

4. Infrastructure and Public Services

4.1 Introduction

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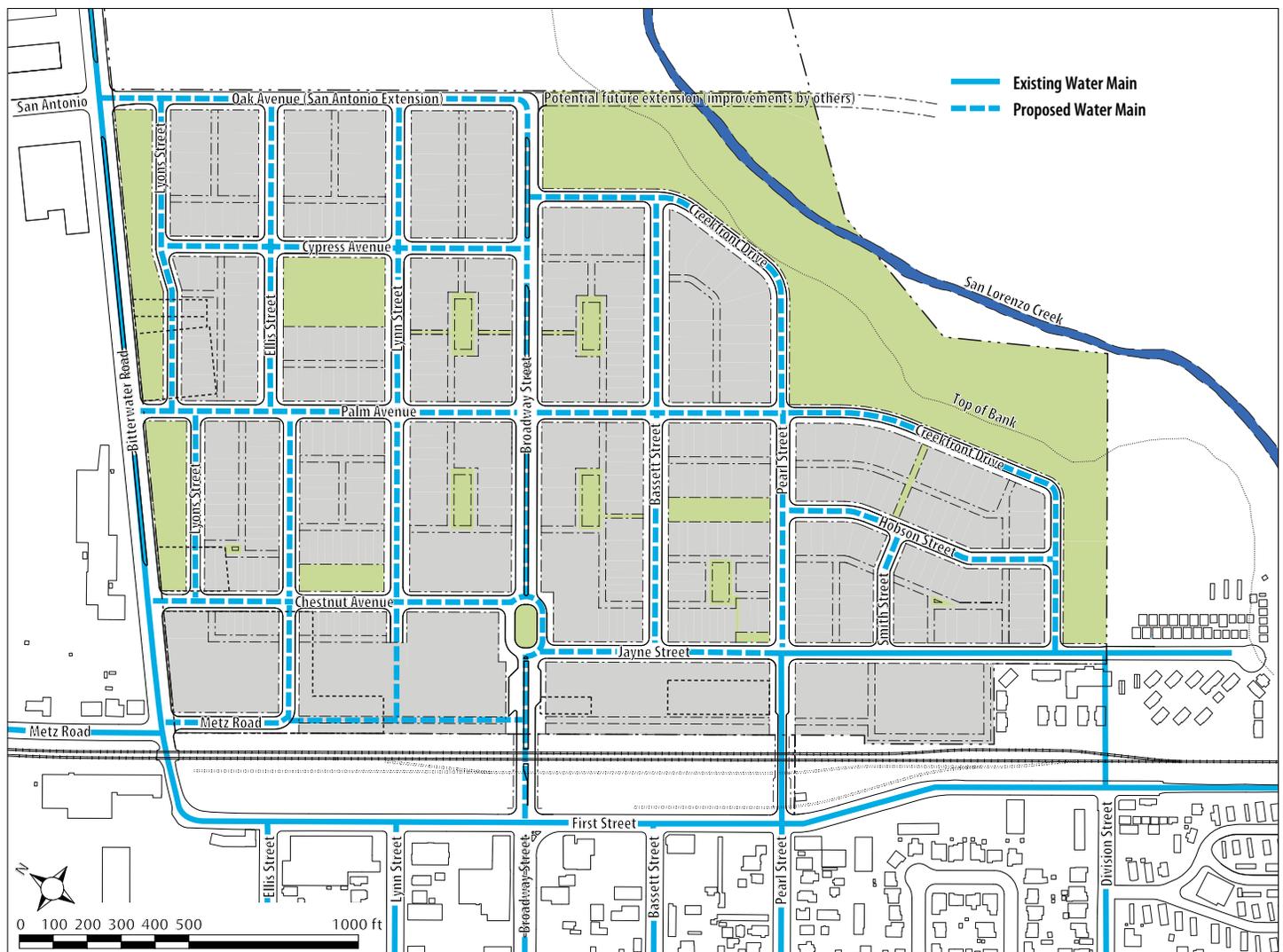
The California Government Code requires a Specific Plan to include text and diagrams that specify “the proposed distribution, location, and extent and intensity of major components of public and private transportation, sewage, water, drainage, solid waste disposal, energy, and other essential facilities proposed to be located within the area covered by the plan and needed to support the land uses described in the plan.” This section of the Specific Plan helps fulfill this requirement and meets the City’s Zoning Ordinance for the preparation of Specific Plans. In addition, this section facilitates orderly development by identifying the “backbone” utility infrastructure needed to support the proposed level of development.

