

## Appendix C Glossary of Terms

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| <b>100-Year Flood</b>              | The term “100-year flood” can be misleading. The 100-year flood does not necessarily occur once every 100 years. Rather, it is the flood that has a 1 percent chance of being equaled or exceeded in any given year. Thus, the 100-year flood could occur more than once in a relatively short period of time. The Federal Emergency Management Agency (FEMA) defines it as the 1 percent annual chance flood, which is now the standard definition used by most federal and state agencies and by the National Flood Insurance Program (NFIP). |
| <b>Acre-Foot</b>                   | An acre-foot is the amount of water it takes to cover 1 acre to a depth of 1 foot. This measure is used to describe the quantity of storage in a water reservoir. An acre-foot is a unit of volume. One acre-foot equals 7,758 barrels; 325,829 gallons; or 43,560 cubic feet. An average household of four will use approximately 1 acre-foot of water per year.   |
| <b>Action</b>                      | Program, project, or specific act taken to promote goal, in this case the goal of hazard mitigation.  |
| <b>Asset</b>                       | An asset is any human-made or natural feature that has value, including, but not limited to, people; buildings; infrastructure, such as bridges, roads, sewers, and water systems; lifelines, such as electricity and communication resources; and environmental, cultural, or recreational features such as parks, wetlands, and landmarks.  |
| <b>Base Flood Elevation (BFE):</b> | The BFE is the water surface elevation of a 100-year flood event (a flood that has a 1 percent chance of occurring in any given year as defined by the NFIP). The base flood is a statistical concept used to ensure that all properties subject to NFIP are protected to the same degree against flooding.   |
| <b>Basin:</b>                      | A basin is the area within which all surface water – whether from rainfall, snowmelt, springs, or other sources – flows to a single water body or watercourse. The boundary of a river basin is defined by natural topography, such as hills, mountains, and ridges. Basins are also referred to as “watersheds” and “drainage basins.”   |
| <b>Benefit:</b>                    | A benefit is a net project outcome and is usually defined in monetary terms. Benefits may include direct and indirect effects. For the purposes of benefit-cost analysis of proposed mitigation measures, benefits are limited to specific, measurable, risk reduction factors, including reduction in expected property losses (buildings, contents, and functions) and protection of human life.  |
| <b>Benefit/Cost Analysis</b>       | A benefit/cost analysis is a systematic, quantitative method of comparing projected benefits to projected costs of a project or policy. It is used as a measure of cost effectiveness.  |
| <b>Building:</b>                   | A building is defined as a structure that is walled and roofed, principally above the ground, and permanently fixed to a site. The term includes manufactured homes on permanent foundations on which the wheels and axles carry no weight.   |

