Fresno/Clovis Regional Water Reclamation
Facility Design Criteria

Plant Capacity	
Flow, mgd	
Average clay maximum month	88
Average annual	80
Peak hour	160
BOD_5 and suspended solids	
Average concentration, mg/L	240
Average loading, 1,000 lb/day	184
Headworks/Freliminary Treatment	
Influent pumps	
Number/capacity, mgd	2 ~ 32.4
	4 (~)46.1
Total capacity, mgd	203
Mechanical bar screens	
Number	4
Width, ft	7
Bar spacing, in	75
Grit basins	
Diameter, ft	24
Number	4
Peak capacity (each), mgd	70
Total capacity, mgd	210
Grit pumps	
Number	6
Capacity, gpm	360
Parshall flumes	
Number	2
Width, ft	10
Total capacity, mgd	220
Primary Clarifuers	
Number	6
Diameter, ft	140
Sidewater depth, ft	10
Overflow rates, gpd/sf	1,010
Detention time, hrs	1.78
Weir loading, gpdllf	35,200
Primary Sludge Pump Stations Nos. 1 and 2	
Primary sludge pumps - air diaphragm type	
Number	16
Capacity (each), gpm	140
Primary scum pumps - air diaphragm type	
Number	4
Capacity (each), gpm	140
Dewatering pumps - vertical non-clog centrifugal	
Number	2
Capacity (each), gpm	1,300
Aeration Basins	
Number	8
Process design flow, mgd	80
Volumetric loading, lb BOD,/l,000 ft'/day	48-58
Volume per basin, MG	2.7
Sidewater depth, ft	15-17
Mixed liquor suspended solids,mg/L	2,000-3,000
Carbonaceous oxygen requirements lbsO2JlbsBOD	1.125
Aeration Air Blowers	
Air blowers/capacity, cfm....	4 @ 27,000
	3 @ 18,400
Secondary Sedimentation Basins	
Number	13
Process design flow, mgd	80
Sidewater depth, ft	13-14
Overflow rate, gpd/day/ft2	532-577
Weir overflow, gpdllf	3,000-4,000
Effluent Disposal	
Pond area, acres	1,400
Disposal pond freeboard, ft	2
Average pond water depth, ft	4-5
Sludge Thickening	
Dissolved air flotation thickeners	
Number	2
Solids loading, lb/ftVday	24
Diameter, ft	40
Gravity belt thickeners	
Width, meters	2
Number	2
Hydraulic loading, gpm	500
Anaerobic Digesters	
Number	12
Diameter, ft	75-105
Volatile solids loading, lbs/ft'/day ...	0.12
Minimum hydraulic retention time, clays	20
Sidewater depth, ft	26-29
Pumping mixing	
Pumpnumber	16
Capacity (each), gpm	5,000
Sludge Dewatering	
Belt filter presses	
Number	7
Width, meters	2
Hydraulic loading, gpm	180
Feed solids concentration, %	2-3
Cake solids concentration, %	18-20
Sludge Storage Silos	
Number	1
Volume, cy	430
Solids storage time, hrs	24
Plant Utilities	
Steam boiler - horizontal fire tube	
Number	1
Capacity, bp	400
Air compressors - two-stage reciprocating type	
Number	3
Size, scfm	540+
Discharge pressure, psig	125