4.2 Water Supply

The Monterey County Water Resources Agency is the State agency responsible under State law for the management of water resources within the Salinas Valley, and domestic water service is provided to the City of King by the California Water Service Company (Cal Water), which will also supply potable water to the Downtown Addition area.

The City of King potable water supply comes mainly from four groundwater wells with a total design capacity of 3,250 gallons per minute, or 4.68 million gallons per day. Water is pumped from the Salinas Valley groundwater area and disinfected with chlorine prior to distribution. Distribution lines are connected to booster stations and at-grade storage tanks.

Figure 4-1: Domestic Water System Schematic Layout



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4.3 Wastewater Disposal

Domestic water is available at several points along the Specific Plan boundary at Bitterwater Road, Pearl Street and Jayne Street (see Figure 4-1). Cal Water has indicated that it will have adequate water supplies to meet the projected average annual day and maximum day demands of the Downtown Addition Specific Plan in addition to those of its existing customers and other anticipated future water users in the City of King District service area for the 20 year period from 2006 to 2026 under normal single dry year and multiple dry year conditions. Since the Downtown Addition is within the City limits, no major impacts to the existing water supply system are anticipated. Future demand is expected to be offset in part by improving water conservation and increasing ground water pumping.

Domestic water service within the site will be provided by the construction of on-site distribution lines. Pipe connections will include adequate looping to provide redundancy for the system. The internal mains will be sized to comply with Cal Water's Master Plan.

A schematic layout of the domestic water system is shown in Figure 4-1.

4.3 Wastewater Disposal

The City of King Public Works Department will provide wastewater service to the Downtown Addition Plan Area, which is completely within the existing wastewater collection and treatment service area of the City of King. Both the Sewer

Collections System Master Plan (1992) and the Wastewater Facilities Plan (2004) included the area of the Downtown Addition Specific Plan in their plans. Both of these adopted plans forecast significant wastewater generation from the project area. The project site is represented by tributary areas 7 and 61 in the Sewer Master Plan which modeled sewerage flows from the project site at 0.24 MGD Average Daily Flow (ADF). The Specific Plan has been estimated to generate 0.18 MGD ADF and a peak flow of 0.54 MGD. This significantly lower sewer generation rate is due to the fact the project does not contain industrial uses which have high wastewater generation rates but rather proposes residential and commercial uses which have lower wastewater generation rates.

The Wastewater Treatment Plant (WWTP) is located near the northwest corner of the City, just east of the Salinas River. The WWTP was constructed in 1970 and underwent capacity expansion in 1982 and 1991. In 2004, the City of King adopted a Wastewater Facilities Plan (WFP), prepared by Carollo Engineers.

The WFP recommended, based on projected growth in wastewater flows, that the WWTP be expanded to treat 4.7 MGD. The growth projection and corresponding wastewater flows included a population projection of 26,804 at year 2023. This population target included significant potential growth area outside of the 2004 municipal boundaries of the City of King. The areas outside of the municipal boundary identified in the Wastewater Facilities Plan where as follows: "North of City Limits" - Meyer-Mills Ranch, "Northeast Silva Property", "Development Southeast", and "Pine Canyon". Only the "North of City Limits" - Meyer-Mills Ranch has been subsequently annexed to the City of King. None of the other remaining growth areas are currently reasonably foreseeable as additional growth areas at this time.

The WFP also determined that the additional capacity could be achieved by excavating sludge from the existing aeration ponds to provide more depth and volume and installing mechanical aerators. The City Council adopted this plan for implementation which included re-rating the plant, headworks upgrades, disposal upgrades, and pond improvements.

