

SECTION 3: EXISTING WASTEWATER FACILITIES

Section 3

3.1 CITY OF POINT COMFORT WWTP

City of Point Comfort Wastewater Treatment Plant (WWTP) is located at 800 Pease Street, at the intersection of Murrah Street and Pease Street, approximately 2,900 feet northwest of the intersection of Farm-to-Market 1593 and State Highway 35 in Calhoun County, Texas (See Figure 3-1). The facility (WQ0010599001) is authorized to treat and discharge an annual average flow of effluent not to exceed 0.2 MGD. The effluent is permitted to discharge into Lavaca Bay/ Chocolate Bay Segment No. 2453 of the Bays and Estuaries. For the permitted flow data, refer to Table 3-1. The table also contains the daily average discharge limitations. The annual average flow at the City of Point Comfort WWTP calculated from historic flow data is 0.042 MGD (2007 – 2010) which accounts for 21% of the permitted flow.



Figure 3-1 City of Point Comfort WWTP

Table 3-1 Permitted Flow Data for Point Comfort WWTP

WWTP Name	Permitted Average Flow in MGD	Permitted 2-hr Peak Flow in MGD	BOD/TSS in mg/L
City of Point Comfort WWTP	0.2	0.5	20/20

3.2 CITY OF PORT LAVACA WWTP

City of Port Lavaca WWTP (WQ0010251001) is located at the southeast corner of the intersection of Newlin and Commerce Street approximately 1.4 miles northeast from the intersection of State Highway 35 and US Highway 87 in Calhoun County, Texas (See Figure 3-2). The facility is authorized to treat and discharge an annual average flow of effluent not to exceed 2 MGD. The effluent from the WWTP is discharged into the Lynn bayou; thence to Lavaca/Chocolate Bay in Segment No. 2453 of Bays and Estuaries. For the permitted flow data, refer to Table 3-2. The table also contains the daily average discharge limitations. The annual average flow at the City of Port Lavaca WWTP calculated from historic flow data is 1.11 MGD (2007 – 2010) which accounts for 55% of the permitted flow.



Figure 3-2 City of Port Lavaca WWTP

Table 3-2 Permitted Flow Data for Port Lavaca WWTP

WWTP Name	Permitted Average Flow in MGD	Permitted 2-hr Peak Flow in MGD	BOD/TSS in mg/L
City of Port Lavaca WWTP	2	7.65	20/20

3.3 CITY OF SEADRIFT WWTP

City of Seadrift WWTP (WQ0010822001) is located south of and adjacent to SH 185, between Orange and Olive Streets in City of Seadrift, Calhoun County, Texas (See Figure 3-3). The facility is authorized to treat and discharge annual average flow of effluent not to exceed 0.3 MGD. The effluent is discharged into an unnamed drainage ditch; thence to an unnamed bayou; thence to San Antonio Bay/Hynes Bay/Guadalupe Bay in Segment No.2462 of the Bays and Estuaries. For the permitted flow data, refer to Table 3-3. The table also contains the daily average discharge limitations. The annual average flow at the City of Seadrift WWTP calculated from historic flow data is 0.05 MGD (2007 – 2010) which accounts for 17% of the permitted flow. Though the WWTP is permitted for 0.3 MGD, the existing clarifier will have to be either upgraded or a clarifier added before the full capacity can be utilized.



Figure 3-3 City of Seadrift WWTP

Table 3-3 Permitted Flow Data for Seadrift WWTP

WWTP Name	Permitted Average Flow in MGD	Permitted 2-hr Peak Flow in MGD	BOD/TSS in mg/L
City of Seadrift WWTP	0.3	0.6	20/20

3.4 PORT O’CONNOR MUD WWTP

Port O’Connor MUD WWTP (See Figure 3-4) is located north of and adjacent to State Highway 185 and approximately 1,000 feet northwest of the Port O’Connor Airport in Calhoun County, Texas. The facility is authorized to treat and discharge annual average flow of effluent not to exceed 0.6 MGD. The treated effluent is discharged into the Matagorda Bay. For the permitted flow data, refer to Table 3-4. The table also contains the daily average discharge limitations. The annual average flow at the Port O Connor MUD WWTP calculated from historic flow data is 0.15 MGD (2007 – 2010) which accounts for 25% of the permitted flow.



