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WILDLIFE HABITAT ASSESSMENT

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CHAPTER 1 – PROPOSED ACTION SUMMARY

PURPOSE

The purpose of this report is to identify and analyze wildlife and habitats within the area of the proposed Cooper's Hollow Subdivision, in Teton County, Idaho. It is being completed in compliance with Teton County Code 9-3-2 (C-2-c-WH). This assessment is required because the proposed Cooper's Hollow Subdivision is located within the Big Game Migration Corridors & Seasonal Range and Sharp-tailed Grouse Breeding Habitat Natural Resource Overlays as identified by Teton County. In this report, wildlife and habitats within the project area are described, potential impacts to wildlife and habitats within the project are identified, and suggested mitigation actions are provided to minimize or eliminate the impacts that may occur from potential developments.

PROPOSED ACTION

The proposed Cooper's Hollow Subdivision includes four – 20 acre lots, one – 25 acre lot, and one - 28 acre lot, totaling six lots overall. Each lot has a proposed building envelope 2.5 acres in size. Consolidation of driveways is proposed with shared driveways. Lots 1 and 2 will share a driveway and gain access from Wells Avenue and Lots 3 and 4 will share a driveway accessing from W10000N, respectively. Lot 5 and 6 will gain access from Reece Road through separate driveways. Driveways will have a proposed constructed width of twelve feet. A fire pond with an estimated maximum disturbance of 0.4 acres will be constructed along the southern boundary and will be accessed from W 10000 N. During construction, driveways will be temporarily disturbed by fill material, ditches, and culverts to a width of sixteen feet. The total proposed disturbance is 17.28 acres (13% of the parcel). The proposed development can be viewed in Figure 3.

FINDINGS

Based upon primary and secondary research, including two site visits to the Cooper's Hollow Parcel, the project area includes habitats that are seasonally used by elk, moose, and mule deer. Based on evidence observed at the parcel, no single species appears to occupy the habitats year-round. Instead, evidence suggests that these species spend amounts of time in the area through the year and pass through the parcel in their movements across the landscape. Idaho Department of Fish and Game (IDFG) observations concur and data from collared elk suggest the habitat around the parcel is especially important during winter. Songbird species likely use the northeast portion of the parcel most frequently due to habitat diversity providing ample forage and perching opportunities. Occupation by songbirds is likely seasonal with many migratory species passing through. No live water is present on the parcel and thus fisheries habitat is not a concern.

CONCLUSION

This wildlife assessment concludes that the proposed Cooper's Hollow Subdivision may negatively impact indicator species within the project area due to loss and fragmentation of habitat and human presence. This

parcel provides wildlife habitat in the form of forage, cover, open space, and connectivity to other important habitats in the surrounding landscape. Construction of dwellings and increased human presence in this area will likely impact big game (elk, mule deer, and moose) and sharp-tailed grouse, and the vegetation they rely on for food and shelter. However, through thoughtful design of the subdivision to minimize impacts to important habitats, maximize open space, and maintain habitat connectivity, mitigation actions could be utilized to further minimize or eliminate impacts.

CHAPTER 2 – CURRENT CONDITIONS/AFFECTED ENVIRONMENT

CURRENT CONDITIONS/AFFECTED ENVIRONMENT – AREA DESCRIPTION

A routine Natural Resource Analysis and Wildlife Habitat Assessment (WHA) was conducted on the 132.93-acre study area covering one parcel known as Cooper’s Hollow in Teton County, Idaho in the summer of 2021 with a follow up site visit in spring of 2022. The assessment was conducted by a Range/Wildlife/GIS Specialist for Y2 Consultants, LLC (Y2) at the request of Clayton “Butch” Blanchard (the “Client/Agent/Owner”).

The purpose for the assessment was to identify, describe, and evaluate natural resources that occur within, or adjacent to, the Cooper’s Hollow Parcel. This process and supporting document is prepared following current Teton County Planning and Zoning Ordinances.

LOCATION AND PHYSIOGRAPHY

The WHA consists of a 132.93-acre study area spanning one lot, collectively identified as the Cooper’s Hollow Parcel.

The assessment area is located approximately 0.5 miles east of the town of Felt in Teton County, Idaho (Figure 1). Access to the property is gained by traveling south from Felt on Wells Road. The parcel is mostly bound on the north by Wells Road, on the east by Reece Road, on the south by W 10000 N, and on the west by the Ashton – Tetonia Trail.

Cooper’s Hollow is predominantly farmed cropland and lies approximately 0.25 miles north of Badger Creek, which eventually drains into the Teton River. The average elevation across the parcel is 6,109 feet (6,056 – 6,288 feet).

FLOODPLAINS, WETLANDS, AND RIPARIAN AREAS

FLOODPLAINS

The Teton County Floodplain Overlay indicates that the parcel is entirely outside the existing 100-year FEMA delineated floodplain and entirely outside the revised delineated floodplain.

WETLANDS

The Teton County Natural Resource Overlay indicates that no priority wetland areas are within, or adjacent to, the Cooper’s Hollow Parcel (Figure 4). The nearest priority wetland areas are approximately one-mile northwest from the parcel. During the site visit, no areas of interest were identified to justify further

exploration into the site soils to verify wetland status. No areas were observed that contained Obligate or Facultative Wetland vegetation species.

RIPARIAN AREAS

Riparian areas/ecosystems are found along waterbodies such as streams, rivers, floodplains, lakes, and wetlands. They are integral to maintaining bank stability and providing floodplain stability and protection. They filter sediment and nutrients and provide habitat for fish and wildlife.

The Cooper's Hollow Parcel is located approximately one-quarter mile north of Badger Creek. A single drainage area was observed across the main portion of the property that generally flowed north and south. No standing or flowing water was observed within the drainage area. No evidence suggesting perennial flows, such as sediment deposits or obligate/facultative vegetation species, were observed. After review of historical imagery, the ditches that cross the parcel appear to be relatively frequently inundated, though no indicators suggesting development of wetland characteristics were observed. Some vegetation species were observed, including narrowleaf cottonwood (*Populus angustifolia*) and various willow (*Salix* spp.) species, and are often associated with riparian areas. However, the greater vegetation community, mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*), smooth brome (*Bromus inermis*), or intermediate wheatgrass (*Thinopyrum intermedium*), are not typically riparian obligate species, but tolerate wetter times throughout the year.

GEOLOGY AND SEISMIC HAZARDS

Teton County is within the Wyoming Overthrust Belt System located in eastern Idaho and western Wyoming. Only the main basin that runs the center length of the County is relatively level, with the surrounding mountainous landscape brought about by historic uplifts, faults, fault blocks, alluvial deposits and stream cutting action that has created steep narrow canyons. Approximately 50% of Teton County has slopes steeper than 40%. The Teton County All Hazard Mitigation Plan completed in 2016 identifies the Tetonia area as Moderately High earthquake risk. Exhibits within the report classify the Tetonia to Felt area as Low Liquefaction Susceptibility and in the National Earthquake Hazards Reduction Program (NEHRP) class C3. Moreover, numerous historic earthquakes have been recorded in the Teton Range east of Felt ranging from Magnitude 1.9 – 4.0. (*Teton County, Idaho - Multi-Jurisdictional All Hazard Mitigation Plan, 2016*)

WILDFIRE DANGER

Teton County, Idaho completed a risk assessment for pertinent risks, including wildfire, in 2016. Their findings are presented in their Community Wildfire Protection Plan (CWPP) which defines Wildland Urban Interfaces (WUI) that include private property and public lands. Within this plan are estimated risk levels to the WUI and management suggestions to improve or mitigate risk levels. The area around Felt was included in the Tetonia Assessment, where the overall hazard risk was determined to be moderately low in the All Hazard Mitigation Plan. However, upon further review, the CWPP classifies the area between Tetonia and Felt to have the highest classification of fire intensity (>1,000 Btu/ft/s) and highest classification of flame length (>11 ft), most likely due to the vegetation cover dominated by varying densities of grass and brush. A fire

pond for primary and supplemental water for fire protection and prevention has been designed and will be incorporated into the proposed subdivision infrastructure per Teton County, Idaho regulations. (*Teton County, Idaho - Multi-Jurisdictional All Hazard Mitigation Plan, 2016*)

VEGETATION

Teton County, Idaho is a high elevation basin. The lower elevation valley bottoms are comprised largely of wetlands, sloughs, and riparian areas, grazed and cultivated farmland, and residential development. The National Wetlands Inventory has classified 26,760 acres (~9%) of Teton County, Idaho as wetlands (Teton Regional Land Trust, 2006). Riparian areas connect throughout and are comprised of trees, shrubs, forbs, and grasses that prefer greater access to water in varying degrees. Mid-elevations above the valley are generally comprised of sagebrush communities or tall shrub communities, depending on the northern or southern exposure. Sagebrush communities are found on southern exposures and are typically drier. They are characterized by moderately dense sagebrush overstory with perennial forb or perennial grass understories. Tall shrub communities are also found at mid to upper elevations and have more available moisture due to northern exposure or greater elevation. Common species include quaking aspen (*Populus tremuloides*), serviceberry (*Amelanchier alnifolia*), mountain snowberry (*Symphoricarpos oreophilus*), mountain mahogany (*Cercocarpus montanus*), etc. Also, in the mid to upper elevations above the valley bottoms, Engelmann spruce (*Picea engelmannii*), Douglas fir (*Pseudotsuga menziesii*), lodgepole pine (*Pinus contorta*), subalpine fir (*Abies lasiocarpa*), and quaking aspen dominate the overstory with forbs, grasses, and shrubs in the understory in varying densities depending upon seral maturity.

The vegetation communities observed on the Cooper's Hollow Parcel are described within the Key Habitats section of this document.

