DESCRIPTION OF EXISTING SEWER COLLECTION SYSTEM

The City of Woodland first started to establish a sewer system in 1950 when sewer lines, pump stations, and force mains were constructed in the downtown area, and the residential area west of Interstate 5 and a clarifier-digester was constructed at the current WWTP site. Since then, the City has expanded the sanitary sewer system so it has the capability to serve most of the property within the City limits. An up-to-date sewer inventory map of the Woodland Sewer System is provided on Figure IV-7a, and Figure IV-7b (see map pockets at the end of this General Sewer Plan). Figures IV-7a, and IV-7b display the sewer sub-basins, pump stations, force mains, sewer lines, manholes, manhole numbers, and the location of the WWTP.

Appendix E contains a line-by-line sewer pipe inventory of all the sub-basins in the City of Woodland's sewer system. Information listed in the inventory was used to create Table IV-3 which is a summary of the City's sewer collection system. For a more detailed discussion of the existing sewer system and future improvements required on the sewer system, please refer to Section VI.

Table IV-3. Sewer Collection System Inventory Summary.

Basin Number	Area Served (acres)	Linear Feet of Pipe	Equivalent Length of Main (in-mi)
W-1	98.94	8,797	13.33
W-2	85.56	9,200	13.94
W-3	546.61	8,293	13.69
W-4	140.40	13,968	28.23
W-5	90.99	3,486	5.28
W-6	67.33	11,323	19.20
W-7	239.44	30,593	47.07
W-8	53.89	3,476	5.92
W-9	18.86	806	1.22
W-10	215.97	6,820	15.50
W-11	75.06	825	1.25
W-12	*11.09*	*0*	*0.00*
Total	***1,644.14***	***97,587***	***164.63***

Note: The Pump Station for Basin 12 is currently under construction.

The City of Woodland's sewer system currently contains 11 pump stations and approximately 13,342 feet of force main ranging from 4 to 8 inches in diameter. Pump Station 12 is being constructed and 580 feet of forcemain is to be laid. The largest pump station (Pump Station No. 4) is located at the corner of Lewis River Drive and C.C. Street and collects sewage from all twelve basins and pumps it directly to the sewage treatment plant. Pump Station No. 3 serves the lower west side of the City and pumps to Pump Station No. 4. All the other sewer pump stations serve small, localized areas. Table IV-4 below lists the twelve pump stations and their capacities.

In 1996, a portable generator was purchased and the City modified pump stations numbered 1-10 so that standby power could be provided using a trailer-mounted generator. They also added telemetry to signal pump station failures for all pump stations. The effort was to provide service during power outages and the telemetry enabled notification of pump station failures through an autodialer system. Section VI also provides a more detailed discussion of the existing pump station system, and future improvements recommended.

Table IV-4. Approximate Pump Station and Force Main Summary.

Basin Number	Force Main Diameter (in.)	Force Main Length (feet)	Pump Capacity (gpm)
W-1	6	831	2 @ 275
W-2	4	580	2 @ 250
W-3	8	1,029	2 @ 330
W-4	8	1,070	2 @ 225/833
W-5	4	264	2 @ 220
W-6	8	957	2 @ 400
W-7	6	138	2 @ 300
W-8	4	745	2 @ 150
W-9	4	665	2 @ 60
W-10	6	5,726	2 @ 180
W-11	4	1,337	2 @ 250
W-12	*6*	*580*	*2 @ 500*
Total		***13,922***	

Note: The Pump Station for Basin 12 is currently under construction.

DESCRIPTION OF EXISTING WASTEWATER TREATMENT SYSTEM

The original treatment plant, built in 1954, consisted of a 25 foot diameter clarifier-digester, a control building containing lab and chlorination equipment, and sludge drying beds. Major improvements to the wastewater treatment facility were completed in 1974. The changes and additions are as follows:

1. New headworks with degritting facilities.
2. New primary clarifier
3. Two Rotating Biological Contactors (RBC's)
4. New secondary clarifier
5. New chlorine contact tank
6. An aerobic digester with blowers
7. New chlorination system
8. Sludge and effluent pumps
9. Sludge Drying beds

Although the WWTP was designed in 1974 to treat an average daily flow of 0.48 MGD, the City was issued an NPDES Permit in 1981 limiting the flow to 0.26 MGD. This limitation was established because the design criteria for RBC's was changed in 1978 by DOE from a loading rate based on flow to a loading rate based on pounds of BOD per 1,000 ft^2 of media. In 1993, a submerged biological contactor (SBC) was added to the plant to increase capacity to 0.48 MGD again. In 1996 a 2.5 MGD HYCOR unit was installed at the headworks to remove rags, plastics, and course material. The HYCOR replaced the use of a comminutor unit which did not provide reliable service. A power generator was also purchased in 1996, and WWTP alarms were tied into the autodialer to notify operators of failures during non-working hours. For a description of the plant's sludge handling process, please see page IV-45.

Figure IV-8 shows the flow diagram, and Figure IV-9 shows the hydraulic profile of the treatment plant. Appendix F lists the capacity of each of the treatment units within the treatment plant.