Camp Roberts Joint Land Use Study

Please see the next page.

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Matrix DESIGN GROUP

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Figures

Tables

A

AB	California Assembly Bill
ACOE	Army Corps of Engineers
ACUB	Army Compatible Use Buffer
AG	Adjutant General
AGL	Above Ground Level
ALUC	Advisory Land Use Committee
AMP	Paso Robles Airport Master Plan

B

BAH I	Basic Allowance for Housing, Type I
BAH II	Basic Allowance for Housing, Type II
BSWA	Big Sandy Wildlife Area
BASH	Bird Air Strike Hazard
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BO	Biological Opinion
BSWA	Big Sandy Wildlife Area

C

CAA	Clean Air Act
CAARNG	California Army National Guard
Cal EMA	California Emergency Management Agency
Cal EPA	California Environmental Protection Agency
CAL FIRE	Department of Forestry and Fire Management
CALTRANS	Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CIA	Central Intelligence Agency
CIF	Central Issuing Facility
CIRPAS	Center for Interdisciplinary Remotely Piloted Aircraft Studies
CLCA	California Land Conservation Act
CMLUCA	California Military Land Use Compatibility Analyst
CNEL	Community Noise Equivalent Level
CNG	California National Guard
CO	Carbon monoxide
COA	Critical Operations Area
COG	Council of Government
CRIA	Camp Roberts Influence Area
CWA	Clean Water Act
CWCG	California Wildfire Coordinating Group
CZ	Clear Zone

D

dB	Decibel
DEA	Drug Enforcement Administration
DFW	California Department of Fish & Wildlife
DOD	Department of Defense

E

EA	Environmental Assessment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
ESU	Evolutionary Significant Unit

F

FAA	Federal Aviation Administration
FBI	Federal Bureau of Investigation
FLMPA	Federal Land Management and Policy Act
FONSI	Finding of No Significant Impact
FORSCOM	US Army Forces Command
FSS	Flight Service Station
FSZ	Fire Safety Zone
ft.	foot/feet (unit of measurement)
FY	Fiscal Year

G

GIS	Geographic Information System
GMP	Paso Robles Groundwater Management Basin
GP	General Plan

H

HQ	Headquarters

I

IC	Incident Commander
ICUZ	Installation Compatible Use Zone
IENMP	Installation Environmental Noise Management Plan
INRMP	Integrated Natural Resource Management Plan
IONMP	Integrated Operational Noise Management Plan
IPMP	Integrated Pest Management Plan
IRWMP	Integrated Resource Water Management Plan

L

LU	Land Use
LUE	Land Use Element
LUO	Land Use Ordinance

M

MATES	Maneuver Area Training Equipment Site
MCL	Maximum Contaminant Level
MIA	Military Influence Area
MILCON	Military Construction
MOA	Military Operations Area
MOUT	Military Operations in Urban Terrain
MPO	Metropolitan Planning Organization
MSL	Mean Sea Level

N

NAAQS	National Ambient Air Quality Standards
NACo	National Association of Counties
NEIEN	National Environmental Information Exchange Network
NEPA	National Environmental Policy Act
NG	National Guard
NM	Nautical Miles
NGO	Nongovernmental Organization
NO2	Nitrogen Dioxide
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NSLOC	North San Luis Obispo County Habitat Conservation Program
NVG	Night Vision Goggles

O

O3	Ozone
OEA	Office of Economic Adjustment
OHP	Office of Historic Preservation
ONMP	Operational Noise Management Plan
OPR	Office of Planning and Research

P

PC	Policy Committee
PACOM	Pacific Command
PIF	Partners in Flight
PM	Particulate Matter

Q

R

RA	Restricted Area
RCS	Paso Robles Resource Capacity Study
REPI	Readiness and Environmental Protection Initiative
RMP	Resource Management Plan
RMS	Resource Management System
RTP	Regional Transportation Plan
RTS-M	Regional Training Site-Maintenance

S

SARNAM	Small Arms Range Noise Assessment Model
SATCOM	Satellite Communications Command
SB	California Senate Bill
SC	South County
SDZ	Surface Danger Zone
SDWA	Safe Drinking Water Act
SLO	San Luis Obispo
SLOCOG	San Luis Obispo Council of Governments
SO2	Sulfur Dioxide
SUA	Special Use Airspace

T

TC	Technical Committee
TMDL	Total Maximum Daily Load
TRADOC	US Army Training and Doctrine Command
TSC	Training Support Center

U

USAR SCH	US Air National Guard Schools
USAR TPU	Army Reserve Troop Program Units
USFWS	US Fish and Wildlife Service

W

WECF	Wind Energy Conversion Facility
WECS	Wind Energy Conservation Systems

This glossary is solely for the purposes of defining key words relevant to compatibility planning for the Camp Roberts JLUS. Contextual differences may exist between definitions of words in this document and other public documents.

A

Acre-foot – An acre-foot is the volume of one acre of surface area to a depth of one foot. It is equal to approximately 325,853 gallons.

Ambient Light – Ambient light is the general background illumination that comes from all directions and has no visible source.

Ambient Noise – The total noise associated with an existing environment (built or natural) and usually comprising sounds from many sources, both near and far, is referred to as ambient noise.

Anchor tenant – an anchor tenant is a host unit or major command on a military installation for which the installation's mission is derived.

Anti-Terrorism / Force Protection (AT/FP) – AT/FP relates to the safety of personnel, facilities, and information on an installation from outside threats.

Aqiclude – An impermeable body of rock or stratum of sediment that acts as a barrier to the flow of groundwater.

Aquifer – An aquifer is a layer of porous substrate that contains and transmits groundwater. When water can flow directly between the surface and the saturated zone of an aquifer, the aquifer is unconfined.

Attainment Area – An attainment area is a geographic area that meets the National Ambient Air Quality Standards for a criteria pollutant.

Attenuation – Attenuation is a reduction in the level of sound resulting from an object's distance from the noise source or absorption by the surrounding topography, the atmosphere, barriers, construction techniques and materials, and other factors. Sound attenuation in buildings can be achieved through the use of special construction practices that reduce the amount of noise that penetrates the windows, doors, and walls of a building. Sound attenuation measures may be incorporated during initial construction or as additional construction for existing buildings.

A-weighted Decibel (dBA) – An A-weighted decibel is a unit of measurement for noise using a logarithmic scale and measured using the A-weighted sensory network on a noise-measuring device. An increase or decrease of 10 decibels corresponds to a tenfold increase or decrease in sound energy. A doubling or halving of sound energy corresponds to a 3-dBA increase or decrease.

B

Base Flow – Base Flow is groundwater seepage into a stream channel.

Basic Allowance for Housing – The basic allowance for housing (BAH) is a United States military entitlement given to eligible military members. Eligible military members are those military personnel eligible for basic pay. The BAH is determined based on the following factors: personnel rank, geographic location, fair and market housing costs, and number of dependents.

Basic Allowance for Housing, Type II – The basic allowance for housing type II (BAH II) is the housing allowance for guardsmen and reservist components and usually is a lesser amount than the BAH. This BAH II is unlike BAH as it does not consider geographic location in the criteria. BAH II is the same rate of allowance regardless of location.

Biosolids – Biosolids are the nutrient-rich organic materials resulting from the treatment of sewage sludge (the name for the solid, semisolid or liquid untreated residue generated during the treatment of domestic sewage in a treatment facility). When treated and processed, sewage sludge becomes biosolids which can be safely recycled and applied as fertilizer to sustainably improve and maintain productive soils and stimulate plant growth.

C

Candidate Species – Species that are eligible for endangered or threatened status per the Endangered Species Act (ESA) but which are not listed due to higher priority listing activities.

Clear Zone – The Clear Zone (CZ) defines the limits of the obstruction clearance requirements in the vicinity of a runway. The CZ is an obstruction-free surface (except for features essential for aircraft operations) on the ground symmetrically centered on the extended runway centerline beginning at the end of the runway and extending outward 3,000 feet. This is the area where an accident involving an aircraft operation is most likely to occur.

Controlled Perimeter — A controlled perimeter is a physical boundary around an installation where access is controlled and sometimes monitored or inspected. Controlled perimeters can also be inside an installation's, normally fenced, boundary as are additional perimeters around more restrictive areas.

Convoy – A convoy is an assembly (3 to 10+) of military vehicles traveling to and from a military installation to conduct military training exercises.

Critical Habitat – Specific areas found to be essential to the conservation of a threatened or endangered species and which may require special considerations or protection. Under this designation, the US Fish and Wildlife Service (USFWS) must review all federal government activities within a designated critical habitat area to ensure that threatened and endangered species are protected.

Cultural Site – A cultural site is a location that has been identified as having historic significance due to its connection with historic events or design features. Cultural sites may prevent development on the camp, apply development constraints, or require special access by Native American tribal governments or other authorities.

C-Weighted Day-Night Sound Level (CDNL) – CDNL refers to a unit of measurement for short duration, high intensity sound with abrupt onset and rapid decay. It is used to evaluate impulsive noise and vibrations generated by explosive charges and large-caliber weapons, such as claymore mines and detonations.

Criteria Pollutants – The criteria pollutants are the six principle pollutants harmful to public health and the environment for which the Environmental Protection Agency has set National Ambient Air Quality Standards (NAAQS). The pollutants are: carbon monoxide (CO),

lead, nitrogen dioxide (NO2), ozone (O3), particulate matter (PM), and sulfur dioxide (SO2).

D

Day-Night Average Sound Level (DNL) – DNL represents an average sound exposure over a 24-hour period. During the nighttime period (10:00 p.m. to 7:00 a.m.), averages are artificially increased by 10 dB. This weighting reflects the added intrusiveness and the greater disturbance potential of nighttime noise events attributable to the fact that community background noise typically decreases by 10 dB at night. For National Guard activities, the DNL may be A-weighted (ADNL) when used to measure aviation noise, or C-weighted (CDNL) when used to measure large caliber weapons noise.

Decibel (dB) – A decibel is the physical unit commonly used to describe noise levels. A unit for describing the amplitude of sound, as it is heard by the human ear.

Doppler Effect – The Doppler effect is a change in the frequency with which waves (i.e., sound or light) from a given source reach an observer in motion.

Dunal – An adjective used to describe hills of sand created by the wind.

E

Effluent – Treated or untreated wastewater that flows out of a wastewater treatment plant, sewer or industrial pipe (called an outfall), generally discharged into surface waters.

Endangered Species – Plant or animal species that have a very small population and are at greater risk of becoming extinct. The presence of threatened and endangered species may require special development considerations, could halt development, and could impact the performance of military missions.

Endangered Species Act – The Endangered Species Act (ESA) provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. The lead federal agencies for implementing ESA are the U.S. Fish and Wildlife Service (FWS) and the U.S. National Oceanic and Atmospheric Administration (NOAA) Fisheries Service. The FWS maintains a worldwide list of endangered species. Species include birds, insects, fish, reptiles, mammals, crustaceans, flowers, grasses, and trees.

Eutrophication – Per the US Geological Society (USGS) website eutrophication is "The enrichment of bodies of fresh water by inorganic plant nutrients (e.g. nitrate, phosphate). It may occur naturally but can also be the result of human activity (cultural eutrophication from fertilizer runoff and sewage discharge) and is particularly evident in slow-moving rivers and shallow lakes … Increased sediment deposition can eventually raise the level of the lake or river bed, allowing land plants to colonize the edges, and eventually converting the area to dry land." http://toxics.usgs.gov/definitions/eutrophication.htm

Evolutionary Significant Unit (ESU) – An ESU is a population of organisms that is considered distinct for purposes of conservation.

Exceedance – An exceedance occurs when a measured air pollution level exceeds criteria prescribed by the Environmental Protection agency or the California Air Resources Board.

F

Flight Service Station (FSS) – An FSS is an air traffic facility that provides information and services to aircraft pilots before, during, and after flights, but unlike air traffic control, is not responsible for giving instructions or clearances or providing separation. The primary role of an FSS is to provide weather briefings and flight planning services to pilots.

Frequency Impedance – Frequency impedance is the interruption of electronic signals due to the existence of a structure or object between the source of the signal and its destination (receptor). Key issues to consider relative to frequency spectrum impedance include the construction of buildings or other facilities that block or impede the transmission of signals from antennas, satellite dishes, or other transmission / reception devices affected by line-of-sight requirements.

Frequency Interference – Frequency interference is the inability to effectively distribute or receive a particular frequency because of similar frequency competition. As the use of the frequency spectrum increases (such as the rapid increase in cellular phone technology over the last decade) and as development expands near military installations and operational areas, the potential for frequency spectrum interference increases.

Frequency Spectrum – The frequency spectrum is the entire range of electromagnetic frequencies used for communications and other transmissions, which includes communication channels used for radio, cellular phones, and television. In the performance of typical operations, the military relies on a range of frequencies for communications and support systems. Similarly, public and private users rely on a range of frequencies in the use of cellular telephones and other wireless devices used on a daily basis.

Fuel Moisture – Fuel moisture is the amount of water absorbed by fuel including any residual, ambient dew.

G

Glare – The presence of excessively bright light, such as direct or reflected sunlight, or artificial light, such as sport field and stadium lights at night. Glare reduces visibility and can completely impair vision when very intense.

Groundwater – Water held underground in the soil or in pores and crevices in rock.

H

Habitat Loss – Habitat loss is when habitat is removed or rendered functionally useless to plant or animal species dependent on the area.

Heliport Approach Surface – The approach surface begins at each end of the heliport primary surface with the same width as the primary surface, and extends outward and upward for a horizontal distance of 4,000 feet where its width is 500 feet. The slope of the approach surface is 8 to 1 for civil heliports and 10 to 1 for military heliports.

Heliport Primary Surface – The area of a heliport's primary surface coincides in size and shape with the designated take-off and landing area. This surface is a horizontal plane at the elevation of the established heliport elevation.

Hertz (Hz) – Hertz is a unit of frequency (of change in state or cycle in a sound wave, alternating current, or other cyclical waveform) of one cycle per second. A kilohertz (kHz) is a measure of frequency equivalent to 1,000 cycles per second.

Hydrostatic Pressure – Hydrostatic pressure is the pressure exerted by a fluid at equilibrium at a given point within the fluid, due to the force of gravity. Hydrostatic pressure increases in proportion to depth measured from the surface because of the increasing weight of fluid exerting downward force from above.

I

Imaginary Surface – Imaginary surfaces are the areas surrounding a heliport or runway that must be kept clear of objects that might damage an aircraft. A man-made or natural object that projects above an imaginary surface is an obstruction.

Impact Area – The impact area is an area with designated boundaries that identify the limits at which all ordnance fired from specified ranges and firing points will detonate or impact.

Impaired Waters – A water body with chronic or recurring monitored violations of the applicable water quality criteria. According to the Clean Water Act, states are required to develop lists of impaired waters and develop TMDLs for these waters (see below for definition of TMDL).

Impulse Noise – Impulse noise refers to a short burst of an acoustic energy consisting of either a single impulse or a series of impulses. The pressure time history of a single impulse includes a rapid rise to a peak pressure, followed by a somewhat slower decay of the pressure envelope to ambient pressure, both occurring within 1 second. When the intervals between impulses are less than 500 milliseconds, the noise is considered continuous, excepting short bursts of automatic weapons fire, which are considered impulse noise.

Incident Commander – An incident commander (IC) is the command lead for a fire or disaster situation. The IC will assess the situation and deploy the appropriate resources for a given incident.

Infrastructure – Infrastructure refers to public facilities and services such as sewers, water, electric, and roadways that are required to support development (existing and proposed).

Integrated Cultural Resources Management Plan (ICRMP) – The ICRMP is a five year plan maintained by military installations for compliance with all applicable laws and regulations related to cultural resources associated with the installation.

Integrated Pest Management (IPM) – IPM is a broad-based approach that integrates a range of practices to control invasive species and pests. A goal of IPM is to reduce pesticide use and reduce risks to human health and the environment.

Invasive Species – An invasive species is any particular species of plant, animal, or other organism that is non-native to the ecosystem within which it is found and whose introduction causes or is likely to cause economic or environmental harm or harm to human health.

J

K

L

Leachate – Leachate is any liquid that, in passing through matter, extracts solutes, suspended solids or any other component of the material through which it has passed.

Look Angle – A look angle is the angle between the vertical plane passing through the radar antenna and the line between the antenna and object.

M

Maximum Contaminant Level – Maximum Contaminant Levels (MCLs) are standards that are set by the United States Environmental Protection Agency (EPA) for drinking water quality. An MCL is the legal threshold limit on the amount of a substance that is allowed in public water systems under the Safe Drinking Water Act. The limit is usually expressed as a concentration in milligrams or micrograms per liter of water.

Mixing Depth – Mixing depth is the vertical distance from the ground and altitude for which dust, debris, and smoke is lifted into the air by transport winds or wind currents.

Military Operations Area (MOA) – An MOA is a type of SUA, where military operations are of a nature that justify limitations on aircraft not participating in those operations. These areas are identified on aviation charts by a defined area marked with "MOA," preceded by the MOA's name. MOA altitudes differ for each individual area and can be determined by consulting sectional chart legends. Local flight service facilities maintain current schedules and contacts for the agency controlling each MOA.

N

National Ambient Air Quality Standards – The National Ambient Air Quality Standards (NAAQS) are standards for outdoor air pollutants established by the EPA under authority of the Clean Air Act.

National Historic Preservation Act – The National Historic Preservation Act of 1966 (NHPA) is a federal legislation that requires agencies to consider the effects of a proposed project on properties listed in, or eligible for listing in, the National Register of Historic Places.

National Pollutant Discharge Elimination System (NPDES) – The NPDES program was established by the federal government to control point-source discharges of wastewater.

National Register of Historic Places – The National Register of Historic places is the US's official list of the country's historic places (both public and private) deemed to be worthy of preservation. The National Register is maintained by the National Park Services, as authorized by the National Historic Preservation Act of 1966 (NHPA).

Noise Contour – Noise contours consist of noise impact lines constructed by connecting points of equal noise level measured in dB and identifies areas on a map that fall within that particular dB noise contour.

Noise Exposure Map – A noise exposure map consists of a scaled, geographic depiction of a noise source, its noise contours, and surrounding area.

Noise Zones – Noise Zone I is the noise zone that includes all areas in which the PK15(met) decibels are less than 87 (for small arms), the ADNL is less than 65 (for aircraft), and/or the CDNL is less than 62 (for large arms and explosions). This area is suitable for all types of land use. Noise Zone II includes areas where the PK15 (met) decibels are between 87 and 104, the ADNL is between 65 and 75, and/or the CDNL is between 62 and 70. Land uses for this zone should typically be limited to manufacturing, warehousing, transportation, and resource protection. Noise Zone III is the zone located closest to the source of noise. It includes PK15 (met) decibels greater than 104, ADNL greater than 75, and/or CDNL greater than 70. No noise sensitive uses should occur within this area due to the severity of noise. There is also a Land Use Planning Zone (LUPZ) at the upper end of Noise Zone I and includes areas where the CDNL is between 57 and 62 or the ADNL is between 60 and 65. It does not include land for PK15(met). This zone accounts for variability in seasonal operations where certain times of the year may include a greater amount of operations than normal.

Nonattainment Area – A nonattainment area is a geographic area where air pollution levels persistently exceed National Ambient Air Quality Standards, or that contributes to ambient air quality in a nearby area that fails to meet standards. Designating an area as nonattainment is a formal rulemaking process made by the Environmental Protection Agency, typically only after air quality standards have been exceeded for several consecutive years.

Nonpoint Source (NPS) Pollution – NPS pollution refers to pollutants that may originate from a variety of diffuse sources and is caused by rainfall moving over and through the ground. As water moves, it picks up and carries away natural and man-made pollutants, eventually depositing them into surface water and groundwater.

O

Ozone (O3) – Ozone is a pungent, colorless, toxic gas with direct health effects on humans, including respiratory and eye irritation and possible changes in lung functions. Ozone is created when hydrocarbons and nitrogen oxides released from vehicles and industrial sources react in the presence of sunlight. Because ozone requires sunlight to form, it occurs in concentrations considered serious primarily between the months of April and October.

P

Particulate Matter (PM) – Particulate matter are fine metal, smoke, soot, and dust particles suspended in the air. Particulate Matter is measured by two sizes: Course particles (PM10), or particles between 2.5 and 10 micrometers in diameter in size, and fine particles (PM2.5), or particles less than 2.5 micrometers in diameter.

PK15(met) – PK15(met) refers to the peak sound level, factoring in the statistical variations caused by weather, that is likely to be exceeded only 15 percent of the time (i.e., 85 percent certainty that sound will be within this range). This condition only exists in modeling (one cannot take a PK15(met) reading on the ground) and is used for land use planning with small arms, as well as additional information for large arms and other impulsive sounds.

Prescribed Burn – A prescribed burn is the controlled and intentional ignition of grass, shrub, or forest fuels for the specific purpose of reducing vegetation to assist with fire fuel reduction, forest management, farming, or habitat restoration. A prescribed burn may also refer to the intentional controlled burn of vegetation for firefighter training.

Primary agency – Primary agency is a designation for agencies in the Oregon Emergency Management Plan. A primary agency is responsible for the management of emergency support functions (ESF) and coordinating the implementation of disaster recovery plans.

Q

R

Recovery Habitat – Habitat needed to support the recovery of species designated to be endangered or threatened per the ESA.

Restricted Area – RAs are another type of SUA and are important assets to the DOD because they allow for the use of weapon systems for training and testing purposes. These areas are necessary for ground weapons and artillery firing, aerial gunnery, and dropping inert and practice bombs. RAs provide locations for training and testing to support combat readiness of aviation and ground combat units while separating these activities from the public and general aviation users. These areas are identified by the letter "R" followed by a number on Federal Aviation Administration sectional charts, enroute charts, and terminal area charts. The floor and ceiling altitudes, operating hours, and controlling agency can be found in the sectional chart legend.

Riparian – Riparian refers to the habitat and/or area relating to, or situated on the banks of a river.

Roadway Capacity – Roadway capacity refers to the ability of existing freeways, highway, arterials and other local roads to provide adequate mobility and access among military installations and their surrounding communities.

S

Safe Yield – The safe yield (or perennial yield) of a groundwater basin is the rate at which water can be pumped from wells year after year without decreasing the groundwater in storage.

Sensitive Land Use – Sensitive land uses are locations with uses susceptible and effected by nuisances such as noise, dust and air pollution. These sensitive land uses include residential areas, hospitals, convalescent homes and facilities, schools, libraries, churches, recreational areas, and other similar land uses.

Septage – Septage is partially treated waste stored in a septic tank.

Slant Distance – The straight-line distance between two points not at the same elevation is referred to as the slant distance.

Sound Exposure Level (SEL) – SEL is a measure of the total sound energy and is a sum of the sound intensity over the duration of exposure. The SEL provides a convenient single number that adds the total acoustic energy in a transient event, and it has proven to be effective in assessing the relative annoyance of different transient sounds.

Sound Transmission Class (STC) – STC is a single-figure rating of the sound insulating properties of a partition as determined by methods described in "Determination of Sound Transmission Class", American Society of Testing and Materials designation E413-73.

Special-Status Species – According to the ESA, a special-status species is any species that is a listed, candidate, sensitive or species of concern.

Special Use Airspace (SUA) – SUA was developed by the Federal Aviation Administration (FAA) to advise pilots of an activity or surface area that dictates special rules or notices and may possibly be hazardous. The designation of SUA identifies for other users the area where military activity occurs (air or land operations), provides for segregation of that activity from non-participating aviation activities, and allows charting to keep airspace users informed.

Sphere of Influence (SOI) – A sphere of influence is a planning boundary outside a jurisdiction's legal boundary that designates the probable future jurisdiction's boundary and service area. It represents the area within which the jurisdiction is expected to grow. The boundary promotes orderly land use and service planning among agencies and provides guidance when, and if a broader range or higher level of services is required.

Standard VFR Heliport – Visual flight rule design standards are used for heliports that have no current or future requirement for instrument flight rules.

Standoff Distance — Standoff distance refers to an established buffer zone that exists from a set point, structure, or linear feature where certain types of activities or development are not allowed due to potential safety or facility protection concerns. Military installations typically have a standoff distance in relation to their fence line where structures cannot be erected or certain types of activities cannot occur in order to protect maintain both military and civilian safety.

State Historic Preservation Officer – Each State has a designated State Historic Preservation Officer (SHPO) who carries out many of the responsibilities associated with historic preservation, including survey, evaluation, and nomination of significant historic buildings, sites, structures, districts, and objects.

Strategic Highway Network Corridor – Strategic Highway Network Corridor refers to a system of public highways and subsequent arterial roadways that provide for the mobility of the military to provide access, continuity of operations, and emergency services both during war and peace time. These roadways provide for the rapid mobilization of troops during times of war or civil unrest.

Supporting Agency – A supporting agency is a designation for agencies in the Oregon Emergency Management Plan. Supporting agencies are responsible for providing expertise, experience and assets to the ESF as needed or requested by the Primary agency.

Surface Danger Zone (SDZ) – An SDZ is an area around a weapons' firing range from which the access of all military personnel and civilians is restricted due to the inherent dangers associated with the firing of live munitions. An SDZ can include the surface (and subsurface) of land and water, as well as the overhead air space that provides the medium for launched projectiles. An SDZ includes the weapons firing position, target impact area, and a secondary buffer area, which is an additional distance where errant projectile/munitions fragments may land without risking harm to life or property. The area of an SDZ can vary in size and shape depending on the type of weapon(s) fired, their firing location, and projectile trajectory.

Surface Water – Surface water is derived from waters that flow continuously over land surfaces in a defined channel or bed, such as streams and rivers; standing water in basins such as lakes, wetlands, marshes, swamps, ponds, sinkholes, impoundments, and reservoirs either natural or man-made; and all waters flowing over the land as runoff, or as runoff confined to channels with intermittent flow.

T

Take – Under the ESA, "take" is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." The ESA makes it illegal for any person to take any species listed as threatened or endangered without authorization. Take prohibitions also apply to the habitat a listed species requires for its survival.

Taking – When the government acquires private property and fails to compensate an owner fairly. A taking can occur even without the actual physical seizure of property, such as when a government regulation has substantially devalued a property.

Threatened Species – According to the ESA a threatened species is "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Total Maximum Daily Load (TMDL) – A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still safely meet water quality standards.

Transitional Surfaces – These surfaces extend outward and upward from the lateral boundaries of the primary surface and from the approach-departure surfaces at a slope of 2 to 1 for a distance of 250 feet measured horizontally from the centerline of the primary and approach-departure surfaces.

Treatment Technique – For some contaminants, the EPA establishes a Treatment Technique (TT) instead of an MCL. TTs are enforceable procedures that drinking water systems must follow in treating their water for a contaminant.

Trespass – Trespass is the intrusion by persons and / or livestock, either purposeful or unintentional, within the boundaries of Camp Roberts in a physical or non-physical manner.

Tsunami – A tsunami is a series of sea waves usually caused by a displacement of the ocean floor by an undersea earthquake. As tsunamis enter shallow water near land, they increase in height and can cause great loss of life and property damage.

U

United States Environmental Protection Agency (EPA) – The agency of the federal government charged with protecting human health and the environment, by writing and enforcing regulations based on laws passed by Congress. USEPA implements and enforces the provisions of the federal Clean Water Act (CWA) and Safe Drinking Water Act (SDWA), which ensures a clean and safe potable water supply for all states and territories of the United States.

Unmanned Aerial Vehicle (UAVs) – A UAV is a vehicle sustained in flight by aerodynamic lift throughout the majority of its flight path. UAVs are guided without an onboard crew. They may be expendable or recoverable and can fly autonomously or piloted remotely on missions for intelligence surveillance and reconnaissance and as warfighters.

Unweighted Peak (dBP) – Unweighted peak refers to the peak, single event sound level without weighting, on the ground. This measurement incorporates all of the locational characteristics (i.e., berms, weather, vegetation, etc.). However, it is only reflective of that moment in time under those exact conditions. Consequently, there is no particular confidence that the measurement is reliable in other situations, such as the 85 percent certainty of the PK15(met).

V

Vertical Obstructions – Vertical obstructions are objects or structures that exceed a specified height above ground level and extend into airspace. Vertical obstructions may be created by buildings, trees, structures, or other features that are of greater height than, and encroach into, the navigable airspace used for military operations (aircraft approach-departure surfaces, transitional surfaces, as well as military training or flight routes). These can present a safety hazard to both the public and military personnel and potentially impact military readiness.

Vibration – Vibration is the oscillation or motion that alternates in opposite directions and may occur as a result of an impact, explosion, noise, mechanical operation, or other change in the environment.

Visual Flight Rules – Visual flight rules (VFR) are a set of regulations that allow a pilot to operate an aircraft in weather conditions that are generally clear enough to allow the pilot to see where the aircraft is going. This type of navigation does not require the use of navigational aids or instruments, such as a control tower.

W

Water Pollution Control Facilities – Water Pollution Control Facilities (WPCF) is required for disposal systems, which dispose of wastes and wastewater onto or beneath the ground surface with no direct discharge to surface waters.

Wetlands – Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions. Jurisdictional wetlands are those that are regulated by the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act.

Wind Energy Conversion System (Wind Turbine) – A wind energy conversion system is a wind-driven machine that converts wind energy into electrical power. They can be used for commercial resale of the energy or for on-site specific usage of the energy. Commercial facilities generally involve a large number of wind turbines in close proximity.

Wind Farm – A wind farm is a series or cluster of wind turbines that generate electricity and function as a renewable energy generator and even a distributor.

Windmill – A structure designed to generate power or pump water through the action of wind on vanes or sails.

Wireless Communications Facility – A wireless communications facility is an unstaffed facility for the transmission and reception of low-power radio signals. These include cellular radiotelephone facilities, personal communications service facilities, specialized mobile radio service facilities, and commercial paging service facilities. Components of these types of facilities can consist of the following: antennas, microwave dishes, horns, other types of equipment for the transmission or receipt of such signals, telecommunication towers or similar structures supporting said equipment, equipment buildings, parking area, and other accessory development.

X

Y

Yearly Day-Night Average Sound Level (Ldn) – Ldn refers to the 24-hour average sound level, in decibels, for the period from midnight to midnight, obtained after the addition of ten decibels to sound levels for the periods between 10:00 p.m. and 7:00 a.m. the following day, averaged over a span of one year.

Z

Please see the next page.

Chapter 1: Introduction

Please see the next page.

Military installations are critical to local economies, generating thousands of jobs and millions of dollars in economic activity and tax revenue annually. In the past, incompatible development has been a factor in the loss of training operations and restructuring of mission-critical components to various military installations. To protect the missions of military installations and the health of the economies and industries that rely on them, encroachment must be addressed through collaboration and joint planning between installations and local communities. This Joint Land Use Study (JLUS) identifies strategies to mitigate future issues and improve coordination between the local communities and Camp Roberts.

An organized communication effort between San Luis Obispo County, Monterey County, the City Paso Robles, unincorporated communities, Camp Roberts, the California Army National Guard (CAARNG), and other stakeholders owning or managing land or resources in the region is needed to ensure the future growth in San Luis Obispo and Monterey counties is coordinated and is compatible with training activities occurring at Camp Roberts.

Camp Roberts is situated in northern San Luis Obispo and southern Monterey counties and covers an area of over 43,800 acres (see Figure 1-1). The area around Camp Roberts is primarily agriculture; however, there are communities, both incorporated and unincorporated, in the surrounding area. The City of El Paso de Robles (Paso Robles) is the only incorporated city in the Camp Roberts JLUS Study Area, located about 12 miles to the south. The unincorporated communities of Bradley, San Miguel, and Heritage Ranch Village are located adjacent to Camp Roberts.

The Camp Roberts JLUS is developed as a proactive and preventive effort to ensure increased communication about land use regulation and conservation decisions as well as natural resource management issues. This study seeks to avoid conflicts previously experienced between the military and local communities in other areas of the United States by engaging the military and local decision-makers in a collaborative process.

Fig1-1_CRJLUS_LocationMap_20130410_JKC.pdf

What Is a Joint Land Use Study?

A JLUS is a planning process accomplished through the collaborative efforts of a comprehensive list of stakeholders in a defined study area. These stakeholders include local community, state, and federal officials, residents, business owners, local tribal governments, nongovernmental organizations, and the military to identify compatible land uses and growth management guidelines adjacent to active military installations. The intent of the process is to establish and encourage a working relationship between a military installation and their proximate communities to act as a team to prevent and/or reduce encroachment issues associated with current and future mission activities and local growth.

Although primarily federally funded by the Department of Defense (DOD), Office of Economic Adjustment (OEA), a JLUS is produced by and for local communities. The project management entity for the Camp Roberts JLUS is San Luis Obispo County.

JLUS Goal

The goal of the Camp Roberts JLUS is to protect the viability of current and future training operations, while simultaneously guiding community growth, sustaining the environmental and economic health of the region, and protecting public health, safety, and welfare.

JLUS Objectives

To help meet this goal, three primary JLUS objectives were identified.

- **Understanding.** Convene community and military representatives to identify, confirm, and understand the issues in an open forum, taking into consideration both community and Camp Roberts perspectives and needs. This includes public awareness, education, and input organized into a cohesive outreach program.
- **Collaboration.** Encourage cooperative land use and resource planning among Camp Roberts and surrounding communities so that future community growth and development are compatible with the training and operational missions at Camp Roberts, while at the same time seeking ways to reduce operational impacts on adjacent lands.
- **Actions.** Provide a set of mutually supported tools, activities, and procedures from which local jurisdictions, agencies, and Camp Roberts / CAARNG can select, prepare, and approve / adopt and then use to implement the recommendations developed during the JLUS process. The actions proposed include both operational measures to mitigate installation impacts on surrounding communities and local government and agency approaches to reduce community impacts on military operations. These tools will help decision makers resolve compatibility issues and prioritize projects within the annual budgeting process of their respective entity / jurisdiction.

Why Prepare a Joint Land Use Study?

Although military installations and nearby communities may be separated by a fence line, they often share natural and manmade resources such as land use, airspace, water, and infrastructure. Despite the many positive interactions among local jurisdictions, agencies, and the military, and because so many resources are shared, the activities or actions of one entity can pose unintended negative impacts on another, resulting in conflicts. As communities develop and expand in response to growth and market demands, land use approvals have the ability to locate potentially incompatible development closer to military installations and operational / training areas. The result can initiate new, or exacerbate existing, land use and other compatibility issues, often referred to as encroachment, which can have negative impacts on community safety, economic development, and sustainment of military activities and readiness. This threat to military readiness activities is currently one of the military's greatest concerns.

Collaboration and joint planning among military installations, local communities, and agencies should occur to protect the long-term viability of existing and future military missions. Working together also enhances the health of economies and industries of the communities before incompatibility becomes an issue.

Recognizing the close relationship that should exist between installations and adjacent communities, the OEA implemented the JLUS program in an effort to mitigate existing and future conflicts and enhance communication and coordination among all affected stakeholders. This program aims to preserve the sustainability of local communities within the JLUS study area while protecting current and future operational and training missions at Camp Roberts.

Regional Economic and Local Importance

Camp Roberts is located in the south central coastal region of California, 12 miles north of Paso Robles, and is situated adjacent to US Highway 101 in northern San Luis Obispo and southern Monterey counties (see Figure 1-2). The unincorporated communities of Bradley, Heritage Ranch Village, and San Miguel are adjacent to Camp Roberts, while the incorporated City of Paso Robles is located southeast of the installation.

Within this region and throughout the state, the California National Guard (CNG) is an important economic engine. As a whole, CNG employs nearly 5,000 civilians and 23,770 active, reserve, and mobilized soldiers and airmen. In fiscal year 2012, the CNG spent approximately $665 million throughout the State of California. In addition, Camp Roberts had several construction and sustainment projects allocated to the training facility to be spent in the next five years totaling over $79 million.

Source: CNG Year in Review, 2012. Retrieved from http://www.calguard.ca.gov/publicaffairs/Documents/CNG2012inReview.pdf

State and Federal Missions

The National Guard is unique in that it serves both state and federal missions, and as such has two distinct missions. "When faced with natural or man-made disasters, California citizens count on the California National Guard to respond quickly and efficiently with all of our capabilities. No matter what emergency might arise — whether a wildfire, earthquake or weapon of mass destruction — our Soldiers and Airmen are always ready to assist."

For the federal mission, Camp Roberts is one of the premier training sites in the country, and one of the largest training facilities in the western United States. With facilities that allow for a wide range of training at a single location, Camp Roberts is critical to the comprehensive training of soldiers who are to be deployed to combat theaters around the world. "The California National Guard force made up of "weekend warriors" is now extinct. California is home to the nation's largest and most frequently deployed National Guard force. To date, Cal Guardsmen have deployed overseas 29,000 times in support of the global fight against terrorism and other missions since 2011."

Source: CNG Year in Review, 2012. Retrieved from http://www.calguard.ca.gov/publicaffairs/Documents/CNG2012inReview.pdf

The facilities at Camp Roberts provide for a spectrum of individual and collective training ranging from small weapons to heavy artillery. Camp Roberts also provides terrain similar to current areas of conflict. The installation contain appropriate infrastructure to support the training mission.

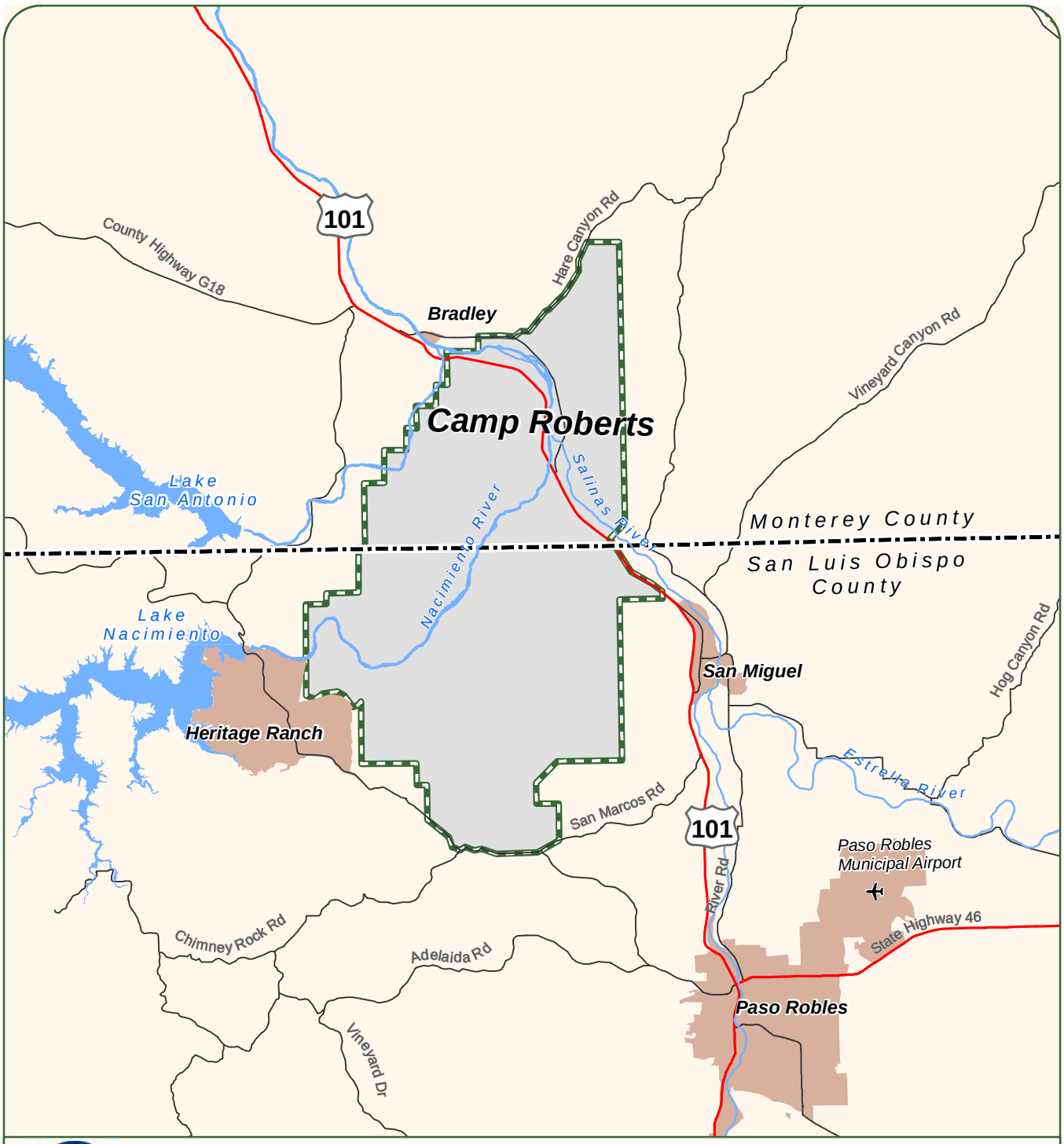

Figure 1-2
Camp Roberts Joint Land Use Study Area

Sources: Camp Roberts, 2012; San Luis Obispo County Planning & Building Geographic Technology & Design, Nov., 2011; Monterey County Resource Management Agency, Jan., 2011.

Fig1-2_CRJLUS_StudyArea_20130410_JKC.pdf

Local Communities Working Together

As a community presence, Camp Roberts is much more than just an economic engine. The facilities at Camp Roberts are used by numerous entities including military, federal, and local agencies. The open door policy at the Camp renders it a valued asset to the community, in that it allows outside entities to use the facilities upon procurement of proper clearance and prior arrangements. Some of the regular, public users of Camp Roberts include special groups, i.e. The Honorary Colonels Corps and the Freedom Academy, YMCA, along with youth groups and teams. Camp Roberts also serves an important function as a training facility for various federal agencies and a community events facility for non-governmental groups.

Organizations, other than the CAARNG, that routinely use Camp Roberts include a wide range of users, including:

- Army,
- Air Force,
- Navy,
- Marine Corps,
- National Guard units from other states,
- Federal law enforcement agencies,
- Local law enforcement agencies,
- Scouting and youth groups, and
- Paint ball teams.

Public Outreach

As highlighted in the JLUS Objectives section earlier, the JLUS process is designed to create a locally relevant document that builds consensus and obtains support from the various stakeholders involved. To achieve this JLUS objective, the Camp Roberts JLUS process includes a public outreach program that embodies a variety of opportunities for interested parties to contribute to its development.

Policy Committee and Technical Committee

The development of the Camp Roberts JLUS was guided by two committees, comprised of city, county, California Army National Guard, federal and state agencies, resource agencies, and other stakeholders.

- **JLUS Policy Committee (PC).** The PC consists of officials from participating jurisdictions and Camp Roberts. The PC is responsible for the overall direction of the JLUS, preparation and approval of the study design, approval of policy recommendations, and approval of draft and final JLUS documents.
- **JLUS Technical Committee (TC).** The TC is responsible for identifying and studying technical issues. Membership includes area planners, military base planners, business and development community representatives, natural resource protection organizations, and other subject matter experts as needed to help assist in the development and evaluation of implementation strategies and tools. Items discussed by the TC were brought before the PC for consideration and action.

The PC and TC served as liaisons to their respective stakeholder groups. PC and TC members were charged with conveying committee activities and information to their organizations and constituencies and relaying their respective organization's comments and suggestions to both committees for consideration. PC members were encouraged to set up meetings with their organizations and / or constituencies to facilitate this input. The responsibilities and list of participants for the JLUS sponsors, the PC, and the TC are identified in Table 1-1.

Table 1-1. Responsibilities and Participants

Responsibilities	Who
SPONSORS	
■ Coordination ■ Accountability ■ Grant Management ■ Financial Contribution	■ San Luis Obispo County ■ Office of Economic Adjustment
POLICY COMMITTEE	
■ Policy Direction ■ Study Oversight ■ Monitoring ■ Report Adoption	■ CAARNG / Camp Roberts ■ City of Paso Robles ■ Monterey County ■ San Luis Obispo County
TECHNICAL COMMITTEE	
■ Identify Issues ■ Provide Expertise to Address Technical Issues ■ Evaluate and Recommend Implementation Options to the PC ■ Provide Draft and Final Report Recommendations to the PC	■ Agricultural Land Trust ■ Bureau of Land Management ■ CAARNG / Camp Roberts ■ CAL FIRE ■ California Department of Fish and Wildlife ■ California Highway Patrol ■ Caltrans ■ City of Paso Robles ■ Fort Hunter-Liggett ■ Heritage Ranch Community Services District ■ Monterey County ■ Monterey County Sherriff's Department ■ Monterey County Water Resources Agency ■ Naval Postgraduate School ■ Paso Robles Airport ■ San Luis Obispo Air Pollution Control District ■ San Luis Obispo Council of Governments ■ San Luis Obispo County ■ San Luis Obispo Sherriff's Department ■ San Miguel Community Services District ■ San Miguel Community Services District ■ Santa Ynez Band of Chumash Indians ■ South Monterey County Rural Coalition

Meetings were held throughout the process to ensure the JLUS identified and appropriately addressed local issues. All meetings were held in the City of Paso Robles. The meetings conducted were:

- **Meeting # 1 (December 8, 2011).** This meeting served as the initial kick-off for the committees. This meeting discussed the Camp Roberts mission, the JLUS project, and presented information on the JLUS program and process.
- **Meeting # 2 (March 21, 2012).** This meeting provided feedback from the March 19th public forum to PC and TC members. Preliminary compatibility issues identified at the public forum were discussed. Input from Committee members about potential compatibility issues were discussed and noted. The JLUS Study Area was also discussed and refined.
- **Meeting # 3 (August 16, 2012).** This meeting provided an overview of the information presented and discussed at the public forum on August 15, 2012. In addition, the committees discussed, refined, and accepted (as refined) the compatibility factor issues. An initial overview was provided to the committee members about types of strategies and their relative feasibility that may be recommended in the JLUS.
- **Meeting # 4 (December 12, 2012).** This meeting provided a draft of the Camp Roberts JLUS Influence Areas (the areas that reflect the locations where proposed strategies will be applied) and a set of draft issues and strategies to committee members for their review and comment. During the meeting, committee members provided comments and revisions on the proposed strategies.
- **Meeting # 5 (May 31, 2013).** This meeting will provide an overview of the major findings and recommendations in the Draft JLUS and review public input and comments received during the public review period and from the public forum held on May 30, 2013.

Public Forums

In addition to the PC and TC meetings, a series of public forums were held throughout the development of the JLUS. These forums provided an opportunity for the exchange of information with the greater community, assisted in identifying the issues to be addressed in the JLUS, and provided input on the strategies proposed. Each forum included a traditional presentation and a facilitated exercise providing a "hands on," interactive opportunity for the public to participate in the development of the JLUS. The public forums were all held at the San Miguel Parish Center in San Miguel, and were:

- **Public Forum # 1 (March 19, 2012).** At this workshop, the JLUS project and purpose were discussed, and the 23 standard compatibility factors were introduced. Then attendees (38 community members attended) were asked to identify specific compatibility issues that they felt should be addressed.

Members of the public attend the first public workshop of the Camp Roberts JLUS to learn about the planning process.

- **Public Forum # 2 (August 15, 2012).** This public forum provided a JLUS update and an overview and refresher of the compatibility factors and associated issues. In addition, the public (30 community members attended) was asked to provide feedback about and prioritize the issues in a group exercise.
- **Public Forum # 3 (May 30, 2013).** This public forum will provide an overview of the major findings and recommendations in the draft JLUS and provide opportunities for public comments and questions concerning the Draft Camp Roberts JLUS.
- **Public Forum # 4 (June 2013).** Presentations will be made to the Board of Supervisors for San Luis Obispo and Monterey counties and the City Council of Paso Robles at the end of June. The purpose of these presentations is to provide an overview of the final Camp Roberts JLUS and the key strategies proposed for implementation.

Public Outreach Materials

Fact Sheet #1, JLUS Program Overview. At the beginning of the JLUS program, a Fact Sheet was developed describing the JLUS program, objectives, methods for the public to provide input into the process, and the Camp Roberts JLUS proposed study area. This brochure also described each of the 23 standard compatibility factors used for JLUS development. While not every factor applied to the Camp Roberts JLUS, this list provided an effective tool to ensure a comprehensive evaluation of compatibility factors was conducted. This Fact Sheet was made available at the public forums and was available on the JLUS website.

Fact Sheet #2, Strategy Toolkit. JLUS strategies constitute a variety of actions that local governments, military installations, agencies, and other stakeholders can take to promote compatible land use planning. This brochure provides an overview of the strategy types that could be applied to address compatibility issues around Camp Roberts.

Website. A project website was developed and maintained that provided the public and media representatives with access to project information. This website was maintained for the duration of the project to ensure information was easily accessible. Information contained on the website included program points of contact, schedules, documents, maps, and public meeting information. The project website is located at: www.camprobertsjlus.com

JLUS Study Area

The Camp Roberts JLUS is designed to address all lands near Camp Roberts that may impact current or future military operations or may be impacted by operations. Camp Roberts JLUS Study Area includes portions of northern San Luis Obispo County and southern portions of Monterey County. Figure 1-2 illustrates the Camp Roberts JLUS Study Area.

JLUS Process Timeline / Overview

The Camp Roberts JLUS began in the fall of 2011 and will be completed in June 2013.

JLUS Implementation

It is important to note that once the JLUS process is completed, the final document is not an adopted plan. It is a strategic guide that can be used by local jurisdictions, agencies, and organizations in the study area to guide their future compatibility efforts. For instance, local jurisdictions may use the strategies in this JLUS to guide future subdivision regulation, growth policy, and zoning updates, as well as to assist in the review of development proposals. The CAARNG and Camp Roberts will use the JLUS to guide their interaction with local jurisdictions on future projects, as well as manage internal planning processes with a compatibility-based approach. It is through the future actions of the stakeholders involved that the JLUS strategies will become a reality.

The key to implementation of the strategies presented in this JLUS is the establishment of a JLUS Coordination Committee that oversees the implementation of the JLUS upon completion. Through this committee, local jurisdictions, Camp Roberts, stakeholders and other interested parties will be able to continue their initial work together to establish procedures, recommend or refine specific actions for member agencies, and make adjustments to strategies over time to ensure the JLUS remains relevant to the planning issues in the study area.

JLUS Organization

The following is a brief overview of the organization of the Camp Roberts JLUS, including the contents of each of the four chapters.

Chapter 1: Introduction. Chapter 1 provides an introduction and overview of the Camp Roberts JLUS. This chapter describes the JLUS process, strategic and local importance of Camp Roberts, the working relationships among the entities, the goal and objectives used to guide development of the JLUS, identifies the JLUS Study Area, the stakeholders involved in developing the JLUS, public outreach methods, implementation premise, and the organization of the document.

Chapter 2: Study Area Profile. In developing this JLUS, an informed understanding of Camp Roberts and local jurisdictions within the study area is necessary. This chapter provides an overview of Camp Roberts' history, a description of the primary activity areas on Camp Roberts, a review of the current training operations, military family housing assets, the economic impact of the installation on the region, and a discussion of future missions.

This is followed by an overview of the region's growth potential and a profile of the jurisdictions within the study area, including population, housing, transportation, and important environmental and historical areas.

Chapter 3: Existing Plans and Programs. This chapter provides an overview of existing plans, programs, and regulations that provide tools that can/are applied to address compatibility issues in the JLUS Study Area. Chapter 3 also evaluates the effectiveness of each existing plan or program relative to addressing compatibility issues identified and described in Chapter 4.

Chapter 4: Issues and Recommendations. Compatibility, in relationship to military readiness, can be defined as the balance or compromise between community needs and interests and military needs and interests. The goal of compatibility planning is to promote an environment where both entities can coexist harmoniously.

This chapter provides an overview of compatibility issues identified by the PC, TC, the public, and the JLUS team (as discussed earlier) and presents strategies designed to deal with issues found to not be adequately addressed by existing by existing plans and programs. Chapter 4 covers issues divided into the following 21 compatibility topics (factors) as determined to be relevant to Camp Roberts.

The following list of compatibility factors includes the section number in Chapter 4 that contains the discussion and strategies associated with that factor.

4.1 Interagency Coordination / Communication
4.2 Land Use
4.3 Safety
4.4 Vertical Obstructions
4.5 Housing Availability
4.6 Infrastructure Extensions
4.7 Anti-Terrorism / Force Protection
4.8 Noise
4.9 Vibration
4.10 Dust and Smoke
4.11 Air Quality
4.12 Light and Glare
4.13 Energy Development
4.14 Frequency Spectrum Interference
4.15 Trespassing
4.16 Cultural Resources
4.17 Water Quality and Quantity
4.18 Biological Resources
4.19 Scarce Natural Resources
4.20 Land and Air Space
4.21 Roadway Capacity

Chapter 2: Study Area Overview

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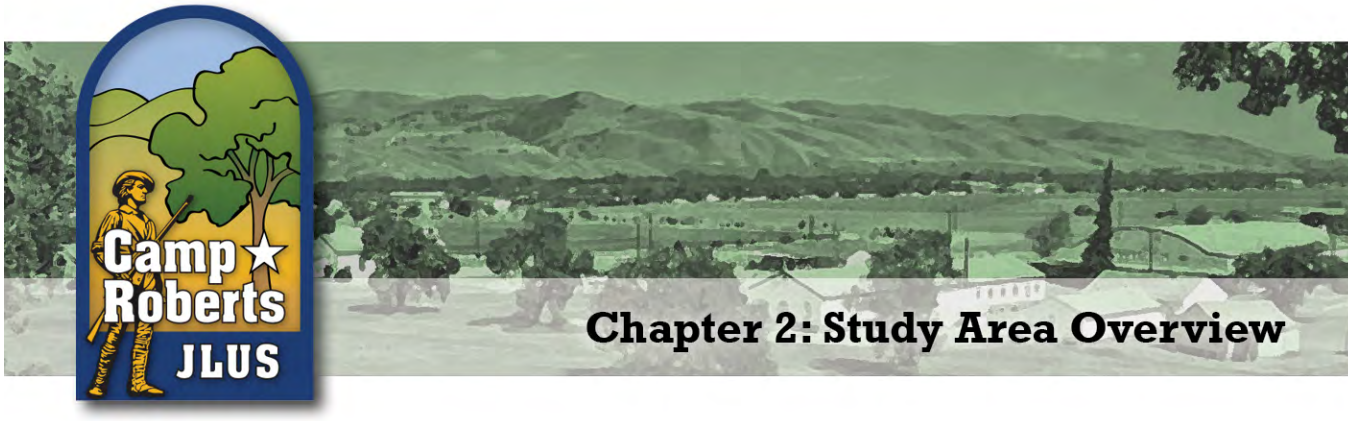

This chapter provides an overview of Camp Roberts and communities within the Camp Roberts Joint Land Use Study (JLUS) Study Area (shown on Figure 1-1). Included in this chapter is an overview of the history and current operations at Camp Roberts, profiles of community growth and development trends, as well as the general setting of the JLUS Study Area.

Identifying and describing the various activities performed on the military installation provides valuable insight into the importance of Camp Roberts as a state and national strategic asset. This information enables stakeholders to make informed decisions about the future development and economic growth of communities proximate to Camp Roberts, which could potentially impact the existence and future role of the facility. It also allows the military to understand the types of activities occurring "outside the fence" when considering future missions and operations.

California National Guard

The California National Guard (CNG) serves as the state's military department under the direction of the Governor of California. The CNG is comprised of the California Army National Guard (CAARNG) and the California Air National Guard". The illustration to the right highlights the 2012 CNG force strength and the units that make up the CNG.

Source: California National Guard Year in Review, 2012

CNG soldiers and airmen train year-round to be prepared for any mission, foreign or domestic. This dual mission role is an important difference with the National Guard compared to active Army or Air Force units. While CNG and active military units share similar training and engagement responsibilities as a military force, the defining characteristic of the National Guard is its domestic response mission in times of need. For response to natural disasters, wildfires, civil distress or other State emergencies, the CNG is the State's go to entity for providing assistance to the people of California in times of need.

Camp Roberts, as a key training site and centrally located facility in the State, provides key support in helping the CNG meet both its foreign and domestic missions.

Camp Roberts Maneuver Training Center

Camp Roberts was originally founded in 1940 as Camp Nacimiento Replacement Training Center. The Camp was renamed Camp Roberts after Corporal Harold W. Roberts, an enlisted tank driver who was killed during World War I while saving the lives of his fellow servicemen. Camp Roberts is one of only a few military installations that were named after an enlisted service member. It was an important mobilization site during World War II (WWII). Its topography and vast terrain provided the US War Department with the ideal training environment to prepare soldiers for the war.

Camp Roberts experienced times of great activity that corresponded with subsequent war events, (i.e. the Korean War and the Vietnam War). During these wars, Camp Roberts received significant funds for training activities and several training centers were built including Infantry and Field Artillery Replacement Training Centers and the Armor Replacement Training Center. Unique to Camp Roberts is its design with a Main Garrison and an East Garrison for heavy artillery and maneuver training. The East Garrison is situated east of the Salinas River and was used for various training missions depending on the need. Currently, the East Garrison is where the Maneuver Area Training Equipment Site (MATES) operations are conducted.

During WWII, in addition to training activities, the Main Garrison hosted a 750-bed hospital complex to support the war efforts. After each war, Camp Roberts was deactivated and assigned "caretaker" status with only a few administrative and custodial personnel remaining on the base. This continuous activation / deactivation cycle would earn Camp Roberts the nickname as "the most active 'inactive' post in the US." In April 1970, Camp Roberts was officially closed by the Army, and control was transferred to the CNG, under a license from the Army Corps of Engineers (ACOE), to establish a reserve component. Today, the site continues to operate in this capacity and provides specialized training and repair, maintenance, and modification training opportunities to domestic and foreign military forces, and other state and local agencies.

Units

Camp Roberts is a major maneuver training center for the CNG with several permanently stationed units located at the installation. Each unit has its own unique mission:

- **Headquarters (HQ).** HQ provides full-time military and civilian personnel for installation operation.
- **US Army Information Systems Command Satellite Communications Station (SATCOM).** SATCOM's mission is to operate and maintain satellite ground terminals, technical control facilities, and provide a telecommunication center.
- **Central Issuing Facility (CIF).** Administered by the United States Property and Fiscal Office (USPFO) for California, the CIF is the unit for which supplies and equipment are stored, managed, and issued to guardsmen throughout the State. The CIF uses Buildings 904, 905, 908, 932, and 953 on Camp Roberts to store and issue equipment to guardsmen and other agencies as needed by the mission requirements.
- **Maneuver Area Training Equipment Site.** The MATES primary mission is to maintain equipment including over 1,200 tracked vehicles that are used year-round for weekend and annual training exercises.
- **Regional Training Site-Maintenance (RTS-M).** The RTS-M mission is to provide training to reservists before deployment on the operation and maintenance of equipment including wheeled and track vehicles and repair military occupational specialty (MOS) courses for the State.
- **Training Support Center (TSC).** TSC provides several training aids including Multiple Integrated Laser Engagement Systems (MILES) equipment, audiovisual, and photographic support to units located in California and Nevada.

- **40th Infantry Division.** The 40th Infantry Division performs the federal mission of conducting pre-mobilization and post-mobilization training, mobilizes on short notice, deploys, fights, and wins on any battlefield, as well as conducts stability and support operations including the state missions.

Source: Camp Roberts Training Center INRMP, DRAFT, October 2011

Current Mission Operations

The National Guard is unique in that it serves both federal (military response) and State (domestic response) missions. To serve these two missions, Camp Roberts has a two-part mission statement:

> *"**Federal:***
> *Command, Operate, Manage and Administer the use of resources of a Maneuver Training Center-Heavy (MTC-H) to provide year-round customer service through administrative, engineering, logistical, training and operations support to assigned, attached, transient, or tenant units and joint forces activities for up to and including brigade sized elements.*
>
> ***State:***
> *Protect the public safety of the citizens of California by providing military support to the civil authority during natural disasters and other emergencies."*

Source: COL Barbara A. Nuismer, Camp Roberts, Garrison Commander, briefing at JLUS Public Forum #1

The mission is oriented towards providing national defense and troop readiness for the protection of the United States from foreign and domestic threats. In this regard, Camp Roberts operates as a replacement training facility for CNG troops.

Camp Roberts serves as a major Maneuver Training Center – heavy and light equipment for the California National Guard, and specializes in repair, maintenance, and modifications for all National Guard vehicles, equipment, and munitions. It is used primarily for California Army National Guard (CAARNG) collective training and unit schools in both heavy and light maneuver training. It supports various training efforts, including: live-fire training, aerial gunnery, drop zones, and limited airfield training operations on two airfields.

This means that Camp Roberts and its personnel are charged with providing emergency support services for the State of California in the event of an emergency, disaster, or social unrest, such as an earthquake, flood, or the 1992 Los Angeles riots.

The installation is also used by non-military entities for training and recreational activities (recreation allowed when not in conflict with operations or construction at Camp Roberts). For hunting and fishing on Camp Roberts, the installation partners with the California Department of Fish and Wildlife (CDFW). Hunting has been suspended for the last couple of years due to construction activities at the Camp. Fishing has also been suspended for construction and on-going studies on species sustainability by the CDFW. When active, hunting and fishing occur during specific time periods.

Source: http://www.globalsecurity.org/military/facility/camp-roberts.htm

Future Mission Operations

Camp Roberts is developed as an Army standard installation with state of the art facilities, ranges, and training areas. These assets facilitate tactical training experiences and professional leadership mission requirements. This positions Camp Roberts well in becoming the Western Regional Training Center (RTC) for the National Guard (NG). The NG vision would enable other DOD-related and non-DOD-related missions to receive current training in the latest technologies and equipment enabling excellent national security.

While there are currently no proposed projects for increasing the missions at the installation, potential future changes by Camp Roberts or one of its tenant organizations could include:

- Potential rehabilitation and reuse of the East Garrison airfield,
- Modernization of training and support facilities, and
- Homeland Response Training mission

In addition to potential future missions, one way Camp Roberts has been readying the land and installation for potential future operations is by budgeting and allocating for the demolition of old buildings to enable the construction of new state-of-the art facilities with integrated advanced technology. Relative to this demolition, Camp Roberts has been allocated over $79 million in contracts and expenditures over the next five years.

Installation Setting

Camp Roberts is leased from the federal government and managed by the CAARNG. It occupies 42,784 acres of land in California's south central coast region in San Luis Obispo and Monterey counties. In San Luis Obispo County, Camp Roberts is bordered on the west by the unincorporated community of Heritage Ranch and on the east by the unincorporated community of San Miguel. The installation lies 12 miles north of the City of El Paso de Robles (Paso Robles). In Monterey County, the unincorporated community Bradley is located just north of the Camp along Highway 101.

The Salinas River runs through the installation and separates the main cantonment area from the East Garrison. The majority of the firing ranges and maneuver areas are open grasslands. The rest of the installation is steep mountainous terrain with various elements of vegetation including oak trees and wetlands. The steep hills act as a buffer between the installation activities and the surrounding civilian areas.

Camp Roberts includes three main types of use areas:

- The **cantonment area** which consists of operational facilities, barracks, and other structures in both the Main and East Garrison areas;
- **Training areas** that include weapons ranges and impact areas as well as open areas for heavy and light maneuver training and land navigation areas; and
- The **airfield operational areas** located at McMillan Airfield and the East Garrison Airfield.

The cantonment areas are on the Main and East Garrisons, concentrated in the eastern / northeastern portion of the installation near the Main Gate and on both sides of US Highway 101. The maneuver training and land navigation areas are in the southern, central, and northern portions of the Camp. The firing ranges occupy the western and central portions in of the installation, with the urban combat site to the north. McMillan Field is located at the south end of the installation and the East Garrison Airfield is located towards the northern end. Figure 2-1 shows the locations of these areas.

Cantonment Area

The cantonment area covers approximately 2,514 acres of land split between the Main and East Garrisons. The Main Garrison includes housing and maintenance facilities. The East Garrison contains some training areas, the remnants of the former East Garrison, the sewage treatment plant, the Camp Roberts Army Heliport, and the MATES.

Source: Camp Roberts Training Center INRMP DRAFT, October 2011

The sewage treatment plant has capacity that may allow consolidation of services and resources with the community of San Miguel.

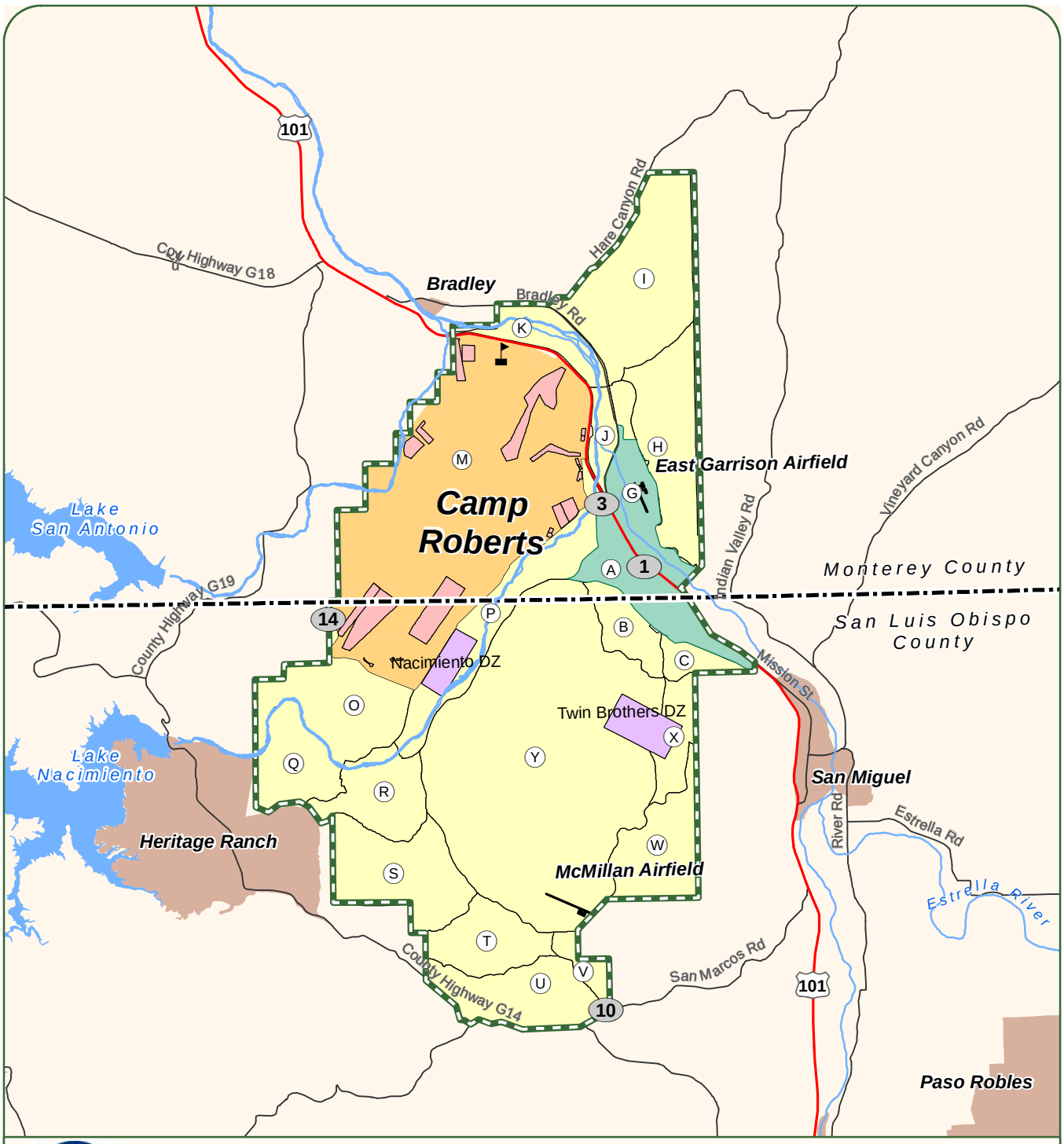

Figure 2-1
Ranges and Training Facilities on Camp Roberts

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Training Areas

The facilities on Camp Roberts allow for units up to brigade size to train on the camp; the installation can house up to two brigades. Camp Roberts serves as a training site for numerous services including CAARNG, Active Army, Navy, Air Force, Marine Corps, US Army Training and Doctrine Command (TRADOC), US Army Forces Command (FORSCOM), US Pacific Command (PACOM), US Army Reserve troop program units (USAR TPU), and US Air National Guard Schools (USAR SCH), and federal and state law enforcement agencies.