In 2008, the City conducted an operational and infrastructure review of the Wastewater Treatment Plan. This review found that as currently managed, the facility produces an acceptable effluent. The current 2-year average daily flow treated at the WWTP is estimated to be 0.87 MGD and the capacity of the plant

Table 4-1: Domestic Wastewater Generation

	Average Daily Flow (MGD ¹)	Peak Daily Flow (MGD ²)
City of King Existing (2008) ³	0.87	2.61
Arboleda Specific Plan	0.14	0.41
Mills Ranch Specific Plan	0.13	0.39
Downtown Addition Specific Plan	0.18	0.54
Total	1.32	3.96
WWTP Capacity Phase I Improvements	1.53	4.59
WWTP Capacity Phase I Improvements	1.92	5.76

1. MGD - million gallons per day.

2. Peak Volume Factor (3:1).

3. 2008 Demand Rates include generation of approximately .09 MGD ADF from constructed portion of: 1) Arboleda Specific Plan - 199 residential units (59,700 gpd), Middle School (10,000 gpd) and Parks (8,000); and 2) Mills Ranch Specific Plan - 32 residential units (9,600 gpd).

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4.3 Wastewater Disposal

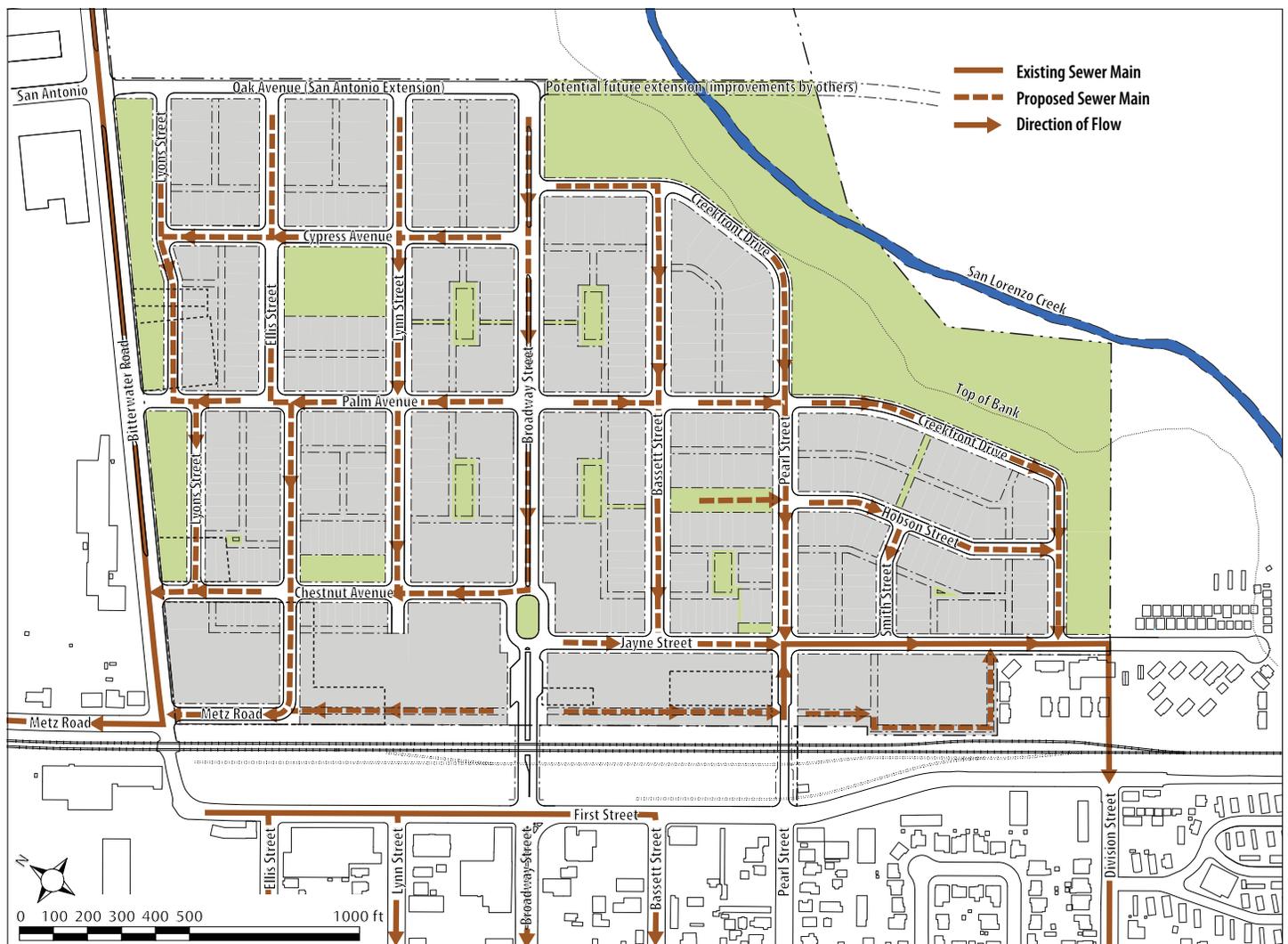
is currently operated at 1.0 MGD, below the permitted capacity to treat 1.2 MGD (The City operates the domestic treatment and disposal system under Waste Discharge Requirements Order No. 91-05 issued by the Regional Water Quality Control Board).