Figure 3-4 Port O’Connor MUD WWTP

Table 3-4 Permitted Flow Data for Port O’Connor WWTP

WWTP Name	Permitted Average Flow in MGD	Permitted 2-hr Peak Flow in MGD	BOD/TSS/Ammonia in mg/L
Port O’ Connor MUD WWTP	0.6	1.8	10/15/3

3.5 OTHERS

Crestview WWTP (WQ0013954001) is located at 636 Bayou Dr, approximately 7,000 feet northwest of Farm-to-Market 2433 and State Highway 35 and approximately 7,000 feet southeast of intersection of Farm-to-Market 1679 and US Highway 87 in Calhoun County, Texas (See Figure 3-5). The facility is authorized to treat and discharge an annual average flow of effluent not to exceed 0.03 MGD. The effluent is discharged to a swale; thence to Chocolate Bayou (non-tidal); thence to Chocolate Bayou (tidal) and thence to Lavaca Bay/Chocolate Bay in Segment No. 2453 of the Bays and Estuaries. For the permitted flow data, refer to Table 3-5. The table also contains the daily average discharge limitations.



Figure 3-5 Crestview WWTP

Table 3-5 Permitted Flow Data for Crestview WWTP

WWTP Name	Permitted Average Flow in MGD	Permitted 2-hr Peak Flow in MGD	BOD/TSS in mg/L
Crestview WWTP	0.03	0.09	20/20

Southern Central Calhoun County Water Control and Improvement District No.1 (SCWCID #1) WWTP is located at 1 Wedwig Street, 0.8 miles northeast of the intersection of State Highway 316 and FM 2670 on the south corner of the intersection of Blackburn Avenue Bay and Chocolate Bay in Magnolia Beach Subdivision which is located approximately 6 miles southeast of City of Port Lavaca in Calhoun County, Texas (See Figure 3-6). The facility is authorized to treat and discharge an annual average flow of effluent not to exceed 0.075 MGD. The effluent is directly discharged into Lavaca Bay/ Chocolate Bay in Segment No. 2453 of Bays and Estuaries. For the permitted flow data, refer to Table 3-6. The table also contains the daily average discharge limitations.



Figure 3-6 SCC WCID #1 WWTP

Table 3-6 Permitted Flow Data for SCCWCID No.1 WWTP

WWTP Name	Permitted Average Flow in MGD	Permitted 2-hr Peak Flow in MGD	BOD/TSS in mg/L
Southern Central Calhoun County	0.075	0.262	20/20

WCID No.1 WWTP			
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3.6 WASTEWATER FLOW PROJECTIONS

The first step in defining wastewater treatment needs is to determine future wastewater flows to be treated. The assessment of flows for the cities included an examination of historic wastewater quantities, as well as an estimate of future flows and loads based on population projections as the increase in future flow correlates to population growth. Following are the assumptions used in calculating the future wastewater flows:

- For the subdivisions, the LUE (Living Unit Equivalent) was assumed to be 2.5 (Source: U.S Census Data for Calhoun County) person per lot; and
- Wastewater production rate was assumed to 100 gallon per capita per day (gpcd).

Hence, for the cities, the population growth and per capita demand were used to calculate the future flow. For the subdivisions, number of lots, where one lot is equivalent to one LUE and per capita demand were used to calculate the future flows. For the detailed calculations, refer to **Appendix B**.

3.6.1 Area 1A (Port Lavaca) & Area 1B (Point Comfort)

The comparison of future flows for the City of Point Comfort with and without including the flow from the subdivisions of concern is provided in **Figure 3-7**. The flow from the subdivisions in 2010 is based on the existing number of lots. In years beyond 2010, growth rate in these subdivisions is assumed to be similar to the City itself. The calculated data is presented in **Table 3-7**. Including the flow from all subdivisions of concern at the Point Comfort plant only brings the total flow to 80% of the plant's permitted flow. The ability of the Point Comfort plant to accept flows from subdivisions of concern is important in developing collection/treatment options for this area.

