

EVWHS Development Application - Exhibit 3

WILDLIFE MITIGATION PLAN FOR THE EAST VAIL WORKFORCE HOUSING SUBDIVISION, TOWN OF VAIL, COLORADO

Prepared for:

Triumph Development

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May, 2019

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WILDLIFE MITIGATION PLAN
FOR THE
EAST VAIL WORKFORCE HOUSING SUBDIVISION,
TOWN OF VAIL, COLORADO

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MAY, 2019

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1.0 INTRODUCTION

Vail Resorts (VR) owns the \pm 23.3-acre East Vail Workforce Housing parcel. Triumph Development is under contract to purchase the property and is interested in locating affordable housing on a portion of the property. The parcel supports important wildlife habitat and is closely surrounded by habitats and wildlife uses that are unique in the Gore Creek Valley. Development and human habitation of this site without designing it around the wildlife community, without safeguards, and without habitat enhancement would result in impacts that would be unacceptable to the local community. This stand-alone Wildlife Mitigation Plan will be provided to residents of the Workforce Housing subdivision to educate them about (1) the parcel's setting, (2) the sensitivity of the local wildlife, (3) the effort that went into the development's design to avoid, minimize, and compensate for project effects, and (4) requirements that residents must abide by to live in this sensitive setting.

2.0 CHARACTERISTICS CURRENTLY REDUCING WILDLIFE EFFECTIVENESS ON THE EAST VAIL PARCEL

Some wildlife species using portions of the East Vail parcel are negatively affected by existing levels of surrounding development and human activity. Figure 2-1 shows the two parcels composing the 23.3-acre East Vail parcel and surrounding land ownership. The following parcel conditions affect current, on-site and off-site wildlife use and limit, to some extent, the additional, negative, potential development effects to wildlife.

2.1 I-70 AND THE FRONTAGE ROAD

The parcel's southern boundary is located as close as 122 feet to the westbound lanes of I-70, one of the major ground transportation corridors across the United States. Locally, I-70 consists of two westbound and two eastbound lanes with a posted 65 mph speed limit and supporting an average daily traffic volume of 29,000 vehicles (2016). The East Vail interchange and the west-bound on and off ramps are located on the opposite side of the Frontage Road from the parcel. There is virtually no location on the parcel where the sights, sounds, and smells of I-70 use are non-discernable 24/7/365. The current average daily traffic volume on the North Frontage Road is approximately 2,200 vpd (K. McDowell Schroeder, McDowell Engineering, pers. comm. May23, 2019) that are greatest during dawn through dusk. Most local wildlife have adapted to this relatively benign and predictable activity. The most acute Frontage Road traffic effects on wildlife are the harassment effects to bighorn sheep that occurs when motorists stop to view them when the sheep are close to the road.

2.2 HUMAN RECREATION

There is a level of daily recreational use that occurs along the Frontage Road, some of which extends into the proposed development area, generally via the Booth Creek rockfall berm road and buried electric line corridor that bisects the center of the parcel. Uses, in order of decreasing frequency, include dog-walking, hiking, jogging, biking, motorcycle riding, and transients camping. Unauthorized use of the parcel occurs year-round, but is greatest from spring through fall when not curtailed by excessive snow depths. Low to



Figure 2-1. Location of the 23.3-acre East Vail parcel, north of I-70's East Vail Interchange and composed of the 5.4-acre, Lot 1, Housing Parcel and the 17.9-acre, Tract A, Natural Area Preservation (NAP) Parcel. Also shown are contiguous and adjacent USFS and Town of Vail (TOV) lands. The TOV parcels to the west, the USFS parcel to the north, and the NAP parcel to the east compose the Surrounding Wildlife Areas of Concern on this project.

moderate numbers of primarily hikers also pass by the parcel's eastern flank on the Pitkin Creek Trail extending into the Eagles Nest Wilderness.

2.3 FIRE SUPPRESSION AND HABITAT DETERIORATION

The East Vail parcel is located within an approximate 1,800-acre polygon of bighorn sheep winter range that extends along the south-facing slopes north of I-70. Over the last 20-30 years, aspen forest has encroached onto the East Vail parcel, as it has elsewhere in the local area. While mature aspen stands support some of the highest wildlife diversity values of any local vegetation type, they provide poor quality winter range for the local bighorn sheep herd, which has declined in number over that same time period. Sheep also consider forest stands as restrictions due to their need to visually observe the landscape for predators (e.g., bears, coyotes, mountain lions, dogs, etc.; USFS 1998). Mature aspen stands have died and fallen creating jackstrawed deposits of logs that restrict and block sheep and elk movements through the winter range. Lastly, mountain shrubs have become decadent and much of their nutritious foliage has grown out of the reach of wintering ungulates (bighorn sheep and elk).

