

**SUMMARY PROCESSES FOR THE  
RUSSIAN RIVER COUNTY SANITATION DISTRICT'S  
EXISTING TREATMENT FACILITY**

Process/Loading	Units	Average Annual	Maximum Month	Maximum Sustained Peak
<b>Raw Influent</b>				
Flow	mgd	0.72	2.09	3.5
Biochemical oxygen demand concentr	mg/L	129	73.43	55
Total suspended solids concentration	mg/L	141.6	89.79	82.39
Ammonia concentration	mg/L	25	14.1	10.64
Total Kjeldahl Nitrogen	mg/L	35	19.8	14.9
BOD <sub>5</sub> Load	lb/d	775	1,280	1,605
TSS Load	lb/d	850	1,565	2,405
Ammonia Load (estimated)	lb-N/d	150	246	311
TKN Load (estimated)	lb-N/d	210	345	435
<b>Screening</b>				
Total Number of Units	none	1	1	1
Number of Units in Service	none	1	1	1
Number of Standby Units	none	0	0	0
Screen Opening	inch	0.25	0.25	0.25
<b>Parshall Flume</b>				
Number of Units	none	1	1	1
Throat Width	inch	12	12	12
<b>Aerated Grit Basin</b>				
Number of Units	none	1	1	1
Volume	gallons	8,560	8,560	8,560
Detention Time	minutes	17.1	5.9	3.5
<b>Emergency Storage Basin</b>				
Volume (total) <sup>a</sup>	MG	1.0	1.0	1.0
<b>Aeration Basin</b>				
Number of basins	none	1	1	2
Length	ft	104	104	104
Width	ft	52	52	52
Depth	ft	14	14	14
Basin Volume (Total)	MG	0.5663	0.5663	1.133
Sludge Age (w/o clarifier)	days	20	13.5	10
Sludge Age (w/ clarifier)	days	21.69	16.68	11.97
Minimum Nitrification SRT	days	3.086	3.086	3.086
MLSS	mg/L	2,744	3,565	2,013
F/M	lb BOD/lb VSS/d	0.107	0.143	0.167
Hydraulic Retention Time (w/o RAS)	hr	17.79	6.361	7.625
Oxygen Uptake Rate	mg/L/hr	16.21	26.22	16.3
Total O <sub>2</sub> Required	lb O <sub>2</sub> /lb BOD	2.217	2.103	2.014
Air Required	SCFM	1,074	1,737	2,160
<b>Secondary Clarifier<sup>b</sup></b>				
Number of secondary clarifiers in serv	none	1	2	2

