

ENVIRONMENTAL INITIAL STUDY & MITIGATED NEGATIVE DECLARATION

Zone Amendment 13-007
(Jones)

March 2, 2023

ENVIRONMENTAL INITIAL STUDY &
MITIGATED NEGATIVE DECLARATION
WITH
References and Documentation

Prepared by
SHASTA COUNTY DEPARTMENT OF RESOURCE MANAGEMENT
PLANNING DIVISION
1855 Placer Street, Suite 103
Redding, California 96001

**SHASTA COUNTY
ENVIRONMENTAL CHECKLIST FORM
INITIAL STUDY & MITIGATED NEGATIVE DECLARATION**

- 1. Project Title:**
Zone Amendment 13-007 (Jones)
- 2. Lead agency name and address:**
Shasta County Department of Resource Management, Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001-1759
- 3. Contact Person and Phone Number:**
David Schlegel, AICP, Senior Planner, (530) 225-5532
- 4. Project Location:**
The 151.78-acre project site is located at the northeast end of Leopard Drive, approximately 0.5-miles north of the Dersch Road and Leopard Drive intersection, Anderson, CA 96007 (Assessor's Parcel Number 060-010-016).
- 5. Applicant Name and Address:**
Patrick Jones
1600 E. Cypress Ave. #2
Redding, CA 96002
- 6. General Plan Designation:**
Rural Residential B (RB)
- 7. Zoning:**
Limited-Residential combined with Mobile Home and Building Site 40-Acre Minimum Lot Area (R-L-T-BA-40)
- 8. Description of Project:**
The request is to change the zoning of the project site from the Limited-Residential combined with Mobile Home and Building Site 40-Acre Minimum Lot Area (R-L-T-BA-40) zone district to the Commercial Recreation (C-R) zone district and adopt a conceptual development plan for an outdoor gun range complex and gun club, including long-rifle firing lines and handgun bays with berms to serve as backstops, clay target trap and skeet shooting ranges, a 4,975-square-foot primary clubhouse with a 3,272-square-foot attached covered patio area and a 1,025-square-foot attached caretaker's residence, and a 699-square-foot law enforcement clubhouse with a 270-square-foot attached covered patio. Power for the facility would be provided primarily by roof-mounted solar arrays with diesel generators housed in generator buildings to augment energy needs. The two clubhouses and the caretaker's residence would be served with on-site wastewater treatment systems, and potable water and fire suppression water from an on-site well(s). The range would be open 5 days a week from 8:00 a.m. until dark but in no case later than 8:00 p.m. Large events would be held intermittently with the largest event attracting up to 500 people. Other shooting sports events would typically attract between 30 and 200 people. Large shooting sports events would be held intermittently and may include RV overnight dry camping in a designated parking area. Onsite activity would be managed for environmental quality and safety. Certain long-range rifle targets would only be in use for events and all ranges would be managed by a Range Officer for safety during operation. The site would also be managed to prevent the spread of wildfire based on weather conditions by closing during red flag warning days and maintaining fuels and vegetation in accordance with recommendations and requirements for defensible space. Debris, including bullet shells, fragment, and casings, clay targets, etc., would be regularly collected and properly disposed.

9. Surrounding Land Uses and Setting:

The project site is undeveloped and is currently being used for livestock winter pasture. The property slopes gently in a predominantly eastern direction with the slope increasing substantially along the bank of Bear Creek. The drainage features within the project site include ephemeral streams, vernal pools and vernal swales. These features direct runoff to the southeastern portion of the property before discharging to Bear Creek. Terrain in the vicinity is relatively flat with some gently rolling hills in the broader areas surrounding the project site. The property and neighboring vacant lands to the north and west have historically been used for cattle grazing. Residences and associated residential accessory buildings have been developed on adjacent large rural lots to the north, northwest, and south. Other residential uses in the vicinity include developed parcels to the southeast on Dersch Road and Hyrax Road. Vegetation on site and in the surrounding area is predominantly upland grasslands with the eastern areas adjacent to Bear Creek being surrounded by Blue Oak Woodlands, sometimes mixed with Foothill Pine Woodlands, and riparian vegetation along Bear Creek.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.):

Shasta County Department of Public Works
Regional Water Quality Control Board
United States Army Corps of Engineers
California Department of Fish and Wildlife
Shasta County Fire Department
California Department of Housing and Community Development

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

No California Native American Tribe has notified the County of Shasta of a traditional and cultural affiliation with the project area and/or has requested consultation pursuant to Public Resources Code Section 21080.3.1.

NOTE: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21080.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist on the following pages.

	Aesthetics		Agricultural Resources		Air Quality
	Biological Resources		Cultural Resources		Energy
	Geology / Soils		Greenhouse Gas Emissions		Hazards & Hazardous
	Hydrology / Water Quality		Land Use / Planning		Mineral Resources
	Noise		Population / Housing		Public Services
	Recreation		Transportation		Tribal Cultural Resources
	Utilities / Service Systems		Wildfire		Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)

On the basis of the initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

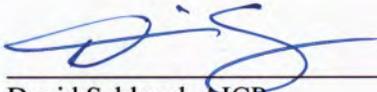
I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

I find that although the proposed project could have a significant effect on the environment because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Copies of the Initial Study and related materials and documentation may be obtained at the Planning Division of the Department of Resource Management, 1855 Placer Street, Suite 103, Redding, CA 96001. Contact David Schlegel, Senior Planner at (530) 225-5532.



David Schlegel, AICP
Senior Planner



Date



Paul A. Hellman
Director of Resource Management



Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

- 1) A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parenthesis following each question. A “No Impact” answer is adequately supported if all the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less-than-significant with mitigation, or less-than-significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more, “Potentially Significant Impact” entries when the determination is made, an EIR is required.
- 4) “Negative Declaration: Less-than-significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less-than-significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less-than-significant level (mitigation measures from Section XVIII, “Earlier Analyses,” may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or Negative Declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures: For effects that are “Less-than-significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g. General Plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify the following:
 - a) The significance criteria or threshold, if any, used to evaluate each question; and
 - b) The mitigation measure identified, if any, to reduce the impact to less-than-significant.

I. AESTHETICS: Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?				✓
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?				✓
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			✓	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			✓	

Discussion: Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a-b) The project would not substantially damage any scenic resource and would not have an adverse effect on any scenic vista. There is no view of the project site which includes a scenic vista. The project site is in the Millville Plains area at the northeast end of Leopard Drive, a private road, of which, the portion owned by the applicant would be dedicated to public use upon completion of improvements. Dersch Road, the nearest public road, is located approximately 0.5 miles south of the project site and at a significantly lower elevation. The next nearest public road is Millville Plains Road, located approximately 2 miles west from the project site. Due to the distance from these public vantage points and undulating topography in the form of low-lying hills, public views of the site and its surroundings are limited or substantially obstructed. The project site is not located on a designated scenic corridor nor is it near, or visible from, a State scenic highway.
- c) The project surroundings include large vacant lots to the west and east. The large lots to the north, south and southeast are developed with single-family residences, residential accessory buildings, and agricultural buildings. The proposed primary clubhouse with attached covered patio area and attached caretaker's residence, law enforcement clubhouse with attached covered patio, and generator buildings would be consistent with the existing visual character and quality of the site and its surroundings in terms of building size, number, and architecture. The proposed gravel and asphalt parking area, in the southeast corner of the property would be visible from neighboring properties. Landscaping and trees would be provided along the perimeter of this area which would serve as a visual buffer and aesthetic improvement. The project also proposes numerous bullet backstop berms to be constructed up to twenty feet in height with a 1.5:1 slope on one side and a 2:1 slope on the other. The project site is relatively flat. However, topography in the adjacent vicinity consists of varying elevations of hills and overall undulating topography. The bullet backstop berms would include native grass vegetation on all sides that are not intended for bullet trapping and would otherwise be relatively consistent with the views of the landscape in the area. Furthermore, the project site has been designed to minimize encroachment into existing ephemeral drainages and wetland features on site. Because the improvements proposed would primarily blend in with the natural environment and existing surrounding land uses and topography, the impacts on the existing visual character or quality of the site and its surroundings are not considered to be significant.
- d) The project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. Glare would be eliminated by the use of non-reflective materials for construction of the project. The project lighting plan will be required to meet Shasta County Zoning Plan Section 17.84.040 which requires light to be designed and located so as to confine direct lighting to the premises and to not constitute a hazard to vehicular traffic. Exterior lighting fixtures shall not shine upon or illuminate directly on any surface other than the area required to be lighted. A lighting plan and cut sheets for the proposed lighting fixtures and bulbs shall be submitted with the building permit application(s) and approved by the Shasta County Planning Division prior to issuance of the building permit(s). Exterior lighting for dawn-to-dusk time periods would be affixed to exterior man-doors on the caretaker's residence and would be limited to the use of motion-sensing fixtures to illuminate exterior areas of the club houses. Based on the requirements for direct lighting, the exterior lighting proposed, and the limited time that exterior lighting would be operable impacts from new sources of lighting are considered to be less-than-significant.

Mitigation/Monitoring: None proposed.

II. <u>AGRICULTURE AND FORESTRY RESOURCES:</u> In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				✓
b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract?				✓
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				✓
d) Result in the loss of forest land or conversion of forest land to non-forest use?				✓
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				✓

Discussion: Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The subject property is recognized as grazing land and is not identified as Prime Farmland, Unique Farmland, or Statewide Importance on the map titled Shasta County Important Farmland 2016.
- b) Agricultural uses are permitted on this property and the surrounding properties. While agricultural use is permissible on properties designated RB, the Shasta County General Plan does not recognize the project site and vicinity as agricultural lands capable of supporting full time grazing or crop operations or crop production by part-time or second income operators. The property is not in a Williamson Act Contract and neither are the adjacent properties. The closest properties in a Williamson Act Contract are approximately 1.4 miles to the southwest on the south side of Deschutes Road. Use of the project site for an outdoor gun range complex and gun club would not conflict with existing zoning for agricultural use or a Williamson Act Contract.
- c) The project would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)). The project site is not forest land, timberland or zone Timberland Production.
- d) The project would not result in the loss of forest land or conversion of forest land to non-forest use. The project site is not forest land.

- e) The project would not result in any conflicts with existing or adjacent agricultural operations. Seasonal grazing occurs throughout the project vicinity and would continue, at times, on the subject property. Seasonal grazing operations could continue in the project vicinity with little to no change. The project would not convert farmland as the site is not located in an area of significant agricultural soils.

Mitigation/Monitoring: None proposed.

III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?			✓	
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard?		✓		
c) Expose sensitive receptors to substantial pollutant concentrations?			✓	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			✓	

Discussion: Based on related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a-b) The project would not conflict with or obstruct implementation of the Northern Sacramento Valley Planning Area (NSVPA) 2018 Triennial Air Quality Attainment Plan for the Northern Sacramento Valley Air Basin as adopted by the Shasta County Air Quality Management District (SCAQMD), or any other applicable air quality plan. The NSVPA Air Quality Attainment Plan designates Shasta County as an attainment area for all federal standards, yet as a nonattainment area with respect to the ozone California ambient air quality standards. Ozone is a secondary pollutant, meaning it is not directly emitted. It is formed when volatile organic compounds (VOCs) or reactive organic gases (ROGs) and nitric oxides (NOx) undergo photochemical reactions that occur only in the presence of sunlight. NOx is emitted from combustion sources such as cars, trucks and buses, power plants, and off-road equipment. Construction equipment and activities associated with the development improvements would generate air contaminants, including oxides of nitrogen (NOx), reactive organic gases (ROG), carbon dioxide (CO2) and particulate matter (PM₁₀), in the form of engine exhaust and fugitive dust.

The project would include two stationary sources of air contaminants in the form of diesel-powered generators. The generators are proposed to augment the primary source of power which would be provided by roof-mounted photovoltaic solar systems for the clubhouse, law enforcement clubhouse and caretaker's residence. Because the proposed photovoltaic solar arrays would be designed to account for the full amount of energy consumption for each building, the diesel-powered generators would only be used in times that energy consumption exceeds the projected need, for backup purposes or outside of daylight hours. Therefore, emissions from these sources would be minimized.

During construction the operation of gas- and diesel-powered off-road equipment would be the primary sources of air contaminants, including engine emissions and fugitive dust. The bulk of air contaminants from these sources would be emitted during the site preparation phase of the construction project from activities such as mass grading and excavation for utilities, parking areas and driveways, the on-site wastewater treatment system, stormwater drainages and culverts, bullet backstop mounds, and building footings.

Other potential sources of air contaminants during construction would include application of architectural coatings and the use of adhesives and sealants. The *Air Quality & GHG Emissions Impact Assessment*, Prepared by Ambient Air Quality & Noise Consulting, March 2016, concludes that, construction-generated emissions of NOx would reach a maximum daily level of 13.9 and PM₁₀ would reach a maximum daily level of 1.7. The SCQAMD's established air quality significance thresholds are 25 lbs/day for NOx, 80 lbs/day for PM₁₀, and 25 lbs/day for ROG. While the maximum daily levels of NOx and PM₁₀ are below the adopted thresholds, the project would result in an increase of approximately 63.9 lbs/day of ROG during construction. Emissions of ROG would exceed 25lbs/day primarily due to evaporative emissions during the architectural coating application phase of construction.

The exceedance of thresholds of significance for ROG would be reduced to a level less-than-significant with the incorporation of mitigation measure III.b.1 which would require exterior and interior architectural paints used during the construction of the proposed clubhouse and associated structures to use interior and exterior architectural paints that would contain a limited amount of compounds that would contribute to this emission type.

Overall, the emissions emitted during construction would be limited and temporary. In addition, the Shasta County General Plan requires the application of Standard Mitigation Measures and Best Available Mitigation Measures to all discretionary land use applications, as recommended by the SCAQMD, to mitigate both direct and indirect emissions of non-attainment pollutants, and all activities at the site would be subject to applicable SCAQMD rules governing air quality. Application of this requirement, mitigation measure III.b.1 and compliance with SCAQMD rules in combination with the limited scope of improvements and limited operational hours will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard and would not conflict with or obstruct implementation of the NSVPA Air Quality Attainment Plan (2018) as adopted by Shasta County, or any other applicable air quality plan.

c-d) Residential uses exist in the vicinity of the project site, but not in great number. The closest residence is located approximately 600 feet south of the property and more than 1,800 feet from where the asphalt concrete parking area would be constructed. Implementation of the proposed project includes diesel generators which would be housed in buildings and emit odor from exhaust fumes. Such odor may be objectionable to some people. Construction of the project would involve a variety of gasoline or diesel-powered equipment that would emit exhaust fumes as well. In addition, pavement coatings used during project construction would also emit temporary odors. However, construction-generated emissions would occur intermittently throughout the workday and would dissipate rapidly within increasing distance from the source. Furthermore, the proposed diesel generators would not be considered to emit substantial pollution concentrations or odors because they would be used to augment the primary source of power for the facility as described above. Sensitive receptors in the project vicinity are few and are located a significant distance from the diesel generator buildings and where construction activities will occur. Therefore, the project is not expected to expose sensitive receptors to substantial pollution concentrations or result in objectionable odors that would adversely impact a substantial number of people. Therefore, such impacts would be considered less-than-significant.

Mitigation/Monitoring: With the mitigation measures being proposed, the impacts will be less-than-significant:

III.b.1: To mitigate emissions of Reactive Organic Gases (ROG) exceeding Shasta County maximum thresholds of significance, the applicant shall select exterior and interior architectural paints for use during construction of the proposed clubhouses and generator buildings that does not exceed a Volatile Organic Compounds (VOC) content of 50 grams per liter. To the extent available, the use of prefinished construction materials is recommended. The applicant shall provide proof of paint selection or pre-finished materials meeting this requirement to the Shasta County Planning Division prior to issuance of the building permit.

IV. <u>BIOLOGICAL RESOURCES:</u> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Have a substantial effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		✓		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			✓	
c) Have a substantial adverse effect on state or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			✓	
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of				✓

IV. <u>BIOLOGICAL RESOURCES:</u> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
native wildlife nursery sites?				
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				✓
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community, Conservation Plan, or other approved local, regional, or State habitat conservation plan?				✓

Discussion: Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

a) A review of the 2022 California Natural Diversity Database (CNDDDB) inventory found no species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service have been known to occur on the project site. *Paronychia Ahartii* (Ahart’s Paronychia) has been identified on property within roughly a mile of the project boundaries. A variety of wetlands including vernal pools, vernal pool complexes, vernal swales, and stream and riparian areas along with prairie grasslands exist in the project vicinity. Wetlands feature such as these may provide habitat for sensitive flora and fauna species, including such species as Ahart’s Paronychia. Because of the potential for the project to contain sensitive flora and fauna species, and because the project design originally proposed to significantly alter the drainage pattern, a biological assessment was requested to survey the project site for sensitive species and determine impacts, if any, on those species or their habitat. The *High Plains Shooting Center Project Biological Review* (Biological Review) was prepared by Wildland Resource Managers in January 2016 for the project. The Biological Review included multiple site surveys along with assessment of readily available, soils, biological and botanical information for the area.

According to the Biological Review there were no sensitive species resources present in the upland annual grassland features of the project. However, the vernal features and habitat present on the project site could support 20 species of either flora or fauna that are listed as either rare, threatened, endangered or a species of concern listed in the CNDDDB or California Native Plant Society list. The majority of these species occur in wetlands and vernal pools, including the *Branchinecta Lynchi* (vernal fairy shrimp), *Linderiella Occidentalis* (California linderella), *Sagittaria Sanfordii* (Sanford’s arrowhead) and the *Spea Hammondii* (Western spadefoot toad). Due to the discovery of significant habitat on the project site in the form of vernal swales, vernal pools, wetlands, ephemeral drainages and intermittent streams the project was revised and the bullet backstop footprints were significantly scaled back and re-oriented. As a result, the project is designed to protect and entirely avoid nearly all designated wetland features that could serve as habitat for listed species (see Section c for more discussion on wetlands).

An informal consultation letter along with the Biological Review and follow-up information was sent to the California Department of Fish and Wildlife (CDFW) prior to preparation of the initial study. CDFW commented on the project to express concern regarding potential impacts to the Western spadefoot toad which is listed in the CNDDDB as a species of special concern. However, because the project is designed to ensure that no wetland areas would be altered and to direct drainage from bullet backstop traps away from wetlands, and since operational hours would not overlap with times which the toads typically emerge from burrows, CDFW did not recommend surveys for the presence of Western spadefoot toad.

Noise from the project can have an impact on biologically sensitive species. Of the species listed as possibly occurring on the project site, the western spadefoot toad and four species of bats could be impacted by noise from the project. *The High Plains Shooting Center: Response to the Shasta County Planning Department’s Request of May 11, 2017 for Additional Information* (Response to Additional Information) prepared by Wildland Resource Managers in June of 2017 describes impacts to wildlife from noise. Noise impacts on wildlife is a very complicated issue which must take into account species behavior, types of noise, duration of sound, distance from source, frequency, time of day and weather. Generally, noise impacts on bat species can be linked to reduced foraging activity. However, the project will not be in operation during foraging hours with noise sources during that time being limited to those produced by a single-caretaker’s residence and intermittent overnight RV camping on the far west side of the property. These noise sources are proposed to be located roughly a half-mile away from the nearest roosting site and adjacent foraging areas. Any bat species which may occur on site would forage during the evening when the gun range complex is not operational. According to most information related to impacts from noise on Western spadefoot toad, low-frequency and ground vibration noise sources (typically from nearby roads/vehicular traffic), cause the toads to come out of their burrows – which can

be very detrimental to their lifecycle. However, road and vehicular access to the site is limited and would not be located in a majority of the habitat that Western spadefoot toad could occupy. Vehicular access would be provided via crossings over four ephemeral drainages in the southeast portion of the property and along the western property boundary. No other vehicular access would directly impact wetland features which could serve as habitat for Western spadefoot toad. Based on the project design, operational hours as well as conclusions in the Response to Additional Information which found that the earthen berms and incorporation of noise barriers as part of Mitigation Measure XIII.a.1 would significantly reduce noise from gun firing, impacts to wildlife from noise are considered to be less-than-significant.

Similar to noise, light pollution can have an impact on wildlife behavior and habitat. However, the only exterior lighting proposed for the project would be for security purposes around the direct vicinity of the clubhouses, caretaker's residence and generator shed buildings. The primary clubhouse with the attached caretaker's residence and nearby generator shed are all located over 600-feet away from vernal swales or pools which would serve as Western spadefoot toad habitat and all of the existing trees where roosting of bats or nesting of birds can take place are on the far east side of the property from these buildings. The law-enforcement clubhouse and associated generator shed is located roughly 200-feet away from a vernal swale and is located centrally-a significant distance from roosting and nesting trees. The shooting sports center would not operate after sundown and does not require additional lighting around the project area. In addition, lighting on exterior of the buildings would be motion-sensor-based and directed downward. Based on the limited lighting sources, the limited time lighting would be activated, their orientation downward and their distance from sensitive species habitat, impacts from new lighting sources on species is considered to be less-than-significant.

The project includes removal of 7 oak trees to accommodate the construction of 500-, 600-, and 1,000-yard bullet backstop berms and line-of-sight for rifle firing on the eastern side of the project. The removal of oaks could potentially have a significant impact on roosting bats or nesting migratory birds due to the presence of cavities, and defoliating bark on many of the trees in this area. If the trees are removed during the nesting and roosting season or when nesting and roosting has been initiated the impact would be significant on raptors and migratory birds as well as bat species which were identified in the Biological Report. Mitigation Measures IV.a.1 and IV.a.2 are recommended to ensure that vegetation removal and ground disturbance occurs outside of the nesting and roosting seasons, or, if not, that surveys are conducted prior to vegetation removal or disturbance. With these mitigation measures incorporated into the project, impacts to raptors or migratory birds and bat species would be less-than-significant.

- b) Riparian areas exist on the project site adjacent to Bear Creek. These riparian areas intermix with upland blue oak woodlands and foothill pines to cover roughly 21-acres along the eastern side of the 151.78-acre property. Approximately, 17-acres is comprised of blue oak woodland or blue oak and foothill pine woodland areas along the plateau and nearest the banks of Bear Creek. The project does not propose development in or near the riparian habitat area but would remove roughly 7 oak trees in the blue oak woodland/grassland areas near the western bank of Bear Creek to accommodate 500-, 600- and 1,000-yard bullet backstop berms. The removal of oaks could potentially have a significant impact on roosting bats or nesting migratory birds due to the presence of cavities, and defoliating bark on many of the trees in this area (see Section IV(a) for discussion related to bird and bat species). However, the removal of 7 trees at the outer edge/grassland area of a 17-acre oak woodland and foothill pine area would amount to roughly 2% of tree canopy loss in that area and would be considered a less-than-significant impact on the blue oak woodland habitat and riparian habitat.
- c) Based on the *High Plains Shooting Center Wetlands Delineation*, prepared by Wildland Resource Managers in January of 2017 and a *Preliminary Jurisdictional Determination* issued by the United States Army Corps of Engineers (USACE), the 151.78-acre project site contains approximately 11.75-acres of vernal swales, 0.428 acres of vernal pools, and 2.221 acres of intermittent and ephemeral streams. In addition, Bear Creek runs through the project area. It, along with the adjacent riparian and woodland area, covers roughly 21 acres along the eastern portion of the property (see discussion on riparian habitat in Section IV(b)). The riparian area and the banks of Bear Creek will not be altered. In addition, the project footprint has been designed to avoid alteration of every identified wetland area. No dredge, fill, or replacement of these wetland areas is proposed. Bottomless arched culverts and pedestrian bridges which would not impede the hydrologic function of the property are proposed for vehicle and pedestrian crossings. In addition, bullet backstop berms would be designed to ensure runoff is directed away from wetlands, other areas with temporarily disturbed by construction of the project would be reseeded utilizing 2-4 inches of topsoil preserved from areas on site which would be permanently improved. An existing road crosses through vernal complexes identified on the site. However, the project applicant does not intend to increase the use of this road in any fashion. In addition, the property is currently used for cattle grazing operations. Vernal swales and other vernal features can be impacted by cattle through trampling and over-grazing. The project would propose to graze cattle only on an as-needed basis to keep for wildland fuel as well as evasive plant management. Firing positions for the 300-, 500- and 600- would be located within a vernal swale on the southeast portion of the project site. These firing positions would cause some disturbance to the vernal swale. The *Environmental Management Plan*, prepared by the applicant for ongoing management of the site includes recurring contaminant recovery from shooting areas. This would include both bullet fragments and spent shells and casings in firing locations. With the incorporation of best management practices into the project and considering the change in baseline conditions from cattle grazing to pedestrian disturbance in a minimal area relative to the overall habitat on site, impacts to wetlands from the project are considered to be less-than significant.