RIDGES AND ROCK OUTCROPPINGS

Teton County, Idaho ranges in elevation from 9,016 feet (Garns Mountain Summit) to 5,080 feet (Teton River at Teton/Madison County line). The Cooper's Hollow Parcel exhibits relatively uniform elevation across the main portion of the parcel with the northeast portion being relatively steep. Although there are steeper areas of the parcel, there are no ridges or rock outcroppings within the parcel.

PERCENT SLOPE

The Cooper's Hollow Parcel is relatively uniform but falls on two separate plains. The Teton County slope percentage layer shows the northeast portion is mostly over 10% slope with a couple draws that are over 20-30% slope. The overall area that is greater than 10% slope is estimated to be approximately 20% of the parcel. U.S. Geological Service (USGS) resources classify the Cooper's Hollow Parcel as 3% average slope, ranging from 0 – 21% slope (*The National Map | U.S. Geological Survey, n.d.*).

SOILS

Table 1 shows the six soil types mapped by the soil survey on the Cooper's Hollow Parcel (Natural Resources Conservation Service, n.d.). None of the soils are listed as hydric soils and do not indicate any

wetland likelihood. Due to the history of production agriculture on the main portion of the parcel which may have utilized farming implements that modified the soil structure during tilling and planting, most of soil map unit 13430 and 13514 are likely altered from the model. Figure 6 depicts the soil map units for the Cooper’s Hollow Parcel.

Table 1: Soils within the Cooper’s Hollow Parcel.

Map Unit Symbol	Map Unit Name	ESD	ESD Name	Acreage within Parcel	Percent of Parcel
43B738	Dra-Pinochle-Rock outcrop complex, 4 to 25 percent slopes	R013XY003ID	Steep South 16-22 ARTRV/PSSPS	16.19	12.2%
13430	Alpine-St. Anthony complex, 0 to 2 percent slopes	R013XY004ID	Shallow Gravelly 12-16 ARTRV/PSSPS	59.58	44.8%
13514	lphil-Lostine-Ririe complex, 0 to 12 percent slopes	R013XY001ID	Loamy 12-16	43.65	32.8%
13522	Ririe-Lostine-Kucera complex, 4 to 20 percent slopes	R013XY005ID	Loamy 16-22 ARTRV/FEID-PSSPS	6.38	4.8%
13548	Greys silt loam, lee side hillslope, 8 to 30 percent slopes	R013XY016ID	Moist Mountain Loam 20+ POTR	6.23	4.7%
13553	Milk-Bull complex, 1 to 10 percent slopes	R013XY005ID	Loamy 16-22 ARTRV/FEID-PSSPS	0.9	0.7%

AREAS WITHIN 1-MILE OF STATE HIGHWAY OR SKI HILL ROAD

The Cooper’s Hollow Parcel is 0.5 miles from Idaho State Highway 33 (Figure 1), but not within one mile of Ski Hill Road.

CLIMATE

The 'growing season' for Driggs, Idaho (utilizing the most proximate WETs Station, ID16081) according to the United States Department of Agriculture (USDA) WETs table is between 81-92 days (based off years of record from 1971-2019) (NRCS, 2019). The average temperature annually is 40.6°F and the average precipitation is 16.37 inches.

LAND USE

The predominant historic use of the Cooper's Hollow parcel is production agriculture. This land use dominates the majority of the parcel, and the small northeastern portion is mostly native vegetation. There are no structures currently on the parcel. Established roads bisect the parcel across the northern, southern, and eastern borders.

OVERVIEW

In general, shown in Figure 8, approximately 32 acres (~24%) of the 132.93-acre parcel remains intact with elements of native vegetation communities. Approximately 97.74 acres (~74%) have been converted to farmed cropland. There are no riparian or wetland areas present on the parcel, though supplemental irrigation appears to enter the property from irrigation ditches for short periods of the growing season. The majority of the parcel has been undeveloped and only approximately 2.9 acres (~2%) have been disturbed as existing roads. The northeastern portion is important to wildlife and is bisected by many game trails and provides ample food and shelter for passing wildlife. The main portion of the parcel is utilized by wildlife to a lower degree due to the conversion of native vegetation communities to less desirable forage species. Overall, the areas of greatest habitat value to provide food and shelter to wildlife are the sagebrush and deciduous tree habitats of the main portion of the parcel and the mixed tree, tall shrub, and sagebrush habitats in the northeast portion. The entire parcel is located within the Teton County, Idaho delineated Big Game Migration Corridors and Seasonal Range Natural Resource Overlay and 35.57-acres (27%) of the parcel is located within the Sharp-tailed Grouse Breeding Habitat Natural Resource Overlay. The areas of greatest habitat value described above represent that overlay to a high degree and provide habitat for multiple big game species and sharp-tailed grouse.

INDICATOR SPECIES AND HABITATS

All of the Cooper's Hollow parcel is located within the Big Game Migration Corridors & Seasonal Range Natural Resource Overlay and 35.57-acres (27%) of the parcel is located within the Sharp-tailed Grouse Breeding Habitat Natural Resource Overlay (Figure 4). Teton County has identified five indicator species and habitats. The following table outlines these species and habitats as they occur within the project area. The table provides summary information about each indicator species. For those species and habitats present on the subject property, a more detailed discussion is provided below the table.

Table 2. Teton County, Idaho indicator species and habitats.

Indicator Species	Habitat	Does this occur within the project area?	Acres within the Project Area	Overall Description
Big Game Elk, Mule Deer, and Moose.	Sagebrush, Mixed Tree/Shrub, Tall Shrub/Sagebrush, and Deciduous Tree Habitat.	Yes.	132.93 Acres	The entire parcel is located within the Big Game Migration Corridors & Seasonal Range Overlay as identified by Teton County. Sagebrush dominated and codominated habitat occurs across the center of the large portion of the parcel and across most of the northeast portion of the parcel. Patches of mixed tree/shrub and tall shrub habitats occur across the northeast portion of the parcel. Small patches of deciduous tree habitat lie across the main portion of the parcel.
Trout	None Identified.	No.	N/A	Stream habitat is not present in the project area. No further analysis is necessary.
Water Birds Sandhill Crane, Trumpeter Swan	Palustrine emergent wetlands	No	N/A	Palustrine emergent wetlands are not present in the project area. No further analysis is necessary.
Songbirds and Raptors	Forested riparian habitat and mountain shrublands	No	N/A	The parcel is not identified within the Songbirds and Raptors overlay. No further analysis is necessary.

Columbian Sharp-tailed Grouse	Sagebrush, Mixed Tree/Shrub, Tall Shrub/Sagebrush, and Deciduous Tree Habitat.	Yes	35.57 Acres	The southeast corner of the parcel is located within the Sharp-tailed Grouse Breeding Habitat Overlay as identified by Teton County. Sagebrush dominated and codominated habitat occurs across the center of the large portion of the parcel and across most of the northeast portion of the parcel. Patches of mixed tree/shrub and tall shrub habitats occur across the northeast portion of the parcel. Small patches of deciduous tree habitat lie across the main portion of the parcel.
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KEY HABITATS IN THE PROJECT AREA

The summary table above identified key habitats for big game, trout, and songbirds and raptors within the project area. The following sections provide habitat descriptions for each of these habitats (Table 3).

Table 3: Identified habitat/cover types on the Cooper’s Hollow parcel.

Habitat Type	Acreage	%
Farmed Cropland Habitat	97.74	73.5%
Sagebrush Habitat	18.65	14.0%
Mixed Tree/Shrub Habitat	5.45	4.1%
Tall Shrub/Sagebrush Habitat	5.41	4.1%
Roads/Trails	2.9	2.2%
Deciduous Tree Habitat	2.77	2.1%

FARMED CROPLAND HABITAT

This habitat comprises the majority of the main portion of the parcel and a portion of the northeast portion of the parcel. Satellite imagery shows that it has been regularly harvested for grass hay over the past 25 years, though it did not appear to be harvested in 2021. Electric fencing surrounded the parcel and cattle appear to be rotationally grazed depending upon the year. Smooth brome, western wheatgrass (*Pascopyrum smithii*), intermediate wheatgrass, Kentucky bluegrass (*Poa pratensis*), and other pasture grasses dominate these areas with lower densities of alfalfa. Along the periphery of the delineated boundary, some areas have a minor shrub component including mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*) and yellow rabbitbrush (*Chrysothamnus viscidiflorus*) that reflects species that may have been present prior to disturbance.

This habitat exhibited very minor amounts of big game use. Although they provide open space, a valuable element of habitat, these areas lack adequate forage and thermal cover for big game. Idaho Fish and Game often observes ungulates moving through these areas quickly or avoiding these areas due to their lack of important resources. (Josh Rydalch, personal communication, January 10, 2022)

SAGEBRUSH HABITAT

This habitat type is found across the middle of the main portion of the parcel amongst the Farmed Cropland Habitat and around the Tall Shrub/Sagebrush Habitat in the northeast portion of the parcel. It is dominated by mountain big sagebrush with a diverse herbaceous understory. The herbaceous understory in the main portion of the parcel is dominated by pasture grasses found in the surrounding cropland including smooth brome, intermediate wheatgrass, western wheatgrass, and Kentucky bluegrass. Other native herbaceous species include lupine (*Lupinus* spp.), yarrow (*Achillia millefolium*), and buckwheat (*Eriogonum* spp.). In the northeast portion of the parcel the herbaceous understory is composed of needle and thread (*Hesperostipa comata*), sandberg bluegrass (*Poa secunda*), mountain brome (*Bromus marginatus*), arrowleaf balsamroot (*Balsamorhiza sagittata*), poverty weed (*Iva axillaris*), agoseris (*Agoseris* spp.), lupine, sagebrush buttercup (*Ranunculus glaberrimus*), and buckwheat.