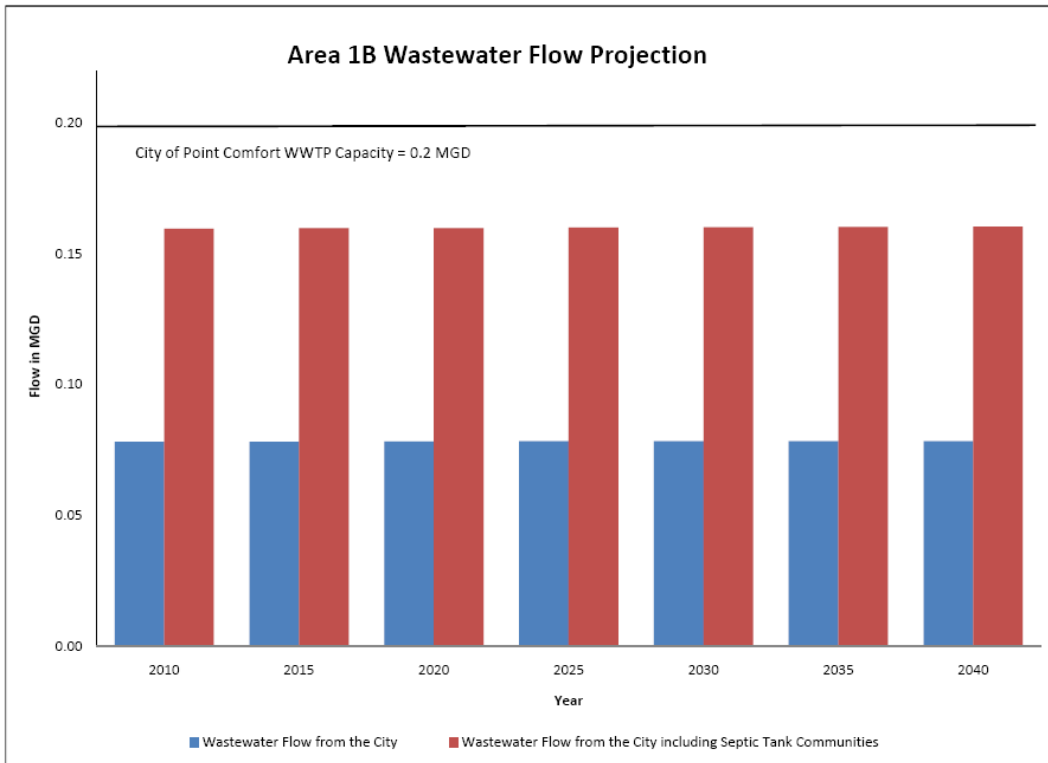


Figure 3-7 Wastewater Flow Projections for City of Point Comfort without and with the flow from Subdivisions of Concern

Table 3-7 Area 1B Flow Data - (Point Comfort)

Entity	Wastewater Flow in MGD						
	2010	2015	2020	2025	2030	2035	2040
Point Comfort	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Flow from Septic Tank Communities*	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Total Average Flow	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Total Peak Flow	0.64	0.64	0.64	0.64	0.64	0.64	0.64

*Includes a Church, 2015 - 2040 values are summation of flow from Septic Tank Communities with the corresponding Point Comfort Flow

The comparison for future flows for the City of Port Lavaca with and without including the flow from the subdivisions of concern is provided in **Figure 3-8**. The flow from the subdivisions in 2010 is based on the existing number of lots. Beyond year 2010, it is assumed that the subdivisions have similar growth rate as the City itself. The calculated data is presented in **Table 3-8**. Including the

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flow from all subdivisions of concern at the Port Lavaca plant only brings the total flow to 71% of the plant’s permitted flow. The ability of the Port Lavaca plant to accept flows from subdivisions of concern is important in developing collection/treatment options for this area.

