

7 SAFETY ELEMENT

The Safety Element identifies the potential hazards in the community that must be considered when planning the location, type, and intensity of development. The primary objective of the Safety Element is to reduce the potential for loss of life, injuries, and property damage that could result from a natural or a man-made disaster.

Specific topics addressed in this Element include:

- Geologic and Seismic Hazards
- Flood Hazards
- Hazardous Materials
- Emergency Response Planning

7.1 Geologic and Seismic Hazards

Subsidence Potential

Subsidence is the settlement of soils due to either desiccation (dehydration) and shrinkage or oxidation of organic material, or both, following drainage. Subsidence is not a characteristic of the nineteen soil series found within the Study Area. (Soil Survey of San Joaquin County, California, Soil Conservation Service, U.S. Department of Agriculture, 1988)

Seismic Hazards

A seismic hazard is due to existence of active or potentially active earthquake faults. The term “earthquake” is used to describe both sudden slip on a fault, and the resulting ground shaking and radiated seismic energy caused by the slip, or by volcanic or magmatic activity, or other sudden stress changes in the earth.

The Alquist-Priolo Special Studies Zone Act of 1972 is directed at areas identified by the California State Geologist as having active surface fault ruptures. It is a regulatory prohibition to build across a surface fault rupture of active faults. It addresses earthquake safety in building permits and subdivision procedures by requiring project applicants to submit a registered geologist's report describing the potential for on-site surface rupture.

Manteca is not located within an Alquist-Priolo Fault-Rupture Hazard Zone. There are faults located in the region, but there are no known faults located within or adjacent to the study area.

Goal S-1. Prevent loss of lives, injury, and property damage due to geological hazards and seismic activity.

Goal S-2. Prevent loss of lives, injury, and property damage due to the collapse of buildings and critical facilities, and to prevent disruption of essential services in the event of an earthquake.

Policies: Geologic and Seismic Safety

S-P-1. The City shall require preparation of geological reports and/or geological engineering reports for proposed new development located in areas of potentially significant geological hazards, including potential subsidence (collapsible surface soils) due to groundwater extraction.

S-P-2. The City shall require new development to mitigate the potential impacts of geologic hazards through Building Plan review.

S-P-3. The City shall require new development to mitigate the potential impacts of seismic induced settlement of

uncompacted fill and liquefaction (water-saturated soil) due to the presence of a high water table.

- S-P-4. The City shall maintain an inventory of pre-1940 unreinforced masonry buildings within the city. No change in use to a higher occupancy or more intensive use shall be approved in such structures until an engineering evaluation of the structure has been conducted and any structural deficiencies corrected. The Redevelopment Agency shall be encouraged to assist property owners in reinforcing buildings.
- S-P-5. The City shall ensure that all public facilities, such as buildings, water tanks, and reservoirs, are structurally sound and able to withstand seismic shaking and the effects of seismically induced ground failure.
- S-P-6. The City shall comply with the California State seismic and building standards in the design and siting of critical facilities, including police and fire stations, school facilities, hospitals, hazardous materials manufacturing and storage facilities, and large public assembly halls.

Implementation: Geologic and Seismic Safety

- S-I-1. All new development shall comply with the current Uniform Building Code (UBC) requirements that stipulate building structural material and reinforcement.
- S-I-2. All new development shall comply with California Health and Safety Code Section 19100 et seq. (Earthquake Protection Law), which requires that buildings be designed to resist stresses produced by natural forces such as earthquakes and wind.
- S-I-3. The City shall inventory potentially hazardous buildings within the city and adopt a mitigation program, including requirements for

strengthening buildings, changing the use of the buildings to an acceptable occupancy level, or demolishing the buildings.

7.2 Flood Hazards

Flood hazards in the Planning Area are the result of the 200 year flood or the level as determined by state and federal agencies, localized drainage problems, and dam failure. The primary effects of flooding are caused by the initial force of floodwaters that can shatter structures and uplift vehicles. Floodwaters can carry large objects downstream which have the force to remove stationary structures. Saturation of materials and earth can cause instability, collapse, and damage. Objects can be buried through sediment deposition. Floods can cause drowning or isolation of persons and animals. Floodwaters can break utility lines, interrupting services and potentially affecting health and safety, particularly in the case of broken sewer or gas lines. The secondary effects of flooding are due to standing water. Standing water can result in loss of crops, septic tank failure, and water well contamination. Standing water can also damage road, foundations, and electrical circuits.