- d) The project is not expected to interfere with any wildlife species, nor impede the use of native wildlife nursery sites. There are no wildlife nurseries present in the vicinity of the project area and no observed wildlife migratory pattern which would span the project site or surrounding area. Bear Creek is listed as a significant creek corridor for salmon spawning habitat and spans the eastern edge of the project site. However, the site’s hydrologic function is designed to remain relatively unchanged, and with regular maintenance of bullet trapping areas and water sampling and monitoring as described in recommended Mitigation Measure X.a.1, the project is not expected to have a significant impact on native or migratory fish in Bear Creek.
- e) The project would not conflict with any ordinances or policies which protect biological resources. There is no ordinance which addresses impacts to biological resources or oak woodlands, and the project is designed in a way which does not involve construction or significant alteration of existing riparian habitat areas adjacent to Bear Creek. The Shasta County Board of Supervisors’ Resolution No. 95-157 provides guidance regarding use and protection of oak trees on a voluntary basis. In addition, grading permits will be required for earthen berm construction and erosion control measures will be enforced.
- f) There are no adopted Habitat Conservation Plan, Natural Community, Conservation Plan, or other approved local, regional, or State habitat conservation plans for the project site or project area. There would not be any conflict with local policies or ordinances protecting biological resources, nor with any habitat conservation plans.

Mitigation/Monitoring: With the mitigation measures being proposed, the impacts will be less-than-significant:

Nesting Birds and/or Raptors

IV.a.1: In order to avoid impacts to nesting migratory birds and/or raptors protected under federal Migratory Bird Treaty Act and California Fish and Game Code Section 3503 and Section 3503.5, including their nests and eggs, one of the following shall be implemented:

- a. Vegetation removal and other ground-disturbance activities associated with construction shall occur between September 1 and January 31 when birds are not nesting; or
- b. If vegetation removal or ground disturbance activities occur during the nesting season (February 1 through August 31), a pre-construction nesting survey shall be conducted by a qualified biologist within 14 days of vegetation removal or construction activities. If an active nest is located during the preconstruction surveys, a non-disturbance buffer shall be established around the nest by a qualified biologist in consultation with the Department of Fish and Wildlife (CDFW). No vegetation removal or construction activities shall occur within this non-disturbance buffer until the young have fledged, as determined through additional monitoring by the qualified biologist. The results of the pre-construction surveys shall be sent electronically to CDFW at R1CEQARedding@wildlife.ca.gov.

Bats

IV.a.2: In order to avoid impacts to bats, the following shall be implemented:

- a. Conduct removal and disturbance of trees outside of the bat maternity season and bat hibernacula (September 1 to October 31).
- b. If removal or disturbance of trees will occur during the bat maternity season, when young are non-volant (March 1 - August 31), or during the bat hibernacula (November 1 - March 1), large trees (those greater than 6 inches in diameter) shall be thoroughly surveyed for cavities, crevices, and/or exfoliated bark that may have high potential to be used by bats within 14 days of tree removal or disturbance. The survey shall be conducted by a qualified biologist or arborist familiar with these features to determine if tree features and habitat elements are present. Trees with features potentially suitable for bat roosting should be clearly marked prior to removal and humane evictions must be conducted by or under the supervision of a biologist with specific experience conducting exclusions. Humane exclusions could consist of a two-day tree removal process whereby the non-habitat trees and brush are removed along with certain tree limbs on the first day and the remainder of the tree on the second day.

<u>V. CULTURAL RESOURCES:</u> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?				✓
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?				✓
c) Disturb any human remains, including those interred outside of formal cemeteries?				✓

Discussion: Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The project would not cause a substantial adverse change in the significance of a historical resource.
- b) The project would not cause a substantial adverse change in the significance of an archaeological resource.
- c) The project site is not on or adjacent to any known cemetery or burial area. Therefore, there is no evidence to suggest that the project would disturb any human remains.

Information about the project was sent to the Northeast Information Center of the California Historical Resources Information System, which reviewed the project and commented that the project area is considered to be highly sensitive for cultural resources.

The project site was surveyed in 2015 for archeological and cultural resources by Trudy Vaughn of Coyote & Fox Enterprises who produced the *Archaeological Reconnaissance for the High Plains Shooting Sports Center* in May of 2015. In addition to a review of archaeological records in and around the project area, a pedestrian survey was conducted over the entire project area. The report identified five isolated artifacts: One core of cryptocrystalline silicate material, one obsidian flake with cortex, one basalt flake with cortex, a piece of heavy-gauge sheet metal with threaded holes considered likely to be historic and one basalt flake. The isolated artifact or feature locations were noted in the survey and occurred within the project site. These cultural resources show evidence of human activity, but they were limited in quantity at each location they were found and thus lacked the criteria under CEQA to be formally recorded as archaeological sites. It was concluded that these isolated artifacts were not considered to be significant cultural resources. Therefore, a clearance was recommended by the cultural resource specialist.

Although there is no evidence to suggest that the project would result in any significant effect to archaeological, historical, or paleontological resources, there is always the possibility that such resources could be encountered. Therefore, a condition of project approval will require that if, in the course of development, any archaeological, historical, or paleontological resources are uncovered, discovered or otherwise detected or observed, development activities within 100 feet of the affected area shall cease and a qualified archaeologist shall be contacted to review the site and advise the County of the site's significance. If the findings are deemed significant by the Environmental Review Officer, appropriate mitigation shall be required.

Mitigation/Monitoring: None proposed.

<u>VI. ENERGY:</u> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?			✓	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				✓

Discussion: Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. During construction there would be a temporary consumption of energy resources required for the movement of equipment and materials. Compliance with local, State, and Federal regulations (e.g., limit engine idling times, requirement for the recycling of construction debris, etc.) would reduce and/or minimize short-term energy demand during construction to the extent feasible, and construction would not result in a wasteful or inefficient use of energy. Operational hours for the project would be limited to daylight hours up to 5 days a week. This reduces the amount of energy needed to support interior lighting of commercial buildings on site. Exterior lighting would also be motion-sensing in most places surrounding the proposed buildings. Furthermore, through compliance with applicable requirements and/or regulations of the 2016 California Code of Regulations, Title 24, Part 6 – California Energy Code, individual project elements (e.g., building design, HVAC equipment, etc.) would be consistent with State reduction policies and strategies, and would not consume energy resources in a wasteful or inefficient manner.
- b) The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

State and local agencies regulate the use and consumption of energy through various methods and programs. As a result of the passage of Assembly Bill 32 (AB 32) (the California Global Warming Solutions Act of 2006) which seeks to reduce the effects of Greenhouse Gas (GHG) Emissions, a majority of the state regulations are intended to reduce energy use and GHG emissions. These include, among others, California Code of Regulations, Title 24, Part 6 – California Energy Code, and the California Code of Regulations, Title 24, Part 11– California Green Building Standards Code (CALGreen). At the local level, the County’s Building Division enforces the applicable requirements of the Energy Efficiency Standards and Green Building Standards in Title 24. In addition, the project proposes to use renewable solar as its primary source of electricity. The solar power components of the project would be designed to meet the power needs of the project and diesel generators would be used only to augment that primary source of power.

Mitigation/Monitoring: None proposed.

<u>VII. GEOLOGY AND SOILS:</u> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: <ul style="list-style-type: none"> i) Rupture of a known earthquake, fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publications 42. ii) Strong seismic ground shaking? iii) Seismic-related ground failure, including liquefaction? iv) Landslides? 				✓
b) Result in substantial soil erosion or the loss of topsoil?		✓		
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?				✓
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?				✓
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?				✓
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				✓

Discussion: Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - i) Rupture of a known earthquake fault;

According to the Alquist-Priolo Earthquake Fault Zoning Maps for Shasta County, there is no known earthquake fault on the project site.

ii) Strong seismic ground shaking;

According to the Shasta County General Plan Section 5.1, Shasta County has a low level of historic seismic activity. The entire County is in Seismic Design Category D. According to the Seismic Hazards Assessment for the City of Redding, California, prepared by Woodward Clyde, dated July 6, 1995, the most significant earthquake at the project site may be a background (random) North American crustal event up to 6.5 on the Richter scale at distances of 10 to 20 km.

All structures shall be constructed according to the seismic requirements of the currently adopted Building Code.

iii) Seismic-related ground failure, including liquefaction;

The project is not in an area which is prone to liquefaction or seismic-related ground failure. Soils at the project site are not of the type where liquefaction typically occurs and is not near any known fault lines.

iv) Landslides.

The project is not proposing development near any sloped area that would be prone to landslides.

- b) The Soil Survey of Shasta County, completed by the United States Department of Agriculture, Soil Conservation Service and Forest Service in August, 1974, identified soils in the project site as being well-drained with hazards of erosion ranging from slight to high. Igo Gravelly Loam, 0 to 8 percent slope soil is present within the northwest and eastern extents of the property. This soil type has a run-off class of moderate to high. Keefers Gravelly Loam, 3 to 8 percent slope soil is present within the roughly western 1/3rd of the property and it has a runoff class of moderate to high. Keefer Gravelly Loam, 0 to 3 percent slope is present within the center 1/3rd of the project site. This soil type has a runoff class of slight to moderate. The eastern 1/3rd of the project area consists of Toomes Very Rocky Loam, 0 to 50 percent slopes and rockland and it has a runoff class that is moderate to high.

Soils within the project site are prone to transferring sediment and erosion if not properly managed. In addition, construction of earthen berms, clubhouses, and the caretaker's residence could result in loss of topsoils considered to be significant. The Igo gravelly loam, Keefers Gravelly Loam have relatively shallow soils depth to the hardpan and the Toomes Very Rocky Loam has relatively shallow soils above lithic bedrock. Construction could cause loss of topsoil that are critical in absorbing runoff on the project site and limiting erosion. A grading permit is required prior to any grading activities. The grading permit includes requirements for erosion and sediment control, including retention of topsoil. In addition, in order to reduce impacts from loss of topsoil to a level that is less-than-significant, Mitigation Measure VII.b.1 is incorporated into the project. This mitigation measure would require careful removal and retention of at least 2 to 4 inches of topsoil to be used on the backside slopes of the bullet backstop berms where reseeding could be successful.

- c) The project would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. The topography of the site is predominantly level, with small undulations. The threat of landslides, lateral spreading, subsidence, liquefaction, or collapse is insignificant as the geology of the area demonstrates great stability. The site also includes a rocky ridge adjacent to Bear Creek, and it is unlikely that there would be any seismic related ground failure, particularly liquefaction in this area. Furthermore, no improvements are proposed in this area of the project.
- d) The project would not be located on expansive soil creating substantial direct or indirect risks to life or property. The currently adopted Building Code requires preparation and review of a site-specific soils report as part of the building design and approval process. The site soils are listed as low to moderate expansive soils in the "Soil Survey of Shasta County."
- e) The project site may have soils or other physiographic features such as shallow depth to groundwater that render areas within the site incapable of feasibly supporting the use of conventional on-site wastewater treatment systems or alternative on-site wastewater treatment systems. However, the project proposal was reviewed by the Environmental Health Division and it was determined that regardless of the results of required soils testing, there would still be adequate area and suitable locations for mounded onsite wastewater systems which utilize imported soils and would meet the requirements for wastewater treatment.
- f) The project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. A review of the Minerals Element of the General Plan and observations of the project site has resulted in no unique paleontological resource or site or unique geologic features being identified on the project site.

Mitigation/Monitoring: With the mitigation measures being proposed, the impacts will be less-than-significant:

VII.b.1: In order to avoid significant erosion impacts and substantial loss of topsoil the applicant shall carefully remove 2 to 4 inches of topsoil where buildings and earthen berms are proposed, retain the topsoil, and utilize it in areas that require reseeding for erosion control, including, but not limited to, the backside of all bullet backstop berms. The areas from where topsoil will be carefully removed and then stockpiled shall be shown on approved grading plans prior to issuance of a grading permit and its use for erosion control shall be described, in concept, in the erosion control plan. Prior to final inspection of the grading permit an as-built plan detailing where and how the topsoil was applied for reseeding in accordance with erosion control plan shall be provided to the Shasta County Planning Division for field confirmation prior to final inspection of the grading permit.

VIII. GREENHOUSE GAS EMISSIONS: Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			✓	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			✓	

Discussion: Based on these comments, the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

a-b) In 2005, the Governor of California signed Executive Order S-3-05, establishing that it is the State of California's goal to reduce statewide greenhouse gas (GHG) emission levels. Subsequently, in 2006, the California State Legislature adopted Assembly Bill AB 32, the California Global Warming Solutions Act. In part, AB 32 requires the California Air Resources Board to develop and adopt regulations to achieve a reduction in the State's GHG emissions to year 1990 levels by year 2020.

California Senate Bill 97 established that an individual project's effect on GHG emission levels and global warming must be assessed under CEQA. SB 97 further directed that the State Office of Planning and Research (QPR) develop guidelines for the assessment of a project's GHG emissions. Those guidelines for GHG emissions were subsequently included as amendments to the CEQA Guidelines. The guidelines did not establish thresholds of significance and there are currently no state, regional, county, or city guidelines or thresholds with which to direct project-level CEQA review. As a result, Shasta County reserves the right to use a qualitative and/or quantitative threshold of significance until a specific quantitative threshold is adopted by the state or regional air district.

The City of Redding currently utilizes a quantitative non-zero project-specific threshold based on a methodology recommended by the California Air Pollution Officers Association (CAPCOA) and accepted by the California Air Resources Board. According to CAPCOA's Threshold 2.3, CARB Reporting Threshold, 10,000 metric tons of carbon-dioxide equivalents per year (mtCO₂eq/yr) is recommended as a quantitative non-zero threshold. This threshold would be the operational equivalent of 550 dwelling units, 400,000 square feet of office use, 120,000 square feet of retail, or 70,000 square feet of supermarket use. This approach is estimated to capture over half the future residential and commercial development projects in the State of California and is designed to support the goals of AB 32 and not hinder it. The use of this quantitative non-zero project-specific threshold by Shasta County, as lead agency, would be consistent with certain practices of other lead agencies in the County and throughout the State of California.

The United States Environmental Protection Agency (EPA) identifies four primary constituents that are most representative of the GHG emissions. They are:

- Carbon Dioxide (CO₂): Emitted primarily through the burning of fossil fuels. Other sources include the burning of solid waste and wood and/or wood products and cement manufacturing.
- Methane (CH₄): Emissions occur during the production and transport of fuels, such as coal and natural gas. Additional emissions are generated by livestock and agricultural land uses, as well as the decomposition of solid waste.
- Nitrous Oxide (N₂O): The principal emitters include agricultural and industrial land uses and fossil fuel and waste combustion.
- Fluorinated Gases: These can be emitted during some industrial activities. Also, many of these gases are substitutes for ozone-depleting substances, such as CFC's, which have been used historically as refrigerants. Collectively, these gases are often referred to as "high global-warming potential" gases.

The primary generators of GHG emissions in the United States are electricity generation and transportation. The EPA estimates that nearly 85 percent of the nation's GHG emissions are comprised of carbon dioxide (CO₂). The majority of CO₂ is generated by petroleum consumption associated with transportation and coal consumption associated with electricity generation. The remaining emissions are predominately the result of natural-gas consumption associated with a variety of uses.

The project would establish a Commercial-Recreation zone district for an outdoor gun range complex and gun club with a 4,975-square-foot primary clubhouse with a 3,272-square-foot attached covered patio area and a 1,025-square-foot attached caretaker's residence as well as a 699-square-foot law enforcement clubhouse with a 270-square-foot attached covered patio. Leopard Drive would be improved to the Minor Local (rural) Shasta County road standard. A portion of the on-site parking area would be surfaced with asphalt concrete paving with the remainder being surfaced with gravel. The facility would host patrons and law enforcement officers five days a week and would include special events throughout the year which would typically attract between 30 and 200 people with the largest event being limited to 500 people. The *Air Quality & GHG Impact Assessment for High Plains Shooting Sports Center*, prepared by Ambient Air Quality & Noise Consulting in March of 2016, summarized the projected GHG emissions for both long-term operation and short-term construction of the project. The Impact Assessment concluded that the majority of GHG emissions associated with construction would be attributable to CO₂ generated from mobile sources (vehicles and equipment). Other GHG pollutants, such as CH₄ and N₂O would be generated during construction but to a lesser extent. GHG emissions modeling estimates that construction of the project would generate a maximum of approximately 87 MTCO₂e/year. Construction-generated GHG emissions would not exceed the 10,000 MTCO₂e discussed above nor would it exceed the more stringent 1,100 MTCO₂e threshold recommended by the Sacramento Metropolitan Air Quality Management District.

According to the *Air Quality & GHG Impact Assessment for High Plains Shooting Sports Center*, increases of GHG emissions for long-term operation of the project would also consist primarily of CO₂ and to a lesser extent CH₄ and N₂O. The sources of these GHG emissions would include energy use, motor vehicles, waste generation, water use & conveyance and changes in on-site sequestration from the loss of existing grassland. The impact assessment concludes that operational emissions could reach as high as 360.7 MTCO₂e if proposed trees are not factored into sequestration offset. This would not exceed significance thresholds of 10,000 MTCO₂e discussed above nor the more stringent 1,100 MTCO₂e threshold recommended by the Sacramento Metropolitan Air Quality Management District.

The incorporation of Shasta County AQMD Standard Mitigation Measures which, are included as conditions of approval in accordance with the Shasta County General Plan, reduce GHG emissions associated with long-term operation and with construction activities. The project proposes 12 shade trees around the asphalt parking area which serves to offset carbon sequestration loss from development elsewhere on the site. With Standard Mitigation Measures and based on the project proposal, impacts from long-term GHG emissions as well as construction-related emissions of GHGs would not exceed any thresholds of significance and would not conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Therefore, GHG emissions from the project are not substantial and are considered less-than-significant.

Mitigation/Monitoring: None proposed.

IX. HAZARDS AND HAZARDOUS MATERIALS: Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			✓	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				✓
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				✓
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				✓
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				✓
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?			✓	

Discussion: Based on these comments, the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

a-b) The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. The project would include the temporary transport of hazardous materials, including solvents during the construction phase of the project. After construction, the project would include the routine transport of small quantities ammunition to the site to be sold in the clubhouse for use by customers. The Environmental Management Plan provided by the applicant includes the routine collection of bullet fragment recovery and spent ammunition and casings would be disposed of properly. The Environmental Management Plan, range safety program and the standard requirement for a Hazardous Materials Business Plan (HMBP) are all designed to ensure that the project would not cause a significant impact related to upset or accident conditions involving the release of hazardous materials. Construction related hazardous materials and ammunition would be secured, stored and handled properly. Therefore, impacts from the routine use, transport or disposal of hazardous materials is considered to be less-than-significant.

c) The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within

one-quarter mile of an existing or proposed school. The project site is not located within a quarter mile of an existing or proposed school.

- d) The project is not located on a site which is included on a list of hazardous materials sites and would not create a significant hazard to the public or the environment. The project site is not included on the list of hazardous materials sites compiled by the California Department of Toxic Substances Control. Furthermore, there is no historical evidence of any commercial activity on the site that would have used hazardous materials.
- e) The project is not located within an airport land use plan or within two miles of a public airport or public use airport.
- f) The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. A review of the project and the Shasta County and City of Anderson Multi-Jurisdictional Hazard Mitigation Plan indicates that the proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- g) The project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. The Shasta County Fire Department has indicated that the project is in an area which is designated a “HIGH” fire hazard severity zone. All roadways, driveways and buildings for the proposed project would be constructed in accordance with the Shasta County Fire Safety Standards. These standards also require the clearing of combustible vegetation around all structures for a distance of not less than 30 on each side or to the property line. The California Public Resources Code Section 4291 includes a “Defensible Space” requirement of clearing 100 feet around all buildings or to the property line, whichever is less. In addition, a *Fuels & Vegetation Management Plan* has been prepared by Butler Engineering in May of 2020 which ensures that fuels on site are managed in a way which reduces the risk of loss, injury, or death involving wildfires to a level that is less-than significant.

Mitigation/Monitoring: None proposed.

X. <u>HYDROLOGY AND WATER QUALITY:</u> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?		✓		
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.			✓	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would: (i) result in substantial erosion or siltation on- or off-site; (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or (iv) impede or redirect flows?			✓	
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				✓
e) Conflict with or obstruct implementation of a water quality control plan or sustainable management plan?				✓

Discussion: Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The project is located in a highly sensitive environment with respect to water quality due to the presence of various aquatic resources which are recognized as protected “waters of the United States” and regulated under Section 404 of the Clean Water Act. The State of California Porter-Cologne Water Quality Control Act similarly regulates potential water quality impacts from point and nonpoint pollution sources on surface, ground and saline waters of the State. The *Wetlands Delineation – High Plains Shooting Sports Center*, prepared for the project by Wildland Resource Managers in January, 2017 was submitted for a preliminary

jurisdictional review the United States Army Corps of Engineers (USACE) which confirmed the findings of Wildland Resource Managers that there were jurisdictional “waters of the United States” present on site in the form of vernal swales, vernal pools, ephemeral streams and intermittent streams. In addition, comments from the State of California Regional Water Quality Control Board (RWQCB) indicate that discharge of materials or fill into geographically isolated waters would also be regulated by their agency. All in all, the total acreage of palustrine or emergent wetlands on the 151.78-acre project site recognized by the USACE equals a total of 12.153 acres with an additional 2.22 acres of non-wetland waters. The topography of the site and observed drainage patterns indicate that wetland features and overall site drainage tends to flow from west, northwest to south, southeast to a drainage point on the southeast portion of the property where it flows into Bear Creek which subsequently flows into the Sacramento River.

The project proposes construction of buildings, on-site wastewater facilities and bullet backstops in a way which avoids the identified wetlands. Standard conditions for the project and comments from USACE and RWQCB would require further permitting and waste discharge requirements, where applicable, depending on review and determination of those agencies with regulatory authority. Based on the strict avoidance of construction within the wetlands, significance of impacts from the project are significantly reduced.