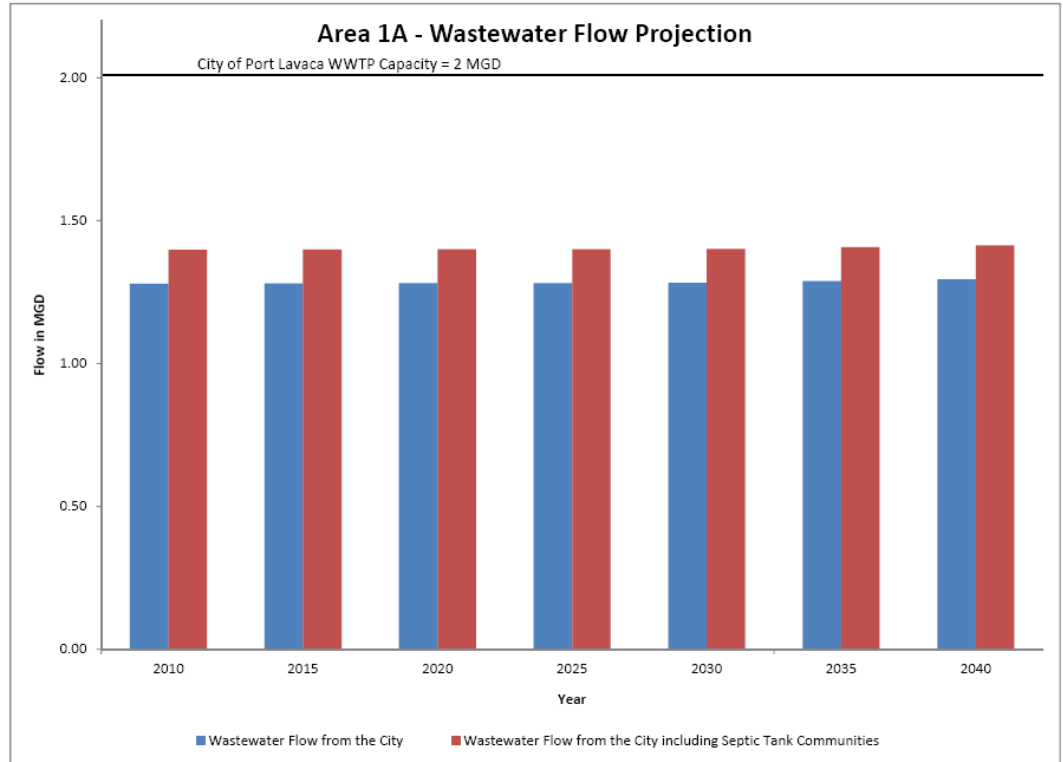


Figure 3-8 Wastewater Flow Projections for City of Port Lavaca without and with the flow from Subdivisions of Concern

Table 3-8 Area 1A - Flow Data (Port Lavaca)

Entity	Wastewater Flow in MGD						
	2010	2015	2020	2025	2030	2035	2040
Port Lavaca	1.28	1.28	1.28	1.28	1.28	1.29	1.30
Flow from Septic Tank Communities*	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Total Average Flow	1.40	1.40	1.40	1.40	1.40	1.41	1.41
Peak Flows	5.59	5.60	5.60	5.60	5.60	5.63	5.66

* Includes the Hatch Bend Golf Course

3.6.2 Area 2 (Seadrift & Port O'Connor MUD)

The comparison for future flows for the City of Seadrift with and without including the flow from the proposed subdivisions is provided in **Figure 3-9**. The flow from the subdivisions in 2010 is based on the existing number of lots. Beyond 2010, the subdivisions are assumed to have linear growth until 50% development by the year 2040. The calculated data is presented in **Table 3-9**.

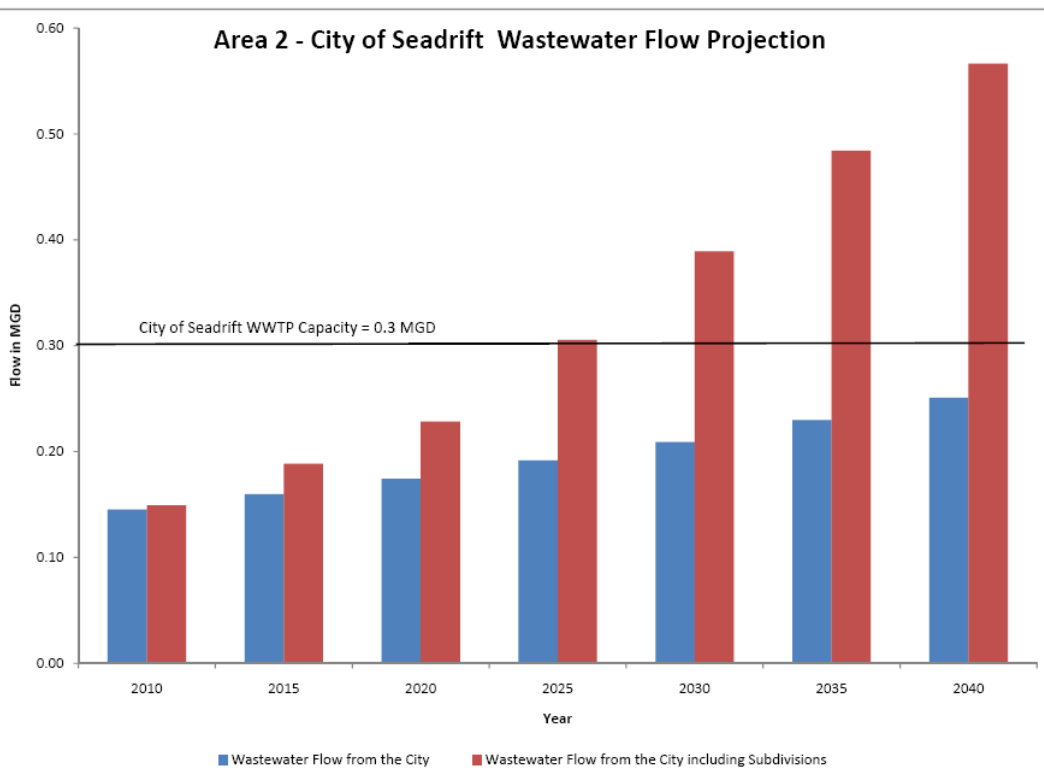


Figure 3-9 Wastewater Flow Projections for City of Seadrift without and with the flow from Proposed Subdivisions

The flows from the proposed development in the vicinity of Seadrift will exceed the permitted capacity of the existing plant. The fact that flows from the proposed developments will exceed the existing plant's capacity is important in developing collection/treatment options for this area.