This habitat exhibited varying amounts of big game use with the greatest density in the northeast portion of the parcel. Higher densities of scat from elk, moose and mule deer were observed in the northeast portion. Lower densities of elk and mule deer sign was observed in the main portion.

MIXED TREE/SHRUB HABITAT

This habitat type is very diverse and comprised of various trees, shrubs, forbs, and grasses. Deciduous trees are found in various densities and age classes across the northern part of the northeast portion of the parcel. Quaking aspen (*Populus tremuloides*) is found throughout the patch with chokecherry (*Prunus virginiana*). Conifer trees including Douglas fir (*Pseudotsuga menziesii*) are scattered through the patches as well. Through these mixed forested areas, a diverse shrub component is present including saskatoon serviceberry (*Amelanchier alnifolia*) and mountain snowberry (*Symphoricarpos oreophilus*). The herbaceous understory contained mountain brome, Kentucky bluegrass, timothy (*Phleum pratense*), sticky geranium (*Geranium viscosissimum*), green gentian (*Frasera speciosa*), wild onion (*Allium* spp.), common dandelion (*Taraxacum officinale*), yellow salsify (*Tragopogon dubius*), and penstemon (*Penstemon* spp.).

This habitat exhibited the greatest abundance of big game use. Scat from elk, moose, and mule deer was observed, as well as bedding areas and moderate hedging from sustained historic use. Well established game trails traveled from this area across the northeastern portion of the parcel, especially to the Tall Shrub/Sagebrush Habitat.

TALL SHRUB/SAGEBRUSH HABITAT

This habitat type is found across the middle of the northeastern portion of the parcel amongst sagebrush dominated ridge crests. It is a shrub dominated habitat consisting of saskatoon serviceberry, mountain big sagebrush, and mountain snowberry. The herbaceous understory is composed of Sandberg bluegrass, mountain brome, sticky geranium, lupine, sagebrush buttercup, and buckwheat.

This habitat exhibited moderate big game use. Trails, hedging, and scat from elk, moose and mule deer was observed across this habitat. This is an important habitat for ungulates year-round, but the southwestern exposure makes this habitat on this parcel very valuable in the winter.

DECIDUOUS FOREST HABITAT

This habitat is isolated to numerous small patches of narrowleaf cottonwoods, quaking aspen, chokecherry, and other trees in the southern portion of the parcel. It is characterized by deciduous trees dominating the overstory with pasture grasses and other herbaceous species in the understory including smooth brome, western wheatgrass, intermediate wheatgrass, Kentucky bluegrass, other pasture grasses, common dandelion, and yellow salsify.

This habitat exhibited minor amounts of big game use. Very sparse scat from elk and mule deer was observed but appeared to be attributed to animals moving through and using the trees as incidental cover. Due to their small size and lack of connectivity to similar areas outside the parcel, these areas are likely used as incidental cover for wildlife passing through.

WILDLIFE INVENTORY

Table 3 describes the habitats for big game, trout, and songbirds/raptors that are present within the project area. The previous section describes those habitats and details the various flora within each habitat. This section describes the presence of indicator species as determined through primary and secondary research efforts. Field surveys and research methodologies are described under each group of species.

BIG GAME – MULE DEER, ELK, AND MOOSE

Mule deer, elk, and moose have various distinct and overlapping habitat needs. Elk can be considered habitat generalists. They prefer open woodlands, grasslands, and shrublands but can also be found in coniferous forest, clear cuts, aspen forests, and mixed coniferous hardwood forests. Elk prefer grazing on grasses, forbs, and sedges in the summer but may consume more woody browse such as trees and shrubs in winter. Mule deer are more selective in their habitats than elk and prefer open habitats with shrubby vegetation. They concentrate selecting browsers and prefer leaves, twigs, buds, forbs, and grasses. Moose are browsers like mule deer and prefer more shrubby vegetation than elk as well. During the summer, moose prefer the young leaves and twigs of shrubs and trees and in winter utilize conifer and hardwood twigs. Also, when available moose seek aquatic plants with high levels of sodium. (Teton Regional Land Trust, 2006)

IDFG recognizes the habitat value of the Cooper's Hollow Parcel for big game habitat. Collar data show that mule deer winter along the Teton Canyon area to the west of the parcel and migrate back east through the property when they return to summer range along Grand Teton National Park. Elk collar data show that elk stay around the parcel year-round. The elk winter along the foothills of Teton County and move up in elevation as summer progresses. Some elk stay around the parcel and utilize agriculture areas for calving and summer habitat. Elk in radio collar studies pass through the Cooper's Hollow parcel and are wintering within three quarters of a mile of the parcel. (Josh Rydalch, personal communication, January 10, 2022)

The Idaho Fish and Wildlife Observation System further depicts the importance of the parcel and its direct vicinity for big game. The Teton River mule deer migration corridor passes within one mile of the parcel's northern edge and identified stop over areas are approximately one and one quarter mile northeast. The Teton River elk migration corridor passes directly through 106.48 acres (80%) of the parcel and numerous stopover areas are located within one-half mile from the parcel including two within a quarter mile. Moose have been observed within one-half mile of the parcel. (Idaho Department of Fish and Game, n.d.)

During the site visit on July 13, 2021, a diversity of wildlife sign was observed with the greatest concentration of wildlife presence and evidence concentrated in the northeastern portion of the parcel. Ungulates are likely drawn to this area for the favorable assemblage of habitat that provides forage and shelter with reduced human presence disturbance. The diverse vegetation communities observed in the Mixed Tree/Shrub, Tall Shrub/Sagebrush, and Sagebrush Habitats provide forage for mule deer, elk, and moose throughout the year, as well as visual and thermal cover. Observed evidence of these species included scat, tracks, bedding areas, and browse. No evidence of scrapes or rubs were observed suggesting that big game did not occupy this area through the breeding season in the fall. The Cooper's Hollow parcel is likely used predominantly as winter habitat for elk and moose.

The main portion of the parcel exhibited significantly reduced wildlife evidence. Elk and mule deer scat and tracks were observed in the larger sagebrush patch.

COLUMBIAN SHARP-TIALED GROUSE

Columbian sharp-tailed grouse are considered priority landbirds in Teton County, Idaho, along with songbirds and raptors. The species is listed as a species of Greatest Conservation Need by the Idaho Comprehensive Wildlife Strategy (ICWS) (Idaho Department of Fish and Game, 2005). Columbian sharp-tailed grouse prefer large areas of bunchgrass-dominated grassland and shrub-bunchgrass rangelands for breeding habitat. They also use croplands, especially when located near grassland nesting and brood-rearing habitat. Similar to other grouse species, males gather on leks in the spring. These breeding areas are often located on low knolls, benches, and ridgetops with slightly higher elevation to increase visibility to onlooking females. These lekking areas commonly have sparse vegetation and are usually grass or shrub-grass dominated. Breeding primarily happens in April, then females disperse and lay eggs in nesting areas within 3-4 km of the lek. IDFG has noted large numbers of leks located on Conservation Reserve Program (CRP) land, suggesting the importance of the program for retiring cropland and seeding with mixtures of perennial grasses and forbs that are desirable to the species. Crucial habitat that provides food and cover for wintering Columbian sharp-tailed grouse includes mountain shrubs, riparian shrubs, and mixed aspen/deciduous shrub patches including chokecherry, serviceberry, hawthorn, and snowberry. Cultivated crops such as alfalfa, wheat, or barley may also be used if available. (Teton Regional Land Trust, 2006).

The Cooper's Hollow Parcel and nearby area along Badger Creek is within defined nesting areas of two known leks (locations withheld). The nearest lek is located approximately 2.8 km from the Cooper's Hollow Parcel. Other unknown leks may also be in the area but IDFG has not conducted lek surveys on the property. Recent studies that tracked Columbian sharp-tailed grouse in Eastern Idaho found that birds often traveled many miles to winter habitat. The Idaho Fish and Wildlife Observation System shows confirmed

sightings of sharp-tailed grouse on the parcel, one and one half miles north, and three miles northwest. (Idaho Department of Fish and Game, n.d., 2024; Josh Rydalch, personal communication, January 11, 2022)

FENCING

A single strand electric fence surrounded most of the main portion of the parcel at the time of the site visit. It appeared it was staged in preparation for cattle to enter the pasture. The fence appeared to be maintained and there were no areas of concern for wildlife entanglement.

NOXIOUS SPECIES

Noxious and weed species were mostly observed in the Farmed Cropland Habitat and along the roads. Invasive annual grasses were noted in the northeast portion of the parcel, mostly along well-established game trail. Species observed included Canada thistle (*Cirsium arvense*), musk thistle (*Carduus nutans*), prickly lettuce (*Lactuca serriola*), yellow salsify (*Tragopogon dubius*), bindweed species (*Calystegia* spp.), field brome (*Bromus arvensis*), and cheatgrass (*Bromus tectorum*).

SPECIAL STATUS SPECIES

No known or suspected plant or animal species were identified on the Cooper’s Hollow Parcel that are listed, or currently proposed for listing, by the federal Endangered Species Act (ESA). Other species may be listed relevant to Teton County, Idaho, but not listed below, such as the Canada lynx (*Lynx canadensis*). These species are protected wherever they occur, however, only species identified by the U.S. Fish and Wildlife Service Environmental Consultation Online Service for the Cooper’s Hollow Parcel are listed in Table 4

Table 4: Special Status Species identified by the U.S. Fish and Wildlife Service Environmental Consultation Online Service for the Cooper’s Hollow Parcel.

Group	Name	Population	Status
Mammals	Grizzly bear (<i>Ursus arctos horribilis</i>)	U.S.A., conterminous (lower 48) States, except where listed as an experimental population	Threatened
Mammals	North American wolverine (<i>Gulo gulo luscus</i>)	Wherever found	Proposed Threatened
Insect	Monarch Butterfly (<i>Danaus plexippus</i>)	Wherever found	Candidate

(US Fish and Wildlife Service, n.d.)

