



The infrastructure is the built structures and facilities of the City. Infrastructure includes water, wastewater, stormwater, police, fire protection, public utilities, and information technology. The ability of a community to provide these services is directly related to the expansion of the community. The Specific plan must identify improvements to major components of public and private infrastructure that is needed to support the uses described in the plan.

Expansion of existing infrastructure is not needed or anticipated to support planned development in the Downtown Specific Plan Area.

5.1 EXISTING CAPABILITIES

Water

The City of Woodland is the only provider of water for domestic, commercial, and industrial use within the city limits and the Planning Area. Groundwater is the City's sole source of water supply. There are a total of 18 wells located throughout the City, with one well located in the Gateway Master Plan Area just south of Main Street. (See Figure 5-1, "Existing Water Pipelines") The City has one elevated water tank at Beamer and Walnut Streets north of the Specific Plan Area. According to the 1999 Water System Master Planning Studies, the City pumped 12,200 and 13,900 acre-feet of groundwater in 1989 and 1998, respectively. This was an average increase of 1.4 percent.

Groundwater levels fluctuate seasonally and reflect City and agricultural pumping patterns. Groundwater pumping for agricultural uses in the unincorporated area has been shown to influence water levels under the City on a short-term basis, with relatively rapid recovery.

Groundwater is characterized as "very hard" and has relatively high concentrations of dissolved solids and elevated nitrate levels. Although groundwater quality is generally good, some wells require disinfection treatment for non-fecal coliform bacteria. With the current chlorine treatment program, the City's water meets all applicable potable water standards.

The City's current water supply and distribution system consists of an aging network of groundwater wells and supply pipelines. Most of the City's wells were constructed in the 1960's and 1970's, and have a life expectancy of 40 to 50 years. Both the well casings and the City's smaller supply lines are prone to breakage due to deterioration.

The City's Water System Master Planning studies makes the following recommendations for water system improvements that will affect the Specific Plan Area:

- Develop an in-lieu groundwater recharge program to help counter lowering of water table levels due to increase in groundwater usage.

