

Increased Wildfire Danger from the Proposed Shooting Complex on Millville Plains
By Edward B. Wilkes November 10, 2024

Executive summary

- The proposed shooting complex is located in a HIGH Wildland Fire Severity Hazard Zone.
- Shasta County Staff dismissed this hazard as “less than significant,” and only considered the danger to the structures and occupants of the shooting range, with no regard to the rest of the community.
- Shasta County Staff approved the engineering firm’s report that stated there was a low risk of wildfire, and downplayed this danger, even dismissing it.
- The proposed shooting complex, if constructed and operating, will increase the likelihood of wildfires from bullets: There have been 284 shooting-caused fires in California from 2012–2022.
- Bullets impacting power lines have started wildfires in the past; PGE’s 500,000-volt power lines are in the direct line of fire and within range of some of the most common rifles that could be used at 60 firing positions.
- Bullets impacting gasoline tanker trucks and propane delivery trucks have the potential to kill, injure, or startle the driver, causing a rollover crash; there have been numerous fires in the past from crashes of these trucks. Since over 5 miles of California State Highway 44 are in range, this presents a significant wildfire risk.
- There are 27 overnight RV camping stalls at the proposed shooting complex. There have been 1389 campfire-caused wildfires in California from 2008-2022.
- The Bascom Fire, which started in the immediate vicinity of the proposed shooting complex on June 23, 2018, burned 328 acres and was not contained until January 4, 2019: 195 days later.
- Recent wildfire data shows that the California wildfire season is starting earlier and ending later, approaching a year-round fire season.
- There is only one way in and one way out for the proposed shooting complex. Contrary to the Respondent’s (Patrick Jones) claim that there is a deeded exit from Impala Drive, there is no such deeded exit in the vicinity of Impala Drive. The statement by the attorney for the Respondent that Impala Drive is an avenue for ingress and egress is likewise false.

1. Increased risk of wildfires due simply to the location of the proposed shooting range. The Shasta County Department of Resource Management, Planning Division acknowledges that: “The project site is located in the HIGH Wildland Fire Severity Hazard Zone.”¹

2. Shasta County Staff dismissed this hazard as “less than significant,” and only considered the danger to the structures and occupants of the shooting range [hereinafter, the “project”], with no regard to the rest of the community.

a. “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.** ... 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.**”² [boldface and underscore added]

¹ 2nd Revised Environmental Initial Study & Mitigated Negative Declaration, Zone Amendment 13-007, Section XX. Prepared by the Shasta County Department of Resource Management, Planning Division, October 17, 2023

² *ibid.*

- b. So the “defensible space and ongoing maintenance” will protect the structures and people at the shooting range, but what about the tens of thousands of residents, homes, businesses and traveling public along major roads? Don’t they count?
3. Shasta County Staff approved the engineering firm’s report that stated there was a low risk of wildfire, and downplayed this danger, even dismissing it:
 - a. “Taking the vegetation, water availability, slope, fire department response time, access and existing and future structures into consideration, **the project has a low risk of wildfire**. A wildfire in this area will mainly be a grass fire. These fires can be fast moving, but easy for CalFire to put out.”³ [boldface and underscore added].
 - b. The Cow Fire in Millville started as just such a grassland fire (initiated by hot metal from a deteriorating catalytic converter from a passing motorist on California State Highway 44) on June 20, 2021.⁴ It eventually burned 761 acres and was 100% contained June 26, 2021. Two structures were destroyed and one injury occurred.⁵ Perhaps the County Staff erred when writing grassland fires are “easy for Cal Fire to put out.”
 - c. It should be noted that the Wildland Fuels & Vegetation Management Plan was prepared in May of 2020, and that wildfire behavior has changed, particularly in the past four years. “The length of the fire season in any given year in California depends on summer temperatures, rainfall, and wind, with the most fires historically occurring between May and October. However, recent data show that, due to rising temperatures and decreased rainfall, the season is beginning earlier and ending later each year, approaching a year-round fire season.”⁶
 - d. “Over the last 20 years, both the area burned by wildfires and the number of large fires (10,000 acres or more) have increased markedly across the state. This is largely influenced by changes in fuel conditions and the effects of climate change.”⁷
 - e. The Bascom Fire, which started in the immediate vicinity of the proposed shooting complex on June 23, 2018, burned 328 acres and was not contained until January 4, 2019: 195 days later.⁸
 4. Increased likelihood of wildfires resulting from the proposed shooting range.

