

4.7 Drainage

4.7.1 Infrastructure Needs or Deficiencies

Performance Standard

The City recently adopted stormwater drainage standards for all new development within the City of Holtville. These standards do not apply to existing developed areas. In addition, the City's General Plan identifies the need to: (a) maintain and improve all drainage and flood control facilities to be sure that they function as required; (b) mitigate or disallow development that increases the City's drainage system to exceed design capacity, unless mitigation steps are implemented by the developer; and (c) identify and evaluate hazardous flood locations, inform the public, and particularly proposed developers, as main goals related to flooding in the general plan.

Inventory of Existing Facilities/Personnel

On a regional level, Hoover Dam and several other dams, including Imperial Dam have been built along the Colorado River to provide an effective and efficient flood management water storage system. On a local level, within the City of Holtville, drainage is primarily controlled through street system. There are several relatively small areas served by below-grade stormwater gravity pipelines and retention basins. Several of the retention basins discharge the stored stormwater via pump stations and force mains.

The vast majority of the City of Holtville Stormwater System consists of a gravity surface flow street system. The surface street stormwater flow can be described as follows:

- a. South of Fifth Street drains to the Alamo River.
- b. North of Fifth Street and west of Figueroa Avenue/Chestnut Avenue flows either westerly to Melon Avenue or north to an open channel swale at the northeast corner of Holt Avenue and Tenth Street.
- c. North of Fifth Street, south of Ninth Street, west of Holt Avenue and east of Melon Road flows to Melon Avenue. A native earth open channel drain along the east side of Melon Avenue and a downstream concrete stormwater pipeline convey the stormwater to the Alamo River.
- d. East of Holt Avenue, north of Fifth Street, west of Figueroa and Chestnut streets, and south of Tenth Street flows from south to north and east to west to the earth swale located at the northeast corner of Holt Avenue and Tenth Street. The earth swale flows to the north along the east side of Holt Avenue to a connection with an earth-lined Imperial Irrigation District drain, where the flow continues northerly.
- e. East of Figueroa/Fig Avenue flows easterly to existing retention basins, which either retain the stormwater or direct the stormwater to the Pear Drain located along the east side of Towland Road.

Underground gravity pipelines, force mains, and retention basins provide stormwater collection for limited areas within the City of Holtville. Several of the systems are undersized or do not function adequately. The facilities consist of the following:

1. One system is located along Melon Avenue, between Sixth Street and Ninth Street. Surface stormwater flow is accepted from the streets east of Melon Avenue. The stormwater flows to an open channel earth-lined swale located along the east side of Melon Avenue. The stormwater is directed southerly to a large diameter concrete pipeline which conveys the stormwater westerly to the Alamo River.
2. A second system exists in an area south of Fifth Street, north of Bonds Corner Road, west of the southerly extension of Grape Avenue, and east of Walnut Avenue. The surface street system within this area drains to catch basins located along Third Street. Gravity pipelines convey the stormwater from the catch basins west along Third Street and south along Walnut Avenue/Bonds Corner Road to a large retention basin located west of Walnut Avenue/Bonds Corner Road and across the roadway from the City of Holtville Water Treatment Facility Raw Water Storage Ponds. The retention basin is extremely large, and there is no known outlet from the Retention Basin at this time.
3. A third system is referred to as the "Carrot Drain". The Carrot Drain consists of a stormwater pipeline with catch basins located along Fourth Street. The Carrot Drain serves a limited area between Fifth Street and Fourth Street on the north and south and between Walnut Avenue and Cedar Avenue on the east and west. The Carrot Drain discharges to the Alamo River.
4. A fourth system was recently constructed as a part of the Holtville Orchard Family Apartments project located east of Grape Avenue and south of Highway 115. A stormwater collection system comprised of underground stormwater pipelines and catch basins conveys stormwater within the Holtville Orchard Family Apartments project to a retention basin located at the south portion of the Apartment project. A stormwater pump station and force main convey the stormwater from the retention basin along the south side of Highway 115 easterly to the Imperial Irrigation District Pear Drain located along the southerly extension of Towland Road.
5. A fifth stormwater system was constructed in 1993 to serve the Angel Park subdivision and the streets on the north and west side of the Holtville Middle School. A retention basin is provided along the north side of the Middle School site, south of Ninth Street, east of Beale Avenue, and west of Webb Avenue. The Angel Park subdivision street system drains to an open channel concrete conveyance system, which flows from east to west through the Angel Park subdivision site. The open channel concrete conveyance system transitions to PCC cross-gutters at street crossings. The stormwater is ultimately conveyed to the retention basin located on the north side of the Middle School site. Underground drainage tiles are intended to accept the stormwater and direct the stormwater to a gravity pipeline that pre-dates the Angel Park subdivision. The gravity pipeline is thought to extend to the Pear Drain located along the east side of Towland Road. The underground drainage tiles and downstream gravity pipeline have not functioned properly since the Angel Park subdivision was constructed. Historically, this stormwater system has been troublesome.
6. A sixth stormwater system was recently constructed at the Bonita Homes subdivision located on both sides of Beale Avenue between Ninth Street and Tenth Street. A gravity stormwater pipeline and catch basin system collect stormwater from the surface