In accordance with the 2008 determination, the City has commenced the first phase of improvements to implement the adopted Wastewater Facilities Plan. These improvements include the deepening of Ponds 1A and 1B, installation of ten (10) 40 hp aerators and expansion of the spray fields. These improvements will increase the treatment capacity of the facility to 1.53 MGD based on the revised combined capacity of the facultative ponds. Five (5) ponds will be "aerated." To meet projected increases in demand, a second phase of improvements is scheduled for design which include

additional facultative ponds that, when added, will bring the pond capacity up to 1.92 MGD. As the operational load of the plant increases to 1.53 MGD with the improvements to the facultative ponds, the current application rate of 0.8 inch/day on the spray fields will need to be increased or additional land area committed to the spray fields. The City of King City has ownership of the land area required to expand the size and number of the spray fields needed for the expansion of the treatment plan as set forth in the Wastewater Facility Plan.

The wastewater demand of the Specific Plan, 0.18 MGD can be accommodated within the existing 0.33 MGD existing unused capacity (1.2 MGD Permitted Capacity - 0.87 MGD existing demand) limits of the wastewater treatment facilities and the Phase 1 improvements which will be in position prior to the wastewater demands project being placed on the WWTP. The

Figure 4-2: Sewer System Schematic Layout



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4.3 Wastewater Disposal

Phase 1 WWTP upgrade is designed to accommodate future wastewater needs in the City including the development of the Specific Plan. With the implementation of this upgrade, the project would demand approximately 15 percent of 1.2 MGD permitted wastewater capacity. Therefore, the project would not require expansion of the WWTP under existing or future conditions.

The City of King Sanitary Sewer Collection Master Plan (1992) identified deficiencies in the sanitary sewer collection system for both existing conditions and build-out of the City's service area. Additional sewer lines and collection systems must be constructed to provide wastewater service to the Downtown Addition. The plan area consists of two sanitary sewer service areas and several tributary areas, all of which are consistent with

the 1992 Sanitary Sewer Collection Master Plan. The existing Jayne Street/Division Street main will collect the sanitary sewer from the southern third of the site. Sewer from the northern two thirds of the site will be collected and added to the existing main in Bitterwater Road/Metz Road that connects to the San Antonio Street main. The new internal collection system will consist of gravity lines, service laterals, and related additions. These lines will be designed in accordance with the City of King's design standards and are anticipated to be eight to ten inches in diameter.

A schematic layout of the sewer system for the Downtown Addition is shown in Figure 4-2.

Figure 4-3: Storm Drain System Schematic Layout



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4.4 Storm Drainage and Grading