The following is evidence to support the claim that the proposed shooting complex, if constructed and operating, will increase the likelihood of wildfires:

 - a. Bullets and resulting ricochets have significant potential to start wildfires.
 - i. Wildfires starting at gun ranges was brought up at the Shasta County Board of Supervisors Meeting: “Today, as of right now, we have not had a fire out at the gun range this year, which is abnormal.”⁹ (Fire Chief O’Hara)

³ Wildland Fuels & Vegetation Management Plan, Butler Engineering, May 11, 2020, as incorporated by reference into Shasta County Ordinance 378-2074, Section 4.E.3.n.i.

⁴ Cal Fire News Release June 22, 2021.

⁵ Cal Fire data from website www.fire.ca.gov.

⁶ Wfca.com. Western Fire Chiefs Association. Published July 5, 2022; edited April 24, 2024

⁷ Oehha.ca.gov. California Office of Environmental Health Hazard Assessment. July 1, 2024

⁸ www.fire.ca.gov/incidents/2018/6/23/bascom-fire; and Redding Record Searchlight, June 23, 2018.

⁹ Fire Chief O’Hara, speaking at Board of Supervisors Meeting 10/24/23 concerning the BLM range in Keswick. From Transcript of meeting, Administrative Record page #01402.

- ii. Steel core and steel jacket ammunition is no longer allowed on the Dillman Outdoor Range (in Lincoln, California) due to dry vegetation.¹⁰
- iii. There have been 284 shooting-caused fires in California from 2012 to 2022. See Table 1.

Table 1. Shooting-caused Wildfires in California; 2012-2022

Year	Number of Shooting Caused Fires in California ¹¹	Acres Burned ¹²
2012	32	981
2013	38	3,480
2014	22	75
2015	19	394
2016	17	277
2017	33	1,764
2018	22	15,777
2019	27	519
2020	31	2,427
2021	18	233
2022	25	142
Total	284	26,069

A review of the same data from CalFire Redbooks shows that steel ammunition causes more wildfires than lead ammunition.

- iv. There have been 753 wildfires reported in the 11 western states caused by shooting at inert targets from 1992-2018.¹³ “While previously disputed as a plausible ignition source, civilian firearms use has emerged as a wildfire cause of concern in the United States (US). The National Wildfire Coordinating Group (NWCG) included it as a newly recognized fire cause in the wildfire-reporting data standard approved in 2020. ... This is the first time that data on shooting-related fires have been assembled and summarized for the US, with the intention of raising awareness concerning this relatively small but impactful cause of preventable wildfires.”¹⁴
- v. Steel or solid copper bullets are recognized as a primary source of gun range-caused fires: “The possibility that civilian firearms use and commercial ammunition could be a significant source of wildfire ignitions had been debated until research revealed some physical mechanisms for ignition by black powder or muzzle loading rifles, conventional rifle bullets... In these cases, dry vegetation may ignite from the cotton ‘patch’ used with round-ball ammunition in muzzle loaders, steel or solid copper bullets from modern rifles after fragmenting against a hard target such as steel or rock...”¹⁵ “Traditional rifle bullets for hunting are made of lead with copper jackets and are much less likely to cause ignitions than those made with steel.¹⁶ “..the popularity of semi-automatic rifles (‘modern sporting rifles’ e.g., AR-15, AK-47) has increased dramatically during

¹⁰ www.lincolnrifleclub.com; website and Facebook page; 8/26/2024

¹¹ Data for each year from CalFire Wildfire Redbooks. Website www.fire.ca.gov

¹² Ibid

¹³ *Fire Safety Journal; Agency records of wildfires caused by firearms in the United States*. Karen C. Short and Mark A. Finney. USDA Forest Service. 2021. Available online 28 May 2022. <https://doi.org/10.1016/j.firesaf.2022.103622>

¹⁴ Ibid

¹⁵ Ibid

¹⁶ Ibid

this period [1992-2018], along with demand for inexpensive imported ammunition with steel-jacketed or steel-core projectiles (military surplus).¹⁷

