
Water Supply and Wastewater Treatment

Customer: Bassler Joint Venture/Walnut Creek
Location: Howard County, MD



Description:

Hydro-Terra Group (HTG) provided engineering, design, testing, installation and construction services for a large development project. Walnut Creek is a single-family home residential community in the Little Patuxent River watershed, a Chesapeake Bay tributary in Howard County, Maryland. The project is the largest of its kind in Maryland and includes a low-impact, shared on-site wastewater treatment, disposal and recharge system. HTG incorporated several innovative design features making this project a prime example of a comprehensive system that blends with natural features, reuses industrial land, preserves open space, and significantly reduces nutrient impacts to the watershed.

The wastewater system features a modern low-pressure sewer system (LPSS), an advanced wastewater treatment system with enhanced nutrient removal, a drain-field / distribution system and re-use to recharge the local groundwater system. The treatment system itself features a 190,000 gallon in-ground chambered concrete tank system and 39,000 linear feet of exfiltration trenches, with a unique pressure distribution system that maintains even distribution across 24 zones over approximately 11 acres. Construction of the facility was expedited to achieve market goals.

Project Highlights:

- ✓ Groundwater appropriation, NPDES Discharge, and Wastewater Construction permitting.
- ✓ Addressing environmental issues associated with former industrial uses.
- ✓ Nitrate mass loading assessments and optimization of loading in groundwater recharge.
- ✓ Assessment of potential water quantity and quality impacts.
- ✓ Potable water and wastewater sampling and analysis.
- ✓ Design, contracting, construction oversight, and mechanical /controls installation.
- ✓ Preparation of Operations & Maintenance Manual and as-built plans



Drain-field



Wastewater Treatment Facility