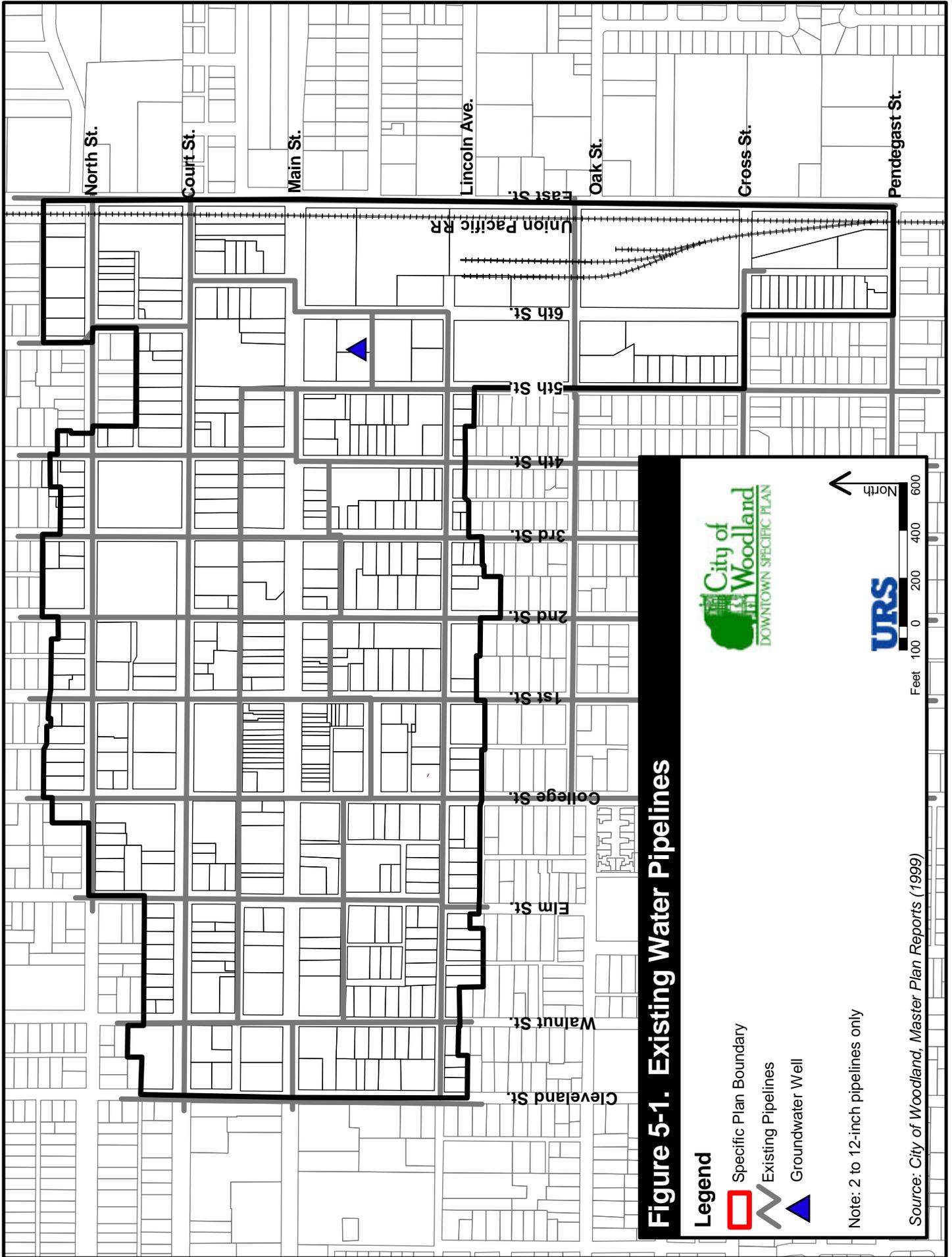


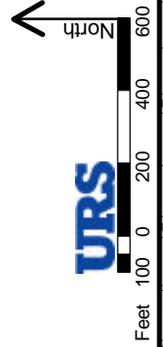
Figure 5-1. Existing Water Pipelines

Legend

-  Specific Plan Boundary
-  Existing Pipelines
-  Groundwater Well

Note: 2 to 12-inch pipelines only

Source: City of Woodland, Master Plan Reports (1999)





- Galvanized-pipe water service laterals will be replaced with copper-pipe to mitigate loss of flow capacity from corrosion and severe pitting.
- Unlined pipelines will be cement-coated or replaced to improve flow capacity.
- Two- and three-inch pipelines will be abandoned for direct tie-ins to main water lines to reduce water line breaks and unaccounted water losses.
- Mechanical improvements to Well 1 (located south of Main Street in Plan Area) to improve operating efficiency.

In addition to these improvements, several other improvements are proposed for areas outside the Specific Plan Area to meet anticipated growth in water demand due to new development.

Wastewater

The City maintains a wastewater collection system that serves the area within the city limits. (See Figure 5-2, “Existing Sewer Pipelines”) Wastewater flows within the collection system comprise sanitary flows (the actual wastewater generated by residences and industries), groundwater that has leaked into the sewer, and rainfall that has leaked into the collection system. The wastewater collection system comprises three main collection basins dictated by gravity flow to the Woodland WWTP. The Basin “A” system collects wastewater from the northern portions of the City; its main trunk line runs west to east along Kentucky Avenue. The Basin “B” system collects wastewater from the core areas, flowing into a sewer main along Beamer Street. Basin “C” collects wastewater from the southern areas along Gibson Road, which are principally residential.

