3.0 WASTEWATER FLOWS

3.1. Existing Conditions

For this study wastewater flows were estimated using information obtained from the Assessor's Office and the Connecticut Department of Public Health (DPH) "Code for Regulations and Technical Standards for Subsurface Sewage Disposal Systems." Projections for wastewater flows for residential properties were estimated using 150 gallons per day (gpd) per bedroom. Projections for wastewater flows for commercial properties were based on the type of establishment (see Appendix A for a copy of the DPH recommended design flows).

The existing flows are estimated to be approximately 45,000 gallons per day (gpd) and are summarized in Appendix B. The location of the existing parcels is shown on Figure 6.

3.2. Future Conditions

As discussed in Section 3.0, the project area is comprised of four zones, each having different requirements. Therefore, the future flows were broken into four sections in order to reflect the individual requirements.

In each zone, however, the maximum building size was determined the same way since the maximum lot coverage is 30% for each zone. The maximum building size is used to determine the wastewater flow and was determined by first subtracting any unbuildable areas (i.e. wetlands and floodplains) from the total lot size. The buildable area was then multiplied by 30% to determine the maximum lot coverage. Then the maximum lot coverage was multiplied by 50% (the other 50% accounts for parking and other infrastructure) to determine the maximum building size.

LCVD-1 Zone

Buildings in the LCVD-1 Zone can include three (2) stories with commercial space on the first floor and two (2) bedroom apartments on the second and third floors. As a result, the total future wastewater flows were calculated using 0.1 gpd per square foot for the first floor and 150 gpd for each bedroom on the second and third floors. The number of bedrooms was determined by first calculating the total number of apartments by dividing the maximum square footage by 1,000 square feet and multiplying by two. The flow of 0.1 gpd per square foot of building and the 150 gpd per bedroom is based on the DPH guidelines for wastewater flow estimation and is included in Appendix A.

The total future estimated wastewater flow from the LCVD-1 Zone is approximately 289,000 gpd (Appendix C includes a complete breakdown of the future flows).

The wastewater flows above are conservative and represent a higher flow than may be generated from the area. Therefore, Weston & Sampson also calculated the future wastewater flows using smaller or more

typical building sizes. To obtain a more typical size, the maximum building size was multiplied by 50%. The resultant wastewater flow was reduced by 50% and is approximately 144,000 gpd.

LCVD-2 Zone

Seventy-five percent (75%) of the maximum lot coverage within the LCVD-2 Zone may be condominiums or multi-family units. The remaining 25% must be commercial. As a result, the total future wastewater flows were calculated using 0.1 gpd per square foot for commercial buildings and 150 gpd for each bedroom. The number of bedrooms was determined by first calculating the total number of condominiums by dividing 75% of the maximum lot coverage by 1,000 square feet and then multiplying the total number of condominiums by two (each condominium includes two (2) bedrooms). The flow of 0.1 gpd per square foot of building and the 150 gpd per bedroom is based on the DPH guidelines for wastewater flow estimation and is included in Appendix A.

The total future estimated wastewater flow from the LCVD-2 Zone is approximately 117,000 gpd (Appendix C includes a complete breakdown of the future flows).

The wastewater flows above are conservative and represent a higher flow than may be generated from the area. Therefore, Weston & Sampson also calculated the future wastewater flows using smaller building sizes. To obtain a more typical size, the maximum building size was multiplied by 50%. The resultant wastewater flow was reduced by 50% and is approximately 58,000 gpd.

LCVD-3 Zone

Lots in the LCVD-3 Zone can include single family residences on interior lots, multi-families up to two bedrooms per unit, condominiums, and commercial buildings. To be conservative, Weston & Sampson assumed that each lot would be developed commercially and therefore multiplied the maximum building size, as determined using the method described above, by 0.1 gpd per square foot in order to determine the wastewater flow. The flow of 0.1 gpd per square foot of building is based on the DPH guidelines for wastewater flow estimation and is included in Appendix A.

The total future estimated wastewater flow from the LCVD-3 Zone is approximately 121,000 gpd (Appendix C includes a complete breakdown of the future flows).

The wastewater flows above are conservative and represent a higher flow than may be generated from the area. Therefore, Weston & Sampson also calculated the future wastewater flows using smaller or more typical building sizes. To obtain a more typical size, the maximum building size was multiplied by 50%. The resultant wastewater flow was reduced by 50% and is approximately 61,000 gpd.

MFVD Zone

Lots in the MFVD Zone can include multi-family residences, condominiums, cooperatives, and townhouses. To be conservative, Weston & Sampson assumed that each lot would be developed as a two-family residence with each unit containing two (2) bedrooms. The zoning regulations also state that there

can only be one (1) unit per 7,500 square feet. Therefore, the maximum lot coverage was divided by 7,500 square feet to determine the maximum number of units, which was then multiplied by 4 and 150 gpd to determine the total flow. The flow of 150 gpd per bedroom is based on the DPH guidelines for wastewater flow estimation and is included in Appendix A.

The total future estimated wastewater flow from the MFVD Zone is approximately 133,000 gpd (Appendix C includes a complete breakdown of the future flows).

3.3. Total Projected Wastewater Flow

The total projected wastewater flow from the project area is between 169,000 gpd and 245,000 gpd. See Table 3-1 below for a summary of flows. See Appendix B and Appendix C for a complete breakdown of flows.

Table 3-1
Summary of Wastewater Flows

Description	Wastewater Flow (gpd)	
	Potential	Maximum
Existing Buildings	45,000	45,000
Future Conditions		
LCVD-1	144,000	289,000
LCVD-2	58,000	117,000
LCVD-3	61,000	121,000
MFVD	133,000	133,000
Total Future Flows	*396,000*	*660,000*
Total Flows	***441,000***	***705,000***