

## SECTION 5.0

### SPECIFICATIONS FOR RECLAIMED WATER SYSTEMS DESIGN

#### 5.1 GENERAL

- 5.1.1 The following specification covers the general design, review of plans and specifications, and acceptance of reclaimed water distribution systems, reclaimed water transmission main extensions, and all appurtenant items which are to be owned and maintained by Hillsborough County. This includes developer-built on-site reclaimed water distribution systems in residential subdivisions and commercial developments, off-site transmission main extensions to development sites, and on-site requirements for large, reclaimed water users.
- 5.1.2 The Public Utilities Water Resources Department (WRD) Technical Specification 339001 “Reclaimed Water Mains & Appurtenances” provides additional clarification regarding design details, materials of construction, installation, and acceptance requirements. If further clarification is needed, contact the Site Engineering Review Section of the Development Services Department (DSD) or the Utility Design Section of the WRD.
- 5.1.3 All improvements and modifications made to the Hillsborough County reclaimed water system must be done in accordance with plans approved by the Site Engineering Review Section of DSD. Material, workmanship, and installation must comply with Public Utilities WRD Technical Specification 339001.

#### 5.2 PLANS PREPARATION

- 5.2.1 Reclaimed water distribution systems (on-site), reclaimed water transmission main extensions (off-site), and all appurtenant items must be designed in accordance with the applicable regulations of Hillsborough County, the Hillsborough County Department of Health, the Florida Department of Environmental Protection and the standards established herein.
- 5.2.2 Distribution System (on site): Hillsborough County WRD will own and maintain all portions of the reclaimed water distribution system up to and including the reclaimed water meter.
- 5.2.2.1 When a distribution main will serve existing or future developments beyond the borders of the proposed site, the County may request oversizing. If the County determines that a line needs to be “Oversized”, the procedures for sizing and reimbursement, as outlined in Appendix 3, must be followed.
- 5.2.2.2 The distribution system or any portion thereof, which is to become the property and sole responsibility of Hillsborough County WRD, must be designed and constructed within a public right-of-way or easement which may be used for said purpose. The primary feed for the distribution system must be routed within County road right-of-way. A secondary feed may be routed within a utility easement dedicated to the County (design exception). Refer to the Hillsborough County Public Works Transportation Technical Manual Drawings, latest edition, for Recommended Utility Locations, TS-1.
- 5.2.3 Transmission System (off site): Hillsborough County WRD must own and maintain the transmission system. The transmission main must be designed and constructed within the public right-of-way.
- 5.2.4 The reclaimed water distribution system or reclaimed water main extension must be designed and constructed in accordance with the requirements specified in Public Utilities WRD Technical Specification 339001.

### 5.3 PLANS REVIEW

- 5.3.1 For subdivision developments, the Developer must comply with the procedures and requirements set forth in Article VI, Part 6.02.00 of the County's Land Development Code. This includes the requirement for submittal, review, and approval of a preliminary plat of the proposed project and a reclaimed water master plan. The placement of appurtenances in Hillsborough County right-of-way must be as required in the Utility Accommodation Guide and Rights of Way Use Procedures Manual.
- 5.3.2 For site developments, the Developer must comply with the procedures and requirements set forth in Article VI, Part 6.03.00 of the County's Land Development Code. The Developer must submit plans and associated documentation to the Site Engineering Review Section of the Development Services Department for review. This department will either accept or reject the plans with notations for corrections required. All plans must comply with the requirements of Section 2.0

### 5.4 PROJECT ACCEPTANCE

Following completion of construction and testing, the Developer's Engineer of Record must submit certified "Record" drawings and the Asset Data spreadsheet with the "as-built" information shown on the original design as outlined in Section 1.6 and Section 2.4. Information required on a "Record" drawing of a typical reclaimed water distribution system is shown in Figure 5-1.

### 5.5 SYSTEM DESIGN

- 5.5.1 The provisions of this Section set forth the general requirements for design of reclaimed water distribution systems and facilities and provide criteria for determining flow demands. The Engineer must comply with all the requirements of the Hillsborough County Department of Health in addition to the criteria contained herein.
- 5.5.2 Line Sizing Criteria: Criteria for sizing the distribution system piping is included in the Public Utilities WRD Technical Specification 339001, Part 5; however, the design engineer must be responsible for obtaining any additional or updated design criteria from the WRD Reclaimed Water Planning Team.
- 5.5.3 Minimum Line Size: The minimum size of distribution system mains must be four inches. Pipes must be sized to maintain a minimum distribution main pressure of 45 psi during peak conditions. County staff will provide the pressure reading at the point(s) of connection.
- 5.5.4 Depth of Cover:
- 5.5.4.1. Cover as measured from finished grade to top of the pipeline must be a minimum of 36 inches for pipe diameters up to and including 12 inches.
  - 5.5.4.2. Depth of cover for pipes greater than 12 inches in diameter; AND for all pipe in FDOT right-of-way, County arterial road right-of-way, or crossing of these roads; must be a minimum of 48 inches,
  - 5.5.4.3. When automatic air release valves are required for pipe diameters up to and including 12 inches, the depth of cover **of the entire line** must be increased to a minimum of 48 inches (enough to maintain the valve vault flush with the existing or proposed grade).
  - 5.5.4.4. Deeper burial depths for pipes 16 inches in diameter and larger may be required to accommodate valve height. Alternative valve orientation requires approval of the Department.

