



5 INFRASTRUCTURE

Water Plan

The City of Santa Ana is the primary provider of water services to the Specific Plan area. Existing water mains in the area range from 4 inches to 12 inches in diameter. There is a 12-inch main that extends the length of Harbor Boulevard in the Specific Plan area. The City of Santa Ana obtains 70% of its water from City-owned wells, and any remaining demand is provided by the Metropolitan Water District. Wells numbered 20, 21 and 30 provide water for the Specific Plan area. Based on existing conditions and pipe sizes, water supply and capacity is adequate to serve the Specific Plan area. Figure 5-1 illustrates the water system.

Sewer Plan

Currently, the Specific Plan area is served by a network of sewer lines ranging from 8-inch to 15-inch diameter pipe. First Street and parts of Harbor Boulevard have a 12-inch mainline, while most of Harbor Boulevard is serviced by a 10-inch mainline. McFadden Avenue is served by a 15-inch mainline, and the rest of the streets affecting the development are serviced by 8-inch lines. Additionally, near the Specific Plan area are two main trunk lines that carry effluent to two treatment plants owned by the Orange County Sanitation District.

As the Specific Plan progresses towards its maximum buildout, future calculated flows are expected to exceed current capacities and upgrades will need to occur throughout the Specific Plan area. Figure 5-2 illustrates the ultimate sewer system needed to serve existing and proposed development.

Drainage Plan

Runoff in the Specific Plan area is currently managed by a combination of closed and open drainage channels, including a 90-inch reinforced concrete pipe that crosses Harbor Boulevard at Washington Street. A second large closed drainage system is midway between First and Fifth Streets. All drainage ultimately discharges into the Orange County Flood Control Channel.

During a 100-year storm, the entire area is subject to flooding and will continue to be until flood control elements are implemented. All buildings must be constructed three feet above the location of recorded 100-year flood plains in any Zone A (100-year flood zone) land south of Hazard Avenue. The lowest flood levels are at the 79' and 84' contour levels for the area north of Hazard and Westminster Avenues.

A 1993 study (Boyle Engineering Report) indicated that the existing system is deficient and unable to convey current runoffs. Additionally, the Harbor Corridor Plan would add impervious area to the corridor—primarily from developing vacant land—and would increase existing flows by 15%. An updated drainage master plan should be completed by the end of 2014.

Figure 5-3 illustrates the existing and proposed storm drainage system for the Harbor Corridor Plan area. The map distinguishes between recommendations made in the 1993 study that would need to be implemented to convey existing runoff and improvements required to accommodate increases generated by the Harbor Corridor Plan.



