

## **Section 2**

### **Storm Drainage System**

The overall study area was determined through the delineation of the individual watersheds that contribute runoff into and through the boundary of the 50 year SOI planning area. (See Figure 2-1, Watershed Overview Map). The study area is bordered on the westerly side by Camphora Gloria Road, on the easterly side by Bryant Canyon Flood Control Channel, on the southerly side by the Salinas River and State Route 101, and Ridge Line of Gabilan Range (also Division Line between Monterey County and San Benito County) on the northerly side. A good portion of the study area from the 2000 Storm Drain Impact Fee Study is situated on flat alluvial plain between the San Lucia Range to the southwest and the Gabilan Range to the northeast. The New Study Area greatly expands the previous drainage study area and extends to the Rolling Foothills of the Gabilan Range to the northeast terrain varying from gently sloping (5% to 10%) to very steep sloping (50% to 100%) watersheds.

#### **2.1 Overview of Major Offsite Watersheds**

There are three major watersheds outside the city limits that directly impact the City of Soledad:

- Western Moranda Basin
- Eastern Moranda Basin
- San Vicente – Mirassou Basin

The Bryant Canyon Basin lays to the north-east of the city and indirectly affects the surface storm water flows of the existing city streets during periods of excessive flows of Bryant Canyon drainage channel. LAFCO has determined through prior annexations that Bryant Canyon drainage channel is the natural limit of easterly growth of the city and future city growth for the next 20 years extends into both the Eastern Moranda Basin as well as the San Vicente – Mirassou Basin. See Figure 2-2, Major Watershed Map. All three watersheds lie in a southwesterly/northeasterly direction from the Salinas River at bottom of the watershed to Gabilan Range at the top of the watershed. All three watersheds combined cover an area of over 9,000 acres or approximately 14 square miles.

## **2.2 Basin and Sub-Basin Delineation**

Initial activities in the planning process include the identification of the basins and the quantification of proposed runoff in the existing storm drain system. These basins are hydrologically isolated drainage areas that are used to calculate peak flows at any point on the trunk system. Once these basins are delineated, the tributary area and the land use characteristics associated with each basin are quantified for the computation of existing and future peak flows.

The basin and sub-basin delineation of the major watersheds shall consist of two designations:

- Onsite is the existing storm drainage basin and storm drainage system within the current city limits and is discussed in Section 2.3
- Offsite area is outside the city limit line but within boundary set for the study area. In other words, all of study area except that designated as onsite (within the current city limits). The offsite basin and sub-basin are discussed in Section 2.4.

## **2.3 Existing Storm Drainage Basin and Storm Drainage System**

This section discusses the storm drain collection system that is within the current city limits. The following are general narratives of 5 basins and 13 sub-basins that have been identified. See Figure 2-3, City Drainage Basin Map.

### **2.3.1 Upper San Vicente Basin**

This includes the area between San Vicente Road, West Street and north of Gabilan Road and south of Section 16 and consists of two sub-basins.

- **Vista Soledad Sub-Basin**

This drainage sub-basin is inside the present city limits and bounded by Section 16 on the north, San Vicente Road, West Street, Gabilan Drive and Veterans Park.

- **Veterans Park Sub-Basin**

The Veterans Park sub-basin is bounded by San Vicente Road, Gabilan Drive and Vista Soledad sub-basin on the north. All flows currently are collected in the storm drain collection system and directed to the San Vicente Road storm drain. The San Vicente Road storm drain consists of 42-inch diameter to 84-inch diameter drainage pipes with connections to an existing 18-inch diameter drainage pipe on San Vicente Road near Market Street. The 84-inch drainage pipe currently serves as a stormwater storage line with a vertical dam installed in each storm drain manhole. When the 84-inch diameter pipeline fills, it overflows into the 18-inch drainage pipe within San Vicente Road below (southerly) of Market Street. Once the overflow from 84-inch pipeline exceeds the capacity of the 18-inch pipe, it backs up into Veterans park detention basin.

### **2.3.2 Central Basin**

This drainage basin is approximately XXX acres within the City limits. West Street, the south line of Section 15, Vista, North and Toledo Streets, Orchard Lane, Metz Road, Palm Ave, Park Street and Front Street bound this basin. The Central Basin includes the West Street Sub-basin and the Front Street Sub-basin. All runoff converges at the intersection of West and Front Streets, either in the piped storm drain system, or through surface flow. The piped drainage flows into a 60-inch pipe near the intersection of Front and West Street and to the City's regional stormwater detention basin located within Soledad wastewater treatment plan (said basin is currently not part of WWTP waste discharge permit) and adjacent to the Salinas River, discharge from the regional basin to the Salinas River during periods above average storm events is controlled by a concrete control structure with a cast iron flap gate that protects the basin during periods of high levels within the Salinas River. There is also a cast iron slide gate that normally remains in closed operation to prevent discharge into the Salinas River. The regional basin has sufficient size to discharge stormwater flow by percolation thru the bottom of the basin.