However, the project also proposes sporting clay target (skeet and trap) shooting which would cause target debris and ammunition shotfall to land in areas with wetlands or hydrologic soils connected to the identified wetlands. In addition, bullet backstop mounds, designed to retain bullets and bullet fragments within the mounds and at the base of the mounds and targets, would result in a concentration of metals which would be subject to surface runoff. Bullets can consist of a variety of metals including lead, brass, copper, zinc, steel, plastics, rubber and nylon coating. Soluble heavy metals could enter runoff. If such metals were to be highly concentrated in runoff and that polluted runoff was to be discharged directly to surface or ground water it could result in substantially degraded surface and/or groundwater quality. Lead is the metal material of greatest concern if it were to be deposited in any shotfall zone or bullet backstop throughout the project site. The propensity for lead to cause significant environmental impacts, to wildlife, humans and water quality in general, is well documented. Lead (Pb) does not breakdown overtime. Lead does, however, oxidize when exposed to air and dissolves when exposed to acidic water or soil. Lead bullets, particles or dissolved lead can be moved by stormwater runoff and migrate overland to surface waters and/or through soils into groundwater. The *Best Management Practices for Lead at Outdoor Shooting Ranges*, published by the United States Environmental Protection Agency (EPA) in June of 2005 indicates that places with higher precipitation rates, clay-based soils and other hydric soils and wetlands are the most prone to greater risk of environmental impacts and human health risks are greater at these ranges. The project soil types are described further in Section VII. Shasta County receives an annual precipitation rate of roughly 44 inches/year. Due to the highly sensitive water resources on the project site, the use of lead ammunition at the facility would cause potentially significant and unavoidable impacts to water quality, biological resources, and human health. With this understanding, the project applicant will be prohibiting the use of lead ammunition anywhere on the project site. This factor, incorporated into the project by the applicant and as a condition of approval would ensure that water resources are not impacted by lead from development of the project.

Alternative ammunition types, including those approved for Olympic competition shooting, such as steel will be offered for purchase at the main clubhouse. This includes other types which can consist of metals such as copper, which, like lead, also does not breakdown overtime. In order to ensure that impacts to water quality from concentrations of metals and other materials is reduced to a level that is less-than-significant, mitigation measure X.a.1 is incorporated into the project. This mitigation measure would ensure that water quality and levels of contamination in hydrologic soils, would be regularly maintained and tested. The outcome of the mitigation measure would ensure that impacts to water quality due to the long-term operation of the outdoor gun range complex would be reduced to less-than-significant levels. Regular water sample testing at entry points to Bear Creek would be taken and submitted to the Department of Resource Management. In addition, the applicant proposes regular maintenance of soil pH and routine removal of bullet particles from impact areas and bullet backstops.

The project proposes only to use non-toxic, biodegradable clay targets throughout all applicable areas of the project. These non-toxic targets have been demonstrated to have little to no observable impact on water quality. In addition, the project proposes that targets would be biodegradable and additional maintenance of the shotfall areas, as outlined in the *Environmental Management Plan – High Plains Shooting Sports Center*, prepared by Patrick Jones in February of 2019, is proposed to ensure fragments are cleaned up.

Grading will be needed for this project. A grading permit will be required. The provisions of the permit will address erosion and siltation containment on- and off-site.

- b) The project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. Drainage on the site will remain relatively the same post-construction due to the design of the project. Water service for the project is to be provided by an onsite public well with water storage tanks proposed to store the excess capacity necessary for fire suppression water. The public well would be regulated through the State of California as a small or transient public water system. The fire suppression water to be stored in above-ground tanks would be used only in emergency situations. Well log data in the area demonstrates adequate groundwater capacity to serve the caretaker’s residence and clubhouse uses. These improvements are not considered to be substantial to the extent that the project would impede groundwater recharge nor sustainable groundwater management of the basin,
- c) The project would not substantially alter the existing drainage pattern of the site or area, or add impervious surfaces, in a manner which would (i) result in substantial erosion or siltation on- or off-site; (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; (iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; and or

(iv) impede or redirect flows. The drainage pattern consists of surface run-off, existing vernal swales, ephemeral streams, vernal pools and intermittent streams. These areas primarily drain eastward into Bear Creek. See section X(a) for more discussion of the project site's hydrologic resources. Impervious surfaces in the form of proposed clubhouses, generator sheds, water storage tanks and asphalt parking area would avoid nearly all the existing drainage conveyances. Drainage will be dispersed to either the unimproved areas or landscape areas adjacent to the building and the parking areas. Other site runoff will sheet flow into the existing drainage channels on the site. This will preserve the existing drainage pattern and not require alteration of the natural drainage courses. The additional runoff from impervious surfaces is not expected to cause excess runoff capacity, flooding on- or off-site nor result in substantial erosion or siltation on- or off-site and is considered to be less-than-significant.

d-e) The project would not risk release of pollutants in flood hazard, tsunami, or seiche zones due to project inundation. The project area is not located in any designated floodplain as all improvements would be located on the plateau and higher ground above the Bear Creek canyon. A flooding event is not anticipated outside of the confines of the canyon which Bear Creek flows through. The project would not conflict with or obstruct implementation of a water quality control plan or sustainable management plan.

Mitigation/Monitoring: With the mitigation measures being proposed, the impacts will be less-than-significant:

X.a.1: In order to ensure that water quality is not significantly impacted by concentrations of metals and materials from bullets and other debris, the applicant shall prepare and submit a Water Quality Control Plan as described in the Environmental Manager Plan prepared for the project. The Water Quality Control Plan shall provide for and minimize impacts on water quality and shall include the following, in addition to what may be provided by the qualified professional preparer of the plan.

- a. Identification of points of discharge from project to Bear Creek or other surface waters.
- b. Proposed sampling locations.
- c. Proposed water sampling protocols, including identification of proposed sampling methods, sampling technicians or firms, chain of custody for sampling, pollutant to be tested for and testing lab.
- d. Test soil pH on a semi-annual basis at the base of earthen backstops and filter beds where surface water runoff is designed to be captured; and
- e. Test water for rises in acidic concentration on an annual basis at points of discharge as may be identified in the plan, including nearest where the intermittent stream identified as IS-1 in the Wetlands Delineation Map provided by Wildland Resource Managers, enters into Bear Creek from the project site.

Records of samples shall be submitted to the Department of Resource Management on an annual basis and may be provided to the State of California Regional Water Quality Control Board for review and determination of whether test results indicate that discharge from the project may be subject to regulation under the Clean Water Act or California regulations governing water quality. If it is determined that discharge from the project is subject to such regulation, the applicant shall meet the applicable requirements. Original measurements will be used as a baseline to track and monitor water quality and soil pH and would inform the need for management actions over the life of the project. If it is determined by the Director of Resource Management that additional testing should take place to determine potential sources of water quality degradation, additional testing and submittal of annual testing results shall be required.

XI. LAND USE AND PLANNING: Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Physically divide an established community?				✓
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				✓

Discussion: Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The project would not physically divide an established community. The project proposes a perimeter fence around the project area which includes the existing eastern boundary which is divided from adjacent lands by Bear Creek. However, the property is located in and around, mostly undeveloped, limited-rural residential land and is not located in any established community.
- b) The project would not conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. The purpose of the Commercial Recreation (C-R) zone district is to provide opportunities for the development of privately owned land for commercial recreational activities which need or utilize, and provide for the enjoyment of, the natural environment. This district is consistent with all general plan designations if the proposed use blends harmoniously with the natural features of the surrounding area. The proposed outdoor gun range complex and gun club utilizes and relies upon the natural environment and does not conflict with any land use plan, policy or adopted regulation. A gun club is listed as a permitted use in the C-R zone district.

Mitigation/Monitoring: None proposed.

XII. MINERAL RESOURCES: Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?				✓
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local General Plan, specific plan or other land use plan?				✓

Discussion: Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State. A review of the Minerals Element of the Shasta County General Plan resulted in no known mineral resources of regional value located on or near the project site.
- b) The project would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. The project site is not identified in the General Plan Minerals Element as containing a locally-important mineral resource. There is no other land use plan which addresses minerals.

Mitigation/Monitoring: None proposed.

XIII. NOISE: Would the project result in:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		✓		
b) Generation of excessive groundborne vibration or groundborne noise levels			✓	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				✓

Discussion: Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The County has no noise ordinance and no other agency standards would appear to be applicable to the project. However, the project would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the Shasta County General Plan.

The project would include pistol and rifle ranges, clay sports shooting areas, and a law enforcement range. All areas where shooting would take place would be outdoors. The nearest sensitive receptors to noise produced from the project consist of five existing residences on large lots ranging from 1,400 to 2,500 feet away from the project boundary. The General Plan Noise Standard for noise impacts from new projects, including non-transportation sources, on existing sensitive receptors is 55 hourly L_{eq} daytime, and 50 hourly L_{eq} nighttime. These thresholds reflect an equivalent A-weighted hourly decibel (dB) level. Table N-IV of the Shasta County General Plan specifies that noise source that are impulsive shall reduce the above L_{eq} dBA thresholds by five. This would result in a limit for the 1-hour average maximum dBA of 50 dBA for daytime and 45 L_{eq} dBA for nighttime.

The *Noise Technical Report* used an attenuation rate of 7.5 dBA per doubling of distance from the source due to the fact that softer ground is more likely to increase the ground absorption rate than hard sites would. The project site and its vicinity include soft dirt,

grass and scattered bushes and trees which would cause stationary noise sources, such as gunfire, to attenuate at the higher rate of 7.5 dBA per doubling of distance. For example, a piece of equipment produces 100 decibels at 25 feet away from the equipment, the noise level will be 92.5 decibels at 50 feet from the equipment.

The impacts of noise as a result of the project were assessed in the *Noise Technical Report – High Plains Shooting Sports Center*, by RCH Group in March of 2017. Noise testing was conducted using sound level meters at various locations along the project site boundaries and using a variety of guns that would be fired at the outdoor gun range complex and gun club. This included a .22 rifle, a 12-gauge shotgun, 9 mm handgun and 4570 rifle fired from areas that are consistent with the proposed project site plan. These measurements were used to inform estimated sound levels from ongoing operation of the project in order to determine whether daily operation of the outdoor gun range complex and gun club would result in a significant impact on existing residences in the vicinity of the project site.

The *Noise Technical Report* factored in the noise measurements and attenuation described above to project a 1-hour average noise level of shielded and unshielded peak noise at the nearest sensitive receptors – five single-family residences in the project vicinity. The analysis showed that the existing residences observed on parcels to the north and northwest would not see noise levels exceeding 50 L_{eq} dBA for any of the firing locations (rifle range, law enforcement range and clay sports shooting area). This is due to the fact that line of sight to these residences is obstructed by existing topography as well as a berm proposed surrounding the firing location at the law enforcement range. Existing residences on the lots to the south and southeast would not experience noise levels exceeding 50 L_{eq} dBA from noise generated from the law enforcement range either. However, shotguns and rifles fired at the clay sports shooting area and rifle range would each produce noise that would exceed the 50 L_{eq} dBA at 100 feet from the existing residences to the south and southeast of the project site if averaged based on shooting frequency of 120 – 480 rounds per hour. Since it was determined that Shasta County General Plan noise thresholds would be exceeded, mitigation measures are being incorporated into the project to reduce the noise level by 6 dBA and thus, to a level that is less-than-significant. Mitigation measure XIII.a.1 would require that sound attenuation noise barriers be installed as close as possible to the firing locations for the clay sports shooting area to obstruct line of sight from those firing locations to the residences to the north and northwest. And would require the same as close as possible to the rifle range to obstruct line of sight from those firing locations to the residences to the south and southeast.

The *Noise Technical Report* analyzed impacts from construction-related noise sources over the projected duration of four to five months of construction taking place during daytime hours (7 a.m. to 7 p.m.). Excavating machinery road building equipment and vehicles hauling materials would all cause the ambient noise levels in the vicinity to be increased. The noise levels caused by such equipment would vary greatly based on the type of machinery. The *Noise Technical Report* projected that maximum construction-related noise levels would be approximately 85 dBA at 50 feet. This would result in an outdoor construction daytime noise level of as high as 57 dBA at the residence south of the project site and an interior noise level of 32 dBA when windows of the residence are closed and mitigating noise levels by 25 dBA. Because these noise levels are not reaching levels that are highly objectionable upon reaching the sensitive noise receptors and the noise would occur for a minimal amount of time at this location, the impacts from noise related to construction are considered to be less-than-significant.

The *Noise Technical Report* also analyzed noise increases related to traffic. In order to understand the increase in vehicle trips, the traffic study for the project was relied upon. The analysis assumed up to 200 vehicle trips to the project site per day via Dersch Road and Leopard Drive. The noise level was projected to result in an increase of about 0.5 dBA at the nearest residence to Dersch Road going from 49.3 to 49.8 dBA. The total dBA levels at all other nearby residences would not exceed 40 dBA. These changes to the environment related to transportation noise sources are considered to be less-than-significant.

Diesel generator power would be provided to augment energy produced by solar energy. The generator would be constructed within generator buildings which would reduce noise from any generator to a level that is less-than-significant. The requirement to reduce noise levels to below thresholds is verified through standard building permit plan review.

- b) The project would not result in generation of excessive groundborne vibration or groundborne noise levels. Excessive groundborne vibration or groundborne noise levels are only an impact during major construction within 25 feet of a building or 100 feet of a historic building. The nearest residence is 685 feet from proposed construction. Furthermore, the project does not include potential sources of excessive groundborne noise or vibration sources such as blasting or pile driving during construction. Tractor semi-trailers moving a slow speed within the project site would not be a significant source of groundborne vibration and neither would any other use of equipment or general operational activity at the site.
- c) The project is not located within the vicinity of a private airstrip or an airport land use plan, or within two miles of a public airport or public use airport.

Mitigation/Monitoring: With the mitigation measures being proposed, the impacts will be less-than-significant:

- XIII.a.1: To mitigate noise levels by 6 dBA at the nearest sensitive receptors to specified firing locations, the applicant shall:
 - a. Install a sound attenuation noise barrier as close as possible to the northern two firing locations for the clay sports shooting area to obstruct line of sight from those firing locations to the residences to the north and northwest; and
 - b. Install a sound attenuation noise barrier as close as possible to all rifle firing locations along the southern property boundary to obstruct line of sight from those firing locations to the residences to the south and southeast.

Each sound attenuation barrier shall be constructed at a height slightly higher than the minimum height to block the direct line of

sight to the nearest residence(s). Final construction drawings shall indicate the location and construction method of the required sound attenuation barriers prior to issuance of building permits. Prior to final inspection of a building permit, an acoustical analysis ensuring the effectiveness of the proposed mitigation measure will be required pursuant to Table N-V of the Shasta County General Plan Noise Element.

<u>XIV. POPULATION AND HOUSING:</u> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			✓	
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				✓

Discussion: Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The project would not induce substantial unplanned population growth in an area, either directly or indirectly. The population growth resulting from the one new caretaker’s residence and an established recreational use in the context of a total County population of approximately 182,155 (California Department of Finance 2020) is not substantial. The project would employ four persons for the operation of the facility. Therefore, it is not expected to induce substantial growth in the area.
- b) The project would not displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere. The project does not include destruction of any existing housing.

Mitigation/Monitoring: None proposed.

<u>XV. PUBLIC SERVICES:</u> Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Fire Protection?				✓
Police Protection?			✓	
Schools?				✓
Parks?				✓
Other public facilities?			✓	

Discussion: Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for:

Fire Protection:

The project is located in a “HIGH” fire hazard severity zone. However, the project incorporates a fuels management plan, on-site fire protection and management of the operational activity based on red flag fire condition warnings. No significant additional level of fire protection is necessary. Required on-site fire suppression will be installed according to the County Fire Safety Standards.

Police Protection:

The County employs a total of 165 sworn and 69 non-sworn County peace officers (Sheriff’s deputies) to serve a population of 66,858

persons that reside in the unincorporated area of the County (United States Census Bureau April 1, 2020). This level of staffing equates to a ratio of approximately one officer per 286 persons. The project was reviewed by the Shasta County Sheriff's Office and it was not determined that the project would increase the need of police protection and the project would not warrant any additional Sheriff's deputies.

Schools:

The resultant development from the project will be required to pay the amount allowable per square foot of construction to mitigate school impacts.

Parks:

The project is located within the unincorporated area of the County which does not have a neighborhood parks system normally found in incorporated cities.

Other public facilities:

The County maintains Dersch Road and would see an increased volume of traffic on Dersch Road, primarily heading from west to east, as a result of the project. However, the number of vehicle trips expected to increase on Dersch Road would not be considered to be significant in terms of the impact to County maintenance service. See Section XVII. Transportation for more discussion. There are no other potential impacts to general government services, public health, the library system, animal control, and the roadway system.

Mitigation/Monitoring: None proposed.

<u>XVI. RECREATION:</u>	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				✓
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				✓

Discussion: Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. The County does not have a neighborhood or regional parks system or other recreational facilities and there are no regional recreational facilities in the project vicinity. No aspect of the project would increase the use of existing parks or other recreation facilities in the area.
- b) The project would develop a recreational outdoor gun range complex and gun club. Adverse environmental impacts from the development of the facility are addressed throughout this document and mitigation measures for potentially significant impacts are incorporated into the Mitigation Monitoring Program. The project would not require the construction or expansion of other recreational facilities which might have an adverse physical effect on the environment.

Mitigation/Monitoring: None proposed.

<u>XVII. TRANSPORTATION:</u> Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?				✓
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3 subdivision (b)?			✓	

XVII. TRANSPORTATION: Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?		✓		
d) Result in inadequate emergency access?				✓

Discussion: Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The project would not conflict with a program, ordinance or policy establishing measures of effectiveness for the performance of addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Leopard Road is not identified as being within any existing or proposed bikeway. The project is consistent with the Shasta County General Plan Circulation Element policies for transit and pedestrian bicycle modes, the GoShasta Active Transportation Plan, the 2010 Shasta County Bikeway Plan, and with the Regional Transportation Plan.

Traffic and Transportation Impacts were assessed in the *Technical Memorandum: Traffic Analysis for Proposed High Plains Shooting Sports Center*, prepared by Omni Means Engineering Solutions in May of 2015. The *Technical Memorandum* evaluated the project’s potential impact on Level of Service (LOS), which is a measure of effectiveness for transportation performance in the Shasta County General Plan Circulation Element. The *Technical Memorandum* concluded that, even with cumulative 2035 forecast conditions, the project would not impact the existing LOS classification of A. The project would not generate enough traffic to significantly reduce the volume-to-capacity ratio of adjacent roadways to a reduced level of service. The cumulative LOS A both pre-and post-project would be well above the Shasta County General Plan Standard of LOS C for rural arterials and collectors which provide access to the project.

- b) CEQA Guidelines Section 15064.3 subdivision (b) requires that lead agencies consider whether a project would increase vehicle miles traveled (VMT) to the extent that impacts on the environment, primarily from vehicle emissions, would result. Based on the Office of Planning and Research’s (OPR) technical advisory regarding VMT analysis, only vehicle trips for light-duty vehicles shall be considered in VMT analysis. Based on the Technical Memorandum prepared for the project, approximately 30 light duty vehicle trips per weekday and approximately 60 light duty vehicle trips per weekend day. The California Governor’s Office of Planning and Research (OPR) provides a *Technical Advisory on Evaluating Impacts in CEQA* which establishes thresholds of significance for added vehicle trips by a project. OPR advises a screening threshold for small projects of 110 trips per day. Because the project is expected to generate well below 110 vehicle trips per day, it is considered a small project and it is assumed to cause a less-than significant impact on VMT.

- c) The proposed public access to the project would be provided via an improved, paved Leopard Drive which would include an improved encroachment to Dersch Road. According to the *Technical Memorandum: Traffic Analysis for Proposed High Plains Shooting Sports Center*, prepared by Omni Means Engineering Solutions, traffic generated by the project would increase vehicle queuing at the intersection of Dersch Road and Leopard Drive which serves as the access to the project. The number of 0-1 vehicles queuing under no-project 2035 forecast conditions would increase to 1-2 vehicles queuing during peak hours for the project. This is considered to be acceptable. The intersection volumes were compared to peak hour signalization warrants to determine if the intersection would require a traffic signal. The volumes under existing and future forecast conditions with or without the project would be below qualifying volumes for signalization. In addition, the intersection was evaluated for installation of separate turn lanes based on CalTrans design guidelines. Existing and forecast year 2035 volumes would remain below qualifying volume thresholds for the requirement of separate turn lanes.

Lastly, existing intersection sight distances (ISD) were evaluated in both directions from Leopard Drive along Dersch Road. Due to existing vegetation and earthen banks, the ISD at Leopard Drive do not meet the American Association of State Highway and Transportation Officials (AASHTO) recommended distances. Without mitigation, the project could substantially increase hazards due to a geometric design feature. Mitigation Measure XVII.c.1 is incorporated into the project to ensure that improvements at the intersection of Dersch Road and Leopard Drive would meet recommended ISD and would include advance signage to drivers for the intersection. The inclusion of this mitigation measure would correct the sight distance issue and provide notice to drivers of the upcoming intersection and reduce the impact to a less-than-significant level.

There is no railroad in the project vicinity. Therefore, the project would not substantially increase a traffic hazard due to incompatibility with railroad operations.

- d) The project would not result in inadequate emergency access. The project has been reviewed by the Shasta County Fire Department which has determined that based on conditions of approval, which include improvements of Leopard Drive to Shasta County Fire Safety Standards, there would be adequate emergency access.

Mitigation/Monitoring: With the mitigation measures being proposed, the impacts will be less-than-significant:

XVII.c.1: To mitigate a safety hazard impact due to inadequate intersection sight distances and approach warning signage at the Leopard Drive and Dersch Road intersection, the applicant shall:

- a. Modify the earthen banks by grading/excavation and control vegetation along the Leopard Drive and Dersch Road returns consistent with recommended AASHTO distances and ACCESS ROAD & SITE FEATURES – Exhibit B; and
- b. Install asphalt pavement and shoulder backing improvements to Leopard Drive at its connection to Dersch Road; and
- c. Grade additional area and clear sight distances; and
- d. Install advance signing for Leopard Drive via the following signs:
 - i. W2-2: T-Intersection Symbol
 - ii. W16-8P: Supplemental Street Name Plaque

XVIII. TRIBAL CULTURAL RESOURCES: Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: <ul style="list-style-type: none"> i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. 				✓

Discussion: Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The project would not cause a substantial adverse change in the significance of a tribal cultural resource as there is no evidence of historical resources at the site that are listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources; or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

No California Native American Tribe has notified the County of Shasta of a traditional and cultural affiliation with the project area and/or has requested consultation pursuant to Public Resources Code Section 21080.3.1. An archaeological survey conducted on the project site by archaeologist Trudy Vaughn which concluded that there are no archaeological sites nor cultural features located on the project site. In the event that tribal resources are discovered during construction of the project, Section V of this initial study outlines the proper steps to mitigate any impacts.

Mitigation/Monitoring: None proposed.

XIX. UTILITIES AND SERVICE SYSTEMS: Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas or telecommunications facilities, the construction or relocations of which could cause significant environmental effects?				✓
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?				✓
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				✓
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?				✓
e) Comply with Federal, State, and local management and reduction statutes and regulations related to solid waste?				✓

Discussion: Based on the related documents listed in the Sources of Documentation for Initial Study Checklist, staff review of the project, observations on the project site and in the vicinity, the following findings can be made:

- a) The project would not require or result in the relocation or construction of new or expanded water or, wastewater treatment facilities or expansion of existing storm water drainage, electric power, natural gas or telecommunications facilities, the construction or relocations of which could cause significant environmental effects. The project will utilize energy from proposed photovoltaic solar arrays and diesel generators. It will be served by individual wells on-site with a small or transient public water system to serve the public/patrons of the outdoor gun range complex and gun club. Well log data from the vicinity indicates that there is sufficient groundwater to serve the project. The project will be served by on-site wastewater treatment systems for both the clubhouse and attached caretaker's residence, as well as the law enforcement clubhouse. No new construction or expansion of existing water or wastewater treatment facilities will be needed.
- b) The project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years. The project will be served by individual wells. Well log data from the vicinity indicates that there is sufficient groundwater to serve the project.
- c) On-site septic systems will be used. The clubhouse and caretaker's residence and the law enforcement clubhouse each have an identified site for sewage disposal. Off-site soils may be utilized for the purposes of meeting health and safety standards for on-site wastewater treatment depending upon specific soil percolation. No other wastewater treatment system would be affected by the project.
- d) The project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. The project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs. The West Central Landfill has sufficient capacity to accommodate the additional caretaker's residence and waste from the site as a part of regular operational use. The West Central Landfill is in compliance with Federal, State, and local statutes and regulations related to solid waste.
- e) The project would generate solid waste that is common with household waste as well as outdoor recreational attractions. The project would comply with Federal, State, and local management and reduction statutes and regulations related to solid waste. Recycling facilities are available in the major shopping areas available to the project site.

