

CHAPTER 5 PROJECTED WASTEWATER FLOWS AND LOADINGS

This chapter contains information on wasteload and sludge production projections for the planning area. As presented in Chapter 2, the planning period is 20 years, encompassing the years 2010 through 2030. Wasteload and sludge production projections are used to evaluate the existing facilities at the NSWWTP and develop future treatment alternatives for the solids handling facilities at the plant.

WASTELOAD PROJECTIONS

Population and wasteload projections for NSWWTP were prepared in the District's 50-year Master Plan. The projections included residential, commercial, and industrial loadings, as well as estimated hauled wastes. These projections have been incorporated into this report.

TM-01 contains an analysis of year 2030 projected plant loadings, including a comparison of projections made in the Master Plan, the 10th Addition project, and a process model using operational data from 2005 – 2007. Updated peaking factors, flows and loadings from the Master Plan were used to establish design criteria. Table 5-1 presents a summary of the 2030 projected influent flows and wasteloads.

Table 5-1 Nine Springs WWTP 2030 Projected Influent Flows and Loading⁽¹⁾			
Parameter	Units	Annual Average	Maximum Month
Flow	(mgd)	53.8	67.2
BOD ₅	(lbs/day)	122,100	146,500
TSS	(lbs/day)	117,800	141,400
TKN	(lbs/day)	19,800	23,800
Total-P	(lbs/day)	2,900	3,200
(1) From Table 1.3, TM-01			

SLUDGE PRODUCTION

In TM-01 the sludge production for the year 2030 was estimated using a process model calibrated for the NSWWTP. The more conservative values from the Master Plan were used for the design criteria. Table 5-2 shows estimated values for sludge production for the Nine Springs WWTP in the year 2030. These values form the basis for design for subsequent evaluation of solids handling alternatives.

Table 5-2 Nine Springs WWTP 2030 Projected Sludge Production⁽¹⁾			
Parameter	Units	Annual Average	Maximum Month
Primary Sludge			
Total Solids	(lbs/day)	88,400	105,600
Waste Activated Sludge			
Total Solids	(lbs/day)	72,200	85,400
Thickened Sludge			
Total Solids	(lbs/day)	154,500	183,800
Volatile Solids	(lbs/day)	117,400	139,700
(1) From Table 1.3, TM-01			