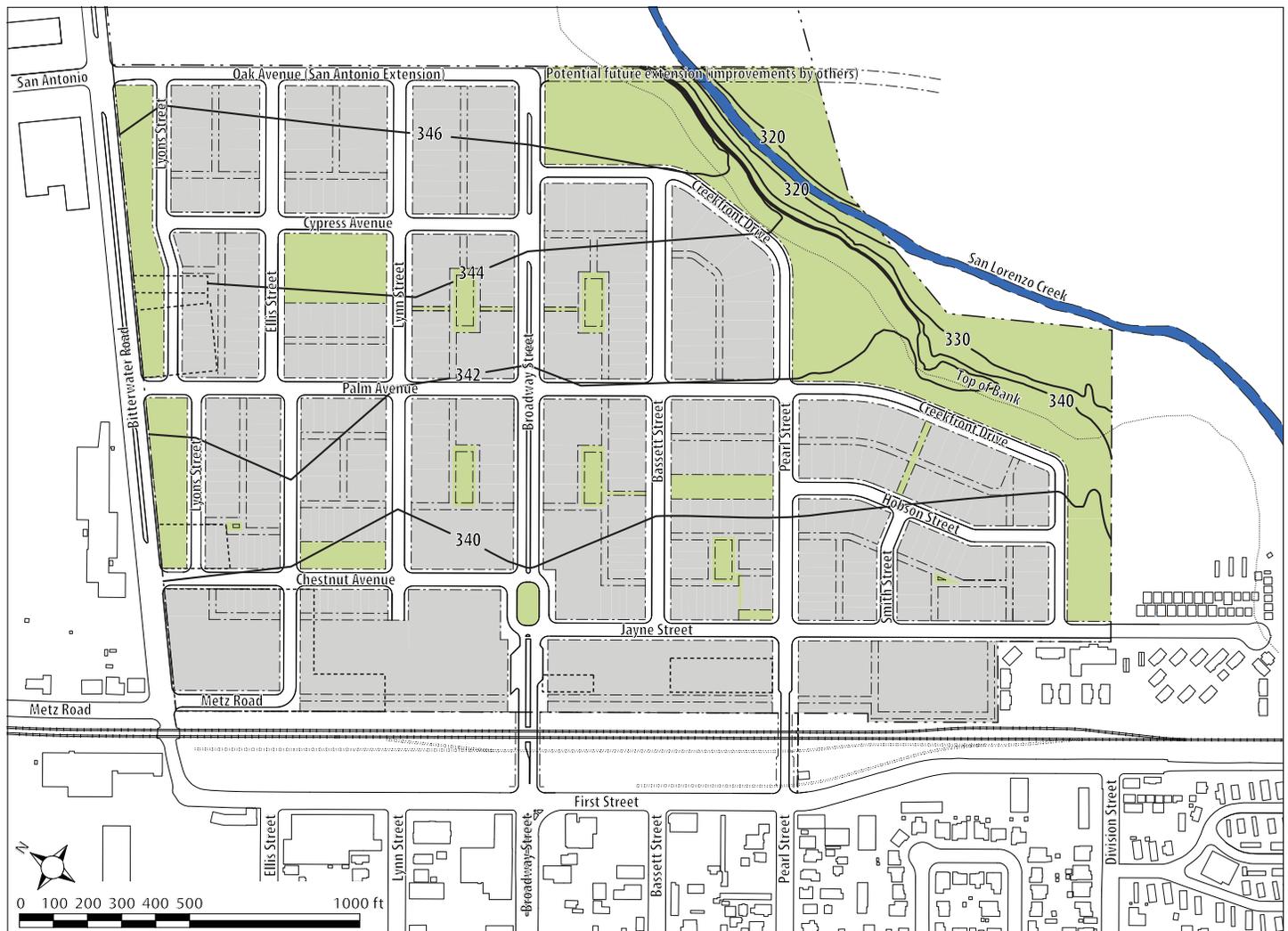
4.4 Storm Drainage and Grading

The Downtown Addition contains the northern edge of San Lorenzo Creek and a portion of the site located within the banks of the creek is subject to flooding. However, the drainage patterns run from the northeast to the southwest towards First Street and, currently, infiltrate into the relatively flat plowed agricultural lands.

The existing storm drainage infrastructure adjacent to the site has been sized with the future development of this area in mind. The existing Jayne Street 24-inch storm drain main and outfall into the San Lorenzo Creek is an ideal point of connection for the future internal network of storm drain mains.

The stormwater collection system for the Downtown Addition is based on “state of the art” Low Impact Development (LID) water quality treatment and best management practices. As described in detail in Section 3.9.7 (Sustainable Development) the project is designed to treat and collect stormwater at the “point of source” through the use of biofiltration features that are tied to stormwater inlets with underground piping systems in the streets and commercial parking areas. Stormwater is designed to discharge into pretreatment areas such as biofilters (vegetated swales/strips) and storm drain filters (Filterra or Vortechs units) that will release into channels or underground pipes, and a water quality basin that will convey the runoff into the Jayne Street outfall. Based on the limitations of the Jayne Street outfall a new outfall into San Lorenzo Creek is also proposed.

Figure 4-4: Conceptual Grading Plan



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4.5 Schools

Runoff from parks, open space, and landscaped areas will also be pretreated through biofilters or other equivalent methods bordering streams and/or natural swales.