The term brigade refers to the size of a tactical military unit. They are generally composed of approximately 10,000 personnel.

Camp Roberts is organized into 25 training areas (including Area M which is the impact area on the installation), as shown on Figure 2-1. The impact area is where the majority of weapons firing occurs and has the largest concentration of firing ranges. This area supports limited vehicle maneuver operations, restricted troop maneuver zones, and an observation point and radar site.

Table 2-1 identifies the types of operations that take place in these areas (see Figure 2-1).

Table 2-1. Camp Roberts Training Areas

Training Area	Operations
A, C, G Cantonment Area (Main and East Garrison)	Cantonment and MATES - Industrial operations (warehouses, maintenance); Camp Roberts Army Heliport, helicopter operations Mechanized infantry and combat training operations Sewage Treatment Plant
B	Bivouacking Land navigation Mounted and dismounted scouting Patrolling
H, I	Mechanized infantry, armor, artillery Combat service Combat service support maneuvering
J, K	Bivouacking Tactical maneuver Helicopter operations Staging area
L	Bivouacking Tactical maneuver Helicopter staging, refueling area Ford site crossing Three firing points One survey control point
M	Impact Area Direct and indirect weapon systems Multipurpose range complexes Temporary troop maneuver zone Indirect fire target area Surface danger zone buffer area Restricted troop maneuver zone One observation point Radar site
N	Limited squad-level tactical training

Training Area	Operations
O	Bivouacking Tactical training Combined arms maneuvering Four surveyed artillery firing points One observation point Two survey control points Helicopter forward arming/refueling points
P	Bivouacking Tactical maneuvering River crossing site (Low Water Bridge) Airborne and air assault landing Pick-up and Drop Zones (Sherwood Forest LZ/PZ and Nacimiento DZ) Driver training Nuclear, biological, chemical (NBC) chambers NBC decontamination site Engineer training center Bayonet assault training Basic land navigation One observation point Three surveyed artillery firing points
Q	Tactical training and dismounted operations Bivouacking Helicopter nap of earth (NOE) activities River crossing Rappelling Basic mountaineering training
R	Bivouacking Tactical and dismounted operations Indirect fire observation point Helicopter NOE operations
S	Bivouacking Tactical and dismounted operations Helicopter NOE operations
T	Bivouacking Dismounted operations Helicopter NOE operations Two surveyed artillery firing points One survey control point
U	Bivouacking Tactical and dismounted operations One surveyed artillery firing point
V, W	Tactical training Bivouacking Helicopter staging Tactical/Off-road driving training Landing zones
X	Tactical training Bivouacking Staging Off-road driver training course Landing zone
Y	Prime maneuvering area for battalion and up to brigade size combined arms team tactical training Airborne operations at Twin Brothers DZ 26 surveyed artillery firing points-live fire Three survey control points

Airfield Operational Areas

Camp Roberts has two heliports, one each at the East and West Garrison Airfields. CAARNG conducts air operations using helicopters at Camp Roberts. These include landing and pickup exercises, transportation and maneuvering of vehicles and airborne parachute drops. Parachute drops occur at the Nacimiento Drop Zone near the middle of the installation and at the Twin Brothers Drop Zone in the southeastern portion of the installation.

Demographic and Economic Information

Since Camp Roberts is a training facility, it does not have a large number of personnel permanently stationed on-site. In 2012, Camp Roberts had a total of 607 permanent personnel working in various roles and units.

Direct economic impact (excluding military construction) was $58 million in 2012. This was provided as follows:

- $35 million Salaries
- $10 million Sustainment, Restoration, Modernization
- $13 million Stimulus Funding

In Fiscal Year (FY) 2012, the CNG also expended approximately $25 million in military construction (MILCON) funds at Camp Roberts. This is part of an overall plan of MILCON expenditure of $79 million over the next five years.

Source: COL Barbara A. Nuismer, Camp Roberts, Garrison Commander, briefing at JLUS Public Forum #1 and California National Guard Year in Review, 2012

County and City Profiles

Regional Overview

The Camp Roberts JLUS Study Area is in both San Luis Obispo and Monterey counties. Monterey County has a total area of 3,771 square miles and is bordered by the Pacific Ocean to the west and rolling hills and coastal valleys to the east. San Luis Obispo County has a total area of 3,615 square miles and is bordered by the Pacific Ocean and the Santa Lucia Mountains. The terrain within the Study Area is a mix of rolling hills and steep mountainous valleys. An estimated 25,118 acres (58.7%) of Camp Roberts lies in San Luis Obispo County and 17,670 acres (41.3%) lies in Monterey County.

San Luis Obispo County

Incorporated concurrent with California's statehood in 1850, San Luis Obispo County grew to a population of 269,637 by 2010 according to the U.S. Census 2010. The median household income in 2010 was $42,428.

San Luis Obispo County's economy is based significantly on agriculture, particularly in viticulture and wine making. Other industries include construction, healthcare services, innovation and knowledge-based services (education, finance, insurance, government, and real estate), manufacturing, and tourism.

Land ownership patterns within San Luis Obispo County are approximately:

- Private 66%
- Federal 30%
- State 2%
- County 2%

Much of the private land surrounding Camp Roberts is in agricultural preserve contracts that run with rolling 10 and 20 year terms; these are acquired through the Williamson Act of 1965. For a complete description of the Act, see Chapter 3.0.

Source: Agriculture Element. San Luis Obispo County General Plan, 2010

City of Paso Robles

The City of El Paso de Robles (also known as Paso Robles) is one of California's oldest communities. It was founded in 1772 by the Franciscans and was incorporated in 1889. Paso Robles was the former San Luis Obispo County seat.

Located southeast of Camp Roberts at the crossroads of US Highway 101 and State Highway 46, Paso Robles is not impacted by most compatibility factors discussed in Chapter 4. The City is home to some of the permanent personnel at the Camp, and is the primary provider of hotel rooms for transient housing associated with the Camp. The city is serviced by Amtrak and has a local municipal airport (though no regular commercial service at the airport).

According to the City's General Plan, expansion of the city is focused primarily in the southeast. Within the city there is a focus on infill development in terms of mixed use with higher density multi-family housing located close to arterial streets, public transit and convenience shopping.

The City of Paso Robles was recently awarded the National Great American Small Town Award.

The 2010 Census data shows the population to be 29,793 with a median income of $57,459.

Source: City of Paso Robles General Plan

Heritage Ranch Village

The unincorporated resort community of Heritage Ranch encompasses 9,200 acres and is located along Lake Nacimiento in northern San Luis Obispo County and adjacent to the southwestern border of Camp Roberts. Heritage Ranch is a private gated community which includes over 2,080 existing residential lots. The housing subdivisions within the village include recreational vehicle subdivisions, mobile home subdivisions, single family, multi- family as well as larger lot subdivisions. The village includes recreational amenities, including a marina and boat launch, camping areas, an equestrian center and a ball park. Other land uses include a general store, medical office, fire station, ranch headquarters, a church and an elementary school. In addition, a new commercial center, including a grocery store, opened in the spring 2010.

The Heritage Ranch Specific Plan was prepared and adopted in 1972. The Specific Plan was incorporated into the Land Use Element in 1980. From that point forward, the Land Use Element's, Nacimiento Area Plan served as the specific plan for development within Heritage Ranch. A phasing plan for the project occurred with the approval of a land use permit in the 1980's. This land use permit limited the total number of residential dwelling units in Heritage Ranch to 4,000. A substantial revision to the phasing plan occurred under with a General Plan Amendment in the mid-1908's, which reduced the maximum residential dwelling units for Heritage Ranch from 4,000 to 2,900.

In 2003, the Heritage Ranch Owners Association (HROA) brought a lawsuit against the largest land holders to resolve disputes over how many residential units remained available for development and the location and determination of the 5,100 acres of required open space. A settlement agreement was reached between the parties in May of 2006. The agreement settled a dispute regarding future development possibilities and open space requirements. In 2011, changes to the planning area standards and three specific land use category changes were approved through a new General Plan and Ordinance Amendment that facilitated the terms of the settlement agreement. The current limit of 2,900 dwelling units and 5,100 acres of required open space both did not change as a result of the amendments.

A re-organization of the County's Land Use Element is currently underway. However this effort does not include any changes to the language of the existing plan. It does include moving information relative to Heritage Ranch currently contained in the Land Use Element, into a separate Community Plan. When the Community Plan is updated at a future date, this could be an opportunity for the plan to address external factors and proactively mitigate for compatibility factors such as noise and dust from Camp Roberts.

San Miguel

The unincorporated community of San Miguel is a historic and cultural site where Franciscan priests founded Mission San Miguel in the summer of 1767.

San Miguel is located adjacent to the southeast side of Camp Roberts along US Highway 101. Today, San Miguel's jurisdictional authority is as a Community Services District which provides water, sewer, fire protection and street lighting to a population of approximately 2,336 according the US Census 2010.

According to the San Miguel Community Design Plan, April 8, 2003, there are two goals: Goal 1. Improve the community ability to attract commercial development and housing for all income levels; and Goal 2: Promote tourism to support local business. In terms of housing, the Community Design Plan sought to attract more middle and upper income housing which may have an impact upon housing affordability for servicemen and their families. The Community Service plan is being updated with an anticipated approval date of early 2014.

The community of San Miguel should consider incorporating housing that would serve Camp Roberts' personnel and transient population. In addition, any further updates to the community's design plan should consider military compatibility and encourage the use of noise mitigation measures in the construction of new housing near the installation.

Monterey County

Monterey County was one of the original counties incorporated at the time of California's statehood in 1850 and had a reported 2010 population of 415,057. Today, the county is best known for its tourist attractions in the coastal regions (i.e. Big Sur, State Route 1, 17 Mile Drive, and the Monterey Peninsula) and agriculture in the Salinas River Valley.

Monterey County's economy is based on agriculture, particularly lettuce production. Farming represents 26% of the county's workforce. Other growing industries include government, healthcare, and education services. Prominent economic sectors in the county that have been hit hard by the recent recession are the construction, retail trade, and tourism industries.

Land ownership patterns in Monterey County are approximately:

- Private 60%
- State / County 26%
- Federal 12%
- Other 2%

Source: Land Use Element, Monterey County General Plan, 2010.

The 2010 Monterey County General Plan, South County Land Use Plan (adopted October 26, 2010), shows the Farmlands 40–160 acre minimum lot size and Permanent Grazing 10-160 Acre minimum lot size surrounding Camp Roberts. These uses are compatible designations with Camp Roberts.

Bradley

The only community in Monterey County within the JLUS Study Area is the unincorporated community of Bradley. It is located just north of Camp Roberts along US Highway 101. The population of the community totals 93 persons (2010 US Census), down from 120 persons in the 2000 US Census. The 2010 Monterey County Land Use Plan, South County Land Use Plan, depicts this small community to have Residential-High Density, 5- 20 units per acre along with discrete areas for commercial land use.

Study Area Growth Trends

The following section provides a profile of the Study Area's population and housing. This information assists in setting the regional context and growth potential within the JLUS Study Area.

Population

Population data is based on the 2010 data provided by the California Department of Finance Demographic Research Unit (based on US Census information). The following information provides an overview of the changes in population in the Camp Roberts JLUS Study Area in the last 10 years.

San Luis Obispo County's total population in 2010 was 269,637. The population change from 2000 to 2010 was a 9.3 percent increase. Most of this growth is attributed to migration from urban centers (cities like San Francisco and Los Angeles) to rural suburbia where cost of living is less expensive. The population figures represent the permanent population in San Luis Obispo County but do not consider the temporary population surges associated with the region's tourism and agricultural industries.

Table 2-2 shows the 2000 and 2010 Censuses and the percentage of change in the populations of San Luis Obispo County and the cities and Census-designated places within it.

Table 2-2. San Luis Obispo County Population Growth, 2000-2010

Jurisdiction	2000	2010	Number Change	Percent Change
California	33,871,648	37,253,956	3,382,308	10.0%
San Luis Obispo County	246,681	269,637	22,956	9.3%
Atascadero	26,411	28,310	1,899	7.2%
❖ Paso Robles	24,297	29,793	5,496	22.6%
❖ Heritage Ranch	2,176	2,411	235	10.8%
Oak Shores	0	337	--	--
San Luis Obispo	44,174	45,119	945	2.1%
❖ San Miguel	1,427	2,336	909	63.7%
Shandon	986	1,295	309	31.3%
Remaining County	147,210	160,036	12,826	8.0%

❖ *Community in JLUS Study Area*

Source: California Department of Finance: Demographic Research Unit Demographic Profile 2010-2006 and 2000.

By population, the City of San Luis Obispo is the largest city in San Luis Obispo County (but only saw a slight increase in population from 2000 to 2010), while Paso Robles and Atascadero are the second and third largest cities (by population) in the county, respectively. Paso Robles had the greatest population increase, however, adding over 5,400 people. This was an increase of 22.6% between 2000 and 2010, which was twice as much as San Luis Obispo County.

The population numbers indicate the growth trend increasing in northern San Luis Obispo County.

Compared to San Luis Obispo County, Monterey County population has not realized as great a change. The numbers in Table 2-3 show the population trend from 2000 to 2010 for those communities found within the Camp Roberts JLUS Study Area.

As Table 2-3 indicates, there is actually a negative growth rate of -22.5% in the unincorporated community of Bradley to the north of Camp Roberts. King City experienced the most growth in the county from 2000 to 2010.

These population numbers indicate a decreasing growth trend near Camp Roberts in Monterey County.

Table 2-3. Monterey County Population Growth, 2000-2010

Jurisdiction	2000	2010	Number Change	Percent Change
California	33,871,648	37,253,956	3,382,308	10.0%
Monterey County	401,762	415,057	13,295	3.3%
❖ Bradley	120	93	-27	-22.5%
King City	11,094	12,874	1,780	16.0%
Salinas	151,060	150,441	-619	-0.4%
San Ardo	501	517	16	3.2%

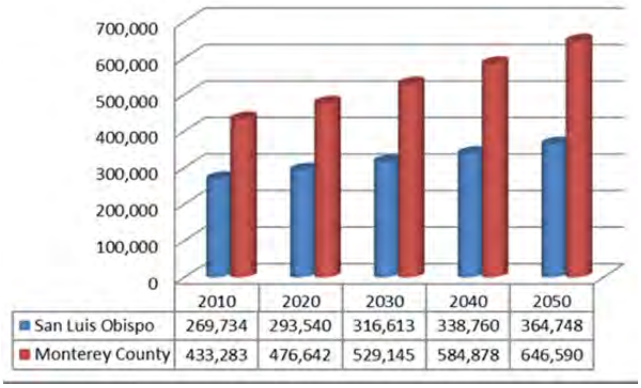
❖ *Community in JLUS Study Area*

Source: California Department of Finance: Demographic Research Unit Demographic Profile 2010-2006 and 2000.

Future Population Projections

San Luis Obispo and Monterey counties are expected to continue to see a slow, steady increase in population over the next 40 years. San Luis Obispo County will experience a projected annual growth rate of nearly 0.9%, and Monterey County will realize a projected annual growth rate of a little over 1.2%. Figure 2-2 illustrates the forecasted growth trend for both counties in the JLUS Study Area.

Figure 2-2. Forecasted Populations in Study Area Counties, 2000 - 2050



	2010	2020	2030	2040	2050
San Luis Obispo	269,734	293,540	316,613	338,760	364,748
Monterey County	433,283	476,642	529,145	584,878	646,590

Source: California Department of Finance: Demographic Research Unit

Economy

Generally, the economies of San Luis Obispo and Monterey counties are based on the agriculture and tourism industries. Like other counties in the coastal region of California, San Luis Obispo and Monterey counties have a climate and geography that is ideal for viticulture. Cool temperatures in the morning and mild to moderate temperatures at mid-day and in the evening are particularly well suited for grape cultivating.

San Luis Obispo and Monterey counties export agriculture commodities throughout the US. San Luis Obispo County is one of the principal grape cultivation and wine production counties in the US. Monterey County is the nation's top producer of lettuce.

Median Income

In 2010, California's Department of Finance reported that the median household incomes between San Luis Obispo and Monterey counties were similar. Table 2-4 (next page) compares the changes in median household incomes for the state and the communities in the Study Area.

Table 2-4 shows that all the communities within the Camp Roberts JLUS Study Area, except for Heritage Ranch, experienced a significant increase in median household income from 2000 to 2010. The only community reporting a negative rate of change was the Heritage Ranch resort community, decreasing by 1.3%.

Employment

The major industries that comprise the San Luis Obispo County economy include accommodations and food, local government, state government, other services, and agriculture. The five largest employers reported in San Luis Obispo County are:

- San Luis Obispo County
- Cal Poly State University, San Luis Obispo
- Atascadero State Hospital
- California Men's Colony
- Pacific Gas & Electric

Source: San Luis Obispo County Economic Profile, 2011-2012

According Monterey County Economic Report, Competitive Clusters Status Report 2010-2011, the major economic industries that contribute to the Monterey County economy include:

- Local government
- Farm labor contracts and crew leaders
- Crop and animal production
- Hotels (except casino hotels) and motels
- Full-service restaurants

Table 2-4. Median Household Income Change, 2000-2010

Jurisdiction	2000	2010	Number Change	Percent Change
California	$47,493	$60,883	$13,390	28.2%
Monterey County	$48,305	$59,271	$10,966	22.7%
❖ Bradley	$48,000	$55,625	$7,625	15.9%
King City	$34,398	$49,722	$15,324	44.5%
Lockwood	--	$82,917	--	--
Salinas	$43,720	$50,808	$7,088	16.2%
San Ardo	$25,208	$48,000	$22,792	90.4%
San Luis Obispo County	$42,428	$57,365	$14,937	35.2%
Atascadero	$48,725	$65,479	$16,754	34.4%
❖ Paso Robles	$39,217	$57,459	$18,242	46.5%
❖ Heritage Ranch	$54,958	$54,266	$(692)	-1.3%
Oak Shores	--	$65,764	--	--
San Luis Obispo	$31,926	$40,812	$8,886	27.8%
❖ San Miguel	$33,264	$42,176	$8,912	26.8%
Shandon	$35,000	$63,920	$28,920	82.6%

❖ *Community in JLUS Study Area*

Source: California Department of Finance: Demographic Research Unit Demographic Profile 2010-2006 and 2000.

Housing

Housing trends are an important indicator of economic activity and vitality, demonstrating the population growth or decline relative to new residential construction within an area. Housing trends also represent market decisions relative to home ownership versus rental properties. Ultimately, housing trends potentially indicate future development and types of residential development to come. The following information portrays the housing market trends, including monthly gross rents, percentage of base allowance for housing, and median home values within the JLUS Study Area.

Law prohibits the National Guard from providing permanent housing on base. This means that the majority of the personnel stationed at Camp Roberts must seek qualified residence in the surrounding communities.

Rental Trends

Table 2-5 shows the change in median monthly gross rents for the region from 2000 to 2010.

Table 2-5. Median Monthly Gross Rent in Surrounding Jurisdictions, 2000-2010

Jurisdiction	2000	2010	Number Change	Percent Change
California	$747	$1,147	$400	53.5%
Monterey County	$776	$1,123	$347	44.7%
❖ Bradley	$325	$900	$575	176.9%
King City	$644	$996	$352	54.7%
Lockwood	--	$928	--	--
Salinas	$725	$998	$273	37.7%
San Ardo	$417	$870	$453	108.6%
San Luis Obispo County	$719	$1,118	$399	55.5%
Atascadero	$701	$1,033	$332	47.4%
❖ Paso Robles	$640	$987	$347	54.2%
❖ Heritage Ranch	$795	$1,320	$525	66.0%
Oak Shores	--	--	--	--
San Luis Obispo	$724	$1,153	$429	59.3%
❖ San Miguel	$534	$934	$400	74.9%
Shandon	$713	$1,208	$495	69.4%

❖ *Community in JLUS Study Area*

Source: California Department of Finance: Demographic Research Unit Demographic Profile 2010-2006 and 2000.

From 2000 to 2010, the median gross rent increased by a range of 45% to 176% in the JLUS Study Area. In the 10-year span, the communities of San Miguel and Heritage Ranch in San Luis Obispo County experienced the greatest jump of gross median rent increases by slightly less than twice as much as reported in 2000. However, the most significant change in median gross rent in Monterey County occurred in the community of Bradley by a jump of nearly three times as much as was reported in 2000.

Source: California Department of Finance, San Luis Obispo and Monterey Counties Housing Characteristics, 2000, 2006-2010.

The Base Allowance for Housing (BAH) is a stipend given to uniformed soldiers to augment the cost of living such as renting a home or an apartment, utilities, and renter's insurance.

The BAH is determined by pay grade, local area rental market, and dependency status.

The BAH for the Camp Roberts area varies. However, in 2011, for an Enlisted Private soldier in the National Guard deployed on active duty in the San Luis Obispo and Monterey County area, the monthly BAH ranges from $1,011 to $1,815, respectively. Excluding cost of utilities and renter's insurance, this figure is comparable to the gross monthly rates in the immediate area of Camp Roberts as referenced in Table 2-5.

Source: National Guard Benefits, 2011. http://www.nationalguard.com/benefits and http://www.defensetravel.dod.mil/site/bahCalc.cfm

Assuming a monthly payment of $1,011, a 5% down payment, and 4% interest rate loan (with PMI, taxes and insurance included), a person could theoretically afford a house costing $148,000 on a 30 year loan. Likewise using the same assumptions a person with $1,815 monthly payment could theoretically afford a house totaling $265,000 for 30 year loan.

In 2010, San Luis Obispo County reported a total of 80 residential construction permits:

- Single-Family Units - 60
- Multi-Family Units - 20

Source: San Luis Obispo Chamber of Commerce Economic Profile, 2011-2012

Unlike San Luis Obispo County, the southern portion of Monterey County has seen very little new construction in the last three years. The County reported only one combined building permit for a mini-storage facility including a mobile home residence.

Source: Monterey County, South County Area. Project and Report Listing as of November 2011

Housing Value Trends

Housing value trends can potentially indicate the change in land and home values relative to market fluctuations. These fluctuations can be indicative of development activity or inactivity and location or migration of people and where they will locate. Table 2-6 reports the median housing value trends in the JLUS Study Area from 2000 to 2010.

Table 2-6. Median Housing Values, 2000-2010

Jurisdiction	2000	2010	Number Change	Percent Change
California	$211,500	$458,500	$247,000	117%
Monterey County	$265,800	$566,300	$300,500	113%
❖ Bradley	$92,500	$350,000	$257,500	278%
King City	$138,700	$237,000	$98,300	71%
Lockwood	--	$538,500	n/a	n/a
Salinas	$195,700	$417,400	$221,700	113%
San Ardo	$91,300	$162,500	$71,200	78%
San Luis Obispo County	$230,000	$513,900	$283,900	123%
Atascadero	$201,600	$447,300	$245,700	122%
❖ Paso Robles	$166,000	$417,200	$251,200	151%
❖ Heritage Ranch	$146,300	$342,900	$196,600	134%
Oak Shores	--	$545,000	n/a	n/a
San Luis Obispo	$278,800	$588,400	$309,600	111%
❖ San Miguel	$119,300	$292,800	$173,500	145%
Shandon	$105,900	$263,900	$158,000	149%

❖ *Community in JLUS Study Area*

Source: California Department of Finance: Demographic Research Unit Demographic Profile 2010-2006 and 2000.

The median housing values have more than doubled in some cases, which indicate higher rents and mortgages and increased monthly living expenses for area residents. Compared to the Camp Roberts BAH rates, these values do not help the housing market for the region especially proxiJUNKmate the installation. This trend can potentially encourage longer commute times for installation personnel as they will tend to locate in a region where living expenses are reasonable compared to their salaries.

Source: California Department of Finance, San Luis Obispo and Monterey Counties Housing Characteristics, 2000, 2006-2010

Current Development Overview within the Study Area

A majority of the land within the Study Area is currently used as either open space or agriculture with a few small communities within the Study Area: the unincorporated communities of Bradley to the north, San Miguel to the east, and Heritage Ranch Village to the west; and the City of Paso Robles being the closest incorporated area to Camp Roberts.

Development Adjacent to Camp Roberts

The area surrounding Camp Roberts is a mix of agriculture, rural residential, and recreation / open space uses. The development on the north, west, and east sides of the base ranges from rural residential to agricultural residential.

North

The northern border of Camp Roberts is located in Monterey County and consists of agriculture and open space as well as the unincorporated community of Bradley. Bradley has seen its population decline by almost 23% in the last ten years. A small portion of the northern Camp Roberts boundary abuts one part of the Big Sandy Wildlife Area, which is discussed in greater detail later in this section. The northeastern border of the installation is adjacent to agriculture and open space areas.

East

The eastern side of Camp Roberts is a mix of agricultural and open space, rural residential, and the unincorporated community of San Miguel. US Highway 101 traverses the installation from the east to north. US Highway 101 also serves as the western border to the community of San Miguel. The community of San Miguel was established around the historic Mission San Miguel and supports a population of approximately 2,000 with one elementary school (K-8), Lillian Larsen School, and the newly formed Almond Acres Charter School. The water and wastewater treatment plant has the capability to support a complete build out population of 5,000. Rural residential occurs to the southeast of Camp Roberts at roughly one unit per acre.

While there are no current development projects proposed for the San Miguel area; there is local support for economic development that encourages and attracts defense-related contractors and other compatible development to the area.

> In the San Luis Obispo County General Plan, San Miguel is slated to absorb 37% of the county's affordable housing units. This limits other development opportunities in the community.

South

The southern boundary of Camp Roberts is adjacent to rural residential and agriculture farmlands. The majority of the land immediately south of the installation is in agricultural preserve contracts under the Williamson Act.

Rural residential parcels are immediately south of Camp Roberts. Residential single family parcels are also present near the installation on the south. However, no other major development occurs near the installation to the south.

Atascadero, and San Luis Obispo. These communities provide housing and various recreational amenities to troops and employees of Camp Roberts. The majority of the housing needs for the CNG is met by the City of Paso Robles, while San Miguel and Atascadero augment roughly 15% of the housing needs for the CNG. Only three percent of the CNG personnel reside in the City of San Luis Obispo.

West

The western border of Camp Roberts is surrounded by agricultural lands and a lake / recreational / resort subdivision. The majority of the agriculture lands are in Williamson Act agricultural preserve contracts to protect productive agriculture lands.

The Heritage Ranch is a resort community near Camp Roberts. The Heritage Ranch Village was originally established in the early 1970s as a recreational resort. However in the last 20 years, the lake resort has transformed into a full-time subdivision where there is a mix of lots ranging from less than one acre to one-acre up to 20-acre parcels.

During the summer months the lake resort area experiences an influx of people to participate in recreational activities such as boating and fishing.

Infrastructure

Transportation

San Luis Obispo County's transportation system is managed by the Regional Transportation Planning Agency (RTPA) administered by the San Luis Obispo Council of Governments (SLOCOG). A Regional Transportation Plan (RTP) has been adopted by San Luis Obispo County. The regional plan is updated every five years, and includes a sustainability strategy. Additionally, the Federal Transportation Investment Plan (FTIP) prescribes the various transportation improvement projects for the San Luis Obispo County region including the seven incorporated cities within the area. The FTIP identifies the projects, priority of projects, and funding source in the JLUS Study Area.

US Highway 101 is the major highway serving the Camp Roberts JLUS Study Area as shown on Figure 2-3. This route is mostly a four-lane, divided highway that provides connections from the Study Area to other parts of California. State Highway 46 is a two-lane, divided highway just outside the Study Area, and provides a connection to San Luis Obispo, the Central Coast and inland areas further east.

US Highway 101 runs north–south through the Study Area and connects California to Oregon and Washington.

State Highway 46 runs west-east near the JLUS Study Area and intersects with State Highway 41, which runs northeast through California eventually intersecting State Highway 49.

Air Transportation

There is one civilian airport located in the JLUS Study Area that serves general aviation aircraft. The City of Paso Robles operates the Paso Robles Municipal Airport which provides fuel, line, and maintenance services as well as charter services, hot air balloon amenities, restaurant, and ground transportation services to the community. There is presently no scheduled commercial airline service that uses the Paso Robles Municipal Airport.

The Paso Robles Municipal Airport is situated on 1,272 acres of land and is approximately 15 miles east-southeast of the border of Camp Roberts. The airport supports two runways. Runway 1-19 has a length of 6,009 feet and a width of 150 feet. This runway has the capacity to accommodate a variety of aircraft. The runway supports 106,000 pounds for aircraft with dual-wheel landing gear, 150,000 pounds for aircraft with dual-tandem landing gear, and 135,000 pounds for aircraft with single-tandem landing gear such as the C-130.

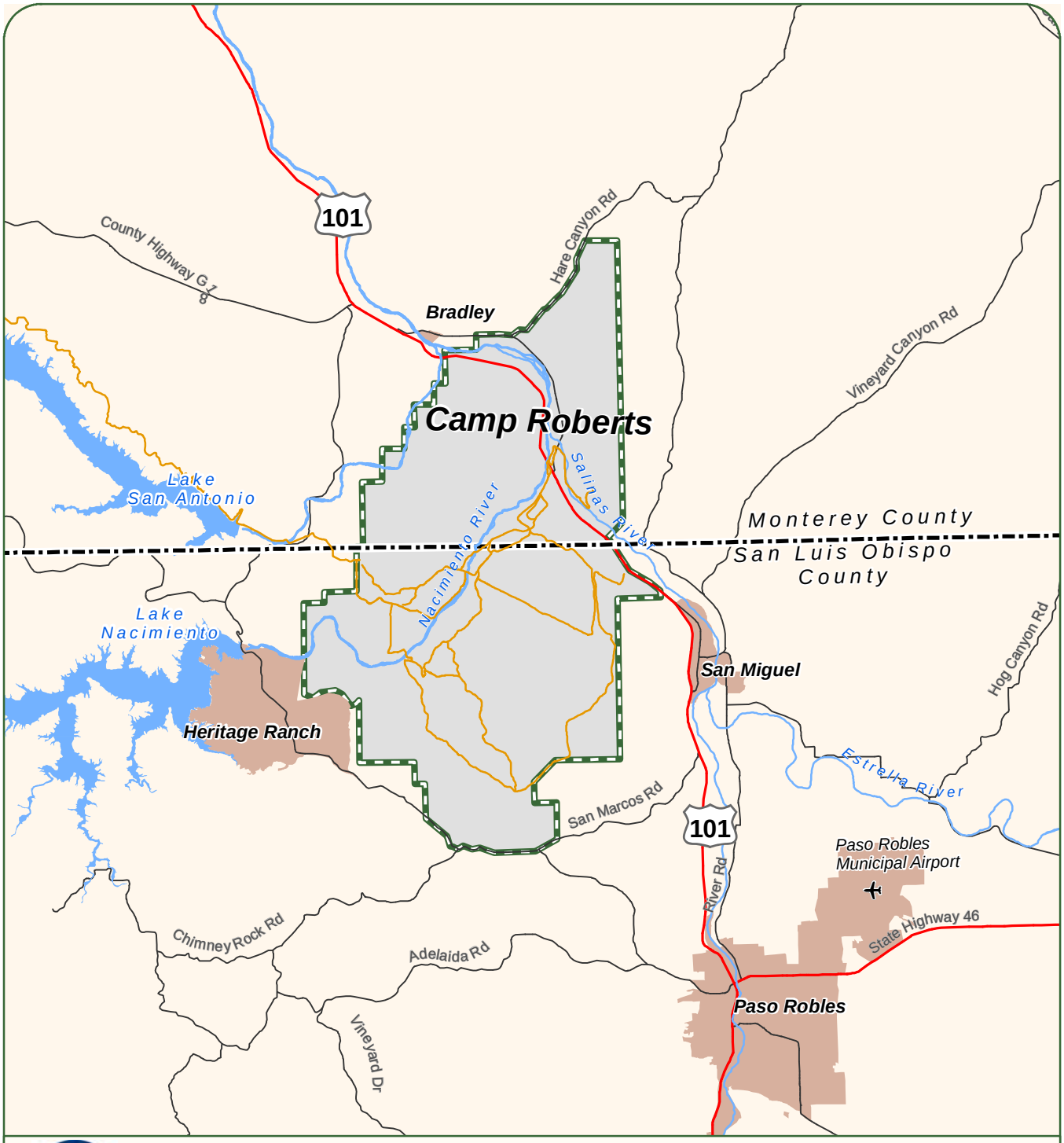


Figure 2-3
Transportation Facilities in the Camp Roberts JLUS Area

Sources: Camp Roberts, 2012; San Luis Obispo County Planning & Building Geographic Technology & Design, Nov., 2011; Monterey County Resource Management Agency, Jan., 2011.

Fig2-3_CRJLUS_Trans_Fac_20130410_JKC.pdf

Runway 1-19 is also equipped with high intensity lights to provide lighted guidance for heavier aircraft. The taxiways are also lit. The second runway is identified as Runway 13-31 with a length of 4,700 feet and a width of 100 feet. This runway has a weight-bearing capacity of 50,000 pounds for aircraft with dual-wheel landing gear and 90,000 pounds for aircraft possessing dual-tandem landing gear. Runway 13-31 is lit with medium-intensity lights to provide ample guidance for smaller planes.

Camp Roberts shares airspace with the Paso Robles Municipal Airport and two privately-owned airstrips within the general JLUS Study Area according to data provided by the FAA.

The City of San Luis Obispo is the primary commercial air transportation hub closest to the JLUS Study Area.

Water and Sewer

The primary potable water source in the JLUS Study Area is the Paso Robles Groundwater Basin; it encompasses an area approximately 800 square miles depicted in Figure 2-4. According to the Paso Robles Groundwater Basin Resource Capacity Study, this water source has been steadily declining throughout the years. Additionally, the State of California has not instituted measures or limits on water consumption to protect the basin. Never-the-less, San Luis Obispo County has addressed the issue through the Paso Robles Groundwater Basin Water Conservation Ordinance that seeks to ensure the sustainability of this water source for the region. The ordinance institutes measures such as offsetting the groundwater use in new development projects and requiring existing groundwater users to expand conservation efforts to rural residential users. In addition, the ordinance encourages the use of landscaping that does not require significant irrigation as well as preserving the native state of lands when not used for development or accessory structures. The ordinance was adopted by the San Luis Obispo County Board of Supervisors in September 2012, and staff has implemented the associated policy and regulatory amendments.

Natural and Cultural Resources

Although San Luis Obispo County is home to five state parks and the Los Padres National Forest, none are near Camp Roberts, and they will not be discussed in this study. However, San Luis Obispo and Monterey counties possess geography inhabited by certain wildlife. Such areas include the Big Sandy Wildlife Area, discussed later in this section. The presence of wildlife and natural lands encourage continuance of the species and ecologies in the JLUS study area and in the region. The qualities of these natural communities are indicators of development impact and other activities that affect habitat and resources.

Federal Mineral Estate

The Bureau of Land Management manages the federal mineral estate beneath Camp Roberts. This estate is governed by the General Mining Law of 1872. The Bakersfield RMP discussed in Section 3, Existing Plans and Programs provides detailed information relative to the federal mineral estate management.

Wildlife Areas

The California Department of Fish and Wildlife (CDFW) manages four wildlife areas in San Luis Obispo and Monterey counties. These areas total over 2,000 acres of wildlife parklands that the DFG owns and operates for both recreational activities and preservation of natural resources and habitat.

Big Sandy Wildlife Area

Big Sandy Wildlife Area is a California Wildlife Area and is located nine miles north of Paso Robles in both San Luis Obispo and Monterey counties. As depicted on Figure 2-5, this 850-acre grassland park is divided into two units and provides habitat to various species including California quail and wild boar. A portion of the park is located just north of Camp Roberts near the unincorporated community of Bradley and another portion abuts the base on the east. This park provides seasonal hunting and fishing activities to area residents and visitors.

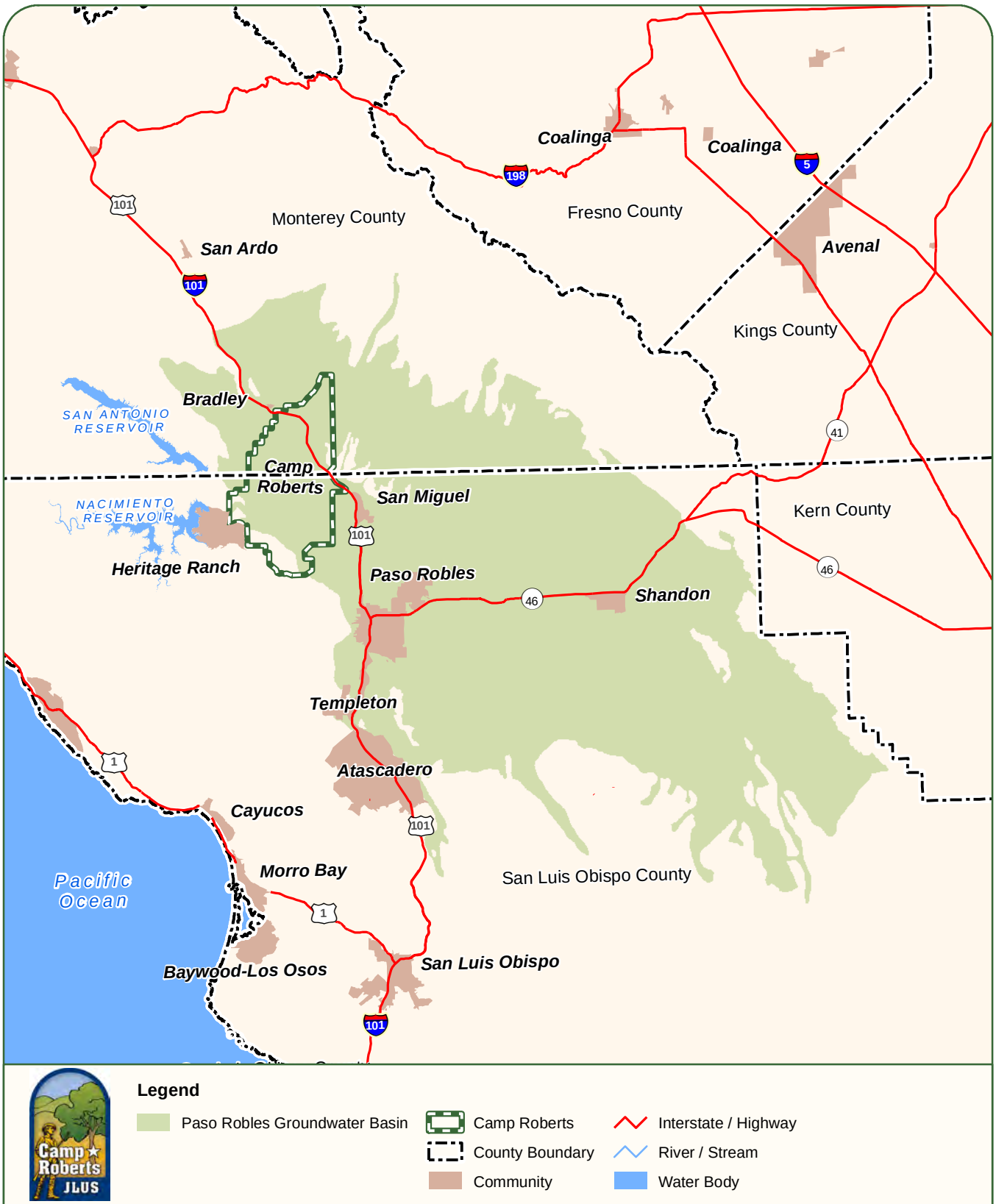


Figure 2-4
Water Resources in the Camp Roberts JLUS Study Area

Sources: Camp Roberts, 2012; San Luis Obispo County Planning & Building Geographic Technology & Design, Nov., 2011; Monterey County Resource Management Agency, Jan., 2011.

Fig2-4_CRJLUS_WaterResources_20130410_JKC.pdf

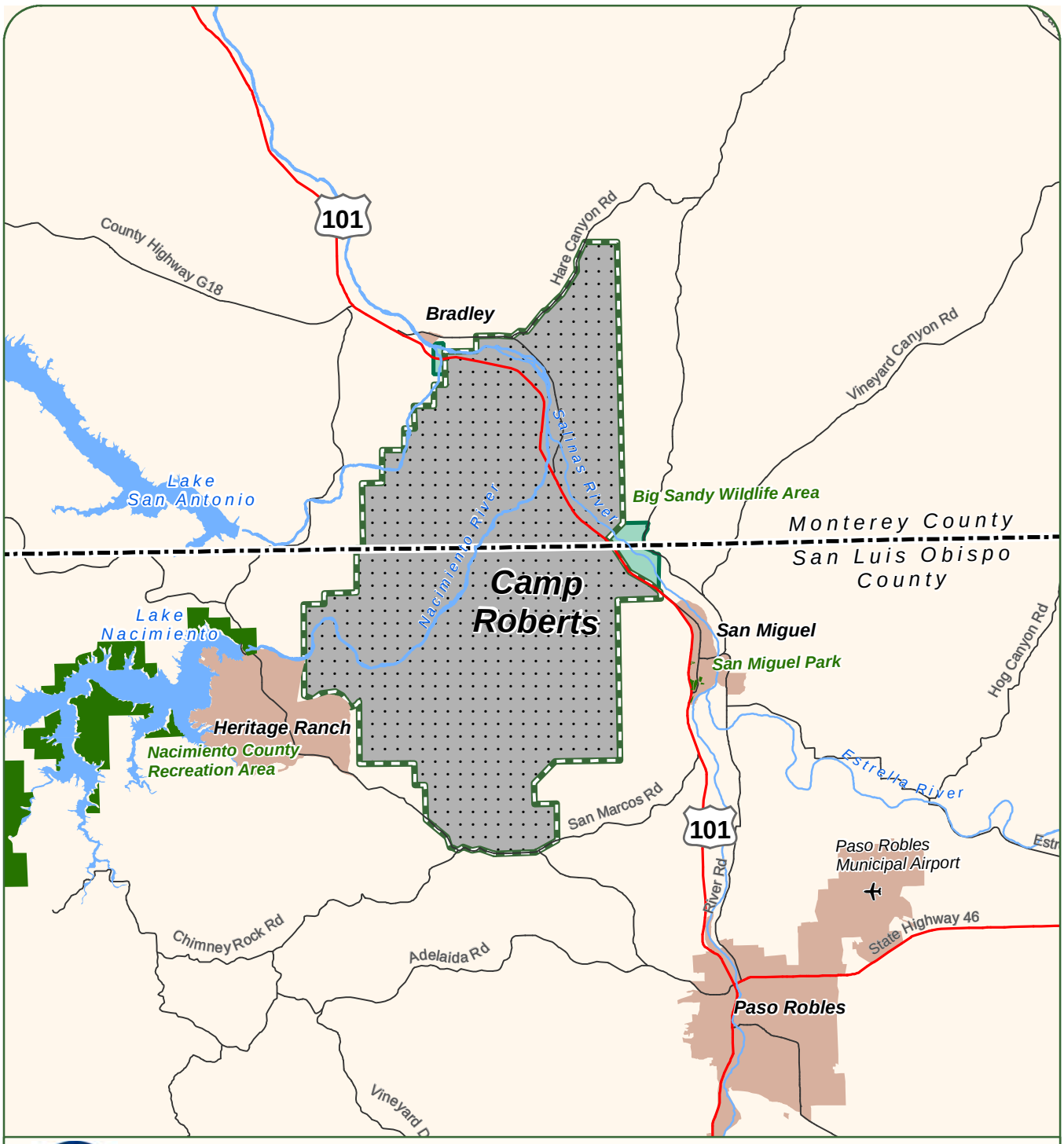


Figure 2-5
Natural Resources and Community Facilities

Sources: Camp Roberts, 2012; San Luis Obispo County Planning & Building Geographic Technology & Design, Nov., 2011; Monterey County Resource Management Agency, Jan., 2011.

Fig2-5_CRJLUS_NatResource_20130412_JKC.pdf

There is no Wildlife Management Plan for Big Sandy Wildlife Area.

The other wildlife areas are not within the Camp Roberts JLUS Study Area; however, they do provide recreational activities and wildlife habitat for both counties. They are:

- San Luis Obispo Wildlife Area
- Morro Bay Wildlife Area
- Moss Landing Wildlife Area

County / Regional Parks

San Luis Obispo County manages approximately 15,000 acres of parkland in six regional parks. One county / regional park, the Rios-Caledonia Adobe is within the JLUS area. It is also a historic landmark registered in the National Register of Historic Places.

Rios-Caledonia Adobe

One county / regional park, the Rios-Caledonia Adobe is within the JLUS area. It is also a historic landmark registered in the National Register of Historic Places.

The historic Rios-Caledonia Adobe is a 1.7-acre site located in the southern portion of the San Miguel community to the southeast of Camp Roberts. In 1835, local Indians built the adobe supervised by a military commander. The adobe has been a rest-stop, store, tailor shop, and an inn among other uses.

Rio-Caledonia Adobe

The other five regional parks are not within the Camp Roberts JLUS Study Area, but they do provide several opportunities for community gathering and recreational activities for residents and visitors alike. They are:

- Biddle Regional Park
- El Chorro Regional Park
- Heilmann Regional Park
- Lopez Lake Recreation Area
- San Margarita Lake Regional Park

Community Parks

San Luis Obispo County Parks owns and manages 11 community and neighborhood parks providing recreational opportunities and activities for residents and visitors across 214 acres. Of these, there are two parks located within the Camp Roberts JLUS Study Area.

San Miguel Park

San Miguel Park is located off US Highway 101 to the east of Camp Roberts. The park is less than 10 acres and is north of the Mission San Miguel and east of US Highway 101 and offers day use activities and pool amenities for the community of San Miguel.

Rios-Caledonia Adobe

The Rios-Caledonia is a historic site that provides tourist attraction amenities to the area. As referenced in the regional parks section of this chapter, the adobe is located just east of Camp Roberts. More information regarding this protected cultural resource is discussed in Section 4.16 Cultural Resources.

Threatened and Endangered Species

According to the US Fish and Wildlife Service (USFWS) there are 36 listed threatened or endangered species in San Luis Obispo County. There are several mammals, birds, reptiles, amphibians, fish, and plants that are designated with special concern. There are two threatened and endangered species' habitats that occur within the Camp Roberts JLUS area; the San Joaquin Kit Fox and the Longhorn Fairy Shrimp. There is confirmed Longhorn Fairy Shrimp critical habitat located within and immediately adjacent to Camp Roberts on the east. Section 4.18, Biological Resources, discusses the species that are associated with the Camp Roberts JLUS Study Area in greater detail. That section also describes activities on the installation that potentially affect the species and the species protection practices that could impact training operations.

Please see the next page.

Chapter 3: Existing Plans and Programs

Please see the next page.

Chapter 3: Existing Plans and Programs

Relative to compatibility planning, there are a number of existing plans and programs that are either designed to address compatibility directly or that indirectly address compatibility issues through the topics they cover. This chapter provides an overview of key plans and programs that impact compatibility planning, organized by level of government. The discussion of plans and programs is presented in the following order:

- *Federal Plans and Programs*
- *California Army National Guard / Camp Roberts Plans and Programs*
- *State of California Departments*
- *State of California Plans and Programs*
- *San Luis Obispo County Plans and Programs*
- *Monterey County Plans and Programs*
- *City Paso Robles Plans and Programs*
- *Other References*

This review is meant to provide an overview of applicable plans and programs and determine how each may apply to compatibility, as presented under the compatibility factors discussed in Chapter 4.

JLUS Observations

Specific relationships between the plans and programs, Camp Roberts, and the overall JLUS planning process are highlighted in text boxes similar to this one throughout this chapter.

Inside Chapter 3 . . .

Federal Plans and Programs

American Indian Religious Freedom Act (AIRFA)

AIRFA establishes the rights of Native Americans to have access to sacred sites or sites of religious importance. It defines a religious site as any place or area including, but not limited to, any geophysical or geographical area or feature:

- Sacred to Native American religion;
- Where Native American practitioners are required by their religion to gather, harvest, or maintain natural substances or natural products for use during ceremonies, rituals, or for spiritual purposes; and/or
- Which is used by Native American religious practitioners for ceremonies, rituals, or other spiritual practices. A religious site may or may not contain physical remains, objects, or other elements that could identify it as an archaeological site. AIRFA defines objects as specific items of use for religious practices that have spiritual or ritualistic importance. They may include sacred objects, non-sacred objects, and objects of cultural patrimony.

Army Compatible Use Buffer (ACUB) Program

Title 10, Section 2684a of the United States Code authorizes the DOD to partner with non-federal governments and private organizations to establish buffer zones around critical active military assets. Within the Department of the Army, this program is called the ACUB program. Through the ACUB program, military installations work with agency partners to establish buffer zones that can help to protect habitat, sensitive areas, and training areas without acquiring any new land for Army ownership. Through the Fiscal Year (FY) 2011 ACUB funds, Camp Roberts was able to acquire the development rights of three parcels in the San Miguel Ranch area, to the east of the installation. Furthermore, Camp Roberts has identified more priority property areas and has submitted proposals to DOD for FY 2012 program funds.

Draft Bakersfield Resource Management Plan (RMP) and Environmental Impact Statement (EIS)

The Draft Bakersfield RMP and EIS discuss various natural and cultural resources in the Bureau of Land Management (BLM) Bakersfield Field Office planning area. The plan outlines current preservation and mitigation practices as well as four alternative options for managing the resources found in this area. The management plan area encompasses over 17 million acres of lands located in central California. BLM administers over 400,000 acres of surface estate and 1.2 million acres of subsurface federal mineral estate. Camp Roberts is situated directly over federal mineral estate. The installation is also located in other natural resource areas that should be considered in land use and compatibility planning. Such resources include: wildland fire management, groundwater resources, and visual resources. The relevance of this plan to the specific natural resources will be discussed in more detail in Section 4.20 Scarce Natural Resources.

Bird / Wildlife Aircraft Strike Hazard (BASH)

A BASH plan is designed to minimize wildlife and bird strike damage to military aircraft. A BASH plan is designed to manage birds, alert aircrew and operations personnel, and provide increased levels of flight safety, especially during the critical phases of flight, take-off and landing operations. Bird aircraft strike hazards are minimal at Camp Roberts, but the plan is generally described here to provide awareness and tools to use should the issue occur. Specifically, the plan is designed to:

- Designate a Bird Hazard Warning Group (BHWG) and outline the members' responsibilities.
- Establish procedures to identify high hazard situations and establish aircraft and airfield operating procedures to avoid these situations.

- Ensure that all permanent and transient aircrews are aware of bird hazards and the procedures for avoidance.
- Develop guidelines to decrease the attractiveness of the airfield to birds and disperse the number of birds on the airfield.

Clean Air Act (CAA)

The CAA is the comprehensive federal law that regulates air emissions from stationary and mobile sources in order to control air pollution in the United States. Under the CAA, the U.S. Environmental Protection Agency (EPA) establishes limits on six criteria pollutants through the National Ambient Air Quality Standards (NAAQS). Standards are set to protect public health and public welfare. The CAA also gives EPA the authority to limit emissions of air pollutants coming from sources like chemical plants, utilities, and steel mills. Individual states or tribes may have stronger air pollution laws, but they may not have weaker pollution limits than those set by EPA. Under the law, states have to develop State Implementation Plans (SIPs) that outline how each state will control air pollution under the CAA.

Clean Water Act (CWA)

The CWA governs the management of water resources and controls and monitors water pollution in the US. The CWA establishes the goals of eliminating the release of toxic substances and other sources of water pollution to ensure that surface waters meet high quality standards. In so doing the CWA prevents the contamination of nearshore, underground and surface water sources.

Department of Defense Conservation Partnering Initiative

In 2003, Congress amended Title 10 U.S.C. §2684a and §2692a (P.L. 107-314), the National Defense Authorization Act, to add authority to the DOD to partner with other federal agencies, states, local governments, and conservation based Non-Governmental Organizations (NGO's) to set aside lands near military bases for conservation purposes and to prevent incompatible development from encroaching on, and interfering with, military missions. This law provides an additional tool to support smart growth, conservation, and environmental stewardship on and off military installations.

Readiness and Environmental Protection Initiative (REPI)

To implement the authority provided by the DOD Conservation Partnering Initiative, the DOD established the Readiness Environmental Protection Initiative (REPI). This initiative enables DOD to work with state and local governments, non-governmental organizations, and willing landowners to limit encroachment and incompatible land use.

REPI funds are used to support a variety of DOD partnerships that promote compatible land use. By relieving encroachment pressures, the military is able to test and train in a more effective and efficient manner. By preserving the land surrounding military installations, habitats for plant and animal species are conserved and protected.

DOD Partners in Flight (PIF) Program

The DOD PIF program employs habitat-based management strategies in order to maintain healthy landscapes and training lands. PIF representatives assist natural resource managers in improving the monitoring, management, and education programs involving birds and bird habitat. The PIF published a Strategic Plan which identifies actions that support mission activities while securing bird populations.

National Pollutant Discharge Elimination System (NPDES)

Per the CWA, the NPDES permit program controls water pollution by regulating point sources that discharge pollutants into US waters. Point sources are discrete conveyances such as pipes or man-made ditches. According to the law, individual homes that are connected to a municipal system, use a septic system,

or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.

Endangered Species Act (ESA)

The ESA establishes a program for the conservation of threatened and endangered plants and animals and their habitats. The US Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration (NOAA) are the lead implementing agencies of the ESA. The ESA requires federal agencies, in consultation with the USFWS and/or the NOAA Fisheries Service, to ensure that actions they "authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species." The law also prohibits any action that causes a taking of any listed species of endangered plant, fish, or wildlife. ESA provides a platform for the protection of critical habitat and species that may be at risk of extinction.

Federal Land Policy and Management Act of 1976 (FLMPA)

The FLPMA established the authority for public agencies that possess public lands to be managed and planned according to national and local interests. Additionally, the law prescribes that public lands that have been identified for development shall uphold and protect the scientific, scenic, historical, ecological, environmental, and other values that are unique to specific geographies. This law provides the impetus for the various resource management plans that have been developed and prepared for public agencies (i.e. BLM) including the Draft Bakersfield RMP and EIS.

Federal Aviation Act

The Federal Aviation Act was passed in 1958 to provide methods for overseeing and regulating civilian and military use of airspace over the United States. The Act requires the Secretary of Transportation to make long-range plans that formulate policy for the orderly development and use of navigable air space. The intent is to serve the needs of both civilian aeronautics and national defense, but does not specifically address the specific needs of military agencies. Military planning strives to work alongside local, state, and federal aviation law and policies but sometimes must supersede these and other levels of government due to national security interests. The Federal Aviation Administration (FAA) was created as a result of the Act for a variety of purposes, including the management of airspace over the US.

The 500-foot rule, promulgated by the FAA, states that every citizen of the United States has "a public right of freedom of transit in air commerce through the navigable air space of the United States". The rule was formally announced in the 1963 Court of Claims ruling in Aaron v. United States and states that flights 500 feet or more above ground level (AGL) do not represent a compensable taking because flights 500 feet AGL enjoy a right of free passage without liability to the owners below.

Another important outcome of the Act is FAA Regulation Part 77, commonly known simply as Part 77, which provides the basis for evaluation of vertical obstruction compatibility. This regulation determines compatibility based on the height of proposed structures or natural features in relation to their distance from the ends of the runway. Using a distance formula from this regulation, local jurisdictions can easily assess the height restrictions near airfields. Additional information on Part 77 is located on the Federal Aviation Administration Internet site at http://www.faa.gov/.

As of January 29, 2013, the main focus of Part 77.17 is to establish standards used to determine obstructions within navigable airspace, typically within a certain distance from an airport or airfield. It defines an obstruction to air navigation as an object that is of greater height than any of the following heights or surfaces in the following manner:

- A height of 499 feet AGL at the site of the object.
- A height that is 200 feet AGL or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest runway more than 3,200 feet in actual length. This height increases in the proportion of 100 feet for each additional nautical mile of distance from the airport up to a maximum of 499 feet.
- A height within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area, which would result in the vertical distance between any point on the object and an established minimum instrument flight altitude within that area or segment to be less than the required clearance.
- A height within an en route obstacle clearance area, including turn and termination areas, of a federal airway or approved off-airway route, that would increase the minimum obstacle clearance altitude.
- The surface of a takeoff and landing area of an airport or any imaginary surface established under 77.19, DOD: 77.21, and heliports: 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

Installation Compatible Use Zone (ICUZ)

The ICUZ is a program that provides a methodology for assessing impacts of noise generated by military operations on surrounding communities. This program was established by the Department of Defense (DOD) to assist US Army installations and surrounding communities to develop guidelines for land use planning to mitigate noise and other hazards to the general public while protecting the public investment in the installation. This program enables compatibility measures for both the US Army and surrounding communities.

Noise Zone Profile

Noise is the cornerstone of the ICUZ program. Noise impacts translate into several zones for which land use planning guidelines are developed to protect the public. The noise zones are:

- **Zone I –** noise that occurs in this area is compatible with most noise-sensitive land uses.
- **Zone II –** noise is generally incompatible with noise-sensitive land uses.
- **Busy Day Zone II –** noise is the best scenario where increased training operations provide installation personnel the capability to predict possible complaints. This assists installation personnel with accurate notification and awareness to provide to the public on expectations of training operations and their frequency impacts.
- **Zone III –** noise is incompatible with noise-sensitive land uses.

National Environmental Policy Act (NEPA)

The NEPA of 1969 is a federal regulation that established a US national policy promoting the protection and enhancement of the environment and requires federal agencies to analyze and consider the potential environmental impact of their actions. The purpose of NEPA is to promote informed decision-making by federal agencies by making detailed information concerning significant environmental impacts available to both agency leaders and the public.

All projects receiving federal funding require NEPA compliance and documentation. NEPA is applicable to all federal agencies, including the military. Not all federal actions require a full EIS. In some cases, an action may not cause a significant impact, and so the agency would then prepare an Environmental Assessment (EA).

A NEPA document can serve as a valuable planning tool for local planning officials. An EA or EIS can assist in the determination of potential impacts that may result from changing military actions or operations and their effect on municipal policies, plans and programs, and the surrounding community. Public hearings are required for all EIS documents released under NEPA. An EA requires publishing the draft EA and Finding of No Significant Impact (FONSI) and also allowing public comment for a period of 30 days. An EA can either end in a FONSI, or a Record of Decision (ROD) that concludes there will be a significant impact. The information obtained by the EA / EIS is valuable in planning coordination and policy formation at the local government level.

NEPA mandates that the military analyze the impact of its actions and operations on the environment, including surrounding civilian communities. Inherent in this analysis is an exploration of methods to reduce any adverse environmental impact. The EIS is a public process that welcomes participation by the community.

National Historic Preservation Act

Issues and related strategies have been developed based on guidance provided through the National Historic Preservation Act (NHPA) of 1966, which requires federal agencies to consider the effects of a proposed project on properties listed in, or eligible for listing in, the National Register of Historic Places. Because no specific action is being proposed as part of this planning process, the review of cultural resources is focused on the identification of existing resources and not potential effects that would result from a specific proposed action.

Noise Control Act of 1972

The Noise Control Act of 1972 determined that noise not adequately controlled has the potential of endangering the health and welfare of people. It states that all Americans are entitled to an environment free from noise that can jeopardize their general health and quality of life. Along with state, local, and territorial governments, actions from the federal government were needed to ensure that the objectives of the Act were met.

Concurrently, military installations were experiencing the impacts related to encroaching urban development locating adjacent to their boundaries and the resulting complaints regarding noise from military flight operations. The DOD responded by establishing the ICUZ program.

The Noise Control Act, as well as the ICUZ program, is important because encroaching development and increased population near military installations often creates compatibility concerns. As communities grow, it is important that the military installation, developers, and the affected communities work together to mitigate the issue of noise and develop ways to coexist compatibly.

Safe Drinking Water Act (SDWA)

The SDWA is the main federal law that ensures the quality of drinking water in the United States. SDWA authorizes the EPA to set national health-based drinking water standards to protect against both naturally-occurring and man-made water contaminants. SDWA applies to every public water system in the U.S.

The Sikes Act

The Sikes Act requires the DOD to develop and implement Integrated Natural Resources Management Plans (INRMPs) for military installations across the United States. INRMPs are prepared in cooperation with the Fish and Wildlife Service and State fish and wildlife agencies to ensure proper consideration of fish, wildlife, and habitat needs. The Sikes Act requires INRMPs to be reviewed at least every 5 years with the Service and the States. Army Regulation 200-1, “Environmental Protection and Enhancement,” and policy memoranda guide the ARNG’s implementation of the Sikes Act.

California Army National Guard / Camp Roberts Plans and Programs

Camp Roberts Fire and Emergency Services Fire Management and Vegetation Hazard Reduction Plan

The annual burn plan describes proposed burn sites, the rationale for burning, and alternatives considered, as well as procedures for smoke management, notification, and complaint handling. Prescribed burns are used to manage vegetation, guard against uncontrolled wildfires, and manage and conserve natural resources. The annual plan ensures that prescribed burns comply with all applicable laws and regulations, and serves as the annual permit application for the Air Pollution Control Districts.

Camp Roberts Fire Prevention and Protection Program

Camp Roberts Regulation 420-3, the Fire Prevention and Protection Program, revised in July 2009, prescribes policies and procedures governing fire protection and prevention. The goal of the regulation is to eliminate the loss of life and property by fire and to educate personnel in methods to prevent fire. The regulation identifies responsibilities of camp personnel, establishes fire reporting, response, and evacuation procedures, and describes best practices to prevent fires. Wild land fire reporting and response procedures are also identified.

JLUS Observations

The FPPP gives responsibility of establishing a Control Burn program to the Director of Emergency Services, but does not set any policies or procedures regarding controlled burns, nor does it list any procedures for notifying the Air Pollution Control Districts.

California Army National Guard Statewide Installation Operational Noise Management Plan (ONMP)

Per the Noise Control Act of 1972, the California Army National Guard (CAARNG) completed the CAARNG Statewide ONMP in 2004. The plan includes future-oriented strategies aimed at maximizing training efforts in war-like environments and mitigating adverse effects on the surrounding communities. The CAARNG ONMP provides a methodology for analyzing noise related to military training operations, and educates and discusses noise mitigation measures, noise complaint management procedures, and noise abatement protocol. Furthermore, the Plan outlines land use guidelines for communities to use to encourage and support compatibility planning.

ONMP describes the noise environment at Camp Roberts and the use of terrain to help mitigate the impacts of noise to off-base land uses. Sources of noise heard off-installation include artillery firing, aerial gunnery, night flying training, and helicopter flights. The plan discusses Camp Roberts and the community attitudes towards the installation relative to training exercises and subsequent noise generation.

The ONMP identifies the biggest challenge for the Camp Roberts area as the noise generated by overflight from helicopters. The helicopter flight paths round out the areas of the Lockwood community in Monterey County and the Heritage Ranch Village community in San Luis Obispo County. In response to such reports, Camp Roberts has enforced and maintained five no flyover zones, a curfew on night fire, and weight limits on demolitions.

Additionally, the ONMP briefly discusses the various efforts by state and local governments to manage noise and address compatibility concerns. State law requires counties and cities to develop noise elements within their general plan (GP) to mitigate adverse impacts generated from noise sources and protect the general welfare of the public. In applying state law, both San Luis Obispo and Monterey counties have updated their

GP noise elements to include compatibility measures as it relates to military training operations and noise impacts. Such measures include:

- Generally, using a measurement that expressly describes the noise impacts at the community level, the Community Noise Equivalent Level (CNEL).
- Developing a "Land Use Compatibility for Community Noise" chart for each county affected by the prescribed noise sources outlined in the state legislation.
- The Monterey County GP prescribes that a noise impact analysis shall be required in the environmental review process in areas where noise-sensitive land uses are 'generally unacceptable' or projects are likely to produce noise that exceeds the levels detailed in the Noise Control Ordinance for existing or planned noise-sensitive areas.
- The San Luis Obispo County GP has established both exterior and interior noise level standards based on noise sources, noise frequency, and type of land use.
- Generally, San Luis Obispo and Monterey counties are responsible for coordinating planning with other agencies around the borders of Camp Roberts, specifically the Tank Trail.

The CAARNG ONMP was developed as an installation reference guide, and as such, is not for general public use. However, the noise complaint form that resulted from the ONMP is accessible by internet.

JLUS Observations

CAARNG's Statewide ONMP is a valuable reference to military and community stakeholders and should be publicly accessible.

Camp Roberts Integrated Natural Resources Management Plan (INRMP)

Camp Roberts' latest INRMP was finalized in November 2001 and covers the period of FY 2002 to 2006 and meets the requirements set out by the Sikes Act. An update of the INRMP is currently in progress, and an anticipated completion date has not yet been determined. The INRMP outlines the various natural resources including threatened and endangered species and important habitat found on the installation, inter-agency responsibilities and coordination efforts, and the overall management plan for natural resources on Camp Roberts to ensure no loss of capability for military training exercises. According to the INRMP, Camp Roberts is known to contain a wide array of ecosystems and wetlands. The INRMP provides strategies for managing these natural resources based on stated goals. The stated policies of the INRMP are:

- Ensure no net loss in the capability of Camp Roberts lands to support the military training mission;
- Integrate natural resources management with military training missions;
- Ensure compliance with all federal and state laws and regulations relating to natural resources;
- Manage federally and state listed threatened and endangered species and important habitat to ensure compliance with existing biological opinions (BOs) and the *California Endangered Species Act of 1984* (CESA) and federal ESA;
- Conserve and protect riparian, wetland, and aquatic habitats;
- Conserve trees through protection and by mitigating for tree removal;
- Provide environmental awareness education to Camp Roberts' commander, staff, troops, employees, tenants, and visitors;

- Define responsibilities for the management of natural resources; and,
- Provide an accurate, up-to-date source of natural resources data and inventories at Camp Roberts.

These goals are designed to protect the many ecosystems on the installation and simultaneously preserve the integrated training areas.

The INRMP identifies Camp Roberts's natural habitat and species for the purpose of managing, maintaining, and preserving its resources. The INRMP is focused on the resources located on Camp Roberts and does not consider or address impacts generated by training on nearby off-installation areas on natural resources. Currently, an updated INRMP is being developed for the 5-year planning period between 2012 and 2017. The previous INRMP covered the planning period of Fiscal Year (FY) 2002 to 2006. The purpose of the INRMP is to strike a balance between the ability of the military to accomplish its training mission, while at the same time being a good steward of the land and natural resources (including sensitive species located on-Camp) to ensure that they are protected as best as can be. The Plan identifies management goals to accomplish this balance, and includes information and instructions for personnel at Camp Roberts to do their part in maintaining the natural resources during training or mission activities.

JLUS Observations

- While the 2001 INRMP is out-dated, the installation is in the progress of updating the plan.
- In the 2011 INRMP Draft for Camp Roberts, a BO determined that the McMillan Airfield expansion was in compliance and would not adversely affect the San Joaquin kit fox or the vernal pool fairy shrimp.

California Army National Guard Integrated Pest Management Plan (IPMP)

The IPMP describes pest identification and management methods and well as health, safety, and environmental procedures. The goal of the plan is to reduce reliance on pesticides, enhance environmental protection, and to maximize the use of integrated pest management techniques. Pests covered in this plan include: weeds and other unwanted vegetation, mosquitos, birds, mice, rats, snakes, insects, and other pests.

California Army National Guard Regulations

The CAARNG, Installations Division, Environmental Branch has established a number of different regulations that outline procedures and guidelines for managing various matters including environmental issues on the camp. These regulations include:

- **Camp Roberts Regulation 350-1.** This regulation provides for the unique geography and war-fighting components on the Camp Roberts installation as there is no other training installation like Camp Roberts.
- **CAARNG Regulation 420-3.** This regulation provides the education and guidance to Camp Roberts' military and civilian personnel about fire prevention practices and procedures to follow in the event of a fire.

State of California Departments

California Environmental Protection Agency (Cal/EPA)

The Cal/EPA is the agency responsible for the development and implementation of the state's environmental protection laws that provide for clean air, water, and soil and safe pesticides and waste reduction and recycling. The Cal/EPA has several financial assistance programs for both public and private entities to assist with the costs of environmental planning and development. Such

programs consist of grants and loans for education and training while other financial assistance programs are loans that subsidize the cost of water resource planning and agricultural drainage planning. Cal/EPA provides the Environmental Enforcement and Training Grants to public and private entities to educate and train public servants, such as fire fighters and peace officers, about environmental enforcement actions. The Agricultural Drainage Loan Program provides assistance through low-interest loans to projects that address treatment, storage, and conveyance of agricultural drainage that threatens the state's natural water resources.