The comparison for future flows for the Port O'Connor MUD with and without including the flow from the proposed subdivisions is provided in **Figure 3-10**. The flow from the subdivisions in 2010 is based on the existing number of lots. Beyond 2010, the subdivisions are assumed to

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have linear growth until 50% development by the year 2040. The calculated data is presented in **Table 3-9**.

Table 3-9 Area 2 - Flow Data (Seadrift & Port O'Connor)

Entity	Wastewater Flow in MGD						
	2010	2015	2020	2025	2030	2035	2040
Seadrift	0.15	0.16	0.17	0.19	0.21	0.23	0.25
Flow from Subdivisions to Seadrift	0.00	0.03	0.05	0.11	0.18	0.25	0.32
Total Average Flow	0.15	0.19	0.23	0.31	0.39	0.48	0.57
Total Peak Flow	0.60	0.75	0.91	1.22	1.56	1.94	2.27

Entity	Wastewater Flow in MGD						
	2010	2015	2020	2025	2030	2035	2040
Port O'Connor	0.31	0.32	0.32	0.32	0.33	0.33	0.34
Flow from Subdivisions to Port O'Connor	0.00	0.21	0.43	0.63	0.90	1.11	1.37
Total Average Flow	0.31	0.53	0.74	0.95	1.23	1.44	1.71
Total Peak Flow	1.26	2.12	2.98	3.81	4.91	5.76	6.83

The flows from the proposed development in the vicinity of Port O'Connor MUD will exceed the permitted capacity of the existing plant. The fact that flows from the proposed developments will exceed the existing plant's capacity is important in developing collection/treatment options for this area.

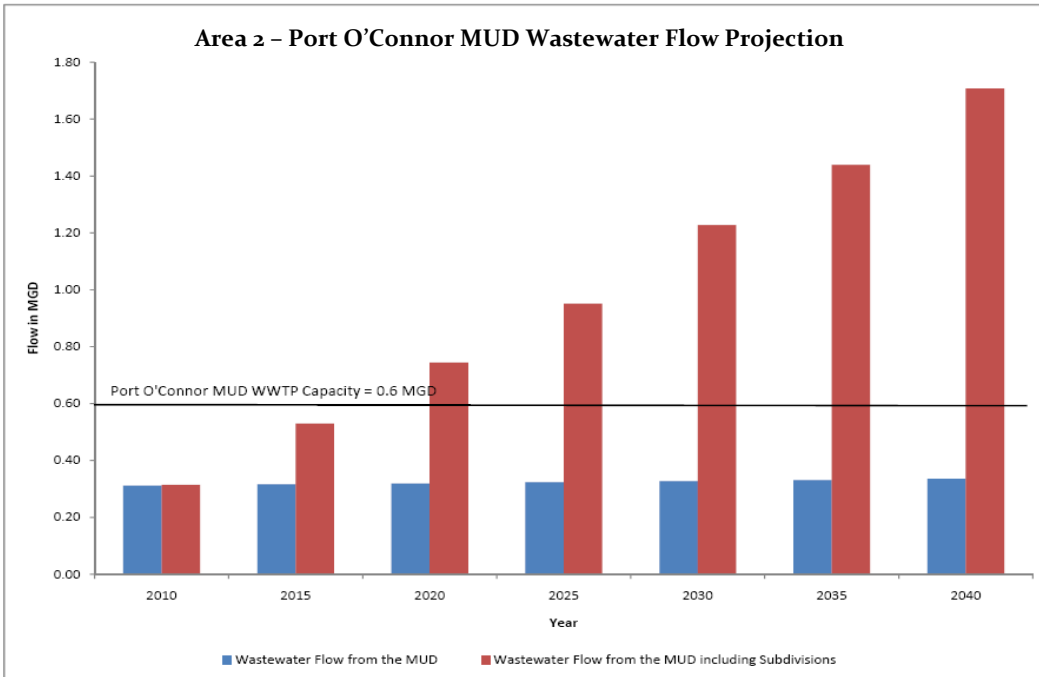


Figure 3-10 Wastewater Flow Projections for Port O'Connor MUD without and with the flow from Proposed Subdivisions