SECTION 7

HEALTH AND SAFETY

This section contains goals, policies, and programs intended to protect Eureka residents, businesses, and visitors from the harmful effects of natural and man-made hazards. This information is organized under the following topics, each of which relates to specific conditions and concerns relevant to Eureka.

- Seismic Hazards
- Geological Hazards
- Fire Safety
- Flooding
- Hazardous Materials and Toxic Contamination
- Emergency Response
- Residential Noise Exposure
- Noise Compatibility

SEISMIC HAZARDS

Goal 7.A: To minimize loss of life, injury, and property damage due to seismic hazards.

Policies

7.A.1. For all development in areas subject to seismic hazards (i.e., fault rupture, amplified seismic shaking, slope failure, subsidence, settlement, or other similar effects) which is otherwise consistent with the policies of this General Plan, the City shall, prior to project approval, require a geological report prepared by a registered geologist, a certified engineering geologist, or a registered engineer with expertise in seismic engineering. The report shall consider, describe, and analyze the following:

a. Geologic conditions, including soil, sediment, and rock types and characteristics, in addition to structural features such as bedding, joints, and faults;
b. Evidence of past or potential liquefaction conditions, or other types of ground failure, related to seismic shaking;
c. Potential effects on the site because of fault rupture; and
d. Any other information that might affect the proposed development, such as the information called for in Division of Mines and Geology Notes 44 and 49.

The report shall recommend mitigation measures for any potential impacts and shall outline alternative solutions. The report shall express a professional opinion as to whether the project can be designed so that it will neither be subject to nor contribute to significant geological instability throughout the life span of the project.

7.A.2. The City shall work with Humboldt County to develop an emergency preparedness program so Eureka Area residents and visitors are not endangered by tsunami runup and inundation.

7.A.3. The City shall require that new structures intended for human occupancy be designed and constructed to minimize risk to the safety of occupants.

7.A.4. The City shall develop mechanisms to encourage and assist in the seismic retrofitting of buildings susceptible to damage during seismic events and to conduct the necessary work in a manner that is financially feasible to property owners and that can be conducted with minimum disruption to tenants. In particular, the City should consider the retrofit needs of the following types of structures:

a. Unreinforced masonry buildings (URMs)
b. Pre-1940 wood frame houses
c. Tilt-up buildings
d. Pre-mid 1970s concrete frame buildings
e. Mobilehomes

7.A.5. The City should seek to give special structural consideration and flexibility to officially identified historically- and architecturally- significant structures.

7.A.6. The City shall require that all new parapets, signs, and other building ornamentation are constructed to withstand seismic shaking.

7.A.7. The City shall ensure that all unreinforced masonry buildings that are used for public purposes are modified to be earthquake safe, or if such a modification is not feasible, public use of the buildings be terminated.

7.A.8. The City shall work with Humboldt County and appropriate state and federal agencies to identify major emergency transportation corridors for use during seismic emergencies. In doing so, the City should ensure safe access routes to communication centers, hospitals, airports, staging areas, and fuel storage sites.

7.A.9. The City shall identify provisions for water supply and delivery and wastewater treatment and disposal in cases where services are interrupted as a result of damage caused by seismic activity.

7.A.10. The City shall identify alternative sources of energy (i.e., electricity, natural gas) for use in cases where energy supplies are interrupted as a result of damage caused by seismic activity.

GEOLOGICAL HAZARDS

Goal 7.B: To minimize loss of life, injury, and property damage due to geological hazards.

Policies

7.B.1. The City shall ensure new development is sited and designed consistent with limitations imposed by geologic hazards.

7.B.2. The City shall ensure that development on or near the shoreline of Elk River, Humboldt Bay, and Eureka Slough neither contributes significantly to, nor is subject to, high risk of damage from shoreline erosion over the life span of the development.

7.B.3. Within the Coastal Zone the City shall prohibit alteration of cliffs, bluff tops, and gulch faces or bases by excavation or other means except to protect existing structures. Permitted development shall not require the construction of protective devices that would substantially alter natural landforms.

7.B.4. For all high density residential and other high occupancy development located in areas of significant liquefaction potential, the City shall, at the time project application, require a geology and soils report prepared by a registered geologist, professional civil engineer with expertise in soil mechanics

or foundation engineering, or by a certified engineering geologist, and shall consider, describe, and analyze the following:

a. Geologic conditions, including soil, sediment, and rock types and characteristics in addition to structural features, such as bedding, joint and faults;
b. Evidence of past or potential liquefaction conditions, and the implications of such conditions for the proposed development;
c. Potential effects of seismic forces resulting from a maximum credible earthquake;
d. Any other factors that might affect the development.