The Basin “B” system collects wastewater from the downtown areas (covering the Specific Plan Area), flowing into a sewer main along Beamer Street. According to the 2000 Wastewater Collection System Master Plan, only a slight increase in peak flows is expected in the future for this portion of the City’s sewer system. The City experiences most of its additional flows in the northeast industrial area of the City. According to the Master Plan, the Beamer System has sufficient capacity to convey projected peak flows to the WWTP.

The Wastewater Collection System Master Plan Report has no specific improvements recommended for the Beamer sewer system. However, the following recommended projects to sewer systems outside the Plan Area will affect the Beamer sewer system either directly or indirectly:

- A new sewer system recommended to serve proposed industrial development in the northeastern portion of the City, will convey flows into the Beamer system
- A new collection system will be constructed to serve new development south of Gibson Road since the Gibson sewer system will be at capacity when City reaches build out

New construction in the Master Plan area will introduce a significant amount of wastewater that will feed into the Beamer sewer system. According to Elizabeth Houch, from the City of Woodland Public Works Department, the existing wastewater treatment plant will be able to adequately handle the increase wastewater produced by improvements made to the Master and Specific Plan areas.

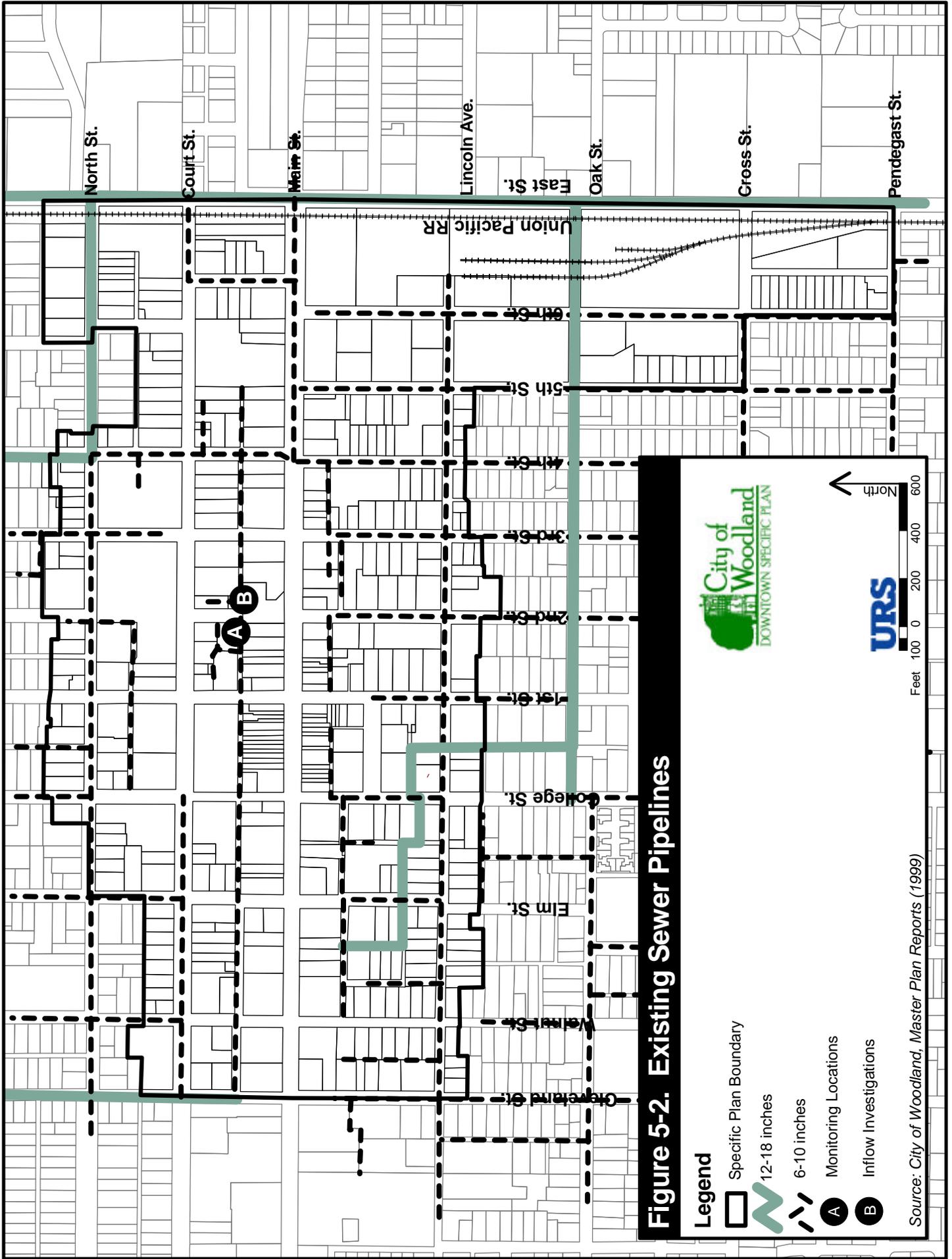


Figure 5-2. Existing Sewer Pipelines

Legend

- Specific Plan Boundary
- 12-18 inches
- 6-10 inches
- Monitoring Locations
- Inflow Investigations

City of Woodland
DOWNTOWN SPECIFIC PLAN

URS

North

Feet 100 0 200 400 600

Source: City of Woodland, Master Plan Reports (1999)

Storm Drainage

The City's main storm drainage system consists of conveyance, storage, and pumping facilities. The system transports runoff by gravity flow from west to east through trunk systems which discharge into the North Canal or South Canal. Runoff is then conveyed through the City's main pump stations that distribute the runoff to the Yolo Bypass via an outfall channel.