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| <b>Capability Assessment</b>                 | A capability assessment provides a description and analysis of a community’s current capacity to address threats associated with hazards. The assessment includes two components: an inventory of an agency’s mission, programs, and policies, and an analysis of its capacity to carry them out. A capability assessment is an integral part of the planning process in which a community’s actions to reduce losses are identified, reviewed, and analyzed, and the framework for implementation is identified.  |
| <b>Community Rating System (CRS)</b>         | The CRS is a voluntary program under the NFIP that rewards participating communities (provides incentives) for exceeding the minimum requirements of the NFIP and completing activities that reduce flood hazard risk by providing flood insurance premium discounts.  |
| <b>Critical Facility</b>                     | A critical facility is vital to the City’s ability to provide essential services and protect life and property. Loss of a critical facility would result in a severe economic or catastrophic impact; Police stations, fire stations, vehicle and equipment storage facilities, and emergency operations centers needed for disaster response before, during, and after hazard events; Public and private utilities and infrastructure vital to maintaining or restoring normal services to areas damaged by hazard events; Hospitals, nursing homes, and housing likely to contain occupants who may not be sufficiently mobile to avoid death or injury during a hazard event. |
| <b>Dam</b>                                   | A dam is any artificial barrier or controlling mechanism that can or does impound 10 acre-feet or more of water.   |
| <b>Dam Failure</b>                           | Dam failure refers to a partial or complete breach in a dam (or levee) that impacts its integrity. Dam failures occur for a number of reasons, such as flash flooding, inadequate spillway size, mechanical failure of valves or other equipment, earthquakes, and intentional destruction.  |
| <b>Debris</b>                                | Debris refers to the scattered remains of assets broken or destroyed during the occurrence of a hazard. Debris caused by wind or water hazards can cause additional damage to other assets.  |
| <b>Depth of Flooding (DOF)</b>               | The DOF is the difference between regulatory flood elevation (RFE) and the elevation of the lowest grade adjacent to a structure.  |
| <b>Disaster Mitigation Act of 2000 (DMA)</b> | The DMA is Public Law 106-390 and is the latest federal legislation enacted to encourage and promote proactive, pre-disaster planning as a condition of receiving financial assistance under the Robert T. Stafford Act. The DMA emphasizes planning for disasters before they occur. Under the DMA, a pre-disaster hazard mitigation program, and new requirements for the national post-disaster hazard mitigation grant program (HMGP) were established.  |
| <b>Drought</b>                               | Drought is a period of time without substantial rainfall from one year to the next. Drought can also be defined as the cumulative impacts of several dry years or a deficiency of precipitation over an extended period of time, which in turn results in water shortages. A hydrological drought is caused by deficiencies in surface and subsurface water supplies. A socioeconomic drought impacts the health, well-being, and quality of life or starts to have an adverse impact on a region. Drought is a normal, recurrent feature of climate and occurs almost everywhere.   |

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| <b>Duration</b>                                   | Duration is defined as the length of time that a hazard occurs. For example, the duration of a tornado can be minutes, but release of a chemical warfare agent such as mustard gas can persist for hours or weeks if unremediated.   |
| <b>Earthquake</b>                                 | An earthquake is defined as a sudden slip on a fault, volcanic or magmatic activity, and sudden stress changes in the earth that result in ground shaking and radiated seismic energy. Earthquakes can last from a few seconds to over 5 minutes and have been known to occur as a series of tremors over a period of several days. The actual movement of the ground in an earthquake is seldom the direct cause of injury or death. Casualties may result from falling objects and debris as shocks shake, damage, or demolish buildings and other structures. |
| <b>Exposure</b>                                   | Exposure is defined as the number and dollar value of assets considered to be at risk during the occurrence of a specific hazard.  |
| <b>Extent:</b>                                    | The extent is the size of an area affected by a hazard.  |
| <b>Federal Emergency Management Agency (FEMA)</b> | An independent agency (now part of the Department of Homeland Security) created in 1978 to provide a single point of accountability for all federal activities related to disaster mitigation and emergency preparedness, response, and recovery.  |
| <b>Fire Behavior</b>                              | Fire behavior refers to the physical characteristics of a fire and is a function of the interaction between the fuel characteristics (such as type of vegetation and structures that could burn), topography, and weather. Variables that affect fire behavior include the rate of spread, intensity, fuel consumption, and fire type (such as underbrush versus crown fire).  |
| <b>Flash Flood</b>                                | A flash flood occurs with little or no warning when water levels rise at an extremely fast rate.   |
| <b>Flooding</b>                                   | Flooding is a general and temporary condition of rising and overflowing water resulting in partial or complete inundation of normally dry land areas. Floods result from: (1) the overflow of inland or tidal waters, (2) the unusual and rapid accumulation of runoff of surface water from any source, and (3) mudflows or the sudden collapse of shoreline land.  |
| <b>Flood Depth</b>                                | Flood depth is the height of the floodwater surface above the ground surface.  |
| <b>Flood Elevation</b>                            | Flood elevation is the height of water surface above an established datum (for example, the National Geodetic Vertical Datum of 1929 [NGVD], North American Vertical Datum of 1988, or mean sea level).  |
| <b>Flood Insurance Rate Map (FIRM)</b>            | FIRM is the official map of a community for which FEMA has delineated the special flood hazard area (SFHA) and the risk premium zones applicable to the community.   |
| <b>Flood Insurance Study</b>                      | A flood insurance study is published for a community by the Federal Insurance and Mitigation Administration in conjunction with the community's FIRM. The study contains background data such as base flood discharges and water surface elevations that were used to prepare the study.   |
| <b>Floodplain</b>                                 | A floodplain is any land area that becomes inundated with water during a flood or from any other source. Floodplain can be defined in different ways but is commonly defined as the area that is also called the 100-year floodplain.  |

