

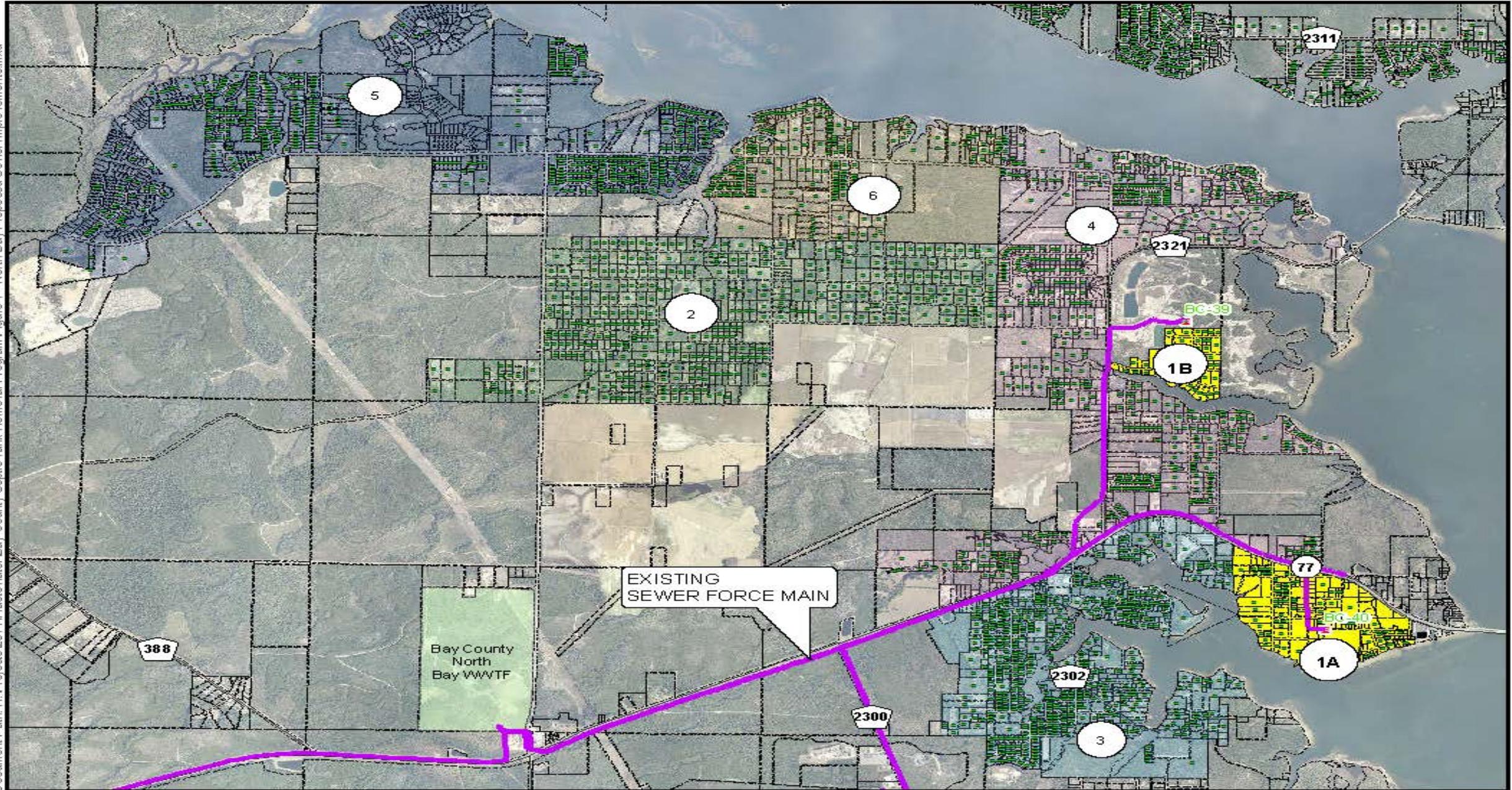
North Bay Wastewater Collections System Improvements

Project Purpose

To replace septic tanks in low lying, dense residential coastal area on centralized sewer collection system.

- ▶ Estimate that as many as 20% of all septic tanks are in some stage of failure.
- ▶ Removal of failing septic tanks will increase protection of Class I (potable water) and Class II (shell fish) water bodies currently receiving excessive levels of nutrients and bacteria.
- ▶ Initial is to remove 220 septic tank systems and place onto an existing centralized sewage collection system.