Impervious Surfaces and Stormwater Runoff

Those development and redevelopment activities authorized under the General Plan Update will result in the introduction of additional impervious surfaces in the planning area and diminish the amount of pervious areas where rain waters can permeate. Based on the higher urbanized nature of the planning area, the extent of additional site coverage and the additional storm flows resulting therefrom will be minimal.

Storm water pollution can result from the contamination of runoff from urban areas as it drains from streets or property through the municipal storm water drainage system and into waterways (rivers, sloughs, creeks etc.) The contaminated storm water may affect commercial fisheries, restrict swimming areas or affect the navigability of the regional waters.

200-Year Flood Areas

The primary flood hazard in the study area is the San Joaquin River and its tributaries. The hydrology of the region consists of this established river system and can be directly affected by several external factors. Meteorological events such as intense precipitation may adversely affect the natural drainage of the region. In addition, seasonal snowmelt will significantly contribute to the volume of water in the local hydrologic system. Urbanization contributes to an increased volume in the hydrologic system by maintaining a high percentage of impervious surface, which does not allow for infiltration of water into the soil and thus results in increased velocities and volumes of runoff. All of these factors can lead to exceeding the natural carrying capacity of the existing hydrology, which results in flooding of low-lying areas.

Dam Failure Inundation

Portions of the 200-year floodplain would be subject to inundation in the event of dam failure. Although the likelihood is remote, the area subject to inundation within the study area is not specifically defined, but would generally coincide with the area delineated as the 200-year floodplain.

- Goal S-3.** Prevent loss of lives, injury, and property damage due to flooding.
- Goal S-4.** Pursue flood control solutions that minimize environmental impacts.
- Goal S-5.** Participate in a Regional Flood Management Plan.

Policies: Flood Safety

- S-P-7. Regulate all uses and development in areas subject to potential flooding through zoning and other land use regulations.

- S-P-8. Cooperate with other agencies in the pursuit of a regional approach to flood issues.
- S-P-9. Combine flood control, recreation, water quality, and open space functions where feasible.
- S-P-10. Ensure that any existing structures subject to the 200-year flood provide adequate protection from flood hazards.
- S-P-11. Ensure that the impacts of potential flooding are adequately analyzed when considering areas for future urban expansion.
- S-P-12. New residential development, including mobilehomes, shall be constructed so that the lowest floor is at least one foot above the 200-year flood level.
- S-P-13. Non-residential development shall be anchored and flood-proofed in accord with Federal Emergency Management Agency (FEMA) standards to prevent damage or causing damage due to a 200-year flood or, alternatively, elevated to at least one foot above the 200-year flood level.
- S-P-14. When improvements to existing developments are made costing at least 50 percent of the current market value of the structure before improvements, the structure shall be brought into compliance with FEMA standards.
- S-P-15. Ensure the city is in compliance with the Central Valley Flood Protect Plan.

Implementation: Flood Safety

- S-I-4. The City shall continue to participate in the National Flood Insurance Program. To this end, the City shall ensure that local regulations are in full compliance with standards adopted by the Federal Emergency Management Agency (FEMA). The City shall adopt and implement local flood management development standards.

- S-I-5. Provide flood warning and forecasting information to City residents.
- S-I-6. Discourage large continuous paved areas unless provided with engineered drainage facilities.
- S-I-7. Where feasible, require the use of pervious paving materials, such as brick or stepping stones with sand joints.
- S-I-8. New development shall be required to maintain natural stream courses and adjacent habitat and combine flood control, recreation, water quality, and open space functions.
- S-I-9. Participate in the development of a collaborative local flood plan for San Joaquin County.

7.3 Hazardous Materials

The handling of hazardous materials is a daily activity in truck and train traffic that pass near or through the City. The Federal Government, under Title 49 of the Code of Federal Regulations, lists thousands of hazardous materials, ranging from radioactive waste and explosives to gasoline, insecticides, and household cleaning products.

