7. Degritting Equipment	
Number	1
Type	Cyclone and Classifier
Capacity	200 GPM
Estimated Quantity, Average	1.83 CF/DAY
8. Primary Clarifier	
Number	1
Diameter	28 FT
Side Water Depth	8.6 FT
Overflow Rate	
Average	780 GPD/SF
Peak	1,950 GPD/SF
Weir Loading	
Average	5,460 GPD/LF
Peak	13,645 GPD/LF
BOD Removal	33%
9. Submerged Biological Contactor	
Number	1
Length Each Unit	25.33 FT
Stages per Unit	3
Stage 1 Media Surface Area	148,500 SF
Stage 2 & 3 Media Surface Area	68,600 SF
Total Media Surface Area	285,700 SF

10. Rotating Biological Contactor Units		
Number		2
Length Each Unit		20 FT
Stages per Unit		3
Stage 1 Media Surface Area per Unit		32,500 SF
Stage 2 & 3 Media Surface Area per Unit		16,250 SF
Total Media Surface Area per Unit		65,000 SF
11. SBC and RBC Maximum BOD Loading (Running in Series)		
Total First Stage Media Surface Area		148,500 SF
Total Media Surface Area of all Stages		415,700 SF
Total BOD		
First Stage		743 LB/DAY
Overall		831 LB/DAY
Soluble BOD		
First Stage		371 LB/DAY
Overall		457 LB/DAY
12. Secondary Clarifier		
Number		1
Diameter		32 FT
Side Water Depth		12 FT
Overflow Rate		
Average		600 GPD/SF
Peak		1,492 GPD/SF
Weir Loading		
Average		4,752 GPD/LF
Peak		11,881 GPD/LF
13. Disinfection Facilities		
a. Contact Basin		
Volume		2,480 CF
Detention Time @ Design Flow		60 MIN
Detention Time @ Maximum Flow		24 MIN
b. Chlorinators		
Number		2
Feed Capacity of Each, Maximum		50 LB/DAY
Feed Capacity of Each, Minimum		2.5 LB/DAY
Control		Flow Proportional
14. Secondary Sludge		
Number of Pumps/Capacity		1/75 GPM
Estimated Quantity @ Design flow (Dry Rate)		500 LB/DAY
Estimated Solids Concentration		2%
Estimated Quantity (Wet Rate)		3,000 GPD
15 Primary Sludge		
Estimated Quantity @ Design Flow (Dry Rate)		530 LB/DAY
Estimated Volatile Content		70%

16. Thickened Sludge		
	Number Pumps/Capacity	1/75 GPM
	Estimated Solids Concentration	4%
	Estimated Quantity to Digester (Wet Rate)	3,000 GPD
	Volatile solids to Digester (Dry Rate)	740 LB/DAY
17. Sludge Digester		
	Type	Aerobic
	Number	1
	Diameter	26 FT
	Maximum Side Water Depth	17.5 FT
	Volume	10,000 CF
	Hydraulic Detention Time	25 DAY
	Solids Loading	0.074 LB VS/DAY/CF
	Air Required	385 SCFM
	Air Rate	38.5 SCFM/1,000 CF
18. Air Blowers		
	Aerobic Digester Blowers	
	Number	2
	Capacity of Each @ 8 psi	420 SCFM
	SBC Blowers	
	Number	2
	Capacity of Each @ 8 psi	290 SCFM
19. Sludge Disposal		
	Hauling	
	Capacity Tank Truck	3,400 GAL
	Ultimate Disposal	land
20. Effluent Pumps		
	Number	2
	Capacity of Each, Present	650 GPM
	Capacity of Each, Future	950 GPM
21. Outfall Line		
	Diameter	16 IN with 10 IN Reducer
	Length	940 FT
22. Receiving Water		
	River	Lewis
	Class	A (excellent)
	Minimum Flow	789 CFS