The report shall also detail mitigation measures for any potential impacts and outline alternative solutions. The report shall express a professional opinion as to whether the project can be designed so that it will neither be subject to nor contribute to significant geologic instability throughout the life-span of the project.

7.B.5. For all development proposed within areas subject to significant shoreline erosion, and which is otherwise consistent with the policies of this General Plan, the City shall, prior to project approval, require a geology and soils report prepared by a registered geologist, professional civil engineer with expertise in soil mechanics or foundation engineering, or by a certified engineering geologist, and shall consider, describe, and analyze the following:

a. Site topography, extending the surveying work beyond the site as needed to depict unusual conditions that might affect the site;
b. Historic, current and foreseeable shoreline erosion, including investigation of recorded land surveys and tax assessment records in addition to the use of historic maps and photographs where available and possible changes in shore configuration and sand transport;
c. Geologic conditions, including soil, sediment and rock types and characteristics in addition to structural features, such as bedding, joint and faults;
d. Impact of construction activity on the stability of the site adjacent area;
e. Potential erodibility of site and mitigating measures to be used to ensure minimized erosion problems during and after construction;
f. Effects of marine erosion on shoreline areas;
g. Potential effects of seismic forces resulting from a maximum credible earthquake;
h. Any other factors that might affect slope stability.

The report shall evaluate the off-site impacts of development and the additional impacts that might occur due to the proposed development. The report shall also detail mitigation measures for any potential impacts and outline alternative solutions. The report shall express a professional opinion as to whether the project can be designed so that it will neither be subject to nor contribute to significant onsite or offsite geologic instability throughout the life-span of the project.

FIRE SAFETY

Goal 7.C: To minimize the risk of loss of life, injury, and damage to property and watershed resources resulting from unwanted fires.

Policies

7.C.1. The City shall strengthen the ongoing fire safety review process in an effort to increase the safety of all structures from fires.

7.C.2. The City shall locate and maintain fire stations according to fire service area standards and maintain the water supply system to provide the required water flow for fire fighting purposes.

FLOODING

Goal 7.D: To minimize the risk of loss of life, injury, damage to property, and economic and social dislocations resulting from flood hazards.

Policies

7.D.1. The City shall prohibit high density residential and other high occupancy development, including new hospitals, schools, residential development with a gross density of 8 units per acre or more, office buildings 10,000 square feet in size or larger, or visitor-serving structural developments 5,000 square feet in size or larger, from locating in flood hazard areas, as designated on the Federal Emergency Management Agency Flood Insurance Rate Maps (FIRM), dated June 1, 1982, unless they are constructed with a finished foundation that extends above the 100-year flood level and meet all applicable drainage policies of this General Plan. Other development in flood hazard areas shall incorporate mitigation measures that minimize the potential for flood damage, including development siting and use of flood proofing techniques and materials, consistent with other land use plan policies.

HAZARDOUS MATERIALS AND TOXIC CONTAMINATION

Goal 7.E: To minimize the risk of loss of life, injury, serious illness, damage to property, and economic and social dislocations resulting from the past or future use, transport, treatment, and disposal of hazardous materials and hazardous materials wastes.

Policies

7.E.1. The City shall ensure that the use and disposal of hazardous materials in the Eureka area complies with local, state, and federal safety standards.

7.E.2. The City shall discourage the development of residences or schools near known hazardous waste disposal or handling facilities. Conversely, the city shall discourage the development of hazardous waste disposal or handling facilities near residences or schools.

7.E.3. The City shall require secondary containment and periodic examination for all storage of toxic materials.

7.E.4. The City shall ensure that industrial facilities are constructed and operated in accordance with current safety and environmental protection standards.

7.E.5. The City shall require that new industries that store and process hazardous materials provide a buffer zone between the installation and the property boundaries sufficient to protect public safety. The adequacy of the buffer zone shall be determined by the City.

7.E.6. The City shall require that applications for discretionary development projects that will generate hazardous wastes or utilize hazardous materials include detailed information on hazardous waste reduction, recycling, and storage.

7.E.7. The City shall require that any business that handles a hazardous material prepare a plan for emergency response to a release or threatened release of a hazardous material.