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| <b>Floodway</b>                               | A floodway is an area within a floodplain reserved for the purpose of conveying flood discharge without increasing the BFE by more than 1 foot. Generally speaking, no development is allowed in floodways because any structures there would block the flow of floodwater.  |
| <b>Frequency</b>                              | For the purposes of this plan, frequency refers to how often a hazard of specific magnitude, duration, and/or extent is expected to occur on average. Statistically, a hazard with a 100-year frequency is expected to occur about once every 100 years on average and has a 1 percent chance of occurring any given year. Frequency reliability varies depending on the type of hazard considered.  |
| <b>General Plan</b>                           | California state law requires that every county and city prepare and adopt a comprehensive long-range plan to serve as a guide for community development. The plan must consist of an integrated and internally consistent set of goals, policies, and implementation measures. In addition, the plan must focus on issues of the greatest concern to the community and be written in a clear and concise manner. County actions, such as those relating to land-use allocation, annexations, zoning, subdivision and design review, redevelopment, and capital improvements, must be consistent with such a plan. |
| <b>Goal</b>                                   | A goal is a general guideline that explains what is to be achieved. Goals are usually broad-based, long-term, policy-type statements and represent global visions. Goals help define the benefits that a plan is trying to achieve. The success of the RHMP, once implemented, should be measured by the degree to which its goals have been met (that is, by the actual benefits in terms of actual hazard mitigation).   |
| <b>GIS</b>                                    | GIS is a computer software application that relates data regarding physical and other features on the earth to a database for mapping and analysis.  |
| <b>Hazard</b>                                 | A hazard is a source of potential danger or adverse condition that could harm people and/or cause property damage. Natural hazards include floods, tsunamis, and earthquakes. Human-made hazards include acts of terrorism and hazardous material spills.  |
| <b>Hazard Mitigation Grant Program (HMGP)</b> | Authorized under Section 202 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, the HMGP is administered by FEMA and provides grants to states, tribes, and local governments to implement hazard mitigation actions after a major disaster declaration. The purpose of the program is to reduce the loss of life and property due to disasters and to enable mitigation activities to be implemented as a community recovers from a disaster.  |
| <b>Hazard Mitigation Plan</b>                 | A hazard mitigation plan is a collaborative document that identifies hazards that could affect a community, assesses vulnerability to hazards, and represents consensus decisions reached on how to minimize or eliminate the effects of hazards.  |