- b. Bullets impacting electrical components have the potential to start wildfires.
 - i. The increased risk of wildfire caused by errant rifle bullets impacting electrical components was recognized by the engineering firm designing the range in May of 2020: "Impact areas: ...Protect all electrical outlets and fixtures from stray shots or ricochets."¹⁸ However, 500,000 volt transmission lines cross directly into the errant shotfall zone of the three rifle ranges, where 60 people could be shooting at the same time: this issue has been forwarded to PG&E Corporate Security¹⁹. A hunter's stray rifle bullet brought down a power line sparking a brush fire in Bern Township, Pennsylvania, on Dec. 3, 2013.²⁰
- c. Bullets impacting vehicles, particularly gasoline tanker trucks and propane delivery trucks, have significant potential to start wildfires, especially if the impact causes the vehicle to overturn and crash (e.g.: gasoline tanker truck crashes causing fires: I-95 in Philadelphia, June 11, 2023; I-95 in Connecticut, May 2, 2024; I-55 in Memphis, Oct. 17, 2024; propane truck crash causing fire: Gridley, CA, Nov. 30, 2020).
 - i. California State Highway 44 is within range of at least 10 of the most common and popular rifle/ammunition combinations that could be used on the three rifle ranges, where 60 shooters could be firing at the same time.²¹
- d. Overnight camping has the significant potential to start wildfires
 - i. "Large shooting sports events would be held intermittently and may include RV overnight dry camping in a designated parking area."²²
 - ii. There are 27 overnight RV camping stalls without hookups measuring 18 feet by 40 feet on the plans for the proposed shooting complex.²³
 - iii. There have been 1,389 fires caused by camping in California from 2008 to 2022. See Table 2.

¹⁷ Ibid

¹⁸ "Fuels & Vegetation Management Plan High Plains Shooting Sports Center, Butler Engineering Group, Inc., Redding CA. May 11, 2020

¹⁹ Email from PG&E to Edward B. Wilkes, July 12, 2024 10:05 AM.

²⁰ www.wfmz.com/news. WFMZ TV. Television Channel 69 News. December 3, 2013.

²¹ Errant Rifle Shot Fall Presents a Clear Public Safety Hazard if the Proposed Shooting Complex on Millville Plains is Constructed," Revision 2. E. B. Wilkes, July 5, 2024.

²² 2nd Revised Environmental Initial Study & Mitigated Negative Declaration. Revised October 17, 2023.

²³ Site Plan – Exhibit A2. Butler Engineering 04/17/2023

Table 2. Campfire-caused Wildfires in California; 2008-2022

Year	Number of Campfire-caused wildfires ²⁴	Acres burned ²⁵
2008	31	969
2009	33	1525
2010	33	7
2011	44	13
2012	106	4,886
2013	123	95
2014	142	229
2015	120	113
2016	121	132,209
2017	111	4,076
2018	103	657
2019	122	2,806
2020	110	421
2021	104	71
2022	86	82
Total	1389	148,159

5. Increased risk of injury to residents and participants of the shooting complex due to insufficient egress. Contrary to the Respondent’s (Patrick Jones) claim that there is a deeded exit from Impala Drive, there is no such deeded exit in the vicinity of Impala Drive. The statement by the attorney for the Respondent that Impala Drive is an avenue for ingress and egress is likewise false.
 - a. Jones stated: “...there's also an exit off of Impala, a deeded exit that goes all the way over to Millville Plains. For some people that say there's only one way in and one way out, that would be incorrect.”²⁶(AR01396) (Patrick Jones’ testimony during the 10/24/2023 Board of Supervisors Meeting)
 - b. The Respondent’s Attorney, Shon Northam states: “The AR [Administrative Record] reflects two avenues (Leopard Drive and Impala Drive) for ingress / egress into the Project not just one as claimed by Petitioner. The fair argument is inapplicable as Petitioner is citing erroneous information. The Fire Marshall affirmed both the Leopard Drive and Impala Drive as access roads. (see Property Deed in the AR pgs. 5794-5796.)”²⁷
 - c. Both of the above statements (by Jones and Northam) are false. The property deed cited by the Respondent states the following:

“ALSO TOGETHER WITH AN EASEMENT TO BE USED IN COMMON WITH OTHERS FOR INGRESS AND EGRESS AND UTILITY PURPOSES AND NECESSARY APPURTENANCES THERETO IN, OVER AND ACROSS THAT PORTION OF SECTIONS 34, 35 AND 36 SAID TOWNSHIP AND RANGE [Township 31 North, Range 3 West], WHICH LIES WITHIN A STRIP OF LAND 100 FEET WIDE THE CENTERLINE OF WHICH IS THE SOUTHERLY LINE OF THE NORTHWEST QUARTER OF SECTION 36 AND THE

²⁴ Data for each year from CalFire Wildfire Redbooks. Website www.fire.ca.gov

²⁵ Ibid

²⁶ Transcript of Shasta County Board of Supervisors Meeting October 24, 2023; testimony from Patrick Jones. Administrative Record, page #01396 (AR01396).

²⁷ Patrick Jones, Real Party in Interest, Verified Answer. Filed in Shasta County Superior Court on August 22, 2024. Paragraph 46.

SOUTHERLY LINES OF THE NORTH HALF OF SECTIONS 35 AND 34 LYING EASTERLY OF
MILLVILLE PLAINS ROAD, COUNTY ROAD NO. 2J100.”²⁸

- d. As is plainly stated in the official description above, the 100 feet wide easement runs along the southern boundary of the NW quarter of Section 36, which is APN 060-010-013 (see Figure 1). This line is the north boundary of Jones’ parcel, APN 060-010-016. The legal description goes on to state that the 100 feet wide easement runs through [the middle of] Sections 35 and 34 due west until it intersects Millville Plains Road [at approximately Sprig Way]. This intersection is ½ mile north of Impala Drive. Again, see Figure 1.
- There is no easement from Impala Drive; instead, Impala Drive ends at a privately-owned rock quarry. (See Figure 3 below)
 - There is no road that leads east from Impala Drive (see Figures 1 and 2 below).
 - There is no record in the Administrative Record of the Fire Marshall affirming Impala Drive as an access road.²⁹
 - The following figures prove that: 1) there is no easement or road from Impala Drive to the proposed shooting complex, 2) Impala Drive extends east from Millville Plains Road, then northeast, ending at a private gravel pit/rock quarry, and 3) there is no road in the allowed deeded easement through the western portion of Section 35 and all of Section 34 to connect to Millville Plains Road. The deeded easement crosses over Dry Creek (at a point where it is very deep with steep sides) and continues across two very steep hills that are impassable in anything other than a high clearance, four-wheel drive vehicle; certainly not in low-clearance cars, trucks or RVs that might have to use this route in an emergency.
 - 1) Figure 1 is an overall aerial view printed from Shasta County Web Maps. This view is annotated, showing the Proposed Shooting Complex outlined in red, the allowed ingress and egress along the easement in yellow, Section numbers, and APN’s. In APN #060-020-044, there is a notation showing where the photo in Figure 2 was taken.
 - 2) Figure 2 is a photo showing that there is no road leading east of Impala Drive.
 - 3) Figure 3 is an aerial view printed from Shasta County Web Maps. This shows Impala Drive ending at a private rock quarry/gravel pit, and no road leading east toward the Project.
 - 4) Figure 4 is a copy of the official map from the Shasta County Assessor’s Office on September 6, 2024, **showing the proposed shooting complex (Parcel #16) as the southwest quadrant of Section 36.**
 - 5) Figure 5 is a USGS topographic map, showing Dry Creek and other drainage washes.³⁰

²⁸ Last paragraph of Exhibit “A” Legal Description of official plat A.P.N. 060-010-016 and 060-010-018, Deed # 2010-0002830, recorded in Shasta County, CA on January 12, 2010