CHAPTER 3 – IMPACT ANALYSIS

The proposed Cooper's Hollow Subdivision includes four – 20 acre lots, one – 25 acre lot, and one 28 acre lot, totaling six lots overall. Each lot has a proposed building envelope 2.5 acres in size. Each lot includes a private driveway of minimal length. Three lots will gain access from W 10000 N, two lots will gain access from Wells Avenue, and one lot will gain access from Reece Road. Driveways will have a proposed constructed width of twelve feet. A fire pond with an estimated maximum disturbance of 0.4 acres will be constructed along the southern boundary and will be accessed from W 10000 N. During construction, driveways will be temporarily disturbed by fill material, ditches, and culverts to a width of sixteen feet. The total proposed disturbance is 17.28 acres (13% of the parcel). The proposed development can be viewed in Figure 3.

BIG GAME MIGRATION CORRIDORS & SEASONAL RANGE

The proposed development will directly impact 17.28 acres of Big Game Migration Corridors and Seasonal Range (Figure 5). Direct impacts will include converting lands predominantly used for production agriculture into lands characterized as human disturbance such as roads, buildings, fences, and landscaped areas with limited habitat value. These lands have been previously converted from native mixed shrub habitat typically expected in these areas and therefore provide less habitat value for big game. However, these areas still provide unobstructed open space that is still utilized by big game (Idaho Department of Fish and Game, n.d.; Josh Rydalch, personal communication, January 10, 2022). The primary indirect impact is the perpetual negative influence on habitat connectivity for big game due to the disturbance and presence of humans. Human presence can impact connectivity due to the presence of pets, light sources, general activity, and others.

ELK, MULE DEER, AND MOOSE.

Elk, mule deer, and moose are all negatively affected by increased human presence and disturbance. As stated above, these big game species will experience impacts to their habitat connectivity, especially due to development and potential fencing. Each of these species are prone to entanglement with non-wildlife friendly fencing.

The conversion of habitat to landscaping can reduce forage availability. Although native forage species may be chosen for landscaping plans, most often exclusion fencing is implemented to protect new plantings, resulting in a net loss of forage availability. If non-native ornamental species are chosen for landscaping, the least impactful result would be a loss of forage availability and the most impactful result would be selecting species that are toxic to big game species, such as ornamental yew. (Idaho Department of Fish and Game, 2024)

The Teton River Elk Migration Corridor includes approximately 80% of the Cooper's Hollow parcel. Stopover areas along that corridor largely flank the parcel on its southern border, lying approximately one-tenth to one-quarter mile from the parcel boundary.

The proposed development is located within one-mile of the Teton River Mule Deer Migration Corridor and approximately one and one-quarter miles from a stopover point along that corridor. (Idaho Department of Fish and Game, n.d.)

Moose migration corridors and stopover points have not been delineated in the vicinity of the Cooper's Hollow Parcel. However, moose have been observed approximately one-third mile east of the Cooper's Hollow Parcel. (Idaho Department of Fish and Game, n.d.)

SHARP-TAILED GROUSE BREEDING HABITAT

The proposed development will directly impact 4.04 acres of Sharp-tailed Grouse Breeding Habitat (Figure 9). Direct impacts are similar to those discussed above for Big Game Migration Corridors and Seasonal Range. However, the conversion of mixed shrub habitat to upland herbaceous pasture may have less negative influence on Sharp-tailed Grouse Breeding Habitat suitability. Nonetheless, Sharp-tailed Grouse will be negatively influenced by the conversion of habitats by human disturbance. Indirect impacts of the proposed development may be more greatly influential on the likelihood of grouse to continue using the area. Grouse species have a limited tolerance of humans during breeding, nesting, and early brood rearing time periods. Human development most often includes increased perching opportunities for raptors who prey upon grouse. Many raptor species, including falcons and owls have been observed within two miles of the Cooper's Hollow parcel. (Idaho Department of Fish and Game, n.d.) Other natural predators such as skunks, fox, coyotes, and others often increase in presence with human activities as well as domestic predators such as cats and dogs. Bird species who spend most of their time on the ground, like grouse, are very susceptible to increased predation during breeding and nesting.

SHARP-TAILED GROUSE

Grouse have been observed within the Cooper's Hollow parcel within the last 5 years. (Idaho Department of Fish and Game, n.d.) Based on correspondence with IDFG biologists, the closest known lek (breeding area) is 1.5 miles North of Tetonia and another is located 1.4 miles southwest of Felt. Other unknown leks may also be in the vicinity. The project area along Badger Creek is within defined nesting areas (3-4 km). (Josh Rydalch, personal communication, January 11, 2022)

LARGE CARNIVORES

As human presence has expanded in Teton County, Idaho, conflicts between large carnivores (black and grizzly bears, mountain lions, and gray wolves) have become more common. Unsecured garbage, hobby agriculture, pet and livestock food, and proximity to prey species are attractive to predators in the area. (Idaho Department of Fish and Game, 2024)

CHAPTER 4 – PROPOSED MITIGATION

Mitigating impacts to elk, mule deer, moose, and sharp-tailed grouse has been a priority for the proposed Cooper's Hollow Subdivision throughout the entire design process.

BUILDING ENVELOPE PLACEMENT

Based upon feedback from TC-P&Z staff during the concept plan development and feedback from IDFG biologists, minimizing impacts to big game habitat connectivity was a priority. IDFG requested that the greatest amount of open space through the center of the primary portion of the parcel was maintained to accommodate wildlife passage and to maintain the greatest habitat values. Reflecting that request, the proposed design includes the western building envelopes pushed close to existing human development and disturbance. The eastern building envelopes are condensed to the junction of the proposed lot boundaries. In the northeast portion of the parcel, IDFG requested that the building envelope be limited to the existing agricultural disturbance and avoid disturbance to the intact mixed shrub habitat. The proposed design meets that request directly. Building envelopes can be viewed in Figure 9.

Following direction from TC-P&Z staff, another alternative, a central clustered design of the building envelopes for lots 1, 2, 3, and 4 was considered but abandoned due to the potential impact to wildlife habitat. This design would place the building envelopes in the sagebrush habitat in the center of the parcel. This sagebrush habitat is the remaining relatively intact native habitat in the largest portion of the parcel. Further, this design would have placed the disturbance directly in the path of known movement of big game species and would have contributed unnecessary impacts to habitat continuity. Finally, this design would have had spillover effects upon the deciduous forest habitat that in the preferred alternative is maintained as shelter for wildlife.

ROADS

Following the lead of the building envelope placement in the proposed design, the proposed roads have been placed to reduce impacts to big game and sharp-tailed grouse. The proposed road design does not minimize disturbance to the greatest degree but seeks to balance wildlife mitigation with private property privacy. Per TC-P&Z's request, shared driveways were incorporated and increased road disturbance to accommodate fewer access points from the bounding roads.

A primary central road was considered for the proposed Cooper's Hollow Subdivision but was abandoned due to increased impacts to wildlife. The central road would directly impact the central open space area that was avoided during building envelope placement and would subsequently go against IDFG's request discussed above. Further, the central road would incur a greater amount of disturbance by scaling up the capacity of the road to handle the traffic of the five proposed parcels. In this alternative, the main road would be designed to an approximate final constructed width of twenty-two feet across the entire parcel. Road placement can be viewed in Figure 9.

The central clustered design alternative that was considered but abandoned would likely incur a larger amount of road disturbance due to the overall construction width and the central cul-de-sac that would be required.

Regarding access to the northeast portion of the parcel, the initial design attempted to minimize additional driveway disturbance. However, a second driveway will be constructed paralleling the existing driveway along the entire southern boundary of that portion of the parcel due to neighboring property owners that would not consider sharing the existing driveway and its maintenance.

FENCING

There are no current plans to fence the parcel for boundary delineation or livestock containment. Livestock grazing will continue on the property with single strand electric fencing used to control cattle grazing patterns. Future fencing will be stipulated by the fencing section of the Land Management Plan section of this report.

RECLAMATION

There will be short and long-term disturbance with the development of the proposed Cooper's Hollow Subdivision. All temporarily disturbed upland areas will be replanted with native species with a seeding mix prescribed by soil type and moisture expectations.

FIRE POND

All wildlife species are expected to benefit from the proposed fire pond. Aside from providing readily available fire prevention to the subdivision and surrounding area, this pond will provide access to water for wildlife throughout much of the year. Open water is mostly lacking around the proposed subdivision and this pond would entice many bird species, especially those during migration. If a device is incorporated to limit freezing, such as an aerator, the pond could provide access to species that overwinter in the Teton Valley, such as trumpeter swans. Further, this pond is likely to be an oasis for invertebrates, amphibians and other prey species sought sandhill cranes and other water birds. Native vegetation will be planted around the pond to increase screening for wildlife from W 10000 N. The fire pond can be viewed in Figure 9.

VEGETATION SCREENING

Future owners of lots 2 and 4 will be required to plant living snow fence along their driveway and building envelopes to provide screening from the deciduous forest habitat. The living snow fence will be designed to provide functionality early in its establishment and when it's fully established decades into the future. The snow fence will utilize native shrub and tree species like those found in vegetation communities along Badger Creek, south of the parcel and vegetation communities found in the northeast portion of the parcel. It is expected to include conifer species such as spruce, deciduous trees such as aspen, and shorter stature flowering/fruiting shrubs such as chokecherry and currants. To further support pollinator species, lilacs and dogwood are considered as well. This upland mitigation improvement will provide an overall enhancement

to wildlife habitat on the parcel including big game, sharp-tailed grouse, songbirds and pollinators. Moreover, once established, the screening will further support the habitat connectivity for elk, mule deer, and moose through the center of the property by screening the human development. Sharp-tailed grouse will also appreciate the additional shelter, screening, and forage diversity.