Mitigation/Monitoring: None proposed.

XX. WILDFIRE: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?				✓
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			✓	
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			✓	
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				✓

Discussion:

- a) The project would not substantially impair an adopted emergency response plan or emergency evacuation plan. The project includes a required improved road access along Leopard Drive from Dersch Road to the project site. This improved road would provide adequate ingress and egress for the project and Dersch Road would accommodate any increased levels of traffic during emergency evacuation situations. Furthermore, a review of the project and the Shasta County and City of Anderson Multi-Jurisdictional Hazard Mitigation Plan indicates that the proposed project would not impair an emergency response plan or emergency evacuation plan.
- b) Areas where improvements and outdoor shooting is proposed are not near slopes. The project site is located in the HIGH Wildland Fire Severity Hazard Zone. Introducing new construction as well as outdoor shooting activity over grasslands could expose project occupants to the uncontrolled spread of wildfire if an ignition were to occur. However, the *Wildland Fuels & Vegetation Management Plan* (Management Plan), prepared by Butler Engineering in May of 2020, was reviewed and approved by the Shasta County Fire Marshal. The Management Plan ensures that adequate defensible space and ongoing maintenance would protect structures and occupants from the uncontrolled spread of wildfire. In addition, the Management Plan proposed would implement best practices and prohibit all shooting on Red Flag warning days. Implementation of these proposed measures would result in a project that would not substantially exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
- c) The project would require the installation or maintenance of associated infrastructure including widening and paving of Leopard Drive, emergency fire suppression water sources to serve the proposed clubhouse buildings, as well as fuel management and fire breaks. These features would be incorporated into the project as a means to reduce fire risk and would not result in significant temporary or ongoing impacts to the environment.
- d) The project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. The project does not propose development on heavily sloped terrain nor any drainage changes or introduction of new fuels which would expose people or structures to significant risks.

Mitigation/Monitoring: None proposed.

XXI. <u>MANDATORY FINDINGS OF SIGNIFICANCE:</u>	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below the self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		✓		
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection the effects of past projects, the effects of other current projects, and the effects of probable future projects)?				✓
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		✓		

Discussion:

- a) Based on the discussion and findings in Section IV. Biological Resources, there is no evidence to support a finding that the project would have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below the self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of a rare or endangered plant or animal. With the incorporation of mitigation measures into the project (see the Mitigation Monitoring Program), adverse effects the quality of the environment and fish and wildlife would be reduced to a less-than-significant level.

Based on the discussion and findings in Section V. Cultural Resources, there is no evidence to support a finding that the project would have the potential to eliminate important examples of the major periods of California history or prehistory.

- b) Based on the discussion and findings in all Sections above, there is no evidence to suggest that the project would have impacts that are cumulatively considerable. There are past projects, current projects or probable future projects that would be cumulatively considerable in the project vicinity or as a result of the project.
- c) Based on the discussion and findings in all Sections above, there is no evidence to support a finding that the project would have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly. With the incorporation of mitigation measures into the project (see the Mitigation Monitoring Program), adverse effects on human beings either directly or indirectly are considered to be less-than-significant.

Mitigation/Monitoring: None proposed.

INITIAL STUDY COMMENTS

PROJECT NUMBER Zone Amendment 13-007 – Jones

GENERAL COMMENTS:

Special Studies: The following project-specific studies have been completed for the proposal and will be considered as part of the record of decision for the Negative Declaration. These studies are available for review through the Shasta County Planning Division.

1. Biological Review – High Plains Shooting Center Project, Wildland Resource Managers, January 2016.
2. Noise Technical Report – High Plains Shooting Sports Center, RCH Group, March 2017.
3. Wetlands Delineation – High Plains Shooting Center Project, Wildland Resource Managers, January 2017.
4. Traffic Technical Memorandum – High Plains Shooting Sports Center, Omni-Means, May 2015.
5. Archaeological Reconnaissance – High Plains Shooting Sports Center, Trudy Vaughn, Coyote & Fox Enterprises, May 2015.
6. Air Quality & Greenhouse Gas Emissions Impact Assessment – High Plains Shooting Sports Center Project, Ambient Air Quality and Noise Consulting, March 2016.
7. Fuels & Vegetation Management Plan – High Plains Shooting Sports Center, Butler Engineering Group, INC., May 2020.
8. High Plains Shooting Center: Response to the Shasta County Planning Department's Request of May 11, 2017 for Additional Information, Wildland Resource Managers, June 15, 2017.
9. Preliminary Jurisdictional Determination, United States Army Corps of Engineers, June 16, 2017.

Agency Referrals: Prior to an environmental recommendation, referrals for this project were sent to agencies thought to have responsible agency or reviewing agency authority. The responses to those referrals (attached), where appropriate, have been incorporated into this document and will be considered as part of the record of decision for the Negative Declaration. Copies of all referral comments may be reviewed through the Shasta County Planning Division. To date, referral comments have been received from the following State agencies or any other agencies which have identified CEQA concerns:

1. California Department of Fish and Wildlife
2. United States Army Corps of Engineers
3. California Regional Water Quality Control Board

Conclusion/Summary: Based on a field review by the Planning Division and other agency staff, early consultation review comments from other agencies, information provided by the applicant, and existing information available to the Planning Division, the project, as revised and mitigated, is not anticipated to result in any significant environmental impacts.

SOURCES OF DOCUMENTATION FOR INITIAL STUDY CHECKLIST

All headings of this source document correspond to the headings of the initial study checklist. In addition to the resources listed below, initial study analysis may also be based on field observations by the staff person responsible for completing the initial study. Most resource materials are on file in the office of the Shasta County Department of Resource Management, Planning Division, 1855 Placer Street, Suite 103, Redding, CA 96001, Phone: (530) 225-5532.

GENERAL PLAN AND ZONING

1. Shasta County General Plan and land use designation maps.
2. Applicable community plans, airport plans and specific plans.
3. Shasta County Zoning Ordinance (Shasta County Code Title 17) and zone district maps.

ENVIRONMENTAL IMPACTS

I. AESTHETICS

1. Shasta County General Plan, Section 6.8 Scenic Highways, and Section 7.6 Design Review.
2. Zoning Standards per Shasta County Code, Title 17.

II. AGRICULTURAL AND FORESTRY RESOURCES

1. Shasta County General Plan, Section 6.1 Agricultural Lands.
2. Shasta County Important Farmland 2016 Map, California Department of Conservation.
3. Shasta County General Plan, Section 6.2 Timber Lands.
4. Soil Survey of Shasta County Area, California, published by U.S. Department of Agriculture, Soil Conservation Service and Forest Service, August 1974.

III. AIR QUALITY

1. Shasta County General Plan Section, 6.5 Air Quality.
2. Northern Sacramento Valley Air Basin, 2018 Air Quality Attainment Plan.
3. Records of, or consultation with, the Shasta County Department of Resource Management, Air Quality Management District.

IV. BIOLOGICAL RESOURCES

1. Shasta County General Plan, Section 6.2 Timberlands, and Section 6.7 Fish and Wildlife Habitat.
2. Designated Endangered, Threatened, or Rare Plants and Candidates with Official Listing Dates, published by the California Department of Fish and Wildlife.
3. Natural Diversity Data Base Records of the California Department of Fish and Wildlife.
4. Federal Listing of Rare and Endangered Species.
5. Shasta County General Plan, Section 6.7 Fish and Wildlife Habitat.
6. State and Federal List of Endangered and Threatened Animals of California, published by the California Department of Fish and Wildlife.
7. Natural Diversity Data Base Records of the California Department of Fish and Wildlife.

V. CULTURAL RESOURCES

1. Shasta County General Plan, Section 6.10 Heritage Resources.
2. Records of, or consultation with, the following:
 - a. The Northeast Information Center of the California Historical Resources Information System, Department of Anthropology, California State University, Chico.
 - b. State Office of Historic Preservation.
 - c. Local Native American representatives.
 - d. Shasta Historical Society.

VI. ENERGY

1. California Global Warming Solutions Act of 2006 (AB 32)
2. California Code of Regulations Title 24, Part 6 – California Energy Code
3. California Code of Regulations Title 24, Part 11 – California Green Building Standards Code (CALGreen)

VII. GEOLOGY AND SOILS

1. Shasta County General Plan, Section 5.1 Seismic and Geologic Hazards, Section 6.1 Agricultural Lands, and Section 6.3 Minerals.
2. County of Shasta, Erosion and Sediment Control Standards, Design Manual
3. Soil Survey of Shasta County Area, California, published by U.S. Department of Agriculture, Soil Conservation Service and Forest Service, August 1974.
4. Alquist - Priolo, Earthquake Fault Zoning Maps.

VIII. GREENHOUSE GAS EMISSIONS

1. Shasta Regional Climate Action Plan
2. California Air Pollution Control Officers Association (White Paper) CEQA & Climate Change, Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act

IX. HAZARDS AND HAZARDOUS MATERIALS

1. Shasta County General Plan, Section 5.4 Fire Safety and Sheriff Protection, and Section 5.6 Hazardous Materials.
2. County of Shasta Multi-Hazard Functional Plan
3. Records of, or consultation with, the following:
 - a. Shasta County Department of Resource Management, Environmental Health Division.
 - b. Shasta County Fire Prevention Officer.
 - c. Shasta County Sheriff's Department, Office of Emergency Services.
 - d. Shasta County Department of Public Works.
 - e. California Environmental Protection Agency, California Regional Water Quality Control Board, Central Valley Region.

X. HYDROLOGY AND WATER QUALITY

1. Shasta County General Plan, Section 5.2 Flood Protection, Section 5.3 Dam Failure Inundation, and Section 6.6 Water Resources and Water Quality.
2. Flood Boundary and Floodway Maps and Flood Insurance Rate Maps for Shasta County prepared by the Federal Emergency Management Agency, as revised to date.
3. Records of, or consultation with, the Shasta County Department of Public Works acting as the Flood Control Agency and Community Water Systems manager.

XI. LAND USE AND PLANNING

1. Shasta County General Plan land use designation maps and zone district maps.
2. Shasta County Assessor's Office land use data.

XII. MINERAL RESOURCES

1. Shasta County General Plan Section 6.3 Minerals.

XIII. NOISE

1. Shasta County General Plan, Section 5.5 Noise and Technical Appendix B.

XIV. POPULATION AND HOUSING

1. Shasta County General Plan, Section 7.1 Community Organization and Development Patterns.
2. Census data from U.S. Department of Commerce, Bureau of the Census.
3. Census data from the California Department of Finance.
4. Shasta County General Plan, Section 7.3 Housing Element.
5. Shasta County Department of Housing and Community Action Programs.

XV. PUBLIC SERVICES

1. Shasta County General Plan, Section 7.5 Public Facilities.
2. Records of, or consultation with, the following:
 - a. Shasta County Fire Prevention Officer.
 - b. Shasta County Sheriff's Department.
 - c. Shasta County Office of Education.
 - d. Shasta County Department of Public Works.

XVI. RECREATION

1. Shasta County General Plan, Section 6.9 Open Space and Recreation.

XVII. TRANSPORTATION/TRAFFIC

1. Shasta County General Plan, Section 7.4 Circulation.
2. Records of, or consultation with, the following:
 - a. Shasta County Department of Public Works.
 - b. Shasta County Regional Transportation Planning Agency.
 - c. Shasta County Congestion Management Plan/Transit Development Plan.
3. Institute of Transportation Engineers, Trip Generation Rates.

XVIII. TRIBAL CULTURAL RESOURCES

1. Tribal Consultation in accordance with Public Resources Code section 21080.3.1

XIX. UTILITIES AND SERVICE SYSTEMS

1. Records of, or consultation with, the following:
 - a. Pacific Gas and Electric Company.
 - b. Pacific Power and Light Company.
 - c. Pacific Bell Telephone Company.
 - d. Citizens Utilities Company.
 - e. T.C.I.
 - f. Marks Cablevision.
 - g. Shasta County Department of Resource Management, Environmental Health Division.
 - h. Shasta County Department of Public Works.

XX. WILDFIRE

1. Office of the State Fire Marshall-CALFIRE Fire Hazard Severity Zone Maps

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

None

**MITIGATION MONITORING PROGRAM (MMP)
FOR ZONE AMENDMENT 13-007 (JONES)**

Mitigation Measure/Condition	Timing/Implementation	Enforcement/Monitoring	Verification (Date & Initials)
<p>Section III. Air Quality</p> <p>III.b.1: To mitigate emissions of Reactive Organic Gases (ROG) exceeding Shasta County maximum thresholds of significance, the applicant shall select exterior and interior architectural paints for use during construction of the proposed clubhouses and generator buildings that does not exceed a Volatile Organic Compounds (VOC) content of 50 grams per liter. To the extent available, the use of prefinished construction materials is recommended. The applicant shall provide proof of paint selection or pre-finished materials meeting this requirement to the Shasta County Planning Division prior to issuance of the building permit.</p>	<p>Prior to Issuance of a Building Permit/During Project Construction</p>	<p>Resource Management, Planning Division / Building Division</p>	
<p>Section IV. Biological</p> <p><u>Nesting Birds and/or Raptors</u></p> <p>IV.a.1: In order to avoid impacts to nesting migratory birds and/or raptors protected under federal Migratory Bird Treaty Act and California Fish and Game Code Section 3503 and Section 3503.5, including their nests and eggs, one of the following shall be implemented:</p> <ul style="list-style-type: none"> a. Vegetation removal and other ground-disturbance activities associated with construction shall occur between September 1 and January 31 when birds are not nesting; or b. If vegetation removal or ground disturbance activities occur during the nesting season (February 1 through August 31), a pre-construction nesting survey shall be conducted by a qualified biologist within 14 days of vegetation removal or construction activities. If an active nest is located during the preconstruction surveys, a 	<p>Prior to Issuance of a Building Permit/During Project Construction</p>	<p>Resource Management, Planning Division / Building Division</p>	

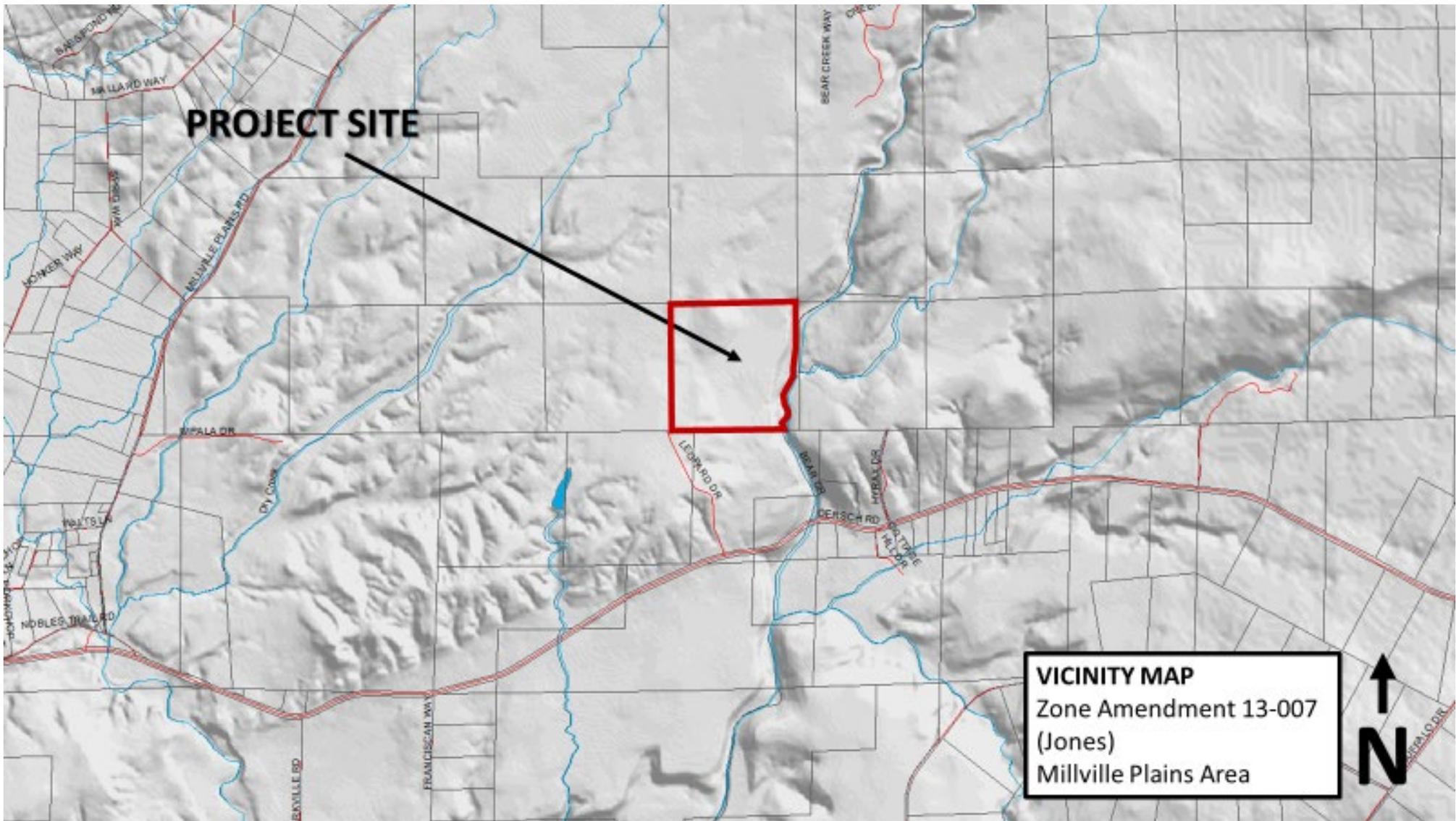
Mitigation Measure/Condition	Timing/Implementation	Enforcement/Monitoring	Verification (Date & Initials)
<p>non-disturbance buffer shall be established around the nest by a qualified biologist in consultation with the Department of Fish and Wildlife (CDFW). No vegetation removal or construction activities shall occur within this non-disturbance buffer until the young have fledged, as determined through additional monitoring by the qualified biologist. The results of the pre-construction surveys shall be sent electronically to CDFW at R1CEQARedding@wildlife.ca.gov.</p> <p><u>Bats</u></p> <p>IV.a.2: In order to avoid impacts to bats, the following shall be implemented:</p> <ol style="list-style-type: none"> a. Conduct removal and disturbance of trees outside of the bat maternity season and bat hibernacula (September 1 to October 31). b. If removal or disturbance of trees will occur during the bat maternity season, when young are non-volant (March 1 - August 31), or during the bat hibernacula (November 1 - March 1), large trees (those greater than 6 inches in diameter) shall be thoroughly surveyed for cavities, crevices, and/or exfoliated bark that may have high potential to be used by bats within 14 days of tree removal or disturbance. The survey shall be conducted by a qualified biologist or arborist familiar with these features to determine if tree features and habitat elements are present. Trees with features potentially suitable for bat roosting should be clearly marked prior to removal and humane evictions must be conducted by or under the supervision of a biologist with specific experience conducting exclusions. Humane exclusions could consist of a two-day tree removal process whereby the non-habitat trees and brush are removed along 			

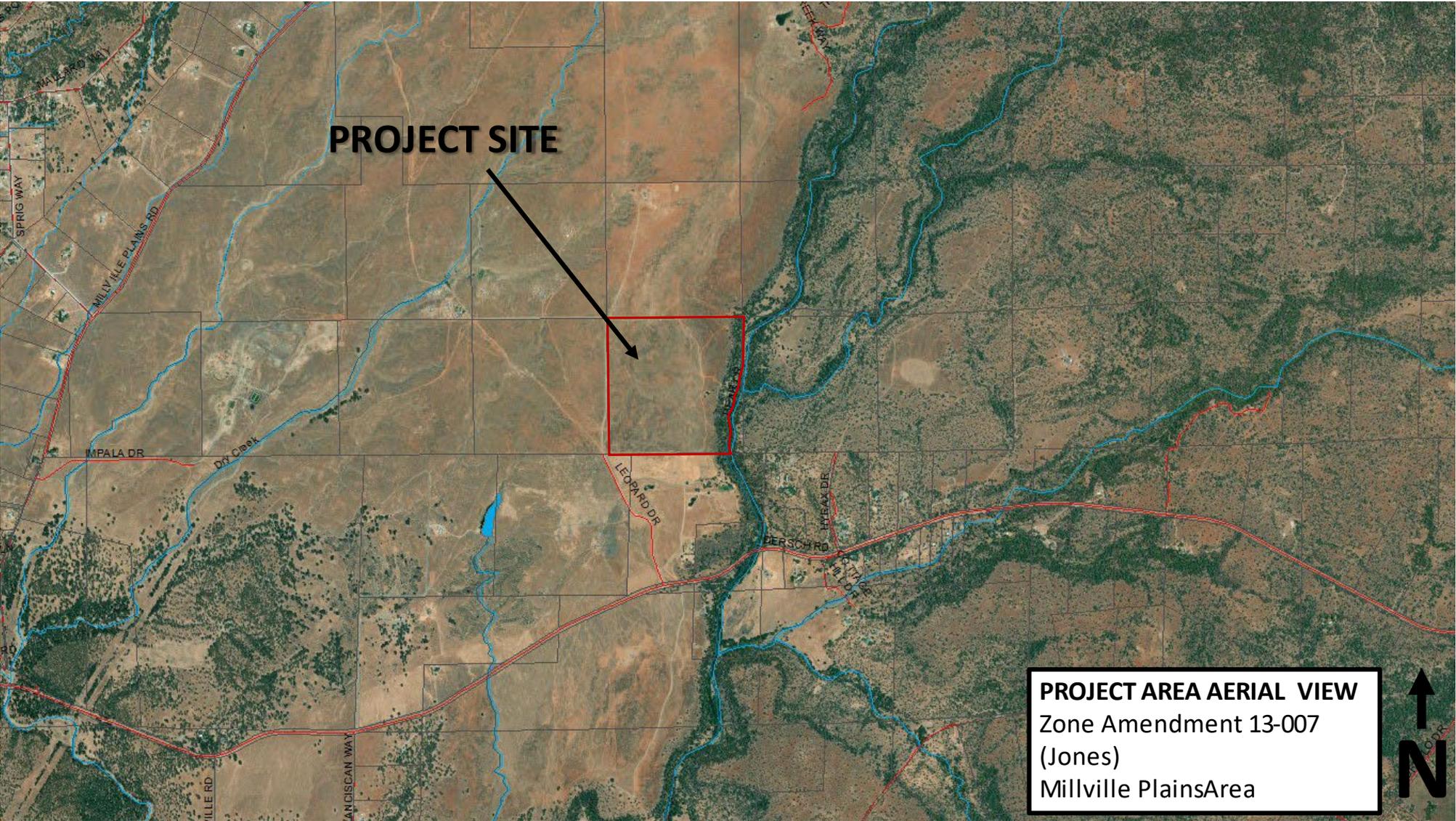
Mitigation Measure/Condition	Timing/Implementation	Enforcement/Monitoring	Verification (Date & Initials)
with certain tree limbs on the first day and the remainder of the tree on the second day.			
<p>Section VII. Geology and Soils</p> <p>VII.b.1: In order to avoid significant erosion impacts and substantial loss of topsoil the applicant shall carefully remove 2 to 4 inches of topsoil where buildings and earthen berms are proposed, retain the topsoil, and utilize it in areas that require reseeded for erosion control, including, but not limited to, the backside of all bullet backstop berms. The areas from where topsoil will be carefully removed and then stockpiled shall be shown on approved grading plans prior to issuance of a grading permit and its use for erosion control shall be described, in concept, in the erosion control plan. Prior to final inspection of the grading permit an as-built plan detailing where and how the topsoil was applied for reseeded in accordance with erosion control plan shall be provided to the Shasta County Planning Division for field confirmation prior to final inspection of the grading permit.</p>	<p>Prior to Issuance of a Grading Permit and Prior to Final Inspection of a Grading Permit</p>	<p>Resource Management, Planning Division / Building Division</p>	
<p>Section X. Hydrology and Water Quality</p> <p>X.a.1: In order to ensure that water quality is not significantly impacted by concentrations of metals and materials from bullets and other debris, the applicant shall prepare and submit a Water Quality Control Plan as described in the Environmental Manager Plan prepared for the project. The Water Quality Control Plan shall provide for and minimize impacts on water quality and shall include the following, in addition to what may be provided by the qualified professional preparer of the plan.</p> <p>a. Identification of points of discharge from project to Bear Creek or other surface waters.</p>	<p>Prior to Issuance of a Grading Permit and Annually Thereafter</p>	<p>Resource Management, Planning Division / Building Division</p>	