The Cal/EPA offers several programs for technical assistance and environmental education and awareness. One such program is the National Environmental Information Exchange Network (NEIEN) Grant Program. This system is a partnership among states, tribes, and the US Environmental Protection Agency to share environmental information. The information is organized by medium:

- Air
- Facilities
- Hazardous Materials
- Water

Source: California Environmental Protection Agency, http://www.calepa.ca.gov/Programs/

California Department of Conservation

The Department of Conservation is the state agency responsible for educating and promoting the environmental health through informed land use decisions and enabling sound land management practices that protect California's natural resources. California's Department of Conservation offers several programs to conserve and preserve the agricultural geography and value that is unique to the state; such programs include grant programs like the Sustainable Community Planning Incentive Grants and Watershed Coordinator Grants. The grants are offered to public agencies and quasi-public agencies, i.e. Metropolitan Planning Organizations (MPOs) and Councils of Government (COGs), and larger grant awards are considered for partnering agencies. The Sustainable Community Planning Incentive Grant is a state grant with the goal of reducing greenhouse gas emissions and promoting several sustainable program objectives such as improving air and water quality, promoting equitable and affordable living, and promoting water conservation.

Additionally, the Watershed Coordinator Grants offer financial assistance to special districts, non-profit groups, and local governments for collaborative planning to promote watershed management and to improve watershed infrastructure. Camp Roberts is largely surrounded by agricultural lands for which irrigation and crop management practices are in place. These state grants assist local governments with water conservation and resource management for the area.

The California Land Conservation Act / The Williamson Act

The California Land Conservation Act (CLCA) of 1965, Sections 51200 et seq. of the California Government Code, commonly referred to as the "Williamson Act", was enacted in 1965 with the aim of preserving and protecting California's leading industry, agriculture. It is the most prevalent regulatory method of preserving farmland in the State of California and enables local governments (cities and counties) to enter into contracts with private landowners for the purpose of restricting certain parcels of land to agriculture or open space for a minimum of ten years. In return, landowners receive property tax assessments that are much lower than normal because they are based upon farming and open space uses as opposed to full market (speculative) value. Local governments should receive an annual subvention of forgone property tax revenues from the state via the Open Space Subvention Act of 1971. However the State began reducing subvention funding for counties in fiscal year 2009 (FY 09), in some cases it was a significant reduction such as the 33% reduction of San Luis Obispo County subvention monies. This reduction of subvention funding would ultimately be eliminated from the State's budget in FYs 11 and 12.

Although San Luis Obispo County has not received the subvention funding in recent years, the County continues to support the Agriculture Preserve Program because it values the program's purpose, protecting the State's premier economic industry, agriculture.

Source: http://www.conservation.ca.gov/dlrp/Pages/index.aspx

JLUS Observations

San Luis Obispo County obtained a $399,000 State of California Conservation grant to develop a strategic growth plan in October 2011.

California Department of Fish and Wildlife (CDFW)

The CDFW is the state's agency responsible for overseeing and managing California's wildlife and natural communities. CDFW provides protection and maintenance of wildlife habitat, and administers California's natural communities for educational, recreational, commercial, and scientific uses. CDFW assists local governments and private organizations through conservation planning programs, including integrated resource management plans, conservation, and mitigation banks that assist developers by providing off-site environmental alternatives for projects that cannot conserve or mitigate within. CDFW also assists when private and public agencies partner to protect land through easements to ensure species and habitat preservation.

CDFW provides planning assistance grants to local governments and private sector organizations to aid in the development of community conservation plans or integrated resource management plans. These grants are also used to acquire land to enable habitat preservation.

Camp Roberts is situated near wetlands and wildlife habitat which provides refuge for various threatened and endangered species; thus providing impetus for coordination and conservation planning with CDFW.

Source: http://www.dfg.ca.gov/about/

JLUS Observations

- There are no formal agreements for coordination and communication between Camp Roberts and CDFW.
- Camp Roberts currently coordinates with CDFW as required by State laws, rules and regulations.
- Inter-agency responsibilities are unclear for CDFW relative to similar mission organizations such as BLM and USFWS.

California Endangered Species Act (CESA)

The CESA allows for an incidental take of a listed endangered species or its habitat for a lawful development project. CESA is based on the foundation of early consultation to avoid adverse impacts to such species and their habitat as well as to develop mitigation planning in projects that will allow for the recovery of said species and essential habitats.

Coordination and a CESA Incidental Take Permit must be obtained from the CDFW before construction starts.

JLUS Observations

As defined by the DFG code Section 86, a "take" is defined as hunting, pursuing, catching, capturing, or killing, or attempting to hunt, pursue, catch, capture, or kill.

Source: California Department of Fish and Wildlife, California Endangered Species Act (CESA), 2012. http://www.dfg.ca.gov/habcon/cesa/incidental/cesa_policy_law.html

California's Wildlife Action Plan

The California Wildlife Action Plan was prepared by the UC Davis Wildlife Health Center for the California Department of Fish and Game and published in 2007. The plan was developed as through Congress's State Wildlife Grants Program. This program provides funding to support state programs for the purposes of generally benefiting wildlife and habitats, with a key focus on "species of greatest conservation need". This plan breaks down the state into nine regions for purposes of analysis and goals. Along with action items to conserve and protect wildlife and habitats throughout the state, other topics include monitoring and adaptive management and strengthening California's conservation capabilities.

California Department of Forestry and Fire Protection (CAL FIRE)

CAL FIRE is the state's lead agency responsible for managing and protecting over 31 million acres of California's privately-owned wildlands. CAL FIRE also provides various emergency services to over 60% of the state's counties. Camp Roberts is largely surrounded by lands where forest fire risks and hazards are substantial and the likelihood of fires range from high to very high. Managing risks from wildland fires on this land is the responsibility of CAL FIRE.

CAL FIRE provides fire awareness through education and training programs. The financial assistance grants that CAL FIRE offers to public entities in rural communities include Volunteer Fire Assistance programs where the state and the local community share costs 50-50. These programs provide technical and financial assistance for equipment.

CAL FIRE also sets the guidelines in building codes in areas of high and very high fire hazards and risks. These building codes are codified and enforced in local government ordinances.

Source: http://osfm.fire.ca.gov/fireplan/fireplanning.php

California Office of Historic Preservation (OHP)

The OHP is the state's division responsible for monitoring and managing California's historic landmarks. The OHP provides guidance and technical assistance to local communities in the registration and maintenance of historic landmarks or sites, as well as guidance for integrating conservation practices with the maintenance of historic elements.

Camp Roberts is situated just west of the historic community of San Miguel which is home to Mission San Miguel and the Rios-Caledonia Adobe. These historic sites are maintained by the communities they are situated in; however, the community and installation should coordinate in any planning efforts or training activities (i.e. those activities that produce heavy vibrations) that are proximate and may impact the historic sites.

Source: http://ohp.parks.ca.gov/

California National Guard (CNG)

The CNG serves as the state's lead agency in managing military personnel for federal and state affairs. This department is responsible for all state-owned military installations, equipment and munitions, including National Guard and Reserve components and Youth Programs. The CNG is led by an Adjutant General that reports to the Governor of California and is required to coordinate with the DOD in Washington DC.

California Department of Transportation (CALTRANS)

CALTRANS is the state agency responsible for planning, construction, maintenance, and regional coordination of the state's roadway infrastructure, including highways and railways. The state highway that falls within the Camp Roberts JLUS study area is US Highway 101; it runs north-south and is the main roadway providing transportation routes to and from the installation. The CALTRANS District 5 serves the Camp Roberts JLUS area.

CALTRANS Interregional Transportation Strategic Plan

The CALTRANS Interregional Transportation Strategic Plan provides a strategic vision for the major routes within the State, with US Highway 101 and State Routes 41 and 46 included as a major focus area. This strategic plan's goals are to improve mobility through interagency coordination and prioritizing improvements.

A working draft report was issued December 2012.While this report is a great example of interagency coordination and interregional planning, the study's proposed projects do not highlight any improvements in the Camp Roberts JLUS study area at this time. However, the interagency coordination used in this plan should be used as a model for other similar types of planning projects to ensure a comprehensive approach is taken and all affected agencies are including early in any planning process.

CALTRANS US Highway 101 Transportation Strategic Plan

The CALTRANS US Highway 101 Transportation Strategic Plan will provide a strategic vision for US Highway 101 within CALTRANS District 5. This plan is currently being updated.

State of California Plans and Programs

California Advisory Handbook for Community and Military Compatibility Planning

The requirement for a compatibility handbook was reflected in Government Code §65040.9, which stated that the California Governor's Office of Planning and Research (OPR) was to prepare "an advisory planning handbook for use by local officials, planners, and builders that explains how to reduce land use conflicts between the effects of civilian development and military readiness activities...".

Completed in 2006, The California Advisory Handbook for Community and Military Compatibility Planning is a milestone toward encouraging local decision-makers, land use planners, developers, and the military to work together to achieve sustainability of military installations. It was designed to serve as a resource to help develop processes and plans that would sustain local economies, safeguard military readiness, and protect the health and safety of California's residents. The Handbook is a useful tool for development of a JLUS as it describes in detail the different compatibility issues that should be explored and the types of compatibility tools available to address identified issues.

California Farmland Conservancy Program

The California Farmland Conservancy Program (CFCP) of 1995, authorized by the California Code of Regulations Title 14, Division 2, Chapter 2, is a statewide grant program that supports and encourages local government agencies and eligible non-profit organizations to preserve California's leading industry, agriculture. The CFCP program enables local government agencies to preserve California's valuable land asset by placing farmlands into agricultural conservation easements. The easements are essentially deed restrictions that limit development from occurring on lands within the easement, while providing for the preservation of the natural environment either for scenic views or for commercial agriculture uses. These easements renew annually unless the landowner or the government agencies opt for non-renewal. There is no minimum number of years required to remain in the program and many do so in perpetuity; therefore, the land remains in the agriculture land use category even if the land changes ownership.

California Health and Safety Code (Section 7050.5) and California Public Resources Code (Section 5097.98)

California law requires that any time human remains are discovered, the relevant county coroner be contacted. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission.

California Historical Resources Information System (CHRIS)

The CHRIS is made up of twelve regional Information Centers and the State Historic Resources Inventory (SHRI). The SHRI is maintained by the California Office of Historic Preservation and includes information on historical resources that have been identified and evaluated through one of the programs that OHP administers. The ICs provide environmental about cultural and historical resources, including archaeological surveys and historic resource surveys. The IC for the Camp Roberts area is the Central Coast Information Center (CCIC).

California Military Land Use Compatibility Analyst (CMLUCA)

The CMLUCA was developed by OPR to assist the development community and local governments in determining if a project affects military training areas and airspace. The CMLUCA is a mapping tool that identifies where a project is relative to the nearest military installation. This enables compliance with state legislation that requires the development community to notify the military of any project that may affect military readiness.

JLUS Observations

The link to the California Military Land Use Compatibility Analyst does not have a presence on jurisdictional websites in the JLUS area.

California Wildfire Coordinating Group (CWCG)

The CWCG is an inter-agency group whose purpose is to strengthen coordination, communication, and cooperation for the provision of support in the event of a wildfire. The CWCG is comprised of various agencies that are involved in fighting wildland fires. The organizations are:

- Bureau of Indian Affairs (BIA) – Pacific Region
- BLM
- CAL FIRE
- California Emergency Management Agency (Cal EMA)
- US Forest Service (USFS) – Pacific Southwest Region
- National Park Service (NPS) – Pacific West Region
- USFWS – Pacific Southwest Region
- Cooperating Fire Agencies

The CWCG operates two field offices—the northern California office in Redding and the Southern California office in Riverside. These offices provide a multitude of services to the wildland firefighting community. Such services include:

- Fire and weather intelligence,
- Products information relative to wildland fire assessment,
- Software applications, and
- Training.

The CWCG serves as an information repository to enable efficient, quick, and effective solutions for decisions related to fighting wildfires.

JLUS Observations

The CWCG website provides wildfire communities the education needed to preserve life and property during wildfires by providing links to the California Mobilization Guide and the California Master Cooperative Wildland Fire Management and Stafford Act Response Agreement.

State Legislation

California has had a history of collaboration with its military; this section provides an overview of related legislation. At times compatibility requires legislation to be enacted to ensure notification and awareness is inherent in the development process. Compatible growth is related to military training and balanced growth.

Assembly Bill 1108

California Assembly Bill (AB) 1108 (Chapter 638, Statutes of 2002) amends the California Environmental Quality Act (CEQA) to require CEQA lead agencies to notify military installations when a project meets certain criteria. The purpose of AB 1108 is to ensure military notification through the CEQA process of proposed projects that could potentially impact military operations.

AB 1108 amends CEQA to provide military agencies with early notice of proposed projects within two miles of installations or underlying training routes and special use airspace. To obtain this information, a military installation such as Camp Roberts, must provide local planning agencies within the critical operations areas (COA), the installation contact person, the relevant information such as impact areas, and boundaries of the installation's COAs. The local lead agency is required to give notice to military installations of any project within their boundaries if: (1) the project includes a general plan amendment; (2) the project is of statewide, regional, or area-wide significance; or (3) the project is required to be referred to the Advisory Land Use Committee (ALUC) or appropriately designated body. This notification will provide the military installation with an opportunity to provide early input so potential conflicts can be evaluated and addressed proactively.

Assembly Bill 2641

The Native American Human Remains and Multiple Human Remains legislation (Chapter 863, Statutes of 2006) amends the Public Resources Code relating to burial grounds. The law authorizes a commission to act to prevent damage to Native American burial grounds or places of worship. The bill calls for meaningful discussion between descendants of those whose remains are found and landowners so the Native American human remains are identified and considered during development activities. The commission must contact the most likely descendants in the event of being notified by a county coroner of a Native American human remains discovery. Upon such discovery, the landowner (to include the federal and state governments) must ensure that the surrounding area not be disturbed or damaged in the vicinity of the discovery location until discussion has taken place with the descendants regarding their recommendations. To protect sites where remains have been identified, the landowner must: record the site with the commission; use an open space or conservation zoning designation or easement; or, record a document with the county in which the property is located.

Assembly Bill 2776

The Aviation Noise Disclosure legislation (AB 2776, Chapter 496, Statutes of 2002) amends the real estate transfer disclosure statute (California Civil Code, Division 2 – Property, Part 4 – Acquisition of Property, Title 4, Chapter 2 – Transfer of Real Property) to require sellers or lessors to disclose airport proximity if a house falls within an airport influence area. An airport influence area is the area in which current or future airport-related noise, overflight, safety or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses. The intent of the legislation is to notify buyers of the potential noise, vibration, odor, annoyances, or other nuisances now or in the future as a result of the normal operation of an existing or proposed airport.

Senate Bill 18

California Senate Bill (SB) 18 (Chapter 904, Statutes 2004) established the Native American Heritage Commission to prevent severe and irreparable damage to a Native American sanctified cemetery, place of worship, religious or ceremonial site, or a sacred shrine located on public property. This legislation also provides for the maintenance of a contact list that

includes federally-recognized California Native American tribes or non-federally recognized California Native American tribes who have the authority to acquire and hold conservation easements.

SB 18 requires all planning agencies to refer to and provide involvement opportunities to California Native American tribes on proposed actions affecting tribes. Prior to the adoption or amendment of a city or county general plan, the jurisdiction must consult with California Native American tribes to preserve specified places, features and objects located within the jurisdiction.

Senate Bill 1462

SB 1462 (Chapter 907, Statutes of 2004) expanded the requirements for local government to notify military installations of proposed development and planning activities. This statute states that "prior to action by a legislative body to adopt or substantially amend a general plan, the planning agency shall refer the proposed action to...the branches of the Armed Forces when the proposed project is located within 1,000 feet of a military installation, beneath a low-level flight path, or within Special Use Airspace (SUA)...".

Furthermore, it authorizes any branch of the United States Armed Forces "to request consultation" to avoid potential conflict and to discuss "alternatives, mitigation measures, and the effects of the proposed project on military installations." Also, SB 1462 requires military review of proposed actions that potentially impact installation operations and missions. This allows the opportunity to comment on proposed development and express concerns with potential impacts to the installation.

Senate Bill 1468

SB 1468 (Chapter 971, Statutes of 2002) requires OPR to include guidance concerning incorporating military installation compatibility into a general plan, and how a general plan should consider the impact of civilian growth on readiness activities at military bases, installations, and training areas. The statute includes the following methods to address military compatibility in a general plan:

> *"In the land use element, consider the impact of new growth on military readiness activities carried out on military bases, installations, and operating and training areas, when proposing zoning ordinances or designating land uses covered by the general plan for land or other territory adjacent to those military facilities, or underlying designated military aviation routes and airspace.*
>
> *"In the open-space element, open-space land is defined to include areas adjacent to military installations, military training routes, and restricted airspace.*
>
> *"In the circulation element, include the general location and extent of existing and proposed military airports and ports."*

SB 1468 is part of a state policy package to promote the development of a partnership between communities and the military that allows for collaboration on land use compatibility issues. OPR encourages local jurisdictions near military installations, and under military training routes or restricted airspace, to incorporate the above items into their general plans.

Local governments are not currently required by law to include the SB 1468 military compatibility issues in their general plans. The bill specifies that if a funding agreement is reached between OPR and the military to support these efforts, the inclusion of military compatibility issues in a general plan will become mandatory.

JLUS Observations

San Luis Obispo and Monterey counties do not have military compatibility considerations in their GP land use elements.

CEQA / NEPA

The CEQA was enacted in 1970 to protect the environment by requiring public agencies to analyze and disclose the potential environmental impacts of proposed land use decisions. CEQA is modeled after the federal NEPA. The Camp Roberts JLUS is statutorily exempt from state or local environmental review per CEQA Guidelines Section 15262, Feasibility and Planning Studies.

The purpose of CEQA is to inform agency decision makers and the public about the potential environmental effects of proposed development activities. Using this information, decision makers can identify ways that environmental impacts can be avoided or significantly reduced by requiring the mitigation of significant environmental effects, when feasible.

Source: California Native American Graves Protection and Repatriation Act

This law provides for the repatriation of Native American remains and funerary materials to the appropriate Native American entities.

Porter-Cologne Water Quality Act

Under this act, the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB) have broad authority to perform water quality regulatory oversight with the goal of preserving and enhancing all beneficial uses of the state's water.

Williamson Conservation Act of 1965

The California Land Conservation Act (CLCA) of 1965, Sections 51200 et seq. of the California Government Code, commonly referred to as the "Williamson Act", enables local governments to restrict the use of specific parcels of land to agricultural or related open space use. Landowners enter into contracts with participating cities and counties and agree to restrict their land to agriculture or open space use for a minimum of ten years. In return, landowners receive property tax assessments that are much lower than normal because they are based upon farming and open space uses as opposed to full market (speculative) value. Local governments should receive an annual subvention of forgone property tax revenues from the state via the Open Space Subvention Act of 1971. See more under the California Department of Conservation.

San Luis Obispo County Plans and Programs

San Luis Obispo County General Plan

The San Luis Obispo County General Plan is divided into several elements that guide development and help establish and maintain the character of the county. These elements include land use, circulation, housing, and economic. Each element is complemented with specific principles, policies, and implementation strategies in an effort to standardize and achieve the county's ultimate vision, which is:

> *"Create and maintain a place that is safe, healthy, livable, prosperous and well-governed."*

JLUS Observations

A major goal of the San Luis Obispo County GP is to achieve internal consistency among the various elements of the plan.

The GP's principles, policies, and implementation strategies are grounded in strategic growth principles. The idea of strategic growth is borne from the concepts of smart growth and strategic planning. Strategic growth has been institutionalized in the General Plan through policies that encourage and require the preservation of farmlands and development to be focused in urban villages and centers. Principles that are codified in the GP include:

- Preserve open space, scenic natural beauty and sensitive environmental areas.
- Conserve energy resources. Conserve agricultural resources and protect agricultural land.
- Strengthen and direct development towards existing and strategically planned communities.
- Create walkable neighborhoods and towns.
- Provide a variety of transportation choices.
- Encourage community and stakeholder collaboration.

The GP prescribes the uses that help achieve the goals of the plan and discourages other land uses that are incompatible with specific land designations. Furthermore, the GP identifies implementation strategies to achieve specific principles. Examples include: developing land banks and forestry programs to plant trees to conserve and preserve land and other natural resources, and develop incentives that encourage energy-efficient and conservation construction practices.

Finally, the GP includes 13 Area Plans; these plans refine the GP's policies relative to the specific planning area and address population growth, economic conditions, circulation, and availability and condition of public services. There are three area plans within the JLUS study area (see Figure 3-1):

- Nacimiento Area Plan
- Adelaida Area Plan, and
- Salinas River Area Plan.

Specific references to Camp Roberts in the GP are primarily included in the noise element whereby the document identifies the sources of stationary noise, establishes the goal of mitigating noise, and addresses the safeguarding of specific types of development from noise generated by military training activities.

Other references to Camp Roberts in the GP include those listed in the Parks and Recreation Element Project List and Safety Element, indicating that the installation allows limited public access for activities such as hunting.

Camp Roberts is located near the Nacimiento Dam. If there is dam failure, it has been determined that Camp Roberts would be inundated with flood waters. The Safety Element references the Monterey County Emergency Action Plan which is discussed in the Monterey County section.

JLUS Observations

- The San Luis Obispo County General Plan Land Use Element recognizes the need to coordinate with affected agencies.
- The San Luis Obispo County Land Use Element incorporates most recently adopted city general plans, including Paso Robles.
- Camp Roberts and its economic impact are not mentioned in the GP.
- Once noise studies are complete at Camp Roberts; they will be incorporated into the GP.

Area Plans

Nacimiento Area Plan

The Nacimiento area is known for the recreational value that it brings to both San Luis Obispo and Monterey counties; it is associated with Lake Nacimiento, a reservoir constructed in 1961 to provide flood protection and a source of water. The area provides tourist and recreational amenities, such as fishing and campgrounds to visitors and residents. The planning area spans 153 square miles and is bound to the west by the Santa Lucia Mountains, to the north by the San Luis Obispo County border, to the east by Camp Roberts, and to the south by the Adelaida Planning Area. The planning area also encompasses the small community of Heritage Ranch Village, mainly consisting of permanent and seasonal populations.

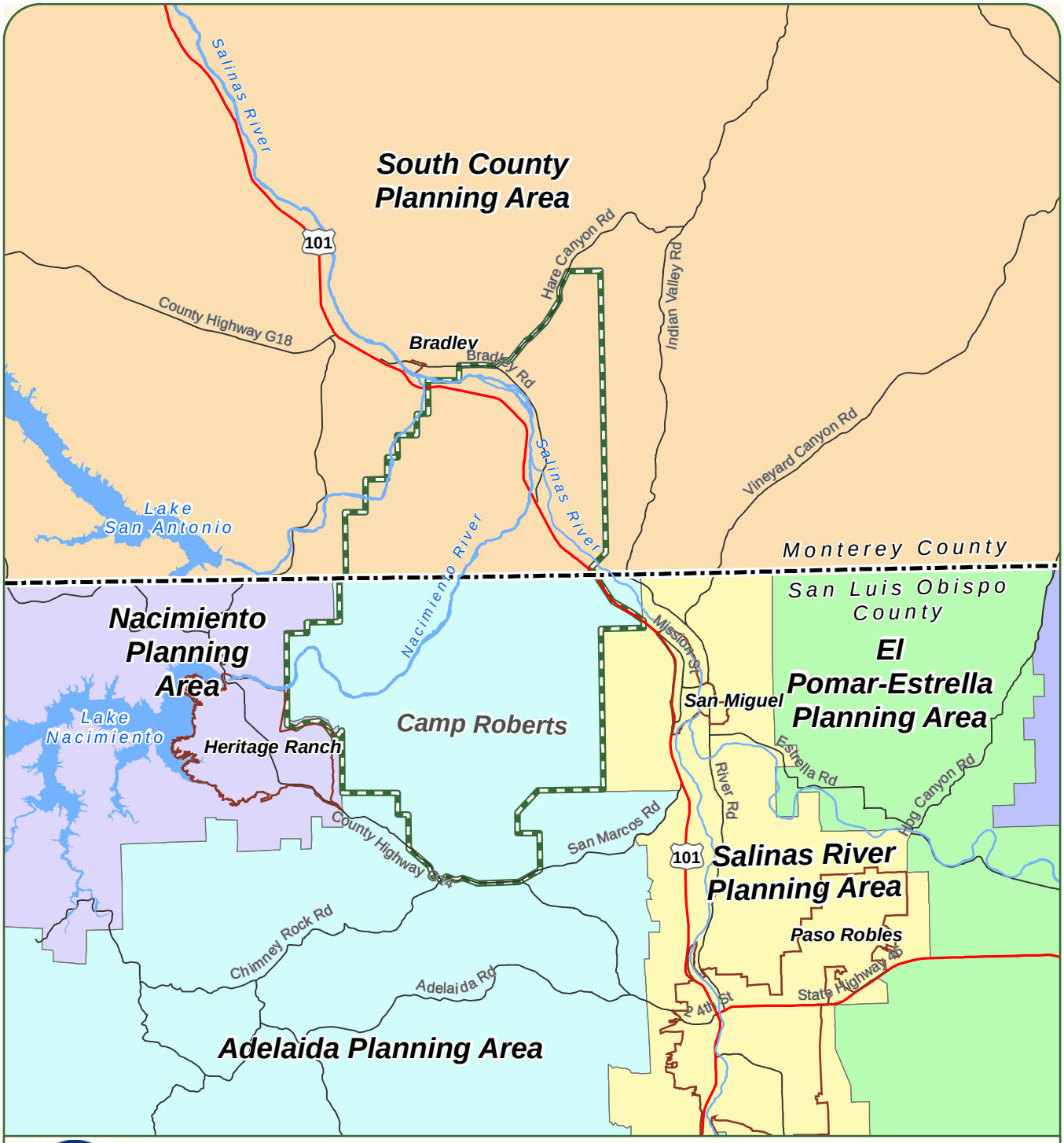


Figure 3-1
Planning Areas in the Camp Roberts JLUS Study Area

Sources: Camp Roberts, 2012; San Luis Obispo County Planning & Building Geographic Technology & Design, Nov., 2011; Monterey County Resource Management Agency, Jan., 2011.

Fig3-1_CRJLUS_PlanningArea_20130410_RGR.pdf

JLUS Observations

- The Nacimiento Area Plan only recognizes Camp Roberts as the eastern boundary of the planning area.
- The plan does not address any potential, reciprocal impacts between Camp Roberts' training exercises and surrounding community activities.
- The plan does not address compatibility with Camp Roberts through measures such as discouraging certain noise-sensitive land uses and densities.

Adelaida Area Plan

The Adelaida Planning area is located south of Camp Roberts as depicted on Figure 3-1. The planning area is roughly 325 square miles and is primarily agricultural. Rural residences and Camp Roberts are in the planning area. The planning area is bound to the west by the western slope of the Santa Lucia Mountains, to the north by the central northwestern county line, to the east by the urban corridor found along US Highway 101, and to the south extending just north of the City of Morro Bay. The area is characterized by rolling hills and flat lands mainly used for agriculture, including dry land farming.

The plan's policy guidance includes recognition of the economic significance of Camp Roberts and the area's response plan in case of wildland fires. Mutual aid agreements referenced in the area plan prescribe organizational and operational responsibilities when a fire occurs; these agreements and response process are managed by the California Division of Forestry.

JLUS Observations

- The Adelaida Area Plan recognizes the Camp Roberts Military Reservation as both an asset and a neighbor.
- The Adelaida Area Plan identifies that public services are unavailable in most areas surrounding the installation.

Salinas River Area Plan

The Salinas River planning area covers approximately 135 square miles including two cities –, Paso Robles and Atascadero; three unincorporated communities — San Miguel, Templeton, and Santa Margarita; and the Garden Farms Village. This area plan encompasses all the urban areas in the JLUS study area. The planning area is characterized by steep and rolling hills typical to this geographical area, and includes two major fault lines, the San Andreas and Nacimiento Faults. The planning area extends west beyond the Salinas River, north to the county line, to the eastern border of Paso Robles, and just south of Atascadero to San Margarita.

The Salinas River Area Plan guides development through foundational goals delineated by the San Luis Obispo County GP. The plan includes goals to preserve the heritage and agricultural traits of the area. However, one issue cited is the housing and jobs imbalance due to lack of available jobs nearby. Many residents living in the planning area commute to the City of San Luis Obispo where the opportunities exist.

JLUS Observations

- The Salinas River Area Plan does recognize the potential future expansion of Camp Roberts' mission requiring the San Miguel community to plan for additional services, housing, and other amenities.
- The Plan recognizes the arrangements for north county septage to be received by Camp Roberts as well as the executed mutual aid agreements for fire protection.

San Luis Obispo County Land Use Ordinance (LUO)

The San Luis Obispo County LUO prescribes regulations for land use, zoning, density, transfer of development credits, noise, building and construction, subdivisions and planning area standards. The San Luis Obispo County LUO is organized into sections that correspond directly with San Luis Obispo County Area Plan Maps. These components and regulations for specific planning areas comprise a land development code to ensure natural resources, public services, and quality of life is preserved, protected, and sustained for future generations within the county.

The LUO describes the regulations for each planning area and specifies permitted, special, and conditional uses, as well as density and structure height standards. Within the San Luis Obispo County Planning Areas discussed in the LUO:

- For the Nacimiento Planning Area, San Luis Obispo County LUO prescribes only 2,900 residential units shall be permitted in the Heritage Ranch Village area near the Camp Roberts southwestern border.
- The only specification in the Adelaida Planning Area regarding development density states that no more than one-single family unit may be built on no less than 80 acres of land unless otherwise subdivided and rezoned to accommodate for the special use or variance.
- The Salinas River Area Plan outlines the Paso Robles Airport Land Use Plan and should a subdivision or zoning request be made on land within the area, it is required to be evaluated against the Paso Robles Airport Land Use Plan.

JLUS Observations

- The San Luis Obispo County GP and LUO strive to be consistent to ensure understanding and optimal enforcement of development standards and preservation of vital natural resources.

San Luis Obispo County Integrated Resource Water Management Plan (IRWMP)

The San Luis Obispo County IRWMP was developed due to the need to manage the various naturally occurring resources within the county in an integrated fashion. These resources include:

- Major Watershed Regions,
- Groundwater Basins and Springs,
- Wetlands and Ecosystems, and
- Various Topography Elements.

The IRWMP covers all of San Luis Obispo County, which is an area characterized by agricultural lands used for farming and grazing that requires the preservation of soils and other natural resources such as groundwater.

The plan identifies the various water resources and other natural resources that are dependent upon water supply and quality. It addresses water supply and usage and public services that manage potable water in certain areas of the county. The plan outlines the programs in place to assist residents and government agencies to sustain the water resource far into the future. The plan identifies Camp Roberts as an agency that uses water from Paso Robles Groundwater Basin; however the plan indicates Camp Roberts' water usage is minimal and does not require major water conservation strategies.

JLUS Observations

The IRWMP included Camp Roberts in the planning process. The plan is a good example of compatibility planning.

Paso Robles Groundwater Basin Management Plan (GMP)

The Paso Robles GMP was developed in 2002 to determine the conditions of the basin such as depth, size, and volume. The basin spans 505,000 acres or roughly 790 square miles and stretches from south of Atascadero to north to San Ardo in Monterey County. Camp Roberts is situated over the Bradley subarea of the basin. The GMP quantified the outflows and inflows and included an assessment of water quality.

The plan divided the basin into subbasins and subareas. Information for the plan was gathered from both private and public wells. These wells now comprise the monitoring network for the basin. The wells provide specific information for each subbasin, including water quality, source of recharge, water flow, and aquifer depth. The GMP illustrates well locations and their activity. Currently, there are no monitoring wells on Camp Roberts, although, there is a proposed well to be located on the installation.

JLUS Observations

The Camp Roberts installation is not illustrated on the figures in the GMP.

The GMP evaluated water resources in the basin including its subbasins to determine water quantity, quality, and other problems associated with the groundwater resource. The GMP evaluated the basin based on utilization and recharge activities to determine the most appropriate course of action to mitigate depletion and conserve the water resource. Mitigation actions included enforcement of water usage conservation measures and guiding new development to locations with adequate water resources.

The Bradley subarea, in which the installation is located, covers approximately 55,000 acres in both San Luis Obispo and Monterey counties. In 2006, water use in the Bradley subarea amounted to roughly eight percent of the total use of the basin. All water demands are met with groundwater; however, the water use within the subarea has increased by 1,000 cubic feet per year in the last 15 years.

JLUS Observations

While Camp Roberts is included in this plan, the plan neglects to mention impact on usage from military training activities.

San Luis Obispo County NPDES

The San Luis Obispo County NPDES is a program that evaluates impact to the watershed from various activities including construction and agriculture activities and determines the amount of contaminants in water associated with these activities. The San Luis Obispo County NPDES includes in its plan several related topics such as impervious cover and its contributions to pollutant discharge, road and bridge maintenance, and vegetation management.

Camp Roberts discharges some surface runoff into nearby Nacimiento River. Furthermore, Camp Roberts conducts convoy operations along the western border of the installation, which creates dust and soil erosion that flows into Lake Nacimiento, a reservoir area.

JLUS Observations

San Luis Obispo County and Camp Roberts collaborate to identify the pollutants caused by surface runoff and the best solution to eliminate such contaminants from returning to the potable, groundwater source.

San Luis Obispo County Transportation Plan

San Luis Obispo County works in coordination and collaboration with the San Luis Obispo Council of Governments (SLOCOG) when it updates its regional transportation plan.

The San Luis Obispo County Transportation Plan is for the maintenance and repair of county roadways and bridges. The County currently administers road improvement programs for the following infrastructure:

- 218 bridges,
- 1091 miles of paved roads,
- 234 miles of unpaved roads,
- 4,800 road culverts,
- 262 cattle guards, and
- 56 flood control basins.

San Luis Obispo County develops Traffic Circulation Studies through the established regulations set forth by County Code, Title 15.

JLUS Observations

The San Luis Obispo County Traffic Code does not discuss convoy training activities at Camp Roberts impacting the local and regional roadway network.

SLOCOG Regional Transportation Plan (RTP)

San Luis Obispo County coordinates and collaborates with SLOCOG with development of the RTP. The RTP is a plan that outlines the vision, goals, and strategies to implement the vision for the regional transportation network. The plan focuses on developing strategies for enhancing transportation infrastructure with minimal funding options. A key finding is that it is no longer feasible to think "building capacity" is sufficient to manage traffic congestion. Rather, the region must develop creative work-arounds to enable reduction in greenhouse gas emissions as well as the effects of those emissions on climate change.

Monterey County Plans and Programs

Monterey County General Plan

The Monterey County GP was updated in 2010 and identifies development policy for the county. The GP is organized into various planning elements, including land use, circulation, economic development, and housing. These elements are organized into goals and policies that guide county development decisions. The goals and policies form the basis for the zoning ordinance, which is designed to enforce and achieve the GP goals.

The northern portion of the Camp Roberts installation is located in the southern half of Monterey County, and thus is affected by the GP and South County Area Plan.

JLUS Observations

- The various elements in the plan as well as the zoning ordinance are consistent with the Monterey county GP.
- Policies LU-6.3 and 6.5 exhibit good policy direction relative to compatibility planning; when initiating an amendment, all stakeholders are included and special considerations must be taken into account in certain circumstances, i.e. military installation training.

South County Area Plan

The South County Area Plan encompasses the most undeveloped land in the southern portion of the county. The plan has been developed to provide specific policy guidance in consideration of the unique features and land use patterns found in the South County geography. The majority of the land uses include Public/Quasi Public uses (i.e. military installations), farmlands, and rural and permanent grazing lands.

JLUS Observations

- The South County Area Plan is consistent with the Monterey County GP Land Use Element.
- South County Policies 1.1-1.3, 2.1, 4.1, 5.3, and 5.6, all represent good compatibility planning as they define the frame work for coordination and collaboration. These policies also provide direction for preserving important ecological and water resources.

Greater Monterey County Integrated Regional Water Management Plan (IRWMP)

Like the SLO IRWMP, the Monterey IRWMP brings together water and natural resource managers and other stakeholders to collaboratively plan for and ensure water supply reliability, water quality, flood management, and functioning ecosystems. The Monterey IRWMP is in the process of being formally adopted by the governing boards of the IRWMP members.

Upper Salinas River Watershed Action Plan

The Upper Salinas River Watershed Management Plan was completed in June 2004 to serve as a management plan for use by land owners, agencies, and other entities to improve, restore, and conserve the Upper Salinas River Watershed. The primary factors addressed by the plan include: improving the water quality, reducing erosion and habitat loss, improving land use policies around the watershed, enhancing habitat, and fostering agricultural needs for the future. The plan also includes goals and strategies for implementation to address the issues identified.

San Antonio and Nacitone Rivers Watershed Management Plan

The San Antonio and Nacitone Rivers Watershed Management Plan (commonly referred to as the Nacitone Watersheds Management Plan) is an inventory of the baseline conditions of the watersheds within the southern portion of Monterey County and the northern portion of San Luis Obispo County. The inventory and baseline conditions are necessary to understand the water quality issues and develop strategies for reducing the impacts on water quality. Such strategies include utilizing alternative land use approaches and inter-agency coordination when conducting land use planning.

The Nacimiento Watershed Management Plan reported the groundwater quality under Camp Roberts is generally acceptable for its uses. The groundwater does not possess bacteria, is typically treated with chlorine and does not require any additional treatment.

The plan also reported there are approximately 30 wells in areas of the installation where contamination may be likely (i.e. the landfill and the wastewater treatment plant). However, these monitoring wells are tested quarterly, and in locations to the north and south of the treatment plant, the wells are tested monthly.

City of Paso Robles Plans and Programs

Paso Robles General Plan

The City of Paso Robles General Plan is the policy document that guides the development of the city for a 20-year planning horizon. It sets the goals and objectives upon which city officials base their decisions regarding the development of the City. The GP was updated in 2003 and is organized into eight elements, they are:

- Land Use,
- Circulation,
- Housing,
- Parks and Recreation,
- Conservation,
- Open Space,
- Noise, and
- Safety.

Pertinent goals in the City of Paso Robles GP related to the JLUS are:

- To enhance the unique small town character and high quality of living of Paso Robles, the City Council supports the development and maintenance of a balanced community where the great majority of the population can live, work, and shop.
- Strengthen the City's economic base through business retention and recruitment, including provisions for "head-of-household" jobs and increased retail sales, transient occupancy taxes, and property tax revenues.
- Establish Paso Robles as the North County commercial retail center, based on providing neighborhood and service commercial development in proportion to population growth, downtown commercial revitalization, and regional commercial development.
- Strive to ensure City services and facilities are maintained at current levels and/or in accordance with adopted standards.

These goals provide the basis for the land use element in which land uses, development densities and intensities are established.

Specific references to Camp Roberts and compatibility planning exist in the Noise Element. Camp Roberts is mentioned as a military installation operating under the CAARNG and at which military training activities are conducted including: live fire artillery, drop zone exercises, and explosive ordnance detonation.

JLUS Observations

- The Paso Robles GP includes an Airport Overlay Area which includes specific airport-related policies and strategies with which development must comply.
- The Paso Robles GP has instituted an Airport Noise Disclosure requirement for new developments, which demonstrates good compatibility planning.
- Camp Roberts is excluded from the noise compatibility matrix presented in the Paso Robles GP Noise Element.
- The Paso Robles GP lacks guidance concerning noise complaints related to Camp Roberts.

Paso Robles Municipal Code

The Paso Robles Municipal Code implements the GP goals, objectives, and standards through zoning, subdivision, and building codes. The City recently adopted the 2010 California Standards for Building, Residential, Green Building Standards Code (mandatory measures only), fire code, and other codes as enacted by the state.

The Paso Robles Municipal Code delineates the height standards, density allowances, and setback requirements for the various zoning districts. This code provides the guidance for the development community and public agencies to collaborate and ensure managed growth occurs for the City of Paso Robles.

Although Paso Robles is approximately 12 miles south of Camp Roberts and the city's planning impact area is not within close proximity to the installation boundaries, it is a good practice to coordinate and collaborate with nearby jurisdictions and relevant agencies to facilitate awareness and understanding.

JLUS Observations

- There are no requirements for including Camp Roberts in the development review / permitting process.
- Coordination with other public agencies that conduct air traffic exercises or aircraft training is not codified in the Code.
- Titles 9 and 17 of the Municipal Code do not establish sound attenuation standards for habitable structures constructed within the city that are impacted by noise.

Paso Robles Groundwater Basin Resource Capacity Study (RCS)

The RCS addresses the state of the Paso Robles Groundwater basin. The RCS estimates total basin groundwater pumping and describes the groundwater basin in terms of its "level of severity" (LOS) based on the rate of depletion and an estimate of the remaining capacity, if any. The RCS provides information so that the San Luis Obispo County Board of Supervisors can adopt whatever measures are necessary to eliminate or reduce the potential for undesirable consequences.

Paso Robles Municipal Airport Master Plan (AMP)

The Paso Robles Municipal Airport is located in the northeastern quadrant of the City of Paso Robles. It is approximately 15 miles southwest of McMillan Airfield at Camp Roberts. The AMP was developed to ensure land use and development decisions surrounding the airport are compatible with the aircraft operations and the mission of the airport.

The AMP also serves as the policy that guides and sets standards for development within the airport property. Any proposed action or development that deviates from the AMP requires an amendment to the GP or zoning ordinance.

JLUS Observations

- As of February 2005, the Airport Master Plan restricted residential development from occurring within the airport planning area.
- Extremely noise-sensitive developments are restricted in the 65- and 70-dBL noise contours of the airport.
- Only moderately noise-sensitive land uses are allowed in the 55- and 60- dBL noise contours.
- Noise mitigation standards are only required for moderately noise-sensitive uses that are located within the 55 dBL noise contour.
- Although the Airport Master Plan sets standards for noise and contains a general provision to refer to the Paso Robles GP Land Use Element concerning restrictions for obstruction of airspace and overflight, the AMP does not state specific height limits for buildings or structures.
- Full disclosure and avigation easements are required for any proposed actions or developments that occur within the Airport Land Use Property.
- There is no reference for coordination of airspace in this plan.

Other References

Resources

In the interest of land use compatibility between the military and the local community, the DOD Office of Economic Adjustment (OEA) and other public interest groups, such as the National Association of Counties (NACo), have prepared educational documents and videos that educate and inform the public about encroachment issues and methods that can be used to address existing or future compatibility concerns. Five resources that have been published to inform the public on land use compatibility are identified as follows:

Guides

The Practical Guide to Compatible Civilian Development near Military Installations (July 2007), OEA

This guide offers general information on community development and civilian encroachment issues. The guide can be found at: http://www.oea.gov/.

Joint Land Use Study Program Guidance Manual (November 2006)

This manual provides guidance on the JLUS program, process, and identifies efforts to support compatible development. This manual can be obtained on the OEA internet site at the following address: http://www.oea.gov/.

Encouraging Compatible Land Use Between Local Governments and Military Installations: A Best Practices Guide (April 2007), NACo

This guidebook presents case studies of best practices between the military and communities through communication, regulatory approaches, and Joint Land Use Studies. The guide can be accessed on the NACo internet site at the following address: http://www.naco.org/.

Videos

The Base Next Door: Community Planning and the Joint Land Use Study Program, OEA

This informative video discusses the issue of encroachment near military installations as urban development occurs within the vicinity.

Managing Growth, Communities Respond, OEA

This video highlights the lessons learned from three communities (Kitsap Naval Base in Bangor, Washington; Fort Drum in Jefferson County, New York; and Fort Leonard Wood in Pulaski County, Missouri) that have successful programs for managing growth near their respective military installations.

Please see the next page.

Chapter 4: Compatibility Assessment

Please see the next page.

Compatibility Factors

Compatibility, in relation to military readiness, can be defined as the balance or compromise between community needs and interests and military needs and interests. The goal of compatibility planning is to promote an environment where both entities can coexist successfully.

A number of factors influence whether community and military plans, programs, and activities are compatible or in conflict. For this Joint Land Use Study (JLUS), a list of 23 compatibility factors was used to characterize local issues. These factors fall into three broad categories: man-made, natural resources, and competition for scarce resources (see graphic at bottom of this page).

Compatibility Assessment

During the preparation of the Camp Roberts JLUS, the public, the PC, and the TC provided input in the identification of compatibility issues as well as the development of strategies to address these issues. This Compatibility Assessment chapter provides a general background on each compatibility factor based on available published data as well as an assessment of the existing and anticipated future conditions within the JLUS Study Area as they pertain to each compatibility factor. The intent is to provide an adequate context for the discussion of issues and strategies associated with each compatibility factor. As such, it is not designed or intended to be used as an exhaustive technical evaluation of existing or future conditions within the study area.

While 23 factors were used to help identify potential issues, only 21 factors were found to have issues as part of the Camp Roberts JLUS. No issues were identified under #17, Legislative Initiatives and #22, Frequency Spectrum Capacity.

Developing Recommendations

JLUS strategies incorporate a variety of actions that can be taken to promote compatible land use and resource planning by local governments, military installations, agencies, and other identified stakeholders. Upon implementation, existing and potential compatibility issues arising from the civilian / military interface can be removed or significantly mitigated. As such, the strategies included in Chapter 4 function as the heart of the JLUS document and are the culmination of the planning process.

Strategy Foundation

This section was developed based on inputs in the previous sections, extensive stakeholder coordination and input, and onsite assessments.

- **Chapter 1** provides an introduction to the planning process. An overview of what a JLUS and the need for such a study is explained.
- **Chapter 2** defines the study area and provides an overview of existing conditions in this study area. The mission and operations conducted at Camp Roberts are also presented in this section.
- **Chapter 3** provides a high level overview of the current planning strategies and tools used in the study area. Before establishing new strategies, it is critical to understand the existing tools that can aid in planning for compatibility and are currently available and in use.

  The purpose of this evaluation is to answer:

  - Is the issue already covered in part or all of the study area? If adequately covered throughout the study area, no further action is needed. If a strategy (tool) is found to currently address the issue but only in a portion of the study area, can it be modified and adopted by other stakeholders?
  - Is a strategy currently in place that only partially addresses an issue identified in Chapter 4? If so, how can that strategy be modified? As an alternate approach, does the strategy need to be replaced with a more effective approach?
  - Is an appropriate strategy missing currently? In this case, what new strategies will fit in with the capabilities of the stakeholders in the study area?
- **Chapter 4** discusses each of the issues identified during the JLUS process, including those that were described by stakeholders through the public involvement process. Insights and experiences provided by private and public stakeholders formed the basis for identification of potential compatibility issues or opportunities. A review of existing conditions and onsite experience by the consulting team builds on input obtained through the public involvement process.
- After the list of compatibility issues was identified and compiled, each of the issues was given a priority ranking by the PC/TC.

  - **High Priority** – these issues are critical to address within the year following completion of the JLUS.
  - **Medium Priority** – these issues are important and should be addressed in within one to three years following completion of the JLUS.
  - **Low Priority** -- these issues within three to five years following completion of the JLUS.
  - **On-Going** – these issues need to be addressed on an on-going basis).
  - **Awareness** – these issues do not need to be addressed in the short-term, but should be monitored.

  The priority of an issue was used when assigning completion years (called “Timing” on strategy tables) for the strategies proposed.

How to Read the Strategies

Strategies are designed to address the issues identified for that topic. The strategies are presented in a consistent table format following the discussion of each factor. The following paragraphs provide an overview of how to read the information presented for each strategy.

It is important to note that once the JLUS process is completed, the final document is not an adopted plan, but rather a recommended set of strategies which should be implemented by the JLUS participants for the JLUS to be successful.

Issue. Each issue is assigned a number for purposes of reference. The numbering system consists of letters representing the factor they address (LU for Land Use, SAF for Safety, etc.) and numbers. The numbers are sequential, with the first issue presented given the number "1", the second "2", and so forth. The numbers do not indicate any type hierarchy or priority.

ID. Each strategy is also assigned an identification letter (A, B, C, etc.). The letters are assigned to provide a unique and easy reference for each strategy. A strategy's reference number is composed of the Issue number and this ID.

Strategy. The third column provides the text of the strategy. The text states what needs to be accomplished.

Camp Roberts Influence Area (CRIA). This column identifies the geographic area where the recommended strategies will be applied. This ensures strategies are only applied to areas where a compatibility issue has been identified (current or future). The five Camp Roberts Influence Areas are described under the section "Camp Roberts Influence Areas" later in this section.

Timing. The year shown indicates the year a strategy should be completed. Several strategies will be needed on a continuous or intermittent, as-needed basis. For these strategies, the word "On" is used to designate these as "on-going" strategies. The timing of strategies was based on the priority level assigned to each issue by the PC/TC, and refined to reflect the time needed to implement each strategy.

Local / State / Federal Stakeholders. The major stakeholders who will be responsible for ensuring the strategies are implemented are listed on the top of each strategy table. Many of the strategies will require a collaborative effort, thus more than one stakeholder may be identified as the responsible party. A square symbol (■) designates that the stakeholder identified is responsible for implementing the strategy. A hollow square (□) designates that the stakeholder plays a key supporting role, but is not directly responsible for implementation.

Sensitive Land Uses

In this section, some strategies use the term "sensitive land uses". This term includes land uses which, due to their nature, should be excluded from certain locations. The following types of uses are classified as sensitive land uses within this JLUS.

- Child day-care center
- Church
- Community treatment facility
- Family day-care provider
- Hospital or convalescent facility
- Hotel
- Manufactured / mobile home park
- Motel
- Nursing home
- Participant sports and recreation
- Public assembly facilities (spectator amphitheater, spectator sports facility, theater)
- Recreational vehicle park
- Residential
- School (public or private)

Camp Roberts Influence Areas

A Military Influence Area (MIA) is a formally designated geographic planning area where military operations may impact local communities, and conversely, where local activities may affect the military's ability to carry out its mission. In this JLUS, the MIAs are referred to as Camp Roberts Influence Areas (CRIAs). In other JLUS documents, terms such as Region of Military Influence, Military Influence Planning District, Military Influence Overlay District, Military Influence Disclosure District, Airfield Influence Planning District, and Areas of Critical State Concern have also been used to describe similar areas.

The CRIA designation is used to define the geographic area where the JLUS strategies are to be applied. This technique ensures the strategies are applied to the appropriate areas, and locations not subject to a specific compatibility issue are not adversely impacted by regulations otherwise in appropriate for their location or circumstance. The official CRIA boundaries and associated restrictions will be developed during the implementation phase of the JLUS.

The CRIAs are used to define the geographic area where the JLUS strategies are to be applied.

There are five CRIAs identified for the Camp Roberts JLUS, which are detailed as follows:

- **Vertical Obstructions CRIA.** The Vertical Obstruction CRIA serves to protect important flight areas for aircraft that operate out of McMillan Airfield or the East Garrison Airfield at Camp Roberts. Within this CRIA, strategies address height restrictions in order to avoid vertical obstructions. This CRIA will extend five miles around the center point of McMillan Airfield and the East Garrison Airfield, see Figure 4.0-1.
- **Noise CRIA.** The Noise CRIA includes all lands located off-post that fall within the 115-130 PK15(met) and >130 PK15(met) noise contours for small arms (see Section 4.8, Noise, for a discussion of these terms). Residential developments and other noise sensitive land uses within this CRIA may be subject to sound attenuation measures to reduce noise impacts, see Figure 4.0-2.
- **Land Use CRIA.** This CRIA covers the land area within three miles of the boundary of Camp Roberts. Strategies attached to this CRIA are related to land use planning and disclosure requirements (as a part of real estate transactions), see Figure 4.0-3.
- **Camp Roberts CRIA.** This CRIA is defined as the boundary of Camp Roberts, and these strategies apply to locations within the Camp Roberts boundary, see Figure 4.0-4.
- **General CRIA.** Some strategies apply to plans or programs and are not defined to a specific geographic area. For these strategies, the General CRIA is assigned.

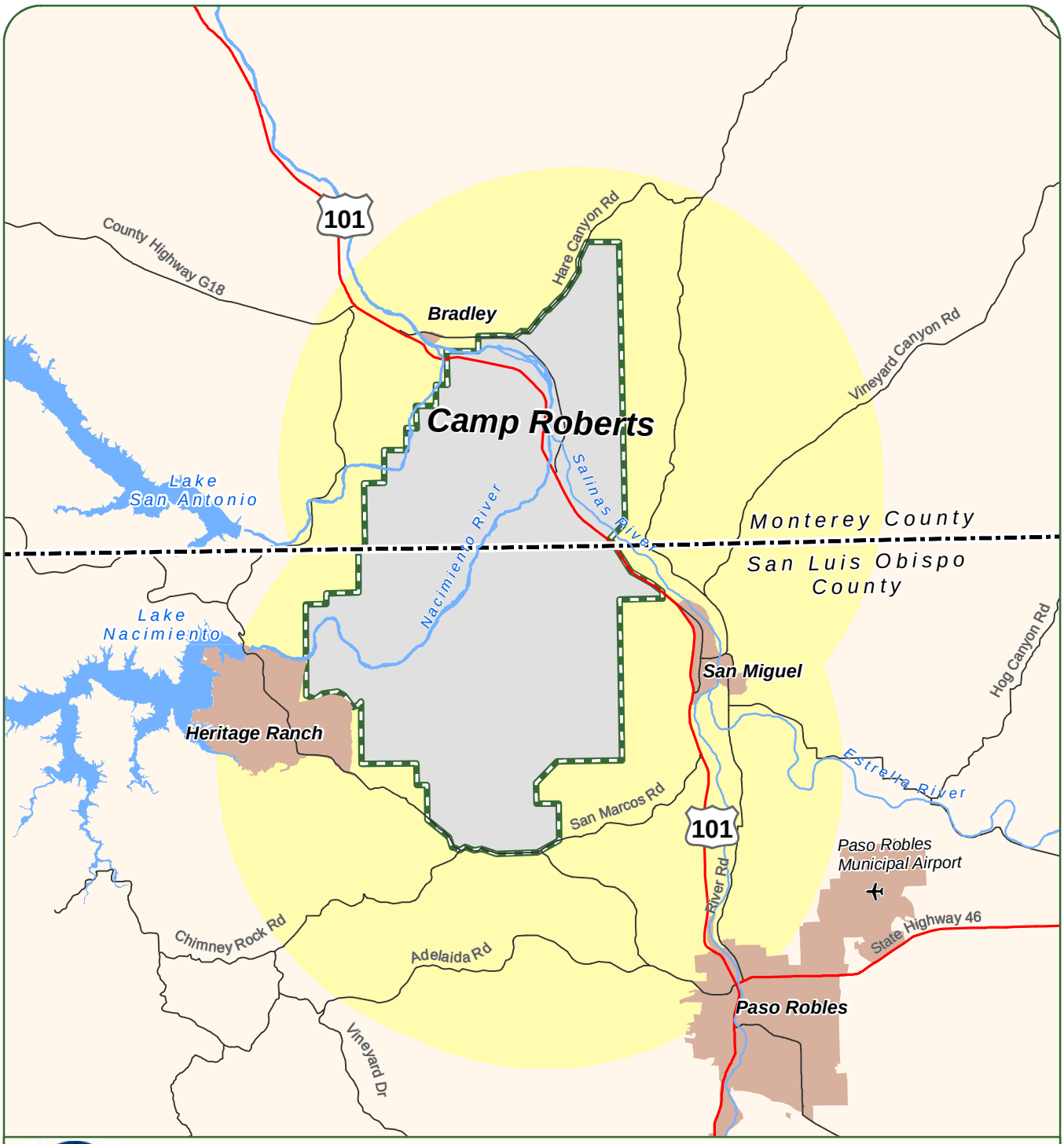


Figure 4.0-1
Camp Roberts Influence Area: Vertical Obstructions

Sources: Camp Roberts, 2012; San Luis Obispo County Planning & Building Geographic Technology & Design, Nov., 2011; Monterey County Resource Management Agency, Jan., 2011.

Fig4.0-1_CRJLUS_VertObs_20130410_JKC.pdf

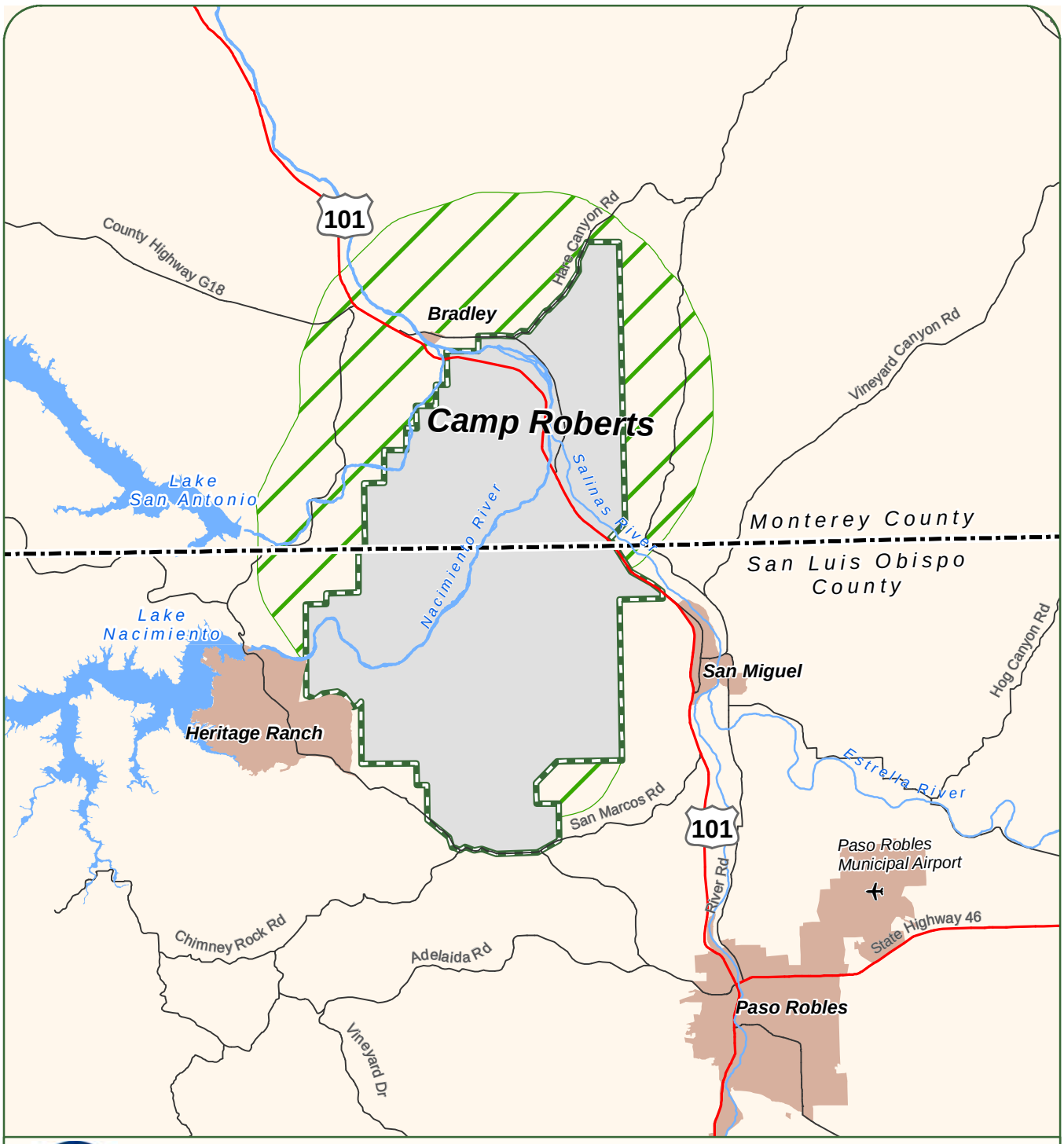


Figure 4.0-2
Camp Roberts Influence Area: Noise

Sources: Camp Roberts, 2012; San Luis Obispo County Planning & Building Geographic Technology & Design, Nov., 2011; Monterey County Resource Management Agency, Jan., 2011.

Fig4.0-2_CRJLUS_Noise_20130410_JKC.pdf

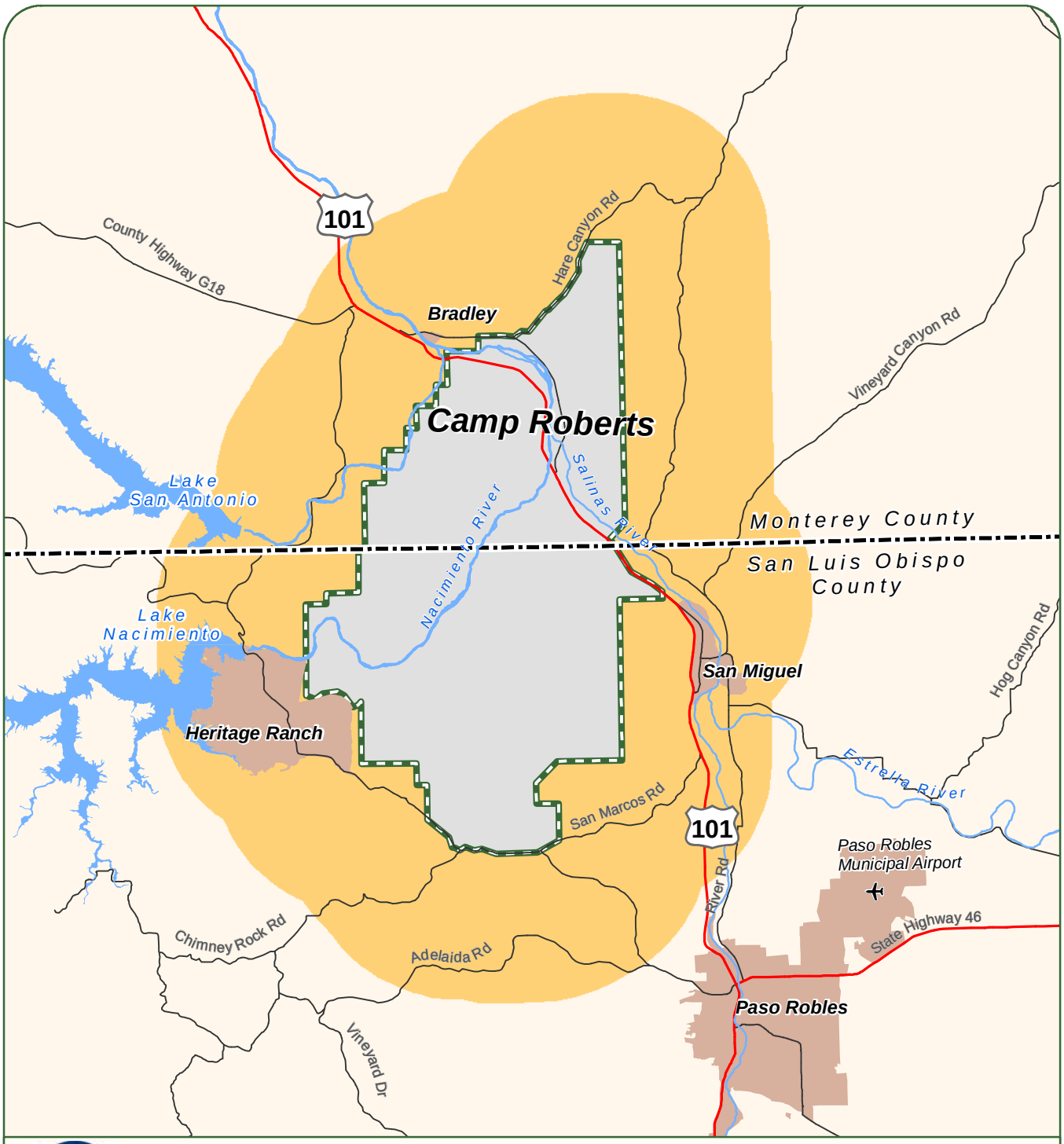


Figure 4.0-3
Camp Roberts Influence Area: Land Use

Sources: Camp Roberts, 2012; San Luis Obispo County Planning & Building Geographic Technology & Design, Nov., 2011; Monterey County Resource Management Agency, Jan., 2011.

Fig4.0-3_CRJLUS_LandUse_20130410_JKC.pdf

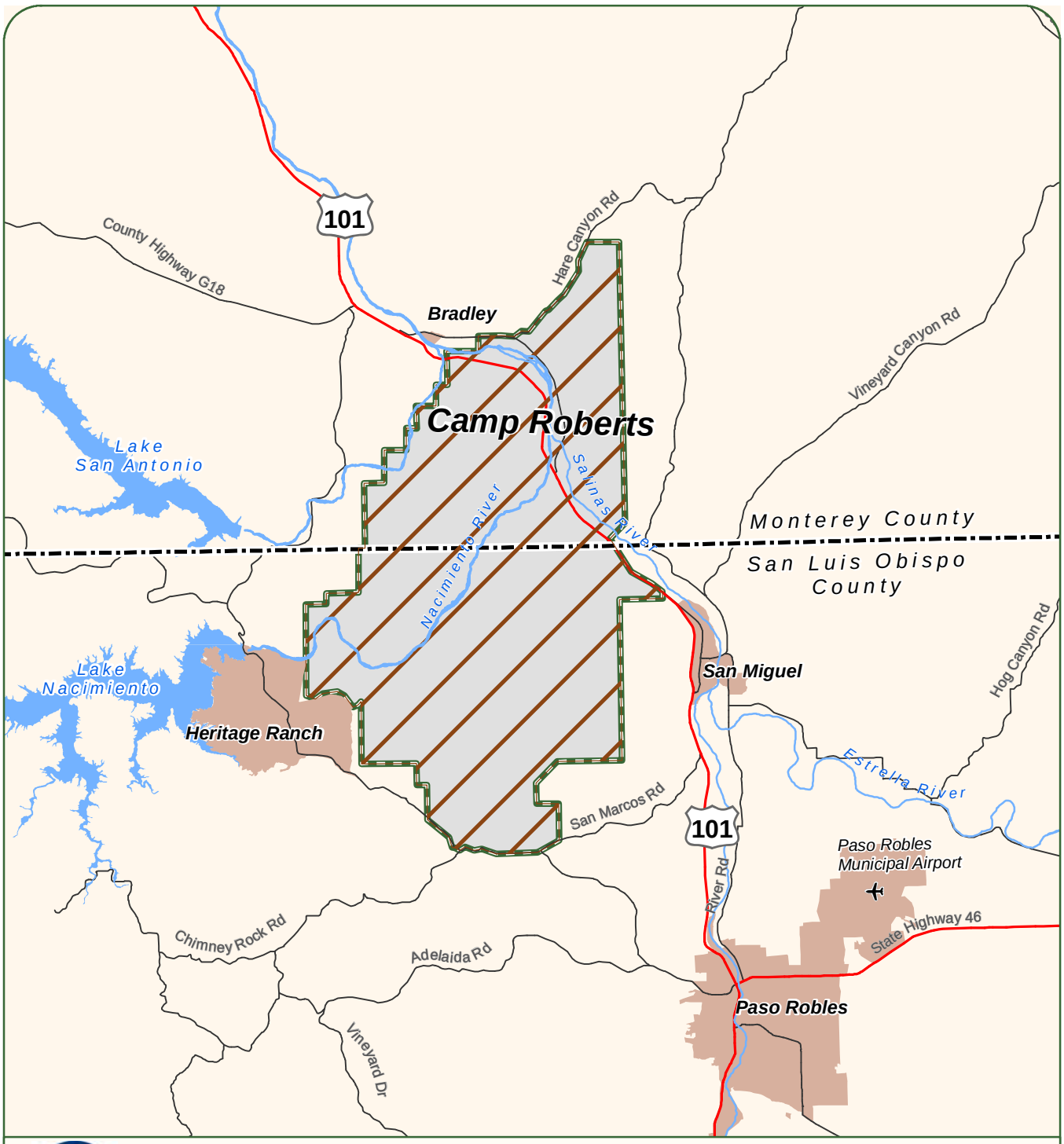


Figure 4.0-4
Camp Roberts Influence Area: Camp Roberts

Sources: Camp Roberts, 2012; San Luis Obispo County Planning & Building Geographic Technology & Design, Nov., 2011; Monterey County Resource Management Agency, Jan., 2011.