7.E.8. The City shall encourage the State Department of Health Services and the California Highway Patrol to review permits for radioactive materials on a regular basis and to promulgate and enforce public safety standards for the use of these materials, including the placarding of transport vehicles.

7.E.9. The City shall identify sites that are inappropriate for hazardous material storage, maintenance, use, and disposal facilities due to potential impacts on adjacent land uses and the surrounding natural environment.

7.E.10. The City shall work with local fire protection and other agencies to ensure an adequate countywide response capability to hazardous materials emergencies.

7.E.11. The City shall work with owners of property affected by toxic contamination to identify cost-effective approaches to remediation of contaminated soils. In particular, the City shall focus its efforts on developing unified strategies to addressing cleanup of large areas (e.g., the Westside Industrial Area, the waterfront area) so as to reduce the unit cost of remediation.

7.E.12. The City shall work with the Regional Water Quality Control Board and Humboldt County to identify and mitigate groundwater contamination caused by past disposal of toxic materials along the waterfront and in industrial areas.

EMERGENCY RESPONSE

Goal 7.F: To ensure the maintenance of an Emergency Management Program to effectively prepare for, respond to, recover from, and mitigate the effects of natural or technological disasters.

Policies

7.F.1. The City shall systematically and regularly review all accident contingency plans which relate to Eureka.

7.F.2. The City shall work with Caltrans and Humboldt County to identify a less congested route through Eureka to be used for the transportation of heavy, as well as hazardous materials.

7.F.3. The City shall attempt to ensure that major access corridors be available and unobstructed in case of major emergency or disaster.

7.F.4. The City shall cooperate with the Humboldt County, State Office of Emergency Services, and the Federal Emergency Management Agency in developing and operating a coordinated emergency response program that best utilizes the resources of each agency in assisting citizens and visitors in coping with and responding to a major emergency or disaster.

RESIDENTIAL NOISE EXPOSURE

Goal 7.G: To protect Eureka residents from the harmful and annoying effects of exposure to excessive noise.

Policies

7.G.1. The City shall prohibit new development of noise-sensitive uses where the noise level due to non-transportation noise sources will exceed the noise level standards of Table 7-1 as measured immediately within the property line of the new development, unless effective noise mitigation

measures have been incorporated into the development design to achieve the standards specified in Table 7-1.

7.G.2. The City shall require that noise created by new proposed non-transportation sources be mitigated so as not to exceed the noise level standards of Table 7-1 as measured immediately within the property line of lands designated for noise-sensitive uses, as listed in Table 7-1.

TABLE 7-1

NOISE LEVEL PERFORMANCE STANDARDS
New Projects Affected by or Including Non-transportation Sources

Noise Level Descriptor	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly L_{eq}, dB	50	45
Maximum level, dB	70	65

Each of the noise levels specified above shall be lowered by five dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

7.G.3. The City shall not subject existing dwellings and new single-family dwellings to the standards presented in Table 7-1. As a consequence, such dwellings may be constructed in areas where noise levels exceed these standards and it shall not be the responsibility of the City to ensure that such dwellings meet these standards or the noise standards imposed by lending agencies such as HUD, FHA and Cal Vet. If homes are located and constructed in accordance with the policies of this section, it is expected that the resulting exterior and interior noise levels will conform to the HUD/FHA/Cal Vet noise standards.

For the purposes of compliance with the provisions of this section, the City defines transportation noise sources as traffic on public roadways, railroad line operations, and aircraft in flight. Control of noise from these sources is preempted by federal and state regulations. Other noise sources are presumed to be subject to local regulations, such as a noise control ordinance. Non-transportation noise sources may include industrial operations, outdoor recreation facilities, HVAC units, and loading docks.

7.G.4. Where proposed non-residential land uses are likely to produce noise levels exceeding the performance standards of Table 7-1 at existing or planned noise-sensitive uses, the City shall require an acoustical analysis as part of the environmental review process so that noise mitigation may be included in the project design. The acoustical analysis shall meet the following requirements:

a. It shall be the financial responsibility of the applicant.
b. It shall be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics.
c. It shall include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions and the predominant noise sources.
d. It shall include estimates of existing and projected cumulative (20 years) noise levels in terms of L_{dn} or CNEL and/or the standards of Table 7-1, and compare those levels to the policies of this General Plan
e. It shall recommend appropriate mitigation to achieve compliance with the policies and standards of this General Plan, giving preference to proper site planning and design over mitigation measures which require the construction of noise barriers or structural modifications to buildings which contain noise-sensitive land uses. Where the noise source in question

consists of intermittent single events, the report must address the effects of maximum noise levels in sleeping rooms in terms of possible sleep disturbance.

f. It shall include estimates of noise exposure after the prescribed mitigation measures have been implemented.

g. It shall describe a post-project assessment program which could be used to evaluate the effectiveness of the proposed mitigation measures.