Mitigation Measure/Condition	Timing/Implementation	Enforcement/Monitoring	Verification (Date & Initials)
<p>b. Proposed sampling locations.</p> <p>c. Proposed water sampling protocols, including identification of proposed sampling methods, sampling technicians or firms, chain of custody for sampling, pollutant to be tested for and testing lab.</p> <p>d. Test soil pH on a semi-annual basis at the base of earthen backstops and filter beds where surface water runoff is designed to be captured; and</p> <p>e. Test water for rises in acidic concentration on an annual basis at points of discharge as may be identified in the plan, including nearest where the intermittent stream identified as IS-1 in the Wetlands Delineation Map provided by Wildland Resource Managers, enters into Bear Creek from the project site.</p> <p>Records of samples shall be submitted to the Department of Resource Management on an annual basis and may be provided to the State of California Regional Water Quality Control Board for review and determination of whether test results indicate that discharge from the project may be subject to regulation under the Clean Water Act or California regulations governing water quality. If it is determined that discharge from the project is subject to such regulation, the applicant shall meet the applicable requirements. Original measurements will be used as a baseline to track and monitor water quality and soil pH and would inform the need for management actions over the life of the project. If it is determined by the Director of Resource Management that additional testing should take place to determine potential sources of water quality degradation, additional testing and submittal of annual testing results shall be required.</p>			
<p>Section XIII. Noise</p> <p>XIII.a.1: To mitigate noise levels by 6 dBA at the nearest sensitive receptors to specified firing locations, the applicant shall:</p> <p>a. Install a sound attenuation noise barrier as close as</p>	<p>Prior to Issuance of a Building Permit/ During Project Construction/ Prior to Final</p>	<p>Resource Management, Planning Division / Building Division</p>	

Mitigation Measure/Condition	Timing/Implementation	Enforcement/Monitoring	Verification (Date & Initials)
<p>possible to the northern two firing locations for the clay sports shooting area to obstruct line of sight from those firing locations to the residences to the north and northwest; and</p> <p>b. Install a sound attenuation noise barrier as close as possible to all rifle firing locations along the southern property boundary to obstruct line of sight from those firing locations to the residences to the south and southeast.</p> <p>Each sound attenuation barrier shall be constructed at a height slightly higher than the minimum height to block the direct line of sight to the nearest residence(s). Final construction drawings shall indicate the location and construction method of the required sound attenuation barriers prior to issuance of building permits. Sound attenuation barriers shall not impede the hydrologic Prior to final inspection of a building permit, an acoustical analysis ensuring the effectiveness of the proposed mitigation measure will be required pursuant to Table N-V of the Shasta County General Plan Noise Element.</p>	<p>Inspection of a Building Permit</p>		
<p>Section XVII. Transportation/Traffic</p> <p>XVII.c.1: To mitigate a safety hazard impact due to inadequate intersection sight distances and approach warning signage at the Leopard Drive and Dersch Road intersection, the applicant shall:</p> <p>a. Modify the earthen banks by grading/excavation and control vegetation along the Leopard Drive and Dersch Road returns consistent with recommended AASHTO distances and ACCESS ROAD & SITE FEATURES – Exhibit B; and</p> <p>b. Install asphalt pavement and shoulder backing improvements to Leopard Drive at its connection to Dersch Road; and</p> <p>c. Grade additional area and clear sight distances; and</p>	<p>Prior to Issuance of a Grading Permit/Encroachment Permit Approval/Ongoing Project Maintenance</p>	<p>Resource Management, Planning Division / Building Division / Department of Public Works</p>	

Mitigation Measure/Condition	Timing/Implementation	Enforcement/Monitoring	Verification (Date & Initials)
d. Install advance signing for Leopard Drive via the following signs: i. W2-2: T-Intersection Symbol ii. W16-8P: Supplemental Street Name Plaque			





PROJECT SITE

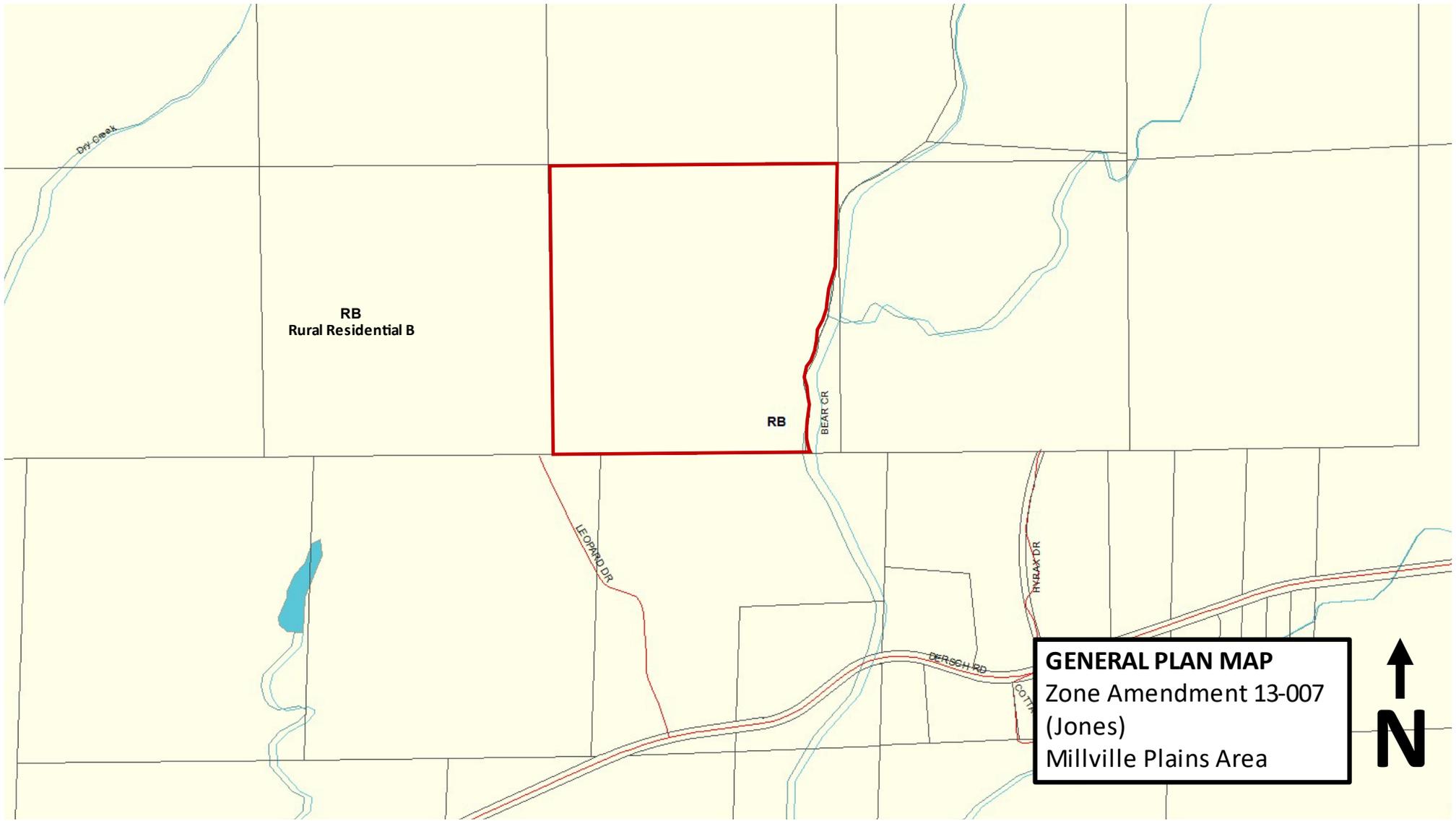
PROJECT AREA AERIAL VIEW
Zone Amendment 13-007
(Jones)
Millville Plains Area





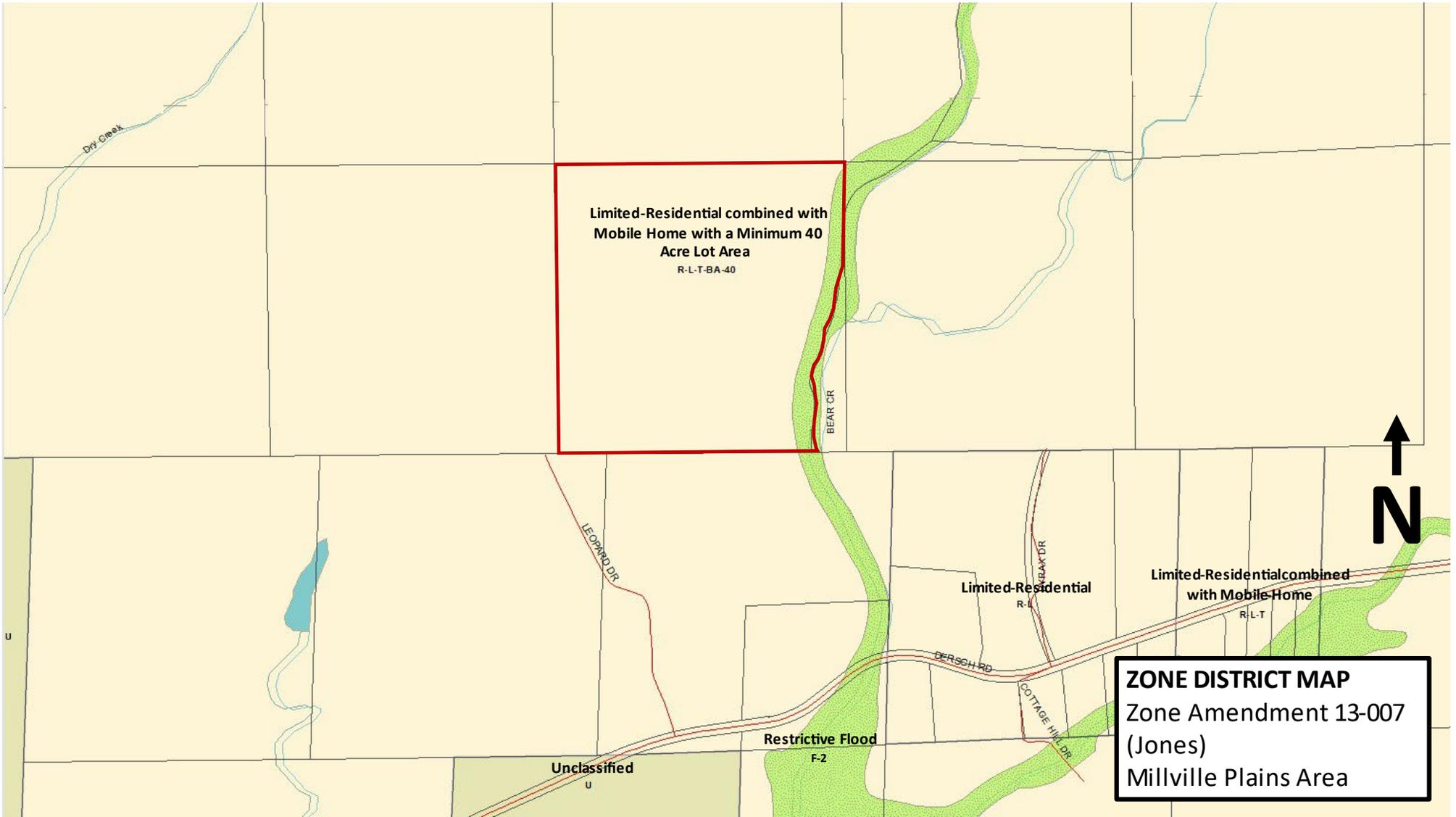
AERIAL VIEW
Zone Amendment 13-007
(Jones)
Millville Plains Area



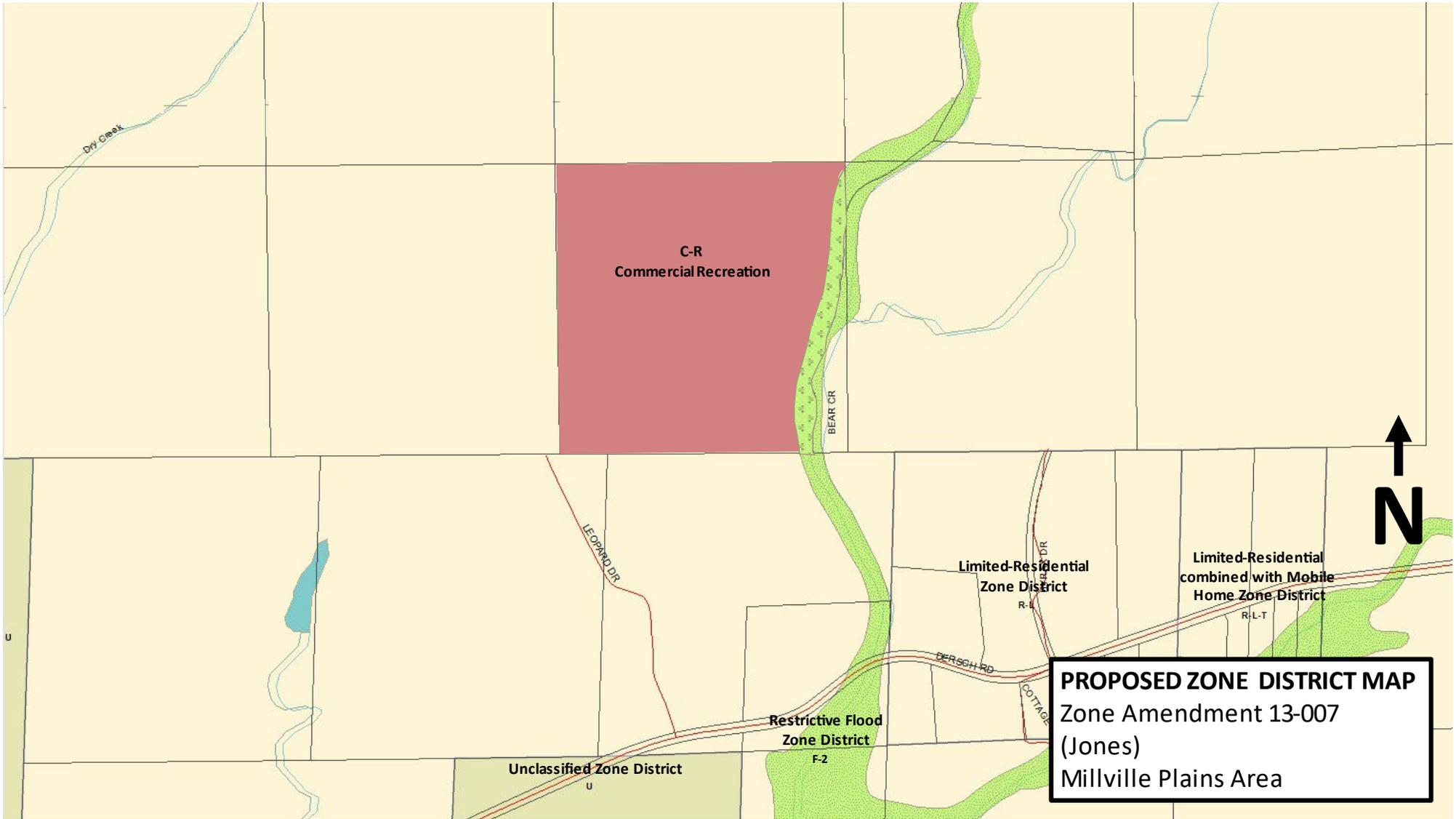


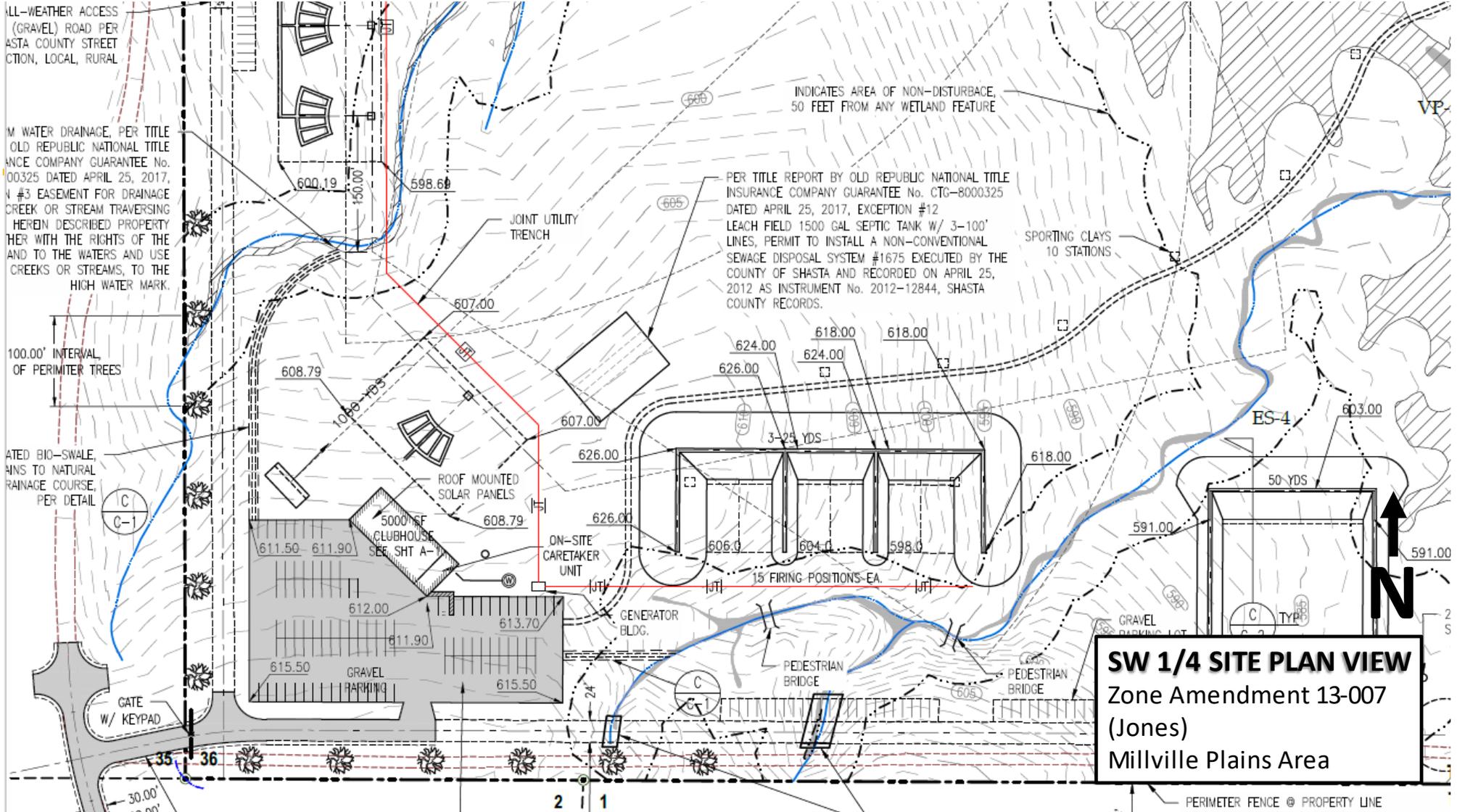
GENERAL PLAN MAP
Zone Amendment 13-007
(Jones)
Millville Plains Area