### 5.6 RECLAIMED WATER DETAILS

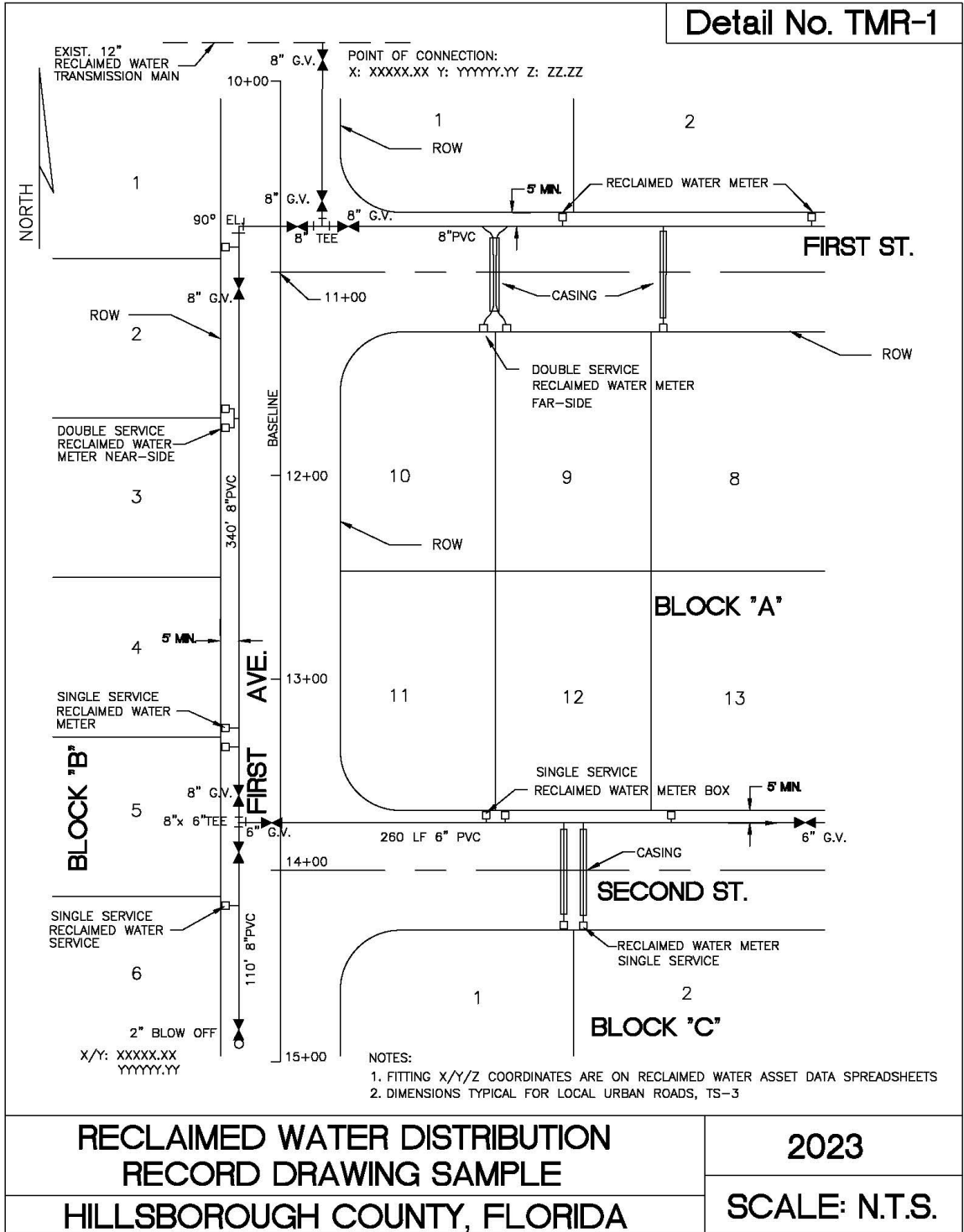


Figure 5-1: Reclaimed Water Detail No. TMR-1