7.G.5. The City shall evaluate the general feasibility of proposed projects with respect to existing and future transportation noise levels shown in Figure 7-1.

7.G.6. The City shall prohibit new development of noise-sensitive land uses in areas exposed to existing or projected levels of noise from transportation noise sources which exceed the levels specified in Table 7-2, unless the project design includes effective mitigation measures to reduce exterior noise and noise levels in interior spaces to the levels specified in Table 7-2.

7.G.7. The City shall ensure that noise created by new transportation noise sources is mitigated so as not to exceed the levels specified in Table 7-2 at outdoor activity areas or interior spaces of existing noise-sensitive land uses.

7.G.8. New roadway improvement projects may be needed to accommodate development permitted according to the Land Use Diagram. As a result, existing noise-sensitive uses may be exposed to increased noise levels due to increased roadway capacity and increases in travel speeds, making it impractical to achieve the noise level standards contained Table 7-2. As an alternative to the standards in Table 7-2, the City will apply the following criteria to determine the significance of increases in noise related to improvement projects:

a. Where existing traffic noise levels are less than 60 dB L_{dn} at the outdoor activity areas of noise-sensitive uses, a +5 dB L_{dn} increase in noise levels due to a roadway improvement project will be considered significant; and

b. Where existing traffic noise levels range between 60 and 65 dB L_{dn} at the outdoor activity areas of noise-sensitive uses, a +3 dB L_{dn} increase in noise levels due to a roadway improvement project will be considered significant; and

c. Where existing traffic noise levels are greater than 65 dB L_{dn} at the outdoor activity areas of noise-sensitive uses, a + 1.5 dB L_{dn} increase in noise levels due to a roadway improvement project will be considered significant.

TABLE 7-2

MAXIMUM ALLOWABLE NOISE EXPOSURE
Transportation Noise Sources

Land Use	Outdoor Activity Areas[1] L_{dn}/CNEL, dB	Interior Spaces	
		L_{dn}/CNEL,dB	L_{eq}, dB[2]
Residential	60[3]	45	--
Transient Lodging	60[3]	45	--
Hospitals, Nursing Homes	60[3]	45	--
Theaters, Auditoriums, Music Halls	--	--	35
Churches, Meeting Halls	60[3]	--	40
Office Buildings	--	--	45
Schools, Libraries, Museums	--	--	45
Playgrounds, Neighborhood Parks	70	--	--

[1] Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use. For residential uses with front yards facing the identified noise source, an exterior noise level criterion of 65 dB L_{dn} shall be applied at the building facade, in addition to a 60 dB L_{dn} criterion at the outdoor activity area.
[2] As determined for a typical worst-case hour during periods of use.
[3] Where it is not feasible to reduce noise in outdoor activity areas to 60 dB L_{dn}/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB L_{dn}/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

NOISE COMPATIBILITY

Goal 7.H: To protect the economic base of the city by preventing incompatible land uses from encroaching upon existing or planned noise-producing uses.

Policies

7.H.1. Where noise-sensitive land uses are proposed in areas exposed to existing or projected exterior noise levels exceeding the levels specified in Table 7-2 or the performance standards of Table 7-1, an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design.

7.H.2. Where noise mitigation measures are required to achieve the standards of Tables 7-1 and 7-2, the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered a means of achieving the noise standards only after all other practical design-related noise mitigation measures have been integrated into the project.