CHAPTER 5 – LAND MANAGEMENT PLAN

LIGHTING

Outdoor lighting will be designed to be downcast. Bright lights will detrimentally affect wildlife movement and hinder avian species navigation abilities. Motion detector lights are encouraged, but they shall meet the requirements for floodlights and when not needed (e.g. the residence is unoccupied), lights will remain off for the benefit of wildlife.

PET CONTROL

Household pets (primarily dogs and cats) living on the Property will be contained in a designated, enclosed area and taught to not chase wildlife. The proximity of this parcel to surrounding intact wetland habitat suggests that even after development, the edge of the parcels development will remain important to wildlife. Uncontrolled pets (particularly dogs) that chase and harass wildlife have a detrimental effect on wildlife's survivability and use of an area.

WILDLIFE FRIENDLY FENCING

All fences on the property will be designed to minimize impacts on indicator species' current use of the Property and habitat and built to sustain safe wildlife movement. Fencing shall be designed by a qualified person and consider adjacent land use. Guidelines will be followed as outlined in Teton County Idaho Zoning Ordinance, Title 9 Division 9-3-2 (C-2-c-WH-vi-b) (Teton County, 2013b). Fences for livestock containment shall be clustered near development and not create wildlife movement barriers (i.e. bisect the Property). Further, fences for livestock management will utilize a single electric strand whenever possible.

OPEN SPACE MANAGEMENT

The undeveloped areas on the property constitute open space and will be maintained for the benefit of Teton County indicator wildlife species that currently utilize the Property. Maintenance includes control of state listed noxious weed species according to state laws and eradicated from the Property. No unnecessary removal or destruction of the wetland cover types shall take place.

GARBAGE/WASTE STORAGE

Teton County Code Title 4 Chapter 7 will be followed to minimize the potential for attracting bears into residential areas.

FEEDING OF BIG GAME ANIMALS

Unless specifically conducted by or in cooperation with IDFG, big game animals shall not be fed under any circumstances.

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APPENDIX A – FIGURES

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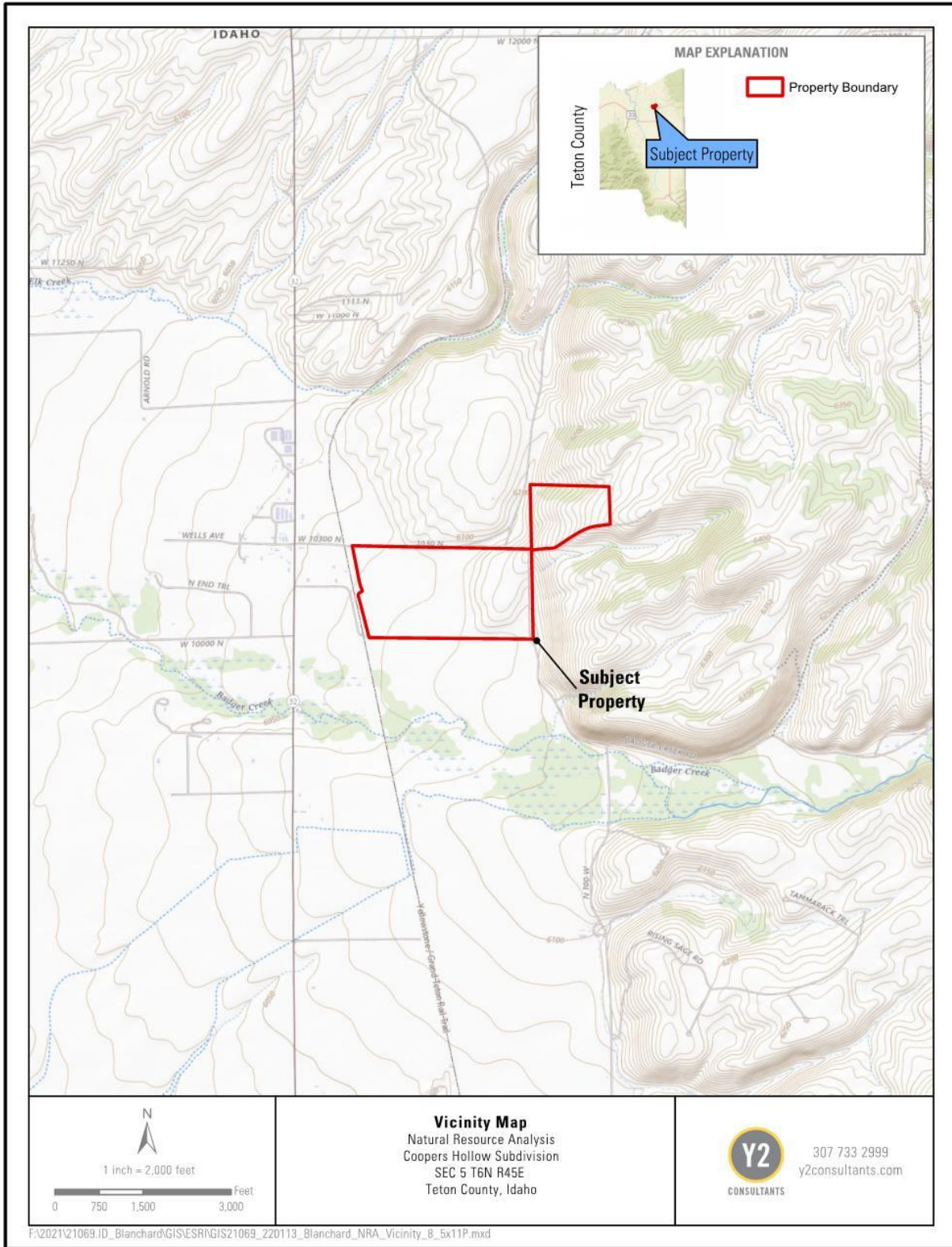


Figure 1: Site Vicinity Map, Cooper’s Hollow Subdivision, Teton County, Idaho.

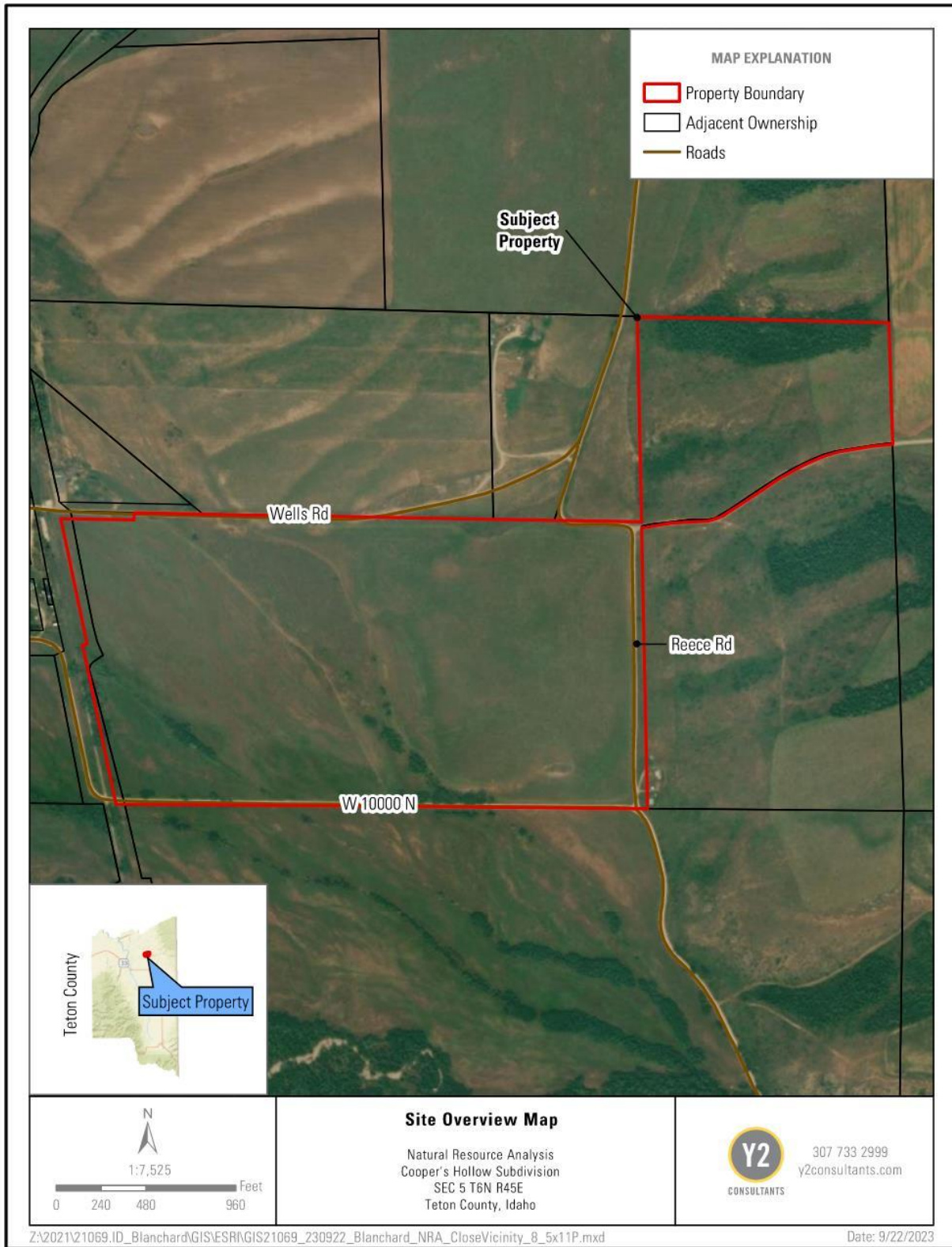


Figure 2: Site Overview Map, Cooper's Hollow Subdivision, Teton County, Idaho.