Fig4.0-4_CRJLUS_CampRoberts_20130410_JKC.pdf

Compatibility Tools

There are a number of strategy types that can be used to address compatibility issues. While all of these "tools" did not end up in the Camp Roberts JLUS, this "toolbox" of possible strategy types was used during the development of the Camp Roberts JLUS strategies. Following this list, each strategy type is described.

- Acquisition
- Airport Master Plan / Airspace Study
- Avigation Easement
- Base Planning
- Bird / Wildlife Aircraft Strike Hazard (BASH)
- Building Codes / Construction Standards
- Capital Improvement Program (CIP)
- Code Enforcement
- Communication and Coordination
- Comprehensive / General / Master Plans
- Deed Notifications / Restrictions
- Habitat Conservation Tools
- Hazard Mitigation Plans
- Legislative Tools
- Memorandum of Understanding (MOU)
- Military Influence Areas (MIA)
- National Environmental Policy Act (NEPA)
- Partnership with Non-Governmental Organizations
- Real Estate Disclosures
- Zoning Ordinance / Subdivision Regulations

Acquisition

As a land use planning tool, property rights can be acquired through donation, easement, or the outright purchase of property for public purposes. The purpose of acquisition tools is to eliminate land use incompatibilities through market transactions and the local development process. Acquisition tools are particularly effective because they advance the complementary goals of shifting future growth away from military installations and preserving community assets such as agriculture, open space, rural character, or sensitive natural habitats.

Airport Master Plan / Airspace Study

An Airport Master Plan provides the guidelines for future long-term airport development which will satisfy aviation demand in a financially feasible manner, while at the same time resolving the aviation, environmental, and socioeconomic issues existing in a community. The Airport Master Planning process is guided by the FAA and ultimately results in projections of future growth and an Airport Layout Plan (ALP). All development at federally obligated airports must be in accordance with and FAA-approved ALP.

For compatibility planning, airspace planning provides a coordinated approach to the designation of special use airspace.

Avigation Easement

An easement is a non-possessory right to use land owned by another party. An avigation easement is an easement that grants the holder one or more of the following rights: the right of flight; the right to cause noise, dust, or other impacts related to aircraft flight; the right to restrict or prohibit certain lights, electromagnetic signals, and bird-attracting land uses; the right to unobstructed airspace over the property above a specified height; and, the right of ingress or egress upon the land to exercise those rights.

Base Planning

Similar to a local jurisdiction, military installations maintain a long-range plan, such as general plans and master plans. The installation's general/master plan is the primary document that is used to guide the development and use of physical assets and the protection of resources. The general / master plan is used to ensure an installation maintains the land use areas and infrastructure needed to respond to its development program and future mission potential.

Bird / Wildlife Aircraft Strike Hazard (BASH)

The BASH program is aimed at reducing the potential for collisions between military aircraft and birds and other wildlife. Knowledge of where birds travel, nest, and feed helps the military avoid problem areas, and therefore saves lives and avoids the destruction of valuable aircraft. The program also looks to work with local stakeholders to avoid actions that would increase BASH incidents. The BASH program considers not only birds / wildlife within the confines of the airfield, but also in neighboring areas.

Building Codes / Construction Standards

Building codes and construction standards are ordinances and regulations controlling the design, construction processes, materials, alteration, and occupancy of any structure to safeguard human safety and welfare. They include both technical and functional standards and generally address structural safety, fire safety, health requirements, and accessibility. Noise attenuation requirements, for example, are typically covered under this category.

Capital Improvement Program (CIP)

A CIP is a detailed planning document used to plan and direct a jurisdiction's or agency's investment in public facilities, including infrastructure. The CIP lays out the public facilities plans and programs of the jurisdiction or agency and provides details on expenditures that can be incorporated into the jurisdiction's or agency's annual budgeting process. Most CIPs cover multiple years in order to plan for major expenditures and projects.

Code Enforcement

The purpose of a code enforcement program is to promote and maintain a safe and desirable living and working environment. Related to land use compatibility, code enforcement is a tool used by a community to ensure adherence to its rules and regulations.

Communication and Coordination

In any planning effort, plans can only move toward successful implementation if frequent ongoing communication is maintained among local jurisdictions, the military, state and federal agencies, Native American tribal groups, landowners, and the public. Enhanced communication and coordination is an essential component to successful compatibility planning in support of the military's existing and potential future mission(s).

Deed Notifications / Restrictions

Deed restrictions, or covenants, are written agreements that restrict or limit some of the rights associated with property ownership. These restrictions are recorded with the deed for the property and are attached to the property when it is sold to a new owner (i.e., they remain in effect). Deed restrictions are private agreements or contracts executed between a motivated buyer and a willing seller.

General / Comprehensive / Master Plans

These are long-range plans that outline goals and policies to guide the physical development in a county or city. General plans are designed to serve as the jurisdiction's blueprint for future decisions concerning physical development, including land use, infrastructure, public services, and resource conservation. Most general plans consist of written text discussing the community's goals, objectives, policies, and programs for the distribution of land use as well as one or more diagrams illustrating the general location of existing and future land uses, roadways, public facilities, and parks and open space. General Plans are usually supported by an analysis of existing conditions to help decision makers formulate the goals and policies of the plan.

Typically, there are three defining features of a general plan:

- **General.** A general plan provides the general guidance that will be used to direct future land use and resource decisions.
- **Comprehensive.** A general plan covers a wide range of social, economic, infrastructure, and natural resource factors. These include topics such as land use, housing, circulation, utilities, public services, recreation, agriculture, economic development and many other topics.
- **Long-range.** General plans provide community guidance on reaching a future envisioned in 20 or more years.

Habitat Conservation Tools

The primary objective of habitat conservation tools is the conservation and protection of sensitive natural habitats and the species that occupy them. An example of this is the federal Endangered Species Act (ESA) which allows for the development of Habitat Conservation Plans (HCPs). An HCP identifies and provides for the regional or area-wide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. The primary objective of the HCP program is to conserve natural communities at the ecosystem level while accommodating compatible land use.

Hazard Mitigation Plans

Hazard mitigation is defined as any sustained, cost effective action taken to reduce or eliminate long-term risk to people, property, and the environment from natural and man-made hazards and their effects. Hazard Mitigation Plans include actions that have a positive impact over an extended period of time. This distinguishes them from emergency planning or emergency services, which are associated with preparedness for immediate response to, and short-term recovery from, a specific event. Hazard mitigation actions, which can be used to eliminate or minimize the risk to life and property, fall into three categories:

1. those that keep the hazard away from people, property, and structures;
2. those that keep people, property, and structures away from the hazard; and
3. those that reduce the impact of the hazard.

Legislative Tools

State and local legislation can have a significant impact on compatibility planning by allowing, restricting, or limiting the tools available to local jurisdictions to control land use planning activities. Legislative tools are designed to encourage changes in state and local laws and ordinances to support the objectives of the recommended JLUS strategies.

Memorandum of Understanding (MOU)

An MOU is a contract between two or more government entities. The governing bodies of the participating public agencies must take appropriate legal actions, often adoption of an ordinance or resolution, before such agreements become effective. The purpose of an MOU is to establish a formal framework for coordination and cooperation. These agreements may also assign roles and responsibilities for all of the agreement's signatories. These agreements are also known as Joint Powers Agreements or Interlocal Agreements.

Military Influence Area (MIA)

An MIA is a formally designated geographic planning area where military operations may impact local communities, and conversely, where local activities may affect the military's ability to carry out its mission. An MIA is designated to promote an orderly transition between community and military land uses to ensure that they are compatible. For this JLUS, these areas are being referred to as Camp Roberts Influence Areas (CRIAs).

National Environmental Policy Act (NEPA) / California Environmental Quality Act (CEQA)

NEPA and CEQA are the federal and state laws, respectively, that establishes national and state policy for the environment and requires federal, state and local agencies: (1) to provide decision makers with information on the environmental implications of their actions, (2) to fully disclose to the public proposed actions/projects and their environmental implications, (3) to provide a mechanism for public input to decision making, (4) to evaluate changes or mitigations that can reduce impacts on the environment.

Partnership with Non-Governmental Organizations (NGOs)

NGOs are recognized for their role in developing innovative initiatives and programs to address a variety of issues. Local governments and military installations can develop relationships with NGOs to provide additional resources to achieve common goals. For example, under these partnerships, agreements can be reached to acquire real estate or property rights in the vicinity of military installations to protect military training, testing, operations, and readiness, while at the same time, achieving the objectives of the NGO, such as habitat protection.

Real Estate Disclosures

Prior to the transfer of real residential property to a new owner, real estate disclosure requires sellers and their agents to disclose certain specified facts related to the condition of the property. These facts could include the potential for noise or other proximity impacts associated with property near a military installation or operations area. The purpose of real estate disclosure is to protect the seller, buyer, and sales agent from potential litigation resulting from specified existing and / or anticipated conditions (i.e., hazard areas, existing easements). Disclosures provide a practical and cost effective land use compatibility tool as buyers are informed of the possible affects (noise, light, etc.) of military operations prior to purchase.

Zoning Ordinance / Subdivision Regulations

Zoning is the division of a jurisdiction into districts (zones) within which permissible uses are prescribed and restrictions on building height, bulk, layout, and other requirements are defined. The primary purpose of zoning is to protect the public health, safety, and welfare of the community by separating incompatible land uses and establishing design requirements. Effective zoning can also provide opportunities for the implementation of regulations supporting land use compatibility near military installations. For instance, zoning can address:

- Nuisances such as noise, vibration and air emissions,
- Land use type and intensity (including clustering),
- Light and glare,
- Frequency spectrum and impedance,
- Height / vertical obstructions,
- Development incentives, and
- Development processes and procedures.

Land cannot be divided without local government approval. Subdivisions set forth the minimum requirements deemed necessary to protect the health, safety, and welfare of the public. Subdivision review allows local governments the opportunity to ensure that a new subdivision is properly served by needed services and a public or private agency is responsible for maintaining the subdivision improvements. These regulations can be effectively used for compatibility planning. For example, subdivision regulations might limit the division of land in areas with compatibility issues or locations without necessary services. Subdivision regulations can also be used to require open-space set-asides.

4.1 Interagency Coordination / Communication

Key Terms

Incident Commander. An incident commander (IC) is the command lead for a fire or disaster situation. The IC will assess the situation and deploy the appropriate resources for a given incident.

Technical Background

This chapter refers to the programs and plans that promote interagency coordination. Interagency communication serves the general welfare by promoting a more comprehensive planning process inclusive of all affected stakeholders. Interagency coordination also seeks to develop and include mutually beneficial policies for both communities and the military in local planning documents such as general plans.

Issue COM-1

Agency Coordination. Adequate and timely communication is vital for the sustainability of the Camp Roberts mission and the agencies and organizations engaged in planning and resource management in the study area. Encourage bi-directional communication efforts– from Camp Roberts to agencies and agencies to Camp Roberts – concerning their activities. The following key areas need enhanced coordination:

- Proposed development projects
- Housing needs and associated living accommodations
- Environmental compliance activities (CNG programs, NEPA, CEQA, Section 106, etc.)
- Changes and notifications of operations (including aviation operations and any frequency spectrum operations)
- Land acquisition
- Habitat protection
- Prescribed burns
- Infrastructure project extensions and/or improvements
- Public services sharing and cooperation (i.e. utilities and security, law enforcement)
- Federal mineral estate exploration and extraction

Federal and DOD Programs

Bureau of Land Management Controlled Surface Use Lease

The Bureau of Land Management (BLM) encourages the exploration and extraction of subsurface minerals for the purposes of research, development, and testing. The BLM-Bakersfield Office manages the 42,000 acres of subsurface minerals under Camp Roberts. BLM-Bakersfield employs a Controlled Surface Use (CSU) lease, also termed as "Defense CSU", to enable private developers to explore and extract subsurface minerals from the mineral estate underneath Camp Roberts.

The CSU stipulates that once a mineral extraction or exploration application has been made to BLM, then the applicant will be notified that the request will go to the base commander for review. BLM then coordinates with the lessee and Camp Roberts representatives to understand the development application and provide time to assess and determine any impacts that will adversely impact military training operations on the installation. Upon determination of no adverse impacts to the training mission at Camp Roberts, BLM will render an approved development application. If adverse impacts are discovered, then BLM will work with Camp Roberts to modify the application which may include movement of development activities, seasonal restrictions, or mitigation or compensation.

This CSU represents good interagency coordination and communication and can be found in BLM's Bakersfield Office Resource Management Plan (RMP).

Bureau of Land Management Draft Bakersfield Resource Management Plan

The BLM Draft Bakersfield Resource Management Plan (RMP) outlines various tools and processes that are used when developers seek to lease or develop public lands. The type of development project determines which tool is used, such as a Defense CSU, as well as which affected stakeholders are notified relative to their jurisdictional authority.

The Bakersfield Office RMP demonstrates good military compatibility planning with Camp Roberts relative to the management of the mineral estate beneath the installation. Relative to the management of biological resources and their respective habitat, there is overlap with US Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CADFW) as well as county general plans. BLM seeks to coordinate with all affected agencies as the need arises.

The RMP states there is coordination with CADFW and county leadership relative to their general plans; however, the RMP is deficient in outlining specific jurisdictional roles and responsibilities.

State and Local Programs

California Military Land Use Compatibility Analyst

The California Military Land Use Compatibility Analyst (CMLUCA) is a mapping tool that identifies where a project is located relative to military installations, use areas or special use airspace. This enables compliance with state legislation that requires local planning agencies to notify the military of any project that may affect military readiness. Specifically, the legislation requires local planning agencies to notify the military when a project meets any one of the following criteria:

- Located within 1,000 feet of a military installation,
- Located within special use airspace, or
- Located beneath a low-level flight path.

The mapping tool illustrated in Figure 4.1-1 identifies the military operating areas within the criteria described above and within a 4,000-foot distance to Camp Roberts. This tool can be useful for developers, planners, and land use management agencies to make a general assessment about a proposed project's compatibility with adjacent land uses, especially in the vicinity of a military installation.

Source: CMLUCA, 2010. http://cmluca.projects.atlas.ca.gov/

San Luis Obispo County General Plan

Camp Roberts is situated in northern San Luis Obispo County where the impacts of uncoordinated land use decisions could potentially represent incompatible development for Camp Roberts. The General Plan encourages interagency coordination with all affected agencies in the county. The General Plan is divided into planning areas. The three planning areas adjacent to Camp Roberts are the Adelaida Planning Area, Nacimiento Planning Area, and the Salinas River Planning Area. In each plan component, specific policies designed to encourage formal communication and coordination between the County and Camp Roberts do not exist.

Monterey County General Plan

Camp Roberts is situated in southern Monterey County where the impacts of uncoordinated land use decisions could potentially represent incompatible development for the Camp Roberts mission. The Monterey County General Plan (GP) guides land use development around the northern portion of Camp Roberts. The GP does encourage the identification and participation of all affected stakeholders relative to land use policies and guidelines for future development including considering the impacts of military training operations. The GP and the South County Area Plan covers the area which Camp Roberts is situated in and are consistent and lay the groundwork for good compatibility planning and interagency coordination through the preservation of agriculture and water resources.

Findings

It is often that case that military installations are not consulted with in a timely manner when community development projects are proposed, and likewise, local communities may often not get adequate notice of proposed military actions. While both the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) require notification, this should not be the only method of communications and coordination on proposed projects.

Identifying and involving all potential affected jurisdictions, agencies and decision makers in the process early helps minimize the potential for incompatible development around Camp Roberts. Although San Luis Obispo County, Monterey County and the City of Paso Robles have established a collaborative relationship with Camp Roberts, it would be beneficial for all to develop and formalize communication procedures, review and response procedures relative to application review, and so forth.

One strategy that can assist with this is to have a Camp Roberts representative available, when appropriate, to attend public hearings and provide technical information and input that can be used by decision making bodies to make more informed decisions. The City of Paso Robles and other agencies and organizations in the Study Area may also find this relationship beneficial.

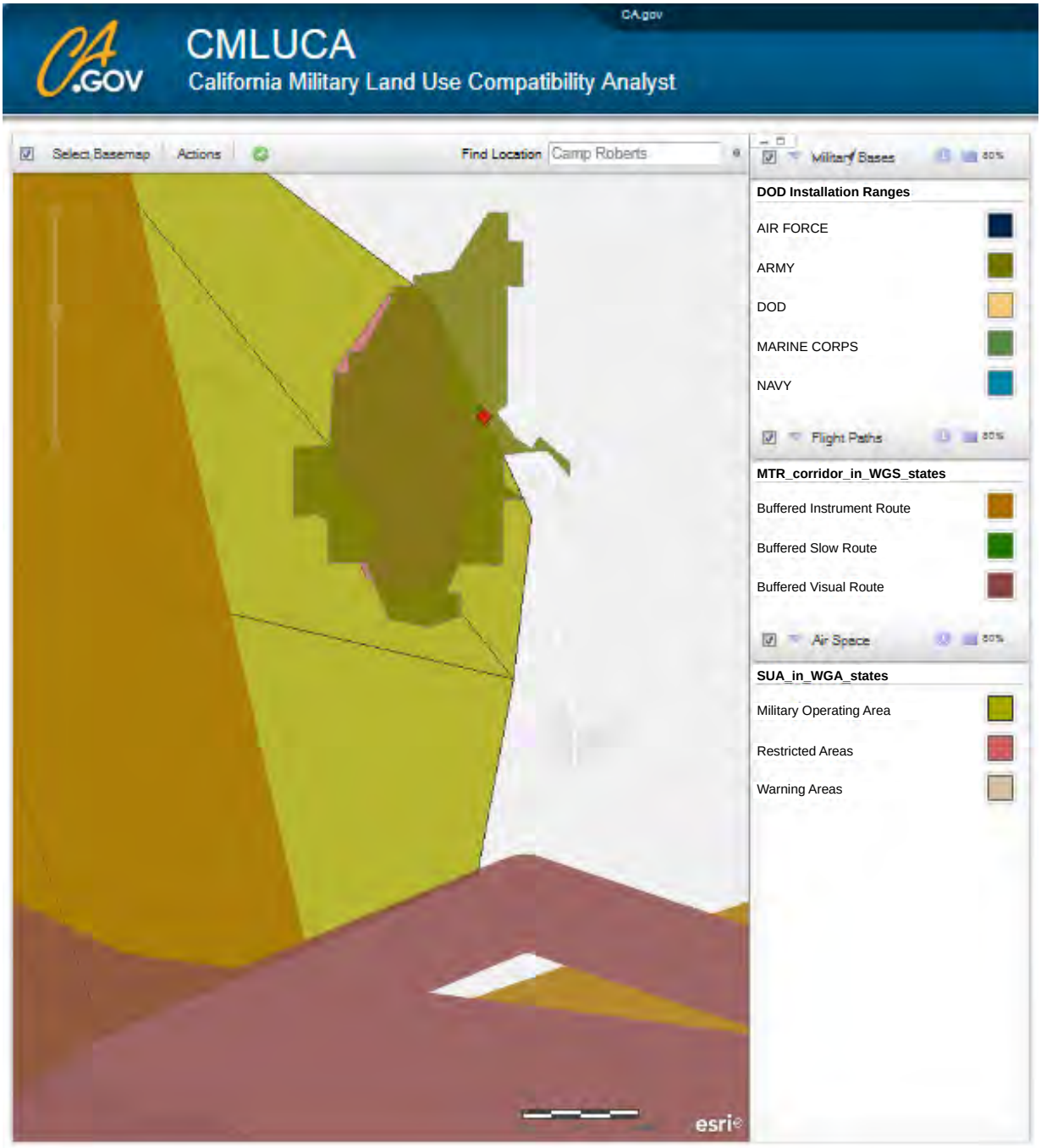


Figure 4.1-1
CMLUCA Tool: Military Operating Areas over Camp Roberts

Source: CMLUCA, 2010. http://cmluca.projects.atlas.ca.gov/

Issue COM-2	**Enhanced Public Disclosure Regarding Changes on Camp Roberts**. Although Camp Roberts meets notification requirements provided for under appropriate regulations, enhanced communications efforts with the public on the following topics would improve overall coordination and cooperation with activity planning, etc.: ■ Proposed projects ■ Recreational activities ■ Changes in and notifications about operations outside the typical schedule

Issue COM-3	**Enhance Regional Cooperation on Common Issues.** There are several areas in which planning agencies overlap in responsibilities for the land and subsurface in and around Camp Roberts. The roles as to when one agency's responsibility stops and is furthered through the work of another agency is unclear and vague. Key planning areas where this occurs are: ■ Habitat protection ■ Transportation ■ Infrastructure expansion and public services

During the Joint Land Use Study (JLUS) process, the committees and public expressed concern over enhanced notification of mission changes that occur at Camp Roberts. Enhanced notification techniques may include notifications via local media and radio, to advise nearby residents of prescribed burns scheduled or additional mission training operations. It was discussed in the JLUS public forums that Camp Roberts had previously used the practice of sending emails out to landowners notifying them of burns and training operations; however, this practice has not occurred recently.

Camp Roberts has a collaborative and active presence in the communities due to Camp Roberts' leadership speaking at member organizations and clubs such as Rotary and Kiwanis Clubs and through established relationships with civic leaders; however, formalizing and enhancing notification procedures between the installation and the landowners and residents would enhance the existing notification process. Increased community awareness through enhanced notification has the potential to reduce the number of noise and smoke and air quality complaints associated with scheduled burns and training operations, ultimately improving compatibility between Camp Roberts and the nearby communities.

San Luis Obispo Council of Governments Regional Transportation Plan

The 2010 San Luis Obispo Council of Governments (SLOCOG) Regional Transportation Plan (RTP) is an interagency-developed, regional transportation plan that identifies the vision, goals, and policies that would enable the achievement of the San Luis Obispo County regional mobility goals. The 2010 RTP is developed based on the shared goals and policies identified and found in each of the participating agencies GPs. The participating agencies are:

- SLOCOG Governing Board with representatives from all seven City Councils
- San Luis Obispo County Board of Supervisors
- SLOCOG Transportation
- San Luis Obispo Regional Transit Authority
- San Luis Obispo Air Pollution Control District
- San Luis Obispo Local Agency Formation Commission
- California Department of Transportation
- Planners, transportation/public works engineers and professionals representing each jurisdiction in San Luis Obispo County
- Other interest groups

These agencies have demonstrated interagency coordination through this RTP planning process; however, Camp Roberts is not recognized as a participating agency. Good compatibility planning considers military training exercises such as convoy operations in regional transportation and infrastructure planning. Camp Roberts' convoy operations do traverse both US Highway 101 and State Highway 46, and depending on the frequency and size of vehicles, convoys can present roadway capacity issues and result in increased maintenance costs. Certain military vehicles are heavier (i.e., Bradleys) and can pose roadway maintenance issues, relative to the weight of the vehicle, exacerbated by the frequency of other vehicles utilizing the regional roadway network. See Section 4.21, Roadway Capacity for more information about convoys.

During this JLUS process, the committees reported that the convoys operations are directed by the California National Guard (CNG) Headquarters. CNG does coordinate with the State's Department of Transportation (CALTRANS) to coordinate on State Highways; however, coordination and communication regarding frequency of convoy operations on other regional or county roadways is minimal. Convoy operations occur along a gravel road, known as the Tank Trail, which extends from the north outside the southwestern border of Camp Roberts and throughout the installation, See Figure 4.10-1 Sources of Dust and Existing Land Use in Section 4.10 Dust and Smoke. This Tank Trail abuts the Heritage Ranch Village on the northern edge of the subdivision where residential units are situated. These convoy operations cause dust to be released into the air increasing the risk for air quality issues associated with potential breathing problems for individuals with respiratory diseases. Convoy operations along the Tank Trail also increase the risk for soil erosion of the nearby sensitive ecological lake resort area.

Enhanced notification procedures relative to convoy operations (i.e. frequency) from CNG Headquarters with the regional and local transportation and infrastructure entities can prove to be beneficial to Camp Roberts in reducing the number of complaints received due to dust in the air. Increased coordination and awareness of convoy operations and how they impact the environment could also assist communities strengthen erosion control measures.

Issue COM-4	**Emergency Services Coordination**. Camp Roberts is an important State resource in the events of natural disasters (fire, flooding, etc.); therefore emergency protocols with the local governments need to be enhanced through updates of reciprocal agreements and a strong public awareness campaign to better inform and protect the public.

Army Regulation AR-420.3

The Army Regulation AR-420.3 is the regulation that provides the education and guidance to Camp Roberts' military and civilian personnel about fire prevention practices and the procedures to follow in the event of a fire. This rule also prescribes the responsibilities for the IC who is the lead fire incident manager when responding to fires regardless of the location. Each jurisdiction designates an IC for which all responding aid reports to in the event of a fire off-installation.

Mutual Aid between Camp Roberts Fire Department and San Luis Obispo County

The Mutual Aid Agreement between the Camp Roberts Fire Department and San Luis Obispo County prescribes stipulations for responding to fires outside the installation boundaries. This mutual aid agreement, established in 1990, states that all services rendered shall be compensated at current market costs. This agreement governs when the IC of a fire initiates communications with responding jurisdictions. This agreement was established and written over 20 years ago, and no amendments have been approved relative

to new protocol, technologies, or adjustments in fire response boundaries. This agreement may not reflect current fire suppression protocols and land uses.

Mutual Aid between the State of California and South Monterey County Fire Protection District

The Mutual Aid Agreement between the State of California through Camp Roberts and the South County Monterey Fire Protection District prescribe stipulations for responding to fires outside the Camp Roberts boundaries within Monterey County. This mutual aid agreement, established in 1998, states that all services rendered shall be compensated at current market costs. This agreement governs when the IC of a fire initiates communications with responding jurisdictions.

This agreement was established and written over 13 years ago, and no amendments have been approved relative to new protocol, technologies, or adjustments in fire response boundaries. This agreement may not reflect current fire suppression protocols and land uses.

Camp Roberts Fire and Emergency Services Fire Management and Vegetation Hazard Reduction Plan

The Camp Roberts Fire and Emergency Services Fire Management and Vegetation Hazard Reduction Plan prescribe the procedures and protocol for the interagency coordination among Camp Roberts, the San Luis Obispo Air Pollution Control District (APCD), and the Monterey Bay Unified APCD for prescribed burns that occur on Camp Roberts. The purpose of the prescribed burns on Camp Roberts is to prevent wildland fires while managing invasive vegetative species that produce fuel for fire hazards and choke other sensitive species habitat.

The plan stipulates when the prescribed burns may occur to improve management and reduction of dust and smoke trespass over off-installation areas. Ideal weather conditions such as the optimal level of humidity in the air, temperature, wind speed and direction, and fuel moisture, must be present before a prescribed burn can occur.

Findings

Camp Roberts demonstrates good military compatibility planning between federal and state agencies by coordinating with the regional APCDs through timely submission of reports and checklists of each burn.

Camp Roberts coordinates with the National Weather Service and the Los Angeles/Oxnard and San Francisco/Monterey forecasts to assess conditions before a decision to burn is initiated.

JLUS committee members have expressed concern about protocols for and methods of communication with other agencies such as CALTRANS, San Luis Obispo and Monterey Counties, and San Miguel.

Interagency Coordination / Communication Strategies

The following strategies are recommended to address the issues identified in this section.

Table 4.1-1. Interagency Coordination / Communication Strategies

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
COM-1	**Agency Coordination**.																	
COM-1	**A**	**JLUS Coordination Committee** Establish a JLUS Coordination Committee, which oversees the implementation of JLUS recommendations and serves to increase coordination on military compatibility issues.	General	2014	■	■	■	■	■	■	☐	■	■	☐	☐	☐	☐	☐
COM-1	**B**	**Camp Roberts Influence Areas** Establish CRIAs as shown on Figures 4.0-1 through 4.0-4. The CRIAs should be used by stakeholders to identify the applicability of the strategies presented in this JLUS. CRIAs are defined as follows: ■ **CRIA 1 (General / Non-Geographic)**. Reflects strategies that are general in nature, and may not have a geographic extent. This CRIA covers strategies that deal with establishment of common plans and programs dealing with compatibility. This CRIA also covers regional strategies that apply to the Study Area as a whole. ■ **CRIA 2 (Vertical Obstruction)**. Is a generalized area that contains areas subject to height limitations or controls based on proximity to McMillan Airfield and East Garrison Airfield? ■ **CRIA 3 (Noise Impact Area)**. Is an area that is defined by the 115 - 130 **PK15** (met) and > 130 PK15 (met) noise contours.	General	2014	■	☐	■	■	☐	■	☐	☐	■	☐	☐	☐	☐	☐

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
		■ **CRIA 4 (Land Use Overlay)**. Includes areas defined as having a high potential for noise and safety impacts to which land use controls are appropriate. Within CRIA 4, **intensification** of land use designations over currently adopted designations (general plan amendments and zone changes) should not occur without site specific studies defining the appropriateness of the change in relation to the protection of operations at Camp Roberts. ■ **CRIA 5 (Camp Roberts)**. Includes lands that are located within the boundaries of Camp Roberts.																	
COM-1	**C**	**Maintenance and Update of CRIAs** Camp Roberts shall provide updated information to the JLUS Coordination Committee when changes in operations or circumstances result in the need to update or modify one of the CRIA boundaries. The JLUS Coordination Committee will be responsible for making a recommendation to members to incorporate these changes into appropriate plans, regulations and policies.	General	On-going	■	☐	■	■	☐	■	☐	☐	■	☐	☐	☐	☐	☐

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal		Tribal Governments	Other
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS		
COM-1	**D**	**Planning Board Representative** Provide for a Camp Roberts non-voting representative, when appropriate and available, on the local planning board of each local government (and other advisory boards as appropriate) within the study area to review proposed development projects or plan revisions affecting Camp Roberts. Other projects to be reviewed by such planning or advisory boards would include infrastructure extensions and / or improvements, e.g., transportation corridor improvements, and water and sewer extensions. This support may extend to other planning entities, such as the Monterey County Land Use Advisory Committee, Community Service Districts, Heritage Ranch Homeowners Association, San Miguel Community Advisory Committee, and so forth.	General	On-going	☐	☐	☐	☐	☐	☐			■					
COM-1	**E**	**Establish Procedures for Plan Review and Comment** Camp Roberts shall work with local jurisdictions and relevant agencies to establish procedures for consultation between the base and local jurisdictions relative to planning review and comment. This will include: ■ Provide technical input and assistance to local jurisdictions to support discussion of projects and potential compatibility issues ■ Definition of project types that require review ■ Identification of the Points of Contact for all coordination ■ Identify opportunities for Camp	Land	2014	☐	☐	☐	☐	☐	☐			■					

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
		Roberts personnel to be involved in pre-application meetings for significant projects ■ Establish a formal procedure for requesting and receiving comments ■ Establish a standard timeline for responses, keeping in mind mandated review time periods as specified by State law and local procedures ■ Develop an outreach plan ■ Provide notice to Camp Roberts on all public hearings regarding projects identified for coordination While consultation is expected to occur primarily on projects in the defined CRIA's, the installation should establish contacts and procedures for receiving notices and review opportunities on significant regional projects inside of the CRIA's. Procedures should be reviewed annually and updated as appropriate by the JLUS Coordination Committee.																	
COM-1	**F**	**Information on Prescribed Burns** Notify adjacent residential and agricultural land owners, CALTRANS, and appropriate local authorities (including California Highway Patrol, Sheriff, fire departments) when prescribed burns are planned.	Land	On-going							☐		■					

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
COM-1	**G**	**Refer CEQA Documents to Camp Roberts** Refer projects to Camp Roberts officials for review and comment on CEQA documentation as defined under the process stated in Strategy COM-1.F. This notice would typically be provision of a Notice of Availability for the CEQA documentation.	Land	On-going	■	■	■	■	■	■			□					
COM-1	**H**	**Refer NEPA / CEQA Documents to Local Jurisdictions** Refer to affected local jurisdictions, agencies, and organizations notice of all NEPA and/or CEQA documentation, except for categorical exemptions, or as otherwise refined by the JLUS Coordination Committee, for comment.	Land	On-going									■					

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
COM-2	**Enhanced Public Disclosure Regarding Changes on Camp Roberts**																	
COM-2	**A**	**Enhanced Camp Roberts Outreach Program** Camp Roberts should enhance its outreach program to provide additional information to local communities and the public, including: ■ Enhanced information website, providing information on upcoming training activities, prescribed burns, recreational access, and other appropriate materials. ■ Provide enhanced notification of significant new construction projects or changes in mission. ■ As part of the outreach program, Camp Roberts should host regularly scheduled open houses for the public to provide an overview of training activities, construction, or other items of public interest. This forum should also allow residents the opportunity to comment on concerns. An open house on an annual basis prior to the start of the summer season would be appropriate. ■ Develop an e-mail list that the public can sign up for online and provide notification of significant training exercises or other items of public interest.	General	2014									■					

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
COM-3	**Enhance Regional Cooperation on Common Issues**																	
COM-3	**A**	**Enhanced Coordination on Biological Resource Protection** Camp Roberts should strengthen its working relationships with federal and state agencies responsible for habitat protection to develop a consistent approach to resource management, and to ensure that management of all Camp Roberts' resources is conducted to be compatible with the continued operations of Camp Roberts.	Land	2014							☐		■	■	■	■		
COM-3	**B**	**Mineral Resource Management** Work with BLM to develop an MOU outlining the use of the federal mineral estate underlying or with effect on Camp Roberts. Management of the mineral estate should consider the protection of the missions at Camp Roberts as part of the resource management strategy.	Camp Roberts	2014									■		■			
COM-3	**C**	**Coordination with CALTRANS** Camp Roberts shall notify and inform CALTRANS of changes at Camp Roberts that may impact the State Highway system as early in the planning process as possible.	Land	On-going								☐	■					
COM-4	**Emergency Services Coordination**																	
COM-4	**A**	**Update County and City Hazard Mitigation Plans** Update plans to identify the specific role and function of Camp Roberts as it pertains to the safety of the region.	General	2015	■		■	■		☐			☐					

4.2 Land Use

Key Terms

Land Use Planning. The basis of land use planning stems from the Supreme Court decision of *Euclid vs. Ambler* which enabled jurisdictions to regulate land use through zoning land in order to protect the public's health, safety, morals, and welfare. Zoning is a land use regulation tool used by local jurisdictions that generally controls for use, density, intensity, building heights, and setbacks on a parcel or lot. Most states, like California, enacted enabling legislation for local jurisdictions to also create and adopt general or comprehensive plans which are land use documents that broadly establish a vision, goals, policies, and implementation activities for a jurisdiction over a long range period of time, typically ten to twenty years, to promote compatible land use, guide growth and logical development.

Local jurisdictions' general plans and zoning ordinances are the most effective tools to avoid and resolve land use compatibility issues. These tools ensure similar and compatible land uses are properly located and can co-exist while separating land uses that differ significantly in use and potential nuisance. For example, industrial uses are often separated from residential uses to avoid impacts related to noise, odors, lighting, and traffic.

Sensitive Land Use. Sensitive land uses are locations with uses susceptible to, and effected by, nuisances such as noise, dust and air pollution. These sensitive land uses include residential areas, hospitals, convalescent homes and facilities, schools, libraries, churches, recreational areas, and other similar land uses.

Sphere of Influence (SOI). A sphere of influence is a planning boundary outside a city's defined city limits that designates the probable future jurisdiction's boundary and service area. It represents the area within which the jurisdiction is expected to grow. The boundary promotes orderly land use and service planning among agencies and provides guidance when, and if a broader range or higher level of services is required.

Technical Background

Land use planning for property surrounding military installations is similar to the process used to evaluate other types of land uses. For example, local jurisdictions typically consider compatibility issues such as noise when reviewing residential development applications near commercial or industrial areas. As the land between the municipality and the military installation is sold and/or developed, many facets of both entities are affected. It is immaterial whether the proposed development is commercial, industrial, or residential. New residents, tenants, building and property owners are typically not fully aware of the implications of locating in close proximity to an active military installation or training area.

Among the most common factors causing incompatibility with installations containing a military airfield and weapons training are the high levels of noise created by aircraft and firing ranges, heights of civilian structures near the installation, as well as off-installation light pollution that negatively impacts the use of night vision devices (NVD) for military air and ground training. The development of land uses incompatible with the installation's military mission threatens that installation's continued existence.

Compatibility Assessment

Issue LU-1	**New Development Around Camp Roberts May Not Be Considering Compatibility.** The basis of land use planning and regulation relates to the government's role in protecting the public's health, safety, and welfare. As areas surrounding Camp Roberts develop, care and ongoing communication must be taken to incorporate compatibility assessment into the land use decision-making process.

Army Compatible Use Buffer Program (ACUB)

The ACUB program allows Camp Roberts to enter into partnerships with other entities such as Ag Land Trust to purchase land to provide a buffer from potential development encroachment around Camp Roberts and to preserve open space and habitat for species found within the boundaries of the installation so that it does not become a "biological island."

Camp Roberts used this program to secure the development rights of three parcels totaling over 285 acres near the San Miguel Horse Ranch east of the installation in San Luis Obispo County, shown on Figure 4.2-1. Additional properties have been identified as high priority (ACUB Priority 1) for purchase around the northern portion of the installation in Monterey County. The majority of these lands are designated agriculture and, if purchased, would be owned by the Agricultural Land Conservancy (a partner entity) which would encumber the property with a recorded easement to retain the agricultural use.

Camp Roberts submitted a proposal in Fiscal Year (FY) 2012 to secure additional parcels of land near the McMillan Airfield, located in the southeastern portion of the base, to secure its unmanned aerial systems (UASs) mission. These parcels were secured through REPI funding.

Readiness Environmental Protection Initiative (REPI)

In the FY 2012 Camp Roberts ACUB Proposal, the installation established a multi-resource funding mechanism in which Readiness Environmental Protection Initiative funds, commonly referred to as REPI funds, was identified as one of the resources that secured 600 acres of development rights adjacent to the McMillan Airfield on the southeastern border of the installation and over 1,300 acres on the northeastern border of the installation to establish conservation easements. When completed, these two transactions will aid in the prevention of potential incompatible housing development and other land uses that may be sensitive to military operational impacts such as noise and aircraft accidents.

The State of California encourages military compatibility planning through an established advisory handbook and an electronic, land identification tool. Although California has not mandated a requirement for military compatibility elements in general plans, the state maintains and encourages counties and cities to incorporate components of compatibility planning as it relates to military operations into general plans and land use development codes. The following reviews state programs and local plans and regulations that may affect land use compatibility with Camp Roberts.

California Farmland Conservancy Program

Camp Roberts is situated in both San Luis Obispo and Monterey Counties where the majority of the land uses are farmlands and agriculture protected under the California Farmland Conservancy Program (CFCP), the funding mechanism for the Williamson Conservation Act.

This program, authorized by the Williamson Conservation Act, has unintentionally served Camp Roberts positively by protecting its mission from pressures of development encroachment and maintaining the State's number one economic industry, agriculture.

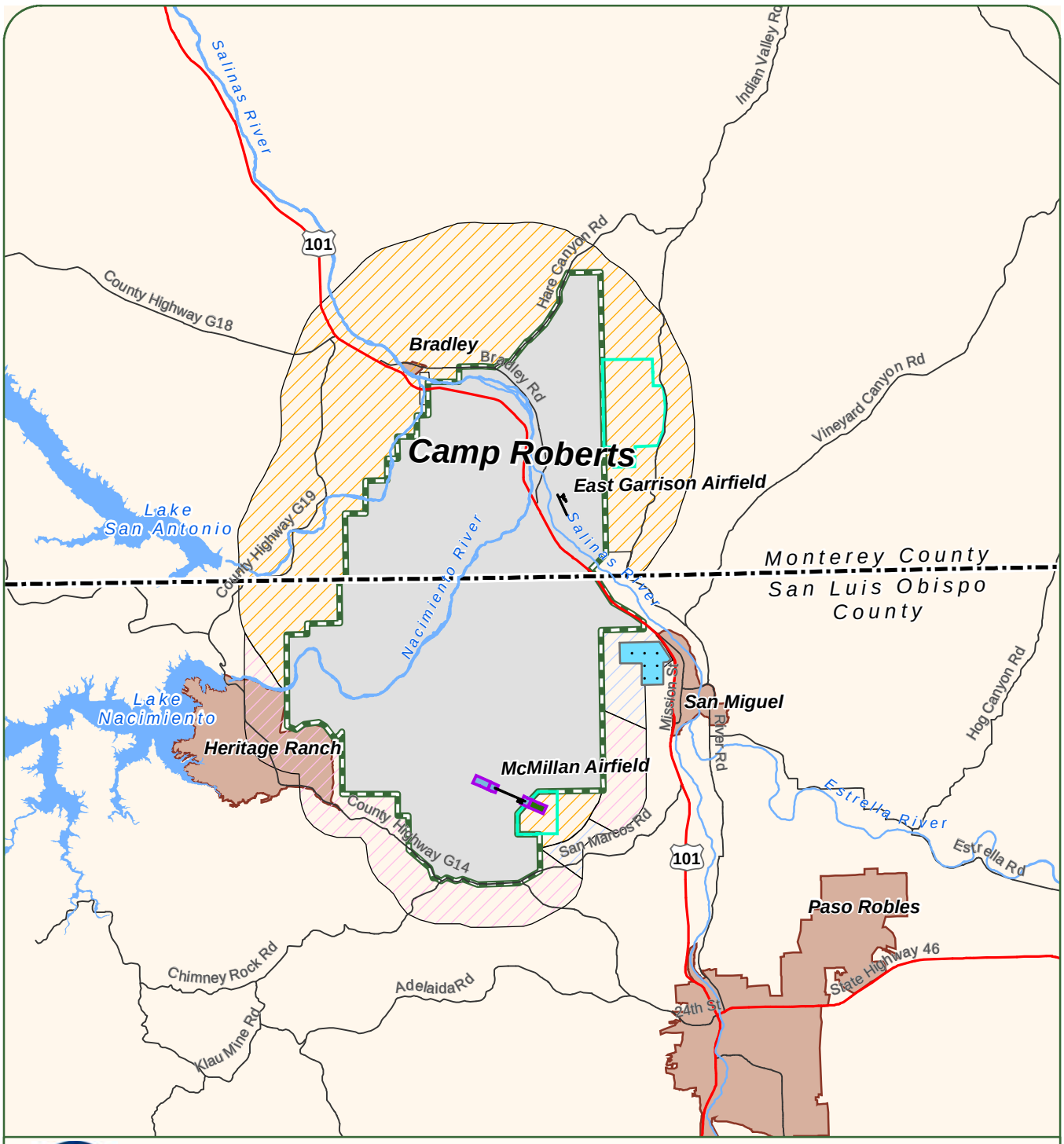


Figure 4.2-1
ACUB Parcels and Priorities

Sources: Camp Roberts, 2012; San Luis Obispo County Planning & Building Geographic Technology & Design, Nov., 2011; Monterey County Resource Management Agency, Jan., 2011.

Fig4.2-1_CRJLUS_Zoning_Safety_20130411a_RGR.pdf

Williamson Conservation Act

The Williamson Conservation Act of 1965 is the State's predominant land protection statute which enables local governments, in exchange for lower property taxes, to enter into contracts with private land owners for the purpose to restrict parcels of land to agriculture or open space uses. This act along with the San Luis Obispo County General Plan has limited development to areas within the urban corridor. See Figure 4.2-2 for the lands under the Williamson Conservation Act in the JLUS Study Area. In the JLUS Study Area of San Luis Obispo County, there are approximately 124.7 square miles of land that are currently under the protection of the Williamson Conservation Act. In the JLUS Study Area of Monterey County, approximately 148.7 square miles are conserved under the Williamson Conservation Act within the JLUS Study Area.

This JLUS study encourages the State and counties to approve, budget, and plan for renewals of these State conservation programs to continue to protect the Camp Roberts mission from potential incompatible development in the future.

San Luis Obispo County General Plan

The San Luis Obispo County General Plan (GP) is organized into 13 planning areas. Three of these planning areas are in the vicinity of Camp Roberts and fall within the boundaries of this Study Area. Thus, due to Camp Roberts' operations and training, these planning areas have the potential for incurring adverse impacts produced by Camp Roberts. Conversely, surrounding communities and their associate land use activities can adversely impact military training exercises. The three planning areas within the JLUS Study Area in San Luis Obispo County are:

- Nacimiento Area Plan,
- Adelaida Area Plan, and;
- Salinas River Area Plan.

Nacimiento Area Plan

Camp Roberts shares a portion of its western border with this planning area. Convoys travel along the Tank Trail in this area potentially generating noise and vibration. The community of Heritage Ranch within the Nacimiento Area Plan may be subject to the impacts associated with an active military training base.

The majority of this planning area is characterized by agriculture (grazing and dry farming) and the Heritage Ranch community. Heritage Ranch Village had an original build-out density of 4,000 dwelling units and other planned uses. However, to maintain a realistic rural ranch setting, the developer reduced the size of this community to 2,900 units in the late 1980s.

Heritage Ranch is the setting of 1,477 lots for single-family residences, mobile homes, recreational vehicles and 20-acre lots. Commercial facilities exist and include lake resort amenities such as marina/launch ramp, campgrounds, dude ranch, and other resort amenities. A fire station, water and wastewater systems were established to serve the community.

Due to poor insulation for sound attenuation and concern for safety, mobile homes and residential uses are considered incompatible relative to military training operations.

Adelaida Area Plan

The southern portion of Camp Roberts is situated in the Adelaida Area Plan within San Luis Obispo County and is predominantly agriculture with some areas designated rural lands. Organized communities or villages do not exist in this planning area; however, rural residences are present immediately south of the installation.

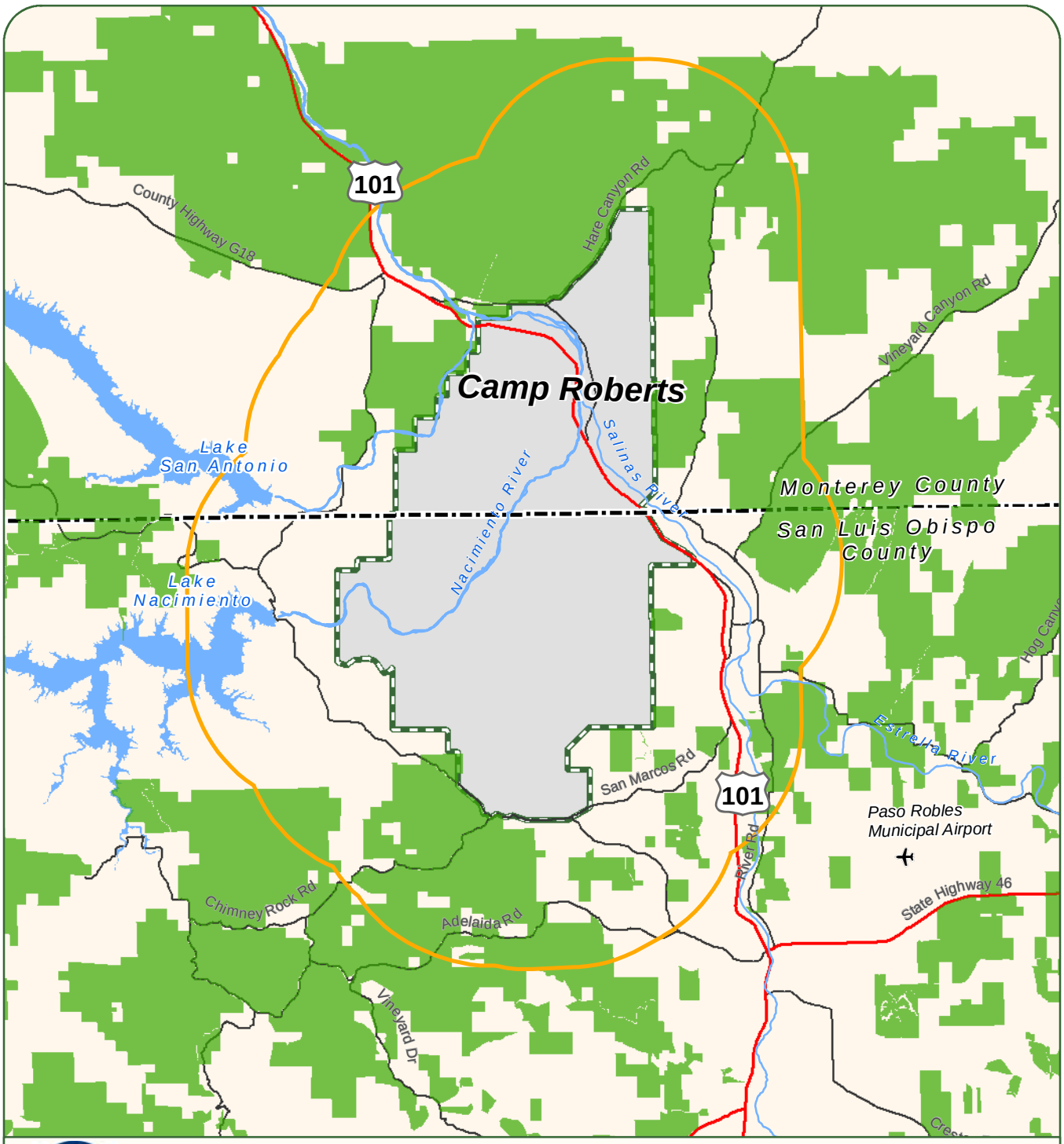


Fig4.2-2_CRJLUS_WilliamsonAct_20130411c_JKC.pdf

Relative to compatibility planning, the Adelaida Area Plan discusses the inappropriateness of intense residential development with the area plan largely due to lack of public service utility infrastructure. Rather, the plan encourages development along the urban corridor where services are available and discourages development in the agricultural lands. Thus, agricultural uses in this planning area benefit and contribute to Camp Roberts' mission as it reduces the risk of future incompatible development encroaching upon the boundaries of the installation.

Salinas River Area Plan

The Salinas River Area Plan encompasses all the urban areas in the Camp Roberts JLUS Study Area and shares the Camp Roberts eastern installation boundary. This area plan covers approximately 135 square miles including two cities, Paso Robles and Atascadero, three unincorporated communities—San Miguel, Templeton, and Santa Margarita—and the Garden Farms Village. The area is characterized by historical and heritage features as well as agriculture uses. Although, the Salinas River Area Plan discusses the potential build-out for each of the aforementioned communities, this JLUS will only provide the assessment detail for the immediate area potentially affected by military training exercises including San Miguel and Paso Robles.

San Miguel is a bedroom community proximate to Camp Roberts on the east. San Miguel is the closest community characterized by the availability of space to absorb growth up to double its current population totaling 5,000. Currently, commercial development is less than 25 percent build-out and has several vacancies.

Residential zoned property is designated as residential suburban (RS), residential single-family (RSF), and residential multi-family (RMF). The RS and RSF zoned property is approximately 55 percent developed, while the RMF development is less than 25 percent built out. The potential for growth in the RSF and RMF land use designations is likely especially if the Camp Roberts mission expands. If Camp Roberts' mission were to expand, San Miguel is ideal for Camp Roberts' military personnel to live due to proximity and availability of land for residential uses. Camp Roberts and San Miguel should coordinate to promote compatible development associated growth. This will provide a mutually beneficial result by providing housing and amenities to Camp Roberts' personnel and trainees as well as continue to grow the San Miguel community.

San Luis Obispo County Land Use Ordinance

The San Luis Obispo County Land Use Ordinance (LUO) establishes the zoning designations for the county. The ordinance is organized by the 13 planning areas, all having various land uses ranging from "allowable" to "requiring permits". The planning areas are further divided into Area Standards including rural, village, and urban areas. Land use categories are designated accordingly within the Area Standards.

Heritage Ranch Village Area Standards

The Heritage Ranch Village plans have designated open space adjacent to the western border of Camp Roberts. There is also a 5,100-acre open space requirement for all new land divisions in the village. However where the installation extends further west towards Lake Nacimiento, there is residential suburban designated for adjacent large parcels. These residential suburban standards provide for densities of 2.5 acres per lot with total of 400 dwelling units for the plan. This plan also includes providing for retention of 60 percent of the open space as well as for looped, continuous hiking and trail circulation, and uniform perimeter fencing.

Residential single-family and multi-family are allowed in certain tracts in this planning area proximate Camp Roberts; however, no specifications for noise sensitive construction standards have been identified. Also mobile homes are allowed in areas where noise from military training operations can impact such land uses adversely. Mobile homes are not designed or constructed with noise mitigating building materials, and mobile home parks tend to have higher densities than would be compatible near a military installation. Additional mobile homes in the Heritage Ranch Village area constructed without sound attenuation materials would be considered incompatible with helicopter and

transient aircraft operations and live-fire ground exercises that occur over the area.

The LUO Area Standards establish height limitations for Heritage Ranch Village by specifying that certain lots are eligible for a two-story residence or building. However, no minimums or maximums for height are identified in this standards document. In addition, the Open Space category allows for communications and wind energy conversion facilities to be constructed at 25 feet; however this height can be exceeded with the approval of a conditional or minor use permit. Building or structure heights in excess of 200 feet can penetrate navigable airspace which poses a threat to the safety of the pilots and general public in the instance of an aircraft accident. These uses are incompatible with low-level helicopter and other transient aircraft operations occurring throughout the area.

Adelaida Planning Area Standards

These planning standards apply to land immediately south of Camp Roberts. Although the majority of the land south of the installation is zoned agriculture, wind energy conversion facilities are permitted uses without height restrictions identified for the agriculture land use category. The concern associated with this is that wind energy conversion units have been constructed at heights of up to 500 feet. Structures with heights in excess of 200 feet near the McMillan Airfield can penetrate airspace used for aviation training operations contributing to hazardous safety environments for pilots, equipment, and the general public. Height restrictions for wind energy conversion units and telecommunications towers should consider military aviation operations and compatibility and be incorporated into the Adelaida Planning Area Standards.

Although this area is comprised mostly of agriculture, the Rural Lands (RL) land use category allows for residential development. This portion of the planning area (160-acre parcel) is limited to one single-family dwelling on any lot less than 80 acres. Any additional or secondary structures are not allowed on lots of less than 80 acres.

Neither height restrictions nor noise or vibration mitigation standards are identified in these area standards. Appropriate construction standards for mitigating noise and vibration including landscaping techniques considers military compatibility planning and should be incorporated into these area plans and the San Luis Obispo County GP.

Salinas River Planning Area Standards

The Salinas River Planning Area consists of the urban areas in northern San Luis Obispo County shares the eastern border of Camp Roberts. The planning area is characterized mostly by agriculture with some residential rural uses and an isolated commercial retail use in the Camp Roberts JLUS Study Area posing potential height compatibility issues for helicopter and UAS operations.

Residential Rural standards set height restrictions to a maximum of 25 feet. This standard is compatible with military training operations at Camp Roberts.

Although there is a small portion (70-acres) of land designated as residential rural west of US Highway 101 in San Miguel that allows for residential uses, the density for this residential rural is one residential lot per 15 acres. A noise study is required for development applications proposing to build within 1,000 feet of U.S. Highway 101; however there is no mention of a required study or noise impact mitigation for the noise generated by Camp Roberts' training operations.

In addition to the lack of height restrictions allowable uses in this category, horse ranches and similar uses and mines and quarry operations are allowed. These uses can potentially use certain types of lighting, such as stadium lighting, that is excessive or the fixtures may not be shielded or pointed in a downward directional position at night. This could potentially create light trespass that could be an incompatible environment for night vision training operations. The night training exercises occur in the eastern and southern portions of Camp Roberts.

Monterey County General Plan

The Monterey County GP is organized into several elements including the state required elements. A majority of the land parcels surrounding Camp Roberts northern half are designated as agriculture. With the land uses around the northern portion of Camp Roberts designated preserved as Permanent Grazing; the Camp Roberts' mission is afforded some measure of security into the near future against pressures from incompatible development.

However, when contractual easements with renewable options are not renewed by either the private landowner or the County, coordination with Camp Roberts should be initiated. Also, in the case of any proposed new development on lands potentially converting from a conservation easement within the JLUS area, coordination to promote compatible planning and development with the Camp Roberts mission is highly recommended.

Paso Robles Municipal Airport Land Use Plan

Adopted in 1997 and amended in 2005 and 2007, the Airport Land Use Plan (ALUP) for the Paso Robles Municipal Airport covers an area of approximately 21 square miles around the airfield. Specifically, the ALUP Section 2.5.2.1 Review of Specific Proposed Development Projects lists seven types of major individual development projects occurring within the Planning Area that the ALUC seeks to provide voluntary review. One type of project for review is "…any proposal for construction or alteration of a structure (including antennae) taller than 200 feet above the ground at any location within the county." Tall structures, buildings, and antennae are a mission concern and safety compatibility factor for Camp Roberts. These types of development should require Camp Roberts to comment and provide feedback to local jurisdictions associated with the development location and height to encourage continued and future mission readiness and compatibility planning.

Issue LU-2	**Compatible Land Use Designations.** Encourage a comprehensive, accurate approach to compatible land use planning by maintaining the appropriate land use designations on general plans, including land use diagrams, and in zoning ordinances to address compatibility.

Land use designations are an essential component in a JLUS and in compatibility planning. The land use designations surrounding Camp Roberts should be identified appropriately on all planning documents to promote compatibility between land uses, especially adjacent to military land uses. As discussed earlier in this section, Camp Roberts is a heavy maneuver training center for the California National Guard (CNG). The installation provides a training venue for federal agencies, all military service components, and local law enforcement agencies where helicopter training exercises, live-fire training operations, and maneuver training occurs. These exercises can generate noise, safety hazards associated to aviation operations and live-fire training exercises, and dust and air quality issues for surrounding land uses.

The following tables and figures provide a brief analysis of the land uses that are located under the airfield clear zones and the noise contours of the training ranges. Due to the training exercises that occur at these locations, the land uses may be subject to the impacts generated by military operations. Figure 4.2-3 illustrates the adjacent general plan designations within three miles of Camp Roberts.

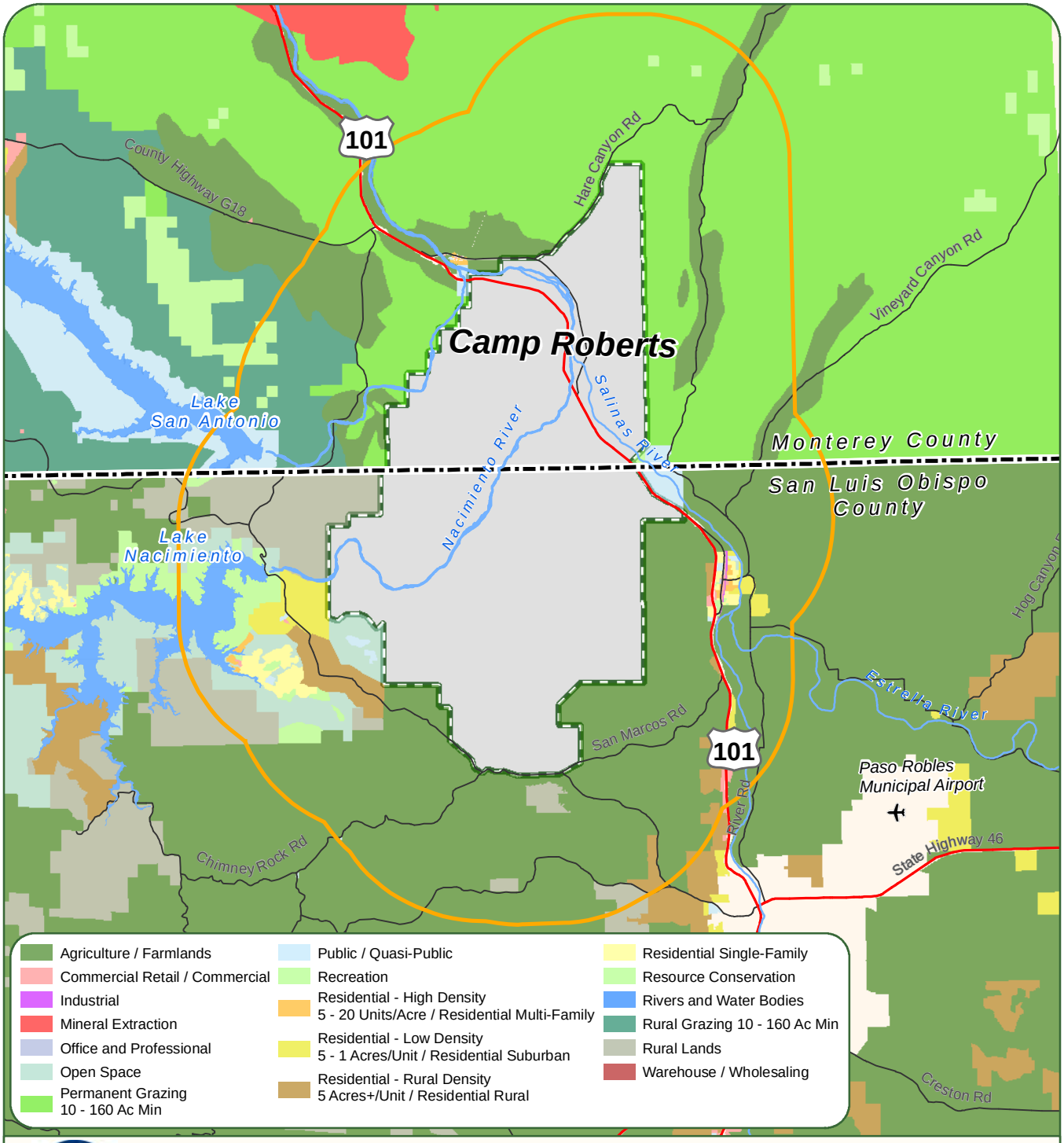


Figure 4.2-3
Existing General Plans

Sources: Camp Roberts, 2012; San Luis Obispo County Planning & Building Geographic Technology & Design, Nov., 2011; Monterey County Resource Management Agency, Jan., 2011.

Fig4.2-3_CRJLUS_GenLandUse_20130411b_JKC.pdf

McMillan Airfield

These land uses are subject to noise from aircraft that use the McMillan Airfield and they have an increased risk of experiencing the safety hazards associated with aircraft crashes. The land uses designed that lies under the airfield clear zones is agriculture, which typically is compatible with military operations. However, the risk associated with Camp Roberts is within this land use designation, heights for buildings and structures may exceed 35 feet if a minor or conditional use permit is approved for the proposed development. For more detailed analysis about the safety clear zones, see Section 4.3, Safety. For more information about vertical obstructions, see Section 4.4, Vertical Obstruction.

Table 4.2-1 identifies the land use designations in this area and their relative compatibility with the military operations at Camp Roberts. Table 4.2-1 also identifies the land uses surrounding Camp Roberts associated with the noise contours of the training and range areas and its respective compatibility to the mission. These land uses are subject to impulse noise from live-fire training exercises, both large and small arms. There are several designated land use zones that occur within the noise contours. Figure 4.2-3 illustrates the adjacent land use designations associated with the Camp Roberts training and live-fire ranges mission that could increase the risk of noise associated with these training exercises.

Issue LU-3	**Compatibility with State Wildlife Areas**. Along the Salinas River, Camp Roberts is bordered on its west and east boundaries by the Big Sandy Wildlife Area (BSWA). Consistent, long-range planning is needed to promote compatibility between the uses.

The Big Sandy Wildlife Area (BSWA) is a non-contiguous wildlife area that is adjacent to Camp Roberts on the west and east as shown in Figure 4.2-4. BSWA is an 850-acre, state wildlife refuge split by the Camp Roberts Training Facility. The western portion of the wildlife area is located adjacent to the installation near the unincorporated community of Bradley and the eastern portion of the wildlife area is located adjacent to Camp Roberts near the main gate along U.S. Highway 101.

Currently, there is no management plan for the BSWA which is a grassland park that provides opportunities for seasonal recreational activities such as hunting and fishing. The area is comprised of vegetation that provides habitat for California quail and wild boar. The lack of a management plan for the BSWA can potentially exacerbate incompatibilities for the Camp Roberts' mission due to unauthorized use of land. In addition, unmanaged lands could permit potential bi-directional safety hazards for Camp Roberts and the public through unmanaged growth of vegetation that could cause wildland fires and individual / livestock trespass. More information about safety hazards associated with fires and trespassing is discussed in Section 4.3, Safety and Section 4.15, Public Trespassing.

Issue LU-4	**Training Operations Limit Access to Base (Hunting and Fishing Activities)**. The public desires access to portions of Camp Roberts for hunting and fishing activities.

Memorandum of Agreement for Hunting and Fishing Programs at Camp Roberts

In the past there was a memorandum of agreement (MOA) between the California Army National Guard, Camp Roberts, California Department of Fish and Wildlife (CDFW), and the U.S. Property and Fiscal Office for California (USPFO) establishing procedures and guidelines for the recreational use of hunting and fishing activities on Camp Roberts. This MOA provided for the interagency coordination with the installation when providing access to the public for recreation activities and amenities. The MOA is currently not in effect.

Table 4.2-1. Compatibility Analysis of Land Uses Adjacent to Camp Roberts (San Luis Obispo and Monterey Counties Combined Land Use Categories)

Land Use Category	Compatibility	Analysis
Residential Suburban	Conditional	Structures / buildings should not exceed 75 feet, which provides for safe navigable airspace unless within the Airfield Clear Zone (Figure 4.3-3). San Luis Obispo County LUO limits this zone to 45 feet without discretionary permit. No lands with this designation are currently with noise impacted areas.
Rural Lands	Conditional	Structures / buildings should not exceed 75 feet in the Vertical Obstruction CRIA to provide safe navigable airspace. San Luis Obispo County LUO limits this zone to 45 feet without discretionary permit. Noise attenuation measures should be integrated into construction materials to mitigate interior noise levels at 45 dB due to small arms firing ranges located in the vicinity. Dust and erosion control measures must be integrated into plans to ensure dust and erosion is controlled and dust associated with the Tank Trail does not cause further damage.
Agriculture / Farmlands	Conditional	Structures / buildings should not exceed 75 feet to provide safe navigable airspace near the McMillan and East Garrison Airfields. San Luis Obispo County LUO limits this zone to 45 feet without discretionary permit.
Commercial Retail / Commercial	Good	Structures / buildings do not exceed 35 feet as prescribed in LUO.
Industrial	Good	Structures / buildings should not exceed 75 feet in the Vertical Obstruction CRIA to provide safe navigable airspace. No Industrial designated lands currently exist in this area.
Permanent Grazing	Conditional	Structures / buildings should not exceed 75 feet to provide safe navigable airspace and minimize safety hazards and incidents of aircraft accidents near the McMillan and East Garrison Airfields.
Public / Quasi Public	Conditional	Structures / buildings should not exceed 75 feet to provide safe navigable airspace. In addition, wildlife management is required in these areas to minimize damage to federal property and loss of wildlife.
Residential / High Density (5-20 du / ac) / Multi-Family	Not compatible	This area is subject to loud noise from small arms. Since this area is designated for large numbers of people, this inherently creates a compatibility issue. Noise attenuation measures should be integrated into construction materials to mitigate interior noise levels at 45 dB due to small arms firing ranges located in the vicinity.