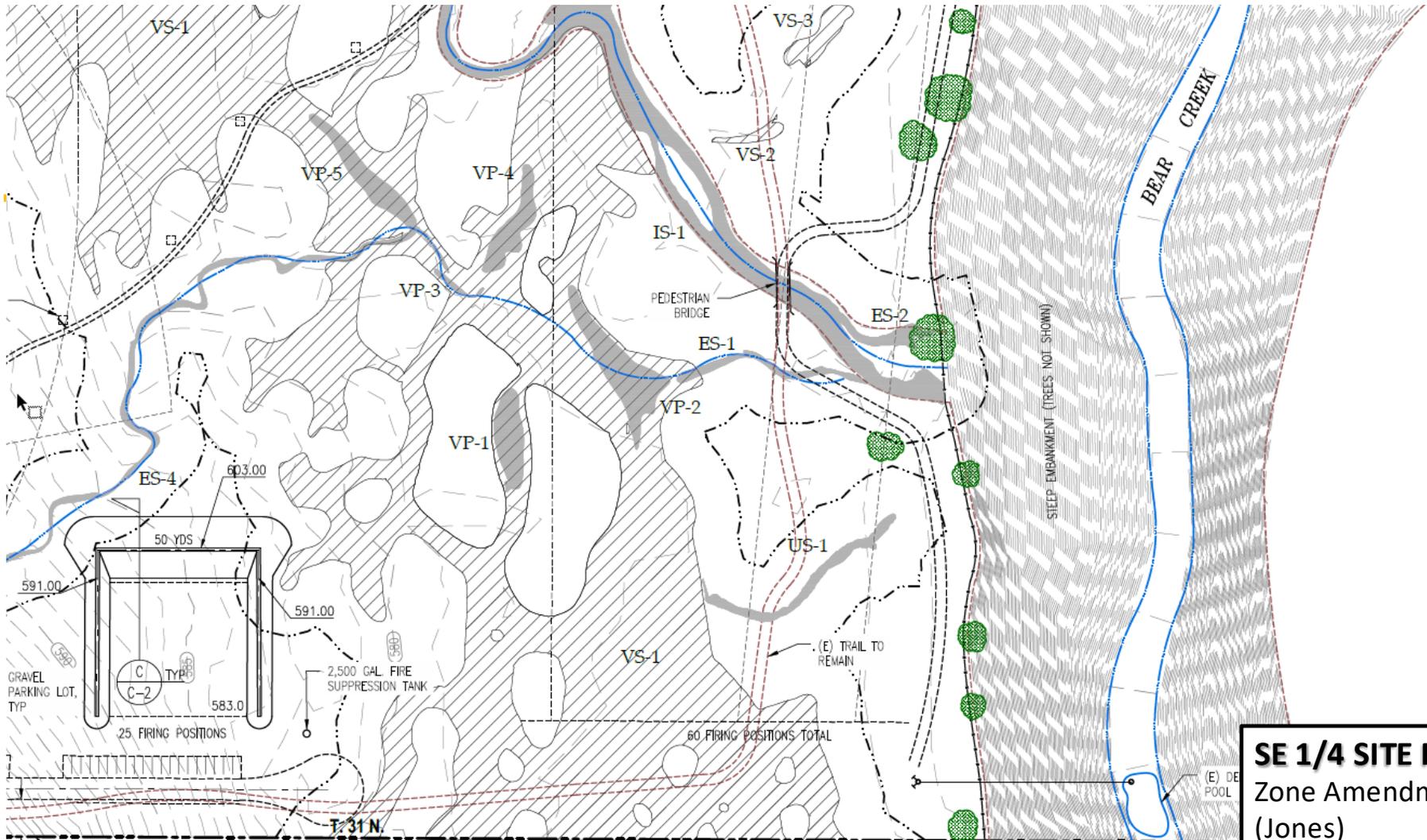


ZONE DISTRICT MAP
 Zone Amendment 13-007
 (Jones)
 Millville Plains Area





SW 1/4 SITE PLAN VIEW
 Zone Amendment 13-007
 (Jones)
 Millville Plains Area



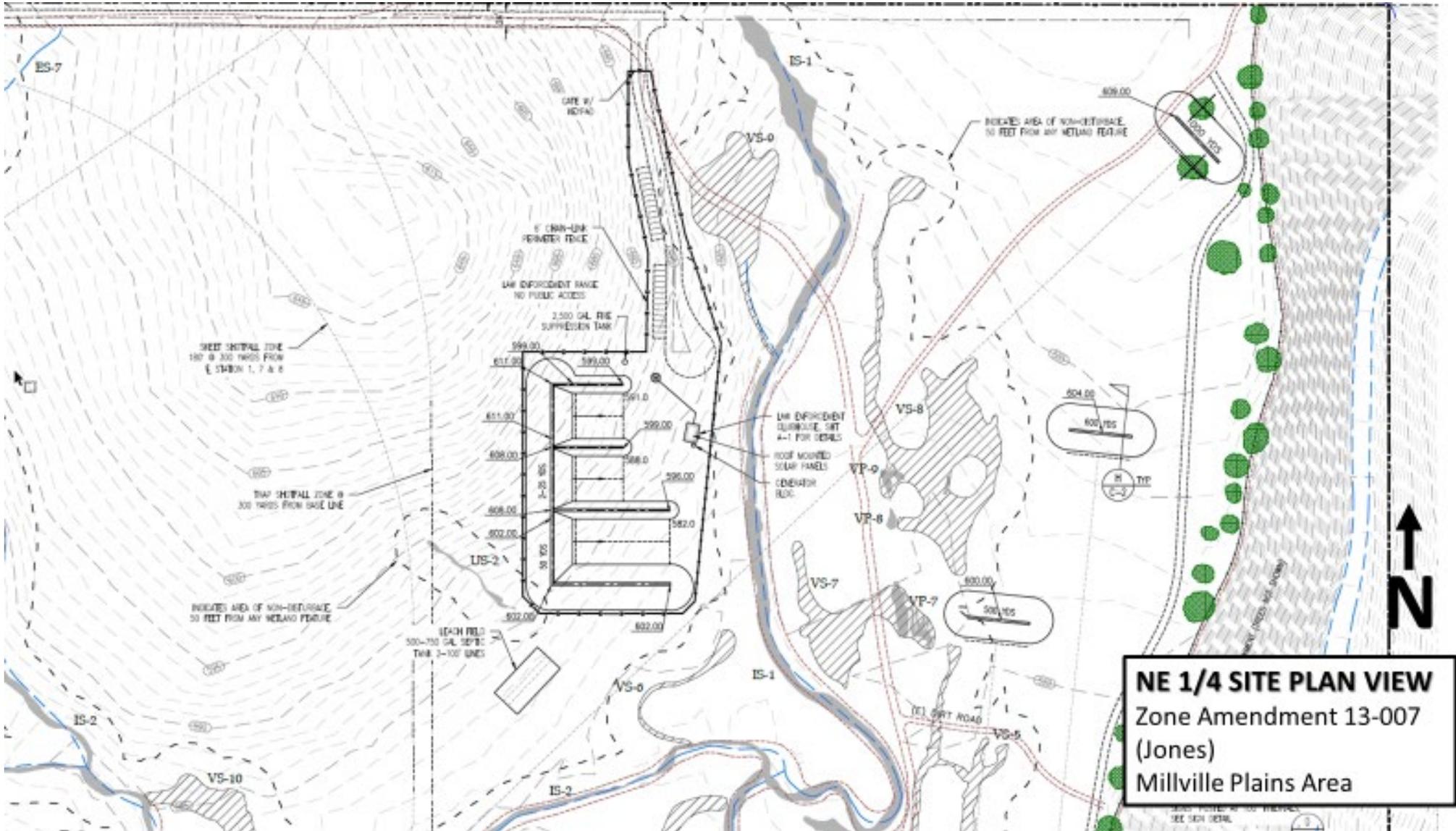
SE 1/4 SITE PLAN VIEW
 Zone Amendment 13-007
 (Jones)
 Millville Plains Area

PERIMETER FENCE @ PROPERTY LINE
 5" NO-CLIMB FENCE W/ 1 STRAND OF BARBED
 WIRE ON TOP AND "RANGE CAUTION SIGNS"
 POSTED AT 100' INTERVALS, SEE SIGN DETAIL

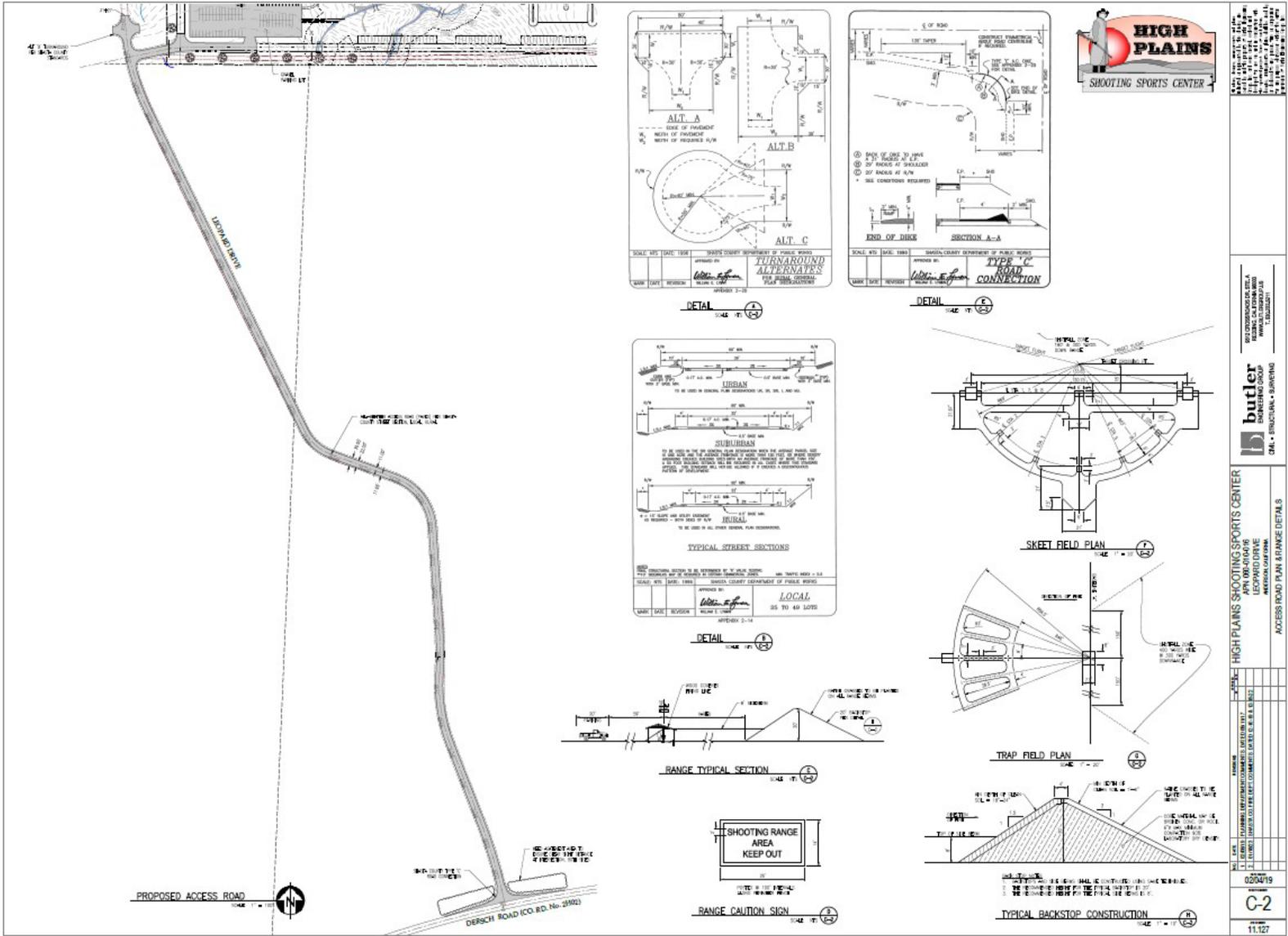


PROPOSED SITE PLAN

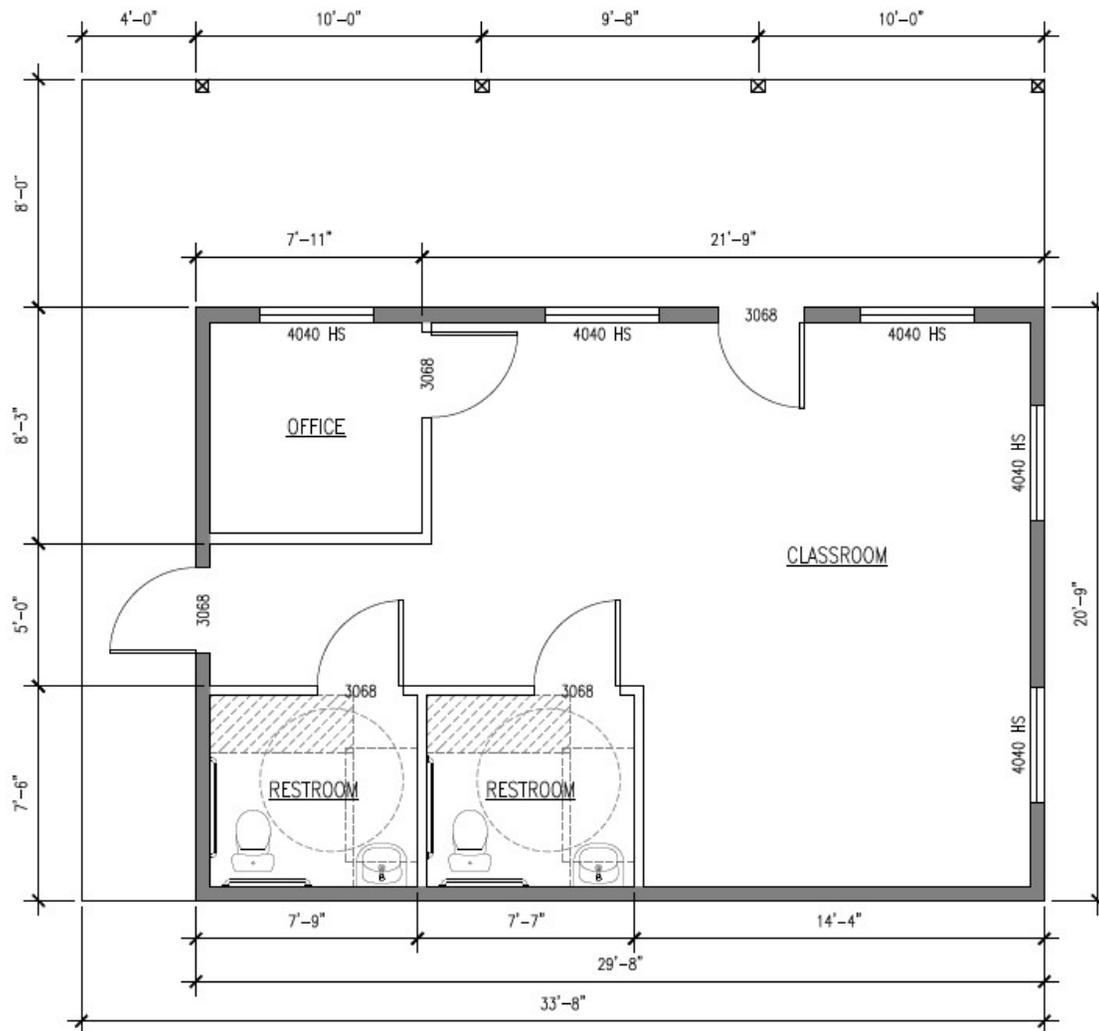
SCALE: 1" = 100'



NE 1/4 SITE PLAN VIEW
 Zone Amendment 13-007
 (Jones)
 Millville Plains Area



ACCESS ROAD & SITE FEATURES – Exhibit B
 Zone Amendment 13-007
 (Jones)
 Millville Plains Area

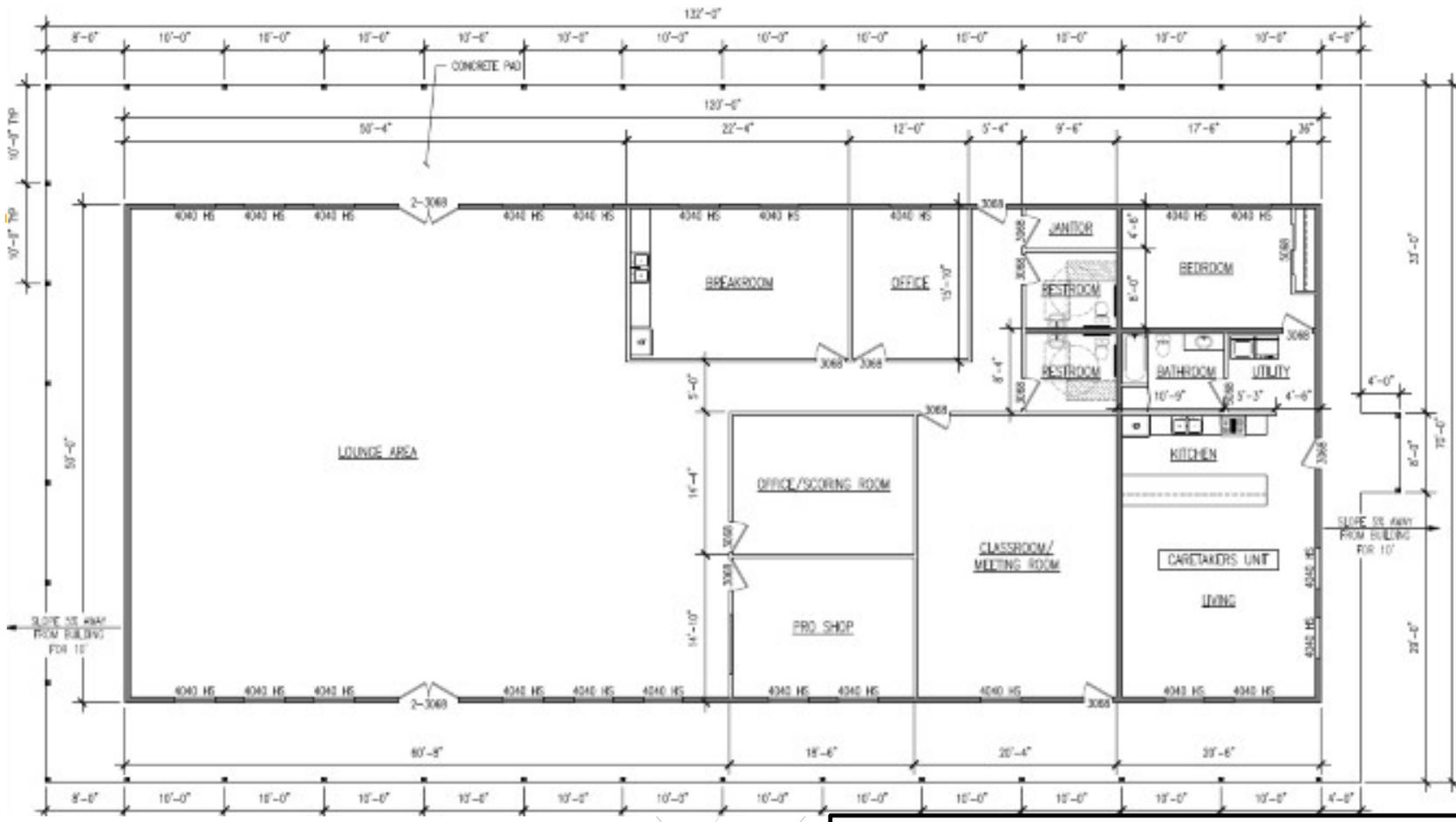


LAW ENFORCEMENT CLUBHOUSE FLOOR PLAN

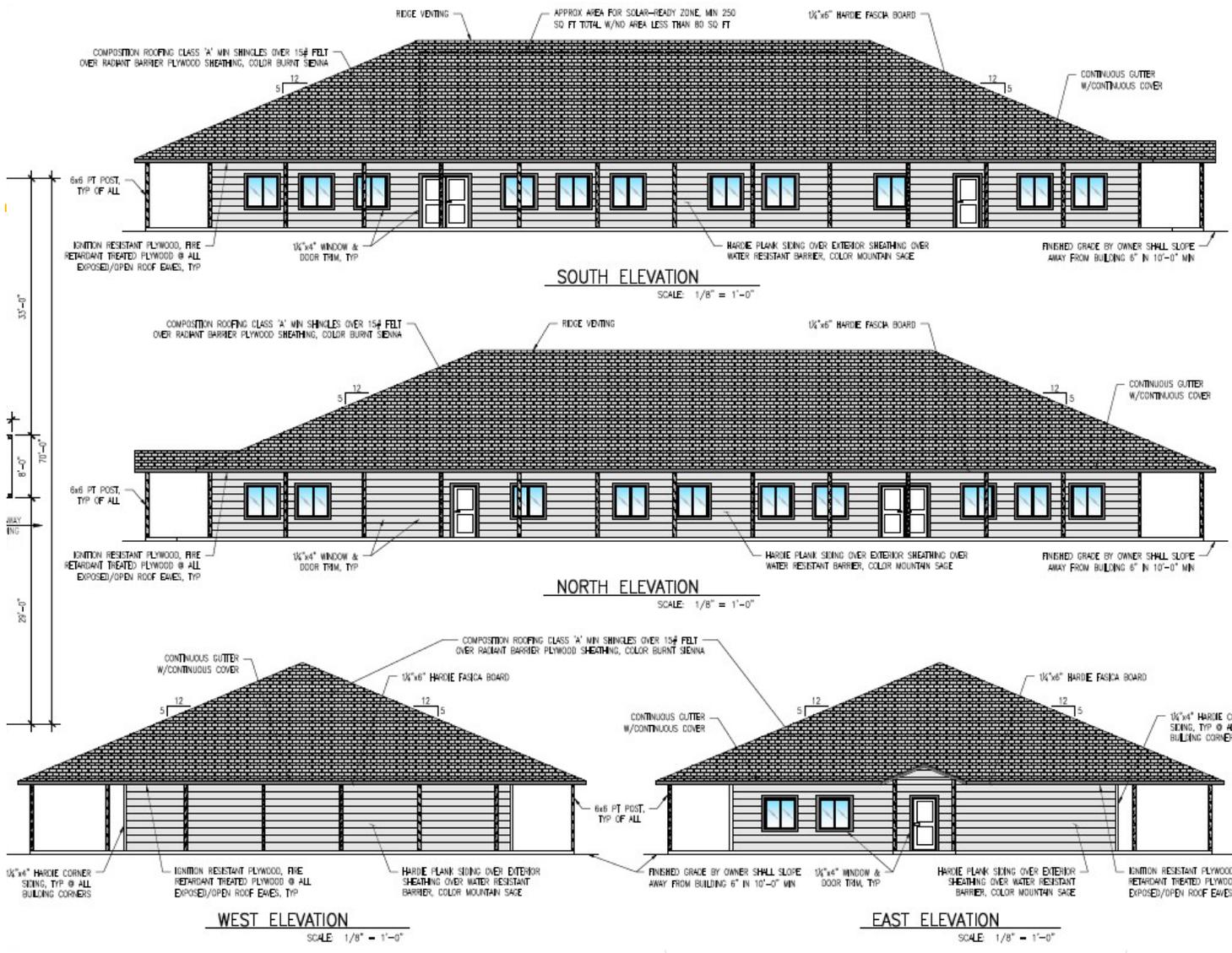
SCALE: 1/4" = 1'-0"



**LAW ENFORCEMENT CLUBHOUSE
FLOORPLAN— Exhibit C1**
Zone Amendment 13-007
(Jones)
Millville Plains Area



CLUBHOUSE & CARETAKERS UNIT FLOORPLAN – Exhibit D1
 Zone Amendment 13-007
 (Jones)
 Millville Plains Area



**CLUBHOUSE & CARETAKERS
UNIT ELEVATIONS – Exhibit D2**
Zone Amendment 13-007
(Jones)
Millville Plains Area



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Region 1 – Northern
601 Locust Street
Redding, CA 96001
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director



October 21, 2013

Mr. Kent Hector, Senior Planner
Planning Division
Department of Resource Management
1855 Placer Street, Suite 103
Redding, CA 96001

Subject: October 14, 2013, Request for Informal Consultation for Zone Amendment 13-007 (High Plains Shooting Sports Center), Millville Area, Shasta County

Dear Mr. Hector:

The California Department of Fish and Wildlife (Department) has reviewed the Subject Request for the High Plains Shooting Sports Center (Project). The Project is located at the end of Leopard Drive, 0.5 miles north of the intersection of Leopard Drive and Dersch Road in the Millville area. The Department offers the following comments and recommendations on the Project in our role as the State's trustee for fish and wildlife resources, and as a responsible agency under the California Environmental Quality Act (CEQA), California Public Resources Codes §21000 et seq. The following are informal comments intended to assist the Lead Agency in making informed decisions early in the Project development and review process.

Project Description

The Project, as stated in the Request for Informal Consultation dated October 4, 2013, is to "rezone from Rural Residential, Mobile Home Combining, 40-acre minimum (R-L-T-BA 40) to Commercial Recreation (C-R) zone district to allow for a shooting range on a 150-acre parcel".

Project Specific Comments and Recommendations

To enable Department staff to adequately review and comment on the proposed Project, we recommend the following information be included in the Mitigated Negative Declaration (MND) or Environmental Impact Report (EIR), as applicable:

The Project lies within the Millville Plains which is known for its vernal pools and vernal pool complexes, a type of sensitive wetland that is protected under state and federal laws. Vernal pools occur in depressions which have an impervious substrate that prevents downward percolation of water. Vernal pools typically fill with precipitation in the fall, winter and spring, and are dry by summer. The pool may be full for a short or an extended period of time before drying up. This

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drastic seasonal change from wet to dry creates a unique assemblage of specialized plants and wildlife many of which are endemic to this type of habitat. Species inhabiting vernal pools are able to complete their life cycle in a short time frame and tolerate a wide range of hydrologic conditions.

The Department recommends the applicant conduct a complete and thorough wetland delineation to identify vernal pools, vernal pool complexes, and stream and riparian resources. The delineation report should include a jurisdictional delineation including wetlands identification pursuant to the U.S. Fish and Wildlife Service wetland definition¹ as adopted by the Department². Please note that some wetland and riparian habitats subject to the Department's authority may extend beyond the jurisdictional limits of the U.S. Army Corps of Engineers. The jurisdictional delineation should also include mapping of ephemeral, intermittent, and perennial stream courses potentially impacted by the Project. In addition to "federally protected wetlands" (see CEQA Appendix G), the Department considers impacts to any wetlands (as defined by the Department) as potentially significant. If the Project site supports vernal pool habitat, site design should include provisions for protection of vernal pools including their watersheds.