The conveyance system consists of pipelines and open channels. In the newer portions of the City, runoff is collected by a storm drainage lateral system. In these areas, the lateral system generally consists of regularly spaced drain inlets and pipes ranging from 12 to 24 inches in diameter. The lateral system delivers storm runoff to the storm drainage trunk system. Older portions of the City are not directly served by a lateral system. Runoff from these areas is conveyed through intersections in valley gutters, gutter culverts, or inverted siphons. Flow must travel relatively long distances to reach a drain inlet. As a result, drain inlets serve relatively large areas and their capacities are exceeded during frequent storm events.

The Specific Plan area is within the Court Street/Beamer Street Shed, the Gibson Road Shed, Kentucky Avenue Shed, and Main Street Shed.

Kentucky Avenue Trunk – This system consists of storm drainage pipelines extending from County Road 98 on the west, to an open channel commencing approximately 2,200 feet west of County Road 102. The open channel extends east to its confluence with the North Canal.

Court Street/Beamer Street Trunk – This system consists of storm drainage pipelines extending from Ashley Avenue on the west

to an open channel that commences east of the intersection of Beamer Street and County Road 102. The open channel extends east to its confluence with the North Canal.

Main Street Trunk – This system consists of storm drainage pipelines that extend north from near the intersection of Helen Way and Henderson Way, located in the south-central portion of the City, to the East Main Pumping Station.

Gibson Road Trunk – This system consists of storm drainage pipelines extending from Ashley Avenue on the west to an open channel commencing on the east side of County Road 102. The open channel extends east to its confluence with the South Canal.

Older portions of the City, such as the Specific Plan Area, are not directly served by a storm drainage lateral system as found in other portions of the City. Runoff from the older portions is conveyed through intersections in valley gutters, or gutter culverts. As a result, drain inlets serve relatively large areas and often exceed their capacities during storms.

According to the City of Woodland Storm Drainage Facilities Master Plan, the entire Downtown area is located in Zone X, as designated by the FEMA Flood Insurance Rate Map. Areas designated as Zone X are those areas determined to be outside the 500-year floodplain.