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| <b>HAZUS-MH</b>           | <b>Hazards U.S. Multi-Hazard (HAZUS-MH) Loss Estimation Program</b> is a GIS-based program used to support the development of risk assessments as required under the DMA. The HAZUSMH software program assesses risk in a quantitative manner to estimate damages and losses associated with natural hazards. HAZUS-MH is FEMA’s nationally applicable, standardized methodology and software program and contains modules for estimating potential losses from earthquakes, floods, and wind hazards.   |
| <b>Hydraulics</b>         | Hydraulics is the branch of science or engineering that addresses fluids (especially water) in motion in rivers or canals, works and machinery for conducting or raising water, the use of water as a prime mover, and other fluid-related areas.  |
| <b>Hydrology</b>          | Hydrology is the analysis of waters of the earth. For example, a flood discharge estimate is developed by conducting a hydrologic study.   |
| <b>Intensity</b>          | Intensity refers to the measure of the effects of a hazard.  |
| <b>Inventory</b>          | The assets identified in a study region comprise an inventory. Inventories include assets that could be lost when a disaster occurs, and community resources are at risk. Assets include people, buildings, transportation, and other community resources.   |
| <b>Landslide</b>          | A landslide refers to the sliding movement of masses of loosened rock and soil down a hillside or slope under the force of gravity. Fundamentally, slope failure occurs when the strength of soils forming the slope is exceeded by pressure acting upon the soils (caused by factors such as weight or saturation).   |
| <b>Liquefaction</b>       | Liquefaction is the failure of soils when soils lose shear strength and flow horizontally during earthquakes. Liquefaction is most likely to occur in fine-grained sands and silts with high water content. Liquefaction undermines the ground’s ability to solidly support building structures. Foundations on liquefiable soils can lose their ability to support load and can experience settlement on the order of several inches or more. This situation is extremely hazardous and may result in extreme property damage and threats to life and safety. Differential settlement can cause significant damage to buildings, lifelines, and transportation structures with partial or total collapse. |
| <b>Magnitude</b>          | Magnitude is the measure of the strength of an earthquake, typically measured by the Richter Scale. Magnitude is most commonly measured by local magnitude (ML) used by the Richter Scale or by Mercalli Intensity. In the Richter Scale, each whole number step in the magnitude scale corresponds to the release of about 31 times more energy than the amount associated with the preceding whole number value.   |
| <b>Mitigation Actions</b> | Mitigation actions are specific actions to achieve goals and objectives that minimize the effects from a disaster and reduce the loss of life and property.  |

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| <b>NFIP</b>                              | <b>National Flood Insurance Program (NFIP):</b> In 1968, Congress created the NFIP in response to the rising cost of taxpayer-funded disaster relief for flood victims and the increasing amount of damage caused by floods. The Mitigation Division is the FEMA section that manages the NFIP and oversees the floodplain management and mapping components of the program. Nearly 20,000 communities across the United States and its territories participate in NFIP by adopting and enforcing floodplain management ordinances to reduce future flood damage. In exchange, NFIP makes federally backed flood insurance available to homeowners, renters, and business owners in these communities. |
| <b>Objective</b>                         | An objective is defined as a short-term aim that, when combined with other objectives, forms a strategy or course of action to meet a goal. Unlike goals, objectives are specific and measurable.  |
| <b>Peak Ground Acceleration</b>          | Peak ground acceleration is a measure of the highest amplitude of ground shaking that accompanies an earthquake based on a percentage of the force of gravity.   |
| <b>Preparedness</b>                      | Preparedness refers to actions that strengthen the capability of government, citizens, and communities to respond to disasters.  |
| <b>Presidential Disaster Declaration</b> | These declarations are typically made for events that cause more damage than state and local governments and resources can handle without federal government assistance. Generally, no specific dollar loss threshold has been established for such declarations. A Presidential Disaster Declaration puts into motion long-term federal recovery programs, some of which are matched by state programs, designed to help disaster victims, businesses, and public entities.   |
| <b>Probability of Occurrence</b>         | The probability of occurrence is a statistical measure or estimate of the likelihood that a hazard will occur. This probability is generally based on past hazard events in the area and a forecast of events that could occur in the future. A probability factor based on yearly values of occurrence is used to estimate probability of occurrence.   |
| <b>Recovery</b>                          | Recovery refers to actions taken by an individual or community after a catastrophic event to restore order and community lifelines.  |
| <b>Repetitive Loss Property</b>          | A repetitive loss property is any NFIP-insured property that, since 1978 and regardless of any change(s) of ownership during that period, has experienced any of the following: <ul style="list-style-type: none"> <li>• Four or more paid flood losses exceeding \$1,000 each</li> <li>• Two paid flood losses exceeding \$1,000 each within any 10-year period since 1978</li> <li>• Three or more paid losses that equal or exceed the current value of the insured property</li> </ul>   |