Any excess flows not contained by the 60-inch storm drain will surface flow westerly along Front Street and Moranda Road to the Western Front Street Sub-basin in the San Vicente Basin. When the 60-inch storm capacity is exceeded it backs up into the highway detention basin between S.R. 01 and UPRR. During large storm water events where the highway basin capacity is exceeded, those waters will converge with the runoff flowing along the north side of U.S. Route 101 to the Gloria Camphora Road over-crossing. (Please see Figures 2-3 and 2-5.)

Until such time as the improvements associated with the development to the north of Gabilan Drive are constructed and thereby diverted into the Upper San Vicente Drainage Basin, this area will exacerbate existing problems south of Gabilan Drive.

The remaining area south of Gabilan Drive serves approximately 365 acres and has three major collection sub-basins. These sub-basins collection systems are outlined below:

- **West Street Sub-basin**

This sub-basin includes lands to the east of West Street, including all the flows from La Cuesta Street, Entrada Drive, North Street, Market Street, Monterey Street, and a portion of Gabilan Drive adjacent to Soledad High School. These pipes, generally consisting of 15-inch to 36-inch pipes, include flows from many subdivisions as well as flows from Soledad High School.

- **Adalucia Sub-basin**

This sub-basin includes lands in the California Highlands and the Andalucia Sub-division Phases 1, 2 and 3. This sub-basin also includes the unincorporated area west of Orchard Lane north of Metz Road, the incorporated area north of North Street between East Street and Main Street, and the area between West, Monterey, Main, and North Streets. The pipes, generally consist of 8-inch to 36-inch pipes, and include flows from Santana Park Retention Basin at Gabilan Drive and Prado Drive.

The area roughly bounded by Walker Street, Metz Road, Orchard Lane, and the easterly extension of Gabilan Drive has no direct collection system. This area includes Gabilan School, San Vicente School, the Soledad Swimming Pool and Community Center, a trailer park, and some undeveloped lands presently outside the city limits. Storm water runoff surface flows through the Community Center and school sites until the flow is intercepted by Metz Road and is channeled in the street.

- **Front Street Sub-basin**

The pipes in Front Street presently act as the southerly collection main for the City. The runoff collects in pipes on the south side of Front Street flowing west from Oak Avenue, flowing south of Monterey/Market Streets, west of Oak Avenue to the 60-inch storm drain pipe near the intersection of Front Street and West Street. These pipes generally consist of 21-inch to 30-inch pipes. As part of Front Street improvements, a 54-inch diameter storm drain for future development was installed from Soledad Street to Benito-Street parallel to the existing 21-inch and 30-inch pipes. From Benito Street to West Street a 54-inch pipe will be the installed by Orchard Villas subdivision as well as from Soledad Front Street intersection to said Orchard Villas as part of the proposed Hanna and Brunetti 2000 storm drain impact fee study improvements.

The following two sub-basins of Bryant Canyon Basin currently drain to temporary retention basin and will be diverted in the future to the lower San Vicente Basin upon completion of the Gabilan Storm drainage improvements.

- **Western Hambey Sub-basin**

The northerly portion of the basin is developed as Miravale II. It appears that in the past most of the runoff being diverted during flood events southeasterly to Bryant Canyon Channel was via a drainage swale.

- **Eastern Hambey Sub-basin**

This is the upper portion of the Miravale II project currently under development that lies between Byrant Canyon Flood Control Channel and line projected northerly from Metz Road to Section 15. Eastern and Westerly Hambey sub-basin are connected to stormwater retention basin opposite of Toledo Street on the south side of Gabilan Drive. Completion of this connection south of Gabilan, portion of Easterly Hambey sub-basin will be made this fall.

### **2.3.3 Lower San Vicente Basin**

Located generally southerly of Gabilan Drive between San Vicente Road, West Street and SR 101.

- **Existing Rancho San Vicente sub-basin**

Stormwater runoff collected in the storm drainage system that discharges to a temporary retention basin at the northeast corner of Market Street and San Vicente Road. The sub-basin storm drainage system is connected to the 84-inch San Vicente Road storm drain which is connected to the 18-inch San Vicente Road storm drain westerly of San Vicente townhomes.

- **Western Front Street Sub-basin**

Runoff on San Vicente Road south of the San Vicente Townhomes Development, and runoff on Front Street between West Street and Moranda Road flows through a series of 18-inch to 48-inch pipes in San Vicente Road and Front Street to the recently constructed detention basin between U.S. Route 101 and the Union

Pacific Railroad tracks. This drainage basin is approximately 120 acres both inside and outside the present City limits. The highway detention basin also provides some stormwater storage for the Front Street sub-basin when stormwater flows exceed the capacity of 60-inch storm drain pipe that commence to surcharge the drain inlets and overflows into the Western Front Street storm drainage system.