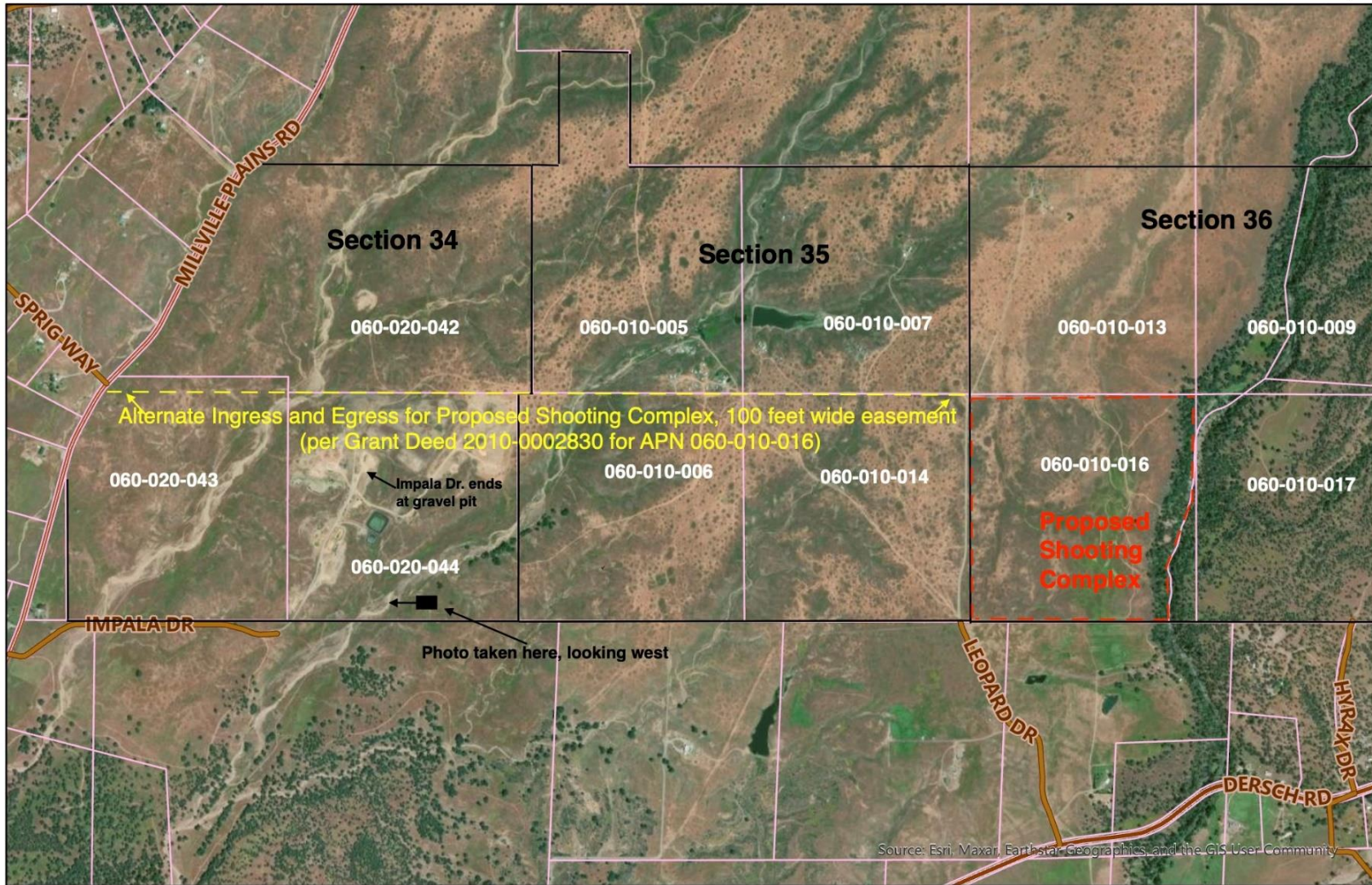
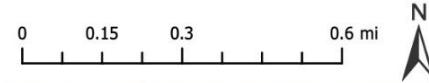
²⁹ Transcript of Board of Supervisors Meeting 10/24/2023. Administrative Record page #01269 (AR01269).

³⁰ USGS 7.5 Minute Topographic Maps: Balls Ferry 1965 and Palo Cedro 1965.