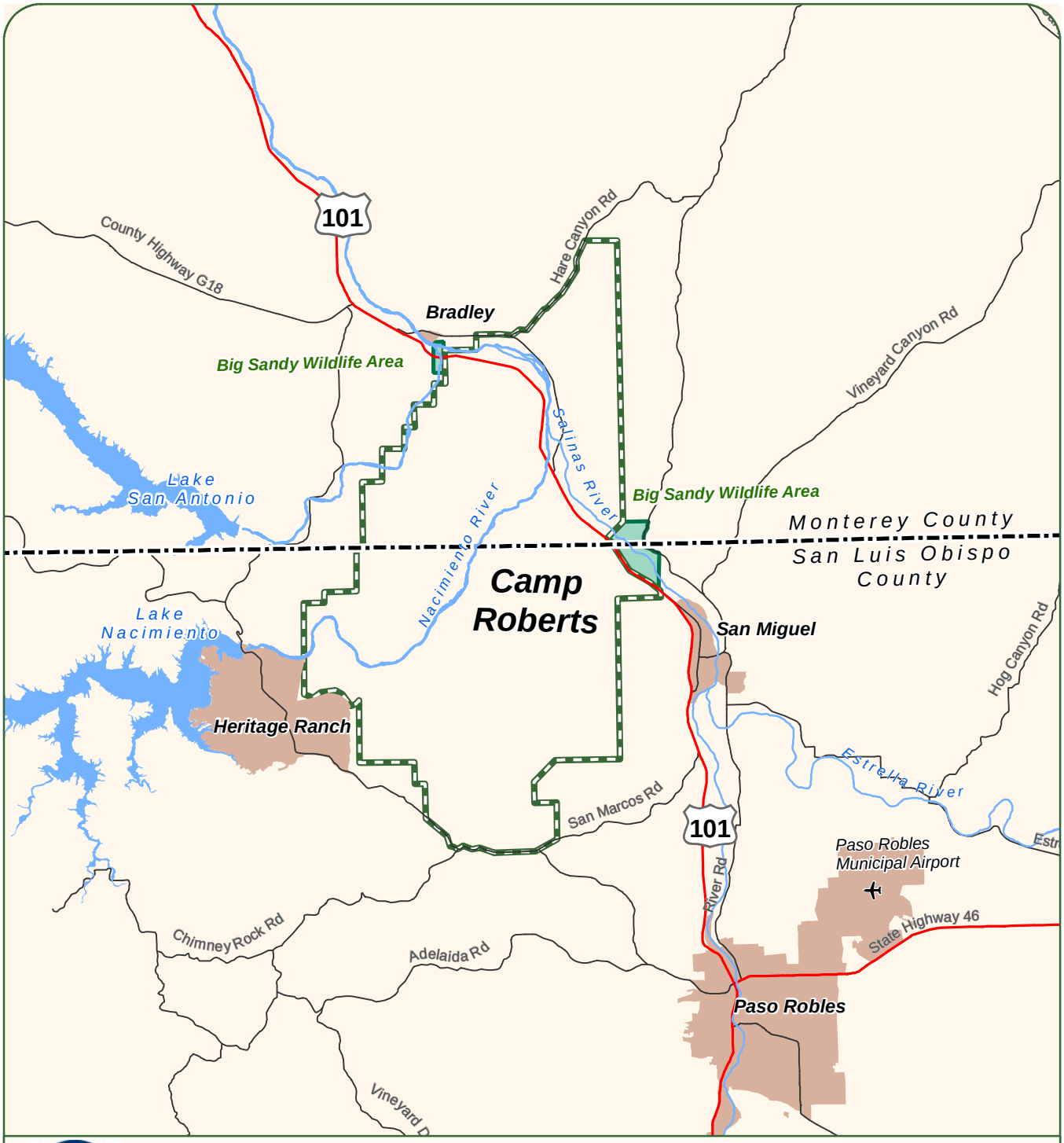


Figure 4.2-4
Big Sandy Wildlife Area

Sources: Camp Roberts, 2012; San Luis Obispo County Planning & Building Geographic Technology & Design, Nov., 2011; Monterey County Resource Management Agency, Jan., 2011.

Fig4.2-4_CRJLUS_BigSandy_20130411_JKC.pdf

Military training at Camp Roberts includes live-fire training activities that require Camp Roberts Environmental Services (ES) and CDFW to coordinate with Range Control to enable the safe environment for hunters and anglers. The MOA stipulates that Range Control shall coordinate with Camp Roberts ES when training operations change affecting the hunting and fishing program enabling sufficient time to get notification out to the public. The MOA becomes void in the event of a national emergency or a declaration of war.

Currently, the MOA is no longer in effect, and the hunting and fishing recreational activities have been suspended due to military training needs and construction activities. In addition, fishing activities have been limited by CDFW due to management of sensitive species (Steelhead Trout) in the Salinas River. It is unknown at this time when the hunting and fishing recreational activities will resume on and near Camp Roberts.

Issue LU-5	**The Ability to Meet the Recreational Needs for Off-Duty Soldiers and Nearby Residents is Insufficient.** Currently, off-duty soldiers and nearby residents must drive 12 miles to Paso Robles to enjoy recreational activities other than those provided at Lake Nacimiento. Need plans to address the provision of recreation close to Camp Roberts.

San Luis Obispo County Land Use Ordinance and Zoning

Presently, the lands surrounding Camp Roberts mostly consist of agriculture, farmlands, and permanent and rural grazing. Immediately to the west of Camp Roberts in San Luis Obispo County, Lake Nacimiento and Heritage Ranch, a resort community, is situated where recreation activities such as boating and fishing activities occur. This area is heavily used by tourists during the summer months. While it is important to provide recreational activities and amenities for soldiers, it is equally important for recreation activities and uses to be compatible with neighboring land uses. This is the only recreational area within the immediate vicinity of the installation for military personnel to enjoy.

Monterey South County Area Plan

The Monterey South County Area Plan currently does not designate any land uses for recreation or open space. Monterey South County land use is primarily agriculture and grazing lands with some lands in conservations easements as outlined earlier in this Section. However, the South County Area Plan does contain a provision for the coordination with Camp Roberts to establish a park site abutting the Salinas River on the installation. While this provision provides a good example of compatibility planning, it is equally important to encourage compatibility of all nearby recreational activities with the military mission at Camp Roberts.

Findings

The majority of the population of Camp Roberts are trainees and have limited time to participate in recreational activities. When time is sufficient, trainees typically participate in recreational activities on installation. Furthermore, the majority of military and civilian personnel who are employed at Camp Roberts live in Paso Robles (see Table 4.5-1 in Section 4.5 Housing Availability) where their recreational needs are fulfilled by the various parks and recreational opportunities in the community managed by the Paso Robles Parks and Recreation Department. Therefore, no further action is needed to address this issue.

Issue LU-6	**Presence of Dilapidated Structures Along Highway 101.** The presence of dilapidated and unmaintained structures on Camp Roberts that are visible from Highway 101 disrupts beauty along the highway.

Camp Roberts was activated in 1942 to provide mobilization and refresher training for several significant wars in U.S. History. In doing so, buildings were constructed to accommodate influxes of soldiers; up to 26,000 soldiers were served by Camp Roberts during wartime. As international conflicts were resolved Camp Roberts passed through periods of inactivity and was finally deactivated by the Department of Defense in 1970. Since then, old barracks from World War II have remained standing due to the hazardous environment (asbestos and lead paint) associated with these structures.

Prior to and during the JLUS process, committee members and the public expressed concern about the old WWII barracks and their associated hazards. The dilapidated structures were detracting from the aesthetics of the local character for travelers along U.S. Highway 101.

Camp Roberts had planned for the demolition of these buildings in years past. However, the installation did not have an environmentally-safe repository for the building materials to be disposed of properly. In addition, budgetary constraints in years past were unable to be secured to fund the completion of an environmentally-safe landfill on the installation. In February 2012, Camp Roberts secured the remaining funding and has completed construction of the landfill. This allows for the completion of the old barracks demolition by June 2013. This issue is considered resolved, and no further actions are needed.

Issue LU-7	**General Plan Updates per State Law.** Meeting required updates for general plans to reflect recent changes in general plan law concerning military compatibility.

Camp Roberts Influence Area affects the jurisdictions of San Luis Obispo County, Monterey County and the City of Paso Robles. Per Government Section 65300 "…each county and city shall adopt a comprehensive, long-term general plan for the physical development of the county or city, and of any land outside its boundaries which in the planning agency's judgment bears relation to its planning."

Senate Bill 1468 (Knight, 2002) and Senate Bill 1462 (Kuehl, 2003) imparted responsibilities for cities and counties to consider military training and operations in land use planning and decision making. In particular, Senate Bill 1468's intention is to foster cooperation between military installations and local jurisdictions when preparing or updating their general plan in order to reduce land use conflicts between private development and military readiness activities.

A community's general plan requires seven (7) mandated planning elements which are land use, circulation, housing, conservation, open space, noise, and safety. In addition, communities may include optional planning elements to address their particular needs and situation.

Located within the Camp Roberts Influence Area (as shown in Figure 4.0-1), it would be appropriate for San Luis Obispo and Monterey Counties to incorporate a military compatibility element or policies in their general plan when its updated.

Some of the military compatibility elements to consider and potentially include in planning documents are the installation, areas of military readiness activities, military training routes, special use airspace, restricted areas, military operations, controlled fire areas, clear and safety zones, flight corridors, airport approach and departure, and conservation areas. In this manner, relevant information will be available to private property owners, developers and decision-makers when considering investment and land use decisions consistent with the goals of the general plan.

Land Use Strategies

The following strategies are recommended to address the issues identified in this section.

Table 4.2-2. Land Use Strategies

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
LU-1	**New Development Around Camp Roberts May Not Consider Compatibility**																	
LU-1	**A**	General Plan Policies for Compatibility Include a policy statement on compatibility planning into the general plan for each affected jurisdiction.	Land	2017	■		■	■										
LU-1	**B**	**Acquire Conservation Easements** Partner with local governments and conservation agencies for the acquisition and maintenance of conservation easements in areas: ■ Within Surface Danger Zones (SDZs) that are not over land controlled by Camp Roberts, ■ Within Clear Zones / Accident Potential Zones for active airfields, ■ Areas exposed to high levels of noise, and ■ Other areas determined to have compatibility or operational issues.	Land	2017			■	■					■					■

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
LU-1	**C**	**Acquire Land Outright via Fee Simple Acquisition (Willing Seller)** Acquisition should be examined on a case by case basis and pursued as a market transaction between Camp Roberts and a willing seller (no eminent domain proposed). Areas for consideration include : ■ Within SDZs that are not over land controlled by Camp Roberts, ■ Within Clear Zones / Accident Potential Zones for active airfields, ■ Areas exposed to high levels of noise, and ■ Other areas determined to have compatibility or operational issues.	Land	2017										■				■
LU-2	**Compatible Land Use Designations**																	
LU-2	**A**	**CRIA Overlays on Land Use Diagram** The CRIA's established under Strategy COM-1.B should be delineated on the jurisdiction's Land Use Diagram as part of the general plan.	General	2015	■		■	■										
LU-3	**Compatibility with State Wildlife Areas**																	
LU-3	**A**	**Big Sandy Wildlife Area** Close coordination between Camp Roberts and California Department of Fish and Wildlife (CDFW) is needed concerning a management plan for the BSWA to address long-range planning and military compatibility concerns.	General	2015									■	■				

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
Issue LU-4	**Training Operations Limit Access to Base (Hunting and Fishing Activities**																	
LU-4	**A**	**Continued Coordination and Public Outreach** Continue to work with CDFW on public awareness relative to access to the installation for hunting and fishing activities. CDFW and Camp Roberts also need to provide better public information on the access to fishing on and near Camp Roberts, and which areas are restricted due to range use and which are restricted due to resource management studies and controls by CDFW.	Land	2014									■	■				
LU-4	**B**	**Reestablish MOA with CDFW.** Continue to review with CDFW the need for a new MOA regarding future use of Camp Roberts and adjacent areas relative to fishing and hunting.	Land	On-going									■	■				
LU-5	**The Ability to Meet the Recreational Needs for Off-Duty Soldiers and Nearby Residents is Insufficient**																	
--	--	This issue is adequately addressed through current programs for permanent party members. Soldiers training at Camp Roberts have no significant impact due to limited time. No further action needed.																
LU-6	**Presence of Dilapidated Structures Along Highway 101**																	
--	--	This issue is adequately addressed through current programs for demolition. No further action needed.																

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
LU-7	**General Plan Updates per State Law**																	
LU-7	**A**	**Integrating State Law Requirements** In the Study Area, local jurisdictions need to ensure general plans are consistent with new requirements in State law concerning compatibility planning.	General	2017	■		■	■										
LU-7	**B**	**Update San Miguel Community Area Plan.** The San Miguel Community Area Plan should be updated to incorporate military compatibility policies (including housing that is compatible with the military operations that occur at Camp Roberts).	General	2014				■	☐				☐					

4.3 Safety

Key Terms

Clear Zone. The Clear Zone (CZ) defines the limits of the obstruction clearance requirements in the vicinity of a runway. The CZ is an obstruction-free surface (except for features essential for aircraft operations) on the ground symmetrically centered on the extended runway centerline beginning at the end of the runway and extending outward 3,000 feet. This is the area where an accident involving an aircraft operation is most likely to occur.

Impact Area. The impact area is an area with designated boundaries that identify the limits at which all ordnance fired from specified ranges and firing points will detonate or impact.

Prescribed Burn. A prescribed burn is the controlled and intentional ignition of grass, shrub, or forest fuels for the specific purpose of reducing vegetation to assist with fire fuel reduction, forest management, farming, or habitat restoration. A prescribed burn may also refer to the intentional controlled burn of vegetation for firefighter training.

Surface Danger Zone (SDZ). An SDZ is an area around a weapons' firing range from which the access of all military personnel and civilians is restricted due to the inherent dangers associated with the firing of live munitions. An SDZ can include the surface (and subsurface) of land and water, as well as the overhead air space that provides the medium for launched projectiles. An SDZ includes the weapons firing position, target impact area, and a secondary buffer area, which is an additional distance where errant projectile/munitions fragments may land without risking harm to life or property.

The area of an SDZ can vary in size and shape depending on the type of weapon(s) fired, their firing location, and projectile trajectory.

Technical Background

Military installations often engage in activities or contain facilities that, due to public safety concerns, require special safety considerations by local jurisdictions when evaluating compatibility. The activities evaluated relative to this compatibility factor include airfield Clear Zones, weapons firing ranges, the Camp Roberts impact area, maneuver training areas, and the risk of fires resulting from activities on the military installation.

It is important to regulate land use near military airfields in order to minimize damage from potential aircraft accidents and to reduce air navigation hazards. To help mitigate potential issues, the DOD has delineated Clear Zones and Accident Potential Zones (APZs) in the vicinity of airfield runways. APZs extend beyond the CZ at larger airfields, with the APZ being divided into APZ I and APZ II. McMillan Airfield currently supports less than 5,000 operations annually, thus the delineation of APZs are not required per DOD instruction.

Compatibility Assessment

Issue SAF-1	**Live-Fire Range Impact Area**. Surface danger zones (SDZs) may extend off Camp Roberts depending on the training conducted. While training that has an SDZ off Camp Roberts is not currently conducted, planning is needed to promote compatibility in these areas should the need arise.

The impact area associated with Camp Roberts range activity extends over a land area of 9,605 acres in the northern portion of Camp Roberts (see Figure 4.3-1). This area does not allow any maneuver training within it, except for the Restricted Troop Movement Zone and the Temporary Troop Movement Zone located in the southern and northern portions of the impact area. There are also several firing ranges in and around the impact area. All munitions fire is directed towards the impact area.

The ranges around the impact area have associated surface danger zones (SDZs), which identify a safety zone where munitions from a range or firing point could potentially land. The size and shape of an SDZ is based on area number of factors related to the weapon and munitions type being fired.

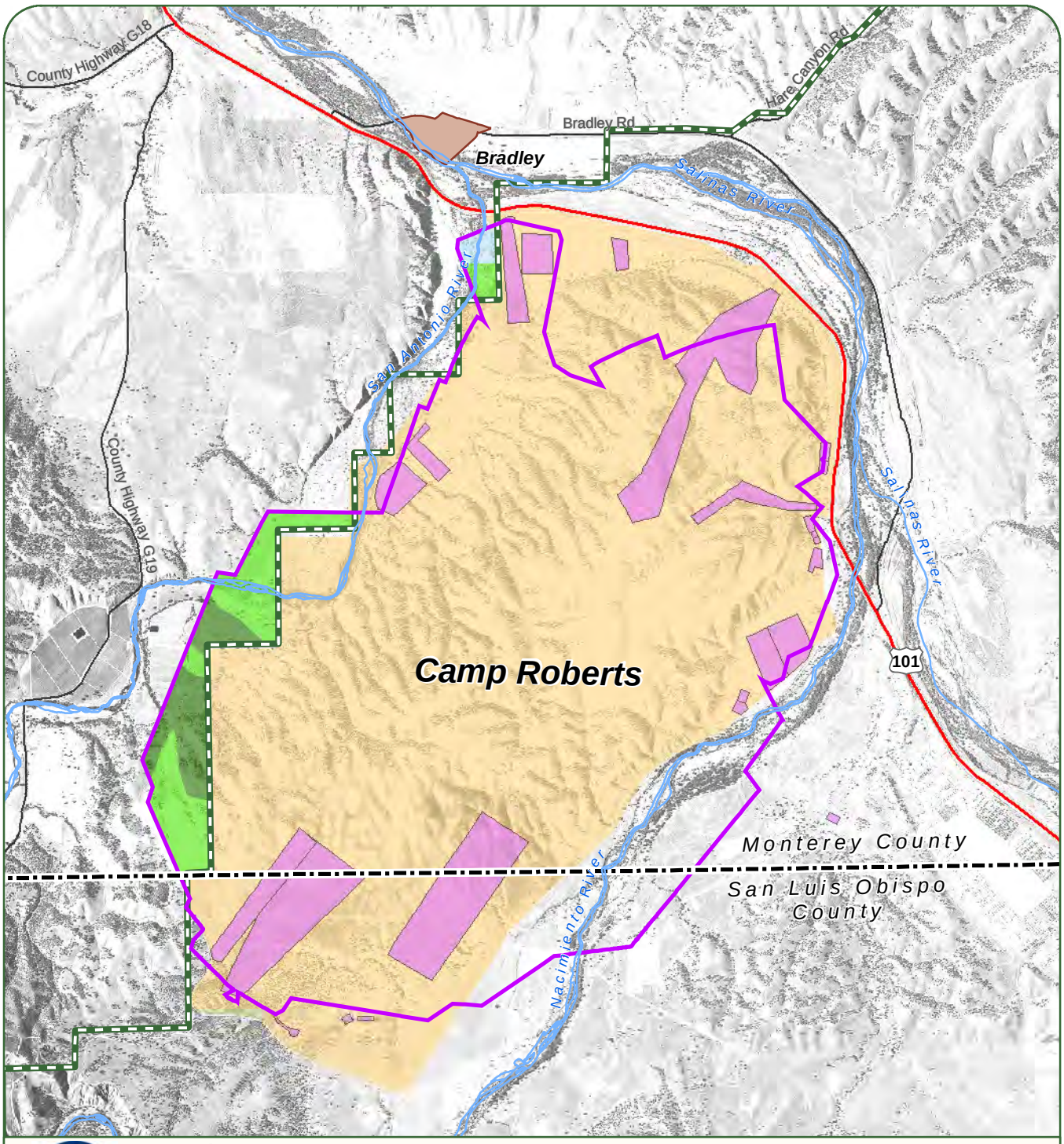
A few of the SDZs associated with the Camp Roberts ranges extend past the western boundary of the installation. These SDZs are associated with weapons not currently used at Camp Roberts. Therefore, there are no current SDAs that go off the installation. There are currently no inhabited structures within these areas. The area is currently zoned as Agriculture and is used primarily as grazing area for livestock, which is a compatible use. However, the agricultural zoning district allows single family residential as a permitted use. Although the chance of ammunition rounds landing outside of the boundaries of Camp Roberts is very low, should development extend into these areas, an increase in risk would result. No residential or similar uses should be developed within the SDZs. If current real estate development conditions continue, it is unlikely that any development will occur in the near future; however, consideration of the SDZ areas, as shown in Figure 4.3-1 should be a part of in future development decision-making.

Issue SAF-2	**Maintaining Camp Roberts's Role in Emergency Response**. Camp Roberts plays an important role in providing support during an emergency, especially wildland fires; however, the existing mutual aid agreements, some of which are currently expired, need to be reviewed and updated to promote policies are current with State legislation and planning agencies.

As part of the CNG's stated mission, personnel and troops at Camp Roberts respond to and provide local and statewide aid during times of emergency, disasters, civil unrest, etc. Camp Roberts also provides mutual aid support for emergencies of local importance. The Camp Roberts Emergency Services Department is a full service public safety agency that operates on-installation. Services provided by the department include fire prevention, emergency prevention and investigation, emergency medical services, first response to hazardous materials incidents, law enforcement and security, and rescue.

Camp Roberts Emergency Services Department maintains an onsite fire-fighting capability that can respond quickly to any fires on the installation. The department fire-fighting capability includes:

- 3-HMVEE fire-fighting capable vehicles (Type 5)
- 3-fire engines (Type 1, 2 and 3)
- 1-water tender
- 2-utility vehicles (1 with fire-fighting capability)
- 1-command vehicle
- 1 HAZMAT trailer



Sources: Camp Roberts, 2012; Monterey County Resource Management Agency, Jan., 2011.

Figure 4.3-1
Zoning Under Surface Danger Zones

Fig4.3-1_CRJLUS_Range_Safety_SDZ_20130410_RGR.pdf

Within the region surrounding Camp Roberts, the major concern for emergency response and assistance is wildland fires. The JLUS area is partly located within the designated State Responsibility Area of a Very High Fire Severity Zone (FSZ) (see Figure 4.3-2) and has an extended response time from the nearest California Department of Forestry and Fire Protection (CAL FIRE) or San Luis Obispo County fire station. California State law requires all jurisdictions to identify areas designated as Very High FSZ within their area of responsibility. This designation is based on factors such as land slope, vegetation density and fire fuels, terrain, and typical weather patterns. Zones designated as "Very High" are at the highest potential risk for fires and are encumbered by certain regulations that must be adhered to for development or uses on land within the zone.

Camp Roberts has Automatic or Mutual Aid Agreements with Monterey and San Luis Obispo counties to assist each other in the event of a fire emergency. The Monterey agreement was adopted in 1998 and the San Luis Obispo agreement was adopted in 1990. An Operational Plan of Automatic Response and Use Agreement between the Camp Roberts Fire and Emergency Services Department and CAL FIRE / San Luis Obispo County Fire Department was updated in 2004. These agreements should be reviewed and, if necessary, updated to reflect changes in populations of both Camp Roberts and the surrounding jurisdictions, changes in firefighting equipment or numbers of personnel, changes in development patterns, and new or updated state wildland fire legislation that has been passed since the time they were adopted.

Issue SAF-3	**Risk of Wildland Fires Occurring Within the Region.** Wildland fires are a risk to both Camp Roberts and the surrounding region. Historically, wildland fires have occurred from both on-installation (in some cases fires have migrated off-installation) as well as from off-installation (where fires have migrated onto the installation).

The Camp Roberts Fire and Emergency Services Department has conducted prescribed burns for the past 50 years. These burns help manage and prevent uncontrolled fires breaking out both on and off-installation that could spread in either direction. The Camp Roberts impact area has been identified as having the highest potential for fire outbreaks due to the ordnance that are fired into the area, which could ignite vegetation if not properly managed. It is common practice for Camp Roberts to use prescribed burns on the entire impact area and some other small areas throughout the installation, averaging approximately 10,000 acres annually. The Camp Roberts Fire and Emergency Services Department is also responsible for managing all naturally-ignited fires on Camp Roberts.

Each year, the Camp Roberts Fire and Emergency Services Department submits a Burn Plan, which outlines the previous year's burns and identifies the planned burns for the upcoming year. The Burn Plan must be compliant with both the National Environmental Protection Act (NEPA) and the California Environmental Quality Act (CEQA), and reviewed by the Camp Roberts Environmental Office.

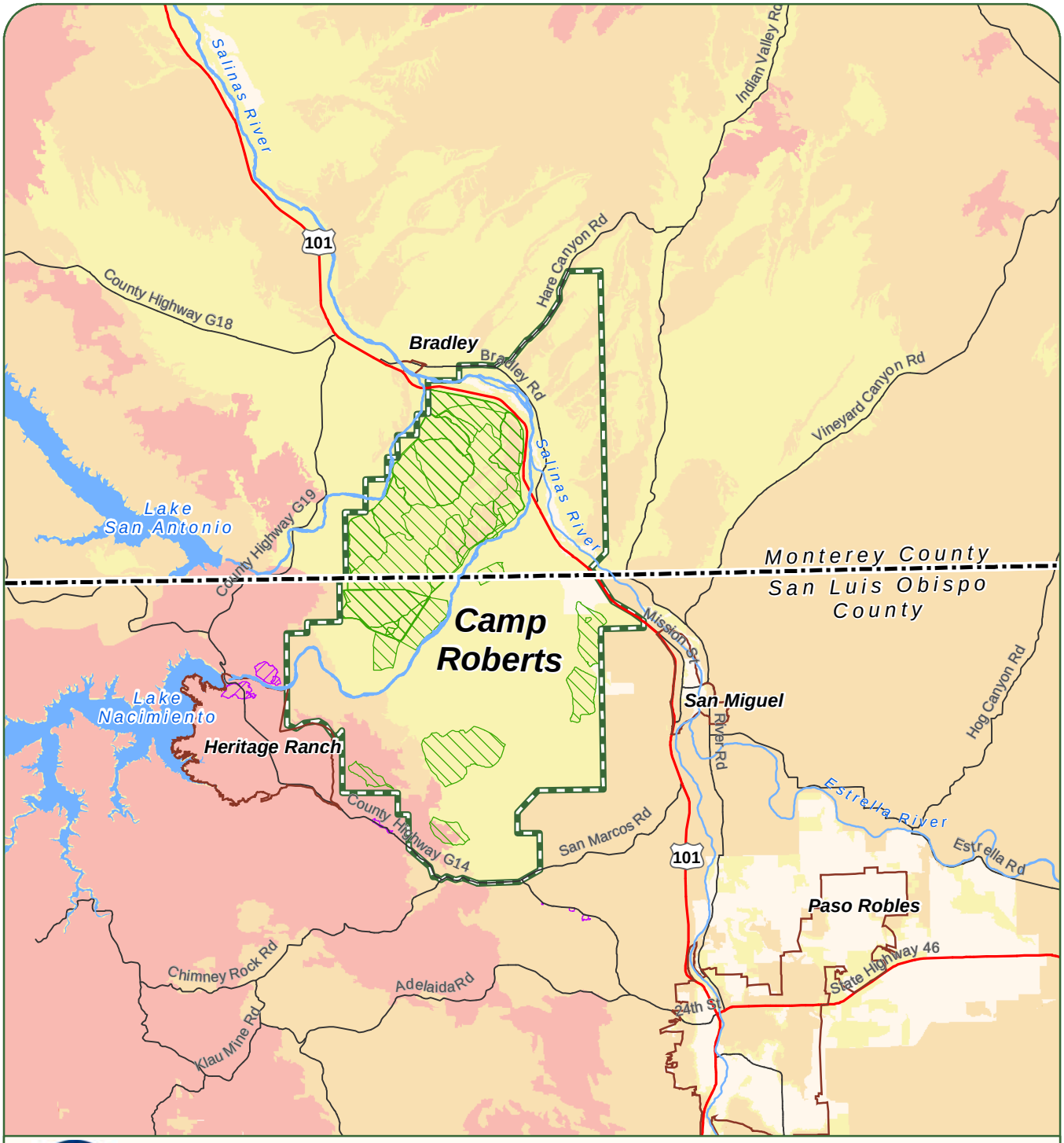


Figure 4.3-2
Historical Fires and Potential Fire Hazard Areas

Fig4.3-2_CRJLUS_Pot_Hist_Fire_20130410_RGR.pdf

All prescribed burn permits must be coordinated between the Camp Roberts Incident Commander (IC), Camp Roberts Training and Operations, and Camp Roberts Range Control in order to mitigate potential impacts to training or mission activities. The California Department of Fish and Wildlife (CDFW) and/or United States Fish and Wildlife Service (USFWS) must also provide approval. Once approved by all agencies, the finalized Burn Plan is submitted to the San Luis Obispo and Monterey County Air Pollution Control Districts to ~~i~~ssue burn permits.

As Figure 4.3-2 illustrates, much of the region to the south and west of Camp Roberts is in the Very High FSZ. Much of the southern and eastern region falls within the High FSZ. In contrast, most of Camp Roberts is considered to be in a Moderate FHSZ, partially due to the measures that are taken on-installation to manage fuel loads (i.e., vegetation) and fire breaks. The figure also shows the locations of historic wildfires on Camp Roberts and within one mile of the Camp that have occurred since 2003. The majority of prescribed burns take place on and near the Impact Area, which is the most vulnerable to accidental fires caused by military operations.

In terms of wildfires, there are several that have occurred near the boundary of Camp Roberts and have affected land both on- and off-installation, which is indicative of the need for, and importance of, managing and preparing for fires that occur on and near Camp Roberts.

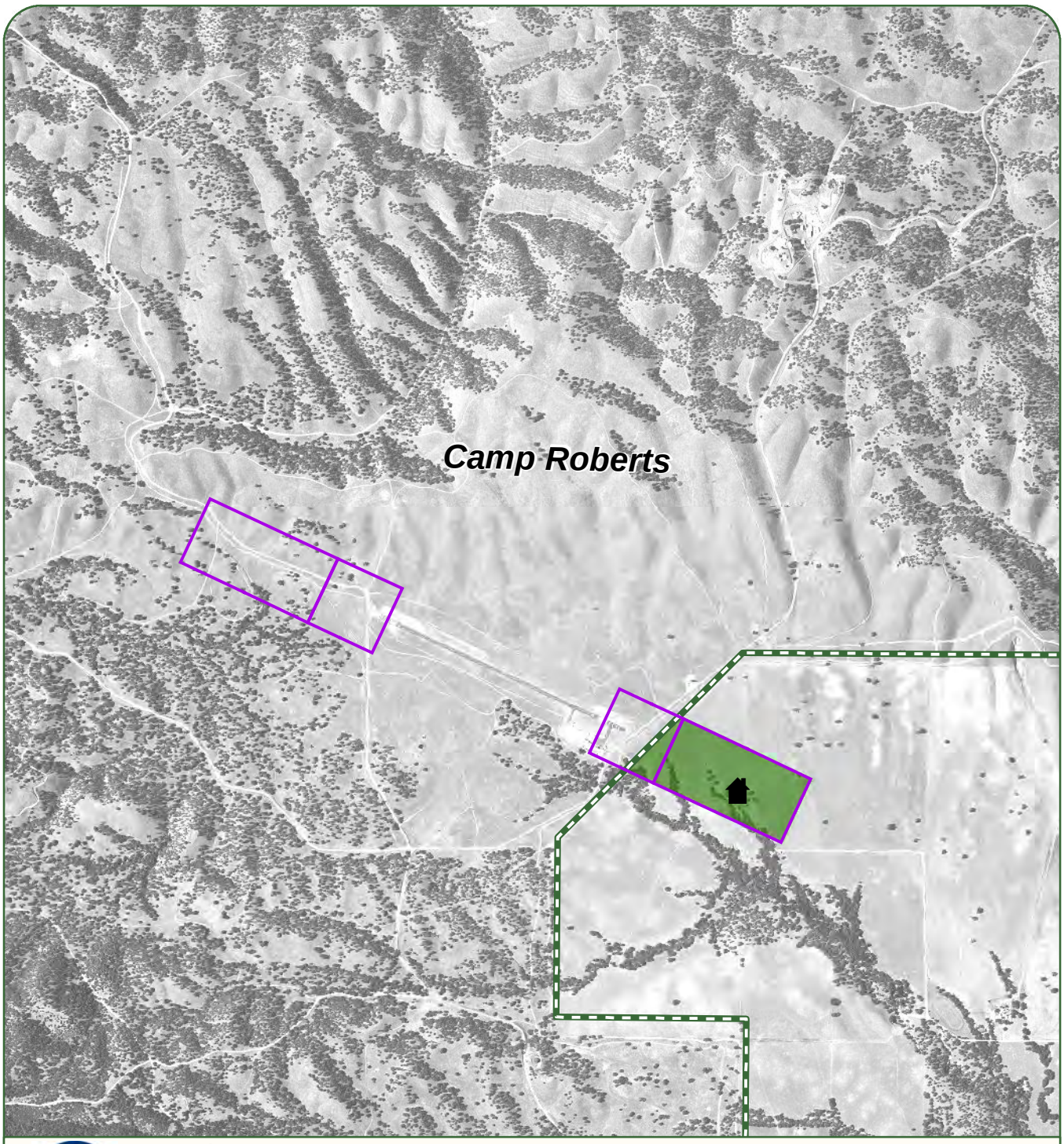
Issue SAF-4	**Aviation Safety.** The current safety zones associated with McMillan Airfield extend past the boundaries of Camp Roberts onto private property. In addition, Camp Roberts can use the Paso Robles Municipal Airport (KPRB) for some operations**.**

The Clear Zone for McMillan Airfield, as defined by Unified Facilities Criteria (UFC) 3-260-01: *Airfield and Heliport Planning and Design*, is subdivided into Types I and III. The Clear Zone measures 1,000 feet wide for each type. Type I measures 1,000 feet in length from the end of the runway, and should be clear of any above-ground objects (except for airfield lighting). Outside of the boundary of Camp Roberts, there are trees and vegetation that grow within this zone and are incompatible with the requirements of Type I criteria. Type III extends an additional 2,000 feet from the end of Type I, and should not contain any objects that are of greater height than allowed by the approach-departure clearance surface (see Section 4.4, Vertical Obstructions for a description of this).

No structures used for human habitation should be present anywhere within the Clear Zone.

All of the land that is within the portion of the McMillan Airfield CZ that extends past the boundaries of Camp Roberts is zoned as Agriculture. Single-family residential is a permitted use within the Agriculture zone. In addition, some other incompatible uses are allowed with certain types of permits.

There is a residential ranch house located in the Type III zone, approximately 1,800 feet from the start of the CZ (threshold) (see Figure 4.3-3). This property is currently under consideration for purchase through the Army Compatible Use Buffer (ACUB) program, which allows Camp Roberts to enter into partnerships with other entities, such as the Ag Land Trust, to purchase land that would provide a buffer from potential development encroachment and preserve open space and habitat for species found within the boundaries of the installation.



Sources: Camp Roberts, 2012; San Luis Obispo County Planning & Building Geographic Technology & Design, Nov., 2011.

Figure 4.3-3
Zoning Under Airfield Clear Zone

Fig4.3-3_CRJLUS_Airfield_CZ_20130410_RGR.pdf

This partnership would transfer ownership to the Ag Land Trust to protect it as agricultural land, which would be a compatible use within the CZ.

The McMillan Airfield Study commissioned by the Navy's Center for Interdisciplinary Remotely Piloted Aircraft Studies (CIRPAS) and published in December 2011, identifies several possible courses of action that can be taken regarding the current incompatibilities that exist in the Clear Zone.

The study has not been finalized and does not reflect a course of action proposed by Camp Roberts at this time. The discussion below is provided for information purposes only on ideas that are being evaluated.

The study breaks the courses of action into three categories:

1. **Status quo** – continue the current amount and types of unmanned aerial vehicle (UAV) aircraft operations.
2. **Off-base adjustments** – minimize or eliminate off-base incompatibilities. Several approaches to this were developed:
   - Attempt to acquire an annual airfield safety criteria waiver from the Naval Air Systems Command for the ranch house that is within the Clear Zone.
   - Purchase the land and make it part of Camp Roberts and remove the residential land use. The DOD Readiness and Environmental Protection Initiative (REPI) could be of assistance with this option (see Section 4.2, Land Use for more information on REPI).
   - Convince the current land owner to demolish the existing residential unit and rezone the property to avoid incompatible land uses in the future. Compensation for the demolition and rezoning should be expected.
   - Establish an aviation easement that limits use of the adjacent parcel. Similar results as rezoning and compensation would likely be required.
   - Convince the current land owner to enroll in the California Land Conservation Act, also known as the Williamson Act, to keep the land use as agriculture. Although the existing residence would remain.
3. **On-base adjustments** – this examined the actions that could be taken within the boundary of Camp Roberts to "shift" the Clear Zone onto the base. The course of action that was identified was to displace the landing threshold of the runway 1,200 feet to the west and extend the runway to match the threshold. This would also shift the Clear Zone 1,200 feet to the west, which would remove the ranch house from the Clear Zone.

The latter two scenarios could allow for an enhancement in operational availability at McMillan Airfield. As mentioned, purchase through the ACUB program is currently being pursued.

East Garrison Airfield is currently used as a heliport for rotary-wing aircraft operations at Camp Roberts. As such, it does not have the usual CZs associated with fixed-wing runways. If the airfield were to be activated for fixed-wing aircraft in the future, any CZs associated with the current layout of the runway would not extend off the installation and therefore would not cause a compatibility issue with private land. However, if future plans ever involve expansion or reorientation of the runway, then depending on how the runway is enhanced, it could potentially have CZs or APZs that go off-installation and cause potential incompatibilities. Any expansion or reorientation of East Garrison Airfield in the future should take this into consideration and it should be aligned to the best situation possible to avoid safety zones going outside of Camp Roberts.

Safety Strategies

The following strategies are recommended to address the issues identified in this section.

Table 4.3-1. Safety Strategies

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
SAF-1	**Live-Fire Range Impact Area**																	
SAF-1	**A**	**Provide SDZ Location Data** Camp Roberts shall provide current maps of SDZs that extend off land controlled by Camp Roberts to local jurisdictions and land management agencies in the Study Area.	Land	2014			☐	☐					■					
SAF-1	**B**	**Posting of SDZ Information** If training will result in an SDZ extending off of Camp Roberts controlled lands, posting shall be erected and maintained as prescribed by regulations. This information will also be posted to a website used for public information.	Land	2014									■					
SAF-1	**C**	**Real Estate Disclosure** Require that all properties developed or sold that are within any CRIA have a real estate disclosure included as part of the sale materials that states the property is located within close proximity to a military installation that performs both air and ground operations that can occur in day and nighttime hours. These military operations may produce noise, vibration, and other compatibility issues that may affect the property.	Land	2015	■	■	■	■	■									

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal		Tribal Governments	Other
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS		
SAF-1	**D**	**Public Education** Increase public awareness about the risk of trespassing onto Camp Roberts. ■ Provide notification and educational materials to Study Area jurisdictions regarding restricted and accessible areas. ■ Ensure hunters and other users stay on marked trails that pass adjacent to the installation. ■ Ensure educational information is posted on websites and within informational brochures that illustrate the boundaries of Camp Roberts on recreation area maps.	Land	2014	☐	☐	☐	☐	☐				■	☐	☐	☐		
SAF-2	**Maintaining Camp Roberts's Role in Emergency Response**																	
SAF-2	**A**	**Review and Update Mutual Aid Agreements** Review and update MOUs for mutual aid for firefighting assistance between Camp Roberts and participating communities and agencies. Involve all appropriate agencies and update to include other facets of mutual aid (emergencies, disasters, civil unrest, etc.) as appropriate.	Land	2015	■		■	■			■		■					
SAF-3	**Risk of Wildland Fires Occurring Within the Region**																	
SAF-3	**A**	**Continued Fire Break Maintenance** Camp Roberts should continue fire break maintenance as standard procedure prior to the start of the fire season and as needed during the season to provide adequate protection to ensure planned and unplanned fire does not leave Camp Roberts' lands and / or enter State Responsibility Area land.	Camp Roberts	On-going							☐		■					

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
SAF-3	**B**	**Fire Suppression Training** Camp Roberts should work with California Department of Forestry and Fire Protection (CAL FIRE) and local fire protection agencies/departments to conduct joint training exercises at Camp Roberts.	General	On-going	■		■	■			■		■					
SAF-3	**C**	**Develop a Joint Fire Management Awareness Program for the General Public** Leverage federal and local resources to develop Fire Management Awareness educational brochures and other tools to inform the public on how to recognize the beginning of a fire and steps to take to alert the appropriate authorities. Work with local TV stations to air special editions on Fire Management Awareness during wildland fire season.	General	2015	☐		☐	☐			■		☐					
SAF-4	**Aviation Safety**																	
SAF-4	**A**	**Update Airport Land Use Compatibility Plans (ALUCP)** Update the ALUCP for San Luis Obispo County for McMillan Airfield and Paso Robles Municipal Airport (KPRB) and for Monterey County if an airfield at East Garrison is developed. ■ Pursue funding (with the support of the California National Guard) to update all affected ALUCPs. ■ ALUCPs should be updated as necessary to reflect changes in operations or missions at Camp Roberts that impact air operations.	General	2017	■		■	■				■	■					

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
SAF-4	**B**	**Involve Camp Roberts Officials in Airport Planning** Ensure Camp Roberts officials are involved, in an advisory capacity, relative to operational changes at public airports, in the update of airport master plans and expansion plans for all airports in the surrounding region, and in the update of county ALUCP that affect or may affect operations at Camp Roberts. ■ Depending on the type of operational changes, it may be appropriate to expand the CRIA for this strategy to include all airports in the region.	General	2014	■			■				■	■					

4.4 Vertical Obstructions

Key Terms

Heliport Approach Surface. The approach surface begins at each end of the heliport primary surface with the same width as the primary surface, and extends outward and upward for a horizontal distance of 4,000 feet where its width is 500 feet. The slope of the approach surface is 8 to 1 for civil heliports and 10 to 1 for military heliports.

Heliport Primary Surface. The area of a heliport's primary surface coincides in size and shape with the designated take-off and landing area. This surface is a horizontal plane at the elevation of the established heliport elevation.

Imaginary Surface. Imaginary surfaces are the areas surrounding a heliport or runway that must be kept clear of objects that might damage an aircraft. A man-made or natural object that projects above an imaginary surface is an obstruction.

Restricted Airspace. Airspace established under 14 CFR part 73 provisions (as per the Federal Aviation Administration [FAA]), within which the flight of aircraft, while not wholly prohibited, is subject to restriction. It is one of many types of special use airspace designations and is depicted on aeronautical charts with the letter "R" followed by its unique identification number.

Standard VFR Heliport. Visual flight rule design standards are used for heliports that have no current or future requirement for instrument flight rules.

Transitional Surfaces. These surfaces extend outward and upward from the lateral boundaries of the primary surface and from the approach-departure surfaces at a slope of 2 to 1 for a distance of 250 feet measured horizontally from the centerline of the primary and approach-departure surfaces.

Unmanned Aerial Vehicle (UAVs). A UAV is a vehicle sustained in flight by aerodynamic lift throughout the majority of its flight path. UAVs are guided without an onboard crew. They may be expendable or recoverable and can fly autonomously or piloted remotely on missions for intelligence surveillance and reconnaissance and as warfighters.

Vertical Obstructions. Vertical obstructions are objects or structures that exceed a specified height above ground level and extend into airspace. Vertical obstructions may be created by buildings, trees, structures, or other features that are of greater height than, and encroach into, the navigable airspace used for military operations (aircraft approach-departure surfaces, transitional surfaces, as well as military training or flight routes). These can present a safety hazard to both the public and military personnel and potentially impact military readiness.

Visual Flight Rules. Visual flight rules (VFR) are a set of regulations that allow a pilot to operate an aircraft in weather conditions that are generally clear enough to allow the pilot to see where the aircraft is going. This type of navigation does not require the use of navigational aids or instruments, such as a control tower.

Wind Energy Conversion System (Wind Turbine). A wind energy conversion system is a wind-driven machine that converts wind energy into electrical power. They can be used for commercial resale of the energy or for on-site specific usage of the energy. Commercial facilities generally involve a large number of wind turbines in close proximity.

Wireless Communications Facility. A wireless communications facility is an unstaffed facility for the transmission and reception of low-power radio signals. These include cellular radiotelephone facilities, personal communications service facilities, specialized mobile radio service facilities, and commercial paging service facilities. Components of these types of facilities can consist of the following: antennas, microwave dishes, horns, other types of equipment for the transmission or receipt of such signals, telecommunication towers or similar structures supporting said equipment, equipment buildings, parking area, and other accessory development.

Technical Background

In relation to flight operations from an airport (military or civilian), vertical obstructions are addressed through compliance with Federal Aviation Regulation Title 14 Part 77, which establishes standards and notification requirements for objects affecting navigable airspace. Commonly referred to as Part 77 compliance, this regulation provides details to evaluate the potential for a vertical obstruction based on the elevation of the airfield, the height and resulting elevation of a structure or facility, and the location of the structure or facility in relation to the airfield in question.

The FAA has identified certain imaginary surfaces around runways that are used to determine how structures and facilities are evaluated to identify if they pose a vertical obstruction in relation to the airspace around a runway. The various imaginary surfaces build upon one another and are designed to eliminate obstructions to air navigation and operations, either natural or man-made. The extent or size of an imaginary surface depends on the type of runway around which it is based. The DOD has also identified imaginary surface definitions for military airfields through Unified Facilities Criteria (UFC) 3-260-01: Airfield and Heliport Planning and Design. UFC safety distances can be applied to land areas outside of the installation property, and for the purposes of this JLUS, these will be the terms discussed and defined for use with a UFC Class A VFR runway. The key terms related to imaginary surfaces in relation to McMillan Airfield are described below and illustrated on Figure 4.4-1.

- The Primary Surface defines the limits of the obstruction clearance requirements in the immediate vicinity of the landing area. It comprises surfaces of the runway, runway shoulders, and lateral safety zones and extends 200 feet beyond the runway end. For a single class “A” runway, this surface is 1,000 feet wide, or 500 feet on each side of the runway centerline.
- The Clear Zone defines the limits of the obstruction clearance requirements in the vicinity contiguous to the end of the primary surface. For a single Class A VFR runway end, it measures 1,000 feet wide by 3,000 feet long. This is the area where an accident involving an aircraft operation is most likely to occur.
- The Approach-Departure Clearance Surface is symmetrical about the runway centerline and begins as an inclined plane (glide angle) 200 feet beyond each end of the primary surface of the centerline elevation of the runway end, and extends for 10,000 feet for a Class A VFR runway. The slope of the approach-departure clearance surface is 40:1 (with an additional 10-foot clearance where it starts) along the extended runway (glide angle) centerline until it reaches an elevation of 250 feet above the established airfield elevation. It then continues horizontally at this elevation to a point 10,000 feet from the start of the glide angle. The width of this surface at the runway end is 1,000 feet; it flares uniformly, and the width at 10,000 feet is 2,500 feet.

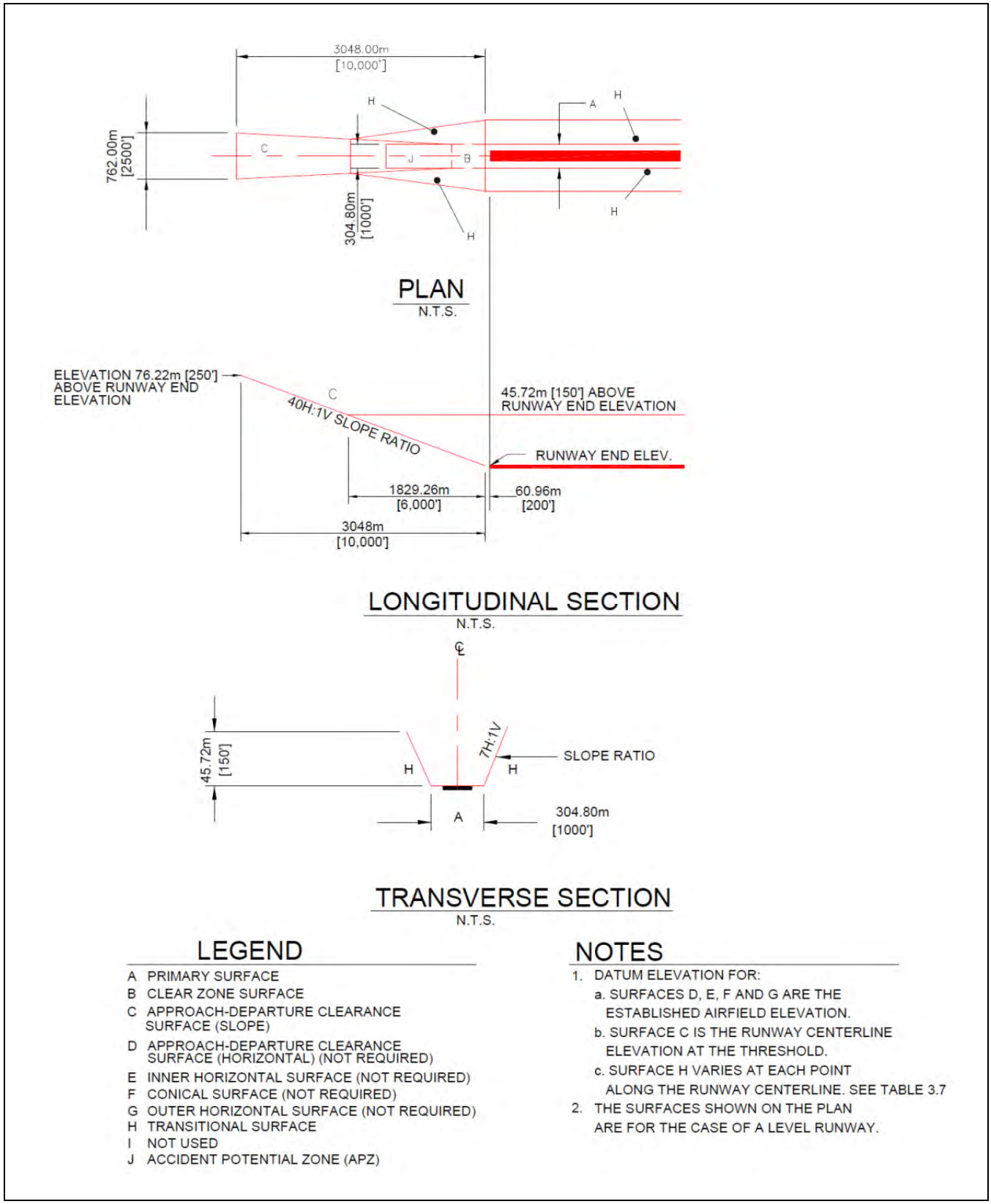


Figure 4-4-1. FAA Airfield Imaginary Surfaces

- The Transitional Surfaces connect the primary surfaces, Clear Zone surfaces, and approach-departure clearance surfaces. The slope of the transitional surface is 7:1 outward and upward at right angles to the runway centerline.
- To determine the elevation for the beginning of the transitional surface slope at any point along the lateral boundary of the primary surface, including the Clear Zone, draw a line from this point to the runway centerline. The elevation at the runway centerline is the elevation for the beginning of the 7:1 slope.

To determine when structures or facilities should be evaluated regarding vertical obstructions, Part 77 states the following requirements for notifying the FAA:

§77.9 - Any person/organization who intends to sponsor any of the following construction or alterations must notify the Administrator of the FAA:

- *Any construction or alteration exceeding 200 feet above ground level*
- *Any construction or alteration:*
- *- within 20,000 feet of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with at least one runway more than 3,200 feet.*
- *- within 10,000 feet of a public use or military airport which exceeds a 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 feet.*
- *- within 5,000 feet of a public use heliport which exceeds a 25:1 surface*
- *Any highway, railroad, or other traverse way whose prescribed adjusted height would exceed the standards identified above.*
- *When requested by the FAA*
- *Any construction or alteration located on a public use airport or heliport regardless of height or location*

Further, Part 77 identifies the height at which an object may be considered an obstruction at a designated distance. An excerpt from Section 77.17 follows:

§77.17- Obstruction standards.

(a) An existing object, including a mobile object, is, and a future object would be, an obstruction to air navigation if it is of greater height than any of the following heights or surfaces:

(1) A height of 499 feet above ground level at the site of the object.

(2) A height that is 200 feet above ground level or above the established airport elevation, whichever is higher, within three nautical miles of the established reference point of an airport, excluding heliports, with its longest runway more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile of distance from the airport up to a maximum of 499 feet.

(3) A height within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area, which would result in the vertical distance between any point on the object and an established minimum instrument flight altitude within that area or segment to be less than the required obstacle clearance.

(4) A height within an en route obstacle clearance area, including turn and termination areas, of a Federal Airway or approved off-airway route, that would increase the minimum obstacle clearance altitude.

(5) The surface of a takeoff and landing area of an airport or any imaginary surface established under § 77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

(b) Except for traverse ways on or near an airport with an operative ground traffic control service furnished by an airport traffic control tower or by the airport management and coordinated with the air traffic control service, the standards of paragraph (a) of this section apply to traverse ways used or to be used for the passage of mobile objects only after the heights of these traverse ways are increased by

(1) 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance.

(2) 15 feet for any other public roadway.

(3) 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road.

(4) 23 feet for a railroad.

(5) For a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it.

Part 77 also addresses vertical obstructions for heliports. It requires that for a ratio of "25 to 1 for a horizontal distance of 5,000 feet from the nearest point of the nearest landing and takeoff area of each [DOD] heliport" (airport), any structure being proposed must have a notice filed with the FAA. The FAA also states:

> *The airport imaginary surfaces proposed for helicopters have been substantially revised for compatibility with the current ''Heliport Design Guide. The primary surfaces coincide in size and shape with the takeoff and landing area of each heliport. The designated approach clearance surfaces begin at the edge(s) of the primary surface and extend outward and upward at a slope of 8 to 1. The approach surface is a trapezoid whose inner width is coincident with the width of the primary surface and which extends to the minimum en route altitude where its width is 500 feet. Transitional surfaces extend outward and upward at a slope of 2 to 1 from the lateral boundaries of each primary surface and approach surface for a horizontal distance of 250 feet from the centerline of these surfaces.*

UFC 3.260-01, Airfield and Heliport Planning and Design serves as the official DOD document that describes requirements of heliports at military installations, which was updated in November 2008. This document sets forth requirements for military heliports and safety zones associated with takeoffs, landings, and hover points. According to the planning and design regulations, the following distances are suggested for VFR heliports:

- Size of heliport = 100 feet by 100 feet minimum
- Size of primary surface = 300 feet by 300 feet minimum
- Length of clear zone = 400 feet
- Width of clear zone = 300 feet
- APZ I length = 800 feet
- APZ I width = 300 feet

The various surfaces and zones associated with a Standard VFR heliport are illustrated on Figure 4.4-2.

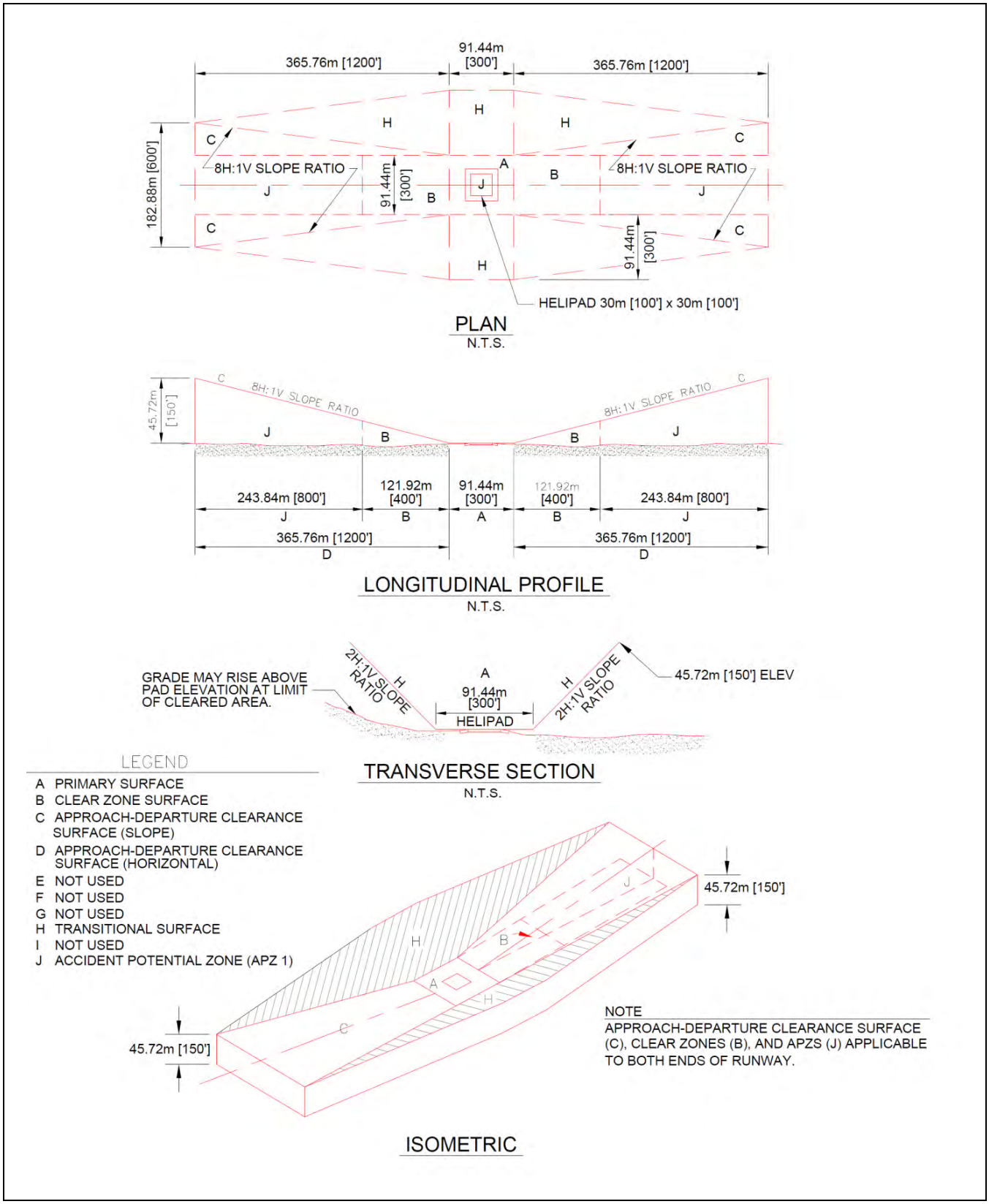


Figure 4-4-2. Heliport Imaginary Surfaces

Issue VO-1	**Low-level Flights.** Flight paths (including low altitude flight) must be clear of man-made structures and natural objects (trees) that infringe on the airspace used by helicopters or fixed wing aircraft (transit, drop zones, and landings) and UAVs using Camp Roberts and connected transit routes for training, emergency response, and other operations.

Federal and DOD Tools

Federal Aviation Regulation Part 77

The Federal Aviation Act requires the Secretary of Transportation to make long-range plans which formulate policy for the orderly development and use of "navigable air space". The intent is to serve the needs of both civilian aeronautics and national defense, but does not include the specific needs of military agencies. Military planning strives to work alongside local, state, and federal aviation law and policies but sometimes must supersede these and other levels of government due to national security interests.

The 500-foot rule, promulgated by the FAA, states that every citizen of the United States has "a public right of freedom of transit in air commerce through the navigable air space of the United States". The rule was formally announced in the 1963 Court of Claims ruling in Aaron v. United States and states that flights 500 feet or more above ground level (AGL) do not represent a compensable taking because flights 500 feet AGL enjoy a right of free passage without liability to the owners below.

Part 77 of the Federal Aviation Act establishes standards used to determine obstructions within navigable airspace, typically within a certain distance from an airport, airfield, or heliport. It defines an obstruction to air navigation as an object that is of greater height than the primary, approach, or transitional surfaces.

Airfield and Heliport Planning and Design

The DOD created a document called Airfield and Heliport Planning and Design that established standards for airfield, runway, and heliport safety zones and imaginary surfaces. The major criteria of this document are discussed previously in this section.

McMillan Airfield Study

The McMillan Airfield Study was completed in December 2011 for the purpose of identifying potential improvements to the airfield that would help to enhance land-side and air-side capacity and safety to support requirements for unmanned aerial vehicles (UAV). The study includes a discussion of compatibility within the approach-departure clearance surfaces for McMillan Airfield and an overview of uses that exist in this area that are currently incompatible, as well as a discussion of potential strategies to mitigate the issues. See Issue SAF-4 in Section 4.3, Safety, for details.

Local Tools

Monterey County Zoning Ordinance

The Monterey County Zoning Ordinance identifies regulations for wind energy conversion systems and wireless communications facilities. Wind energy conversion systems are allowed in various zoning districts through approval of a use permit. The height of the system depends on the zoning district it is located in, but the County allows a maximum total height of 200 feet. There is no mention in the zoning ordinance of any coordination or input from the military on the placement of wind towers. However, any wind energy conversion system that has a total height of greater than 175 feet, or which exceeds 125 feet and is located at a ground elevation of over 200 feet, must be equipped with air traffic warning lights and have prominent markings on the rotor blade tips of an international orange color.

Wireless communications facilities are allowed in all zones of Monterey County through an approved use permit, with the maximum height being determined by the maximum allowed height for that zone. Placement of such facilities must be compliant with all applicable

FAA regulations. The ordinance sufficiently addresses development of wireless communications facilities so that they would not cause vertical obstruction hazards.

San Luis Obispo Land Use Ordinance

Wind energy conversion systems are allowed in San Luis Obispo County within the following zoning districts upon approval of a minor use conditional use permit:

- Agriculture
- Rural Lands
- Rural Residential
- Commercial, Service
- Industrial
- Open Space
- Public Facilities

The Land Use Ordinance does not establish a maximum height for wind energy conversion systems, and so they could potentially be built at heights that could impact safe air travel.

Wireless communications facilities are allowed in every zoning district, subject to the land use permit required by the specific use standards of that district. Similar to wind energy conversion systems, no maximum height is identified for wireless communications facilities in the San Luis Obispo Land Use Ordinance.

Findings

Camp Roberts currently has one operational runway, McMillan Airfield, located in the southeastern portion of the installation. The location of this runway near the boundary of Camp Roberts is a constraint because of its proximity to private property. Currently, the private property has minimal development. It is primarily agricultural and open space, with a main residential structure and several accessory structures.

There are some trees that are located in the approach-departure clearance surface (one of the defined imaginary surfaces) that exceed the height allowed based on the distance from the runway within that zone. For instance, at Camp Roberts's boundary, where some of these trees are located, objects should not be taller than two feet. Trees that are located within this zone should be removed to avoid safety concerns associated with infringement into imaginary surfaces. There is one residential ranch house in the approach-departure clearance surface, but it has not been officially measured in height and distance to determine if it is a vertical obstruction for the approach-departure clearance surface. Otherwise, the current level of structural development does not pose height issues for operations at McMillan Airfield's approach-departure clearance surface; however, future development on these lands could result in concerns. Figure 4.4-3 identifies the current areas of concern within the approach-departure clearance surface.

Camp Roberts is in the process of going through a new Army Compatible Use Buffer (ACUB) initiative to acquire two large private properties on the eastern border of the installation. One of these properties, the 612-acre Willard property, is located adjacent to Camp Roberts to the southeast of McMillan Airfield. If acquired, this land would be owned by a partner entity, the Ag Land Trust, who would retain it as agricultural land and dedicate conservation easements to protect it from future development. Acquisition of this property would also benefit the main helicopter approach path to Camp Roberts, which traverses over the property.

There are two heliports on Camp Roberts: one located in the East Garrison and one located in the Main Garrison. Helicopter operations at Camp Roberts include transportation of troops and equipment from other locations off-installation, drop zones, and Nap of the Earth flight (which is a low level flight, typically 200 feet above ground level) used to evade detection by visual sources, radar, and enemy gunfire. Figure 4.4-3 illustrates the location of heliports on Camp Roberts, as well as the typical flight paths that go off-installation for the two drop zones at Camp Roberts.

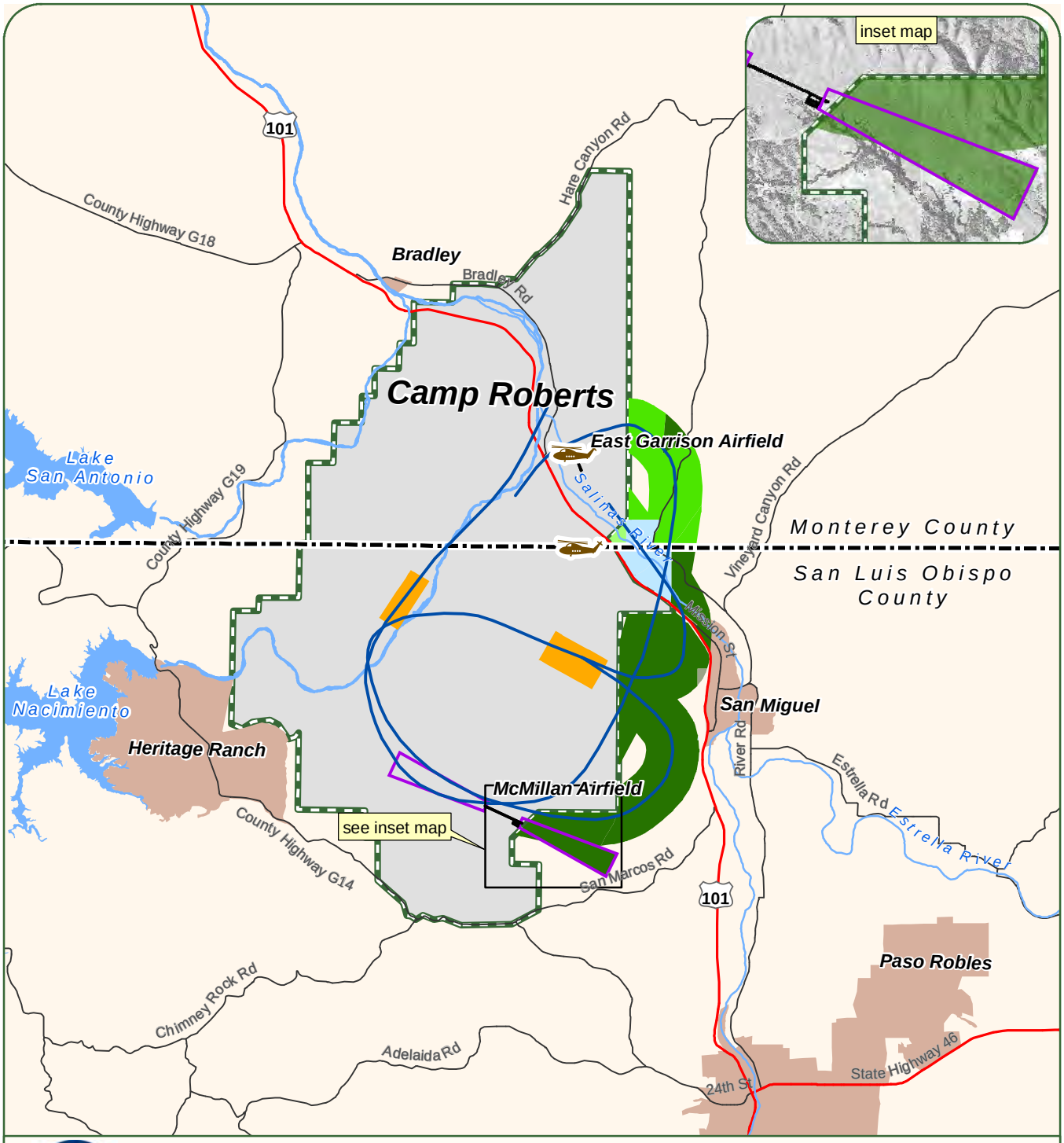


Figure 4.4-3
Low Level Flights and Potential for Vertical Obstruction

Sources: Camp Roberts, 2012; San Luis Obispo County Planning & Building Geographic Technology & Design, Nov., 2011; Monterey County Resource Management Agency, Jan., 2011.

Fig4.4-3_CRJLUS_VertObs_LowLevel_20130410_JKC.pdf

Aircraft training at Camp Roberts also use the Special Use Airspace (SUA) Military Operations Area (MOA) Roberts. The MOA Roberts allows for flight ranging from 500 feet above ground level (AGL) to 9,000 feet mean sea level (MSL). Its boundaries are aligned on Camp Roberts's boundaries along the general direction of the northeast and southwest axis, covering most of the installation and extending north of the Camp for approximately eight miles and to the south for approximately two miles. Requests to use the MOA Roberts must be received 48 hours in advance. Use of the MOA is for military operations that involve airspeeds of greater than 250 knots or operations that extend past the borders of Camp Roberts.

In regions similar to where Camp Roberts is located, where the majority of the surrounding land use is agricultural or open space, the primary concerns for vertical obstructions are generally wind energy conversion systems and wireless communications facilities. These uses are often very tall and can pose vertical obstruction concerns for aircraft, especially those flying at low altitudes.

The Monterey County Zoning Ordinance identifies maximum heights for wind energy conversion systems. For noncommercial systems, a total height of 50 feet is allowed, unless the parcel is 10 acres or larger, then the maximum total height allowed is 100 feet. For commercial systems, a maximum total height of 200 feet is allowed. The majority of the land in Monterey County that surrounds Camp Roberts is zoned Farmland, Rural Grazing, or Permanent Grazing. These three zones could potentially allow for wind turbines with a height of 200 feet.

Although the Monterey County Zoning Ordinance allows wireless communications facilities in any zoning district, it sufficiently addresses development of wireless communications facilities so that they would not cause vertical obstruction hazards.