The Project, as proposed, will require Lake or Streambed Alteration Agreement (LSAA) notification, pursuant to §1600 et seq. of the Fish and Game Code, prior to the applicant's commencement of any activity that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank (which may include associated riparian resources) of a river, stream or lake, or use material from a streambed. The Department's issuance of a LSAA for a project that is subject to CEQA will require CEQA compliance actions by the Department as a Responsible Agency. The Department as a Responsible Agency under CEQA may consider the Lead Agency Negative Declaration or EIR for the Project. To minimize additional requirements by the Department pursuant to §1600 et seq. and/or under CEQA, the document should fully identify the potential impacts to the lake, stream, or riparian resources and provide adequate avoidance, mitigation, monitoring, and reporting commitments for issuance of the LSAA. A LSAA notification package may be obtained through the Department's website at <http://www.dfg.ca.gov/habcon/1600/>.

Special-Status Plants and Wildlife

A complete assessment of the flora and fauna within and adjacent to the Project footprint should be conducted, with particular emphasis upon identifying

¹ Cowardin, Lewis M., et al. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service.

² California Fish and Game Commission Policies: Wetlands Resources Policy; Wetland Definition, Mitigation Strategies, and Habitat Value Assessment Strategy; Amended 1994.

special-status species including rare, threatened, and endangered species. This assessment should also address locally unique species, rare natural communities, and wetlands. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with the Department and the U.S. Fish and Wildlife Service. Links to some survey procedures are provided on the Department's website.³ A thorough assessment of rare plants and rare natural communities should be conducted, following the Department's November 2009 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (Attachment 1). The assessment area should be large enough to encompass areas potentially subject to both direct and indirect Project effects. Both the Project footprint and the assessment area (if different) should be clearly defined and mapped in the MND/EIR.

The Department's California Natural Diversity Data Base (CNDDDB) should be searched to obtain current information on previously reported sensitive species and habitat, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code. In order to provide an adequate assessment of special-status species potentially occurring within the Project vicinity, the search area for CNDDDB occurrences should include all U.S.G.S 7.5-minute topographic quadrangles with Project activities, and all adjoining 7.5-minute topographic quadrangles. The MND or EIR should discuss how and when the CNDDDB search was conducted, including the names of each quadrangle queried, or why any areas may have been intentionally excluded from the CNDDDB query. In addition, the U.S. Fish and Wildlife Service database of federally protected species and the California Native Plant Society electronic inventory are both searchable databases and should be used in conjunction with the CNDDDB.

A thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts, should be included as well as the following:

1. The MND or EIR should present clear thresholds of significance to be used by the Lead Agency in its determination of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect.
2. CEQA Guidelines, § 15125, direct that knowledge of environmental conditions at both the local and regional levels is critical to an assessment of environmental impacts and that special emphasis shall be placed on resources that are rare or unique to the region (such as

³ http://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html

vernal pools and any rare, threatened, or endangered species occurring within such habitat).

3. Impacts associated with initial Project implementation as well as long-term operation and maintenance of the Project shall be addressed in the MND/EIR pursuant to CEQA Guidelines 15126.2 (a). Examples include whether lead ammunition will be permitted, and if so, how will lead contamination be managed or mitigated to avoid or reduce impacts to waterways and wildlife? How will as the acoustic disturbance to wildlife be addressed?
4. In evaluating the significance of the environmental effect of the Project, the Lead Agency should consider direct physical changes in the environment which may be caused by the Project and reasonably foreseeable indirect physical changes in the environment which may be caused by the Project. Expected impacts should be quantified (e.g., acres, linear feet, number of individuals taken, volume or rate of water extracted, etc. to the extent feasible).
5. Project impacts should be analyzed relative to their effects on off-site habitats and species. Specifically, this may include public lands, open space, downstream aquatic habitats, areas of groundwater depletion, or any other natural habitat or species that could be affected by the Project.
6. Impacts to and maintenance of wildlife corridor/movement areas and other key seasonal use areas should be fully evaluated and provided.
7. A discussion of impacts associated with increased lighting, noise, human activity, changes in drainage patterns, changes in water volume, velocity, quantity, and quality, soil erosion, and/or sedimentation in streams and water courses on or near the Project site.
8. Special considerations applicable to linear projects include ground disturbance that may facilitate infestations by exotic and invasive species over a great distance.
9. A cumulative effects analysis shall be developed for species and habitats potentially affected by the Project. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts to species and habitats.

Mr. Kent Hector
October 21, 2013
Page 5

The Department appreciates the opportunity to comment on this Project early in the CEQA process and look forward to working with you. If you have any questions, please contact Amy Henderson at 530-225-2779 or email at Amy.Henderson@wildlife.ca.gov.

Sincerely,



Curt Babcock
Habitat Conservation Program Manager

Attachment

ec: Mss. Amy Henderson, Kristin Hubbard, and Donna Cobb
Mr. Michael R. Harris
California Department of Fish and Wildlife
Amy.Henderson@wildlife.ca.gov, Kristin.Hubbard@wildlife.ca.gov,
Donna.Cobb@wildlife.ca.gov, Michael.R.Harris@wildlife.ca.gov

Mr. Kent Hector
Senior Planner, Department of Resource Management Planning Division
khector@co.shasta.ca.us

Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities

State of California
CALIFORNIA NATURAL RESOURCES AGENCY
Department of Fish and Game
November 24, 2009¹

INTRODUCTION AND PURPOSE

The conservation of special status native plants and their habitats, as well as natural communities, is integral to maintaining biological diversity. The purpose of these protocols is to facilitate a consistent and systematic approach to the survey and assessment of special status native plants and natural communities so that reliable information is produced and the potential of locating a special status plant species or natural community is maximized. They may also help those who prepare and review environmental documents determine when a botanical survey is needed, how field surveys may be conducted, what information to include in a survey report, and what qualifications to consider for surveyors. The protocols may help avoid delays caused when inadequate biological information is provided during the environmental review process; assist lead, trustee and responsible reviewing agencies to make an informed decision regarding the direct, indirect, and cumulative effects of a proposed development, activity, or action on special status native plants and natural communities; meet California Environmental Quality Act (CEQA)² requirements for adequate disclosure of potential impacts; and conserve public trust resources.

DEPARTMENT OF FISH AND GAME TRUSTEE AND RESPONSIBLE AGENCY MISSION

The mission of the Department of Fish and Game (DFG) is to manage California's diverse wildlife and native plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. DFG has jurisdiction over the conservation, protection, and management of wildlife, native plants, and habitat necessary to maintain biologically sustainable populations (Fish and Game Code §1802). DFG, as trustee agency under CEQA §15386, provides expertise in reviewing and commenting on environmental documents and makes protocols regarding potential negative impacts to those resources held in trust for the people of California.

Certain species are in danger of extinction because their habitats have been severely reduced in acreage, are threatened with destruction or adverse modification, or because of a combination of these and other factors. The California Endangered Species Act (CESA) provides additional protections for such species, including take prohibitions (Fish and Game Code §2050 *et seq.*). As a responsible agency, DFG has the authority to issue permits for the take of species listed under CESA if the take is incidental to an otherwise lawful activity; DFG has determined that the impacts of the take have been minimized and fully mitigated; and, the take would not jeopardize the continued existence of the species (Fish and Game Code §2081). Surveys are one of the preliminary steps to detect a listed or special status plant species or natural community that may be impacted significantly by a project.

DEFINITIONS

Botanical surveys provide information used to determine the potential environmental effects of proposed projects on all special status plants and natural communities as required by law (i.e., CEQA, CESA, and Federal Endangered Species Act (ESA)). Some key terms in this document appear in **bold font** for assistance in use of the document.

For the purposes of this document, **special status plants** include all plant species that meet one or more of the following criteria³:

¹ This document replaces the DFG document entitled "Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened and Endangered Plants and Natural Communities."

² <http://ceres.ca.gov/ceqa/>

³ Adapted from the East Alameda County Conservation Strategy available at http://www.fws.gov/sacramento/EACCS/Documents/080228_Species_Evaluation_EACCS.pdf

- Listed or proposed for listing as threatened or endangered under ESA or candidates for possible future listing as threatened or endangered under the ESA (50 CFR §17.12).
- Listed⁴ or candidates for listing by the State of California as threatened or endangered under CESA (Fish and Game Code §2050 *et seq.*). A species, subspecies, or variety of plant is **endangered** when the prospects of its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, disease, or other factors (Fish and Game Code §2062). A plant is **threatened** when it is likely to become endangered in the foreseeable future in the absence of special protection and management measures (Fish and Game Code §2067).
- Listed as rare under the California Native Plant Protection Act (Fish and Game Code §1900 *et seq.*). A plant is **rare** when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens (Fish and Game Code §1901).
- Meet the definition of rare or endangered under CEQA §15380(b) and (d). Species that may meet the definition of rare or endangered include the following:
 - ♦ Species considered by the California Native Plant Society (CNPS) to be "rare, threatened or endangered in California" (Lists 1A, 1B and 2);
 - ♦ Species that may warrant consideration on the basis of local significance or recent biological information⁵;
 - ♦ Some species included on the California Natural Diversity Database's (CNDDDB) *Special Plants, Bryophytes, and Lichens List* (California Department of Fish and Game 2008)⁶.
- Considered a **locally significant species**, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125 (c)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include a species at the outer limits of its known range or a species occurring on an uncommon soil type.

Special status natural communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special status species or their habitat. The most current version of the Department's *List of California Terrestrial Natural Communities*⁷ indicates which natural communities are of special status given the current state of the California classification.

Most types of wetlands and riparian communities are considered special status natural communities due to their limited distribution in California. These natural communities often contain special status plants such as those described above. These protocols may be used in conjunction with protocols formulated by other agencies, for example, those developed by the U.S. Army Corps of Engineers to delineate jurisdictional wetlands⁸ or by the U.S. Fish and Wildlife Service to survey for the presence of special status plants⁹.

⁴ Refer to current online published lists available at: <http://www.dfg.ca.gov/biogeodata>.

⁵ In general, CNPS List 3 plants (plants about which more information is needed) and List 4 plants (plants of limited distribution) may not warrant consideration under CEQA §15380. These plants may be included on special status plant lists such as those developed by counties where they would be addressed under CEQA §15380. List 3 plants may be analyzed under CEQA §15380 if sufficient information is available to assess potential impacts to such plants. Factors such as regional rarity vs. statewide rarity should be considered in determining whether cumulative impacts to a List 4 plant are significant even if individual project impacts are not. List 3 and 4 plants are also included in the California Natural Diversity Database's (CNDDDB) *Special Plants, Bryophytes, and Lichens List*. [Refer to the current online published list available at: <http://www.dfg.ca.gov/biogeodata>.] Data on Lists 3 and 4 plants should be submitted to CNDDDB. Such data aids in determining or revising priority ranking.

⁶ Refer to current online published lists available at: <http://www.dfg.ca.gov/biogeodata>.

⁷ <http://www.dfg.ca.gov/biogeodata/vegcamp/pdfs/natcomlist.pdf>. The rare natural communities are asterisked on this list.

⁸ <http://www.wetlands.com/regs/1pge02e.htm>

⁹ U.S. Fish and Wildlife Service Survey Guidelines available at <http://www.fws.gov/sacramento/es/protocol.htm>

BOTANICAL SURVEYS

Conduct botanical surveys prior to the commencement of any activities that may modify vegetation, such as clearing, mowing, or ground-breaking activities. It is appropriate to conduct a botanical field survey when:

- Natural (or naturalized) vegetation occurs on the site, and it is unknown if special status plant species or natural communities occur on the site, and the project has the potential for direct or indirect effects on vegetation; or
- Special status plants or natural communities have historically been identified on the project site; or
- Special status plants or natural communities occur on sites with similar physical and biological properties as the project site.

SURVEY OBJECTIVES

Conduct field surveys in a manner which maximizes the likelihood of locating special status plant species or special status natural communities that may be present. Surveys should be **floristic in nature**, meaning that every plant taxon that occurs on site is identified to the taxonomic level necessary to determine rarity and listing status. "Focused surveys" that are limited to habitats known to support special status species or are restricted to lists of likely potential species are not considered floristic in nature and are not adequate to identify all plant taxa on site to the level necessary to determine rarity and listing status. Include a list of plants and natural communities detected on the site for each botanical survey conducted. More than one field visit may be necessary to adequately capture the floristic diversity of a site. An indication of the prevalence (estimated total numbers, percent cover, density, etc.) of the species and communities on the site is also useful to assess the significance of a particular population.

SURVEY PREPARATION

Before field surveys are conducted, compile relevant botanical information in the general project area to provide a regional context for the investigators. Consult the CNDDDB¹⁰ and BIOS¹¹ for known occurrences of special status plants and natural communities in the project area prior to field surveys. Generally, identify vegetation and habitat types potentially occurring in the project area based on biological and physical properties of the site and surrounding ecoregion¹², unless a larger assessment area is appropriate. Then, develop a list of special status plants with the potential to occur within these vegetation types. This list can serve as a tool for the investigators and facilitate the use of reference sites; however, special status plants on site might not be limited to those on the list. Field surveys and subsequent reporting should be comprehensive and floristic in nature and not restricted to or focused only on this list. Include in the survey report the list of potential special status species and natural communities, and the list of references used to compile the background botanical information for the site.

SURVEY EXTENT

Surveys should be comprehensive over the entire site, including areas that will be directly or indirectly impacted by the project. Adjoining properties should also be surveyed where direct or indirect project effects, such as those from fuel modification or herbicide application, could potentially extend offsite. Pre-project surveys restricted to known CNDDDB rare plant locations may not identify all special status plants and communities present and do not provide a sufficient level of information to determine potential impacts.

FIELD SURVEY METHOD

Conduct surveys using **systematic field techniques** in all habitats of the site to ensure thorough coverage of potential impact areas. The level of effort required per given area and habitat is dependent upon the vegetation and its overall diversity and structural complexity, which determines the distance at which plants can be identified. Conduct surveys by walking over the entire site to ensure thorough coverage, noting all plant taxa

¹⁰ Available at <http://www.dfg.ca.gov/biogeodata/cndddb>

¹¹ <http://www.bios.dfg.ca.gov/>

¹² Ecological Subregions of California, available at <http://www.fs.fed.us/r5/projects/ecoregions/toc.htm>

observed. The level of effort should be sufficient to provide comprehensive reporting. For example, one person-hour per eight acres per survey date is needed for a comprehensive field survey in grassland with medium diversity and moderate terrain¹³, with additional time allocated for species identification.

TIMING AND NUMBER OF VISITS

Conduct surveys in the field at the time of year when species are both evident and identifiable. Usually this is during flowering or fruiting. Space visits throughout the growing season to accurately determine what plants exist on site. Many times this may involve multiple visits to the same site (e.g. in early, mid, and late-season for flowering plants) to capture the floristic diversity at a level necessary to determine if special status plants are present¹⁴. The timing and number of visits are determined by geographic location, the natural communities present, and the weather patterns of the year(s) in which the surveys are conducted.

REFERENCE SITES

When special status plants are known to occur in the type(s) of habitat present in the project area, observe reference sites (nearby accessible occurrences of the plants) to determine whether those species are identifiable at the time of the survey and to obtain a visual image of the target species, associated habitat, and associated natural community.

USE OF EXISTING SURVEYS

For some sites, floristic inventories or special status plant surveys may already exist. Additional surveys may be necessary for the following reasons:

- Surveys are not current¹⁵; or
- Surveys were conducted in natural systems that commonly experience year to year fluctuations such as periods of drought or flooding (e.g. vernal pool habitats or riverine systems); or
- Surveys are not comprehensive in nature; or fire history, land use, physical conditions of the site, or climatic conditions have changed since the last survey was conducted¹⁶; or
- Surveys were conducted in natural systems where special status plants may not be observed if an annual above ground phase is not visible (e.g. flowers from a bulb); or
- Changes in vegetation or species distribution may have occurred since the last survey was conducted, due to habitat alteration, fluctuations in species abundance and/or seed bank dynamics.

NEGATIVE SURVEYS

Adverse conditions may prevent investigators from determining the presence of, or accurately identifying, some species in potential habitat of target species. Disease, drought, predation, or herbivory may preclude the presence or identification of target species in any given year. Discuss such conditions in the report.

The failure to locate a known special status plant occurrence during one field season does not constitute evidence that this plant occurrence no longer exists at this location, particularly if adverse conditions are present. For example, surveys over a number of years may be necessary if the species is an annual plant having a persistent, long-lived seed bank and is known not to germinate every year. Visits to the site in more

¹³ Adapted from U.S. Fish and Wildlife Service kit fox survey guidelines available at www.fws.gov/sacramento/es/documents/kitfox_no_protocol.pdf

¹⁴ U.S. Fish and Wildlife Service Survey Guidelines available at <http://www.fws.gov/sacramento/es/protocol.htm>

¹⁵ Habitats, such as grasslands or desert plant communities that have annual and short-lived perennial plants as major floristic components may require yearly surveys to accurately document baseline conditions for purposes of impact assessment. In forested areas, however, surveys at intervals of five years may adequately represent current conditions. For forested areas, refer to "Guidelines for Conservation of Sensitive Plant Resources Within the Timber Harvest Review Process and During Timber Harvesting Operations", available at <https://r1.dfg.ca.gov/portal/Portals/12/THPBotanicalGuidelinesJuly2005.pdf>

¹⁶ U.S. Fish and Wildlife Service Survey Guidelines available at http://www.fws.gov/ventura/speciesinfo/protocols_guidelines/docs/botanicalinventories.pdf

than one year increase the likelihood of detection of a special status plant especially if conditions change. To further substantiate negative findings for a known occurrence, a visit to a nearby reference site may ensure that the timing of the survey was appropriate.

REPORTING AND DATA COLLECTION

Adequate information about special status plants and natural communities present in a project area will enable reviewing agencies and the public to effectively assess potential impacts to special status plants or natural communities¹⁷ and will guide the development of minimization and mitigation measures. The next section describes necessary information to assess impacts. For comprehensive, systematic surveys where no special status species or natural communities were found, reporting and data collection responsibilities for investigators remain as described below, excluding specific occurrence information.

SPECIAL STATUS PLANT OR NATURAL COMMUNITY OBSERVATIONS

Record the following information for locations of each special status plant or natural community detected during a field survey of a project site.

- A detailed map (1:24,000 or larger) showing locations and boundaries of each special status species occurrence or natural community found as related to the proposed project. Mark occurrences and boundaries as accurately as possible. Locations documented by use of global positioning system (GPS) coordinates must include the datum¹⁸ in which they were collected;
- The site-specific characteristics of occurrences, such as associated species, habitat and microhabitat, structure of vegetation, topographic features, soil type, texture, and soil parent material. If the species is associated with a wetland, provide a description of the direction of flow and integrity of surface or subsurface hydrology and adjacent off-site hydrological influences as appropriate;
- The number of individuals in each special status plant population as counted (if population is small) or estimated (if population is large);
- If applicable, information about the percentage of individuals in each life stage such as seedlings vs. reproductive individuals;
- The number of individuals of the species per unit area, identifying areas of relatively high, medium and low density of the species over the project site; and
- Digital images of the target species and representative habitats to support information and descriptions.

FIELD SURVEY FORMS

When a special status plant or natural community is located, complete and submit to the CNDDDB a California Native Species (or Community) Field Survey Form¹⁹ or equivalent written report, accompanied by a copy of the relevant portion of a 7.5 minute topographic map with the occurrence mapped. Present locations documented by use of GPS coordinates in map and digital form. Data submitted in digital form must include the datum²⁰ in which it was collected. If a potentially undescribed special status natural community is found on the site, document it with a Rapid Assessment or Relevé form²¹ and submit it with the CNDDDB form.

VOUCHER COLLECTION

Voucher specimens provide verifiable documentation of species presence and identification as well as a public record of conditions. This information is vital to all conservation efforts. Collection of voucher specimens should

¹⁷ Refer to current online published lists available at: <http://www.dfg.ca.gov/biogeodata>. For Timber Harvest Plans (THPs) please refer to the "Guidelines for Conservation of Sensitive Plant Resources Within the Timber Harvest Review Process and During Timber Harvesting Operations", available at <https://r1.dfg.ca.gov/portal/Portals/12/THPBotanicalGuidelinesJuly2005.pdf>

¹⁸ NAD83, NAD27 or WGS84

¹⁹ <http://www.dfg.ca.gov/biogeodata>

²⁰ NAD83, NAD27 or WGS84

²¹ http://www.dfg.ca.gov/biogeodata/vegcamp/veg_publications_protocols.asp

be conducted in a manner that is consistent with conservation ethics, and is in accordance with applicable state and federal permit requirements (e.g. incidental take permit, scientific collection permit). Voucher collections of special status species (or suspected special status species) should be made only when such actions would not jeopardize the continued existence of the population or species.

Deposit voucher specimens with an indexed regional herbarium²² no later than 60 days after the collections have been made. Digital imagery can be used to supplement plant identification and document habitat. Record all relevant permittee names and permit numbers on specimen labels. A collecting permit is required prior to the collection of State-listed plant species²³.

BOTANICAL SURVEY REPORTS

Include reports of botanical field surveys containing the following information with project environmental documents:

- **Project and site description**
 - ♦ A description of the proposed project;
 - ♦ A detailed map of the project location and study area that identifies topographic and landscape features and includes a north arrow and bar scale; and,
 - ♦ A written description of the biological setting, including vegetation²⁴ and structure of the vegetation; geological and hydrological characteristics; and land use or management history.
- **Detailed description of survey methodology and results**
 - ♦ Dates of field surveys (indicating which areas were surveyed on which dates), name of field investigator(s), and total person-hours spent on field surveys;
 - ♦ A discussion of how the timing of the surveys affects the comprehensiveness of the survey;
 - ♦ A list of potential special status species or natural communities;
 - ♦ A description of the area surveyed relative to the project area;
 - ♦ References cited, persons contacted, and herbaria visited;
 - ♦ Description of reference site(s), if visited, and phenological development of special status plant(s);
 - ♦ A list of all taxa occurring on the project site. Identify plants to the taxonomic level necessary to determine whether or not they are a special status species;
 - ♦ Any use of existing surveys and a discussion of applicability to this project;
 - ♦ A discussion of the potential for a false negative survey;
 - ♦ Provide detailed data and maps for all special plants detected. Information specified above under the headings "Special Status Plant or Natural Community Observations," and "Field Survey Forms," should be provided for locations of each special status plant detected;
 - ♦ Copies of all California Native Species Field Survey Forms or Natural Community Field Survey Forms should be sent to the CNDDDB and included in the environmental document as an Appendix. It is not necessary to submit entire environmental documents to the CNDDDB; and,
 - ♦ The location of voucher specimens, if collected.

²² For a complete list of indexed herbaria, see: Holmgren, P., N. Holmgren and L. Barnett. 1990. Index Herbariorum, Part 1: Herbaria of the World. New York Botanic Garden, Bronx, New York. 693 pp. Or: <http://www.nybg.org/bsci/ih/ih.html>

²³ Refer to current online published lists available at: <http://www.dfg.ca.gov/biogeodata>.

²⁴ A vegetation map that uses the National Vegetation Classification System (<http://biology.usgs.gov/npsveg/nvcs.html>), for example *A Manual of California Vegetation*, and highlights any special status natural communities. If another vegetation classification system is used, the report should reference the system, provide the reason for its use, and provide a crosswalk to the National Vegetation Classification System.

- **Assessment of potential impacts**
 - ♦ A discussion of the significance of special status plant populations in the project area considering nearby populations and total species distribution;
 - ♦ A discussion of the significance of special status natural communities in the project area considering nearby occurrences and natural community distribution;
 - ♦ A discussion of direct, indirect, and cumulative impacts to the plants and natural communities;
 - ♦ A discussion of threats, including those from invasive species, to the plants and natural communities;
 - ♦ A discussion of the degree of impact, if any, of the proposed project on unoccupied, potential habitat of the species;
 - ♦ A discussion of the immediacy of potential impacts; and,
 - ♦ Recommended measures to avoid, minimize, or mitigate impacts.