streets and convey the stormwater to a retention basin located at the northwest corner of Ninth Street and Beale Avenue. A stormwater pump station and 12-inch diameter force main convey the stormwater easterly along Tenth Street to the Pear Drain located along the east side of Towland Road. The Bonita Homes subdivision stormwater system serves the area within the Bonita Homes subdivision boundaries and the section of Ninth and Tenth streets adjacent to the northern and southern boundaries, respectively. The area is limited solely to the Bonita Homes subdivision area. The 12-inch stormwater pipeline located along the north side of Tenth Street from Beale Avenue to Towland Road is capable of serving as a discharge pipeline for other retention basins and/or pump stations located along the south side of Tenth Street.

7. A seventh stormwater system was recently constructed for the Holtville Senior Garden Apartments project located at the southwest corner of Tenth Street and Holt Avenue. This system only serves the Holtville Senior Gardens Apartments project. The parking lot area within this project directs water to a catch basin and downstream gravity pipeline. A portion of the paved parking lot area serves as a retention basin. The gravity pipeline directs the stormwater to a pump station, which conveys the stormwater through a small diameter force main to an open channel native swale located at the northeast corner of Tenth Street and Holt Avenue.

The City employs three public works personnel who handle drainage facility maintenance, among other public works duties. These include a Field Coordinator, Maintenance Worker III, and Maintenance Worker I.

Inventory of Approved Facilities/ Personnel

The City currently does not have plans for expansion or improvement of major drainage facilities. Local stormwater collection facilities such as gutters and roadway inlets would be provided concurrent with new development.

Year 2020 Demand Facilities and Personnel

Future development within the SOI areas will require drainage facilities to be installed prior to occupancy of commercial, industrial, or residential development in order to protect against flood damage. The development of the SOI areas will require drainage improvements to be installed at the time of development. These improvements must be adequate to accommodate urban flood control management. The City intends to convey all future stormwater to the Alamo River.

4.7.2 Financing Constraints and Opportunities

Revenue sources for maintenance and improvement of drainage facilities include general taxes (i.e., property, sales, use, business license, utility user's, transient occupancy, etc.), parcel tax, motor vehicle license fee, benefit assessment, and development impact fees and exactions. There is currently no flood control district within Imperial County. Assessment Districts are often formed to provide a revenue source for flood control districts.

4.7.3 Cost Avoidance Opportunities

There are numerous options for the City to avoid costs in the provision of future drainage facilities for new development within the SOI.

One option is to establish a flood control and drainage district for a specific SOI area. The district would then be responsible for developing an overall design and implementing the system on a phased basis as development occurs. The system could be implemented through development mitigation fees, developer constructed improvements, or community facility district assessments.

Another option to address drainage in the SOI area is for the City to design the system upon annexation (or shortly thereafter) and require the developers to pay for, or construct certain portions of the systems as development occurs. This option would involve some liability and monetary constraints to the City. This option would also allow the City to establish a program and implement it as development occurs.

A third option is for the City to create a district and have the district operated by a larger district such as the Imperial Irrigation District (IID). The newly formed district would charge development and user fees to offset City costs.

A fourth option is to require developers to mitigate flood control and drainage on a project-specific basis.

4.7.4 Opportunities for Rate Restructuring

The City does not currently charge fees for the provision and maintenance of drainage facilities. New facilities will either be provided as condition of development approval or paid for on a fair-share basis by future development. Maintenance of drainage facilities is funded from the City's General Fund.

4.7.5 Opportunities for Shared Facilities

Currently, the Alamo River is maintained by the Imperial Irrigation District. The City conveys stormwater and urban runoff to this regional facility. One of the options discussed in this SAP/MSR (see Section 4.7.3 above) to meet the 2020 demand for drainage facilities in the SOI is for the City to create a flood control district that would be operated by a larger district such as the Imperial Irrigation District (IID). The newly formed district would charge development and user fees to offset City costs.