The impacts related to the Specific Plan and Master Plan area will not greatly impact the City's storm drainage system. Loss of impervious surface in the Master Plan area will not be at a level that would significantly impact the existing system.



Police

A significant percentage of the City's General Fund expenditures are spent on law enforcement. This helps the City of Woodland maintain its small town quality and enjoyment of a community.

The Woodland area is policed primarily by three agencies: the Woodland Police Department, the Yolo County Sheriff's Department, and the California Highway Patrol. The Specific Plan area is served primarily by the Woodland Police Department, located at 520 Court Street. The Sheriff's Department has jurisdiction anywhere in the county, but traditionally, does not routinely exercise those powers within the city, and would not respond to calls within the city unless requested by the Woodland Police Department.

The Department's current staff includes 63 sworn officers and 38 non-sworn officers, offering a service ratio of 1.36 per 1,000 population. The City is currently in the process of building a new Police Department headquarters on a site on the east side of the Downtown area. This site is bounded by Lincoln Avenue on the north, Sixth Street on the east, Oak Street on the south, and Fifth Street on the west.

Fire Protection

As described in the City of Woodland General Plan, fire protection is a critical component of public safety. To protect residents and visitors from injury and loss of life and to protect property from fires, it is essential that personnel and equipment, available water supply and pressure, quickness of response, and reducing potential fire hazards are optimized.

The project area is within the jurisdiction of the Woodland Fire Department, which provides both fire protection services and

emergency medical services in the City. The location of the City's three fire stations in relation to the Downtown are listed below.

- Station 1 (532 Court Street) is located in the approximate center of the Downtown
- Station 2 (1619 West Street) is located approximately 1.1 miles south from the southwestern corner of the Downtown plan area
- Station 3 (1550 Springlake Court) is the City's largest facility and is located approximately 1.2 miles east of the eastern boundary of the Downtown plan area

According to the Spring Lake Specific Plan (December 2001), the Department's Insurance Services Office (ISO) rating is three, with one indicating excellent service and ten indicating minimal or no protection. ISO ratings take into account firefighting personnel, equipment, and response times. The City has a goal to respond to emergencies in less than four minutes.

Public Utilities

Public utilities include electricity, gas, and communication services. All are provided by private utility companies and are currently available throughout the entire Specific Plan area. Pacific Gas and Electric (PG&E) provides electricity and gas to the City, Pacific Bell provides telephone service, and Charter Communications provides Cable Service. The existing infrastructure for each of these utilities is adequate to meet the demands created by build out of the Specific Plan area.

The Spring Lake Specific Plan will guide the development of 1,097 acres located primarily south of Gibson Road and east of

SR 113, immediately south of the City limits. The current consumption level of electricity, gas, and communication services experienced by the City will increase significantly upon build out of the Spring Lake Specific Plan area. Build out of the Spring Lake Specific Plan will require additions and improvements to the existing utilities to accommodate the new growth. These improvements will not impact the availability of utilities in the Master Plan area.

Information Technology

The City encourages the use of information technology. Increased use of information technology can increase interaction and cooperation among the community, government, industry, and education. The facility will continue to make efforts to support and facilitate the development of the infrastructure necessary for all residents to make use of and benefit from current and emerging communication technologies.

5.2 INFRASTRUCTURE POLICIES

The infrastructure policies necessary to adequately support the plans put forth in this Specific Plan and the City’s General Plan are listed in Chapter 8, “Implementation.”

5.3 PLANNED FACILITIES AND NEEDS

Implementation of the Downtown Specific Plan does not require any improvements to the existing infrastructure. Water, wastewater, storm drainage, sewer, and public utilities are all in place and are capable of providing service to the

Downtown Specific Plan Area. Improvements made to the Downtown as prescribed by this Specific Plan will not create a significant load on the existing infrastructure.