Figure 1. Aerial View Showing Proposed Shooting Complex and Allowed Egress Along Easement



ArcGIS Web Map



- Community Places — Arterial — Local
- Parcels — Collector

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Figure 2. Photo Showing There Is No Road Leading East of Impala Drive

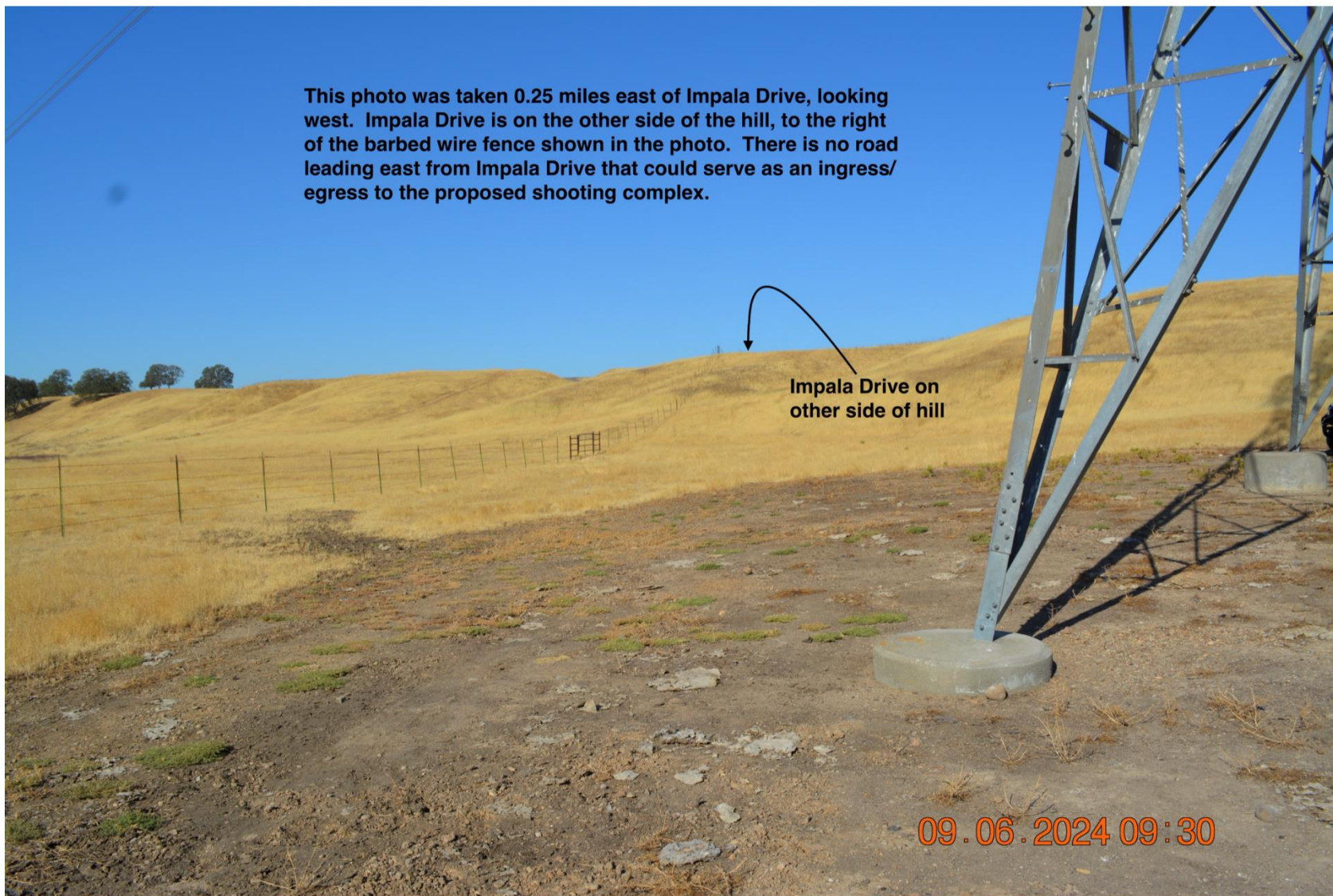
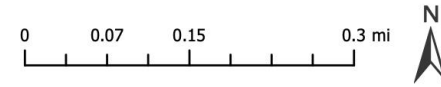


Figure 3. Aerial View Showing Impala Drive Ending at a Private Rock Quarry/Gravel Pit