The San Luis Obispo Land Use Ordinance allows for wind energy conversion systems in several zoning districts through the approval of a conditional use – minor use permit. The Land Use Ordinance does not provide a specific maximum height that wind energy conversion systems. However, it does establish that the minimum height of the lowest part of the system shall be 30 feet higher than the highest existing major structure or tree within a 250-foot radius. Electrical transmission and distribution lines, antennas, and slender or open lattice towers are not considered structures for the purposes of this height requirement. The lack of a maximum height for wind energy conversion systems could potentially cause incompatible locations of structures to be built that could pose hazards to air navigation.

San Luis Obispo's Land Use Ordinance also allows for the placement of wireless communications facilities in every zoning district as an allowable use, subject to the land use permit required by specific use standards. A minor use permit is required for wireless communications facilities that will be installed on an existing structure, or that will be co-located with other similar structure such as an antenna or monopole, existing structures, existing transmission towers, and existing lattice towers. All other types of wireless communications facilities require a conditional use permit. There is no maximum height defined for wireless communications facilities.

Currently, there are no specific structures or objects that have been identified that are of sufficient height to interfere with aircraft operations at Camp Roberts. However, if the area around Camp Roberts develops and urban growth moves closer to the land surrounding the west side of the installation, new project proposals will need to be reviewed thoroughly to limit encroachment and to ensure compliance with Part 77 (see Figure 4.4-4).

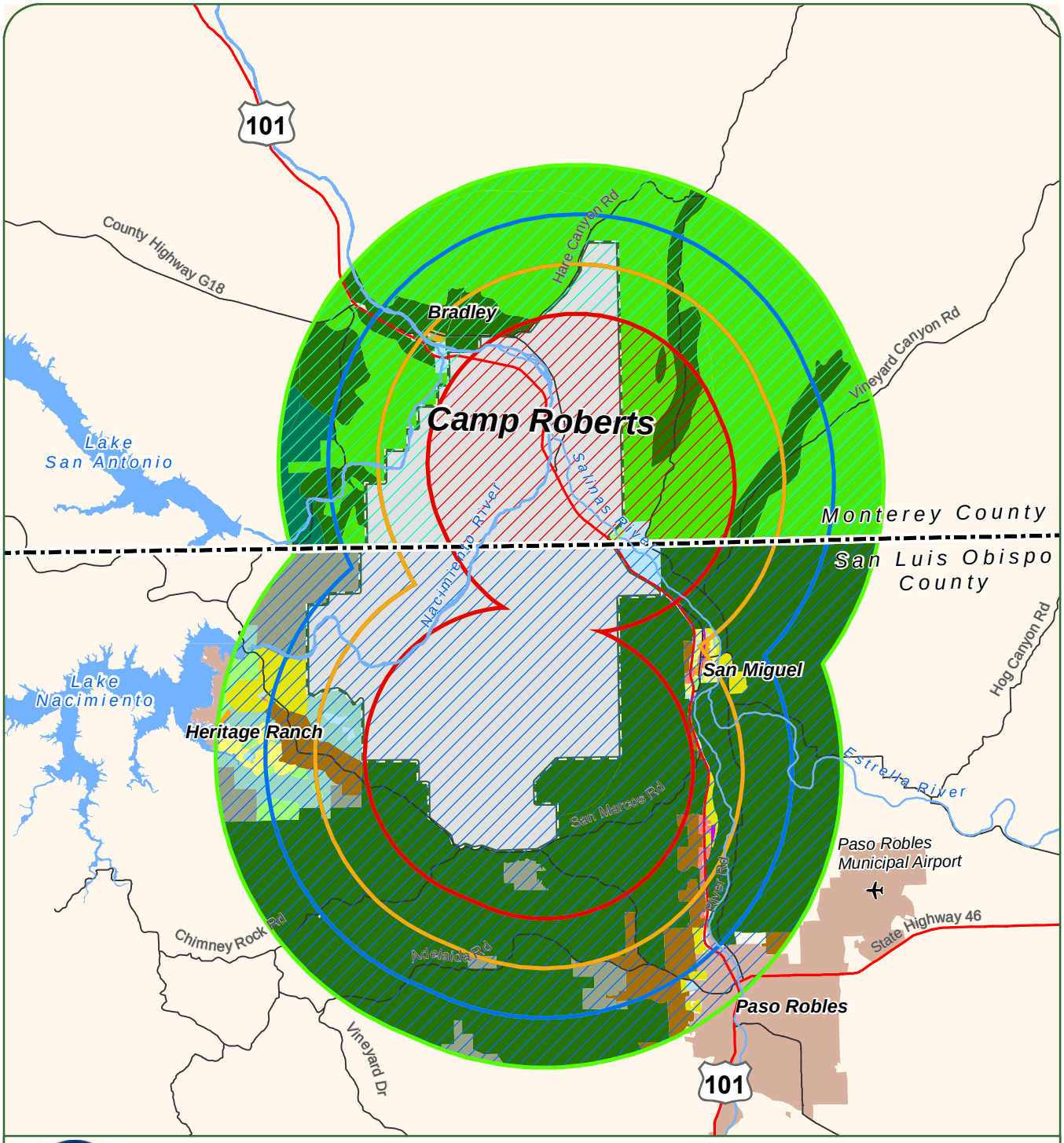


Figure 4.4-4
Vertical Obstruction Compliance – FAA Part 77

Sources: Camp Roberts, 2012; San Luis Obispo County Planning & Building Geographic Technology & Design, Nov., 2011; Monterey County Resource Management Agency, Jan., 2011.

Fig4.4-4_CRJLUS_VertObs_FAA77_20130410_JKC.pdf

It is important to note that height limits in Part 77 are only part of the safety picture at an airfield. An assessment of the imaginary system limits is also needed. Part 77 also starts at 200 feet as that is the level used by the FAA to determine where its jurisdiction lies outside the imaginary surfaces.

There is an additional airfield located at the East Garrison, known as East Garrison Airfield. This runway is not currently active for fixed wing aircraft, but it has the potential to be repaved and put back into use in the future. The runway currently measures 2,760 feet long, which is less than the FAA's requirement of 3,200 feet in length to apply Part 77 regulations, but if the runway is improved in the future it could be extended to meet the length at which Part 77 regulations would be enacted. If imaginary surfaces were applied to this airfield, they would fall entirely within the Camp Roberts boundary. For this purpose, the Part 77 height limit distances are also shown on Figure 4.4-4 for East Garrison Airfield.

As the areas around Camp Roberts do have low level flights for helicopters and use of the drop zones, and to enhance aviation safety, setting a lower height for new structures (75 foot maximum was recommended) was determined to be appropriate. Lower height restrictions associated with the imaginary surface limits would still apply.

Vertical Obstruction Strategies

The following strategies are recommended to address the issues identified in this section.

Table 4.4-1. Vertical Obstruction Strategies

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
VO-1	**Low-level Flights**																	
VO-1	**A**	**Ensure Federal Aviation Regulation (FAR) Part 77 Compliance** For all new, redeveloped or rehabilitated transmission, communications or energy generation structures (including electrical transmission towers/lines, cellular and radio transmission towers, wind generation towers, and other similar uses.), ensure compliance with FAR Part 77 height limit requirements to minimize vertical obstructions. In addition, ensure the developments and structures are compatible with, and do not pose a safety hazard to, air operations in the region.	Vertical	On-going	■	■	■	■	■									

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
VO-1	**B**	**Amend Zoning Codes to Include Height Restrictions Within the Vertical Obstruction CRIA** For all new, redeveloped or rehabilitated transmission, communications or energy generation structures planned or proposed within the Study Area, heights of structures shall not exceed 75 feet, to ensure navigable airspace for military training activities.	Vertical	2017	■		■	■											
VO-1	**C**	**Share Proposals for Structures Exceeding 75 Feet in Height** Ensure Camp Roberts is made aware of any proposals for structures greater than 75 feet tall within a five mile radius from the center of airfields on Camp Roberts and provided the opportunity to comment on discretionary applications.	Vertical	On-going	■	■	■	■	■									

Please see the next page.

4.5 Housing Availability

Key Terms

Basic Allowance for Housing. The basic allowance for housing (BAH) is a United States military entitlement given to eligible military members to cover reasonable housing costs in a region. Eligible military members are those military personnel eligible for basic pay. The BAH is determined based on the following factors: personnel rank, geographic location, fair and market housing costs, and number of dependents.

Basic Allowance for Housing – Type II. The basic allowance for housing type II (BAH II) is the housing allowance for guardsmen and reservist components and usually is a lesser amount than the BAH. This BAH II is unlike BAH as it does not consider geographic location in the criteria. BAH II is the same rate of allowance regardless of location.

Technical Background

The National Guard members permanently assigned to at Camp Roberts are not required to live on-base. The available housing units and barracks located on Camp Roberts are reserved for students in training. Active duty National Guard members reside off-base in surrounding communities.

Currently, Camp Roberts' personnel (most of which are civilian workers) are dispersed throughout the communities within the JLUS Study Area and beyond. Table 4.5-1 provides an overview of the locations of Camp Roberts' personnel who live in nearby communities. The table also outlines the approximate miles traveled (one-way) to the installation.

Table 4.5-1. Camp Roberts' Residential Locations

Community	Full-Time Employees	Percent of Full Time Employees	Approximate Miles Traveled (One Way)
Arroyo Grande	1	0.2%	58
Atascadero	41	7.3%	25
Bradley	3	0.5%	9
Creston	2	0.4%	29
Greenfield	1	0.2%	51
Grover Beach	1	0.2%	56
Jolon	2	0.4%	30
King City	4	0.7%	39
Lockwood	3	0.5%	25
Lompoc	2	0.4%	101
Los Osos	4	0.7%	47
Monterey	1	0.2%	102
Morro Bay	1	0.2%	42
Paso Robles	343	61.5%	12
San Luis Obispo	13	2.3%	43
San Miguel / Camp Roberts	122	21.9%	5
Shandon	3	0.5%	31
Templeton	11	2.0%	20
TOTAL	558		

Note: Not all employees are reported.

Source: Camp Roberts Resource Management, 2012. HOR Locations for Camp Roberts Fulltime Employees.

Over half (61.5%) of Camp Roberts' full-time personnel live in the City of Paso de Robles (Paso Robles), which is located 12 miles south of the installation along US Highway 101. San Miguel is home to the second largest portion (21.9%) of Camp Roberts' personnel. However, a notable exception to the percentage reported for San Miguel is that full-time personnel do not report a local address; rather they live in temporary residences such as RVs, hotels, and weekly apartments. Their permanent addresses are actually reported as over 150 miles away from Camp Roberts.

The communities near Camp Roberts—Heritage Ranch to the west and San Miguel to the east—have the capacity to absorb additional housing. Heritage Ranch, a resort village near Lake Nacimiento, has been planned for 2,900 housing units; however, it is currently at 72% build-out with 2,100 units completed. Heritage Ranch is characterized by single-family detached homes, mobile homes, and resort homes. In addition to the capacity of an additional 800 units that could be constructed at Heritage Ranch, San Miguel, a small community east of Camp Roberts, has over half of its build-out capacity available. In recent years, San Miguel experienced a surge of growth. From the summer of 2001 to 2008, over 270 homes were built in San Miguel, including 24 multi-family units.

Source: San Luis Obispo County General Plan, 2011.

Compatibility Assessment

Issue HA-1	**Lack of Information on Active-Duty / Staff / Contractor Off-Installation Housing Needs**. Several jurisdictions would like to plan for more housing; however, the information from the base regarding housing demand is not available to the communities desiring to provide housing options.

The lack of information and data regarding additional need for housing has served as a limiting factor in the growth of San Miguel. It makes it difficult for developers and the community to know how best to support the military with certain types of proposed residential and recreational development if needs and desires are not communicated. Due to San Miguel's proximity to Camp Roberts, it is an ideal location for both transient personnel for training to reside as well as permanent personnel. San Miguel has infrastructure capacity to support additional dwelling units and development to reach its build-out goal of 5,000 residents.

However due to San Miguel's proximity to the installation, any proposed development plans should be designed with compatibility measures integrated into the proposed plans. Camp Roberts' mission is a heavy maneuver training center that also conducts low-level helicopter training operations and unmanned aerial vehicles (UAVs) research and testing. These training exercises can produce noise, vibration, and concern over aircraft safety zones relative to navigable airspace.

Proposed development plans should consider constructing residential units and buildings with sound attenuation measures (i.e. thicker insulation, walls, and windows, designing units where rooms that typically people congregate more than in other rooms are furthest from the direction of the noise) to minimize the level of interior noise experienced by residents and visitors, although this is not specifically required, this is a component of good compatibility planning and serves a dual purpose—protects the general public from noise impacts and preserves the Camp Roberts mission.

Issue HA-2	**Transient Housing to Support Training Needs.** Camp Roberts conducts training year-round, although the majority of training occurs in the summer months and weekends. While most trainees can be accommodated on Camp Roberts, some situations require additional temporary (transient) housing in surrounding communities. The amount and timing of this housing can impact local housing resources.

This issue was expressed by the committee members during the JLUS process and is related to the previous issue, the lack of information that is shared bi-directionally from Camp Roberts to San Miguel and San Luis Obispo County and vice versa makes it difficult for communities to plan for appropriate housing for transient military personnel. The communities have the build-out capacity to support compatible, transient or multi-family housing if they have pertinent information from Camp Roberts in a timely manner.

This issue has been addressed in detail in Section 4.1 Interagency Communication, Issue COM-1. However, San Miguel and San Luis Obispo County should consider formalizing communication procedures with Camp Roberts to exchange information about housing needs. The information shared should consider the installation's rotations and training schedules, relative numbers of personnel and housing allowances to capture a comprehensive needs assessment for housing. This will enable additional support for the Camp Roberts mission and provide added economic value back to the community.

Housing Availability Strategies

The following strategies are recommended to address the issues identified in this section.

Table 4.5-2. Housing Availability Strategies

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
HA-1	**Lack of Information on Active-Duty / Staff / Contractor Off-Installation Housing Needs**																	
HA-1	**A**	**Incorporating Military Housing Needs in Housing Elements** When a jurisdiction updates its Housing Element, the element should include a discussion of military housing needs and programs to address housing needs. As part of this effort, Camp Roberts will provide jurisdictions with current information on housing demands, amount of housing provided by the installation, generalized income, by rank, of personnel living off-base, and current distribution data on off-base personnel by zip code.	General	2017	■		■	■					☐					■
HA-2	**Transient Housing to Support Training Needs**																	
HA-2	**A**	**Coordination on Excess Demand** For training events that will require above normal demand in local markets for hotels and other transient lodging facilities off-installation, Camp Roberts should provide advance notice (preferably during the planning phase of such events) to City of Paso Robles. Other: Paso Robles Chamber of Commerce	General	On-going									■					☐

4.6 Infrastructure Extensions

Key Terms

Infrastructure. Infrastructure refers to public facilities and services such as sewers, water, electric, and roadways that are required to support development (existing and proposed).

Technical Background

Public facilities and services should be appropriate for the type of urban or rural development they serve, but also limited to the existing and planned needs and requirements of the area. For example, the provision of a safe transportation system, including all modes of transportation (automobile, mass transit, railway, highway, bicycle, pedestrian, air, water, etc.), is an important infrastructure component. Adequate transportation infrastructure contributes to local, regional, and state accessibility.

Infrastructure plays an important role in land use compatibility. Infrastructure can enhance the operations of an installation and community by providing needed services, such as sanitary sewer treatment and transportation systems. Conversely, infrastructure can create encroachment issues if expanded without consideration of the consequences of future development. The extension or expansion of community infrastructure to a military installation or areas proximate to an installation has the potential to induce growth, potentially resulting in incompatible uses and conflicts between a military mission and communities. Within comprehensive planning, infrastructure extensions can serve as a mechanism to guide development into appropriate areas, protect sensitive land uses, and improve opportunities for compatibility between community land uses and military missions.

Issue IE-1	**Growth Inducement by Infrastructure Extensions.** The extension of water and wastewater infrastructure to undeveloped areas near Camp Roberts may induce additional growth near Camp Roberts that could, depending on its location, introduce additional compatibility issues.

During the JLUS process, the committee members expressed concern about growth and the extension of public service infrastructure in the areas around Camp Roberts. This concern, while valid, was determined later in the planning process to be addressed by the various existing tools for San Luis Obispo and Monterey counties and the regional transportation entity, the San Luis Obispo Council of Governments (SLOCOG).

The majority of the land around Camp Roberts is designated for agriculture and is under a Williamson Conservation Act contract, which basically limits infrastructure extensions to the urban corridor associated with US Highway 101 and existing community areas. While there are a few unincorporated communities adjacent to Camp Roberts: Bradley in the north, west (Heritage Ranch), and east (San Miguel), the infrastructure has been built to allow only enough service to meet planned maximum build out. Therefore, growth in these areas will most likely be characterized by infill development and build-out.

Existing Tools

California Department of Transportation's California Interregional Transportation Plan

The California Department of Transportation is the state department responsible for providing safe and efficient transportation systems within the State of California. The Camp Roberts JLUS area falls within CALTRANS District Five. U.S. Highway 101, a north-south, four-lane divided highway in most portions of the Study Area is the main roadway providing transportation access to and from the installation.

The California Interregional Transportation Plan (ITP) is a strategic plan to implement the department's goals of improving mobility. The ITP that was released in December 2012 shows no projects within the Camp Roberts JLUS Study Area. Future ITP updates should look at changes at Camp Roberts to determine if future enhancements are needed; this also promotes interagency communication and coordination with Camp Roberts.

San Luis Obispo Council of Governments Regional Transportation Plan

The San Luis Obispo Council of Governments (SLOCOG) Regional Transportation Plan (RTP) provides for the planning and budgeting of infrastructure projects and extensions for a 25+ year planning horizon. The SLOCOG RTP divides the County into four sub-regions; the North County sub-region encompasses Camp Roberts. The SLOCOG RTP identified six projects that fall within the Camp Roberts JLUS Study Area as shown in Table 4.6-1. These projects do enhance circulation systems, but are primarily targeted at safety improvements and upgrades, and are not seen as significant enough to generate new development.

San Luis Obispo County General Plan

The San Luis Obispo County General Plan contains provisions for circulation and public services for the county and how these are expanded. In the general plan, communities expand based on designated urban reserve areas and urban service areas. For these urban reserve and service areas to change, the Local Agency Formation Commission must determine if the expansion is in compliance with state requirements for community growth.

Camp Roberts is mostly surrounded by agriculture land uses and is protected through agriculture preserves and land conversation contracts under the Williamson Conservation Act (see Figure 4.2-3) where services are usually provided by personal wells and septic systems. San Luis Obispo and Monterey counties should maintain their urban corridor along US Highway 101 and discourage expansion of public infrastructure outside these areas in the vicinity of Camp Roberts. In addition, continued support of agriculture preserves and the Williamson Conservation Act will benefit the Camp Roberts mission from pressures of potential future development.

The community of Heritage Ranch should not engage in any infrastructure expansion outside of its current boundaries and service area, nor should the community of San Miguel engage in any infrastructure expansion west of US Highway 101 towards Camp Roberts.

Table 4.6-1. SLOCOG Infrastructure Projects within Camp Roberts JLUS Study Area

COG ID	Sponsor	Community	2010 Timeframe S/M/L	Project Title	Short Description	Location / Limits	Mode Type
NTH-HWYS-021	SLO County Public Works	Rural	U.S. 101 & Wellsona Rd I/C	U.S. 101 & Wellsona Rd I/C	Construct new Interchange	At Route 101 and Wellsona Rd	Hwy 101
NTH-HWYS-020	SLOCOG	Rural	Route 101: At-grade Intersections (accel/decel lanes)	Route 101: At-grade Intersections (accel/decel lanes)	Install, lengthen accel and decel lanes	From n/o Paso Robles to County line	Hwy 101
NTH-HWYS-022	SLOCOG	San Miguel	Route 101: At-grade Intersections	Route 101: At-grade Intersections	Construct interchange and modify at-grade intersections, extend frontage roads	From n/o Paso Robles to County line	Hwy 101
NTH-HWYS-023	SLOCOG	San Miguel	Route 101: 10th St Interchange	Route 101: 10th St Interchange	Relocate s/b on-ramp to 10th St and realign frontage road	In San Miguel at 101 and 10th St	Hwy 101
REG-HWYS-011	Caltrans		Unconstructed	Route 101 San Miguel Freeway Conversion	Convert expressway to freeway (no r/w; no frontage road)	On corridor north of Paso Robles	Hwy 101
NTH-RORS-018	SLO County Public Works	Rural	Unconstructed	Nacimiento Lake Drive Climbing Lane	Construct climbing lane	At Godfrey Grade	RORS

Monterey County General Plan

The Monterey County General Plan contains provisions for circulation and mobility for Monterey County. The circulation element stipulates that no development project will be approved unless there are adequate public services available to meet the needs of the new development currently and long-range demand including wastewater. In addition, improvements made to infrastructure and development projects must also provide adequate extension of public services, and in some cases, an infrastructure phasing plan may be needed. This plan would be approved at concept and at the time of the plan approval. This planning is beneficial to Camp Roberts by encouraging development where existing adequate public services are located. However, Camp Roberts should be consulted with in any proposed development in southern Monterey County to promote compatibility planning for both the public and the military mission.

Issue IE-2	**Needed Infrastructure Capacity Enhancement.** There are several instances where infrastructure capacity does not support the demand in the area, which can present problems in the management of utilities, such as wastewater.

During the JLUS planning process, there was concern about wastewater systems not operating with adequate flows to enable the entire infrastructure system to operate efficiently, thus causing problems for infrastructure capacity. The issue was associated with nearby wastewater systems that may be able to contribute to the flows of the Camp Roberts or San Miguel wastewater system.

When enhancements to these infrastructure systems are discussed or proposed, Camp Roberts, San Miguel, and Heritage Ranch would benefit from interagency coordination to determine if sharing of services may be a viable option to enable infrastructure efficiencies across the board. Other than through interagency communication (see Section 4.1), this issue requires more data to complete the assessment and analysis.

San Miguel Community Service District

The San Miguel Community Service District (CSD) is responsible for providing public services including water, wastewater, solid waste, and fire suppression to the community of San Miguel.

Heritage Ranch Community Service District

The Heritage Ranch CSD contains provisions for the Heritage Ranch community immediately west of Camp Roberts. The Heritage Ranch CSD is charged with providing water and wastewater, solid waste and parks and recreation to the community of Heritage Ranch. In addition, there is a CAL FIRE station located at Heritage Ranch.

South County Area Plan

Monterey's South County Area Plan is an extension of the general plan providing policies for this area, which contains the northern half of Camp Roberts. The plan also states that new development may not encroach on the main waterways and floodways of the Nacimiento, San Antonio, and Salinas Rivers to conserve groundwater, preserve riparian habitat, and protect flood flow capacity. These measures assist in not only the preservation of agriculture lands and water and natural resources for Monterey County, but they also protect the Camp Roberts mission from future potential development encroachment.

Issue IE-3	**Use of Heavy Aircraft at Paso Robles Municipal Airport.** There is concern regarding the use of heavy aircraft, such as a C-17, damaging airport surfaces.

During issue identification, concern was expressed over the potential use of heavy military aircraft, such as C-17s, at Paso Robles Municipal Airport (PRMA). This issue has been discussed and focuses on the maintenance of the runway. Heavier aircraft require stronger runway surfaces to be able to absorb the impacts associated with landing and take-offs. These impacts include runway damage caused from excessive heat and the weight of the heavier aircraft.

Paso Robles Municipal Airport Land Use Plan

The Paso Robles Municipal Airport Land Use Plan of 1977, amended in 2005 and 2007, indicated military aircraft use at PRMA. In 2001, the airport records indicated a total 1,200 military operations were performed at the airport. The 2010 and 2020 projections showed the same number for military aircraft operations. Without additional information on types of military aircraft and number of operations, the compatibility assessment is limited to the overall discussion of if PRMA is a feasible option for additional military training operations.

Currently, there are no plans to change operations at Camp Roberts and existing operations are for smaller aircraft than a C-17. Any changes in operations and aircraft would require coordination; see Section 4.1 Interagency Communication for more detailed information regarding coordination.

Infrastructure Extensions Strategies

The following strategies are recommended to address the issues identified in this section.

Table 4.6-2. Infrastructure Extensions Strategies

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
IE-1	**Growth Inducement by Infrastructure Extensions**																	
IE-1	**A**	**Infrastructure Capacity** In the development of infrastructure master plans, capital improvement plans (CIP), and other similar long-range plans, capacity should be sized to match the needs under existing general plan designations. Service near Camp Roberts should be limited to the communities of San Miguel, Bradley and Heritage Ranch, and these communities should not engage in service expansion in the direction towards Camp Roberts.	Land	2017	■	■	■	■	■									
IE-1	**B**	**Coordination on Infrastructure Planning** Notify and coordinate infrastructure expansion plans with the Public Works Department at Camp Roberts. When communities or other service providers move forward with any plans of extending infrastructure in the vicinity of Camp Roberts, such as a sewer extension, Camp Roberts should be notified. The provider should be prepared to discuss alternatives that would help reduce potential future development along the infrastructure line (growth-inducement). The coordination should be done early in the planning process to optimize compatibility and reduce costs associated with plan changes.	Land	On-going	■	■	■	■	■				☐					

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
IE-2	**Needed Infrastructure Capacity Enhancement**																	
IE-2	**A**	**Regional Coordination** Coordinate on a region-wide basis, the development of plans for infrastructure improvements to avoid overlap and duplication of services. Development of systems that can serve both community (including Heritage Ranch and San Miguel) and Camp Roberts' needs should be evaluated when appropriate.	General	On-going	■	■	■	■	■	■		■	□					
IE-3	**Use of Heavy Aircraft at Paso Robles Municipal Airport**																	
IE-3	**A**	**Limited Use** Without improvements made to apron and taxi surfaces to handle such aircraft, heavy aircraft associated with operations at Camp Roberts should only be conducted with prior approval of the airport (does not apply to emergencies).	General	On-going	■							□	■					
IE-3	**B**	**Future Use Plans** If Camp Roberts or units training at Camp Roberts propose regular use of the airport by heavy aircraft, plans and funding for airport improvements to handle such aircraft need to be made prior to proposed use, unless otherwise approved by the airport.	General	2017	■							□	■					

Please see the next page.

4.7 Antiterrorism / Force Protection

Key Terms

Anti-Terrorism / Force Protection (AT/FP). AT/FP relates to the safety of personnel, facilities, and information on an installation from outside threats.

Controlled Perimeter. A controlled perimeter is a physical boundary around an installation where access is controlled via security measures such as a fence or gate and sometimes monitored or inspected. Controlled perimeters can also be located inside of an installation's boundaries, such as an additional fence with controlled access around more restrictive areas.

Technical Background

Security concerns and trespassing can present immediate compatibility concerns to installations. Due to current world conditions and recent events, military installations are required to meet more restrictive standards to address AT/FP issues. These standards include increased security checks at installation gates and physical changes (such as new gate / entry designs). Additional emphasis on credential and vehicle checks can create capacity and queuing issues with entrance gates that are inadequate to support the high volume of vehicles requiring access to the installation on a daily basis. The reduced processing throughput time at the gates can create circulation issues and general safety concerns external to the installation and within local communities.

Compatibility Analysis

Issue AT-1	**Base Protection During Heightened Security Threats.** The military is provided with training and current information regarding anti-terrorism and force protection (AT/FP) relative to Camp Roberts. Camp Roberts works cooperatively with other agencies (California Highway Patrol and local Sherriff's Departments) to provide additional security, and supplemental cross-training on AT/FP issues would be appropriate.

In addition to soldier training, Camp Roberts hosts a variety of activities on the installation. Many community events are held at the installation and local residents are allowed to enter and participate in these events. Similarly, the CAARNG also holds events for military purposes that may involve large gatherings of troops, families, or high-ranking personnel. During these types of events, there is a heightened level of security due to the larger abundance of people on the installation.

Currently, there are no reported issues of queuing at Main Gate that have caused traffic to impact US Highway 101 or county roadway facilities.

To supplement Camp Roberts staff during periods of heighten awareness, local law enforcement may be called upon to provide additional security for the installation through mutual aid agreements or other arrangements.

There is currently no program for Camp Roberts personnel to provide training in handling such situations to local law enforcement. The development of a formal arrangement could help to assist local law enforcement officers to be better prepared for such situations and enhance coordination.

Relative to law enforcement in general, as a State run facility, law enforcement (such as crime reporting and investigation) is handled by the California Highway Patrol (CHP).

Antiterrorism / Force Protection Strategies

The following strategies are recommended to address the issues identified in this section.

Table 4.7-1. Antiterrorism / Force Protection Strategies

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
AT-1	**Base Protection During Heightened Security Threats**																	
AT-1	**A**	**Outreach Program on AT/FP** Develop an outreach program that provides local law enforcement and other government agencies information and guidance regarding coordination and response actions to terrorist threats.	General	2015	■		■	■			■		■					
AT-1	**B**	**Cross-Training for Local Responders** Through the outreach program (Strategy AT-1.A), offer training to local law enforcement and other government agencies regarding coordination and response actions to terrorist threats.	General	On-going	■		■	■			■		■					
AT-1	**C**	**Training Coordinator** Designate a specific point of contact at Camp Roberts and within local governments responsible for the outreach and training programs.	General	2015	☐		☐	☐			☐		■					

Key Terms

Ambient Noise. The total noise associated with an existing environment (built or natural) and usually comprising sounds from many sources, both near and far, is referred to as ambient noise.

Attenuation. Attenuation is a reduction in the level of sound resulting from an object's distance from the noise source or absorption by the surrounding topography, the atmosphere, barriers, construction techniques and materials, and other factors. Sound attenuation in buildings can be achieved through the use of special construction practices that reduce the amount of noise that penetrates the windows, doors, and walls of a building. Sound attenuation measures may be incorporated during initial construction for new buildings or as additional construction for existing buildings.

A-weighted Decibel (dBA). An A-weighted decibel is a unit of measurement for noise using a logarithmic scale and measured using the A-weighted sensory network on a noise-measuring device. An increase or decrease of 10 decibels corresponds to a tenfold increase or decrease in sound energy. A doubling or halving of sound energy corresponds to a 3 dBA increase or decrease.

C-Weighted Day-Night Sound Level (CDNL). CDNL refers to a unit of measurement for short duration, high intensity sound with abrupt onset and rapid decay. It is used to evaluate impulsive noise and vibrations generated by explosive charges and large-caliber weapons, such as claymore mines and detonations.

Day-Night Average Sound Level (DNL). DNL represents an average sound exposure over a 24-hour period. During the nighttime period (10:00 p.m. to 7:00 a.m.), averages are artificially increased by 10 dB. This weighting reflects the added intrusiveness and the greater disturbance potential of nighttime noise events attributable to the fact that community background noise typically decreases by 10 dB at night. For National Guard activities, the DNL may be A-weighted (ADNL) when used to measure aviation noise, or C-weighted (CDNL) when used to measure large-caliber weapons noise.

Decibel (dB). A decibel is the physical unit commonly used to describe noise levels. It is a unit for describing the amplitude of sound, as heard by the human ear.

Impulse Noise. Impulse noise refers to a short burst of an acoustic energy consisting of either a single impulse or a series of impulses. The pressure time history of a single impulse includes a rapid rise to a peak pressure, followed by a somewhat slower decay of the pressure envelope to ambient pressure, both occurring within 1 second. When the intervals between impulses are less than 500 milliseconds, the noise is considered continuous, excepting short bursts of automatic weapons fire, which are considered impulse noise.

Noise. Defining noise from a technical perspective, sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. More simply stated, sound is what we hear. As sounds reach unwanted levels, this is referred to as noise.

Noise Contour. Noise contours consist of noise impact lines constructed by connecting points of equal noise level measured in dB and identify areas on a map that fall within that particular dB noise contour.

Noise Sensitive Receptors/Sensitive Land Uses. Sensitive receptors are locations and uses typically more sensitive to noise, including residential areas, hospitals, convalescent homes and facilities, schools, libraries, churches, recreational areas, and other similar land uses.

Noise Zones. The Army labels noise contour maps by various zones. Noise Zone I is the noise zone that includes all areas in which the PK15(met) decibels are less than 87 (for small arms), the ADNL is less than 65 (for aircraft), and/or the CDNL is less than 62 (for large arms and explosions). This area is suitable for all types of land use. Noise Zone II includes areas where the PK15(met) decibels are between 87 and 104, the ADNL is between 65 and 75, and/or the CDNL is between 62 and 70. Land uses for this zone should typically be limited to manufacturing, warehousing, transportation, and resource protection.

Noise Zone III is the zone located closest to the source of noise. It includes PK15(met) decibels greater than 104, ADNL greater than 75, and/or CDNL greater than 70. No noise sensitive uses should occur within this area due to the severity of noise.

There is also a Land Use Planning Zone (LUPZ) at the upper end of Noise Zone I and includes areas where the CDNL is between 57 and 62 or the ADNL is between 60 and 65. It does not include land for PK15(met). This zone accounts for variability in seasonal operations where certain times of the year may include a greater amount of operations than normal.

While all of these zones are typically used by the Army for modeling noise contours, the usage of these zones at Camp Roberts have been modified and some of the noise contours used at Camp Roberts are different than these standards.

PK15(met). PK15(met) refers to the peak sound level, factoring in the statistical variations caused by weather, that is likely to be exceeded only 15 percent of the time (i.e., 85 percent certainty that sound will be within this range). This condition only exists in modeling (one cannot take a PK15(met) reading in the field) and is used for land use planning with small arms, as well as additional information for large arms and other impulsive sounds.

Unweighted Peak (dBP). Unweighted peak refers to the peak, single event sound level without weighting, on the ground. This measurement incorporates all of the locational characteristics (i.e., berms, weather, vegetation, etc.). However, it is only reflective of that moment in time under those exact conditions. Consequently, there is no particular confidence that the measurement is reliable in other situations, such as the 85 percent certainty of the PK15(met).

Yearly Day-Night Average Sound Level (Ldn). Ldn refers to the 24-hour average sound level, in decibels, for the period from midnight to midnight, obtained after the addition of 10 decibels to sound levels for the periods between 10:00 p.m. and 7:00 a.m. the following day, averaged over a span of one year.

Technical Background

Due to the technical nature of this resource topic and its importance to the JLUS process, this section provides a discussion of the characteristics of sound and the modeling process used to evaluate noise impacts.

Characteristics of Sound

It is important to understand that there is no single perfect way of measuring sound, due to variations used by different entities when conducting sound studies or sound modeling. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). The sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. The dB scale is used to quantify sound intensity. Because sound pressure can vary by over one trillion times within the range of human hearing, a logarithmic loudness scale (i.e., dB scale) is used to present sound intensity levels in a convenient format.

Since the human ear is not equally sensitive to all frequencies within the entire spectrum, noise measurements are weighted more heavily within those frequencies of maximum human sensitivity in a process called "A-weighting" written as dBA. The human ear can detect changes in sound levels of approximately 3 dBA under normal conditions. Changes of 1 to 3 dBA are typically noticeable under controlled conditions, while changes of less than 1 dBA are only discernible under controlled, extremely quiet conditions. A change of 5 dBA is typically noticeable to the general public in an outdoor environment. Figure 4-8-1 summarizes typical A-weighted sound levels for a range of indoor and outdoor activities.

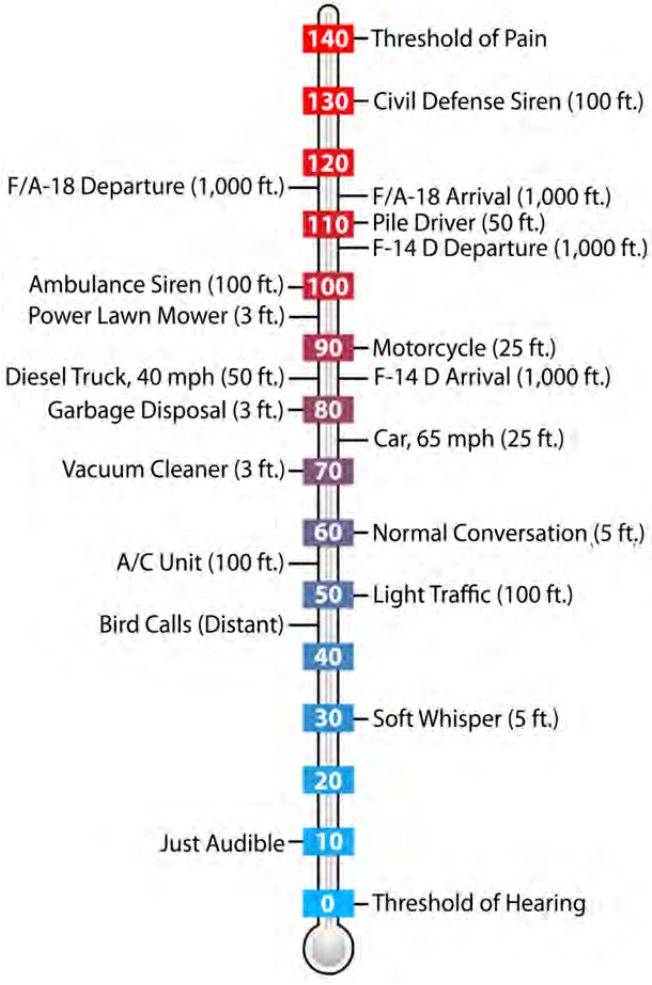


Figure 4-8-1. Sound Levels Comparison in dB

Environmental noise fluctuates over time. While some noise fluctuations are minor, others can be substantial. These fluctuations include regular and random patterns, how fast the noise fluctuates, and the amount of variation. Weather patterns can have a strong effect on how far sound travels and how loud it is. Certain weather events can change the consistency of the air and either cause sound to travel further and be louder or can reduce the distance at which it can be heard. Temperature and wind velocity are prime examples of factors that can affect sound travel. Sound tends to travel further in cold temperatures. Specific combinations of temperature and wind direction can create atmospheric refraction, which is when atmospheric conditions bend and/or focus sound waves towards some areas and away from others. When describing noise impacts, it is common to look at the average noise over an average day.

Small arms are the most common types of weapons fired at training ranges. Weapons that fire rounds less than 20 mm are considered small arms. The Small Arms Range Noise Assessment Model (SARNAM) is the computer program used to model small arms noise zones. It uses the peak noise level and incorporates the most recent available information on weapons noise source models, sound propagation, ricochet barriers, noise mitigation and safety structures, and the direction weapons are fired to create the noise zones.

Existing Tools

Federal and DOD Programs

The Noise Control Act of 1972

Following the passage of the Noise Control Act, military installations began to develop programs for identifying, analyzing, and looking for ways to mitigate potential noise concerns that could impact local communities. Military installations were experiencing the impacts related to encroaching urban development locating adjacent to the installation and then addressing complaints regarding noise from military flight operations. As communities grow, it is important that the military installation, developers, and the

surrounding communities work together to mitigate the issue of noise and develop ways to coexist compatibly. The outcome has been the use of noise management plans and programs by military installations across the country that are updated as appropriate to address changes in military missions or potential for new noise-causing activities.

Installation Environmental Noise Management Plan (IENMP) for Camp Roberts, California

The Camp Roberts IENMP was published in December 2000 and is meant to provide strategies for managing noise impacts and addressing noise complaints caused by training activities at Camp Roberts. Methods for achieving this objective are outlined in the plan and include education of personnel on-installation and local residents, noise and vibration mitigation, complaint recordation and management, noise abatement procedures, and the Installation Compatible Use Zone (ICUZ) program.

The ICUZ assesses the compatibility of the noise environment with surrounding land uses and is an element of the IENMP. It is a program used by the Army to evaluate the effects of noise and the hazards associated with noise from training operations at military installations. The main purpose of the ICUZ is to identify areas of land that are susceptible to impacts from noise or aircraft accident potential and recommend specific types of land use that would be compatible for those areas, as well as identify those types that should not occur in those areas for safety reasons. This includes areas of land located outside the military installation.

Statewide Installation Operational Noise Management Plan (IONMP) for California Army National Guard

The California Army National Guard (CAARNG) maintains an IONMP that covers all CAARNG facilities in the State or California. The Operational Noise Management Program was originally developed in response to the Noise Control Act of 1972 in order to provide a framework to manage noise generated by Army activities. The most recent version is dated September 2004 and addresses noise generated by training at:

- Army Aviation Support Facility (AASF) # 1 at Mather Airfield in Sacramento,
- AASF # 2 at Stockton Metropolitan Airport,
- AASF # 3 at Fresno-Yosemite Airport,
- AASF # 4 at Los Alamitos Army Reserve Center,
- Camp San Luis Obispo,
- Camp Roberts,
- The corridor connecting Camp Roberts to Fort Hunter Liggett, and
- The Multi-Purpose Range Complex at Fort Hunter Liggett.

The IONMP provides discussions of the noise contours for each facility and the potential impacts to off-base residents. It also provides recommendations to try and deal with noise impacts before they become a greater issue.

For Camp Roberts, the plan recommends that the CAARNG discuss noise concerns with Monterey County and San Luis Obispo County planning officials to be proactive in minimizing future noise impacts by making CAARNG aware of any future proposals for development in identified at-risk areas.

California Army National Guard Operational Noise Complaint Management Program

The Operational Noise Complaint Management Program is a supplement to the 2004 IONMP. It is meant to help manage noise complaints from the public regarding operations at California National Guard installations through the education of surrounding communities on noise events, changes in operations that could alter the noise environment around the installation, and establishing procedures to receive noise complaints and address them so that citizens know their voice is important. A Noise Complaint Form is employed to receive, respond to, and track noise complaints.

State Programs

California Civil Code Section 1102, "Disclosure Upon Transfer of Residential Property"

The State of California has implemented disclosure laws wherein transfers of real estate must include a disclosure of certain items that could impact the property, including "Neighborhood noise problems and other nuisances." When transferring ownership of an existing residential development, the seller must fill out a real estate transfer disclosure statement form. In the case of a new subdivision, the developer must provide a public report that discloses unusual land uses surrounding the new subdivision.

Issue NOI-1	**Noise from Operations**. Live-fire ranges and mortar ranges create noise that extends off-installation. Helicopter and fixed-wing (transient aircraft) flights also create noise that is heard off-installation. This includes noise associated with transit to and from the installation, take-off and landing operations, and drop zone operations. This noise affects both residents and animals and has the potential to cause stampeding of cattle or other livestock.

There are many factors, both resulting directly from the noise source as well as dependent upon the individual, that can determine how annoying noise can be for a person. Some of these factors include:

- time of day the noise occurs,
- intensity of the noise,
- duration of the noise,
- how often the noise occurs,
- abruptness of onset or cessation of the noise,
- the ambient noise climate and how much the noise itself differs from the ambient environment,
- the impact that the noise has on an individual's activity,
- the real or perceived notion of what efforts have been taken to control the noise, or what efforts could be taken,
- feelings about the importance or necessity of the noise-generating activity, and
- fear or lack of knowledge about why the noise-generating activity is taking place.

Weapons Firing Noise

There is a wide range of weapons firing training that takes place at Camp Roberts. There are two categories of weapons firing: small arms and large weapons.

Small arms weapons are those that can be carried by an individual Soldier, and include pistols, rifles, assault rifles, sniper rifles, submachine guns, light machine guns, and shotguns. Generally, noise from small arms firing is most annoying to people or sensitive land uses within 500 meters (approximately 1,640 feet) of a range. The small arms ranges on Camp Roberts are located away from the installation's boundary with civilian lands, and instead are in closer proximity to Highway 101, a use which is expected to generate a higher DNL than small arms weapons firing. Noise modeling for small arms ranges at Camp Roberts through the use of SARNAM was deemed unnecessary because of these two factors. Due to the size of Camp Roberts and the distance of small arms ranges from residential uses off-installation, small arms noise is not currently a major concern for compatibility at Camp Roberts.

The vicinity of major concern for noise associated with large weapons firing is the area bounded by Nacimiento River to the south, Nacimiento Lake Drive and the San Antonio River to the west, and the Camp's boundary on the east. Large weapons are any weapon of caliber 20 mm or larger, including grenades, mortars, howitzers, and charges as small as 1/4 pound. Some nearby homes in this area are located at higher elevations where the surrounding terrain does not provide a buffer from noise caused by weapons firing in

Camp Roberts' impact area. Since the impact area is located next to Camp Roberts' border, the noise zones associated with large arms extend off-installation onto private land. On the west side of Camp Roberts, the Zone II noise contour extends slightly past the boundary, while the Zone I contour extends further off-installation. Currently, the majority of this land is used for agricultural, which is compatible. Restrictions on the type of development or construction standards are recommended as specified by Army policy for residential development within Zone II. Although Heritage Ranch to the southwest of Camp Roberts is not located within the noise contours, there are still times, depending on certain environmental factors, when large weapons noise can be heard in the community. Figure 4.8-2 illustrates the current modeled average noise contours for large arms at Camp Roberts.

Noise complaints received in the past have already put some strain on activities at Camp Roberts. Responding to noise complaints has resulted in the implementation of a curfew on acceptable times for weapons firing (from 6:00 am to 11:00 pm) and a limit on the weight of demolition charges that are exploded on-installation. The reduction in demolition charges weight occurred after a 1992 study measured impulse noises in Heritage Ranch from artillery firing. Following this reduction, the largest artillery charges were reduced to 15 pounds in the 155 mm round.

During the process of developing the Army Compatible Use Buffer (ACUB) program for Camp Roberts, the CAARNG had noise modeling done for Camp Roberts to show the maximum noise contours that could occur at Camp Roberts. This was done to see the full extent of land that should be considered under the ACUB for potential mitigation programs. The noise contours that were developed through this represent a maximum of all weapons activity occurring at Camp Roberts on a given day, including 155 mm artillery cannons, 40 mm Bradley Fighting Vehicle cannons, large arms, small arms, and other weapons types used at Camp Roberts. The resulting noise contours are illustrated on Figure 4.8-3. As shown, they extend much further past Camp Roberts' boundary than the large arms noise contours. While the majority of the land under these noise contours is zoned either Grazing or Agriculture, the community of Bradley is fully inside the 115 to 130 PK15(met) zone. According to the 2000 Camp Roberts IENMP, within the 115 to 130 zone, there is a moderate risk for noise complaints and in the >130 zone there is a high risk of noise complaints and possibility for damage (both physiological to unprotected human ears or structural).

The largest explosions at Camp Roberts are demolition charges, which are limited as follows:

- 25 pounds maximum in a single shot or blast using TNT or C4 explosives. For steel cutting charges, the maximum is 2 pounds;
- 30 pounds maximum (3 each 10 pound links) in a single shot or blast using Bangalore torpedoes; and
- 40 pounds maximum in a single shot or blast using shaped or cratering charges.

Aircraft Noise

The main area of concern for aircraft noise at Camp Roberts is:

- Flight paths for the Twin Brothers and Nacimiento drop zones, which partially go over lands outside the boundary of Camp Roberts;
- The area bounded by San Marcos Road on the south, San Miguel with Highway 101 on the east, and the Camp's boundary on the west, where the majority of aircraft operations take place; and
- The flight corridor between Camp Roberts and Fort Hunter Liggett to the northwest, which is a concern for potential noise impacts to civilians.

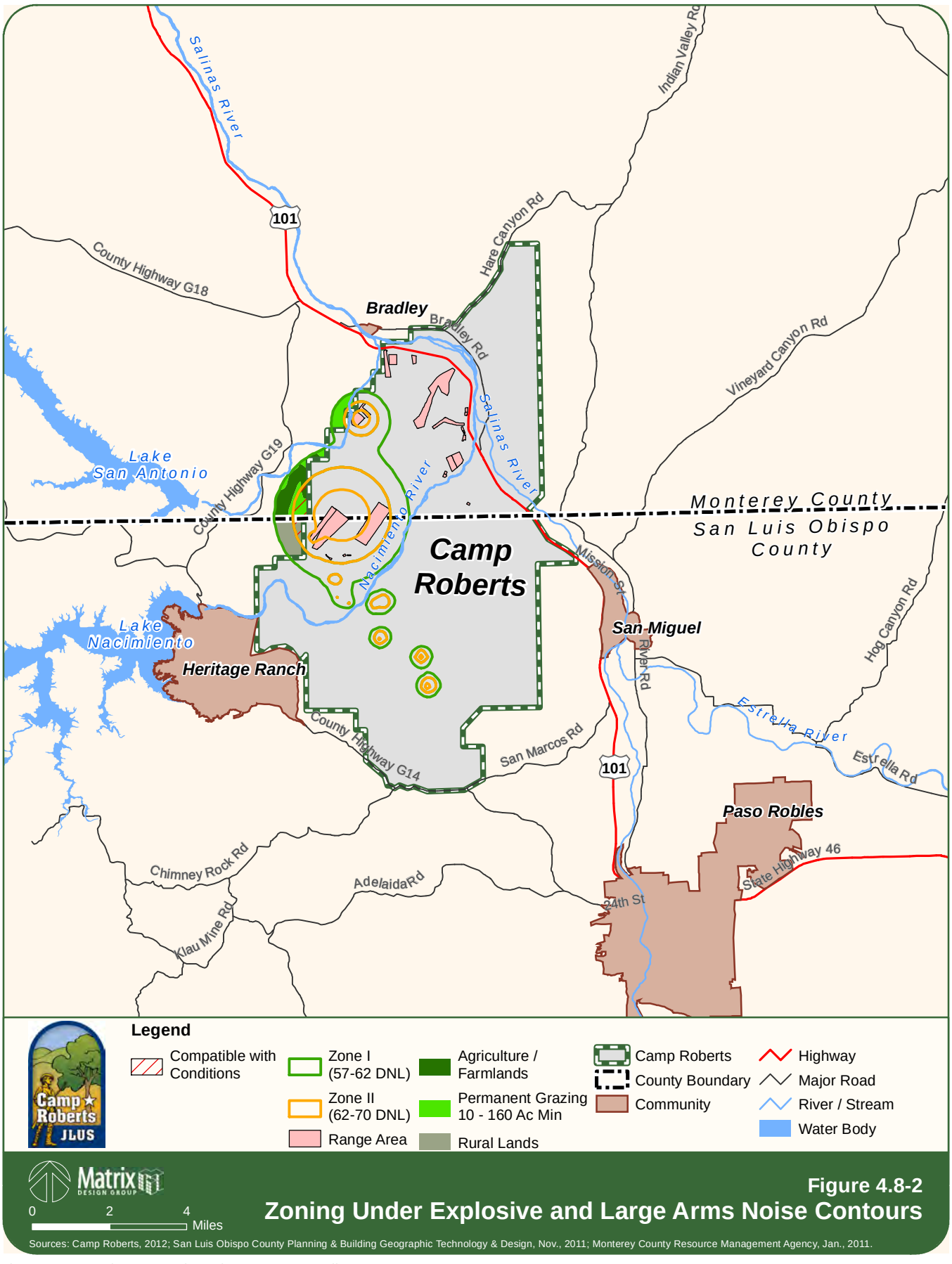


Figure 4.8-2
Zoning Under Explosive and Large Arms Noise Contours

Sources: Camp Roberts, 2012; San Luis Obispo County Planning & Building Geographic Technology & Design, Nov., 2011; Monterey County Resource Management Agency, Jan., 2011.

Fig4.8-2_CRJLUS_Explos_L_Arms_Noise_Zoning_20130411a_RGR.pdf

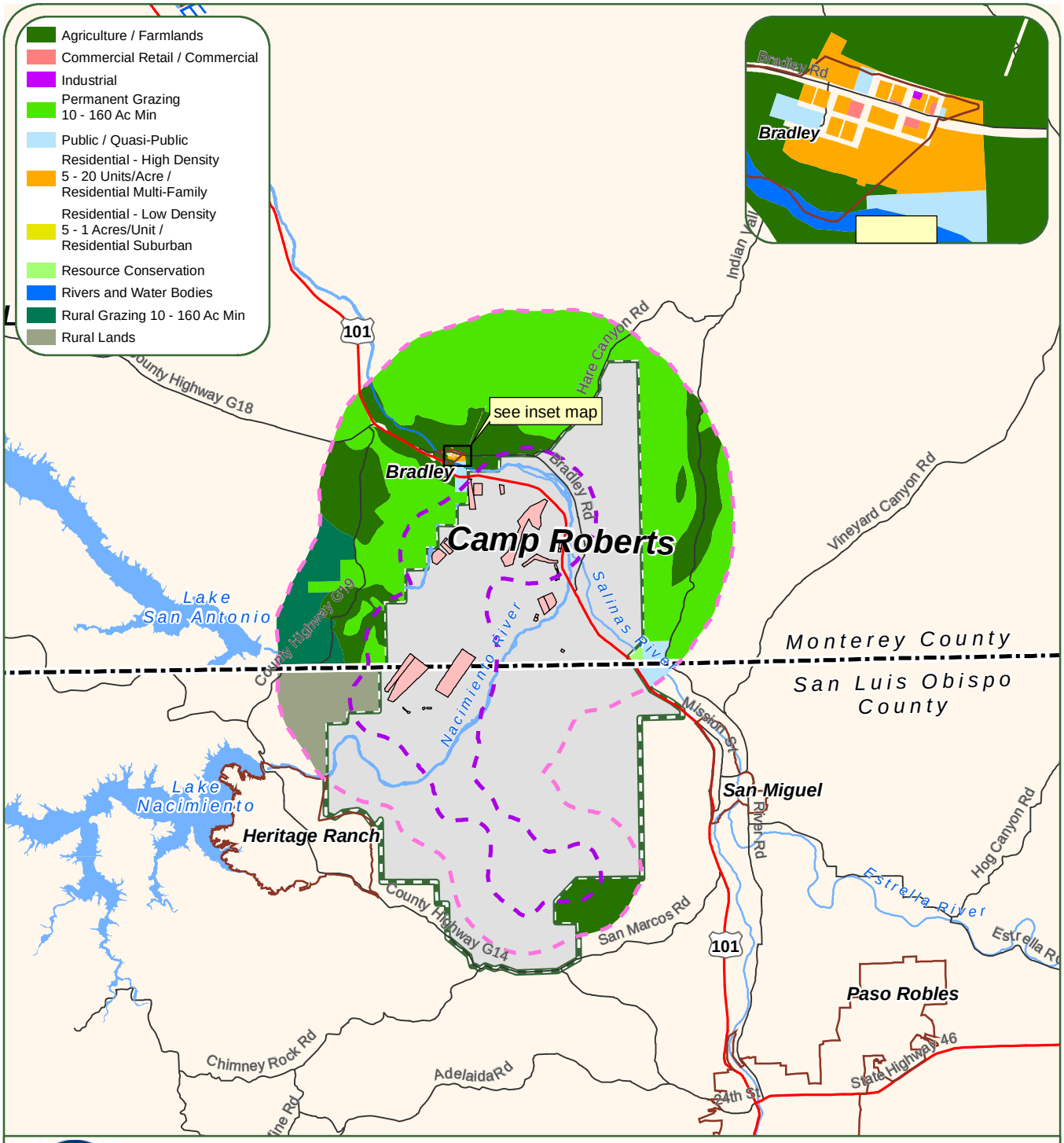


Figure 4.8-3
Noise Contours and Zoning

Sources: Camp Roberts, 2012; San Luis Obispo County Planning & Building Geographic Technology & Design, Nov., 2011; Monterey County Resource Management Agency, Jan., 2011.

Fig4.8-3_CRJLUS_S_Arms_Noise_Zoning_20130411_RGR.pdf

These areas are generally agricultural, but in recent years residential units have been developed, and a few residents have submitted noise complaints from helicopters flying overhead. While agricultural land is a compatible use in terms of noise impacts, additional residential development under the corridor may threaten the ability of helicopter operations to be carried out to support California Army National Guard missions and training.

According to the Statewide IONMP, there are approximately 10 aircraft operations per day at Camp Roberts. The low number of aircraft operations is not enough to generate noise contours for this type of activity.

When aircraft travel outside the boundaries of Camp Roberts, either arriving, departing, or using nearby Special Use Airspace, they are instructed to avoid over flight of residential and livestock areas whenever possible, or maintain an altitude that is high enough so as to cause minimal noise to uses on the ground. In addition, there are several areas identified as "no over flight" zones. However, there are still occasions when noise is heard on the ground that is disruptive or a nuisance.

Nap of the Earth flight is a low-level helicopter flight technique that teaches pilots how to approach or fly without being seen, heard, or electronically detected by an enemy. This type of training occurs in Training Areas Q, R, S, and T (see Figure 2-1 in Section 2), stretching from northwest to southwest along Camp Roberts's southwest boundary. Generally, Nap of the Earth flights are not expected to cause noise impacts to residents, with the exception of hillside homes. This is because of the low frequency sound that emits from the horizontal plane of helicopter rotors, and thus creates a louder noise level when the point of hearing is at a higher elevation compared to a lower one. Table 4.8-1 identifies the maximum dBA of various types of aircraft measured at 500 feet below the aircraft.

Source: Statewide IONMP, California Army National Guard, September 2004

Table 4.8-1. Maximum A-weighted Sound Level Measured 500 Feet Below Aircraft

Aircraft	Sound Level
CH-47 Chinook (rotary wing)	89.3 dBA
C-130 Hercules (fixed-wing)	94.2 dBA
MH-53J Pave Low III (rotary wing)	88.5 dBA
UH-1 Iroquois (rotary wing)	82.8 dBA
UH-60 Black Hawk (rotary wing)	82.5 dBA
OH-58 Kiowa (rotary wing)	80.5 dBA
CH-46 Sea Knight (rotary wing)	83.8 dBA
OH-6 Cayuse (rotary wing)	80.0 dBA

Source: Statewide IONMP, California Army National Guard, September 2004

In addition to the noise concerns associated with the above-described flight areas, there are several flight paths on the eastern side of Camp Roberts that have potential for noise disturbances. The flight path for helicopters to the Troop Medical Center and the Camp Roberts Heliport passes over a portion of San Miguel and residential areas. Similarly, flight paths for the Two Brothers Drop Zone and McMillan Airfield pass over ranches and vineyards and have the potential to cause unwanted noise to residents below. Pilots are instructed to avoid residential over flight, which is possible today. Should these areas become more developed in the future, it may be harder to perform this type of over flight avoidance.

Issue NOI-2	**Noise from Aircraft not Operating at Camp Roberts.** Oftentimes, aircraft transiting near, but not operating at, Camp Roberts (i.e. F-18 aircraft traveling between Naval Air Station Lemoore and Fort Hunter Liggett) create noise that is heard by nearby residents of Camp Roberts and associated as noise caused by operations at the installation.

Although there is some aircraft activity that occurs at Camp Roberts, it is primarily rotary wing aircraft, which is discussed in the previous issue. Due to the nature of Camp Roberts being an active military base, residents who are not completely familiar with the types of operations and aircraft that use it may assume that other aircraft, generally fixed wing, flying through or near the area, may be associated with Camp Roberts. There are several other active military installations within a relatively close proximity of Camp Roberts that conduct aircraft operations, including Naval Air Station Lemoore, located roughly 55 miles northeast of Camp Roberts. Aircraft traveling from Naval Air Station Lemoore to, other locations may pass through the region around Camp Roberts and cause noise. Other military aircraft, as well as commercial or general aviation, may also pass through the region, giving a false impression that they are associated with Camp Roberts. The rate at which these aircraft occur is not likely to cause great concern for residents, but there is the potential for nuisance to occur.

Noise Strategies

The following strategies are recommended to address the issues identified in this section.

Table 4.8-2. Noise Strategies

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
NOI-1	**Noise from Operations**																	
NOI-1	**A**	**Require Sound Attenuation Building Standards for New Construction** Amend Monterey County building code to require sound attenuation for new construction of sensitive land uses located within the Noise CRIA. These structures should be designed and constructed so as to limit their interior noise level to no greater than 45 dB Ldn and certified by an acoustical engineer.	Noise	2017			■											
NOI-1	**B**	**Develop Sound Attenuation Retrofit Program** Develop a voluntary sound attenuation retrofit program for residential uses. Develop a program that provides guidance on sound attenuation standards for retrofitting existing residential and commercial facilities. The program could include grant opportunities available to assist property owners in retrofitting structures in noise sensitive areas. Other funding sources for retrofitting homes should be identified and provided within the program materials.	Noise	2015			■											

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
NOI-1	**C**	**Require Sound Attenuation Building Standards for Significant Expansion / Remodeling** Significant (defined as an activity that modifies, alters or expands an existing use by 50 percent) extension, enlargement, relocation, reconstruction or substantial alteration of an existing residential use within the Noise CRIA shall include the implementation of sound attenuation materials designed to reduce interior noise to 45 dB LDN. This shall also apply to changes in a structure that result in an increase in the number of habitable units within the structure (with habitable units as defined by the 2010 US Census).	Noise	2017			■											
NOI-1	**D**	**Educational Materials on Sound Attenuation Methods** Develop and provide educational materials, either through inclusion in the adopted building codes or as a supplemental educational document, describing building techniques which can be used to achieve the required 45 dB LDN interior noise maximum threshold. Local jurisdictions should make use of already available technical support materials from the Department of Defense.	Noise	2014			□						■					

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
NOI-1	**E**	**Training Times** Implement or continue the following: ■ Range training times for standard operations should be set from 7:00 AM to 11:00 PM. ■ Range operations outside these hours require authorization from the Garrison Commander one week prior to the training. ■ Camp Roberts should post notice in the local newspapers if training is planned to exceed 11:00 PM.	Noise	2014									■					
NOI-1	**F**	**Require a Note to be Recorded on a Title to Real Property as Part of any Discretionary Development Permit or Approval** Require that a note be recorded on a title for real property located within CRIA 3 as part of any discretionary development permit or approval. The note shall state that the real property is located in close proximity to an active military training facility that performs day and night time training operations, both ground and air operations. The military operations may produce noise, vibration, and visual issues.	Noise	2014			■	■										
NOI-2	**Noise from Aircraft not Operating at Camp Roberts**																	
NOI-2	**A**	**Military Aircraft Not Associated with Camp Roberts** Develop and provide general information on the Camp Roberts website describing basic information about types of operations and common aircraft frequently flying in the area and the fact that many of these are not associated with Camp Roberts.	Noise	2014								☐	■					

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
NOI-2	**B**	**Future Topics for Compatibility Planning** Monterey County, working with the JLUS Coordination Committee, may wish to pursue additional funding for compatibility planning associated with the following installations / operations not covered under this JLUS. ■ Work with Naval Facilities Southwest (NAVFAC SW) on aircraft use in special use airspace and military training routes (MTR) that are over this area. ■ Work with the Department of the Army and Fort Hunter Liggett in the development of a JLUS for this installation.	Noise	2015	☐	☐	■	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

4.9 Vibration

Key Terms

Unweighted Peak (dBP). Unweighted peak refers to the peak, single event sound level without weighting, on the ground. This measurement incorporates all of the locational characteristics (i.e., berms, weather, vegetation, etc.). However, it is only reflective of that moment in time under those exact conditions. Consequently, there is no particular confidence that the measurement is reliable in other situations

Vibration. Vibration is the oscillation or motion that alternates in opposite directions and may occur as a result of an impact, explosion, noise, mechanical operation, or other change in the environment. There are two types of vibration that are associated with these types of sources. **Airborne vibration** refers to vibration patterns that travel and are felt through the air. These vibrations travel further and have a stronger "feel" at greater distances than **ground-borne vibration**. Ground-borne vibration is that which travels through the ground, and is the type of vibration more likely to cause structural shaking.

Technical Background

The type of vibration that is generally felt off-installation around Camp Roberts is airborne vibration. Although the majority of studies conducted on airborne vibration use sonic booms as the source of data, vibrations from the firing of artillery can produce a similar vibration pattern. Airborne vibration can cause structural shaking and rattling of windows that can annoy or concern property owners, and in some cases cause structural damage. Table 4.9-1 identifies the vibration levels and corresponding unweighted-peak-sound-pressure levels for causing annoyance or damage.

Table 4.9-1. Airborne Vibration Levels

Response	Vibration Level (inches per second)	Peak Sound Level (dBP)
Concern by homeowner about structural rattling and possible damage	0.1	120
Glass and plaster cracks under the worst case condition*	0.5	134
Structural damage to lightweight superstructure	>2.0	175

Source: EINMP, Camp Roberts, December 2000

*Note: *Worst case = poorly fitted loose window glass and stressed plaster walls*

Compatibility Assessment

Issue VIB-1	**Vibrations from Range Operations.** Some live-fire and mortar training has the potential to create vibration that may be felt off-installation. Owners should be made aware of the various military training exercises that take place on Camp Roberts.

Some nearby residents of Camp Roberts have expressed concerns about the vibrations associated with weapons firing activities at the base. These vibrations are generally the result of large weapon systems and explosive detonations, which take place in the impact area in the northwestern portion of the installation. Some residents stated that occasionally training or explosives detonation are strong enough to shake their homes or rattle their windows, thus residents are concerned about potential damage to their homes or property. Increased distances between the source of the vibration and the off-installation structures would reduce the force generated by the vibration so that it would not cause any structural damage among the residences outside Camp Roberts (provided they are structurally sound and in good condition).

As mentioned, studies have been conducted regarding the potential for structural damage resulting from vibration. When the sound that causes a vibration exceeds 120 dBP is when homeowners typically become concerned for structural damage occurring due to the rattling effect. However, structural damage is not likely to occur until a vibration associated from a sound level of 134 dBP is achieved (a level that is greater than sound levels that were modeled for Camp Roberts, as discussed in Section 4.8, Noise). This is only the worst case scenario for structures that have poorly or loose-fitting windows or stressed plaster walls. Therefore, although nearby residents may be concerned about potential damage to their properties caused by vibration emanating from Camp Roberts, there is not likely to be any permanent structural damage caused by activities on-installation.

The Camp Roberts Installation Environmental Noise Management Plan (IENMP) was published in December 2000 and is meant to provide strategies for managing noise and vibration impacts caused by training activities at Camp Roberts. Although the IENMP provides good background information on the causes and effects of vibrations felt off-installation, it does not go into much detail how to mitigate any potential issues such as structural shaking or damage.

Vibration Strategies

The following strategies are recommended to address the issues identified in this section.

Table 4.9-2. Vibration Strategies

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
VIB-1	**Vibrations from Range Operations**																	
VIB-1	**A**	**Update / Perform Vibration Study** Prior to the addition of, or a change to, training missions or activity areas relative to heavy weapons training or training involving explosives that may create significant vibration, Camp Roberts should perform a vibration study as required to meet the needs of NEPA and CEQA to determine potential impacts. If required to address a significant impact due to vibration, mitigations should be developed to reduce the intensity of the impact to a less than significant level.	Noise	On-going									■					

Please see the next page.

4.10 Dust / Smoke

Key Terms

Fuel. For the purposes of this section, flammable vegetation is referred to as fuel.

Fuel Moisture. Fuel moisture is the amount of water absorbed by fuel including any residual, ambient dew.

Mixing Depth. Mixing depth is the vertical distance from the ground and altitude for which dust, debris, and smoke is lifted into the air by transport winds or wind currents.

Technical Background

Particles of dust and other materials that are found in the air are referred to as particulate matter. The term PM-10 refers to particulate matter that is less than ten microns in size. At certain concentrations, this particulate matter can be harmful to humans and animals if it is inhaled, as it can cause strain on the heart and lungs which provide oxygen to the body. PM-10 can be caused by many activities, including driving on unpaved roads and surfaces, wind erosion from unpaved vacant lots, disruption of land from vehicle maneuvers, explosions, aircraft operations, and other earth-moving activities such as construction, demolition, and grading. Its primary source is typically the exhaust emitted by vehicles, wood burning, and industrial processes.

The primary dust and smoke issues associated with operations conducted at Camp Roberts are the result of dust produced from military training exercises, such as ground maneuvers and helicopter landing operations, as well as the smoke generated from prescribed and wildland burns. For the purposes of this section, the smoke released as a result of prescribed burns is discussed as an interference of vision on transportation corridors. Issues and technical analysis associated with air quality in the Camp Roberts JLUS is discussed in Section 4.11, Air Quality.

Existing Tools

San Luis Obispo Air Pollution Control District

The San Luis Obispo Air Pollution Control District (APCD) issues permits for activities that have the potential to release contaminants into the ambient air in the San Luis Obispo County area. Such activities include construction and demolition, operation of certain vehicles, and burning activities. San Luis Obispo APCD works with designated Camp Roberts' personnel to manage these activities occurring in the southern portion of the installation.

Compatibility Assessment

Issue DS-1	**Dust from Military Training Operations Affects Activities Off-Installation.** Military training activities, such as vehicle maneuvers and helicopter operations can create dust that can adversely affect operations as well as off-installation activities, such as agriculture and recreational amenities.