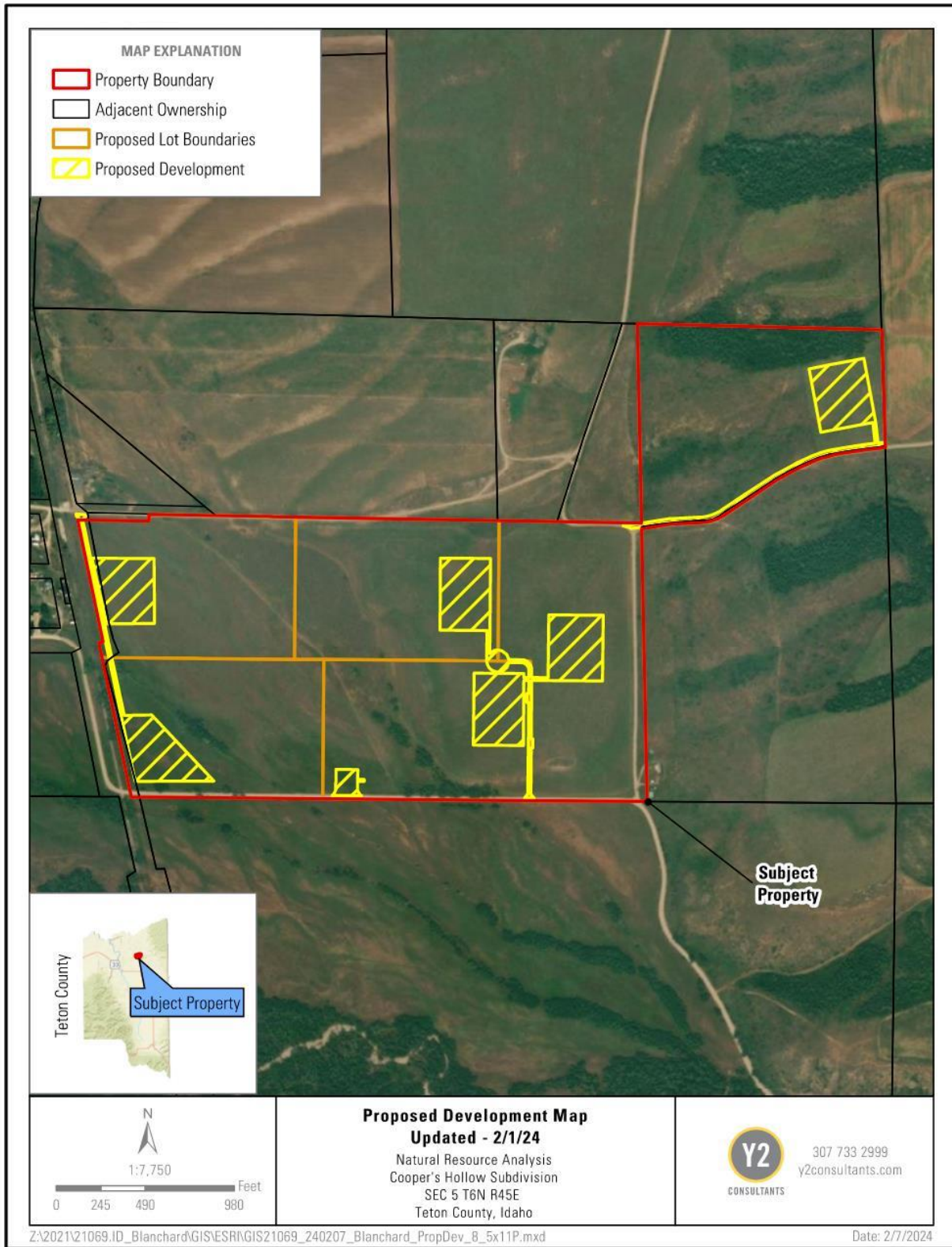


Figure 3: Proposed Development Map, Cooper's Hollow Subdivision, Teton County, Idaho.

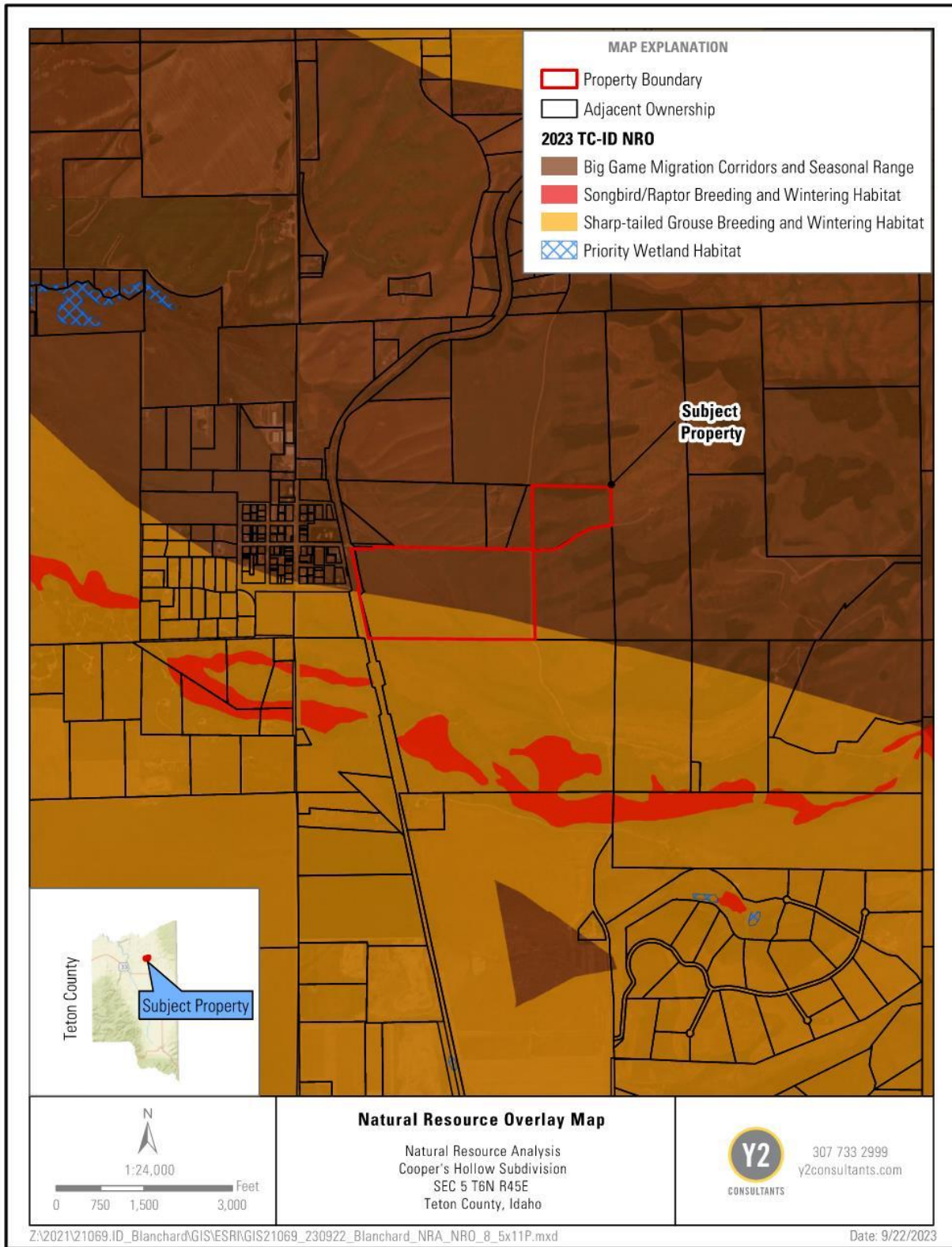


Figure 4: Natural Resource Overlay Map, Cooper's Hollow Subdivision, Teton County, Idaho