Figure 5-1. Water System

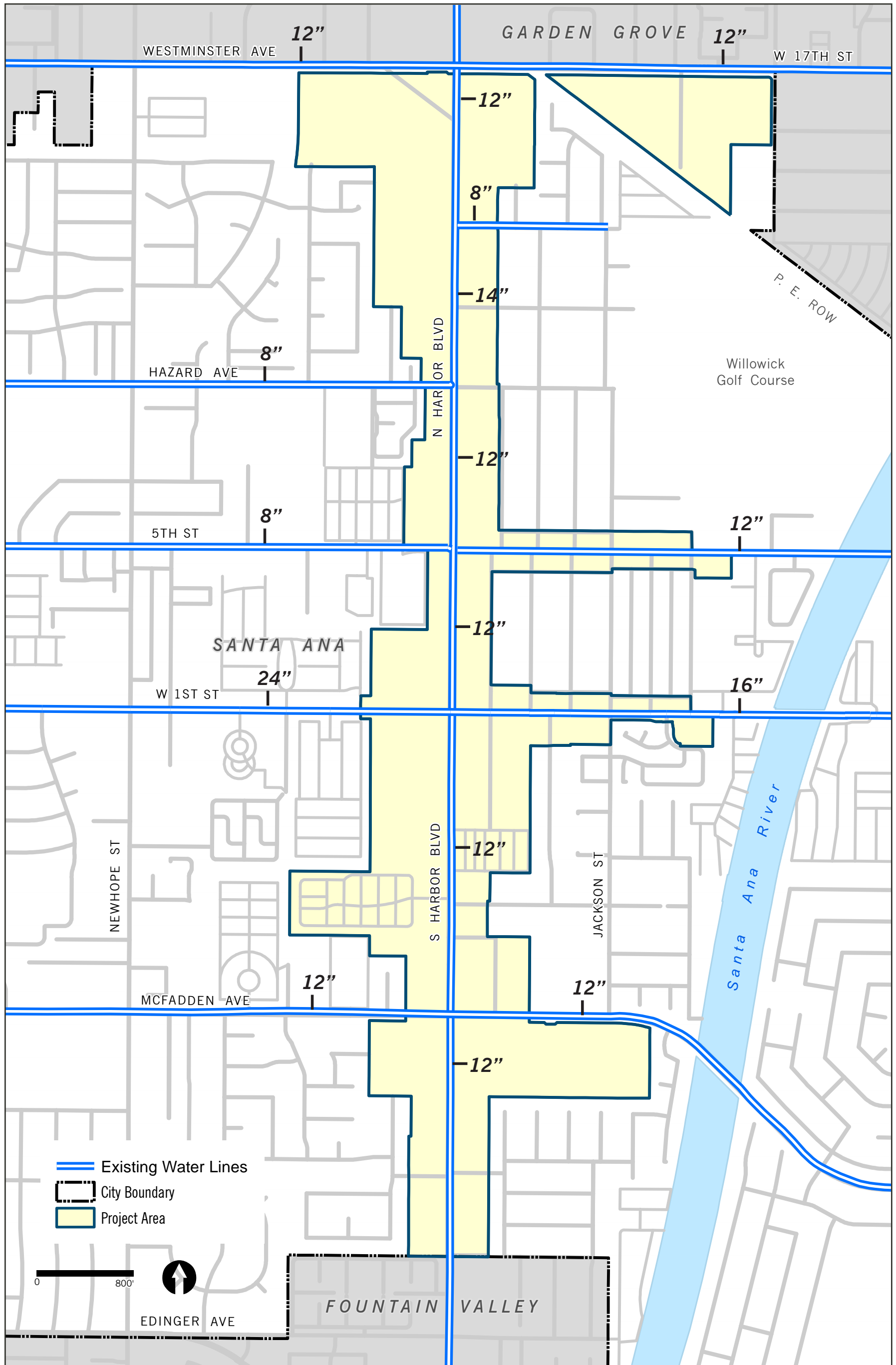




Figure 5-2. Sewer System

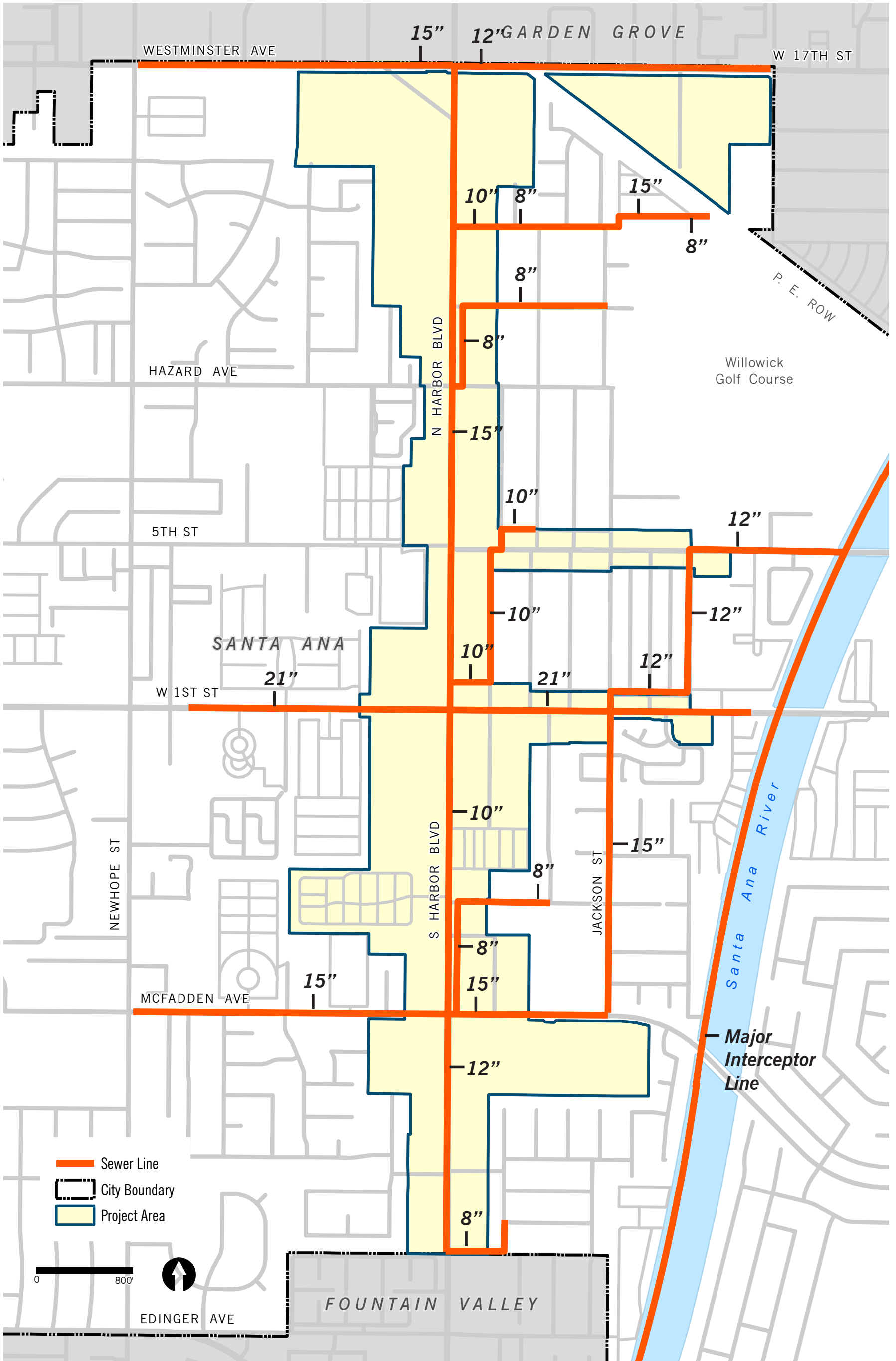




Figure 5-3. Storm Drainage System

