Appendix D – Summary of Northeast Treatment System Process Information

Table D-1 Northeast WWTP Design Data Summary

Existing treatment units	Design data[a]
PRELIMINARY TREATMENT	
Bar Screens	
Number	2
Clear opening, inch	0.75
Influent Pumping	
Number	3
Capacity, mgd	8
Aerated Grit Basins	
Number	2
Design flow per unit, mgd	5
Unit size, ft	15W x 25L x 13.25SWD
PRIMARY TREATMENT	
Primary Settling Tanks	
Number	2
Diameter, ft	90
Side water depth, ft	11.9
Weir loading rate, gpd per lin ft	7,717
Redwood Towers	
Number	2
Total media area, sf	3,630
Media depth, ft	14
Average daily biological loading lb/1000cf	154
SECONDARY TREATMENT	
Aeration Basins	
Number	2
Diameter, ft	79
Side water depth, ft	16
Detention time:	
One basin in operation	1.75
Two basins in operation	3.50
Aerator type	Fine Bubble Diffusion
Blower Building (Compressed Air System)	
Aeration	3
Capacity per unit, scfm	1.325
Motor size, hp	125
Final Settling Tanks	
Number	2
Diameter, ft	90
Side water depth, ft	10
Total weir perimeter, lin ft	264
Weir loading, gpd/lin ft	15,158

Table D-1 Northeast WWTP Design Data Summary

Existing treatment units	Design data[a]
Recirculation Pumping Station	
Number	3
Rated head, ft	33
Rated capacity at rated head, mgd	10.0
Motor size, hp	100
Return Sludge Pumps	
Number	3
Rated head, ft	9
Rated capacity at rated head, mgd	5.0
Motor size, hp	20
DISINFECTION	
Chlorine Contact Basin	
Number	2
Design flow per unit, mgd	6
Depth, ft	10
Volume, cu ft	23,040
Rapid mixers	2
Motor, hp	5
SOLIDS PROCESSING EQUIPMENT	
Primary Sludge and Scum Pumps	
Number	3
Rated capacity, gpm	50
Motor size, hp	5
Sludge Grinders	
Number	2
Line size connection, inch	6
Motor size, hp	7.5
Waste Activated Sludge Pumps	
Number	4
Rated head, ft	14.5
Rated capacity at rated head, gpm	350
Motor size, hp	3
WAS Storage	
Number	1
Volume	284,300 gal
Thickener Feed Pumps	
Number	2
Type	Progressive Cavity
Rated capacity at rated head, gpm	400
Max speed	250
WAS Thickeners	
Number	2

Table D-1 Northeast WWTP Design Data Summary

Existing treatment units	Design data[a]
Type	Rotary Drum
Rated capacity, gpm	400
TWAS Storage	
Number	1
Volume	71,100 gal
Anaerobic Digesters	
Primary digester, number	2
Diameter, ft	55
Sidewall depth, ft	23'-1"
Normal sidewater depth, ft	25
Cover type	submerged fixed cover
Sludge Mixing	
Number Total (1 ea digester)	2
Motor	20 HP, explosion proof
Mixer type	slow speed turbine
Rotation speed, rpm	17, reversible
Sludge Heat Heating	
Sludge HEX	
Number	2
Type	concentric tube
Capacity, BTU/hr	700,000
Rotation speed, rpm	17, reversible
Boilers	
Number	2
Type	
Capacity, BTU/hr	1,260,000
Digested Sludge Pumps	
Number	4
Type	progressing cavity
Rated total head, ft	92
Capacity at rated head, gpm	275
Operating speed, rpm	175
Motor size, hp	20
Digested Gas Storage	
Number	1
Type	double membrane
Capacity	35,000
Sludge Injector	
Tractor	
Fuel	diesel
Rated power (drawbar), hp	60
Track width, inch	30

Table D-1 Northeast WWTP Design Data Summary

Existing treatment units	Design data[a]
Plow-Injector	
Number	14
Injection Field	
Size, acres (ha)	440 (178)
Number of field connections	30
Sludge Holding Basin	
Number	1
Diameter, ft	60
Sidewall depth, ft	16
Usable sidewall depth, ft	13
Usable volume, gal	289,080
Sludge Storage Lagoon	
Area, sq ft	107,400
Max operating liquid depth, ft	12.5
Capacity, mil gal	8
Sludge Injection Pump	
Number	1
Rated total head, ft	162
Capacity at rated head, gpm	700
Motor size, hp	50
Dredge Pump	
Number	1
Type	vertical centrifugal
Rated total head, ft	20
Capacity at rated head, gpm	1,100
Motor size, hp	25

Red indicates capacities to be verified.