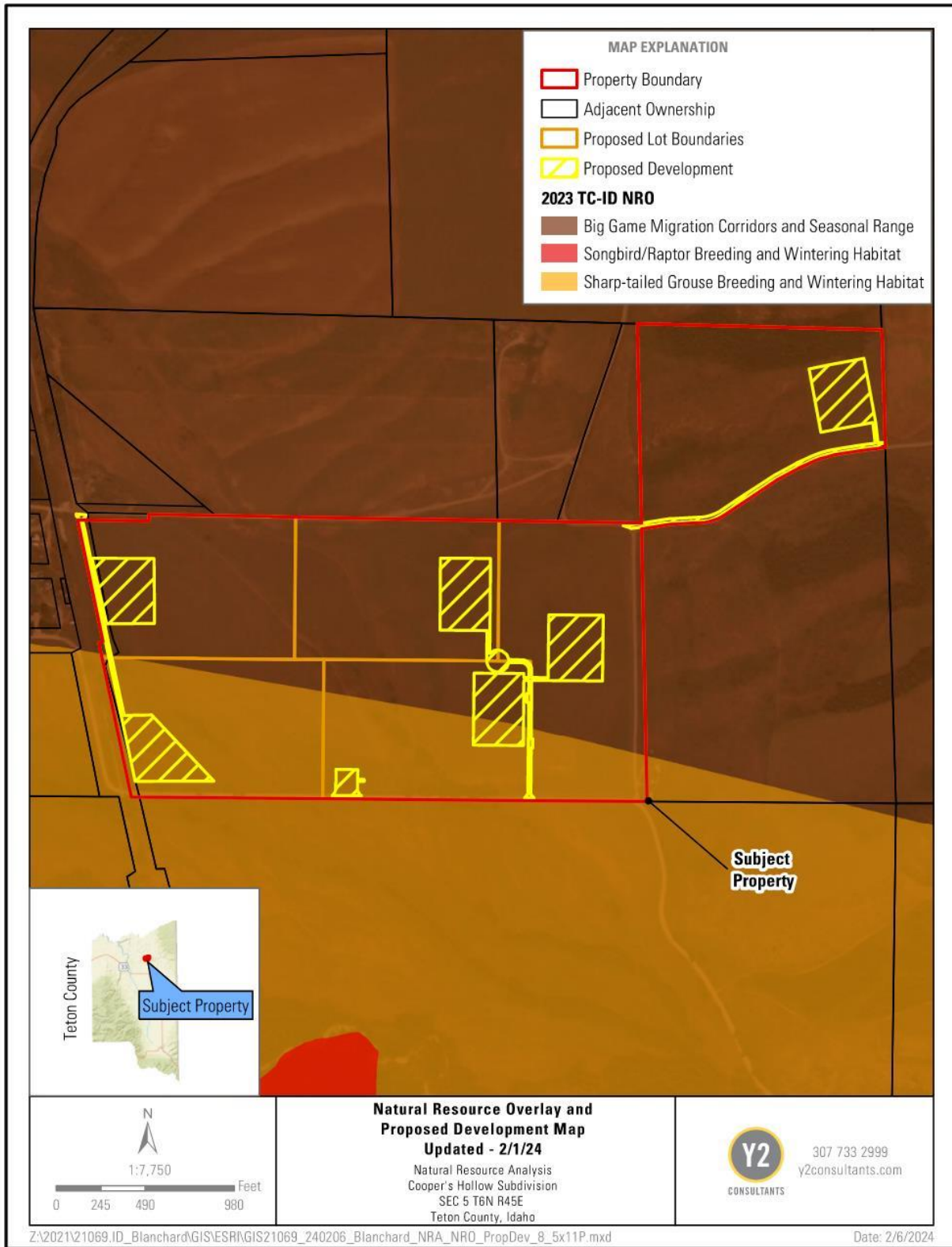


Figure 5: Natural Resource Overlay and Proposed Development Map, Cooper's Hollow Subdivision, Teton County, Idaho.

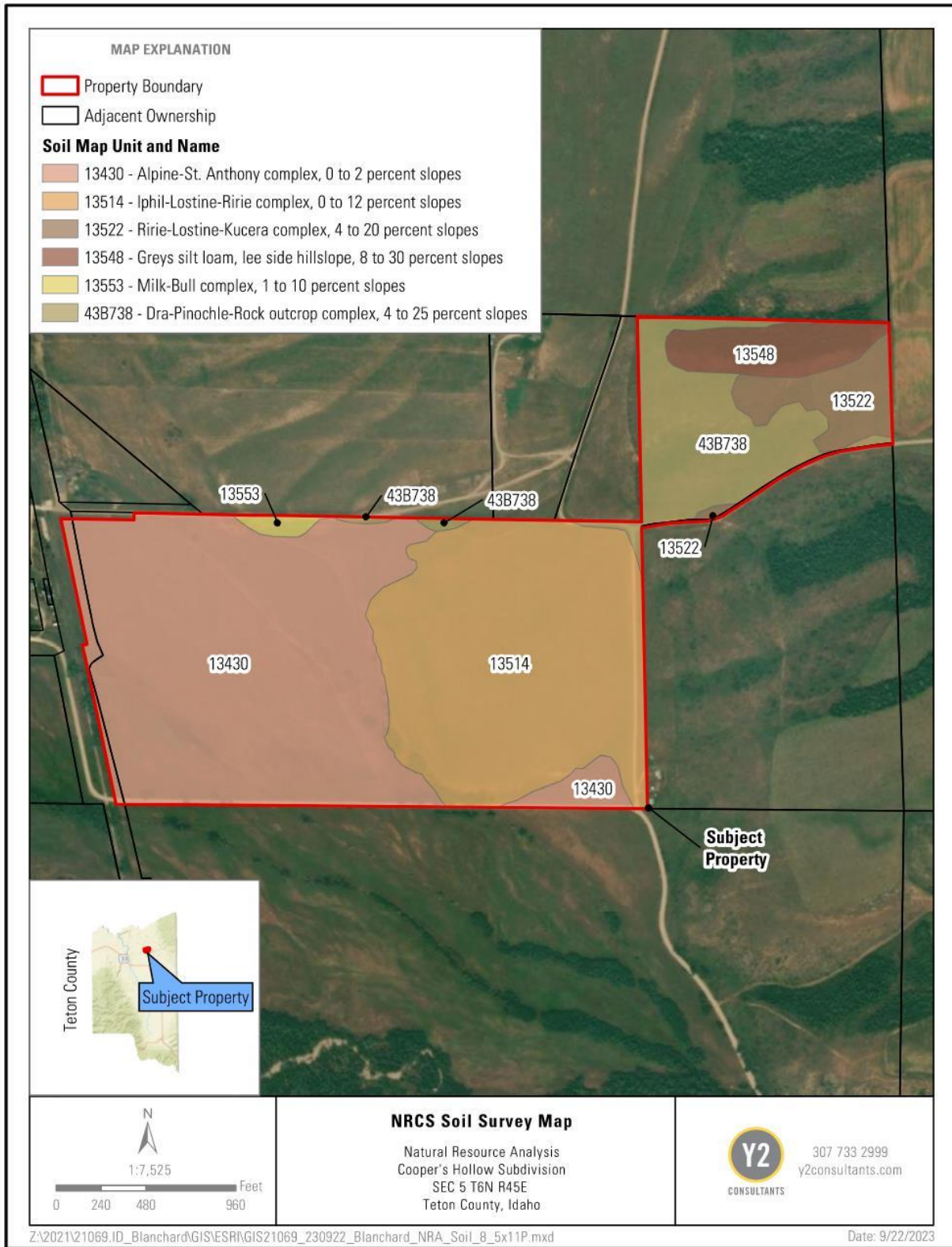


Figure 6: NRCS Soil Survey Map, Cooper's Hollow Subdivision, Teton County, Idaho.

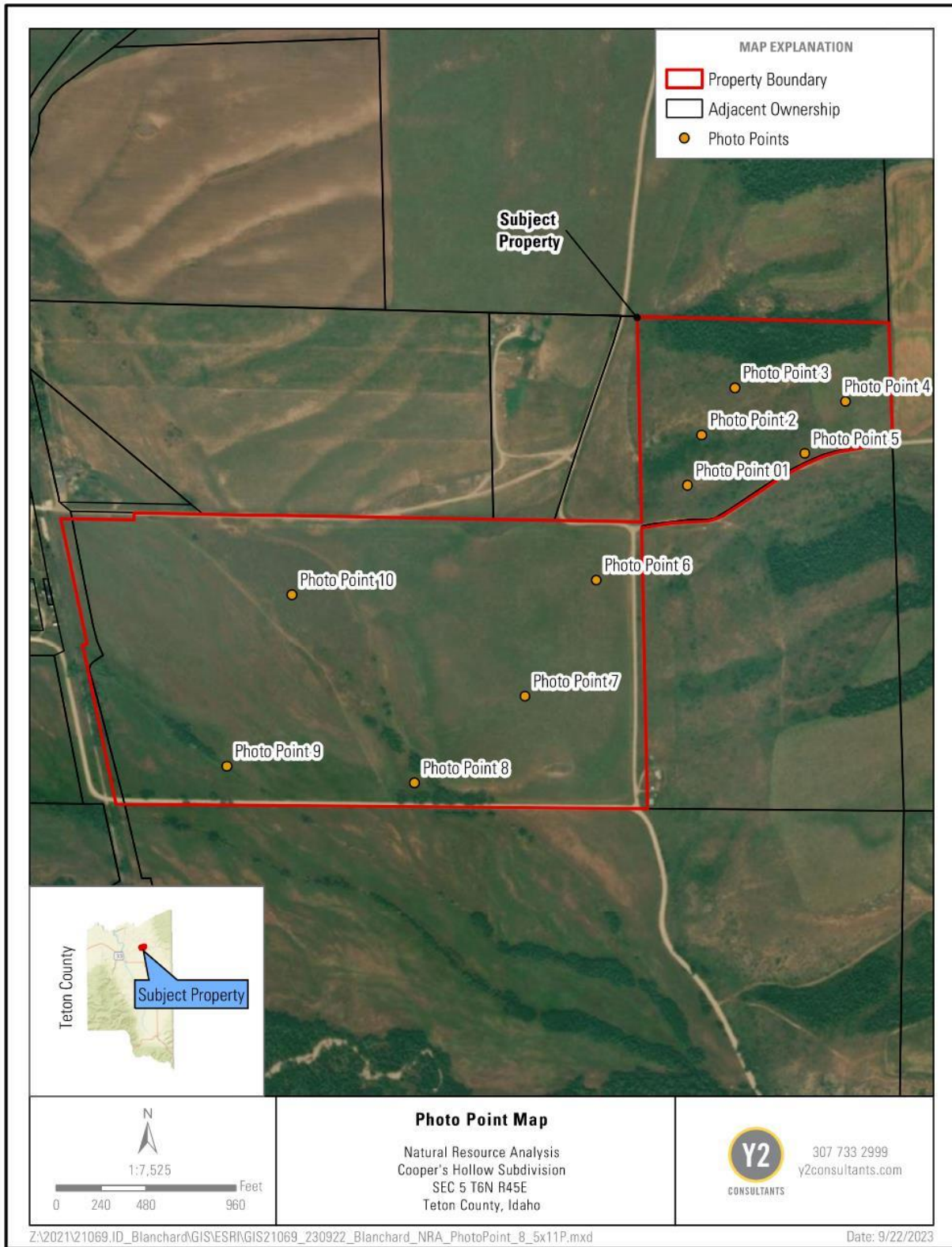


Figure 7: Photo Point Map, Cooper's Hollow Subdivision, Teton County, Idaho.