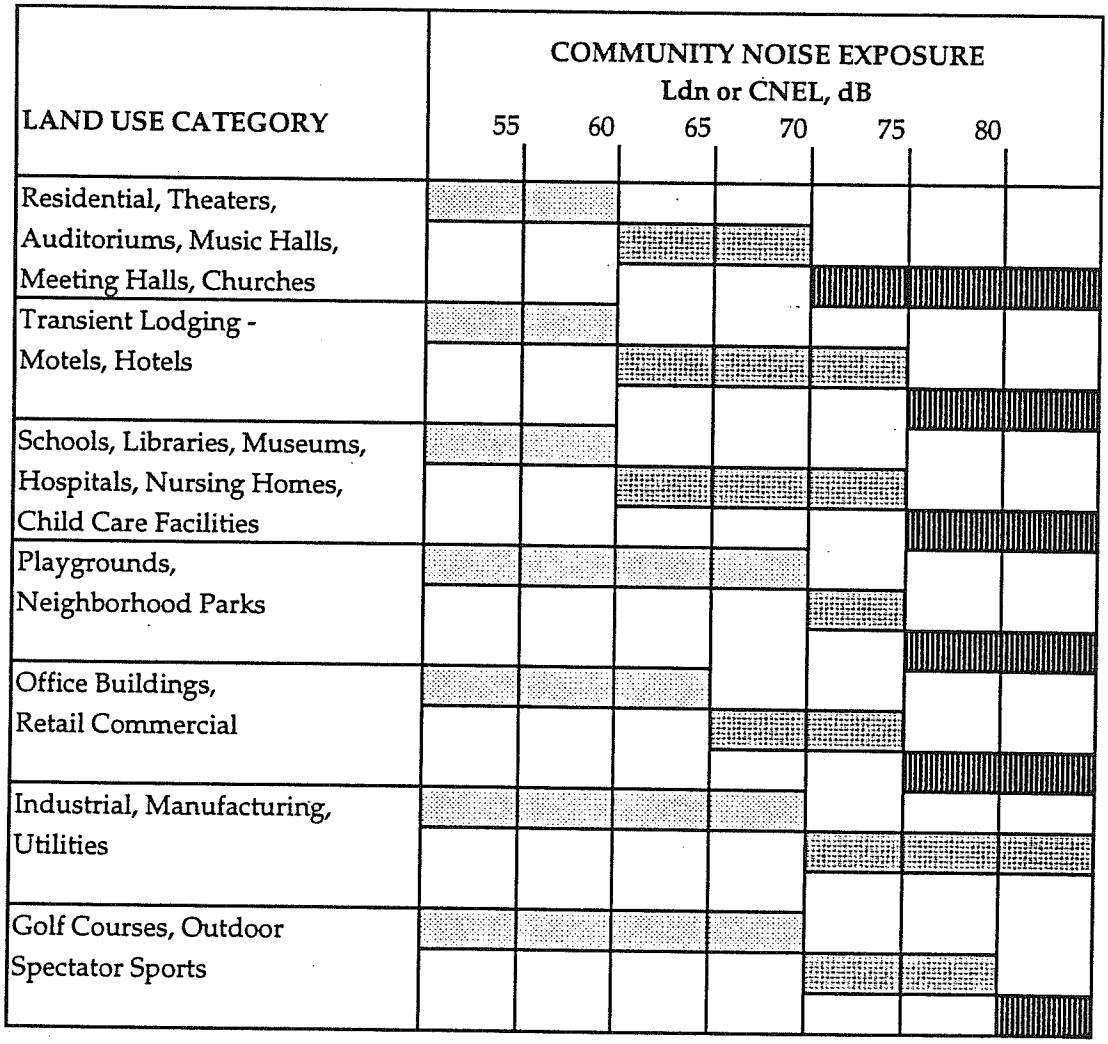
IMPLEMENTATION PROGRAMS

7.1. In cooperation with the state and county offices of emergency services, the City shall prepare and adopt a plan for post-earthquake recovery and rebuilding, including tsunami response.

Responsibility: City Council
Fire Department
Engineering Department
Building Department
Community Development Department
Time Frame: FY 98-99

FIGURE 7-1

FEASIBILITY OF DEVELOPMENTS WITH RESPECT TO TRANSPORTATION NOISE



INTERPRETATION

FEASIBLE
Specified land use is satisfactory. No noise mitigation measures are required.

PROBABLY FEASIBLE
Use should be permitted only after careful study and inclusion of protective measures as needed to satisfy the policies of the General Plan.

USUALLY NOT FEASIBLE
Development is usually not feasible in accordance with the goals and policies of the noise section of the General Plan.

7.2. In cooperation with owners of property affected by toxic contamination, the Regional Water Quality Control Board, and Humboldt County, the City shall develop and implement a pilot project to identify cost-effective approaches to remediation of contaminated soils and to identify and mitigate groundwater contamination caused by past disposal of toxic materials along the waterfront and in industrial areas.

Responsibility: City Council
Engineering Department
Community Development Department
Time Frame: FY 97-98