Storm drain facilities will be included in the plan to mitigate any increase of the developed condition peak flow over the undeveloped peak flow as appropriate based on the location of the project with the San Lorenzo Creek watershed. Stormwater facilities may consist of bioretention area(s), dual use areas, and/or underground storage. All stormwater facilities will be shown in detail during the final design of the neighborhood.

There are no anticipated significant upstream or downstream impacts from the Downtown Addition development due to the installation of appropriate bioretention facilities and Best Management Practices (BMPs).

A schematic layout of the storm drain system for the Downtown Addition is shown in Figure 4-3.

The Conceptual Grading Plan for the King City Downtown Addition was developed to minimize the overall quantity of earth moved, while at the same time preparing areas to optimize the quality of the developed area. Due to the relatively flat topography of the site, large cuts or fills are not necessary. The Specific Plan area will be graded to provide a more uniform slope across the site and to provide additional cover over existing utilities that may be shallow in some locations. The grading plan generally follows the natural drainage patterns of the site from the northeast to the southwest (Figure 4-4). The major exceptions to this general pattern include the area near the frontage road along the railroad tracks, which will be graded down towards Metz Road, and the neighborhood street, which cuts through the center of the plan area, which will be graded towards Broadway.

4.5 Schools

The City of King is served by two separate school districts: the King City Joint Union High School District and the King City Union School District. School locations are shown in Figure 4-5 (Public Services and Civic Uses).

The King City Joint Union High School District serves most of the southern part of Monterey County. The District operates two high schools, King City High School (1,125 student capacity) and Greenfield High in Greenfield (900 student capacity), and a small continuation school, Los Padres High School, with 64 students. These schools operate at or near capacity.

The King City Union School District is in charge of two elementary schools (Del Rey and Santa Lucia), a Charter School, and a middle school (Chalone Peaks Middle School). Del Rey Elementary School opened its doors in the 1987-1988 school year as a third through fifth grade school. In 1996, it was reconfigured to serve kindergarten through sixth grade students and has since nearly doubled its original enrollment to 720 students for the 2008-2009 school year, which is 80 percent of its 900 student capacity. Del Rey Elementary School operates on a traditional school year schedule. Santa Lucia Elementary School serves kindergarten through fifth grade and also runs on a traditional year school schedule. Approximately 650 students were enrolled at Santa Lucia during the 2008-2009 school year. Santa Lucia is also nearing its student capacity.

Chalone Peaks Middle School is a new middle school constructed as part of the Arboleda Specific Plan. The Chalone Peaks Middle School opened during the 2008-2009 school year with an enrollment of approximately 750 students, with room for growth. Also, starting the 2008-2009 school year, the King City Union School District converted the San Lorenzo Middle

Table 4-2: Student Generation - Maximum Density

Unit-type	Units	K-5		6-8		9-12		Total Students
		Students per Unit	Student Generation	Students per Unit	Student Generation	Students per Unit	Student Generation	
Single-family detached	175	0.485	84.9	0.291	50.9	0.26	45.5	181.3
Single-family attached	346	0.485	167.8	0.291	100.7	0.26	90.0	358.5
Multifamily attached	129	0.760	98.0	0.480	61.9	0.19	24.5	184.5
Total	650		350.7		213.5		160.0	724.2

Sources: King City Joint Union High School District, King City Union School District, and Crawford, Multari & Clark Associates

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4.6 Emergency Services

Figure 4-5: Public Services and Civic Uses



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4.6 Emergency Services

School back into an elementary school which now functions as the school districts Charter School for grades K-5. The Charter School has an enrollment of approximately 180-200 students for 2008-2009 school year.

Based on student generation factors received from the City of King public school districts (Aug. 2008), the Downtown Addition Specific Plan development is expected to generate a maximum of 724 students (Table 4-2). However, because of the new school facility developed as part of the Arboleda Specific Plan, no additional elementary or middle school will be needed as part of the Downtown Addition. Also, according to the school district, the school system will be able to absorb the additional high school students.

4.6 Emergency Services

The City of King Police Department is authorized for 16 sworn officer positions (15 are filled and there is one full-time vacancy), the 16 sworn officer positions include four sergeants, one captain and one chief (Police Chief Balvidiez, 2008). In addition they have six reserves. Both a Monterey County Sheriff Substation and a California Highway Patrol Substation are located within the City to provide back up when needed. To further enhance public safety, the police department works closely with a local citizens group known as Town Watch. The force also offers special public safety programs to local schools.