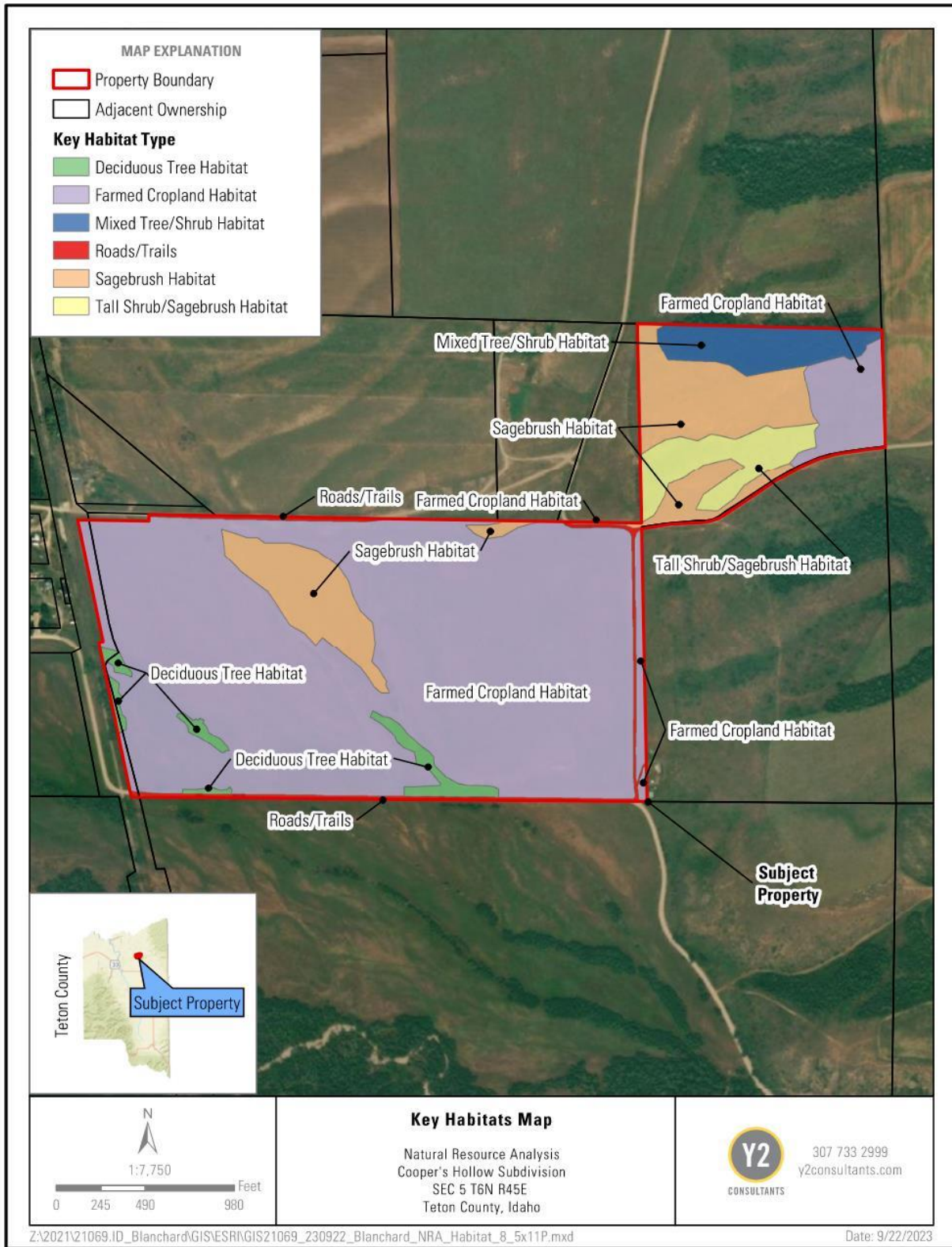


Figure 8: Key Habitats Map, Cooper's Hollow Subdivision, Teton County, Idaho.

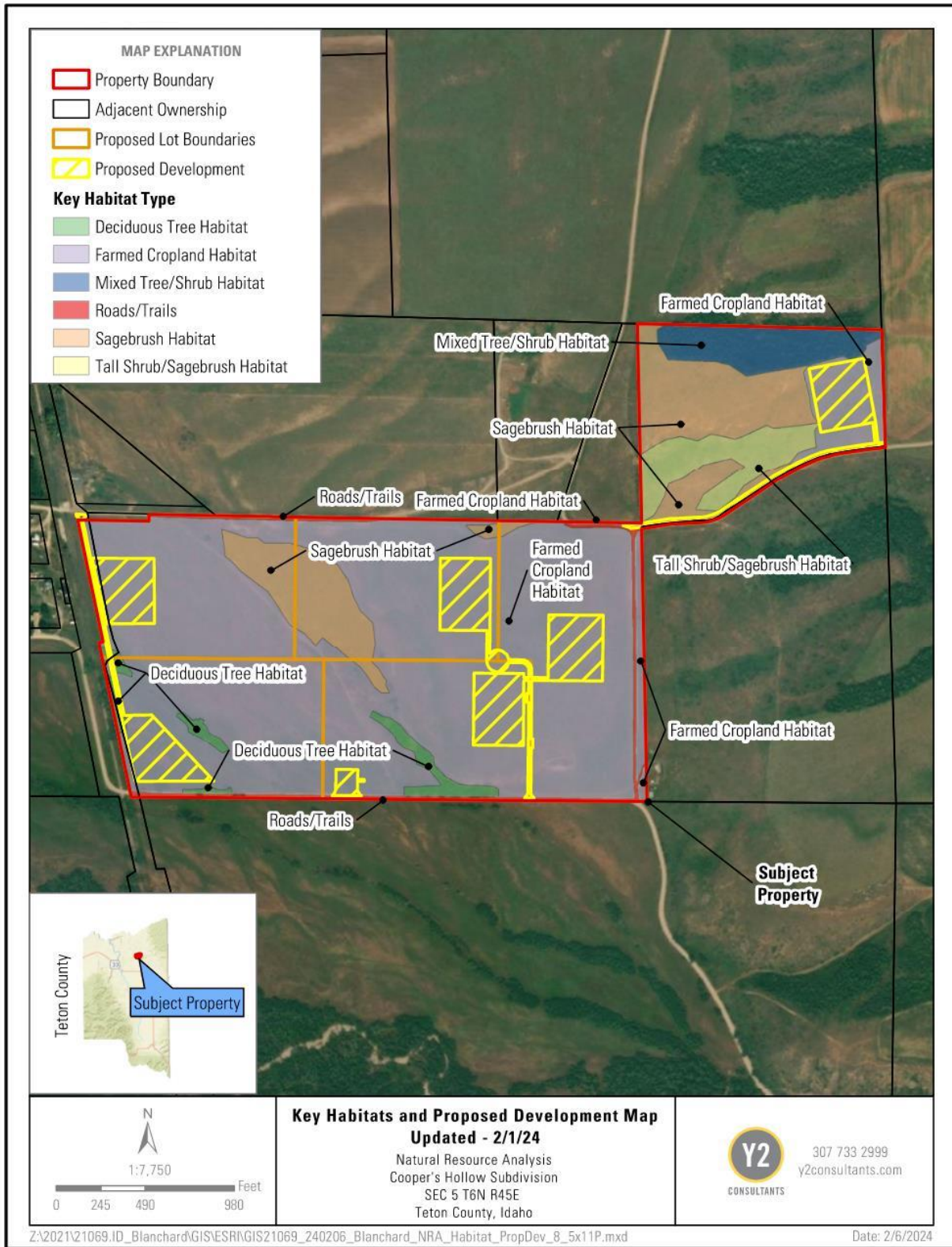


Figure 9: Key Habitats and Proposed Development Map, Cooper's Hollow Subdivision, Teton County, Idaho

APPENDIX B – STUDY SITE PHOTOS



Photo 1: Photo Point 1 facing north showing the sagebrush community of the small northeastern portion of the parcel. Also visible is one of the draws that break up the northeastern portion of the parcel. (7/13/2021)



Photo 2: Photo point #2 facing east and looking up one of the draws in the northeast portion of the parcel where tall shrubs are intermixed with big sagebrush. (7/13/2021)



Photo 3: Photo point #3 facing north looking across a deep draw on the northern boundary of the northeast portion of the parcel. The draw is dominated by aspens and tall shrubs. (7/13/2021)



Photo 4: Photo point #4 facing west looking from the small ag field in the northeast portion of the parcel, over the western portion, towards the town of Felt. (7/13/2021)



Photo 5: Photo point #5 facing west looking across the tall shrub/sagebrush community providing the highest quality wildlife habitat in the northeast portion of the parcel. (7/13/2021)



Photo 6: Photo point #6 facing west looking across the main portion of the parcel. (7/13/2021)



Photo 7: Photo point #7 facing west looking upon the patch of cottonwoods and sagebrush habitat in the middle of the main portion of the parcel. (7/13/2021)



Photo 8: Photo point #8 facing east showing the mixed age structure of the cottonwood patch in the southcentral area of the main portion of the parcel. (7/13/2021)



Photo 9: Photo point #9 facing west looking from the western ditch towards the southwest corner of the main portion of the parcel. (7/13/2021)



Photo 10: Photo point #10 facing south looking through the sagebrush habitat towards the tree patches near photo points 8 and 9. (7/13/2021)

APPENDIX C – ADDITIONAL ATTACHMENTS

- ASCE 7 Hazards Report
- US Seismic Design Report