Bay County Utilities Services North Bay Proposed Sewer Improvements



Environmental Concerns

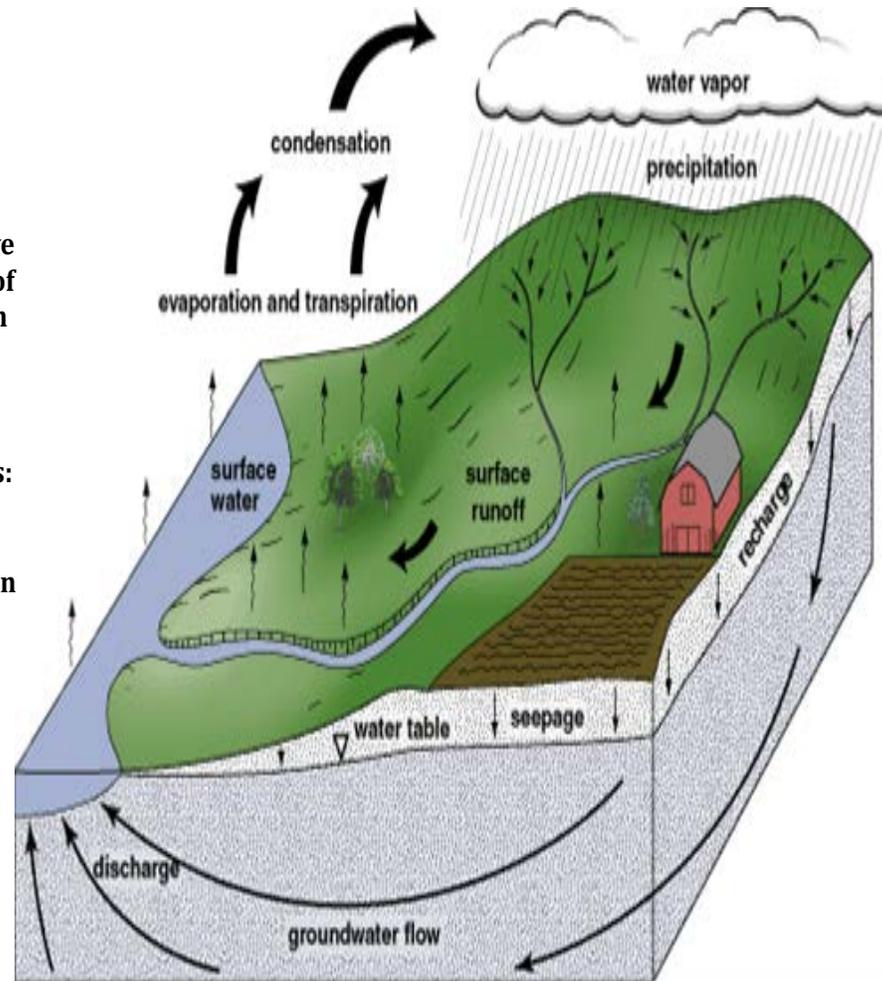
From 2010 Stanford University

“The scientists discovered, from studying septic systems, a plume of nitrogen-enriched groundwater flowing through the sand toward the ocean. Studies have shown that excess nitrogen can cause harmful blooms of phytoplankton and other algae that choke off oxygen in coastal waters.”

From EPA

Too much nitrogen and phosphorus in the water causes:

- Algae to grow faster than ecosystems can handle.
- Significant increases in algae harm water quality, food resources and habitats, and decrease the oxygen that fish and other aquatic life need to survive.
- Large growths of algae are called algal blooms and they can severely reduce or eliminate oxygen in the water, leading to illnesses in fish and the death of large numbers of fish.
- Some algal blooms are harmful to humans because they produce elevated toxins and bacterial growth that can make people sick if they come into contact with polluted water, consume tainted fish or shellfish, or drink contaminated water.



The South Port area has 4,471 individual septic tank systems. The potential environmental impact to the natural resources in the North Bay area would potentially result in a, pound per year, loading reduction to ground water of;

Long Term (Potential)

BOD: 495,743 pounds per year

TSS: 295,723 pounds per year

TN: 257,442 pounds per year

Source: [Health & Science](#)

Toxic Algae off northwest Florida beaches killing marine life



Economic & Environmental Dividends

St. Andrew Bay's numeric nutrient water quality criteria range between 0.28 - 0.35 mg/L-TN and 0.014 - 0.019 mg/L-TP.¹ By way of comparison, an advanced wastewater treatment plant generally can achieve around 3 mg/L-TN and 1 mg/L-TP in its effluent.

By 2035, Bay County's permanent population is likely to grow by 19% and its public water supply demands will increase 34% over current levels. Removing domestic wastewater treatment nutrient loadings from the environment, will facilitate future nutrient allocations to the bay as county residential and commercial development continues.