Urban development in general introduces potential for pollution. Often, pollution found on the ground can be carried to water sources through stormwater runoff. The stormwater runoff can be expected to contain trace concentrations of nutrients, turbidity, oil and grease, and heavy metals. Some common sources of pollution include:

- leakage of petroleum products from automobiles onto roads and parking areas;
- fertilizers, herbicides and pesticides applied to lawns, golf course turf, gardens and other landscaping;

- excrement from pets and livestock;
- human waste and waste water generation;
- inappropriate disposal of house-hold and commercial chemicals;
- sediment introduced from bare ground and graded surfaces; and
- solid waste disposal.

Light industrial development is expected to involve storage and use of hazardous materials. Commercial development such as automotive repair shops will also utilize hazardous materials. Hazardous wastes are expected to be generated by some businesses.

Pollution and stormwater runoff can be hazardous to the general population as well as specific populations surrounding pollution sources.

Storage

Safe and proper storage of hazardous materials incorporates a variety of techniques, depending upon the type of material being stored. Underground storage tanks are commonly used for the storage of hazardous material, especially petroleum products. These storage devices are found most often at gas stations and business operating vehicle fleets. Leaking underground storage tanks contaminate the surrounding soil and possibly the water table. There are several gas stations operating within the City of Manteca, especially near SR 99 and SR 120. The Union Pacific Railroad facilities are another potential location of hazardous materials storage.

Transportation

Hazardous materials are routinely transported by truck over state and federal highways as well as local roads (e.g., gasoline tankers). The California Vehicle Code Section 31303 requires that hazardous materials be transported via routes with the least overall travel time and prohibits the transportation of hazardous materials through residential neighborhoods.

The Union Pacific Railroad through the City must be considered a possible source of hazardous material spills. In the event of a derailling or other railroad accident, the residents could be exposed to any hazardous materials being transported by the railroad.

Disposal

Hazardous material, used in many household products (e.g., drain cleaners, waste oil, cleaning fluids, insecticides, and car batteries) are often improperly disposed of as a part of normal household trash. Furthermore, there is risk to the community from exposure or explosion caused by adding hazardous waste to landfills that are not equipped to handle those materials.

Emergency Response

Response to a hazardous waste spill varies according to the circumstances under which it is released. Union Pacific Railroad has primary responsibility for hazardous materials spill on its premises. Hazardous materials spills on the state and federal highways are the responsibility of Caltrans and the California Highway Patrol (CHP), providing on-scene management of the spill site and coordinating with the Environmental Health Department, Office of Emergency Services, and the local fire department. Primary responsibility for handling of hazardous materials spills within the City is the Manteca Fire Department.

Goal S-6. The City shall protect the health, safety, natural resources, and property through regulation of use, storage, transport, and disposal of hazardous materials.

Policies: Hazardous Materials Safety

S-P-16. The City shall maintain an awareness of hazardous materials throughout the Manteca region.

- S-P-17. City approvals of all new development shall consider the potential for the production, use, storage, and transport of hazardous materials and provide for reasonable controls on such hazardous materials.
- S-P-18. Within its authority, the City shall regulate the production, use, storage, and transport of hazardous materials to protect the health of Manteca residents.

Implementation : Hazardous Materials Safety

- S-I-10. The City shall require businesses that manufacture, store, use, or transport significant quantities of hazardous materials to identify annually such materials and their quantities.
- S-I-11. The City shall require the submittal of lists of hazardous materials used in existing and proposed industrial and commercial businesses within the City of Manteca. The list shall be maintained through the Manteca Fire Department and updated through periodic review.
- S-I-12. The City shall work with San Joaquin County and other public agencies to inform consumers about household use and disposal of hazardous materials.
- S-I-13. Cooperate fully with Union Pacific Railroad and other agencies, such as the CHP, in the event of a hazardous material emergency.
- S-I-14. Continue the City hazardous waste pick-up program for household hazardous materials.

7.4 Emergency Procedures

This section refers to emergency procedures required for rescue operations, medical assistance, fire fighting, and evacuation of residents, visitors, and personnel during a natural or man-made disaster within the City.

Goal S-7. Ensure that City emergency procedures are adequate in the event of potential natural or man-made disasters.

Policies: Emergency Procedures

S-P-19. The City shall maintain and periodically update the City's Emergency Plan.

Implementation Policies: Emergency Procedures

S-I-15. The City shall conduct periodic emergency response exercises to test the effectiveness of City emergency response procedures.

S-I-16. The City shall review County and State emergency response procedures that must be coordinated with City procedures.