- **UPRR and St. Elena Mobile Home Park**

All runoff from the above trailer park flows along the southerly side of the Union Pacific Railroad lands. This runoff is diverted south across U.S. Route 101 through a 24-inch culvert that was installed as part of the Highway 101 improvements in the 1960's.

- **Easterly S.R. 101 Highway Sub-basin**

The easterly portion of State Route 101 between South interchange and the North interchange. This sub-basin is southwest of the UPRR and St. Elena Mobile Home Park (refer to figure-2-3 for its location).

### **2.3.4 Caltrans Basin**

This drainage basin is approximately 200 acres within the city limits. The basin is delineated by the Union Pacific Railroad Tracks, Metz Road, Bryant Canyon Channel, and Oak Avenue. The piping consists of 21-inch and 30-inch pipe in Monterey, First, and Third Streets, which drain into a 42-inch pipe that flows from Monterey Street, along the east side of Vosti Park, under the railroad track, and discharges into a culvert that crosses under U.S. Route 101.

### **2.3.5 Los Coches Basin**

This drainage basin is approximately 135 acres within the city limits. The basin is bounded by the Union Pacific Railroad Tracks, U.S. Route 101, Bryant Canyon Channel, Salinas River, and Fourth Street. The area has an improved road and pipe system. The pipe system serves approximately 100 developed acres, with the remaining acreage flowing directly to the Salinas River. This area is planned for light industrial and commercial use. Presently some of the area is undeveloped with the land use for row crop farming, but a portion has been developed for commercial uses of a co-generation plan, light industrial and Soledad Mission Shopping Center.

## **2.4 Offsite Drainage Basin**

Includes that portion of study area outside the city limit line.

### **2.4.1 San Vicente-Mirassou Basin**

This basin of approximately 3,239 acres north of existing city limits, a portion within the 50-year sphere of influence for proposed and future development (refer to figure 2-09).

- **Miravale III Sub-basin**

Approximately 920 acres of proposed mixed use residential, commercial development, golf course, schools and parks, within the 20 year sphere of influences (refer to figures 3-1, 3-3 and 3-4).

- **Mirrasou Sub-basin**

Approximately 420 acres north of proposed Miravale III within the 50 year sphere of influence (refer to figures 3-1 and 3-4)

- **Offsite Sub-basin**

Approximately 1,952 +/- acres of northerly and easterly of Miravale III outside the 50 year sphere of influence (refer to figures 2-09 and 3-4)

### **2.4.2 Moranda Basin**

This basin is generally between San Vicente Road, State Highway 101 and Camphoria Gloria Road (refer to figure 2-10).

- North entry commercial Sub-basin approximately 224 acres within the 20 year SOI
- Northwest expansion sub-basin approximately 1472 acres within 50 year SOI
- Offsite basin approximately 2,493 acres of foothill watershed north of the northwest expansion area

### **2.4.3 Bryant Canyon Basin**

This basin is approximately 3,620 acres with approximately 3,200 acres northeasterly of and outside of city limits. Although a good portion of this basin is entirely outside the direct study area, during large events, Bryant Canyon Channel has overtopped its banks with the resulting flows entering and contributing to flooding in the city.

- **Metz Road Sub-basin**

The basin is approximately 250 acres easterly of Bryant Canyon Road and northern of Metz Road that drain southwestly until intercepted by Metz Road. The water flows westerly along north side of Metz Road towards Bryant Canyon Channel. In very large storms, the runoff will overtop Metz Road and flow westerly to Rubion Drive where it is diverted into Bryant Canyon Channel (refer to figure 2-3).

- **Green Leaf Estates Sub-basin**

A small lot residential subdivision is located south of Metz Road and easterly of Bryant Canyon Channel. The residential streets surface flow in southerly and westerly direction and pipe into Bryant Canyon Channel (refer to figure 2-3).

- **Munras-Johnson Sub-basin**

This sub-basin consists of older subdivision on westerly side of Bryant Canyon Channel, southerly of Metz Road, that drains to a piping system that flows directly into said channel (refer to figure 2-3).

**Figure 2-1: Watershed Overview Map  
(Composite of Soledad 7.5 minute USGS  
Topographic Map and Soledad GIS Map)**

**Figure 2-2**  
**Major Watershed Map**

**Figure 2-3**  
**City Drainage Basin Map**

2-11

**Figure 2-4**  
**Upper San Vicente Basin**

2-12

**Figure 2-5**  
**Central Basin Map**

2-13

**Figure 2-6**  
**Lower San Vicente Basin Map**

2-14

**Figure 2-7**  
**Caltrans Basin Map**

2-15

**Figure 2-8**  
**Los Coches Basin Map**

2-16

**Figure 2-9**  
**San Vicente-Mirrasou Basin**  
**(pre-development) Map**

2-17

## **Figure 2-10**

2-18

# **Moranda Basin (pre-development) Map**

**Figure 2-11**  
**Bryant Canyon Basin Map**