Camp Roberts conducts military training exercises throughout the installation and convoy training along the Tank Trail, an unimproved roadway composed of dirt and gravel which is located along the west side of the installation as depicted on Figure 4.10-1. Convoys have the ability to travel between Fort Hunter Liggett and Camp Roberts to perform required training exercises. This inter-installation travel stirs up dust and can affect the nearby residences located in the resort community of Heritage Ranch.

Vehicles (traveling individually, in units, or as a convoy) also travel throughout Camp Roberts executing maneuvers on the installation. These maneuvers occur through the central and southern portions of the installation as well as to the east near US Highway 101. Maneuvers and training exercises have the potential to stir dust and other particulate matter into the air. Activities on Camp Roberts have not been noted as an issue in off-installation areas. The tank trail between Camp Roberts and Fort Hunter Liggett was noted as having a higher potential for impacts due to dust (including settling in Lake Nacimiento) and on plants adjacent to the trail.

NOTE: Operations associated with units at Fort Hunter Liggett are not addressed in the JLUS. This JLUS focuses on Camp Roberts and the units training from Camp Roberts.

Camp Roberts Integrated National Resources Management Plan

According to the Camp Roberts Integrated Natural Resources Management Plan (INRMP), air quality and ground disturbing activities, including military construction and military and troop training exercises, are subject to environmental review under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). As stated in the INRMP, Camp Roberts must take every action necessary to control the release of dust resulting from military operations. These actions currently include watering and other dust control methods; however, additional measures such as vegetative buffers and dust control materials could assist in addressing this issue in impacted areas, such as along the tank trail.

Issue DS-2	**Smoke from Prescribed Burns Can Affect Off-Installation Activities**. Burning of vegetation generates smoke that can go off installation. Concerns to be addressed relate to potential to reduce visibility on US Highway 101. There is a need for better notification to surrounding jurisdictions and property owners when a prescribed burn will occur.

Camp Roberts works in cooperation and collaboration with the San Luis Obispo APCD and the Monterey Bay Unified APCD relative to prescribed burns throughout the year. The burns that occur at Camp Roberts can cause debris and noxious gases that can impact local and regional air quality (depending on fire size, fuel types, etc.). Camp Roberts's Impact Area is where the largest occurrence of prescribed burns takes place on the installation.

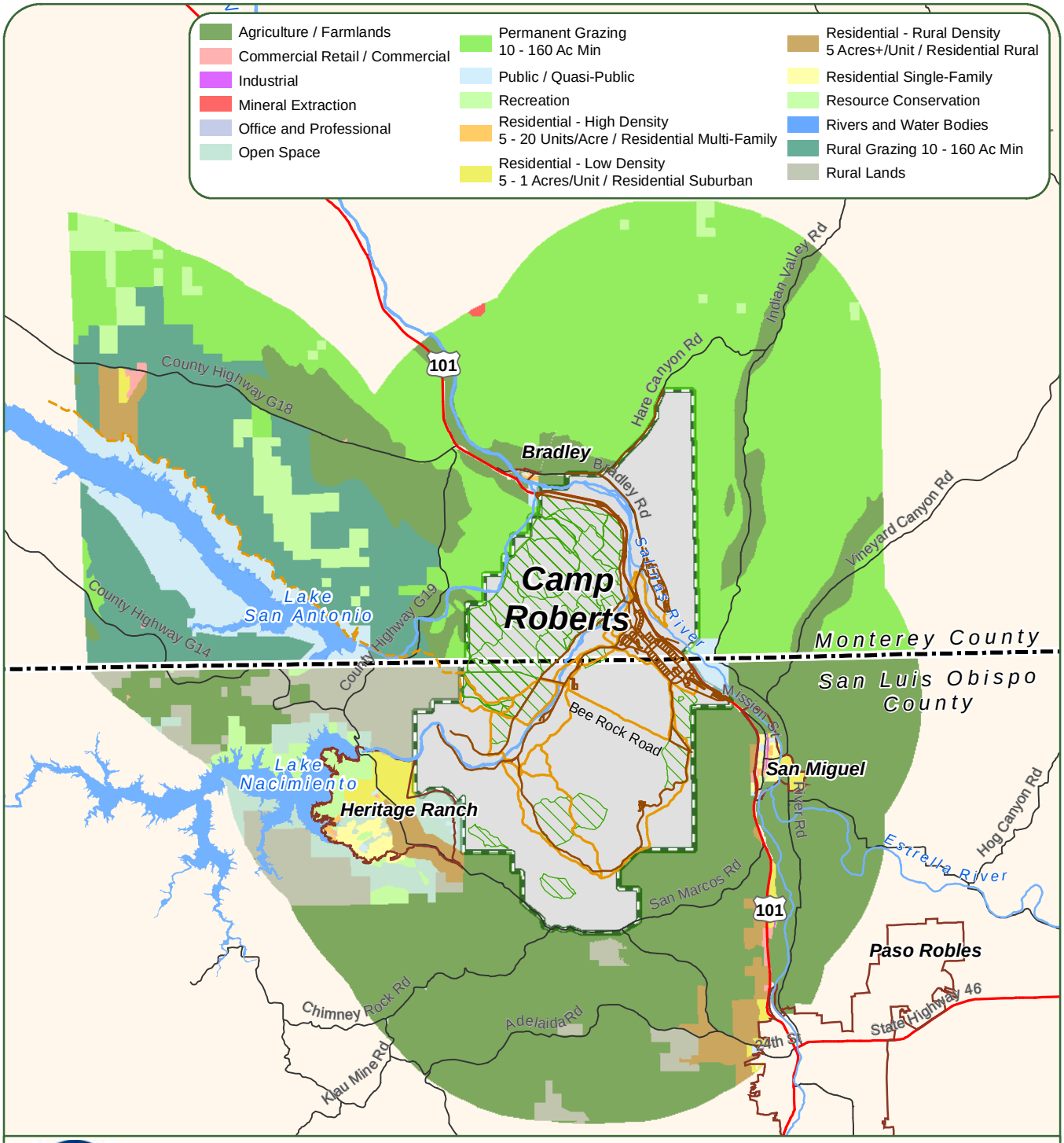


Figure 4.10-1
Sources of Dust and Existing Land Use
5-Mile Buffer

Sources: Camp Roberts, 2012; San Luis Obispo County Planning & Building Geographic Technology & Design, Nov., 2011; Monterey County Resource Management Agency, Jan., 2011.

Fig4.10-1_CRJLUS_Dust_Smoke_20130410_RGR.pdf

Under the right conditions of weather and wind, smoke from prescribed burns could potentially drift near or onto US Highway 101. Sensitive areas near Camp Roberts include the communities of Bradley to the northwest, Heritage Ranch to the west, and San Miguel to the east.

Before any prescribed burn activities take place at Camp Roberts, a variety of weather and wind conditions are taken into effect the estimate how much and where smoke will drift as a result of the burn, and thus what impacts it is likely to have outside of Camp Roberts.

In general, smoke from Camp Roberts does not have a large impact outside the installation, but it is possible under the right circumstances that this could occur. Impacts of these events can be minimized with better notification to those outside of the installation that may be impacted.

Monterey Bay Unified Air Pollution Control District

The northern extent of Camp Roberts is located within Monterey County and is subject to the regulations and permitting standards as prescribed by the APCD. The APCD works in collaboration with Camp Roberts' personnel in instances of prescribed burns. A majority of the prescribed burns activity in 2011 occurred in Monterey County where 18 of the 23 burn sites were located in the northern portion of Camp Roberts.

Fire Management Hazard Reduction Plan

The Camp Roberts Environmental (CR-ENV) group reviews all proposed burn projects to assess potential environmental impacts, as required by NEPA and CEQA. Staff may require research to monitor certain burn effects and, through an adaptive management process, recommend specific management actions to safeguard the public from nuisance smoke and dust. Camp Roberts Emergency Services and the CR-ENV measure six variables that relate to smoke dispersal of prescribed burns, which are:

- Fuel Moisture
- Mixing Depth
- Temperature and Humidity
- Visibility
- Wind Direction
- Wind Speed

These factors are used to determine the best dates and times for prescribed burns from a safety standpoint as well as reduction of smoke and dust. These factors are reevaluated right before the prescribed burn, and the event will be postponed if conditions are not optimal.

Dust / Smoke Strategies

The following strategies are recommended to address the issues identified in this section.

Table 4.10-1. Dust / Smoke Strategies

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
DS-1	**Dust from Military Training Operations Affects Activities Off-Installation**																	
DS-1	**A**	**Dust Control** Review current policies and procedures for dust containment and consider enhancements to reduce dust from military training activities. This might include specifying the use of materials, such as *DustBloc* brand dust suppression, which is a stable emulsion of bitumen in water and used on dirt roads and the use of other crusting agents, sprinklers and fog cannons for other areas. This should only be accomplished in areas that cause significant dust to blow outside the installation and that have the potential to impact a neighboring use. Use of the tank trail to Fort Hunter Liggett is one area of high dust potential.	Land	2014									■					
DS-1	**B**	**Consider Vegetative Dust Barriers** Camp Roberts should consider the use of vegetation (that does not contribute to wildfire hazards and adhere to the AT / FP regulations) to provide a dust barrier along areas prone to high dust generation.	Camp Roberts	2014									■					
DS-1	**C**	**Inform Local Communities of Potential High Dust Activities** To enable the public to prepare in advance, use public relations officers, public service announcements, and websites to inform the general public of instances (i.e., days, times) where high dust trespass is likely.	Land	2014									■					

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
DS-2	**Smoke from Prescribed Burns Can Affect Off-Installation Activities**																	
DS-2	**A**	**Continued Burn Planning for Optimal Timing** Continue coordinating the process for the timing of prescribed burns to help ensure the issuing of smoke is contained to the greatest extent possible based on fuel loading and projected weather conditions. Burn only when smoke can be minimized and transport winds will carry smoke away from highways and residences unless adequate safeguards have been taken (traffic control, removal of residents, notification, etc.).	Land	2014								☐	■					
DS-2	**B**	**Notification** As part of the enhanced public outreach program (Strategy COM-2.A), ■ Establish a web-based notification when prescribed burns are set to occur. ■ Maintain an e-mail list of interested persons and provide information on planned burns. ■ Notify CAL FIRE, local authorities (Sheriffs' Departments, fire chiefs, California Highway Patrol), and CALTRANS when training operations and prescribed burns may create smoke impacts to their activities or facilities ■ Work with CALTRANS to develop a plan for placement of real-time intelligent messaging along Highway 101 to warn motorists of smoke hazards before and during prescribed burns.	General	2014								■	■					

4.11 Air Quality

Key Terms

Attainment Area. An attainment area is a geographic area that meets the National Ambient Air Quality Standards for a criteria pollutant.

Criteria Pollutants. The criteria pollutants are the six principle pollutants harmful to public health and the environment for which the Environmental Protection Agency has set National Ambient Air Quality Standards (NAAQS). The pollutants are: carbon monoxide (CO), lead, nitrogen dioxide (NO_2), ozone (O3), particulate matter (PM), and sulfur dioxide (SO_2).

Exceedance. An exceedance occurs when a measured air pollution level exceeds criteria prescribed by the Environmental Protection agency or the California Air Resources Board.

National Ambient Air Quality Standards. The National Ambient Air Quality Standards (NAAQS) are standards for outdoor air pollutants established by the. Environmental Protection agency under authority of the Clean Air Act.

Nonattainment Area. A nonattainment area is a geographic area where air pollution levels persistently exceed National Ambient Air Quality Standards, or that contributes to ambient air quality in a nearby area that fails to meet standards. Designating an area as nonattainment is a formal rulemaking process made by the Environmental Protection Agency, typically only after air quality standards have been exceeded for several consecutive years.

Ozone (O_3). Ozone is a pungent, colorless, toxic gas with direct health effects on humans, including respiratory and eye irritation and possible changes in lung functions. Ozone is created when hydrocarbons and nitrogen oxides released from vehicles and industrial sources react in the presence of sunlight. Because ozone requires sunlight to form, it occurs in concentrations considered serious primarily between the months of April and October.

Particulate Matter (PM). Particulate matter consists of fine metal, smoke, soot, and dust particles suspended in the air. Particulate Matter is measured by two sizes: Course particles (PM10), or particles between 2.5 and 10 micrometers in diameter in size, and fine particles (PM2.5), or particles less than 2.5 micrometers in diameter.

Prescribed Burn. A prescribed burn, or controlled burn, is the controlled and intentional ignition of grass, shrub, or forest fuels for the specific purpose reducing vegetation for purposes such as forest management, fire prevention, farming, or habitat restoration.

Compatibility Assessment

Issue AQ-1	**Prescribed Burns and Air Quality.** Prescribed burns have the potential of affecting the air quality of the JLUS Study Area. While the Camp Roberts JLUS Study Area is not within a designated non-attainment area, precautionary measures should be established to ensure the sustainment of viable air quality.

Prescribed burns are primarily used on Camp Roberts to reduce vegetation that could otherwise serve as fuel in the event of a wildfire and to create firebreaks that will help stop the spread of wildfires when they do occur. Vegetation management also allows for better troop training activities, enhances wildlife and grazing habitat, and eradicates or stops the spread of invasive weeds. Prescribed burns are also used as an opportunity for fire training. Camp Roberts, on average, conducts three prescribed burns per year. Each burn averages about 3,000 acres each, for an average annual acreage of 9,000 acres. These burns were designed to create approximately 41 miles of firebreaks

The Fire and Emergency Services (ES) department is responsible for managing all prescribed or naturally ignited fires. ES only burns on a California Air Resources Board (CARB)-designated permissive-burn day with light winds. ES also works closely with the Monterey Bay Unified APCD and the San Luis Obispo County APCD to analyze weather trends. ES may also notify the California Department of Forestry and Fire Protection (Cal Fire) to coordinate burns of mutual interest or concern. Before each burn, the ES Fire Manager (referred to as the Incident Commander or IC) decides to proceed with the burn by completing the GO/NO GO checklist. This checklist includes questions to ensure smoke management specifications are met, all required APCD permits are in hand, and the burning operation has been approved by APCD.

Smoke from prescribed burns has the potential to affect soldiers and visitors on Camp Roberts as well as communities surrounding the Camp. The community of Bradley is located approximately one quarter of a mile north of the Camp and is usually upwind of burn areas. San Miguel is approximately two miles east of the camp. Heritage Ranch and other ranch properties are approximately one quarter of a mile west of the Camp. Winds are closely monitored before and during prescribed burns to ensure that nearby communities are not affected. Further, Camp Roberts will forego burns during large public events, such as the County Fair in Paso Robles. At least 15 minutes before and during burns, signs are posted along Highway 101 to provide notification.

The primary air pollutants of concern during a fire are particulate matter and ozone. San Luis Obispo County is in nonattainment for the state ozone and PM10 standards. Portions of the county are also in nonattainment for the federal ozone standard. Monterey County is also in nonattainment status for the State ozone and PM10 standards, but is in attainment of all federal standards.

The closest air monitoring station to Camp Roberts is in Paso Robles. Between 2001 and 2011, there were periodic but infrequent exceedances of federal and state ozone and PM10 standards at this monitoring station (see Table 4.11-1). These exceedances occurred due to pollution from motor vehicle travel in the San Joaquin Valley, wildfires in neighboring counties and within San Luis Obispo and Monterey counties, high wind events, and heat inversions.

Table 4.11-1. Air Quality Information for Camp Roberts

Year	Highest Measured PM10 Level with Date (µg/m3)[1]	# Days Exceeding National PM10 Standard[2]	# Days Exceeding State PM10 Standard[2]	Highest Measured 8-hour Ozone Level with Date (ppm)[1]	Days Exceeding National Ozone 8-hour standard[2]	# Days Exceeding State 8-hour ozone standard[2]
2011	113 (11/2)	0	2	0.067 (5/5)	0	0
2010	44 (9/24)	0	0	0.074 (9/25)	0	3
2009	38 (1/19)	N/A	N/A	0.065 (9/23)	0	0
2008	66 (9/3)	0	6	0.070 (8/28)	0	0
2007	44 (11/26)	0	0	0.074 (6/13)	0	1
2006	62 (10/26)	0	12	0.074 (8/9)	0	7
2005	45 (11/24)	0	0	0.085[2]	2	4
2004	42 (10.12)	0	0	0.075[2]	0	3
2003	51	0	6	0.089[2]	3	8
2002	44	0	0	0.078[2]	2	11
2001	65[2]	0	12	0.081[2]	2	6

Sources:

[1] SLO APCD Annual Air Quality Reports. http://www.slocleanair.org/air/annualreport.php

[2] California Air Resources Board, Air Quality Data Statistics: http://www.arb.ca.gov/adam/index.html

All data from Paso Robles Air Monitoring Station. If date not listed, it was not available.

µg/m3 = micrograms per cubic meter, ppm = parts per million , N/A = not available

California Army National Guard-Camp Roberts Fire and Emergency Services Fire Management and Vegetation Hazard Reduction Plan

The California Army National Guard – Camp Roberts Fire and Emergency Services Fire Management and Vegetation Hazard Reduction Plan is an annual burn plan that describes proposed burn sites, the rationale for burning, and alternatives considered, as well as procedures for smoke management, notification, and complaint handling. Prescribed burns are used to manage vegetation, guard against uncontrolled wildfires, and manage and conserve natural resources. The annual plan provides guidance on conducting prescribed burns in compliance with all applicable laws and regulations, and serves as the annual permit application for the Air Pollution Control Districts.

Camp Roberts Fire Prevention and Protection Program

Camp Roberts Regulation 420-3, the Fire Prevention and Protection Program revised in July 2009, prescribes policies and procedures governing protection against, and prevention of, fires. The goal of the regulation is to eliminate the loss of life and property by fire and to educate personnel in methods to prevent fire. The regulation identifies responsibilities of camp personnel, establishes fire reporting, response, and evacuation procedures, and describes best practices to prevent fires. Wildland fire reporting and response procedures are also identified.

Air Pollution Control District (APCD)

Camp Roberts falls within the jurisdiction of both the San Luis Obispo County APCD and the Monterey Bay Unified APCD. The APCDs manage prescribed burns through their own rules and the California Air Resources Board (ARB) Title 17. San Luis Obispo County APCD Rule 502 governs prescribed burning and gives burners directions on how to burn properly. Any burn that may impact smoke sensitive areas, covers an area greater than 100 acres, or is estimated to produce greater than 10 tons of PM is required to receive a permit and must submit a smoke management plan. Monterey Bay APCD Rule 438 sets rules for open fire burning and requires smoke management permits for any open outdoor fire burning. Burns being conducted for the purpose of instructing public employees in firefighting and for eradication of the Russian thistle are exempt from the smoke management permit requirement.

Air Quality Strategies

The following strategies are recommended to address the issues identified in this section.

Table 4.11-2. Air Quality Strategies

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
AQ-1	**Prescribed Burns and Air Quality**																	
--	--	See Strategies DS-2.A and B.																

4.11 Camp Roberts JLUS

Please see the next page.

4.12 Light and Glare

Key Terms

Glare. The presence of excessively bright light, such as direct or reflected sunlight, or artificial light, such as sport field and stadium lights at night. Glare reduces visibility and can completely impair vision when very intense.

Technical Background

The evolution of technology has made it possible for warfare to excel at night. Night vision devices and other special operations tactics are deployed to enable strategic nighttime warfare. Thus, nighttime warfare enables the military to execute a multi-faceted offensive strategy under the cover of darkness. In order to be successful in combat, the military must train under conditions and environments similar to what is found in combat theaters. Night vision devices allow military personnel to train in near-daylight conditions during nighttime hours.

Under dark sky conditions, the use of night vision goggles (NVG) allows military personnel to view objects up to a distance of 300 meters (984 feet): however, lighting located outside of an installation can decrease the NVG effectiveness to a distance of 50 meters (164 feet). Off-installation lighting, such as street lights or other elevated structures that are lit at night, also produces a halo effect around objects, which further reduces visibility and resolution for air and ground personnel. The amount of ambient light experienced on the ground is a function of:

- intensity of nearby light sources (up to 20 miles away);
- distance from the sources;
- spectra of the light sources (blue light decays faster in the atmosphere);
- density of the cloud deck;
- height of the cloud; and
- relative humidity.

In measuring light pollution, the proximity to a community has a significant effect on the amount of light pollution that saturates the sky. Proximity twice as close to a community makes its sky glow appear approximately six times brighter.

Sky glow from communities typically diminishes in the later hours of the night, when businesses close and some lights are turned off. It follows that, as development continues to progress outward from a community, the area and amount of light pollution can increase. Increased light pollution can cause an increase in the amount of sky glow, and ultimately create compatibility issues with military missions.

The impacts of the use of outdoor lighting on the dark skies over Camp Roberts are primarily determined by two principal factors – the amount of developed land (density) and the distance of the developed land from the installation. The relationship between density and distance is best demonstrated using an estimate of urban sky glow called Walker's Law. The relationship captured through the use of this formula was developed based on measurements of sky glow for a number of cities in California. The following formula is used to estimate sky glow at an observing site looking at a zenith angle of 45 degrees toward an urban source:

I=C x P x R(n)

Where:

I = Percent increase of the night sky brightness above the natural background, at 45°down from directly overhead (facing the community, directly overhead is roughly ¼ of this value),

P = Population of the community,

R = Distance, in kilometers, from the observing site to the center of the community,

"C" = 0.01 for "R" values between 10 and 50 km, and

"n" = 2.5 for "R" values between 10 and 50 km

According to the National Oceanic and Atmospheric Administration (NOAA), the assumed radius of a community is a function of its population, ranging from 2.5 km to 24 km. Walker's law applies if the installation is outside the city radius. If located inside the community radius, the sky glow increases in a linear manner toward the center by another factor of 2.5.

Consider the following examples:

Scenario 1: A 100-acre development located two kilometers from the installation with a density of six units per acre (assuming 2.5 persons per household) would impact the sky background by over 260 percent (nearly 663 percent with NOAA factor).

Scenario 2: A 100-acre development located 20 kilometers from the installation with a density of six units per acre (assuming 2.5 persons per household) would impact the sky background by approximately less than 1 percent (just over 2 percent with NOAA factor).

If the density was decreased to one unit per acre the resulting scenarios would result in the following increased sky glow:

Scenario 1: Approximately 44 percent (almost 111 percent with NOAA factor).

Scenario 2: Approximately less than 1 percent (still less than 1 percent with NOAA factor).

In general, the following trends are demonstrated:

- The more dense the urban development, the greater the potential for light intrusion.
- The closer development is to the installation, the greater the potential for light intrusion.

Compatibility Assessment

Issue LG-1	**Light Impacts from Base Operations.** Some lighting at Camp Roberts can spill over into adjacent properties.

During some night operations, lighting systems and flares are used at Camp Roberts. Another concern is distractions to drivers on US Highway 101. The SATCOM facility has some lighting systems used for security that can be bright at night. Its location on a hill elevates it above surrounding areas, so it has a greater chance of light spilling onto nearby lands. However, its distance from the boundary of Camp Roberts is enough that its impacts off-installation are minimal. No known issues have been reported, and Camp Roberts does work to avoid glare directly at drivers.

Issue LG-2	**Light Impacts from Off-Installation Uses.** The ability to conduct night vision training is an important component of training at Camp Roberts. Controlling significant light sources, glare, and general increases in ambient light (i.e. San Miguel Horse Ranch) in the surrounding area is important.

A formal lighting study has not been completed for the Camp Roberts JLUS Study Area; however, the effects of light intrusion from nearby communities has already constrained the installation's ability to perform NVG training for rotary wing aircraft and has the potential to impact the NVG training for convoy exercises. While the land uses around Camp Roberts are mostly agriculture, a portion of the northern, southwestern, and eastern installation boundaries are proximate to three unincorporated communities. The communities to the north and southwest are characterized by residential development with service districts, and San Miguel to the east is a community where commercial growth currently exists and is likely to expand some.

As development continues to expand in the Study Area, increased light intrusion is likely to occur.

The San Miguel Horse Ranch, a state-of-the-art horse breeding facility located near the installation to the east, has lighting that is oftentimes illuminated like a sports field during the summer season, providing a conducive environment for horse breeding. However, the use of high intensity lights near the eastern portion of Camp Roberts also impacts ambient light

The International Dark Sky Association is an organization dedicated to the education and promotion of dark skies and dark sky preservation. The IDA has worked with communities around the world to develop methods for reducing light pollution. IDA-approved light fixtures are typically more expensive than less efficient fixtures during initial purchase, which is one reason people chose not to install them; however, this cost can be offset by the savings in energy costs as quickly as within one year of installation.

Downward-directed, fully-shielded, and low-glare lighting, using efficient, modern light fixtures appropriate to the needs for utility, safety, security and commerce, improves visibility, decreases energy waste and carbon dioxide emissions, and, reduces costs of operation for outdoor lighting systems. New installations using such efficient lighting systems accrue benefits and savings immediately. Similarly, these same benefits accrue annually, rapidly recouping costs associated with replacements to presently in-place lighting systems. As such, all users benefit from the improved lighting efficiency needed to reduce light pollution. Using appropriate lighting fixtures will enable energy cost reduction, mitigate light trespass, and provide an ample and appropriate environment for horse breeding, while preserving the military mission of Camp Roberts.

Monterey County Zoning Ordinance

Many of the zoning districts within the Monterey County Zoning Ordinance have lighting plan requirements. These requirements dictate that "all exterior lighting shall be unobtrusive, harmonious with the local area and constructed or located so that only the area intended is illuminated and off-site glare is fully controlled." While these requirements are in many of the zoning districts, they are not included in the three main zoning districts that make up the majority of the land immediately adjacent to Camp Roberts: Farmlands, Rural Grazing, and Permanent Grazing. Most uses in these zones would likely not include enough lighting to make an impact to Camp Roberts, but the areas near the installation should include lighting controls nonetheless.

San Luis Obispo Land Use Ordinance

Chapter 22.10 – General Property Development and Operating Standards of the San Luis Obispo Land Use Ordinance includes regulations for exterior lighting. The standards identified for this topic are applicable to all outdoor night-lighting sources that were / will be installed after the effective date of the ordinance, except for street lights located within a public right-of-way and any uses established in the Agricultural land use category. The purpose of the regulations is to minimize light from leaving the property on which it is located to reduce light pollution and glare. The fact that the Agriculture land use category is excluded is an issue because this is the primary land use that surrounds Camp Roberts.

Light and Glare Strategies

The following strategies are recommended to address the issues identified in this section.

Table 4.12-1. Light and Glare Strategies

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
LG-1	**Light Impacts from Base Operations**																	
LG-1	**A**	**Security Lighting** To the extent possible, perimeter and other high intensity security lighting should be shielded to avoid spill over lighting to areas outside the installation and to avoid impacts to night training potential	Camp Roberts	On-going									■					
lG-2	**Light Impacts from Off-Installation Uses**																	
LG-2	**A**	**Lighting Regulations** Amend the local codes to include standard lighting regulations within agriculture and grazing zoning districts.	Land	2015			■	■										

Please see the next page.

4.13 Energy Development

Key Terms

Doppler Effect. The Doppler effect is a change in the frequency with which waves (i.e., sound or light) from a given source reach an observer in motion.

Wind Farm. A wind farm is a series or cluster of wind turbines that generate electricity and function as a renewable energy generator and even a distributor.

Windmill (Wind Turbine). A wind turbine is a structure designed to use the movement of wind to propel blades in a circular motion, creating mechanical energy that can be used to provide power for homes, business, etc., and / or to redistribute throughout the grid.

Technical Background

The moving blades of a wind turbine create a Doppler effect that can interfere with radio transmissions between air traffic controllers and aircraft and other types of communications, such as satellite communications. Recent studies indicate that large numbers of wind turbines located between five and eight miles from a radar system can have a negative impact on the system and interfere with readings. The impacts to radar are increased with the height of the turbines and the number and clustering of wind turbines; however, the greatest impact is caused by their location in proximity to the radar system. Although research is still being conducted, it is not fully known how tall, large, or how many wind turbines must be present to fully interfere with radar operations to a point that they are compromised.

Relative to renewable solar energy, solar facilities could cause substantial amounts of glare depending on their type, location, angle and direction, resulting in a reduction of a pilot's view, even at a very high altitude.

Existing Tools

Local Tools

San Luis Obispo County General Plan Policies

The San Luis Obispo County general plan Conservation and Open Space Element prescribes several goals and policies that encourage the efficient use of energy including development of renewable energy resources, i.e. solar arrays and wind turbines. Although these policies are compliant to the County's Strategic Growth Principles; these principles may not be conducive to compatibility planning relative to military training operations at Camp Roberts. The placement of certain renewable energy facilities in proximity to aircraft training routes or low-level helicopter training exercise routes have the potential to impair flight safety.

A listing of the policies that could potentially conflict with military compatibility planning includes the following:

- **Policy E 1.1.b. Meeting Energy Needs.** Development and use of locally appropriate sources of renewable resources from both distributed and large-scale projects. Examples include wind, tidal, wave, solar, micro-hydroelectric, biomass, and geothermal.
- **Policy E 1.3 Renewable Energy and County Facilities.** Seek to use renewable energy to power County facilities.

- **Policy E 3.1 Use of Renewable Energy.** Ensure that new and existing development incorporates renewable energy sources such as solar, passive building, wind, and thermal energy. Reduce reliance on non-sustainable energy sources to the extent possible using available technology and sustainable design techniques, materials, and resources.
- **Policy E 3.3 Use of Renewable Energy for Water and Wastewater.** Promote the use of renewable energy systems to pump and treat water and wastewater.
- **Policy E 6.1 Sustainable Energy Sources.** Promote the development of sustainable energy sources and renewable energy projects through streamlined planning and development rules, codes, processing, and other incentives.
- **Policy E 6.2 Commercial Solar and Wind Power and Other Renewable Energy Systems.** Encourage and support the development of solar and wind power and other renewable energy systems as commercial energy enterprises.
- **Policy E 6.8 Renewable Energy Resources.** Designate and protect areas that contain renewable energy resources such as wind, solar, geothermal, and small hydroelectric.

The San Luis Obispo County General Plan also identifies strategies for implementing such policies. Example strategies include tax incentives and municipal funding. Such policies could create a conflicting environment with the military mission at Camp Roberts both as a vertical obstruction and a source of glare. San Luis Obispo County should promote formal coordination with Camp Roberts for any future solar and wind power generating facilities in the Vertical Obstructions CRIA, identified in Figure 4.0-1.

Source: County of San Luis Obispo Planning and Building Department, 2010. Conservation and Open Space Element: County of San Luis Obispo General Plan.

Issue ED-1	**Potential for Future Wind and Solar Energy Development.** The development of alternative energy facilities in the Study Area could impact aviation safety and training operations (wind turbines) or create sources of light and glare (some solar energy structures). Energy Development should be coordinated with all appropriate agencies to promote military readiness.

San Luis Obispo County Land Use Ordinance

The San Luis Obispo County Land Use Ordinance delineates regulations for the installation of renewable energy facilities and allows for wind energy conversion systems in several zoning districts through the approval of a conditional use or minor use permit. Table 4.13-1 identifies the allowable heights in the San Luis Obispo County's zoning categories that occur in the Camp Roberts JLUS Study Area. The tallest height allowable is 45 feet in either an industrial or public facility zoning district; however these heights may be exceeded through the approval of a conditional or minor use permit. The approval of a permit for a wind energy conversion unit exceeding the height limits identified in Section 4.4, Vertical Obstructions could result in a compatibility issue due to the low-level aviation training exercises conducted by Camp Roberts.

Table 4.13-1. San Luis Obispo County Zoning Districts that Allow Wind Energy Conversion Systems Through Use Permit in the JLUS Study Area

Agriculture (AG), Rural Lands (RL)	35 feet
Residential, Rural (RR)	35 feet
Commercial, Service (CS)	35 feet (Elsewhere)
Industrial (IND)	45 feet
Open Space (OS)	25 feet
Public Facilities (PF)	45 feet

Source: County of San Luis Obispo Planning and Building Department, 2011. Title 22, Land Use Ordinance, Article 3 § 22.10.090 and Wind Energy Conversion Facilities (WECF): San Luis Obispo County Land Use Ordinance [Amended].

In addition, the Land Use Ordinance states that the lowest part of a wind energy conversion unit and facilities (WECF) must be a minimum of 30 feet above the highest, existing structure or tree within a 250-foot radius which promotes higher facilities to some degree. There are no maximum height limitations for WECFs in the county. Conversely, the San Luis Obispo Land Use Ordinance stipulates that WECFs shall not interfere with electromagnetic transmissions. If a WECF is determined to create adverse Doppler effects and interfere with SATCOM communications or aircraft / helicopter radar operations, then the WECF operator must immediately mitigate the interference.

In addition, SATCOM has indicated their mission is not currently experiencing any issues with alternative energy development or potential development for renewable energy. Solar power facilities can represent a visual impairment for pilots training at low-level flight operations if the construction of solar power facilities are built with reflective panels. While the San Luis Obispo Land Use Ordinance addresses solar power facilities in the Photovoltaic Generating Facilities section of Article Four, Standards for Specific Land Uses by stating "…that no concentrated reflections will be directed at occupied structures, recreation areas, or roads," the regulation does not address reflections that project upward into airspace, specifically within military operating areas and low-level flight corridors.

San Luis Obispo County should consider amending its Land Use Ordinance to include regulations for discouraging use of reflective panels for solar power facilities in military operating and aviation areas, particularly in the Land Use CRIA (Figure 4.0-3). This would promote compatibility planning for the County and protect the Camp Roberts mission from potential future incompatible land uses associated with reflective solar power generating facilities.

Monterey County General Plan

The Monterey County General Plan permits and encourages the development of renewable energy resources including wind and solar energy conversion systems (WECS).

- **OS-9.1** The use of solar, wind and other renewable resources for agricultural, residential, commercial, industrial, and public building applications shall be encouraged.
- **OS-9.2** Development shall be directed toward cities, Community Areas, and Rural Centers where energy expended for transportation and provision of services can be minimized.
- **OS-10.13** The County shall use Geographic Information Systems (GIS) to map and assess local renewable resources, the electric and gas transmission and distribution system, community growth areas anticipated to require new energy services, and other data useful to deployment of renewable technologies. The County shall adopt an Alternative Energy Promotion ordinance that will:
  - identify possible sites for production of energy using local renewable resources such as solar, wind, small hydro, and, biogas;
  - consider the potential need for exemption from other General Plan policies

concerning visual resources, ridgeline protection, or biological resources;

- evaluate potential land use, environmental, economic, and other constraints affecting renewable energy development; and
- adopt measures to protect renewable energy resources, such as utility easement, right-of-way, and land set-asides, as well as visual and biological resources.
- The County shall develop a ministerial permit process for approval of small-scale wind and solar energy systems for on-site home, small commercial, and farm use.

While these policies provide a baseline for assessing the feasibility of developing renewable energy resources, there is currently no specific mention of Camp Roberts' mission or coordination with Camp Roberts (see strategies Section 4.1 Interagency Coordination / Communication). Without consideration of the Camp Roberts mission as well as other nearby military installations, these policies could potentially create military incompatibilities particularly with radar and satellite communications missions and aviation training exercises.

Source: County of Monterey, 2010. Energy Resources: Monterey County General Plan.

Monterey County Zoning Ordinance

The Monterey County Zoning Ordinance implements the County's General Plan through several regulations including specifications on height, setbacks, distance from buildings and structures. The majority of the land around Camp Roberts is zoned for Farmlands, Rural Grazing, and Permanent Grazing. Wind energy conversion units are an allowable use with a required permit in these land use categories, which could represent an incompatible development due to heights of wind energy conversion facilities.

Table 4.13-2 outlines the zoning districts in the Camp Roberts JLUS Study Area for Monterey County. While the maximum heights identified (35 feet) would not result in compatibility issues, these heights may be exceeded if the applicable permit is approved.

Table 4.13-2. Monterey County Zoning Districts that Allow Wind Energy Conversion Systems Through Use Permit

Rural Density Residential (RDR)	15 feet; agricultural windmills and wind machines for crop protection are exempt from the height provisions
Farmlands (F)	35 feet; agricultural windmills and wind machines for crop protection are exempt from the height provisions
Rural Grazing (RG)	35 feet; agricultural windmills and wind machines for crop protection are exempt from the height provisions
Permanent Grazing (PG)	35 feet; agricultural windmills and wind machines for crop protection are exempt from the height provisions

Source: Monterey County Zoning Ordinance, Title 21 (For Inland Areas)

The zoning ordinance identifies maximum heights for both small-scale and commercial WECSs—for commercial wind energy units, the height may not exceed a total height of 200 feet. This includes the highest point of the rotor. Section 4.4, Vertical Obstructions, provides a strategy on height restrictions near Camp Roberts to address this issue.

Interagency coordination with Camp Roberts through an agreement should occur to minimize the potential encroachment from wind energy conversion facilities.

In addition, the zoning ordinance sets the standard relative to electromagnetic interference by mandating that if it is determined that interference exists with satellite communications or radar, then the operator must immediately mitigate the negative interference including complete removal of the turbine.

Energy Development Strategies

The following strategies are recommended to address the issues identified in this section.

Table 4.13-3. Energy Development Strategies

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
ED-1	**Potential for Future Wind and Solar Energy Development**																	
ED-1	**A**	**Amend San Luis Obispo Land Use Ordinance and Monterey County Zoning Ordinance to require non-reflective surfaces for new solar energy facilities.** Amending the land use and zoning ordinance to require the use of non-reflective construction materials for all new solar energy projects near Camp Roberts.	Land Use	2015														
ED-1	**B**	**Height Limitations** See Strategies VO-1.A, B, and C.	Vertical	2017	■	■	■	■	■									
ED-1	**C**	**Amend San Luis Obispo and Monterey Counties' Zoning Ordinances** Amend San Luis Obispo and Monterey Counties' Zoning Ordinances to require review and coordination by Camp Roberts prior to issuing a permit for commercial wind energy conversion systems in the Study Area.	General	2017			■	■										
ED-1	**D**	**DOD Siting Clearinghouse** The Department of Defense Siting Clearinghouse requirements and standards published in Title 32, Code of Federal Regulations, Part 211 shall advise and guide the process to facilitate the early submission of renewable energy project proposals to the Clearinghouse for military mission compatibility review.	General	On-going									■					

Please see the next page.

4.14 Frequency Spectrum Interference

Key Terms

Frequency Spectrum. The frequency spectrum is the entire range of electromagnetic frequencies used for communications and other transmissions, which includes communication channels used for radio, cellular phones, and television. In the performance of typical operations, the military relies on a range of frequencies for communications and support systems. Similarly, public and private users rely on a range of frequencies in the use of cellular telephones and other wireless devices used on a daily basis.

Impedance. Impedance is the interruption of electronic signals due to the existence of a structure or object between the source of the signal and its destination (receptor). Certain structures have the potential to block, or impede, the transmission of signals from antennas, satellite dishes, or other transmission / reception devices affected by line-of-sight requirements.

Interference. Interference is the inability to effectively distribute or receive a particular frequency because of similar frequency competition. As the use of the frequency spectrum increases (such as the rapid increase in cellular phone technology over the last decade) and as development expands near military installations and operational areas, the potential for frequency spectrum interference increases.

Technical Background

The military's use of frequency spectrum allows for safe operations and the effective delivery of weapons on target without interference. The military's frequency spectrum needs for testing, evaluation, and training is constantly increasing, while the spectrum available for DOD use is decreasing.

The National Telecommunications and Information Administration (NTIA) Office of Spectrum Management explains that:

> *…almost every agency of the Federal Government uses the spectrum in performing mandated missions. The DOD uses the spectrum extensively for tactical uses and non-tactical uses. In the United States tactical uses are generally limited to a number of specific testing sites and training facilities, but DOD's non-tactical applications are extensive and include aircraft command and control, mobile communication in and around military bases, and air fields and long distance communications using satellites.*

Frequency interference is related to other transmission sources. Interference can result from a number of factors, including:

- Using a new transmission frequency that is near an existing frequency;
- Reducing the distance between two antennas transmitting on a similar frequency;
- Increasing the power of a similar transmission signal;
- Using poorly adjusted transmission devices that transmit outside their assigned frequency or produce an electromagnetic signal that interferes with a signal transmission; and
- Existing electronic sources and uses created by portable systems affecting entire communities utilizing Wi-Fi broadband systems and industrial sources that produce electronic noise by-product.

In order to successfully complete its operational activities within the installation and its training areas, the military relies on a range of frequencies for communications and support systems. Since 1993, Congress has been selling federal spectrum bands for reallocation to the private sector, promoting the development of new telecommunications technologies, products and services. The expanding public and commercial use of the frequency spectrum from wireless transmitters to consumer electronics can encroach on the military's use of the frequency spectrum. Increasing community and DOD demands for this important resource can create conflicts for all users.

Compatibility Assessment

Issue FSI-1	**Satellite Communications Interference**. Camp Roberts hosts a Federal Satellite Communications Command (SATCOM) that needs to be protected from interference. There may be some future developments that could interfere with the ability of SATCOM to adequately perform its mission.

Satellite Command (SATCOM) is a tenant facility at Camp Roberts and is a US Army communications facility. The current SATCOM site covers 29 acres; however, some expansion could occur if a change or growth in mission necessitates this need. Potential growth and addition of new equipment could require further need for an interference and impedance free area around the facility to properly conduct its mission.

The frequencies that SATCOM uses are not close enough to commercial uses or cell phone frequencies for there to be interference between military and civilian uses. The frequencies utilized for military operations do not conflict with civilian frequencies.

The civilian areas surrounding Camp Roberts are predominantly rural, thus frequency band usage and interference has not been problematic for SATCOM's mission.

Although compatibility issues related to frequency interference is not a current concern within the Camp Roberts JLUS Study Area, protection from the potential for frequency interference is an important consideration in maintaining SATCOM's ability to perform its national defense mission.

Relative to frequency spectrum impedance, the construction of buildings or other facilities that block or impede the transmission of signals from antennas, satellite dishes, or other transmission/reception devices affected by line-of-sight requirements. Due to the SATCOM's facility location on a hilltop, it is unlikely that any structures would be constructed in the region of sufficient height to impede proper operations of the communications equipment.

In terms of conflicts with uses on Camp Roberts, these are mitigated before they begin. There is a designated "no fly zone" that surrounds SATCOM, which restricts overflight of aircraft around the facility. The "no fly zone" has a radius of 400 meters around SATCOM. Not only does this help prevent frequency interference, but it is also for security and safety reasons. Additionally, when a new frequency will be used to communicate with the unmanned aerial vehicles (UAVs) that use McMillan Airfield, SATCOM is contacted and any potential frequency issues are deconflicted, thus avoiding potential frequency interference problems.

Frequency Spectrum Interference Strategies

The following strategies are recommended to address the issues identified in this section.

Table 4.14-1. Frequency Spectrum Interference Strategies

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
FSI-1	**Satellite Communications Interference**																	
FSI-1	**A**	**Monitor Bandwidth Capacity To Prevent Disruption of Military / Civilian Operations** Work together to monitor existing bandwidth use and establish procedures for identifying major future users that could use substantial available capacity.	General	On-going	■		■	■					☐					
--	--	See also Strategy COM-1.F																

Please see the next page.

4.15 Trespassing

Key Terms

Trespass. Trespass is the intrusion by persons and / or livestock, either purposeful or unintentional, within the boundaries of Camp Roberts in a physical or non-physical manner.

Technical Background

Military areas that are located on, or adjacent to, public lands owned by other entities (i.e., federal, state, or local) that are designated for public access, recreation, or for livestock grazing often experience issues related to public trespassing into training ranges and other areas with safety hazards related to military operations. Both livestock (cattle and sheep grazing) and public trespassing occur on Camp Roberts.

Compatibility Assessment

Issue PT-1	**Enhanced Public Disclosure Regarding Changes on Camp Roberts**. Although Camp Roberts meets notification requirements provided for under appropriate regulations, enhanced communications efforts with the public on the following topics would improve overall coordination and cooperation with activity planning, etc. ■ Proposed projects ■ Recreational activities ■ Changes in and notifications about operations outside the typical schedule

Camp Roberts is bisected by US Highway 101 and the Salinas River in Monterey County. These areas are more prone to trespass by recreationalists on or near the Salinas River and people accessing the Camp from the California Department of Transportation's (CALTRANS) rest area located along the north-bound lanes of US Highway 101. Camp Roberts has erected signage around the rest area as a means to control trespass incidences.

The concern about public trespassing as it relates to river recreationalists is that maneuver training exercises occur near river access points on the installation. Not only is it a Federal offense to trespass on Camp Roberts, trespassers are exposed to the risks associated with live-fire ranges and poses a major threat to public safety for those that trespass.

When security is breached by public trespassers, Camp Roberts Range Control personnel are notified and must institute an immediate cease fire while the trespasser is investigated, apprehended, and / or escorted to a safe location. This results in delays in training exercises, and ultimately hinders the ability of Camp Roberts in achieving its overall mission in preparing and readying soldiers for combat theatres.

Adequate and recognizable signage at these particular river access points would be beneficial to both the general public and Camp Roberts. In addition, Camp Roberts should consider providing notification to the surrounding communities when training exercises are scheduled for these areas to encourage additional safety precautions taken during the times of training. Security and monitoring of the installation perimeter near US Highway 101 could also be supplemented by California Highway Patrol (CHP) when training season is

it at its peak, during the summer months. Relative to law enforcement in general, as a State facility, law enforcement (such as crime reporting and investigation) is handled by the California Highway Patrol (CHP) at Camp Roberts.

A Memorandum of Agreement (MOA) between the California Army National Guard, Camp Roberts, the California Department of Fish and Wildlife (CDFW), and the US Property and Fiscal Office for California (USPFO) was established for the purposes of providing procedures and guidelines for the recreational use of hunting and fishing activities on Camp Roberts. This MOA provides for the interagency coordination of the recreational areas on the installation when providing access to the public for hunting and fishing. This MOA is not currently in effect (expired).

The MOA stated that fishing and hunting activities would cease in the event of a national emergency and the federal government resumes control of the installation. The MOA also reported that when Camp Roberts is conducting training operations in or near recreation areas, fishing and hunting shall halt to safeguard the public and the military personnel from unnecessary safety hazards.

The MOA stated that signs are required to be located throughout the identified fishing and hunting areas to indicate where recreational activities are permitted on the installation. Violations of trespassing into unmarked areas require an immediate cease of activity and notification to Camp Roberts Emergency Services.

Currently, the hunting and fishing program has been suspended due to training and construction activities on Camp Roberts and CDFW requirements. During the Joint Land Use Study (JLUS) process, the JLUS participants and committee members expressed concern about the opportunities for fishing and hunting on Camp Roberts being suspended. As the MOA delineates, when training needs require the closure of recreational areas, national security and the military mission and preparedness take priority and recreational activities must be halted.

It should also be noted that hunting and fishing are not determined solely by Camp Roberts. CDFW also controls these activities in general in the State. Relative to fishing, due to concerns over Steelhead Trout, the CDFW has suspended the fishing activities in the area of Camp Roberts.

Issue PT-2	**Livestock Trespassing.** There are several areas where private livestock trespass onto the installation especially in and around the Impact Area, which presents safety risks for both military personnel and private livestock owners. Livestock trespass should be managed appropriately so as not to create unnecessary risks for the military and the general public.

According to the Draft Camp Roberts Training Site Integrated Natural Resources Management Plan (INRMP) update (October 2011), there are 32,697 acres of land on Camp Roberts that can be used for grazing. Although on-installation grazing is currently, and has been since 2007, suspended, this practice can be resumed at any point in the future at the discretion of the installation commander. When permitted, grazing is allowed and managed by grazing lease agreements with private individuals on portions of Camp Roberts.

When permitted, grazing is used in certain portions of Camp Roberts to manage vegetation growth and control invasive plant species. Although the level of grazing that occurs on Camp Roberts has been much lower in recent years (prior to its suspension in 2007), a Grazing Management Plan was prepared in January 2009 for the purpose of assisting Camp Roberts' personnel in identifying range management procedures to best achieve the installation's military mission and ecosystem management goals. At the time it was developed, the plan allowed grazing to continue with minimal impact to availability of training lands and decreased fire hazards and erosion potential, which can result from overgrazing.

The following describes grazing areas and associated restrictions when grazing is permitted on Camp Roberts.

- There are approximately 17,100 acres on the Main Garrison available for seasonal (January 1 to June 30) sheep grazing. A rotational grazing system is used to limit sheep pens, shepherd trailers, and total number of animals and distributing grazing evenly to prevent overgrazing and overuse of any given area. This system helps to keep noxious and poisonous plant levels at a minimum, protects soil and water, increases plant diversity, and leaves adequate plant material to provide soil cover for military activities and watershed protection.
- On East Garrison cattle grazing is allowed on approximately 5,600 acres by lease from January 1 to May 31. Placement of mineral / salt blocks and supplemental feeding stations are used to entice livestock to areas that are less likely to be grazed in order to balance grazing areas, so no one area is overgrazed over another area.

The agricultural leases for grazing at Main and East Garrisons are each managed separately. Grazing is rotated through coordination with Range Control to avoid conflicts with military training missions. Within the boundaries of Camp Roberts, grazing is adequately managed to avoid negative impacts to the land from issues such as erosion and overgrazing.

Off-installation areas that are used for grazing are not subject to Camp Roberts grazing requirements; however, livestock trespass from off-installation lands affect Camp operations. Livestock trespass has occurred historically in three locations along the western border of Camp Roberts where the majority of adjacent land uses are agriculture and farmlands. These areas are close to the impact area, which also poses a major threat to livestock as well as training operations.

Although a cease of activity is employed during known instances of livestock trespass across the western boundary of Camp Roberts, there is still a danger to individuals and livestock when livestock owners try to retrieve their animals on their own. When livestock trespass is observed and reported to Range Control, notification to cease activity is distributed through the established communication procedures. Not only does this unmanaged livestock trespass pose a threat to the safety of the animals and the public, but it also causes delays in training exercises.

Public Trespassing Strategies

The following strategies are recommended to address the issues identified in this section.

Table 4.15-1. Public Trespassing Strategies

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
PT-1	**Enhanced Public Disclosure Regarding Changes on Camp Roberts**																	
PT-1	**A**	**Perimeter Security – People** ■ Improve maintenance of perimeter fencing to provide timely replacement or repair of damaged sections. ■ Ensure placement and maintenance of perimeter signage is adequately placed and spaced along the perimeter fence. ■ Post signage along the Salinas and Nacimiento Rivers in the East Garrison identifying the installation boundary. ■ Work with Sheriffs' Departments to patrol areas experiencing repeat trespass. ■ Work with both counties to remove or block parking areas frequented by those trespassing on the installation.	Camp Roberts	2015			☐	☐					■					
PT-1	**B**	**Education of Permitted Visitors (Visiting Outside of Cantonment)** Require hunters, campers, day trippers, and hikers to view an educational video on identification of the hazards to be found on the installation, purchase a yearly permit to use facilities, obtain a map of the installation showing the restricted and non-restricted areas, notify Camp Roberts Range Control when intending to enter the public access recreational areas.	Land	2014									■		■			

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
PT-2	**Livestock Trespassing**																	
PT-2	**A**	**Perimeter Security – Livestock** ■ Improve maintenance of perimeter fencing to provide timely replacement or repair of damaged sections. ■ In areas frequently damaged by livestock, install enhanced perimeter fencing that prevents the trespassing of livestock in these areas.	Camp Roberts	2015									■					
PT-2	**B**	**Livestock Grazing** If grazing is to be permitted through lease agreements, impose and increase penalties for violations of the lease, including the charging of assessments for lost use of training and firing ranges.	Camp Roberts	2015									■					

Please see next page.

4.16 Cultural Resources

Key Terms

Cultural Resources. Cultural resources are an aspect of a cultural system that is valued by or significantly representative of a culture or contain significant information about a culture. A cultural resource may be a tangible entity or a cultural practice. Tangible cultural resources are categorized as artifacts, records, districts, pre-contact archaeological sites, historic archaeological sites, buildings, structures, and objects. Historic properties are cultural resources that are eligible for, or listed on the National Register of Historic Places. Cultural resources may prevent development on the camp, apply development and training constraints, or require special access by Native American tribal governments or other authorities.

Integrated Cultural Resources Management Plan (ICRMP). The ICRMP is a five year compliance and management plan maintained by the Army National Guard and implemented by the California Army Nation al Guard on military installations that integrates the entirety of the state's cultural resources program requirements with ongoing mission activities. The ICRMP also allows for ready identification of potential conflicts between the California Army National Guard (CA ARNG) mission and cultural resources, and identifies compliance actions necessary to maintain the availability of mission-essential properties and acreage.

National Historic Preservation Act (NHPA). The NHPA of 1966 is a federal legislation that requires agencies to consider the effects of a proposed undertaking on properties listed in, or eligible for listing in, the National Register of Historic Places.

National Register of Historic Places (NRHP). The National Register of Historic Places is the US's official list of the country's historic places (both public and private) deemed to be worthy of preservation. The National Register is maintained by the National Park Service, as authorized by the National Historic Preservation Act of 1966. The National Register of Historic Places is part of a nation-wide program to coordinate and support public and private efforts to identify, evaluate, and protect the Nation's cultural resources.

State Historic Preservation Officer (SHPO). Each State has a designated State Historic Preservation Officer (SHPO) who is responsible for preservation planning and the operation and management of the Office of Historic Preservation. The Governor of California, in consultation with the State Historical Resources Commission and the Director of the Department of Parks and Recreation, appoints the California SHPO. The SHPO carries out many of the responsibilities associated with historic preservation, including administering programs for public information, education and training.

Technical Background

The protection of prehistoric and historic resources is provided through the National Historic Preservation Act (NHPA) as a means to protect historical and cultural foundations of the United States. The NHPA addresses the preservation of cultural resources including cultural landscapes, traditional cultural properties, sacred sites, and historic and archaeological resources. Documentation of cultural resources as well as NHPA compliance activities must be coordinated through the Office of the California State Historic Preservation

Officer (SHPO). As a state agency, the California Army National Guard (CA ARNG) is also subject to California's cultural resource laws and regulations when operating on state lands

Cultural resources typically occur in four forms: archaeological, historical, architectural, and traditional cultural properties. Archaeological and historical resources are considered material remains of past human life or activities that provide scientific or humanistic insight into past human cultures. Architectural resources are structures including standing buildings, bridges, dams, canals, etc. of historical or aesthetic significance. Traditional cultural properties include properties that can be eligible for inclusion on the National Register of Historic Places due to their association with cultural practices or beliefs of a living community. They can also include areas that are not eligible for registry, but still hold the same value to the community.

Special considerations must be made for any development or expansion of military mission activities within areas of cultural significance or sensitivity.

Existing Tools – General

California Office of Historic Preservation

The California Office of Historic Preservation (OHP) is the state's division that is responsible for monitoring and managing California's historic landmarks. The OHP provides guidance and technical assistance to local communities in the registration and maintenance of historic landmarks or sites, as well as guidance for integrating conservation practices with the maintenance of historic elements.

Issue CR-1	**Cultural Resources Coordination Process Update.** Camp Roberts and the surrounding areas possess significant prehistoric and historic resources, and thus requires environmental review and assessment before certain types of projects may be executed on the installation. The coordination protocol should be assessed for determining items of cultural or historic significance.

California's central coast and the Salinas Valley have a rich history of cultural adaptation with a record of human occupation stretching more than 10,000-years in the past. The area that is now Camp Roberts falls largely within the historic territory of the Salinan-speaking people and may lie near the cultural boundary between the Salinan, to the north, and the Chumash, to the south. Although the precise boundaries of the Salinan have not been adequately delineated, at the time of historic contact, Salinan-speaking people occupied a territory in central California that encompassed much of the Santa Lucia and Diablo ranges, as well as the headwaters of the Salinas River. The Salinans were bordered to the north by the Esselen and the Ohlone (Costanoan), to the east by the Yokuts, and to the south by the Chumash. The Salinan and Chumash were accomplished hunter-gatherer-fishers that subsisted on a variety of plants and animals.

The first substantial contact between Europeans and the native groups occurred in 1769 when Captain Don Gaspar de Portolá and Father Junipero Serra led the first overland expedition through Alta California seeking suitable locations for settlements, missions, and presidios. The Spanish established two Franciscan missions in Salinan territory and one in Northern Chumash territory. The first built in Salinan territory was Mission San Antonio de Padua, founded in 1771. In the following year, Mission San Luis Obispo was constructed in Northern Chumash territory. Finally, Mission San Miguel Arcángel, was founded in 1797 and is situated near the boundary of these two groups. The missions relied heavily on Native American labor and

the local native hunting, gathering, and fishing economy gave way to mission agriculture and animal husbandry. European diseases and the mission system took a devastating toll on native inhabitant's physical health and cultural traditions. For example, it is estimated that less than 100 Salinan-speaking people survived the mission system; however, at present day, a strong and vibrant tribal community of Salinan exist in the Salinas Valley and across California. A contingent of Salinan-speaking people, The Salinan Nation, are currently seeking and petitioning for federal recognition. A similar story is true for the Northern Chumash. Despite the hardships of the Mexican and American control, the Northern Chumash continue to preserve their heritage and pursue their cultural independence.

Within the JLUS Study Area, there are many known historic and cultural resources. Nearby significant historic and cultural resources include Mission San Miguel Arcángel, Mission San Antonio de Padua, and the Rios-Caledonia Adobe in San Miguel. These historic sites are maintained by the communities in which they are located; however, the community and Camp Roberts should coordinate in any planning efforts or training activities (i.e. those activities that produce heavy vibrations) that are proximate and may impact these historic sites.

California Army National Guard Integrated Cultural Resources Management Plan

DOD Instruction 4715.3.4.3 and Army Regulation 200-4 require military installations to develop an Integrated Cultural Resources Management Plan (ICRMP) as an internal tool for integrating and managing cultural resources while maintaining ongoing military missions and readiness. The California Army National Guard's ICRMP) was most recently updated in 2004 with a period of implementation for Fiscal Years 2005-2009. The ICRMP maintains standard operating procedures for managing cultural and paleontological resources, assessing potential project impacts, handling inadvertent archaeological discoveries, as well as consulting with Native American groups.

According to the ICRMP, the CAARNG will designate and recognize specific points of contact for purposes of carrying out any communication and consultation with federally recognized Native American tribes necessary for implementing principles and processes affecting traditional cultural properties; properties of traditional, religious, and cultural importance; sacred sites; human remains; or associated cultural items. Currently the CA ARNG engages in regular consultation with the federally recognized tribe associated with the installation area, the Santa Ynez Band of Chumash Indians (SYBCI). Consultation with the Salinan tribe occurs through the SYBCI, who represent their interests at Camp Roberts.

Issue CR-2	**Identification and Protection of Cultural Resources.** The regional area possesses many cultural resources that require continued coordination.

Approximately 30,000 acres of Camp Roberts have been surveyed for historic and archaeological resources. A total of 111 known archaeological sites are located within the boundary of Camp Roberts. Of the 111 sites, 85 are prehistoric, 16 are historic, and 10 have both historic and prehistoric resources. Archaeological testing has been conducted on 39 of the sites, and 22 of them appear to meet the eligibility criteria for listing in the NRHP. Further evaluation work is planned at the additional sites. One structure at Camp Roberts, the Nacimiento Ranch House, has been evaluated and determined to be eligible for listing in the NRHP.

Based on sensitivity assessments and predictive modeling, the ICRMP also identifies areas of Camp Roberts that are sensitive for cultural resources, based upon known patterns of site distribution, landforms, proximity to resources and other factors. These sensitive areas typically include portions of the river canyon and river valley and on the terraces along the river valley. The moderate uplands and steep uplands appear to have low sensitivity for cultural resources.

Most day-to-day activities are not likely to affect known historic or cultural resources. However, in the event that an undertaking is likely to affect an area or resource of known significance, the ICRMP is designed to protect resources by setting management, coordination, and troubleshooting guidelines. If any NRHP eligible or listed properties may be potentially impacted by an activity or project, the project must be reviewed by the SHPO and the SYBCI in accordance with Section 106 of the NHPA and SOP 1 of the ICRMP. The purpose of the review process is to ensure that effects on eligible or listed properties are avoided or mitigated. The most effective way to protect significant historic or cultural sites is through avoidance. Mission activities may need to be adjusted if they have the potential to adversely affect an identified cultural resource. Archaeological sites may also be protected by erecting avoidance fencing, installing SIBER stakes and signage, or barriers to prevent access or disturbance. In the event that unidentified cultural resources are discovered, such as during road work or construction activities that involve ground disturbance, the inadvertent discovery must be reported as specified in SOP 11 of the ICRMP.

Issue CR-3	**Accessing Cultural Resources by Native Americans.** Provide appropriate access to Native American groups for spiritual, medicinal, and other culturally-related activities.

Native American archaeological sites are of interest to Tribes because they represent physical evidence of their ancestors, culture, and traditions. From a tribal perspective, loss of archaeological sites can occur due excavation, degradation of the site and/or denial of access. Access to areas of religious use for ritual or ceremonial purposes is guaranteed by the American Indian Religious Freedom Act (AIRFA). Under this law, agencies must make all reasonable efforts to provide access to Indian practitioners. Currently, Camp Roberts is seeking to achieve this goal by establishing a Memorandum of Understanding with the SYBCI. Camp Roberts is also currently conducting sacred site and traditional cultural property studies to identify what areas or resources on the installation may be significant to Native American groups.

Cultural Resources Strategies

The following strategies are recommended to address the issues identified in this section.

Table 4.16-1. Cultural Resources Strategies

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
CR-1	**Cultural Resources Coordination Process Update**																	
CR-1	**A**	**Cultural Resources Management** Continue to implement the best practices prescribed in the Integrated Cultural Resources Management Plan (ICRMP) for Camp Roberts. Work with Native American Tribal governments to update the ICRMP to address areas of change and to enable preservation of valuable cultural resources.	Camp Roberts	2015									■				☐	
CR-1	**B**	**Cultural Resources Surveys** Continue current practice to conduct a Cultural Resource Survey for areas with potential for cultural resources that have not been previously surveyed prior to any new development or mission expansion requiring new construction.	Camp Roberts	2015									■				☐	
CR-2	**Identification and Protection of Cultural Resources**																	
CR-2	**A**	**Protection of Known Cultural Resources** Continue to plan training exercises and other activities to avoid or otherwise protect / limit disturbance to such sites.	Camp Roberts	On-going									■				☐	
CR-3	**Accessing Cultural Resources by Native Americans**																	
CR-3	**A**	**Access** Initiate discussion with local Native American Tribal governments and groups to identify areas and appropriate times to be accessed, protocols to allow access, and any other parameter affecting significant Native American cultural heritage sites or activities on Camp Roberts.	Camp Roberts	2015									■				☐	

Please see the next page.

Key Terms

Acre-foot. An acre-foot is the volume of one acre of surface area to a depth of one foot. It is equal to approximately 325,853 gallons.

Aquifer. An aquifer consists of a layer of porous substrate that contains and transmits groundwater. When water can flow directly between the surface and the saturated zone of an aquifer, the aquifer is unconfined.

Base Flow. Base flow is groundwater seepage into a stream channel.

Effluent. Treated or untreated wastewater that flows out of a wastewater treatment plant, sewer, or industrial pipe (called an outfall), generally discharged into surface waters.

Groundwater. Water held underground in the soil or in pores and crevices in rock.

Impaired Waters. A water body with chronic or recurring monitored violations of the applicable water quality criteria. According to the Clean Water Act, states are required to develop lists of impaired waters and develop TMDLs for these waters (see below for definition of TMDL).

Maximum Contaminant Level (MCL). MCLs are standards that are set by the United States Environmental Protection Agency (EPA) for drinking water quality. An MCL is the legal threshold limit on the amount of a substance that is allowed in public water systems under the Safe Drinking Water Act. The limit is usually expressed as a concentration in milligrams or micrograms per liter of water.

National Pollutant Discharge Elimination System (NPDES). The NPDES program was established by the federal government to control point-source discharges of wastewater.

Safe Yield. The safe yield (or perennial yield) of a groundwater basin is the rate at which water can be pumped from wells year after year without decreasing the groundwater in storage.

Surface Water. Surface water is derived from waters that flow continuously over land surfaces in a defined channel or bed, such as streams and rivers; standing water in basins such as lakes, wetlands, marshes, swamps, ponds, sinkholes, impoundments, and reservoirs either natural or man-made; and all waters flowing over the land as runoff, or as runoff confined to channels with intermittent flow.

Total Maximum Daily Load (TMDL). A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still safely meet water quality standards.

Treatment Technique. For some contaminants, the EPA establishes a Treatment Technique instead of an MCL. Treatment Techniques are enforceable procedures that drinking water systems must follow in treating their water for a contaminant.

United States Environmental Protection Agency. The EPA is the agency of the federal government charged with protecting human health and the environment, by writing and enforcing regulations based on laws passed by Congress. EPA implements and enforces the provisions of the federal Clean Water Act (CWA) and Safe Drinking Water Act (SDWA), which ensures a clean and safe potable water supply for all states and territories of the United States.

Wetlands. Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions. Jurisdictional wetlands are those that are regulated by the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act.

Existing Compatibility Tools

State Programs

Porter-Cologne Water Quality Act

Under this act, the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB) have broad authority to perform water quality regulatory oversight with the goal of preserving and enhancing all beneficial uses of the state's water.

Federal and DOD Programs

Clean Water Act (CWA)

The CWA governs the management of water resources and controls and monitors water pollution in the US. The CWA establishes the goals of eliminating the release of toxic substances and other sources of water pollution to ensure that surface waters meet high quality standards. In so doing the CWA prevents the contamination of near shore, underground and surface water sources.

National Pollutant Discharge Elimination System (NPDES)

Authorized by the CWA, the NPDES permit program controls water pollution by regulating point sources that discharge pollutants into US waters. Point sources are discrete conveyances such as pipes or man-made ditches. According to the law, individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.

Safe Drinking Water Act (SDWA)

The SDWA is the main federal law that ensures the quality of drinking water in the United States. SDWA authorizes the EPA to set national health-based drinking water standards to protect against both naturally-occurring and man-made water contaminants. SDWA applies to every public water system in the U.S.

Issue WQQ-1	**Surface Water Contamination Exists in the Camp Roberts Study Area.** There are several waterways in or near the Camp Roberts JLUS Study Area. These waterways provide important habitat areas, recreational opportunities, off-stream reservoirs, environmental sustainment, and training opportunities for personnel at Camp Roberts. Contamination within the waterways, from all potential sources, could impact training uses and the environment, both on and off Camp Roberts.

Camp Roberts and the surrounding area contain numerous surface water resources such as freshwater lakes, streams, intermittent creeks, ponds, and vernal pools. The Nacimiento, Salinas, and San Antonio Rivers traverse Camp Roberts covering about 264 acres.

The Salinas River flows across the northern portion of the Camp in a northwesterly direction. The northeastern portion of the Camp (approximately 23 percent, or 9,726 acres) drains directly into the Salinas River. The Salinas River is listed as an impaired water body for sodium and chloride. Major sources of water contamination are agriculture, grazing, and urban runoff.

The San Antonio River follows the northwest border of the Camp and joins the Salinas River just north of the boundary. Drainage from the northwestern portion of the Camp (approximately 11 percent, or 4,895 acres, including most of the artillery impact area) is conveyed into the San Antonio River. The San Antonio River is listed as an impaired water body for E. coli and fecal coliform.

The Nacimiento River traverses Camp Roberts from the southwest and joins with the Salinas River in the north-central area of the Camp. Approximately 24,290 acres (57 percent) within Camp Roberts drains into the Nacimiento River. The Nacimiento River is not considered an impaired water body.

Several medium and larger ponds are located on the installation and are considered jurisdictional wetlands. Camp Roberts also has 13 ponds and rivers covering 65 acres, which are either natural or artificially-created and used for flood control or other purposes.

There are several surface water bodies outside of Camp Roberts but within the JLUS area. San Marcos Creek flows along the outside of the southern boundary of the Camp and joins the Salinas River at a location southeast of the Camp. The southernmost part of the Camp (9 percent, or 3,693 acres) drains into San Marcos Creek.