ArcGIS Web Map



- Community Places
- Parcels
- Collector
- Local

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Figure 4. Shasta County Assessor's Office Official Map, Showing Proposed Shooting Complex (Parcel #16) as Southwest Quadrant of Section 36

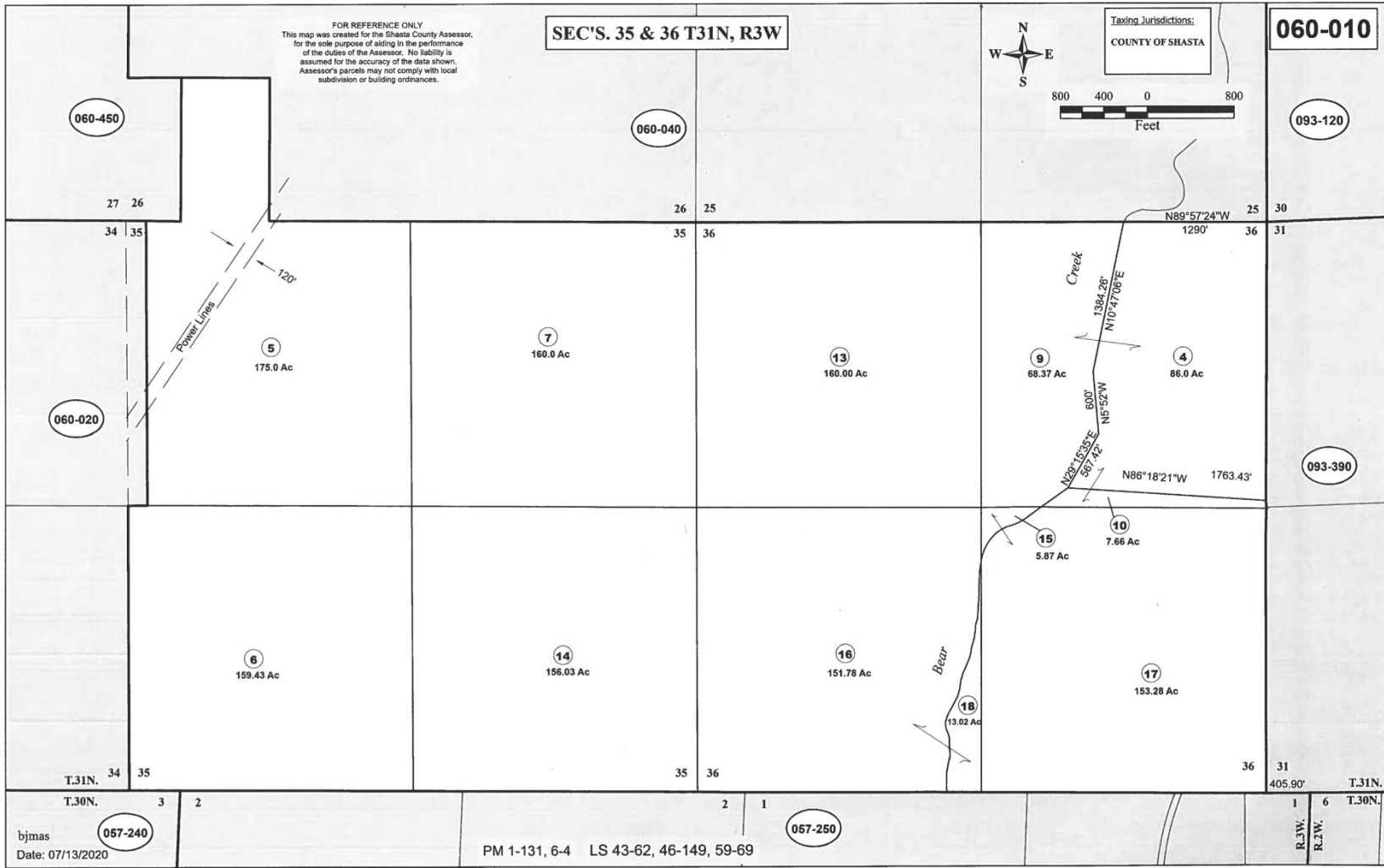


Figure 5. USGS Map Showing Proposed Shooting Complex with 100-foot Wide Easement for Egress Crossing Dry Creek Drainage