The City of King's volunteer fire department consists of 35 members and is equipped with three triple combination pumpers and one standby pumper. United Underwriters has designated the City of King with an insurance classification number of "5" on a scale of 1 to 10.

Based on past experience with the development of residential neighborhoods, the Downtown Addition Specific Plan project is anticipated to have only a minor impact on the City's emergency services. Emergency services are shown in Figure 4-5 (Public Services and Civic Uses).

4.7 Energy (including Solid Waste)

Pacific Gas & Electric (PG&E) provides electricity and natural gas services in King City. AT&T and SBC provide telephone and cable television services, respectively. According to the City of King General Plan, these services are expected to be available. Necessary extensions or relocations of existing lines will be paid for as set by the agency or utility. No major disruptions of these services are anticipated.

King City Disposal Company, a private franchise company, operates a recycling program and transports solid waste to landfill sites operated by the Salinas Valley Solid Waste Authority. These landfill sites are considered adequate for the anticipated volumes of solid waste from King City and the surrounding area for many years into the future. The landfill sites are operated in full compliance with applicable State and federal requirements.

4.8 Infrastructure Goals, Policies and Programs

Goals

1. To provide the level of public services desired by the residents at a reasonable cost.
2. To ensure the provision of public services keeps pace with new development.

Policies

1. Encourage transit-oriented development through compact design and consideration of the development of a regional transit center.
2. Public facilities should be located and designed so that noise, light, odors, and appearances do not adversely affect nearby land uses.
3. The City shall promote the efficient use of water and reduced water demand by requiring water-conserving design and equipment in new construction and by encouraging water-conserving landscaping and other conservation measures.
4. The majority of landscaping for both public and private projects shall employ low water demand/drought tolerant native plants.

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4.8 Infrastructure Goals, Policies and Programs

5. In any turf areas within public spaces, street medians or landscaping barriers, hydro tensiometers and automatic irrigation systems (or similar technology) shall be used to achieve the most effective use of water applied to turf.
6. Natural drainage systems will be encouraged where feasible to preserve and enhance natural features.
7. Improve the quality of urban stormwater runoff and quality of groundwater recharge through the use of appropriate mitigation measures including, but not limited to, infiltration/sedimentation areas, oil/grit separators, and other best management practices, such as stormwater retention.
8. Require new development to adequately mitigate increases in stormwater peak flows and/or volume. Mitigation measures shall take into consideration impacts on adjoining properties and impacts on groundwater recharge related to existing and proposed water wells.
9. Engineered drainage plans shall incorporate a collection and treatment system for stormwater runoff consistent with applicable federal and State laws.
10. Employ existing fee programs to finance required off-site infrastructure.
11. Work closely with the school district to ensure adequate funding for new school facilities and mitigate the cost of providing school facilities needed to serve the Downtown Addition.
12. The City shall consider public safety issues in all aspects of commercial and residential project design, including crime prevention through design.
13. The City shall ensure that all proposed developments are reviewed for compliance with fire safety standards per the Uniform Fire Code and other City standards and ordinances.
2. Install fire sprinkler systems within all buildings and place fire hydrants at most intersections and every 500 feet. Fire sprinkler systems and hydrant locations will be reviewed and approved by the City of King Fire Marshall.
3. Complete on-site sewer mains in the Downtown Addition Specific Plan area to serve individual parcels. Determine the location and size of utility lines during the design of each neighborhood.
4. Complete a stormwater collection system that connects into the existing 24-inch storm drain mains. The stormwater collection system for the Downtown Addition will primarily consist of bioretention features, stormwater inlets with underground piping systems, which will discharge into secondary pretreatment areas such as biofilters (vegetated swales/strips) and a water quality basin.
5. Construct stormwater facilities to mitigate the increase of the developed condition peak flow over the undeveloped peak flow. Stormwater facilities may consist of bioretention area(s), dual use areas, and/or underground storage.
6. Submit development plans to the police department and fire department to ensure to the extent practical that design of the project facilitates public safety.
8. Install utilities underground to secure such utilities from damage

Programs

1. Complete on-site water distribution lines in the Downtown Addition Specific Plan area to serve individual parcels. Pipe connections will include adequate looping to provide redundancy for the system. The internal mains will be sized to comply with Cal Water's Master Plan.

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