

Water Reclamation Campus – 32-mgd

Description and Detail	Quantity
Wastewater Quantities	
Gallons Per Capita per Day	85
Annual Average Flow, mgd	32
Monthly Peak (1.1 x an. avg. flow), mgd	38
Daily Peak (1.4 x an. avg. flow), mgd	45
Hourly Peak (2.0 x an. avg. flow), mgd	64
Raw Influent Wastewater Characteristics	
Total Suspended Solids – mg/L	286
lbs/day	76,300
Chemical Oxygen Demand - mg/L	648
lbs/day	172,900
5-day Biochemical Oxygen Demand - mg/L	294
lbs/day	78,500
Soluble 5-day Biochemical Oxygen Demand - mg/L	121
lbs/day	32,300
Volatile Suspended Solids - mg/L	225
lbs/day	60,000
Total Kjeldahl Nitrogen - mg/L	47
lbs/day	12,500
Total Phosphorus - mg/L	10
lbs/day	2,700
Influent Screening Facilities	
Bar Screen Type	Mechanically cleaned
Coarse, number of units	2
Clear opening, in.	2.5
Fine, number of units	3
Clear opening, mm	3



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Screenings Removal Screenings Removed cu ft/MG cu ft/day (an. avg.) Screenings removal support equipment Screen Belt Conveyors Screenings Compactor	 10 320
Influent Grit Facilities Type Number of units Capacity per unit, mgd	 Vortex 2 32
Grit Removal Grit Removed cu ft/MG cu ft/day (an. avg.) System Performance	 6 192 95% of 65 mesh grit
Odor Control At preliminary treatment, wastewater treatment, and sludge thickening facilities	



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Description and Detail	Quantity
Treatment Wastewater Characteristics¹	
Total Suspended Solids, mg/L	310
lbs/day	82,700
Chemical Oxygen Demand, mg/L	659
lbs/day	175,900
5-day Biochemical Oxygen Demand, mg/L	301
lbs/day	80,300
Soluble 5-day Biochemical Oxygen Demand, mg/L	121
lbs/day	32,300
Volatile Suspended Solids, mg/L	243
lbs/day	64,900
Total Kjeldahl Nitrogen, mg/L	47
lbs/day	12,500
Total Phosphorus, mg/L	10
lbs/day	2,700
Aeration Tanks²	
Number of tanks	4
Volume per tank (new), cu. ft.	702,000
Number of Stages per Tank	5
Return sludge, %	50
Internal recycle, %	400

¹ Includes plant recycle

² Include future biological phosphorus removal provisions (based on Bardenpho process)

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Description and Detail	Quantity
Final Clarifiers Type Number of Tanks Clarifier diameter, ft. Sidewater Depth, ft. Total Surface Area of Tanks, sf Surface Loading An. Avg., gal/sf/day Peak, gal/sf/day Final Clarifier Tank Effluent Suspended Solids, mg/L BOD, mg/L NH ₃ -N, mg/L TN, mg/L	Circular 4 165 15 85,000 375 750 7 7 < 1 < 8
Disinfection (Chlorine Technology) Number of Basins Detention Time @ an. avg. flow, min. Sodium Hypochlorite Dosage, @ max. capacity, mg/L Bisulfite (De-chlorinate), @ max. capacity, mg/L	4 60 15 22

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Description and Detail	Quantity
Sludge Thickening Facilities	
Waste Activated Sludge to Thickening, Avg. Values	
Flow, mgd	1.72
Mass, lbs/day	100,600
Conc., mg/L	7,000
Gravity Belt Thickeners	
Thickener Effective Width, m	2
Design Sludge Flow per Thickener, gpm	500
Number of Existing Units (relocated)	1
Number of New units	3
Number of Thickeners Operating	3
Number of Thickeners Installed	4
Future Provision	2 units
Capture Efficiency, %	90
Polymer systems, number	2
Thickened Sludge Pumped to Ina Road	
Flow, mgd	0.36
Mass, lbs/day	90,500
Conc., % solids	3
Sludge Transfer Pump Station	
Thickened Waste Activated Sludge to Ina Road	
Number of pumps	2
Rate, gpm	400

