The list of pump station and interceptor projects included in this report is not meant to serve as a prioritized list of projects. As mentioned above, actual construction will occur over time and as demand dictates. The concept and location of a single pump station to serve a large area is not intended to restrict City decision makers. Rather, that concept is intended to present the long term cost effective method to sewer a proposed area.

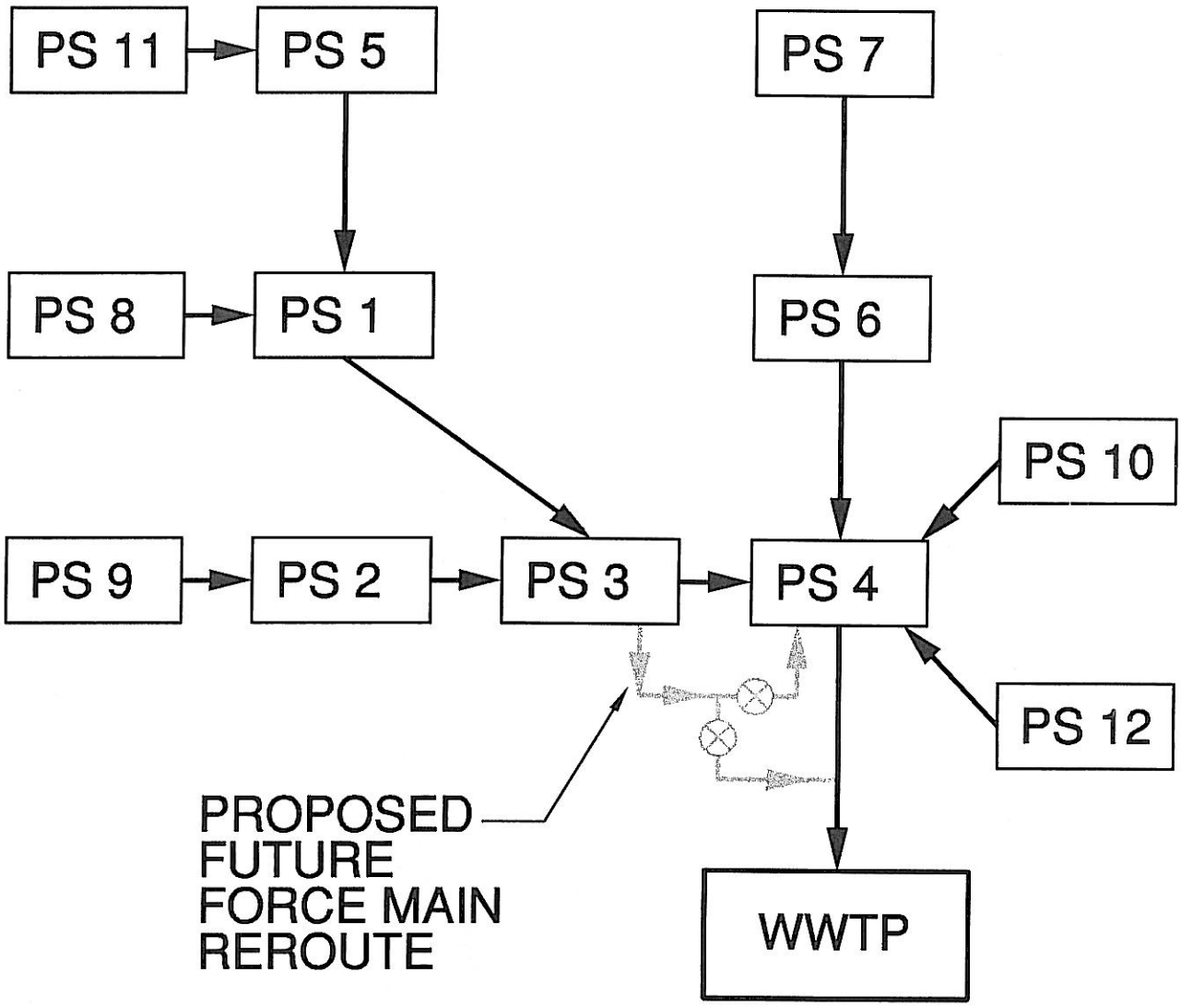
PUMP STATION IMPROVEMENTS

Figure VI-3 shows a schematic of the pump station flows from each basin which ultimately is received at the WWTP. Table VI-3 presents pump station pump capacities and a comparison of the existing and future flows anticipated to require more pumping capacity. We anticipate that Pump Station Nos. 1, 5, 6, 7, and 10 will need new, larger pumps installed sometime in the next 10 years to handle future (2023) flows. These pump upgrades are not identified as Phase I recommendations since the pumps have been adequate to meet flows up to date, and no overflows have been reported. Also the peak flow is based on the 1.208 MGD flow which occurred in December 1996.

Table VI-3. Pump Station Capacity and Existing/Future Pump Station Capacities.

Basin Number	Pump Capacity (gpm)	Est. Existing Peak Flow Through Each Pump Station (gpm)	Est. Year 2023 Peak Flow Through Each Pump Station (gpm)
W-1	**2 @ 275**	164	**539**
W-2	2 @ 250	54	176
W-3	**2 @ 330**	**498**	**1639**
W-4	**2 @ 225/833**	**839 (341)**	**2778 (1139)**
W-5	**2 @ 220**	85	**281**
W-6	**2 @ 400**	158	**518**
W-7	**2 @ 300**	123	**405**
W-8	2 @ 150	28	91
W-9	2 @ 60	10	32
W-10	**2 @ 180**	111	**365**
W-11	2 @ 250	39	127
W-12	*2 @ 500*	*0*	*19*

Note: The Pump Station for Basin 12 is currently under construction.
Bold denotes will need upgrading.
Values in parenthesis is the flow in PS 4 after the force main from PS 3 is rerouted.



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CITY OF WOODLAND GENERAL SEWER PLAN
PUMP STATION AND FORCE MAIN FLOW SCHEMATIC
FIGURE VI-3

An examination of the method for pumping to the WWTP at Pump Station No. 3 and No. 4 reveals that modifications could greatly enhance flexibility and reliability for these two stations. Presently, all flow to the WWTP must pass through Pump Station No. 4. Figure VI-4 shows the proposed improvements to Pump Station Nos. 3 and 4.

Modifications for Phase I improvements would reduce some of the influent flow peak flows to the WWTP. Pump Station No. 3 could be diverted to discharge directly into the WWTP forcemain with the addition of a valve vault and about 170 linear feet of pipe. This piping connection will adequately satisfy the pumping demands for the next 5-10 years depending on City growth. For safety reasons, the City proposes to abandon the deep existing packaged Pump Station No. 4 and install wet pit submersible pumps utilizing the existing wetwells adjacent to Pump Station No. 4. Pump control for Pump Station No. 4 by use of variable speed drives will further help to remove the influent spikes to the treatment plant. Peak flows are of less concern if a batch SBR treatment process is selected. The components and individual estimated costs are presented in the Appendix H.

In the future, it is recommended that another forcemain be installed directly from Pump Station No. 3 to the WWTP. The most attractive solution for future flow conditions is to construct a new 8-inch main along the west side of I-5, and bore under I-5 to the WWTP headworks. As development occurs along the west side of I-5 and around Horse Shoe Lake, this crossing would permit a more direct discharge to the treatment plant without affecting the Pump Station No. 4 forcemain. The existing submersible pumps of Pump Station No. 3 should be upgraded at this stage to handle anticipated peak flows. Variable frequency drives should be installed in an effort to remove the influent flow spikes from Pump Station No. 3. The components and associated costs are presented in the Appendix H.