Water

The City’s Water System Master Planning Studies makes the following recommendations for water system improvements that will affect the Specific Plan Area:

- Develop an in-lieu groundwater recharge program to help counter lowering of water table levels due to increase in groundwater usage.
- Galvanized-pipe water service laterals will be replaced with copper-pipe to mitigate loss of flow capacity from corrosion and severe pitting.
- Unlined pipelines will be cement-coated or replaced to improve flow capacity.
- 2- and 3-inch pipelines will be abandoned for direct tie-ins to main water lines to reduce water line breaks and unaccounted water losses.
- Mechanical improvements to Well 1 (located south of Main Street in Plan Area) to improve operating efficiency.

In addition to these improvements, several other improvements are proposed for areas outside the Specific Plan Area to meet anticipated growth in water demand due to new development. According to the Water System Master Plan Studies, Dec 1998, the projected water demand for the City of Woodland is twice the City’s 1994 usage of 12,600 acre-feet. The 1994 GP EIR states that the “overall increase in demands will occur because the Land Use Diagram also includes lands which are vacant and not currently using



groundwater but are planned for urban development.” The report states that future water needs can be met by increasing groundwater pumping. The groundwater basin may not be replenished at its current rate due to a reduction in groundwater recharge from irrigation water. In addition, urban land uses increase the amount of impervious surfaces, thus reducing the quantity of rainfall infiltrating directly to the aquifer. The amount of impervious surface lost due to the build out of the Master Plan area will not significantly reduce groundwater recharge.

New municipal well and water delivery pipelines will be required in the Spring Lake Specific Plan area to serve new growth. Facilities will be sized to provide delivery capacity to meet water demands during peak conditions and at the same time meet fire protection needs. Peaking factors, fire flow requirements, and a system pressure range, which must be utilized in designing the facilities, are set out in the City’s standard specifications.

Wastewater

The Wastewater Collection System Master Plan Report has no specific improvements recommended for the Beamer sewer system. However, the following recommended projects to sewer systems outside the Plan Area will affect the Beamer sewer system either directly or indirectly:

- A new sewer system recommended to serve proposed industrial development in the northeastern portion of the City, will convey flows into the Beamer system.
- A new collection system will be constructed to serve new development south of Gibson Road

since the Gibson sewer system will be at capacity when City reaches build out.

New construction in the Master Plan area will introduce a significant amount of wastewater that will feed into the Beamer sewer system. According to Elizabeth Houch, from the City of Woodland Public Works Department, the existing wastewater treatment plant will be able to adequately handle the increase wastewater produced by improvements made to the Specific Plan areas.

Storm Drainage

The impacts related to the Specific Plan and Master Plan area will not greatly impact the City’s storm drainage system. Loss of impervious surface in the Master Plan area will not be at a level that would significantly impact the existing system.

Police

The City of Woodland is currently in the process of developing a new Police Headquarters within District E2 (See Figure 3-3, “Downtown Districts”).

According to the City’s Police Department, police protection for the Specific Plan area has been planned based on the General Plan buildout. Since this Specific Plan will not exceed the development potential described in the General Plan, no service or equipment issues are expected.

Fire Protection

According to the City’s Fire Department, fire protection for the area has been planned based on the General Plan. Since this Specific Plan will not exceed the development potential described in the

General Plan, no service or equipment issues are expected.

Utilities

The Spring Lake Specific Plan will guide the development of 1,097 acres located primarily south of Gibson Road and east of SR 113, immediately south of the City limits. The current consumption level of electricity, gas, and communication services experienced by the City will increase significantly upon build out of the Spring Lake Specific Plan area. Build out of this plan area will require additions and improvements to the existing utilities to accommodate the new growth. These improvements will not impact the availability of utilities in the Master Plan area.

Information Technology

The City makes a conscious effort to foster the use of information technology. To provide more reliable and enhanced services in the future, the Information Services Division plans on constructing state-of-the-art communications facilities into the new Police Station building to provide for reliable emergency communications in the City.

5. Infrastructure



Please see next page.