

APPENDIX J

Specific Design Criteria

Specific Design Criteria for the Woodburn Wastewater Facilities Plan

Equipment/Unit Processes	Number of Units	Size/Capacity (each)	Description
Preliminary Treatment			
Continuously-Cleaned bar screens	2	3 feet wide	¼" spacing
Capacity		13 mgd	
Manually Cleaned Bar Screen	1	3 feet wide	½" spacing
		8 mgd	
Grit Removal			
Grit Separator, Vortex	4	12' Diameter	
Capacity		8 mgd	
Horsepower		1.5 hp	
Primary Treatment			
Primary Clarifiers	3	55' Diameter	10' side water depth
Operating Overflow Rate			
Average Annual Design Flow		610 gpd/ft ²	
Peak Design Flow		2,189 gpd/ft ²	
Primary Clarifiers, Converted Wet Weather	2	55' Diameter	10' side water depth
Operating Overflow Rate			
Average Annual Design Flow		610 gpd/ft ²	
Peak Design Flow		2,189 gpd/ft ²	
Secondary Treatment			
Aeration Basins	2	0.925 mg	15' side water depth
MLSS		3,500 mg/L	
Solids Retention Time		5-15 days	
Anoxic Volume / basin		0.108 mgal	
Aeration Blowers	2	2,100 scfm	Multi-stage centrifugal
	2	3,000 scfm	
Secondary Clarifiers	4	75' Diameter	18' side water depth
Operating Overflow Rate			
Maximum Wet Weather Month		867 gpd/sf	
Peak Hour		1,471 pgd/sf	

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Solids Loading Rate			
Maximum Day Wet Weather		33.1 ppd/sf	
Maximum Day Dry Weather		16.9 ppd/sf	
Tertiary Treatment			
Cloth Media Filters	2	4.2 mgd	
Filtration Rate (at AAF)		2.72 gpm/ft ²	
Headloss		2 ft	
Disinfection			
UV Disinfection (Phase 1)	2	8 mgd	
Channel Width		47"	
Configuration		40 Lamps / Channel	Medium Pressure
UV Disinfection (new)	2	8 mgd	
Channel Width		42"	
Configuration		32 Lamps / Channel	Medium Pressure
Solids Treatment			
Dissolved Air Flotation Thickeners	2	17' Diameter	
Solids Loading Rate, Max Month		0.51 lb/sf-hr	
Thickened WAS Concentration		3%	
Stabilization			
Anaerobic Digester Dimensions	2	50' Diameter; 23' SWD, 22' SWD	
Volume		48,400 cu. ft., 45,400 cu. ft.	
Hydraulic Retention Time, Max Month		15.2 days	
Volatile Solids Loading Rate, Max Month		0.16 lb/cf/day	
Dewatering			
Facultative Sludge Lagoons	2	2.5 acres	
Average Total Depth		15 ft	
Water Cap Depth		3 ft	
Design Freeboard		2 ft	
Volatile Solids Loading Rate, Max Month		18.4 ppd VSS/KSF	