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| <b>Risk</b>            | Risk is the estimated impact that a hazard would have on people, services, facilities, and structures in a community. Risk measures the likelihood of a hazard occurring and resulting in an adverse condition that causes injury or damage. Risk is often expressed in relative terms such as a high, moderate, or low likelihood of sustaining damage above a particular threshold due to occurrence of a specific type of hazard. Risk also can be expressed in terms of potential monetary losses associated with the intensity of the hazard.                            |
| <b>Risk Assessment</b> | Risk assessment is the process of measuring potential loss of life, personal injury, economic injury, and property damage resulting from hazards. This process assesses the vulnerability of people, buildings, and infrastructure to hazards and focuses on <ol style="list-style-type: none"> <li>1. hazard identification;</li> <li>2. impacts of hazards on physical, social, and economic assets;</li> <li>3. vulnerability identification; and</li> <li>4. estimates of the cost of damage or costs that could be avoided through mitigation.</li> </ol>                |
| <b>Risk Ranking</b>    | This ranking serves two purposes, first to describe the probability that a hazard will occur, and second to describe the impact a hazard will have on the people, property, and economy of Santa Cruz. Risk estimates for the City are based on the methodology that the City used to prepare the risk assessment for this plan. The following equation shows the risk ranking calculation:<br><b>Risk Ranking = Probability + Impact (people + property + economy)</b>   |
| <b>Riverine</b>        | Riverine refers to anything of or produced by a river. Riverine floodplains have readily identifiable channels. Floodway maps can only be prepared for riverine floodplains.  |
| <b>Stafford Act</b>    | The Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 100-107, was signed into law on November 23, 1988. This law amended the Disaster Relief Act of 1974, Public Law 93-288. The Stafford Act is the statutory authority for most federal disaster response activities, especially as they pertain to FEMA and its programs.   |
| <b>Tornado</b>         | A tornado is a violently rotating column of air extending between and in contact with a cloud and the surface of the earth. Tornadoes are often (but not always) visible as funnel clouds. Tornadoes are the most intense of all atmospheric circulations. Winds can reach speeds of more than 300 mph. A tornado's vortex is typically a few hundred meters in diameter, and damage paths can be up to 1 mile wide and 50 miles long.  |
| <b>Vulnerability</b>   | Vulnerability describes how exposed or susceptible an asset is to damage. Vulnerability depends on an asset's construction, contents, and the economic value of its functions. Like indirect damages, the vulnerability of one element of the community is often related to the vulnerability of another. For example, many businesses depend on uninterrupted electrical power. Flooding of an electric substation would affect not only the substation itself but businesses as well. Often, indirect effects can be much more widespread and damaging than direct effects. |

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| <b>Watershed</b>                 | A watershed is an area that drains down gradient from areas of higher land to areas of lower land to the lowest point, a common drainage basin.  |
| <b>Wildfire or Wildland Fire</b> | These terms refer to any uncontrolled fire occurring on undeveloped land that requires fire suppression. The potential for wildfire is influenced by three factors: the presence of fuel, topography, and air mass. Fuel can include living and dead vegetation on the ground, along the surface as brush and small trees, and in the air such as tree canopies. Topography includes both slope and elevation. Air mass includes temperature, relative humidity, wind speed and direction, cloud cover, precipitation amount, duration, and the stability of the atmosphere at the time of the fire. Wildfires can be ignited by lightning and, most frequently, by human activity including smoking, campfires, equipment use, and arson. |
| <b>Windstorm</b>                 | Windstorms are generally short-duration events involving straight-line winds or gusts exceeding 50 mph. These gusts can produce winds of sufficient strength to cause property damage.   |
| <b>Zoning Ordinance</b>          | The zoning ordinance designates allowable land use and intensities for the City. Zoning ordinances consist of two components: a zoning text and a zoning map.  |