The two main surface water bodies within the JLUS Study Area are the Nacimiento Reservoir (Lake Nacimiento) and the San Antonio Reservoir (Lake San Antonio) (see Section 2, Study Area Overview, Figure 2.4). Lake Nacimiento is located in San Luis Obispo County and is formed by the Nacimiento Dam on the Nacimiento River. It has a capacity of 377,900 acre feet. Releases from the reservoir are used for groundwater recharge, reduction of seawater intrusion, and steelhead habitat enhancement. Lake San Antonio is located in Monterey County and is formed by the San Antonio Dam on the San Antonio River. The lake has a capacity of 335,000 acre-feet and releases from the lake are used for groundwater recharge. Both lakes are used for recreational purposes such as boating and fishing and provide habitat for a variety of species. Both are also listed as impaired waters for mercury levels; however, neither has established TMDLs.

Camp operations have the potential to cause contamination at surface water bodies on and off-Camp. Erosion, or the removal of topsoil, usually from roads, can result in sediment accumulation in surface water. For example, the tank trail between Camp Roberts and Fort Hunter Liggett runs just north of Lake San Antonio and has the potential to cause erosion and pollution into the lake (see impact WQQ-5). Other activities on the Camp that affect water quality include: pesticide and herbicide use, grazing, live-fire exercises, and prescribed burning. Training activities, such as the use of field showers or portable field latrines, can also cause water contamination.

Chapter 6 of the 2011 draft INRMP addresses water quality and includes management actions to reduce contamination of surface water bodies. For example, the plan limits training activities and grazing near surface waters. Local programs, such as the San Luis Obispo and Monterey Counties' IRWMPs include a variety of strategies to prevent contamination and improve water quality. For example, the Monterey IRWMP includes strategies such as: low-impact development, construction best-management practices, stormwater runoff management, and methods to control pollution sources. The SLO IRWMP strategies also encourage low-impact development and control of pollution sources such as road erosion. Camp Roberts could support projects that would implement the strategies identified in these plans.

Local Programs

San Luis Obispo County Integrated Regional Water Management Plan (IRWMP)

The San Luis Obispo County IRWMP, adopted in 2005 and amended in 2007, presents a comprehensive water resource management approach focused on sustaining the region's water resources to meet current and future needs. The IRWMP identifies strategies and projects designed to improve supply reliability, enhance water quality, and improve the natural environment. San Luis Obispo County is currently in the process of updating the IRWMP, which is scheduled for completion in 2014.

Greater Monterey County Integrated Regional Water Management Plan (IRWMP)

Like the San Luis Obispo IRWMP, the Monterey IRWMP brings together water and natural resource managers and other stakeholders to collaboratively plan for and ensure water supply reliability, water quality, flood management, and functioning ecosystems. The Monterey IRWMP is in the process of being formally adopted by the governing boards of the IRWMP members.

Issue WQQ-2	**Groundwater Supply Planning Must be Coordinated to Ensure Viable Water Resources.** Groundwater supply is of great concern for San Luis Obispo and Monterey Counties. The increases in well drilling for development—residential, commercial, and agriculture—causes more concern in maintaining adequate levels of the Paso Robles Groundwater Basin. Camp Roberts is a minimal user of the Basin, but development must be strategically planned to avoid unnecessary draws on the Basin.

Paso Robles Groundwater Basin Resource Capacity Study (RCS)

The RCS addresses the state of the Paso Robles Groundwater basin. The RCS estimates total basin groundwater pumping and describes the groundwater basin in terms of its "level of severity" (LOS) based on the rate of depletion and an estimate of the remaining capacity, if any. The RCS provides information so that the San Luis Obispo County Board of Supervisors can adopt whatever measures are necessary to eliminate or reduce the potential for undesirable consequences.

The Paso Robles Groundwater Basin (the basin) encompasses an area of approximately 505,000 acres, or 790 square miles. The basin's safe yield is estimated to be 97,700 acre-feet per year (AFY), meaning that over a period of time, outflows of 97,700 AFY can be offset by the same amount of inflow. If pumping exceeds the safe yield, then the basin is in a state of overdraft.

The basin supports agricultural uses and provides drinking water to Paso Robles, Atascadero, Shandon, Creston, Templeton, and San Miguel. According to the Paso Robles Groundwater Basin RCS completed in 2011, estimated basin pumping is 91,838 to 96,723 AFY, or 94-99 percent of safe yield. The RCS includes scenarios with various assumptions for pumping and growth rates to forecast the status of the basin in 2025. All of the analyzed scenarios estimate that pumping will exceed safe yield sometime between now and 2025. The RCS concludes that water consumption has reached the dependable supply of the basin.

Camp Roberts pumps groundwater from the basin to support camp operations and provide drinking water. If the demand for groundwater increases, Camp Roberts could contribute to and exacerbate groundwater supply concerns. Alternately, increased pumping from entities outside of Camp Roberts could lower the water table such that groundwater supply for the Camp could be threatened.

Upper Salinas River Watershed Action Plan

The Upper Salinas River Watershed Management Plan was completed in June 2004 to serve as a management plan for use by land owners, agencies, and other entities to improve, restore, and conserve the Upper Salinas River Watershed. The primary factors addressed by the plan include: improving the water quality, reducing erosion and habitat loss, improving land use policies around the watershed, enhancing habitat, and fostering agricultural needs for the future. The plan also includes goals and strategies for implementation to address the issues identified.

Issue WQQ-3	**Inadequate Availability of Alternative Water Resources for Emergency Situations.** Several attempts have been made by surrounding communities to Camp Roberts and other agencies to develop an agreement for a redundant water supply resource, including off-stream reservoirs. Camp Roberts is positioned as an emergency response center for local disasters / emergencies.

In the event of a disaster or drought, communities must plan for emergency water sources to ensure a reliable water supply. Cooperative efforts such as emergency inter-ties between systems, jointly developed facilities, water exchanges, and other methods will help enhance water reliability for all water users in the JLUS Study Area. Camp Roberts should play a role in these efforts by developing reservoirs to store water for emergency use or through other measures.

Issue WQQ-4	**Insufficient Flood Controls Exist to Safeguard Installation Infrastructure.** When heavy rain and required dam discharges occur, Camp Roberts suffers from infrastructure. Better coordination, planning, and infrastructure are needed.

San Antonio and Nacimiento Rivers Watershed Management Plan

This plan was initiated by the Monterey County Water Resources Agency in order to identify existing conditions and water quality stresses that affect the San Antonio and Nacimiento Reservoirs. The plan presents strategies to protect water quality and ensure watershed uses for all stakeholders.

Camp Roberts is downstream of the San Antonio and Nacimiento Rivers. Flow on these rivers is impeded by dams to create the San Antonio and Nacimiento Reservoirs. Water releases are managed by the Monterey County Water Resources Agency and are used primarily for groundwater recharge and to provide for the needs of fish and wildlife. Weather events, such as heavy rains, can cause irregular releases from the reservoirs.

According to the San Antonio and Nacimiento Watershed Management Plan, whenever the water level at the Nacimiento Reservoir rises above a certain height, the high level gates located on the dam spillway are used to release water. The Nacimiento Reservoir has a higher rate and amount of inflow than the San Antonio Reservoir, thus Lake Nacimiento rises at a higher rate and releases more water. Since its construction in 1965, the water level at the San Antonio Reservoir has only reached the high spillway once, in 2006. Large water releases can cause flooding downstream at Camp Roberts. Flooding can cause damage to structures on Camp and disrupt training operations and mission activities.

Issue WQQ-5	**Tank Trail Operations, Including Potential for Erosion into Lake San Antonio.** Erosion control is an issue along the Tank Trail from Fort Hunter Liggett to Camp Roberts and along the west-southwest border of the installation.

Eroded soil can be carried to water bodies where it reduces water quality and harms aquatic life. Sedimentation can also affect water supply by clogging drains and channels and over time, reducing the capacity of reservoirs.

Camp Roberts has several areas of high erosion potential. Erosion occurs naturally from areas with steep slopes such as in the northwestern portion of the Camp, the hillsides around the Impact Area, and the slopes draining to the Nacimiento River on the western edge of the Camp. Erosion can also occur as the result of human activities. Unsurfaced roadways and certain construction activities can lead to erosion. The 17-mile Tank Trail between Camp Roberts and Fort Hunter Liggett is also a source of erosion (see Section 2, Study Area Overview, Figure 2-4 for map of tank trail).

According to the draft 2011 INRMP update, Camp Roberts institutes erosion control measures throughout the installation in order to control sediment flows into water bodies. Measures include: channel linings, dams, silt fences, and hardened stream crossings. Additional measures are needed to monitor and control erosion, especially from the Tank Trail which runs along the north side of Lake San Antonio.

Water Quantity / Quality Strategies

The following strategies are recommended to address the issues identified in this section.

Table 4.17-1. Water Quantity / Quality Strategies

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
WQQ-1	**Surface Water Contamination Exists in the Camp Roberts Study Area**																	
WQQ-1	**A**	**Surface Water Monitoring** Monitor surface water quality on Camp Roberts and throughout the watershed. Focus studies on the relationship between surface water and groundwater resources. Camp Roberts should allow collection of water samples on Camp Roberts by other agencies, if needed.	General	On-going									☐					
WQQ-2	**Groundwater Supply Planning Must be Coordinated to Ensure Viable Water Resources**																	
WQQ-2	**A**	**Water Resource Planning** Coordinate with local, regional and state water supply providers and permitting agencies to ensure continued availability of adequate potable water supplies. Identify primary users and anticipated needs through a future time period. Develop plans to sustain and manage water resources more efficiently and update plans regularly.	General	2017	■	■	■	■	■	☐			☐					

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
WQQ-3	**Inadequate Availability of Alternative Water Resources for Emergency Situations**																	
WQQ-3	**A**	**Emergency Water Source for Heritage Ranch** The Heritage Ranch Community Service District should continue to work on the evaluation of alternatives to solve their emergency water needs. Solutions should not impact the water supply needed to continue operations at Camp Roberts, but Camp Roberts and others with water rights in the area should keep an open dialogue for assessment of new ideas.	General	2017		■												
WQQ-3	**B**	**Regional Coordination** Coordinate with local, regional and state water supply providers and permitting agencies to ensure continued availability of adequate potable water supplies in emergency situations.	General	2015	■	■	■	■	■	■			■					
WQQ-3	**C**	**Emergency Planning** Identify infrastructure improvements, such as interconnectivity, redundancy, and shared reserves, to ensure availability during emergency situations.	General	On-going	■	■	■	■	■	■			■					

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
WQQ-4	**Insufficient Flood Controls Exist to Safeguard Installation Infrastructure When Heavy Rain and Dam Discharges Occur**																	
WQQ-4	**A**	**Coordination on Releases from Lake Nacimiento** Coordinate with Monterey County Water Resources Agency and other agencies/districts involved in surface water management for Lake Nacimiento to: ■ Monitor and control releases, to the extent feasible during heavy runoff, to minimize downstream damage. ■ Provide notification to Camp Roberts prior to increases in the rate of release to better protect downstream users and facilitate evacuation of range areas being used for training. Other: Monterey County Water District	General	On-going									☐					■
WQQ-4	**B**	**Stormwater Study** Investigate conducting / updating a stormwater study to cover all of Camp Roberts and update to current conditions, or update and expand the 2004 study to determine the extent of needed stormwater management improvements on and upstream of Camp Roberts. Prioritize needed improvements for protection of life and maintaining access.	General	2017			■	■					■					
WQQ-4	**C**	**Structures Subject to Damage** Identify installation infrastructure at risk for damage due to heavy rains or dam discharges. Prioritize relocation or hardening of vulnerable infrastructure.	Camp Roberts	2015									■					

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
WQQ-5	**Tank Trail Operations, including potential for Erosion into Lake San Antonio**																	
WQQ-5	**A**	**Enhanced Erosion Control Along Tank Trail** Fort Hunter Liggett is responsible for maintaining the Tank Trail. During use, Camp Roberts should inform Fort Hunter Liggett of any known issues regarding erosion that exist or manifest in the future. Other: Fort Hunter Liggett	General	On-going									■					■
WQQ-5	**B**	**Closure of Tank Trail During Periods of Rain** Close the Tank Trail when it is determined conditions are such that the Tank Trail would contribute to surface runoff that would drain to the lake.	General	On-going									■					

4.18 Biological Resources

Key Terms

Candidate Species. Species eligible for endangered or threatened status per the Endangered Species Act (ESA) but which are not listed due to higher priority listing activities.

Critical Habitat. Specific areas found to be essential to the conservation of a threatened or endangered species and which may require special considerations or protection. Under this designation, the US Fish and Wildlife Service (USFWS) must review all federal government activities within a designated critical habitat area to ensure that threatened and endangered species are protected.

Endangered Species. Plant or animal species that have a very small population and are at greater risk of becoming extinct. The presence of threatened and endangered species may require special development considerations, could halt development, and could impact the performance of military missions.

Federal Endangered Species Act (FESA). FESA provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. The lead federal agencies for implementing FESA are the USFWS and the US National Oceanic and Atmospheric Administration (NOAA) Fisheries Service. Species include birds, insects, fish, reptiles, mammals, crustaceans, flowers, grasses, and trees.

Habitat Loss. Habitat loss is when habitat is removed or rendered functionally useless to plant or animal species dependent on the area.

Recovery Habitat. Habitat needed to support the recovery of species designated to be endangered or threatened per the ESA.

Riparian. Riparian refers to the habitat and/or area relating to, or situated on the banks of a river.

Special-Status Species. According to the ESA, a special-status species is any species that is a listed, candidate, sensitive, or species of concern.

Take. Under the ESA, "take" is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct." The ESA makes it illegal for any person to take any species listed as threatened or endangered without authorization. Take prohibitions also apply to the habitat a listed species requires for its survival.

Threatened Species. According to the ESA a threatened species is "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Existing Tools

Federal and DOD Programs

Federal Endangered Species Act (ESA)

The ESA was developed to protect the continued existence of species that are at risk for extinction, as well as the habitat in which they live. Through the ESA, important species habitat can be designated as "critical habitat" or other degrees of importance and this habitat must be protected and preserved for the sustained existence of the species. Federal entities such as the DOD are required to adhere to regulations

and limitations set forth by the ESA and protection of species and their habitat. Oftentimes, this results in critical habitat being designated on or near military operations areas. When this happens, military activity on the land can be hindered and cannot take place to its full needs to sustain the mission.

While it is important to preserve species and their habitats, the process can have an impact on military operations.

DOD Partners in Flight (PIF) Program

The DOD PIF program employs habitat-based management strategies in order to maintain healthy landscapes and training lands. PIF representatives assist natural resource managers in improving the monitoring, management, and education programs involving birds and bird habitat. The PIF published a Strategic Plan which identifies actions that support mission activities while securing bird populations.

Army Compatible Use Buffer Program (ACUB)

Title 10, Section 2684a of the United States Code authorizes the DOD to partner with non-federal governments and private organizations to establish buffer zones around critical active military assets. Within the Department of the Army, this program is called the ACUB program. The purpose of the ACUB program is to provide a natural buffer between military training areas and community activities. The creation of these buffer zones helps to reduce encroachment on the military base through measures such as minimizing urban development, protecting training facilities, and providing protected habitat for threatened and endangered species that is off-installation (as opposed to on-installation). The ACUB program has allowed Camp Roberts to enter into partnerships with other entities to purchase land that not only provides a buffer from encroachment around the Camp, but also provides open space and habitat for species found within the boundaries of the Camp so that it does not become a "biological island". Additional properties have been identified as high priority for purchase, on the eastern border of Camp Roberts. These lands are currently agricultural and if purchased, would be owned by the Agricultural Land Conservancy (a partner entity), with easements placed on them to retain agricultural use.

Bird / Wildlife Air Strike Hazard (BASH) Program

The BASH program is aimed at minimizing collisions between military aircraft and birds or other animals that could pose a hazard to aircraft operations. In this program, air operations, aviation safety, and natural resources personnel work together to reduce the risk of bird and wildlife strikes through the Operational Risk Management process. A BASH plan is designed to control birds, alert aircrew and operations personnel, and provide increased levels of flight safety, especially during the critical phases of flight, take-off and landing operations.

The Sikes Act

The Sikes Act requires the DOD to develop and implement Integrated Natural Resources Management Plans (INRMPs) for military installations across the United States. INRMPs are prepared in cooperation with the USFWS and State fish and wildlife agencies to ensure proper consideration of fish, wildlife, and habitat needs. The Sikes Act requires INRMPs to be reviewed at least every 5 years with the Service and the States. Army Regulation 200-1, "Environmental Protection and Enhancement," and policy memoranda guide the ARNG's implementation of the Sikes Act.

Camp Roberts Integrated Natural Resources Management Plan (INRMP)

The INRMP identifies, among other items, Camp Roberts' natural habitat and species for the purpose of managing, maintaining, and preserving its resources. The INRMP is focused on the resources located on Camp Roberts and does not consider or address impacts generated by training on nearby off-installation areas on natural resources. Currently, an updated INRMP is being developed for the 5-year planning period between 2012 and 2017. The previous INRMP covered the planning period of Fiscal Year (FY) 2002 to 2006. The purpose of the INRMP is to strike a balance between the ability of the military to accomplish its training mission, while at the same time

being a good steward of the land and natural resources (including sensitive species located on-installation) to ensure that they are protected as best as can be. The Plan identifies management goals to accomplish this balance, and includes information and instructions for personnel at Camp Roberts to do their part in maintaining the natural resources during training or mission activities.

State Programs

California Endangered Species Act (CESA)

Like the Federal ESA, the CESA protects and preserves species threatened with extinction and their habitats. However, the CESA is limited to species or subspecies native to California. The CESA is administered by the California Department of Fish and Wildlife (CDFW).

California's Wildlife Action Plan

The California Wildlife Action Plan was prepared by the UC Davis Wildlife Health Center for the California Department of Fish and Game and published in 2007. The plan was developed through Congress' State Wildlife Grants Program. This program provides funding to support state programs for the purposes of generally benefiting wildlife and habitats, with a key focus on "species of greatest conservation need". This plan breaks down the state into nine regions for purposes of analysis and goals. Along with action items to conserve and protect wildlife and habitats throughout the state, other topics include monitoring and adaptive management and strengthening California's conservation capabilities.

Although the plan does not go into great detail about areas surrounding Camp Roberts, it does discuss the importance of habitat and wildlife corridors near the Camp, particularly for species such as the San Joaquin kit fox. Within the plan, 11 key wildlife issues were identified throughout the state. Of these, five relate to Camp Roberts (although not specifically mentioned as relating to Camp Roberts in the plan). These five issues are: integrating wildlife conservation into local land-use decisions; restoring and conserving riparian habitats; providing essential water for wildlife; controlling invasive species; and expanding conservation education. Each of these five issues has been incorporated in the updated Draft INRMP for Camp Roberts.

Local Programs

North San Luis Obispo County Habitat Conservation Program

San Luis Obispo County and the City of Paso Robles are in the process of developing a multiple-species habitat conservation program (HCP) for the northern and eastern portions of the County. Camp Roberts is also an active member in the planning and coordination of this HCP. The only species included in the program currently is the San Joaquin kit fox, but others will likely be added as the program develops. The objectives are to conserve threatened and endangered species within the program area and permit incidental take of a species if it occurs during specified activities.

Upper Salinas River Watershed Action Plan

The Upper Salinas River Watershed Management Plan was completed in June 2004 to serve as a management plan for use by land owners, agencies, and other entities to improve, restore, and conserve the Upper Salinas River Watershed. The primary factors addressed by the plan include: improving the water quality, reducing erosion and habitat loss, improving land use policies around the watershed, enhancing habitat, and fostering agricultural needs for the future. The plan also includes goals and strategies for implementation to address the issues identified.

Assessment of Compatibility Issues

Issue BIO-1

Sensitive Species Habitat on Camp Roberts. Camp Roberts provides habitat for some sensitive species, such as the Vernal Pool Fairy Shrimp, the San Joaquin Kit Fox, Steelhead Trout, and Purple Amole. The preservation of the habitat and species can not only affect the natural resources but also the military's mission of readiness:

- Impact of noise and erosion on sensitive species habitat (both on and near Camp Roberts).
- Presence of sensitive habitat and species on Camp Roberts impacts training.

The presence of federally threatened or endangered species on a military installation could impact the ability of the military to fully perform its mission activities depending on the location of the species. The ESA enacts certain restrictions on the types of activity that can occur in known or protected habitat of threatened or endangered species. There are seven federally or State-listed threatened or endangered animal species and one federally-listed plant species that are known to, or have the potential to, occur on Camp Roberts as shown on Table 4.18-1. The locations of sensitive species on base are shown on Figure 4.18-1.

Table 4.18-1. State and Federally Listed Threatened and Endangered Species Known or with Potential to Occur at Camp Roberts

Common Name	Scientific Name	Habitat	Federal Status	State Status	Occurrence at Camp Roberts
Purple amole (plant)	*Chlorogalum purpureum* var. *purpureum*	Shrubland, grassland, woodland	Threatened	Species on special plants list	Known
San Joaquin kit fox (mammal)	*Vulpes macrotis mutica*	Grassland, oak woodland	Endangered	Threatened	Known
California Condor (bird)	*Gymnogyps californianus*	Shrubland	Endangered	Endangered	Potential
Bald Eagle (bird)	*Haliaeetus leucocephalus*	Riparian, aquatic	Delisted	Endangered	Known
Swainson's hawk (bird)	*Buteo swainsoni*	Grassland	N/A	Threatened	Known
Least Bell's vireo (bird)	*Vireo bellii pusillus*	Riparian	Endangered	Endangered	Potential
South-Central California Coast Steelhead (fish)	*Oncorhynchus mykiss irideus*	Aquatic	Threatened	Special species	Known
Vernal pool fairy shrimp (invertebrate)	*Branchinecta lynchi*	Vernal / seasonal pool / clay flat	Threatened	N/A	Known

Source: Draft Camp Roberts Training Site Integrated Natural Resources Management Plan Update, October 2011

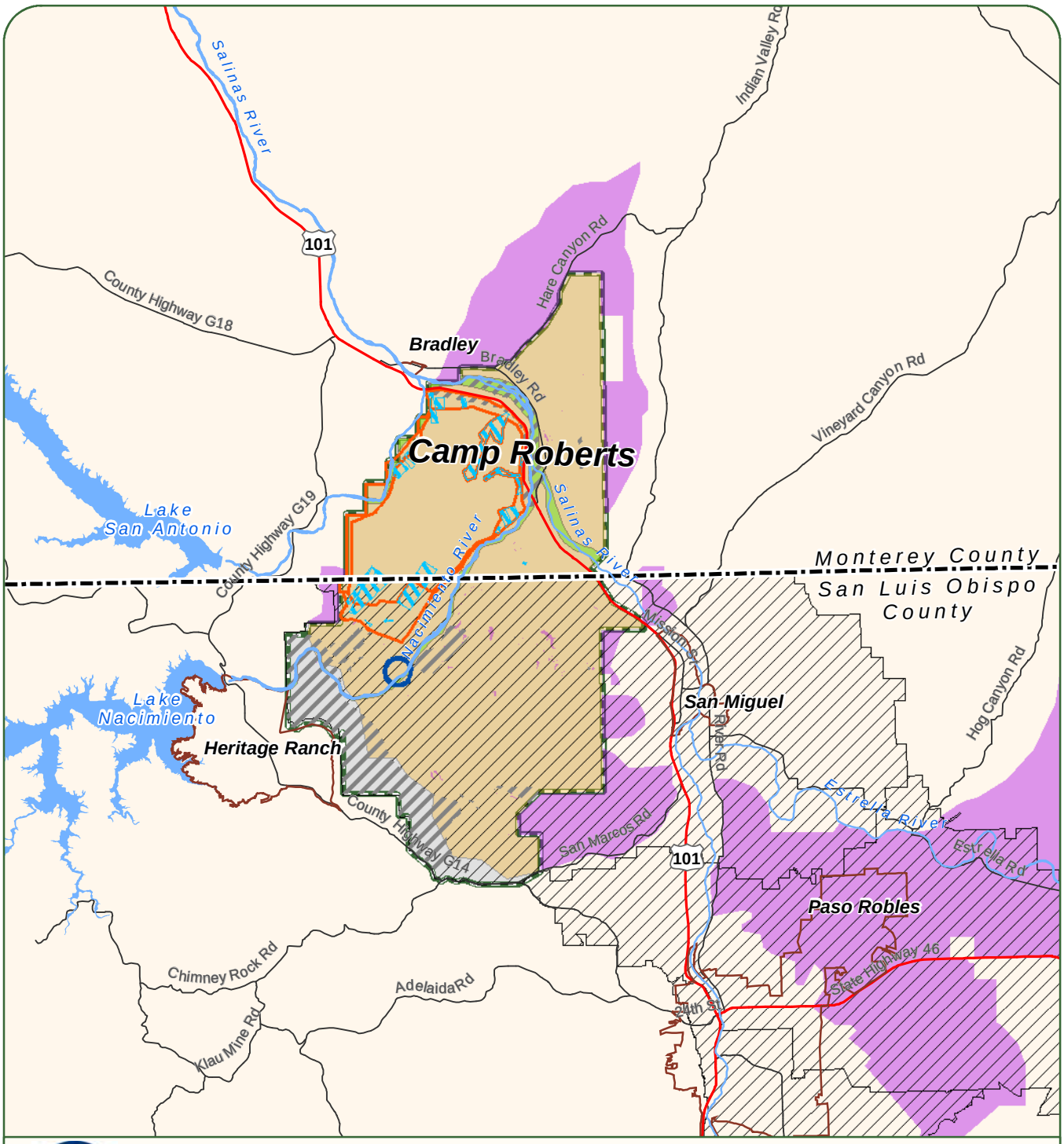


Figure 4.18-1
Biological Resources impacts Camp Roberts

Sources: Camp Roberts, 2012; USFWS, 2013; San Luis Obispo County Planning & Building Geographic Technology & Design, Nov., 2013.

Fig4.18-1_CRJLUS_BiologicalResources_20130411_RGR.pdf

Of the eight species in Table 4.18-1, five of them have designated critical habitat in the region. Table 4.18-2 identifies the species with critical habitat. Also, the San Joaquin kit fox has a naturally-occurring migration corridor that parallels State Route 46. This corridor connects the core populations of the Central Valley and the Carrizo Plain to kit fox populations in the Salinas-Pajaro Region, which includes Camp Roberts, Fort Hunter Liggett, and the Salinas Valley.[1]

There are 23 animal species designated as California Special Concern Species (CSC) by the California Department of Fish and Wildlife (CDFW) known to occur at Camp Roberts. CSC species are those that have declining population levels, limited ranges, and/or continuing threats which have made these species vulnerable to extinction. There are two species known to occur on Camp Roberts that are designated as fully protected by the CDFW. Fully protected species may not be taken or possessed at any time. The CSC and fully protection species known to occur on Camp Roberts are listed on Table 4.18-3. There are also 32 State-listed species on the special plants list (as determined by the CDFW's Native Diversity Database) known or with the potential to occur.

Table 4.18-2. Threatened and Endangered Species with Critical Habitat near Camp Roberts

Species	Date Established	Relation to Camp Roberts
Vernal pool fairy shrimp	August 6, 2003	Camp Roberts excluded because CA ARNG had been implementing measures to conserve vernal pool fairy shrimp and its habitat at the installation, and USFWS determined that the benefits of excluding Camp Roberts outweighed the benefits of including it.
Purple amole	October 24, 2002	Camp Roberts exempted based on having an approved INRMP that addresses conservation
California Condor	September 24, 1976	Camp Roberts is not located within designated critical habitat
Least Bell's vireo	August 7, 1992	Camp Roberts is not located within designated critical habitat
South-Central California Coast Steelhead	September 2, 2005	Camp Roberts exempted based on having an approved INRMP that addresses conservation

Source: Draft Camp Roberts Training Site Integrated Natural Resources Management Plan Update, October 2011

[1] U.S. Fish and Wildlife Service. 1998. *Recovery plan for upland species of the San Joaquin Valley, California*. Region 1, Portland, OR. 319 pp.

Table 4.18-3. CDFW Designated Species Known to Occur at Camp Roberts

Common Name	Scientific Name	Habitat	CDFW Status	Occurrence at Camp Roberts
Mammals				
Pallid Bat	*Antrozous pallidus*	Grassland, oak woodland, riparian, aquatic	CSC	Known
Western mastiff bat	*Eumops perotis californicus*	Shrubland, grassland, oak woodland, riparian	CSC	Known
Western red bat	*Lasiurus blossevillii*	Oak woodland, riparian	CSC	Known
Townsend's big-eared bat	*Corynorhinus townsendii*	Oak woodland, riparian	CSC	Known
Monterey dusky-footed woodrat	*Neotoma macrotis luciana*	Shrubland, oak woodland, riparian	CSC	Known
Salinas pocket mouse	*Perognathus inornatus psammophilus*	Shrubland, grassland	CSC	Known
American badger	*Taxidea taxus*	Grassland	CSC	Known
Birds				
Tricolored blackbird	*Agelaius tricolor*	Grassland, riparian, aquatic	CSC	Known
Grasshopper sparrow	*Ammodramus savannarum*	Grassland	CSC	Known
Golden eagle	*Aquila chrysaetos*	Grassland, oak woodland	CSC/FP	Known
Short-eared owl	*Asio flammeus*	Grassland, oak woodland	CSC	Known
Long-eared owl	*Asio otus*	Oak woodland, riparian	CSC	Known
Burrowing owl	*Athene cunicularia hypugaea*	Grassland	CSC	Known
Northern harrier	*Circus cyaneus*	Grassland, vernal/seasonal pool/clay	CSC	Known
Olive-sided flycatcher	*Contopus cooperi*	Oak woodland, riparian	CSC	Known
Yellow warbler	*Dendroica petechia brewsteri*	Oak woodland, riparian	CSC	Known
White-tailed kite	*Elanus leucurus*	Grassland, oak woodland, vernal/seasonal pool/clay	FP	Known
Yellow-breasted chat	*Icteria virens*	Shrubland, riparian	CSC	Known
Loggerhead shrike	*Lanius ludovicianus*	Shrubland, grassland, oak woodland, riparian	CSC	Known
Purple martin	*Progne subis*	Grassland, oak woodland, rirparian	CSC	Known
Western pond turtle	*Emys marmorata*	Riparian, aquatic	CSC	Known

Common Name	Scientific Name	Habitat	CDFW Status	Occurrence at Camp Roberts
Blainville's horned lizard	*Phrynosoma blainvillii*	Shrubland, grassland, oak woodland	CSC	Known
Silvery legless lizard	*Anniella pulchra pulchra*	Shrubland, oak woodland, riparian	CSC	Known
San Joaquin whipsnake	*Masticophis flagellum ruddocki*	Shrubland, oak woodland, riparian, vernal/seasonal pool/clay	CSC	Known
		Amphibians		
Western spadefoot	*Spea hammondii*	Grassland, oak woodland, vernal/seasonal pool/clay	CSC	Known

CSC = California Special Concern Species FP = Fully protected species

Source: Draft Camp Roberts Training Site Integrated Natural Resources Management Plan Update, October 2011

Through implementation of its INRMP, Camp Roberts has many programs and goals in place to manage the threatened and endangered species that are known to, or have the potential to, occur on the Camp. The measures comply with ESA regulations, and some areas of the Camp are restricted from training or activity for the protection of species. In compliance with the ESA, Camp Roberts has engaged in Section 7 consultation for new projects. This consultation is performed on a project-by-project basis to ensure the maintenance and natural resources management congruent with the proposed project or activity on the Camp. Consultation occurs with the USFWS or NOAA. To date, the USFWS has issued six Biological Opinions (BOs) and NOAA has issued one BO for actions on Camp Roberts. Six of these indicated that the activities would not jeopardize or have an adverse effect on the identified species. The seventh one specified the terms and conditions based on the reasonable and prudent measures that the CAARNG would be responsible for implementing.

Though species on Camp Roberts are managed through existing programs, future development of undeveloped land surrounding the installation could impact species on the installation and military operations. For species with habitat on Camp Roberts and in surrounding areas, development of off-installation lands could cause habitat fragmentation and/or disrupt travel corridors. Some military installations around the country have become "islands" for threatened or endangered species because habitat surrounding the installations was developed, and the undeveloped land on-base, which is used for training purposes, is able to support the species. If Camp Roberts becomes an island for threatened or endangered species, the amount of activity allowed on-installation could be restricted in order to comply with ESA and not result in take of those species.

Camp Roberts is currently in the process of partnering with the Agricultural Land Conservancy to acquire two properties on the east side of the Camp. These properties, the 612-acre Willard property and the 1,300-acre Manini property, would provide a buffer around Camp Roberts to be free of development that could cause encroachment. Among other benefits, they would also provide some habitat for the species that live on Camp Roberts, and help to maintain some wildlife travel corridors so that the Camp does not become an "island" for these species.

Though not recognized as an endangered or threatened species, tule elk (a subspecies of elk found only in California) are found on Camp Roberts and have the potential to disrupt training activities and operations. According to the 2001 Camp Roberts INRMP, 21 tule elk were transplanted onto Camp Roberts in 1978, followed by another 13 in 1982

as part of an effort to return the species to its traditional range. Elk are usually found in the area north and west of the Nacimiento River, but are found on other parts of the installation as well. Tule elk herd management is not discussed in the 2011 draft INRMP.

Activities at Camp Roberts have the potential to disrupt sensitive species. Training activities employed at Camp Roberts include live-fire exercises, bivouacking, construction fortifications, emplacements and obstacles, and mounted and dismounted maneuvers. These activities have been employed at Camp Roberts for decades. Noise associated with training activities can disrupt or harass sensitive species. For example, blast noise from live fire has the potential to cause hearing damage in wildlife. Also, noise from vehicles or tanks can interfere with animal communication. Noise can cause species to shift habitat or alter normal feeding behaviors.[2] Further, ground disturbing activities, such as construction or maneuvers, can disrupt habitat or can cause erosion, which could degrade habitat quality. Strategies related to noise or erosion impacts on species are not specifically addressed in the INRMP.

[2] Larkin, Ronald P., et. al. "Effects of Military noise on Wildlife: A Literature Review." Champaign, IL: U.S. Army Construction Engineering Research Laboratory, 1996.

Biological Resources Strategies

The following strategies are recommended to address the issues identified in this section.

Table 4.18-4. Biological Resources Strategies

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
BIO-1	**Sensitive Species and Habitat on Camp Roberts**																	
BIO-1	**A**	**Upper Salinas River Watershed Action Plan** Camp Roberts should assist in implementation of the Upper Salinas River Watershed Action Plan which provides strategies for riverine habitat protection, restoration and maintenance.	General	2017			■						☐					☐
BIO-1	**B**	**Update Camp Roberts Integrated Natural Resources Management Plan (INRMP)** Plan and budget for an update of the Camp Roberts INRMP. Although a State facility, plan on updates scheduled to match the requirements outlined in the Sikes Act for Department of Defense facilities.	Camp Roberts	2017									■					

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
BIO-1	**C**	**Pre-Activity Surveys** The following actions require environmental review and a Pre-Activity Survey (PAS): ■ Grading, filling, mechanical excavation, construction of permanent or semi-permanent field training facilities, construction on multiple sites, and field excavations or constructions larger than crew-served weapons positions; ■ Field fuel facilities, dispersal of chemicals, machine or hand-dug sumps, field latrines, stockpiling of dirt within training areas; ■ Storage of demolitions on non-standard ranges; and ■ Other activities which may impact wildlife and natural resources.	Camp Roberts	2017									■					
BIO-1	**D**	**Temporary Closure for Changing Conditions** Close all or part of any road, trail, range, firing point, training area, special course, or airspace when it is determined that training conditions are such that habitats or individuals of a listed species would be subjected to harm not addressed and mitigated as part of the Camp Roberts INRMP, final NEPA documentation, or permit.	Camp Roberts	On-going									■					

Please see the next page.

4.19 Scarce Natural Resources

Key Terms

Critical Habitat. The term critical habitat refers to specific areas found to be essential to the conservation of a threatened or endangered species and which may require special management considerations or protection. Under this designation, the US Fish and Wildlife Service (USFWS) must review all federal government activities within a designated critical habitat area for the purpose of protecting threatened and endangered species.

Endangered Species. An endangered species may include plant or animal species that have a very small population and are at greater risk of becoming extinct. The presence of endangered species may require special development considerations, could halt development, and could impact the performance of military missions.

Evolutionary Significant Unit (ESU). An ESU is a population of organisms that is considered distinct for purposes of conservation.

Endangered Species Act (ESA). ESA provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. The lead federal agencies for implementing ESA are the USFWS and the US National Oceanic and Atmospheric Administration (NOAA) Fisheries Service. Species include birds, insects, fish, reptiles, mammals, crustaceans, flowers, grasses, and trees.

Integrated Pest Management (IPM). IPM is a broad-based approach that integrates a range of practices to control invasive species and pests. A goal of IPM is to reduce pesticide use and reduce risks to human health and the environment.

Invasive Species. An invasive species is any particular species of plant, animal, or other organism that is non-native to the ecosystem within which it is found and whose introduction causes or is likely to cause economic or environmental harm or harm to human health.

Nonpoint Source (NPS) Pollution. NPS pollution refers to pollutants that may originate from a variety of diffuse sources and is caused by rainfall moving over and through the ground. As water moves, it picks up and carries away natural and man-made pollutants, eventually depositing them into surface water and groundwater.

Take. Under the Endangered Species Act (ESA), "take" is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct" of a threatened or endangered species or its habitat. Per the ESA, it is illegal for any person to take any species listed as threatened or endangered without authorization. Take prohibitions also apply to the habitat a listed species requires for its survival.

Threatened Species. According to the Endangered Species Act, a threatened species is "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. The presence of threatened species may require special development considerations, could halt development, and could impact the performance of military missions

Technical Background

Pressure to gain access to valuable natural resources (such as oil, gas, minerals, and water resources) located on military installations, within military training areas, or on public lands historically used for military operations can impact resource utilization and military operations.

Increasing development surrounding military installations will continue to compete with the need for naturally limited resources, such as water, oil, gas, minerals, and scenic / recreational assets. Continual development around the military installation could reduce the available supply of these finite resources.

Compatibility Assessment

Issue SNR-1	**The Salinas River Runs Through Camp Roberts and is Protected for the Steelhead Trout Species.** The waterway must be managed and maintained to ensure the survival of the Steelhead, a sensitive fish species in the area. Several agencies/jurisdictions are impacted by this waterway due to its geographical location.

Camp Roberts is located on the southern portion of the Salinas River Valley and is part of the Salinas River Watershed. The Salinas River Watershed covers large portions of Monterey and San Luis Obispo Counties and travels through small pieces of Fresno, Kings, and San Benito Counties. The Salinas River itself travels approximately 155 miles, spanning almost the length of Monterey and San Luis Obispo counties. The Salinas River flows through the northern portion of Camp Roberts in a northwesterly direction. .All of the surface water on Camp Roberts that drains eventually flows into the Salinas River.

The Salinas River Watershed is divided into an Upper and a Lower Watershed. Camp Roberts is located within the Upper Watershed, which comprises the southern half of the watershed. The Upper Watershed covers approximately 2,000 square miles. The majority of land ownership within the Upper Watershed is private. Roughly 25% of the land is publicly owned, mostly federal land, including Camp Roberts, Fort Hunter Liggett, the Los Padres National Forest, and Bureau of Land Management lands.

The South-Central California Coast Steelhead, a federally threatened species, has been identified as an Evolutionary Significant Unit (ESU) within the Salinas River Watershed. As discussed in Section 4.18, Biological Resources, the presence of ESA-listed species on Camp Roberts could impact the ability of certain training or activities from occurring in sensitive habitat areas. The region around Camp Roberts includes designated Steelhead critical habitat; however, Camp Roberts was exempt from being included in the critical habitat because it has an approved Integrated Natural Resource Management Plan (INRMP) that addresses conservation of the species if found on the installation. Through the INRMP, Camp Roberts must develop a management plan and goals for protection if a Steelhead is ever found within its boundaries.

The primary land uses within the watershed are open space and agriculture. However, urban areas and development have a major impact on the water quality within the watershed, as well as erosion, both of which can negatively affect the South-Central California Coast Steelhead. Many of the developed cities and towns, including Paso Robles, are located along the banks of the Salinas River or its tributaries, which adds to urban pollutants in the water resources. Development, roads, and other impermeable surfaces at Camp Roberts also impact the watershed through storm runoff draining into the Nacimiento River, which is a tributary of the Salinas River. One of the biggest impacts to Steelhead populations has been the construction of dams along the Salinas River, such as the Salinas Dam in 1942, the Nacimiento Dam in 1956, and the San Antonio Dam in 1958. These dams impact the species by fragmenting habitat, reducing downstream water availability, releasing sediment that impairs spawning gravels and cobbles, and slowing the speed of flowing water.

Development around the Salinas River Watershed has also added to reduced water quality. The Salinas River was listed as an "impaired water body" by the State of California Water Resources Control Board. This designation identifies that nonpoint source (NPS) pollution has impacted the water quality of the river, according to Section 303(d) of the federal Clean Water Act. Additionally, the Salinas River was identified by the Central Coast Regional Water Quality Control Board as a "priority watershed," indicating that it has "documented water quality problems such as groundwater contamination by nitrates, excessive erosion and sedimentation, or pesticides in surface waters."

Issue SNR-2	**Develop Formal Coordination with Bureau of Land Management (BLM) Regarding Mining Activities on Camp Roberts.** Camp Roberts is situated over BLM's subsurface mineral estate, which may be leased to explore and extract minerals. Other than the guidance stipulated in the Bakersfield Resource Management Plan, there is no formal memorandum of agreement with Camp Roberts for mineral development applications and permits.

The Southern Salinas Valley is rich in petroleum and mineral resources. The BLM manages the federal mineral estate under Camp Roberts. The BLM is in the process of updating its Resource Management Plan (RMP) for the Bakersfield planning area which includes Camp Roberts. The RMP does not contain any specific plans to develop resources on or underlying Camp Roberts.

The Draft Bakersfield RMP and Environmental Impact Statement provides an updated vision for the Bakersfield Field Office Planning Area, which spans approximately 17 million acres throughout the central coast of California including counties of Kings, San Luis Obispo, Santa Barbara, Tulare, Ventura, and others. Specifically relative to this JLUS, BLM manages the subsurface estate of Camp Roberts where private companies and developers contract with BLM to research, explore, and extract minerals that lie under the Camp Roberts site. While there is a coordination protocol that is required, mineral exploration and extraction can create vertical obstruction issues for Camp Roberts' training exercises if certain types of mining equipment were used within important aircraft flight areas or in close proximity to McMillan Airfield.

In the event that land in Camp Roberts is leased for petroleum or mineral development, the RMP contains Controlled Surface Use (CSU) stipulations which give BLM timing and flexibility to modify development proposals to avoid or minimize surface disturbing risks associated with lease development. One CSU stipulation applies to federal reserved mineral estate on military lands and allows the Base Commander to move, modify, or prohibit surface disturbing activities so that they do not interfere with military activity on the installation.

Issue SNR-3	**Presence of Invasive Weeds and Species Impact Management of Natural Resources as well as Training Operations.** There are several weed species present on and near Camp Roberts that require management to reduce the spread of such species so that they do not impair training operations or act as fuel to wildland fires.

Camp Roberts engages in several methods to control invasive plants in order to sustain land for training operations, improve habitat, and reduce the threat of wildfires. Invasive weeds that are of concern include:

- Perennial Pepperweed (*Lepidium latifolium*). This plant has been on the shoreline and near the waters of the Nacimiento and Salinas rivers within Camp Roberts. This species impacts riparian areas.
- Medusa-head (*Taeniatherum caput-medusae*). Medusa head occurs within the Avery Road vernal pool fairy shrimp enclosure. This species impacts

fairy shrimp habitat and native plant species in and around the seasonal wetlands.

- Russian Thistle (*Salsola tragus*), Mustard (*Brassica nigra* and *Hirschfeldia incana*), Yellow Star-Thistle (*Centurea solstitalis*), and other non-native invasive thistles. Thistles can be found throughout Camp Roberts, especially in disturbed areas. These plants impact habitat, compete with native plants, and can impact military training.

The CAARNG's Integrated Pest Management Plan outlines pest management strategies with the goal of using integrated pest management and reducing pesticides use. Methods to control, manage, and eradicate invasive species used on the Camp include:

- Mechanical and physical control, such as pulling, scraping, cutting, grazing, or mowing of plants or the use of prescribed burns.
- Biological control includes release of species in order to control another species, such as the release of the seedhead weevil in order to control Italian thistle.
- Chemical control includes the use of pesticides, herbicides, and other chemicals to eradicate invasive species. Chemical control is considered a last option and is used in accordance with labels and applicable plans and policies.
- Monitoring invasive species by conducting periodic invasive plant surveys along riparian corridors and in areas where threatened or endangered plants and species occur such as along roadsides and near structures.

The CAARNG is also a participant in the Memorandum of Understanding (MOU) for the San Luis Obispo County Weed Management Area to coordinate the activities necessary to prevent the introduction, establishment, and spread of noxious weeds in San Luis Obispo County. In accordance with this agreement, Camp Roberts identifies, inventories, and maps noxious weed infestations present at Camp Roberts; coordinates the control of noxious weed infestations on Camp lands with the San Luis Obispo County Department of Agriculture; and cooperates in the development of grant proposals to fund local weed management program.

Scarce Natural Resources Strategies

The following strategies are recommended to address the issues identified in this section.

Table 4.19-1. Scarce Natural Resources Strategies

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
SNR-1	**The Salinas River Runs Through Camp Roberts and is Protected for the Steelhead Trout Species**																	
--	--	**Upper Salinas River Watershed Action Plan** See Strategy BIO-1.A.	General	2017			■						☐					☐
SNR-1	**A**	**Erosion Control** Identify, monitor and correct drainage issues contributing to erosion into the Salinas River or tributary.	General	On-going			■						☐					
SNR-1	**B**	**Grazing Leases on Camp Roberts** Limit grazing activities to areas away from the Salinas River and manage grazing activities to avoid over grazing, trail development, or other conditions that would increase sedimentation into the Salinas River or tributary.	Camp Roberts	2015									■					
SNR-1	**C**	**Salinas River Corridor Protection by Camp Roberts** ■ Develop a habitat restoration plan for the riverbank ■ Plant riverine plant species to create a buffer from upland activities ■ Support state and federal plans for steelhead trout protection	Land	2017									■			☐		
SNR-1	**D**	**Control Training in Riparian Zones** Prohibit training exercises from damaging or disturbing riparian and water habitats, including all drainage, rivers, creeks, ponds, reservoirs, springs, seeps, and seasonal wetlands which are considered critical habitat.	Camp Roberts	On-going									■					

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
SNR-1	**E**	**Reduce Pesticide, Herbicide, and Fertilizer Use** Reduce the use of pesticides, herbicides and fertilizers at Camp Roberts where stormwater runoff is not detained / retained / controlled.	Camp Roberts	On-going									■					
SNR-1	**F**	**Location of Facilities with Water Discharge** Training-related activities such as soakage pits, field mess facilities, field shower points, decontamination points, laundry points, and water purification points should be established no closer than 100 meters to surface waters or streambeds.	Land	On-going									■					
SNR-1	**G**	**Watershed Management Plan** Coordinate with the BLM, Upper Salinas-Las Tablas Resource Conservation District, California National Resource Conservation Service and others to develop a watershed management plan.	General	2017			■						☐		■			☐
SNR-2	**Develop Formal Coordination with Bureau of Land Management (BLM) Regarding Mining Activities on Camp Roberts**																	
--	--	See Strategy COM-3.B.	Land	2014									■		■			
SNR-3	**Presence of Invasive Weeds and Species Impact Management of Natural Resources as well as Training Operations**																	
SNR-3	**A**	**Integrated Weed Management Plan** Develop and Integrated Weed Management Plan as defined by the California Department of Food and Agriculture.	Camp Roberts	2017									■					

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
SNR-3	**B**	**Regional Coordination on Noxious Weed Control** Coordinate with the Noxious Weed Information Project (NWIP), a part of Integrated Pest Control, a branch of Plant Health and Pest Prevention Services which is a division of the California Department of Food and Agriculture to identify noxious weeds.	Land	2017									■	☐				

Please see the next page.

4.20 Land and Airspace

Key Terms

Flight Service Station (FSS). An FSS is an air traffic facility that provides information and services to aircraft pilots before, during, and after flights, but unlike air traffic control, is not responsible for giving instructions or clearances or providing separation. The primary role of an FSS is to provide weather briefings and flight planning services to pilots.

Military Operations Area (MOA). An MOA is a type of SUA, where military operations are of a nature that justify limitations on aircraft not participating in those operations. These areas are identified on aviation charts by a defined area marked with "MOA," preceded by the MOA's name. MOA altitudes differ for each individual area and can be determined by consulting sectional chart legends. Local flight service facilities maintain current schedules and contacts for the agency controlling each MOA.

Restricted Area (RA). RAs are another type of SUA and are important assets to the DOD because they allow for the use of weapon systems for training and testing purposes. These areas are necessary for ground weapons and artillery firing, aerial gunnery, and dropping inert and practice bombs. RAs provide locations for training and testing to support combat readiness of aviation and ground combat units while separating these activities from the public and general aviation users. These areas are identified by the letter "R" followed by a number on Federal Aviation Administration sectional charts, enroute charts, and terminal area charts. The floor and ceiling altitudes, operating hours, and controlling agency can be found in the sectional chart legend.

Special Use Airspace (SUA). SUA was developed by the Federal Aviation Administration (FAA) to advise pilots of an activity or surface area that dictates special rules or notices and may possibly be hazardous. The designation of SUA identifies for other users the area where military activity occurs (air or land operations), provides for segregation of that activity from non-participating aviation activities, and allows charting to keep airspace users informed.

Unmanned Aerial Vehicle. UAVs are aircraft that are capable of operating without an internal pilot; are tethered by a radio control link; and can be preprogrammed for both flight and payload operations prior to launch.

Technical Background

The military manages or uses land, air, and sea space to accomplish testing, training, and operational missions. These resources (land, air, and sea space) must be available and of a sufficient size, cohesiveness, and quality to accommodate effective training and testing. The demands of extended operational reach, both in terms of breadth and depth, make the military installation, training area, airspace, and sea space of the region, and interconnected collaboration between the military training and test installations, more important as requirements and capabilities of weapons and command and control systems continue to improve.

The land, air, and sea spaces used by the military can be owned by the DOD, designated for DOD use by a federal or state agency, provided through easements or other agreements with public or private entities, or maintained as a historic usage right. Public and private requests to share or take over some of these resources may have a negative impact on military training and test objectives.

Issue LAS-1	**Expand Restricted Air Space (RA) (R-2504).** Expand R-2504 to better meet the operational and training requirements for units/organizations using McMillan Field.

McMillan Airfield is a CAARNG asset used by the Naval Postgraduate School's Center for Interdisciplinary Remotely-Pilots Aircraft Studies (CIRPAS). This is accomplished through the designation of Restricted Air Space, designated as R-2504. R-2504 is approximately five miles long by 9.5 miles wide, stretching from Camp Roberts's boundary in the north and south, and generally runs along the northeast boundaries of Training Areas C, B, P, and L in the east, and Training Areas U, T, S, R, and O in the west. It extends from chartered altitudes above ground level (AGL) up to 15,000 feet above mean sea level (MSL).

Although the California National Guard has overall responsibility over R-2504, as Camp Roberts is designated by the FAA as the Using Agency, the airspace is controlled by the FAA Oakland Flight Service Station. Usage of R-2504 is scheduled through CIRPAS with the appropriate offices and personnel at Camp Roberts. Other entities besides CIRPAS are able to conduct UAV operations in R-2504 by scheduling with CIRPAS.

R-2504 is a unique and important asset for the military and other entities as it allows for a wide variety of training and operations to occur, including live fire (artillery, mortar, M2, .50 caliber machine gun, MK19 grenade machine gun, M203 grenade launcher, demolition and explosive devices (including aerial pyrotechnics), missiles and rockets, air-to-ground weapon systems, aerial target practice, or any other weapon firing that is .50 caliber or greater). It also provides for airborne drops, night vision flights, and other combat support systems.

All UAV operations at Camp Roberts are required by the FAA to remain within R-2504 airspace. The boundary of R-2504 ends just past the eastern edge of McMillan Airfield, and so there is a small breadth of distance from the runway that UAVs cannot pass during operations. This has some hindrance on the extent to which operations can occur around the runway from which they take off. UAVs are allowed to exit R-2504, but must receive a Certificate of Authorization (COA) from the FAA for each exercise in which this is planned to occur. A COA grants a one-year approval for specific UAV types to fly in a predefined area. The FAA reserves the right to cancel a COA at any time during the period it is active.

Fort Hunter Liggett to the northwest of Camp Roberts has an RA – R-2513. This airspace is also used by UAVs operating at Camp Roberts, but currently requires a COA to travel between. A COA was granted in 2008 to allow certain UAVs to travel between Camp Roberts and Fort Hunter Liggett, but it expired in 2009. However, there is a current COA associated the UAV platoon at Camp Roberts. The COA included certain restrictions and conditions that UAV flights must abide by.

In addition to the constraints of only being able to operate within the restricted airspace, there are several "no fly" areas on Camp Roberts within the restricted airspace where UAV flight cannot occur. These areas include the Impact Area, over the SATCOM facility, an identified eagle nest, and the ammo supply point facility.

Land and Air Space Strategies

The following strategies are recommended to address the issues identified in this section.

Table 4.20-1. Land and Air Space Strategies

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
LAS-1	**Expand the Restricted Air Space (RAS) (R-2504) to Enable Other UAV Organizations to Use the McMillan Airfield**																	
LAS-1	**A**	**Expand R-2504** To provide flexibility in training and testing, investigate the need to expand R-2504 to: ■ match the boundaries of Camp Roberts or other operational geography, and ■ evaluate modifying the ceiling to match R-2513.	Camp Roberts	2017									■					
LAS-1	**B**	**Support Similar Compatibility Studies for the Regional Area.** Several military installations and uses are located in the region surrounding Camp Roberts and have operations and training that occur on or near Camp Roberts. The Policy Committee supports efforts to prepare JLUSs for Fort Hunter Liggett and Naval Support Activity Monterey to assess and address compatibility for their installations and the region.	General	On-going			☐	☐					☐					■

Please see the next page.

4.21 Roadway Capacity

Key Terms

Convoy. A convoy is an assembly (3 to 10+) of military vehicles traveling to and from a military installation to conduct military training exercises.

Roadway Capacity. Roadway capacity refers to the ability of existing freeways, highway, arterials and other local roads to provide adequate mobility and access among military installations and their surrounding communities.

Strategic Highway Network Corridor. Strategic Highway Network Corridor refers to a system of public highways and subsequent arterial roadways that provide for the mobility of the military to provide access, continuity of operations, and emergency services both during war and peace time. These roadways provide for the rapid mobilization of troops during times of war or civil unrest.

Technical Background

As urban development expands into rural areas, roads once used primarily to provide access for agricultural uses and limited local traffic begin to function more as urban major arterial roadways. These once rural roads often become the main transportation corridors for all traffic from residential to commercial trucking, including access to military installations. As transportation systems grow and provide more capacity, these facilities induce and encourage growth as rural areas become more accessible.

Camp Roberts is a Training Facility, thus convoy operations occur frequently during the training season (May – October). Typically, National Guard units train on weekends; however, training does occur weekly throughout the year (approximately 47-50 weeks annually). Camp Roberts also serves as training grounds for other military branches as well as for law enforcement agencies. In order to prepare for and execute military mission readiness, a component of the troop's training involves transportation of equipment and troops to and from Camp Roberts through the use of convoys across state highways and a Tank Trail from Fort Hunter Liggett.

The military convoys are coordinated through California National Guard Headquarters Transportation Division, CALTRANS, and Camp Roberts. A small to medium convoy can range from three to 10 vehicles. Convoys of this size access the base through the Main Gate at Camp Roberts. In order to reduce roadway congestion at the main gate, larger convoys of ten or more vehicles are directed to use Gate Three. Generally, convoy vehicles vary in size and types that range from 1-1/4 to 5-ton vehicles to 10- and 20-ton tractor trailer combinations. The weight of the vehicles may cause an unplanned need for the maintenance of specific roadways depending on convoy frequency, weather conditions, and roadway composition. Having safe, dependable and efficient roadway systems, are not only important to Camp Roberts to fulfill its mission, but more importantly, it is essential for the demands of interstate commerce and safety of the local communities.

A common measurement used by traffic engineers to determine the effectiveness of a traffic system is a grading system called Level of Service (LOS) which assigns a letter grade from A to F based upon traffic flow and safety characteristics.

Table 4.21-1. Level of Service for Roadways

LOS		Definition
ACCEPTABLE	A	Represents a free-flow operation. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.
	B	Represents reasonably free-flow operation. Ability to maneuver within the traffic stream is slightly restricted.
	C	Represents a traffic flow with speeds near or at free-flow speed of the freeway. There is noticeable restricted ability to maneuver within the stream of traffic.
	D	Speeds begin to decline with increased density. Ability to maneuver within the traffic stream is noticeably limited.
UNACCEPTABLE	E	Operation is at capacity. Vehicles are closely spaced within the traffic stream and there are no useable gaps to maneuver.
	F	A breakdown of vehicle flow is present. This condition exists within the queues forming behind the breakdown points.

Compatibility Assessment

Issue RC-1	**Convoy Operations.** Convoy operations to and from Camp Roberts are managed at the state level, but may pose issues relative to highway safety on State Highway 46 and U.S. Highway 101 and general conflicts with civilian traffic.

During the JLUS process, local and regional transportation entities brought the issue of convoy operations and coordination. It was determined through the evaluation process that California National Guard Headquarters Transportation Division, Camp Roberts, and CALTRANS were in communication with each entity to organize the convoys. Often, local jurisdictions only learned of the convoy after the fact through complaints from the general public.

The primary convoy route for road surface vehicles is from State Route 46 to U.S. 101 then to Camp Roberts Main Gate or Gate Three. Access on-and off-installation is limited to those two gates for convoys traveling on U.S. Highway 101 and State Route 46. In addition, the main access gate to Camp Roberts along U.S. Highway 101 does not provide a stacking / queuing area for waiting vehicles to pass security inspection. Therefore, vehicles must stop in the travel lane causing traffic to back-up and congestion.

State Route 46 East – Urban Corridor Segment 2 is a five mile portion of State Route 46 beginning at the North Junction Route 101 to Airport Road. This portion of U.S. 46 is a divided expressway with two lanes in each direction. This segment of road has an Annual Average Daily Traffic count of 25,300 that is projected to increase to 41,000 in 2035 along with decreased level corresponding LOS from C to F. Thus with just the increase in population over the years, the aforementioned portion of State Route 46 will become a roadway providing a level of service that is unacceptable for continued growth. Reducing the LOS from a C to an F, could potentially cause delays in convoy operations if not adequately and appropriately

managed. Also, maintenance costs should be considered and potentially inflated proportionately with the projected frequency of convoys accounting for the type of vehicle that will be traveling the road.

The segment of U.S. 101 Highway from Junction Route 46 north to the Monterey County Line was deemed to be LOS of A. However, the 2008 Annual Average Daily Trips of 19,400 are projected to grow to 29,000 in 2035 and have a corresponding LOS of E. This loss of service coupled with separated grade crossing and an inadequate bridge clearance will continue to exacerbate an already worsening roadway capacity issue if not managed and planned appropriately with the necessary agencies.

Source: 2010, Regional Transportation Plan – Preliminary Sustainable Communities Strategy. San Luis Obispo Council of Governments.

A possible benefit to both the local and regional transportation entities and Camp Roberts, provided the National Guard training mission is not compromised, for large convoys, those identified with ten or more vehicles, CNG HQ Transportation Division and Camp Roberts could plan dispatching convoys such to avoid peak demand time; create greater separation distance between vehicles to allow for passing; or, dispatch large convoys into smaller units of three to five vehicles. Enhanced communications could aid to provide advanced notification to local concerns.

California Department of Transportation

The California Department of Transportation (CALTRANS) is the state department responsible for providing safe and efficient transportation systems within the State of California. As referenced in Section 4.6 Infrastructure Extensions, CALTRANS is organized into 12 districts that maintains, operates, and manages various programs (i.e. Aeronautics, Highway and Mass Transportation, and Planning) for improving mobility and access in the State of California.

Compatibility Factor Six, Infrastructure Extensions, discussed various road improvements that are taking place in the study area that could potentially enhance transportation mobility to and from Camp Roberts. Development and improvement projects on U.S. Highway 101 and State Route 46 include the major routes that are used by military transport vehicles.

Memorandum of Understanding for the Vitality of the U.S. Highway 101 Corridor

The memorandum of understanding (MOU) to create the partnership to ensure the vitality of the U.S. Highway 101 Corridor was formed among the affected agencies including the Transportation Agency for Monterey County (TAMC) and the San Luis Obispo Council of Governments (SLOCOG). This MOU provides for the interagency coordination and advocacy to promote enhancements in U.S. Highway 101 and to preserve its value to the California Central Coast region. U.S. Highway 101 is a designated High Emphasis Focus Route in the State's Interregional Transportation Plan and a designated Strategic Highway Network Corridor (SHNC) by the DOD and Department of Transportation (DOT). With this designation, the DOD and DOT monitor these strategic assets to ensure their maintenance and viability for future convoy missions and training exercises. The DOD and DOTs collaborate to address the maintenance needs of these assets when criticality and budgets allow for repair and maintenance.

Issue RC-2	**Ongoing Maintenance of Alternative / Long-Term Road for Sustainability and Emergency Situations.** State Routes 41 and 46 and U.S. Highway 101 are the only major roadways and highway in the Study Area. It is necessary in compatibility planning to maintain and expand (to the extent possible) the viable roadways in the JLUS Study Area.

California Interregional Transportation Plan

The California Interregional Transportation Plan (ITP) is a strategic plan to implement the department's goals of improving mobility. The CALTRANS Interregional Transportation Strategic Plan provides a strategic vision for the major routes within the State, with

U.S. Highway 101, State Routes 41 and 46 included as major focus areas. After review of the ITP that was released in December 2012, there are no planned or proposed projects within the Camp Roberts JLUS study area for these roadways. The purpose of mentioning this plan in this JLUS process is to continue to encourage improvements along U.S. Highway 101 and State Routes 41 and 46 and promote interagency communication and coordination with Camp Roberts in any planning projects that are proposed for in and around the Camp Roberts JLUS study area.

Issue RC-3	**Highway Access Issues (Number of Access Points and Grade Separation on Highway).** Access on- and off-installation is limited to a single gate which enters/exits directly onto U.S. Highway 101 at a grade separated intersection with a bridge. Control of access to the highway as well as other physical improvements would enhance safety. One primary access with security is required; however, there are other access points that can be opened up as needed.

Camp Roberts has 27 gates with varying access points. Civilian and visitor access is located at the Main Gate along U.S. Highway 101, other gates are used to minimize traffic congestion and allow for smooth traffic flow on and off the installation. As referenced earlier in this section, military convoys use both the Main Gate and Gate Three when accessing the installation from U.S. Highway 101. Larger convoys (10+ military vehicles) are directed to use Gate Three to minimize traffic congestion at the Main Gate. Convoys that travel from Fort Hunter-Liggett by way of the Tank Trail to Camp Roberts are directed to Gate 14 on the west side of the installation. This allows convoys to access Camp Roberts while reducing military operational impacts on the community.

In addition, the Satellite Communications Command (SATCOM) military and civilian personnel (approximately 200 personnel) are directed to use Gate 10, located off San Marcos Road, to increase unit efficiencies by reducing travel time and avoiding the Main Gate access point.

Commercial deliveries usually require more time for security checks which result in longer wait times for Camp Roberts' personnel and visitors at the Main Gate. To alleviate congestion and queuing issues, Camp Roberts may consider directing commercial deliveries to another gate. This would alleviate congestion and reduce wait times at the Main Access Gate for military personnel and visitors. While commercial deliveries are minimal, this procedural modification will assist during the times of commercial deliveries to allow for improved traffic flow through the Main Gate and minimize stacking along U.S. Highway 101.

Issue RC-4	**Increased Ingress and Egress onto Installation Could Require Infrastructure Upgrades.** The future mission of Camp Roberts may be expanded upon into the Western Regional Training Center for several federal, state, and local agencies. If this happens, the infrastructure for the main gate and other gates that allow entry onto the base will require upgrades to allow for additional capacity. Such upgrades would include: ■ Main Gate ■ 10th Street Gate ■ U.S. Highway 101 Bridge to Main Gate (Potentially) – widening and height

During the JLUS process, the issue associated with increased traffic going on and off Camp Roberts was a concern regarding existing infrastructure capacity. As previously discussed in Issue RC-3, there are areas for improvement when accessing the installation by

redirecting certain types of traffic to other gates, i.e., commercial traffic. Camp Roberts uses Gates Three and 10 for other missions; this reduces the vehicle footprint at the Main Gate.

Relative to specific infrastructure upgrades, CALTRANS, Camp Roberts, and the regional and local transportation planning agencies should coordinate on proposed improvements in the Camp Roberts JLUS study area. Improvements that would be beneficial to both community mobility and the Camp Roberts mission include adding queuing lanes at U.S. Highway 101 intersection at the Camp Roberts Main Gate (both north- and southbound) and assessing the feasibility of raising the height and widening the bridge at U.S. Highway 101 at the Main Gate.

No further assessment is needed for this issue under this compatibility factor. The interagency coordination component of this issue is addressed in Section 4.1 Interagency Coordination and Communication.

Roadway Capacity Strategies

The following strategies are recommended to address the issues identified in this section.

Table 4.21-2. Roadway Capacity Strategies

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
RC-1	**Convoy Operations**																	
RC-1	**A**	**Highway Notification Signage** Consider placing intelligent signage along the convoy route near Camp Roberts to alert the traveling public on Highway 101 of planned convoy operations or those in progress, identifying the anticipated times of operations and potential delays, if any.	General	2015								■	■					
RC-1	**B**	**Media Notification of Large Convoy Operations** Notify media outlets and the public in advance of large planned convoy operations, identifying the route, anticipated times of operations and delay periods.	General	On-going									■					
RC-1	**C**	**Convoy Coordination** Work with CALTRANS to develop other strategies for congestion management with respect to the movement of large convoys.	General	On-going								■	■					
RC-2	**Ongoing Maintenance of Alternative / Long-Term Road for Sustainability and Emergency Situations**																	
RC-2	**A**	**Coordination on Access Points** Work with CALTRANS to ensure adequate queuing space and traffic controls are provided at actively used entry gates into Camp Roberts.	Land	On-going								■	■					

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
RC-2	**B**	**Long-Range Planning** Work with CALTRANS and other agencies to identify alternative routes, special maintenance requirements, capacity improvements and operational improvements for adoption into the long range regional transportation plan. Identify funding sources including State of California National Guard and DOD for capacity and other improvements.	General	On-going								■	■					
RC-2	**C**	**Emergency Access Planning** Consider coordinating with CALTRANS on the revision of emergency response plans concerning access.	Land	2017								■	■					
RC-2	**D**	**New Access Points / Increased Use of Access Points** In developing options for new, or substantial increased use of existing, secondary access points, Camp Roberts should work with CALTRANS in the location, design, and potential mitigation associated with use of such facilities. Early coordination with impacted communities should also be considered.	Land	2017								■	■					
RC-3	**Highway Access Issues (Number of Access Points and Grade Separation on Highway**																	
--	--	**Highway Access** See Strategies RC-2.A, B, and C.	General	On-going								■	■					
RC-4	**Increased Ingress and Egress onto Installation Could Require Infrastructure Upgrades**																	
RC-4	**A**	**Regional Transportation Improvements** Coordinate with the regional transportation planning organizations and CALTRANS to program needed improvements on Highway 101 associated with access to the installation.	Land	2017								■	■					

Issue	ID	JLUS Strategy	CRIA	Timing	Local / Regional						State				Federal			
					City of Paso Robles	Heritage Ranch CSD	Monterey County	San Luis Obispo County	San Miguel CSD	SLOCOG	CAL FIRE	CALTRANS	CNG / Camp Roberts	CDFW	BLM	USFWS	Tribal Governments	Other
RC-4	**B**	**Future Access Planning** If queuing has potential to back up onto Highway 101 in the future (not currently an issue), develop alternative strategies that can reduce traffic at peak hours, such as: ■ Allowing personnel access while controlling civilian and visitor access, ■ Staggered work reporting times, ■ Alternative gate access points for specific types of traffic, ■ Main gate design improvements, and ■ Right-of-way acquisition for intersection improvements.	Land	2017								■	■					

Please see the next page.

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