QUALIFICATIONS

Botanical consultants should possess the following qualifications:

- Knowledge of plant taxonomy and natural community ecology;
- Familiarity with the plants of the area, including special status species;
- Familiarity with natural communities of the area, including special status natural communities;
- Experience conducting floristic field surveys or experience with floristic surveys conducted under the direction of an experienced surveyor;
- Familiarity with the appropriate state and federal statutes related to plants and plant collecting; and,
- Experience with analyzing impacts of development on native plant species and natural communities.

SUGGESTED REFERENCES

- Barbour, M., T. Keeler-Wolf, and A. A. Schoenherr (eds.). 2007. *Terrestrial vegetation of California* (3rd Edition). University of California Press.
- Bonham, C.D. 1988. *Measurements for terrestrial vegetation*. John Wiley and Sons, Inc., New York, NY.
- California Native Plant Society. Most recent version. *Inventory of rare and endangered plants* (online edition). California Native Plant Society, Sacramento, CA. Online URL <http://www.cnps.org/inventory>.
- California Natural Diversity Database. Most recent version. *Special vascular plants, bryophytes and lichens list*. Updated quarterly. Available at www.dfg.ca.gov.
- Elzinga, C.L., D.W. Salzer, and J. Willoughby. 1998. *Measuring and monitoring plant populations*. BLM Technical Reference 1730-1. U.S. Dept. of the Interior, Bureau of Land Management, Denver, Colorado.
- Leppig, G. and J.W. White. 2006. *Conservation of peripheral plant populations in California*. *Madroño* 53:264-274.
- Mueller-Dombois, D. and H. Ellenberg. 1974. *Aims and methods of vegetation ecology*. John Wiley and Sons, Inc., New York, NY.
- U.S. Fish and Wildlife Service. 1996. *Guidelines for conducting and reporting botanical inventories for federally listed plants on the Santa Rosa Plain*. Sacramento, CA.
- U.S. Fish and Wildlife Service. 1996. *Guidelines for conducting and reporting botanical inventories for federally listed, proposed and candidate plants*. Sacramento, CA.
- Van der Maarel, E. 2005. *Vegetation Ecology*. Blackwell Science Ltd., Malden, MA.



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922.

June 16, 2017

Regulatory Division (SPK-2016-00831)

Mr. Patrick Jones
1600 E. Cypress Avenue
Redding, California 96002

Dear Mr. Jones:

We are responding to your January 30, 2017, request and additional information provided on June 5, 2017, for a preliminary jurisdictional determination (JD) for the High Plains Shooting Center site. The approximately 134.7-acre project site is located near Bear Creek, Latitude 40.4945978074058°, Longitude -122.158796944431°, Shasta County, California.

Based on available information, we concur with your aquatic resources delineation for the site as depicted on the enclosed June 2, 2017, *High Plains Sports Center Wetland Delineation Map* drawing prepared by Wildland Resource Managers (enclosure 1). The approximately 11.725 acres of vernal swales, 0.428 acres of vernal pools, and 2.221 acres of intermittent and ephemeral streams present within the survey area are potential jurisdictional aquatic resources ("waters of the United States") regulated under Section 404 of the Clean Water.

At your request, we have completed a preliminary JD for the site. Enclosed find a copy of the *Preliminary Jurisdictional Determination Form* (enclosure 2). Please sign and return the completed form to this office, at the address listed below, within 30 days of the date of this letter. If you do not return the signed form within 30 days, we will presume concurrence and finalize the preliminary jurisdictional determination.

You may request an approved JD for this site at any time prior to starting work within waters, including after a permit decision is made.

We recommend you provide a copy of this letter and notice to all other affected parties, including any individual who has an identifiable and substantial legal interest in the property.

This preliminary jurisdictional determination has been conducted to identify the potential limits of wetlands and other aquatic resources at the project site which may be subject to U.S. Army Corps of Engineers jurisdiction under Section 404 of the Clean

Water Act and/or Section 9 and 10 of the Rivers and Harbors Act. A *Notification of Appeal Process and Request for Appeal Form* is enclosed to notify you of your options with this determination (enclosure 3).

We appreciate feedback, especially about interactions with our staff and processes.

Please refer to identification number SPK-2016-00831 in any correspondence concerning this project. If you have any questions, please contact Matthew Kelley at Redding Regulatory Office, 310 Hemsted Drive, Suite 310, Redding, California 96002, by email at Matthew.P.Kelley@usace.army.mil, or telephone at (530) 223-9537. For program information or to complete our Customer Survey, visit our website at www.spk.usace.army.mil/Missions/Regulatory.aspx.

Sincerely,



Matthew Kelley
Chief, Redding Regulatory Office

Enclosures

cc: (w/o encls)
Mr. Joseph Morgan, U.S. Environmental Protection Agency, Morgan.Joseph@epa.gov
Ms. Danna Berchtold, Regional Water Quality Control Board,
dberchtold@waterboards.ca.gov
Mr. Steve Kerns, Wildland Resource Managers, skerns7118@aol.com

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Mr. Patrick Jones

File No.: SPK-2016-00831

Date: June 16, 2017

Attached is:

	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	See Section below
	PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PERMIT DENIAL	B
	APPROVED JURISDICTIONAL DETERMINATION	C
✓	PRELIMINARY JURISDICTIONAL DETERMINATION	D
		E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/cecw/pages/reg_materials.aspx or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer (address on reverse). This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer (address on reverse). This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer (address on reverse). This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:
Matthew Kelley
Chief, Redding Regulatory Office
U.S. Army Corps of Engineers
310 Hemsted Drive, Suite 310
Redding, California 96002
Phone: (530) 223-9537, FAX 916-557-7803
Email: Matthew.P.Kelley@usace.army.mil

If you only have questions regarding the appeal process you may also contact:
Thomas J. Cavanaugh
Administrative Appeal Review Officer
U.S. Army Corps of Engineers
South Pacific Division
1455 Market Street, 2052B
San Francisco, California 94103-1399
Phone: 415-503-6574, FAX 415-503-6646
Email: Thomas.J.Cavanaugh@usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.

Date:

Telephone number:

PRELIMINARY JURISDICTIONAL DETERMINATION FORM
Sacramento District

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Regulatory Branch: **California North** File/ORM #: **SPK-2016-00831** PJD Date: **June 16, 2017**

State: **CA** City/County: **, Shasta County**
 Nearest Waterbody: **Bear Creek**

Location (Lat/Long): **40.4945978074058° , -122.158796944431°**

Size of Review Area: **134.7** acres

Name/Address
 Of Property **Mr. Patrick Jones**
 Owner/ **1600 E. Cypress Avenue**
 Potential **Redding, California 96002**
 Applicant

Identify (Estimate) Amount of Waters in the Review Area

Non-Wetland Waters:
 linear feet ft wide **2.221** acre(s)
 Stream Flow: **Mixed**

Wetlands: 12.153 acre(s)
 Cowardin Class: **Palustrine, emergent**

Name of any Water Bodies Tidal:
 on the site identified as

Section 10 Waters: Non-Tidal:

Office (Desk) Determination
 Field Determination:
 Date(s) of Site Visit(s): **March 30, 2017**

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply – checked items should be included in case file and, where checked and requested, appropriately reference sources below)

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: **High Plains Ports Center Wetland Delineation Map, June 2, 2017**
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
- Data sheets prepared by the Corps.
- Corps navigable waters' study.
- U.S. Geological Survey Hydrologic Atlas:
 - USGS NHD data.
 - USGS HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: **1:24K; CA-BALLS FERRY**
- USDA Natural Resources Conservation Service Soil Survey.
- National wetlands inventory map(s).
- State/Local wetland inventory map(s).
- FEMA/FIRM maps.
- 100-year Floodplain Elevation (if known):
- Photographs: Aerial
 Other
- Previous determination(s). File no. and date of response letter:
- Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

 6-16-17
 Signature and Date of Regulatory Project Manager
 (REQUIRED)

 Signature and Date of Person Requesting Preliminary JD
 (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

-----Original Message-----

From: Weisser, Seth C SPK [mailto:Seth.C.Weisser@usace.army.mil]
Sent: Wednesday, March 05, 2014 3:35 PM
To: Kent Hector
Subject: Zone amendment (High Planes Shooting Sports Center) (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

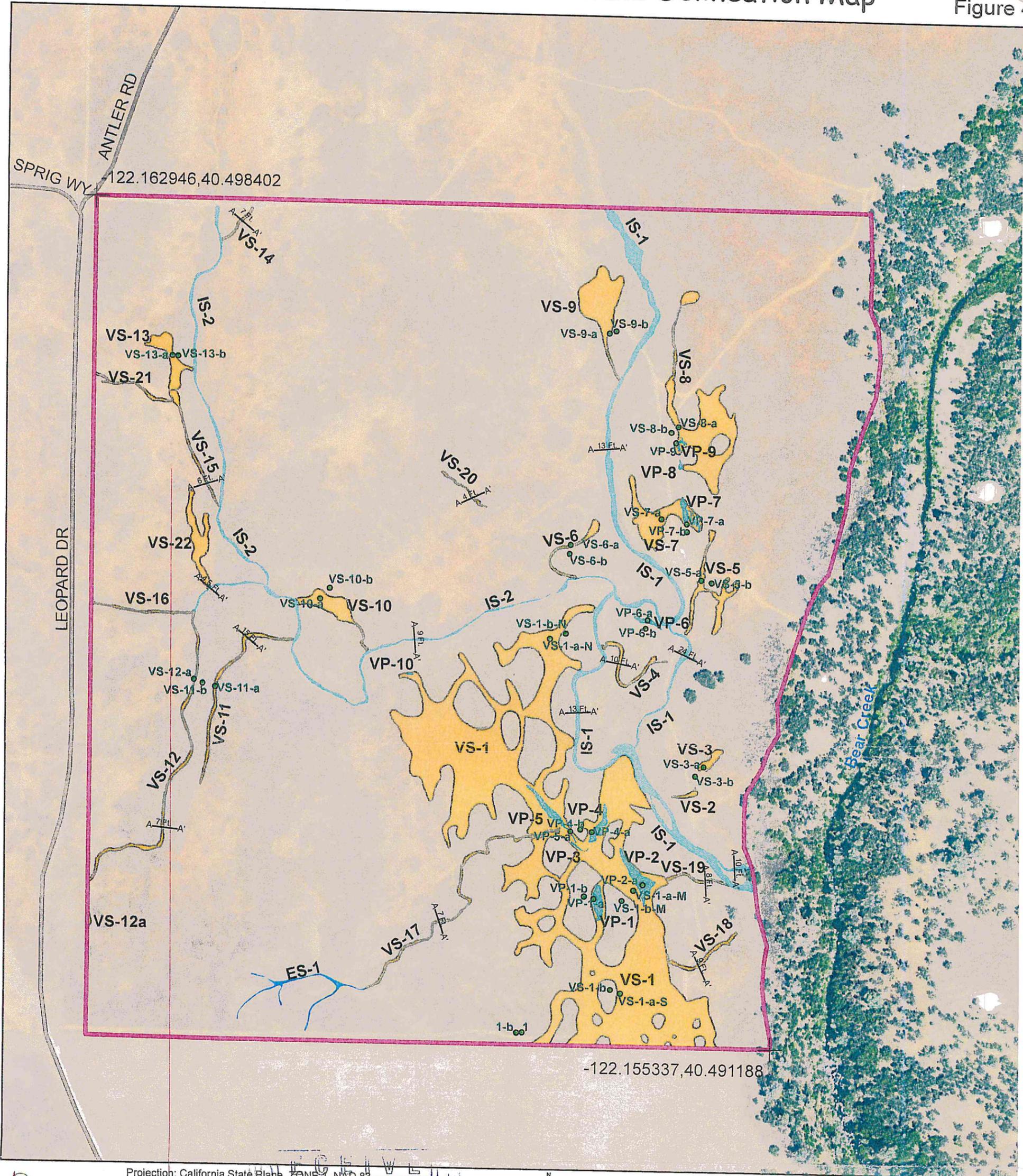
Kent,

The area being considered for zone amendment to accommodate the High Planes Shooting Sports Center contains hydrologic features that may be deemed waters of the U.S. In accordance with Section 404 of the Clean Water Act any discharge of dredged or fill material into waters of the U.S. will require a Department of the Army permit. At this point the Corps is not confirming or denying the existence of waters of the U.S. on site. The Corps must verify a wetland delineation prior to any official jurisdictional determination concerning possible waters of the U.S. on this site. If you have any questions/comments please feel free contact me by phone or email.

Best,

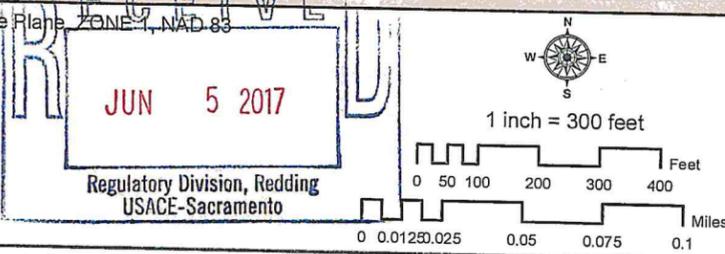
Seth Weisser
Redding Field Office
310 Hemsted Dr.
Redding, CA 96002-1842
Phone: 530-223-9536
Fax: 530-223-9539
seth.c.weisser@usace.army.mil

Classification: UNCLASSIFIED
Caveats: NONE



Field Work and Project Management
by Wildland Resource Managers
Steven J. Kerns
Principal and Certified Wildlife Biologist

Projection: California State Plane Zone 1, NAD 83



Legend	
+	XY Coordinate
●	Data Point
□ (pink)	Project Boundary (134.7 Acres)
— (grey)	County Road
A 13 Ft A'	A' Stream Width
■ (blue)	Ephemeral Stream (0.504 Acres)
■ (light blue)	Intermittent Stream (2.0604 Acres)
■ (teal)	Vernal Pool (0.425 Acres)
■ (yellow)	Vernal Swale (11.070 Acres)

Image Date: Summer 2016

Data Type: California NAIP Orthophography,
NAIP_2016_4Band
Spatial Resolution: 0.600 Meters
WGS_1984_Web_Mercator_Auxiliary_Sphere
Service Name: arcgis on map.dfg.ca.gov(user)

Sources:
Wildland Resource Managers

GIS and Cartography Prepared By:
rkBARON GEOvisuals
Copyright 2005-2016

Type	ID	Acres	Type	ID	Acres
Ephemeral	ES-1	0.0869	Vernal Swale	VS-1	8.3995
TOTAL:		0.0869	Vernal Swale	VS-2	0.0185
Intermittent	IS-1	1.5048	Vernal Swale	VS-3	0.0488
Intermittent	IS-2	0.6292	Vernal Swale	VS-4	0.0730
TOTAL:		2.1340	Vernal Swale	VS-5	0.1921
Vernal Pool	VP-1	0.0641	Vernal Swale	VS-6	0.0650
Vernal Pool	VP-2	0.1189	Vernal Swale	VS-7	0.3718
Vernal Pool	VP-3	0.0067	Vernal Swale	VS-8	0.8
Vernal Pool	VP-4	0.0585	Vernal Swale	VS-9	0.1985
Vernal Pool	VP-5	0.0721	Vernal Swale	VS-10	0.1245
Vernal Pool	VP-6	0.0277	Vernal Swale	VS-11	0.1711
Vernal Pool	VP-7	0.0535	Vernal Swale	VS-12a	0.0100
Vernal Pool	VP-8	0.0076	Vernal Swale	VS-13	0.1731
Vernal Pool	VP-9	0.0155	Vernal Swale	VS-14	0.0190
Vernal Pool	VP-10	0.0038	Vernal Swale	VS-15	0.0672
TOTAL:		0.4284	Vernal Swale	VS-16	0.0377
			Vernal Swale	VS-17	0.1324
			Vernal Swale	VS-18	0.0574
			Vernal Swale	VS-19	0.0367
			Vernal Swale	VS-20	0.0175
			Vernal Swale	VS-21	0.0410
			Vernal Swale	VS-22	0.2008
TOTAL:			TOTAL:		11.7245

Figure 4

Central Valley Regional Water Quality Control Board

14 March 2019

David Schlegel, Associate Planner
Shasta County Department of Resource Management, Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

COMMENTS ON THE ZONE AMENDMENT 13-007 (HIGH PLAINS SHOOTING SPORTS CENTER) PROJECT, APN 060-010-016, MILLVILLE, SHASTA COUNTY

The Central Valley Regional Water Quality Control Board (Central Valley Water Board) is a responsible agency for this project, as defined by the California Environmental Quality Act (CEQA). On 5 March 2019, we received your request for comments on the Zone Amendment 13-007 (High Plains Shooting Sports Center) Project.

The applicant is requesting approval of a rezone from Rural Residential, Mobile Home Combining, 40-acre minimum to Commercial Recreation zone district to allow for a shooting range on a 150-acre parcel. The project site is located at the end of Leopard Drive, 0.5 miles north of the intersection of Leopard Drive and Dersch Road in the Millville area.

Based on our review of the information submitted for the proposed project, we have the following comments:

General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (CGP)

Construction activity, including demolition, resulting in a land disturbance of one acre or more must obtain coverage under the CGP. The Zone Amendment 13-007 (High Plains Shooting Sports Center) Project must be conditioned to implement storm water pollution controls during construction and post-construction as required by the CGP. To apply for coverage under the CGP the property owner must submit Permit Registration Documents electronically prior to construction. Detailed information on the CGP can be found on the State Water Board website:

https://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Clean Water Act (CWA) Section 401, Water Quality Certification

The Central Valley Water Board has regulatory authority over wetlands and waterways under the Federal Clean Water Act (CWA) and the California Water Code, Division 7 (CWC). Discharge of dredged or fill material to waters of the United States requires a CWA Section 401 Water Quality Certification from the Central Valley Water Board. Typical activities include any modifications to these waters, such as stream crossings, stream bank modifications, filling of wetlands, etc. 401 Certifications are issued in combination with CWA Section 404 Permits issued by the Army Corps of Engineers. The proposed project must be evaluated for the

presence of jurisdictional waters, including wetlands and other waters of the State. Steps must be taken to first avoid and minimize impacts to these waters, and then mitigate for unavoidable impacts. Both the Section 404 Permit and Section 401 Water Quality Certification must be obtained prior to site disturbance. Any person discharging dredge or fill materials to waters of the State must file a report of waste discharge pursuant to Sections 13376 and 13260 of the California Water Code. Both the requirements to submit a report of waste discharge and apply for a Water Quality Certification may be met using the same application form, found at:

http://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/wqc_application.pdf

Isolated wetlands and other waters not covered by the Federal Clean Water Act

Some wetlands and other waters are considered "geographically isolated" from navigable waters and are not within the jurisdiction of the Clean Water Act. (e.g., isolated wetlands, vernal pools, or stream banks above the ordinary high-water mark). Discharge of dredged or fill material to these waters may require either individual or general waste discharge requirements from the Central Valley Water Board. If the U.S. Army Corps of Engineers determine that isolated wetlands or other waters exist at the project site, and the project impacts or has potential to impact these non-jurisdictional waters, a Report of Waste Discharge and filing fee must be submitted to the Central Valley Water Board. The Central Valley Water Board will consider the information provided and either issue or waive Waste Discharge Requirements. Failure to obtain waste discharge requirements or a waiver may result in enforcement action.

Any person discharging dredge or fill materials to waters of the State must file a report of waste discharge pursuant to Sections 13376 and 13260 of the CWC. Both the requirements to submit a report of waste discharge and apply for a Water Quality Certification may be met using the same application form, found at:

http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

Shooting range issues to be resolved

1. How will lead and other metals be retained on site (not discharged in storm water) at shooting areas, target areas, and fall zones?
2. Where fall zones include water courses, how will lead and other metals be retained on site and not discharged in surface water runoff?
3. How will spreading of lead and other metals contamination off site on shoes and vehicle tires be avoided?
4. How will toxic components in target discs be retained in the fall zones?
5. How will monitoring and maintenance of water quality protection measures be carried out?
6. How will effectiveness of water quality protection measures be assessed?

If you have any questions or comments regarding this matter, please contact me at (530) 224-4783 or by email at Dannas.Berchtold@waterboards.ca.gov.

Dannas Berchtold for

Dannas J. Berchtold
Engineering Associate
Storm Water & Water Quality Certification Unit

DJB: db

cc w/o

enclosures: Mr. Matthew Roberts, U.S. Army Corps of Engineers, Redding
Ms. Donna Cobb, Department of Fish and Wildlife, Region 1, Redding
Patrick Jones, Redding
Kevin Butler, K R Butler Engineering, Inc., Redding

Central Valley Regional Water Quality Control Board

RECEIVED
SHASTA COUNTY

17 October 2013

OCT 17 2013

Mr. Kent Hector
Shasta County Department of Resource Management
1855 Placer Street, Suite 103
Redding, CA. 96001

DEPT OF RESOURCE MGMT
PLANNING DIVISION

COMMENTS REGARDING ZONE AMENDMENT 13-007 HIGH PLAINS SHOOTING SPORTS CENTER

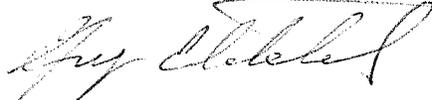
The following comments concern permitting requirements and potential impacts to water quality from the proposed High Plains Shooting Sports Center (zone amendment 13-007). If constructed, this facility will be the largest outdoor shooting range in the northern Sacramento Valley, with capacity for approximately 200 shooters. The project will disturb more than 1 acre of soil during construction, and calls for addition of fill and culverts to ephemeral creeks.

Based on the project description and plan sheet C1, the following permits and water-quality concerns need to be addressed:

1. Because more than 1 acre of soil will be disturbed, the project applicant and property owner must comply with the conditions of the General Construction Storm Water Permit (Order 2009-0009-DWQ).
2. If the project calls for addition of fill to seasonal wetlands, Clean Water Act § 404 and 401 permits are required.
3. Because the proposal allows use of toxic lead shot and bullets instead of restricting use to non-toxic "green" ammunition, best management practices for control of lead must be incorporated in shooting area locations, designs, operation and maintenance. For example, the location of trap and skeet areas needs reconsideration because the shot fall zone is over well-established drainage channels that could transport lead directly to Bear Creek during storms.
4. The information contained in the Zone Amendment application indicates that active capacity for approximately 200 shooters would be provided at the facility. Also, parking for 335 cars would be provided. Plans indicate two, small septic tank/leachfield systems are proposed. No sewage flow estimates were provided, but due to the significant number of people proposed to be accommodated at the facility, a permit for the treatment and disposal of sewage may be required from the Central Valley Water Board. This permit, referred to as Waste Discharge Requirements would be in addition to any sewage disposal permit required by Shasta County. In order to determine if Waste Discharge Requirements from the Central Valley Water Board will be required, the applicant should schedule an appointment with Central Valley Water Board staff to further discuss the project once more specific details about the sewage treatment and disposal system can be provided. If Waste Discharge Requirements are needed, the applicant would need to submit a complete application, referred to as a Report of Waste Discharge, to start the permitting process with the Central Valley Water Board. The

Central Valley Water Board has 140 days to issue Waste Discharge Requirements after a complete Report of Waste Discharge has been received.

If you have any questions, please contact me at (530)-224-4997 or the footer address.



Guy F. Chetelat, P.G.
Engineering Geologist
Storm Water and Non-Point Source Pollution

GFC:lmw

U:\Clerical\NPSource\GChetelat\2013\HighPlainsShootingR_comments.doc