In 1998, the Colorado Division of Wildlife (CDOW, now Colorado Parks and Wildlife, CPW) and U.S. Forest Service (USFS) recognized that there was an increasingly limited amount of accessible winter forage (quality and quantity) and nearby escape terrain for sheep in the project area (USFS 1998). By suppressing wildfires on this winter range, the aspen and shrub components had become over mature and in need of vegetative treatment. The USFS (1998) proposed a habitat enhancement plan whose specific purposes were (1) to create a movement corridor (through downed aspen) for the bighorn sheep to be able to travel from Pitkin Creek west to Spraddle Creek, (2) to reduce the fuel loading to lessen the risk of wildfire, (3) to regenerate shrubland and aspen stands that are over mature, and (4), to improve the quantity and quality of forage (shrubs, grass, forbs) for big game (sheep, elk, and mule deer). The East Vail parcel was one of the USFS's proposed treatment areas. In 1998, the sheep population was estimated at approximately 125 animals (USFS 1998).

Without implementation of the habitat enhancement plan, the USFS (1998) predicted that aspen stands would continue to age, disease and insect infestations would increase, and the stands would die. Dead and down timber would further restrict big game movements to winter foraging areas and escape terrain. The aspen and aged shrub communities would not regenerate. The shrub component (vital for wintering species) would continue to mature, die, and be replaced by grasses and forbs. Grass/ forb communities that are covered by snow are unavailable to winter browsers. Lastly, the USFS (1998) predicted that without enhancement there would be fewer bighorn sheep as a result of continued habitat degradation.

The enhancement project was approved, but not implemented because of community opposition to the use of fire (B. Andree, CPW, Jan. 23, 2018). Although there have been two small scale habitat enhancement projects below the Booth Creek cliffs and on the East Vail parcel ca. 2000, the overall sheep winter range has deteriorated as predicted. Over the 2017/ 2018 winter, Thompson (2018c) detected a total of 41 sheep largely confined to a small non-forested subset of their former winter range. Availability of effective winter range is arguably the greatest current threat to the East Vail sheep herd.

3.0 WILDLIFE USING THE EAST VAIL PARCEL

Our understanding of wildlife on the East Vail parcel and in the surrounding area was documented using the results of past observations, discussions with wildlife professionals (e.g., B. Andree, CPW District Wildlife Manager, pers. comms., now Ret.), mapping and studies conducted by the CDOW and CPW and

USFS (e.g., 1998), along with site-specific seasonal surveys conducted between August 4, 2017 and June 14, 2018 for the East Vail parcel Rezoning (Thompson 2017) and Workforce Housing (Thompson 2018b,c) processes.

3.1 FOCAL WILDLIFE SPECIES OF CONCERN

There are four wildlife species of particular concern on this project, bighorn sheep (*Ovis canadensis*), peregrine falcon (*Falco peregrinus anatum*), elk (*Cervus canadensis*), and black bear (*Ursus americanus*).

3.1.1 Bighorn Sheep

3.1.1.1 Colorado Parks and Wildlife Seasonal Range Mapping

Figure 3-1 shows the important bighorn sheep seasonal ranges mapped by CPW (Dec. 6, 2017) in the vicinity of the East Vail parcel. The winter range and severe winter range polygons are approximately 1,800 acres and extend west from Pitkin Creek along the north side of I-70 nearly to I-70's Vail exit. This is the only sheep winter range mapped on either side of the Gore Range. Bighorn sheep winter range and severe winter range cover the same area and overlap most ($\pm 75\%$) of the parcel. **Winter range** (BSWR) is that part of the overall range where 90% of the individuals are located during the average five winters out of ten, from the first heavy snowfall to spring green-up. Colorado Parks and Wildlife has not defined the winter range period for this herd. Based on CPW's generic definition and considering winter range dates for other big game species, average sheep winter range occupancy could be defined, on average, as November 15 to April 15 (dates inclusive). Sheep are present on portions of their winter range (i.e., below the Booth Creek cliffs) outside this period because of salt and mineral blocks. **Severe winter range** (BSSWR) is that part of the winter range where 90% of the individual animals are located when the annual snowpack is at its maximum and/or temperatures are at a minimum in the two worst winters out of ten. The amounts, quality, and effectiveness of winter range are generally what limit big game populations. The winter range and severe winter range polygon boundaries are not accurate based on the results of the 2017-2018 winter sheep study (Thompson 2018c). In the spirit of the mapping, the polygons were likely intended to extend southeast to the treeline along Pitkin Creek and down to the north side of the Frontage Road. This would include most, if not all, of the East Vail parcel, although, based on the winter sheep study (Thompson 2018c), the only meaningful foraging habitat used was that along the Frontage Road, below and mostly off of the parcel. There is no I-70 game fencing in the area. Sheep likely used the habitat in what is now the Booth Creek residential area before its development. Sheep no longer enter the interior of that development and only use peripheral areas when no people are initially present.

Winter concentration area (BSWCA) is a subset of the winter range where animal densities are at least 200% greater than the surrounding winter range density during the same period used to define the winter range, in the average five winters out of ten. Two BSWCA polygons occur within the winter range, neither overlapping the East Vail parcel, but habitat effectiveness of the nearest polygon could be influenced by residential development and habitation on the parcel.

A bighorn sheep **migration pattern** (not shown in Fig. 3-1) is a subjective indication of the general direction taken by migratory ungulate herds. In the study area, bighorns move downhill on the ridge between Pitkin and Booth Creeks during fall towards their winter range, then move uphill and follow this same general route in spring to their alpine summer range.

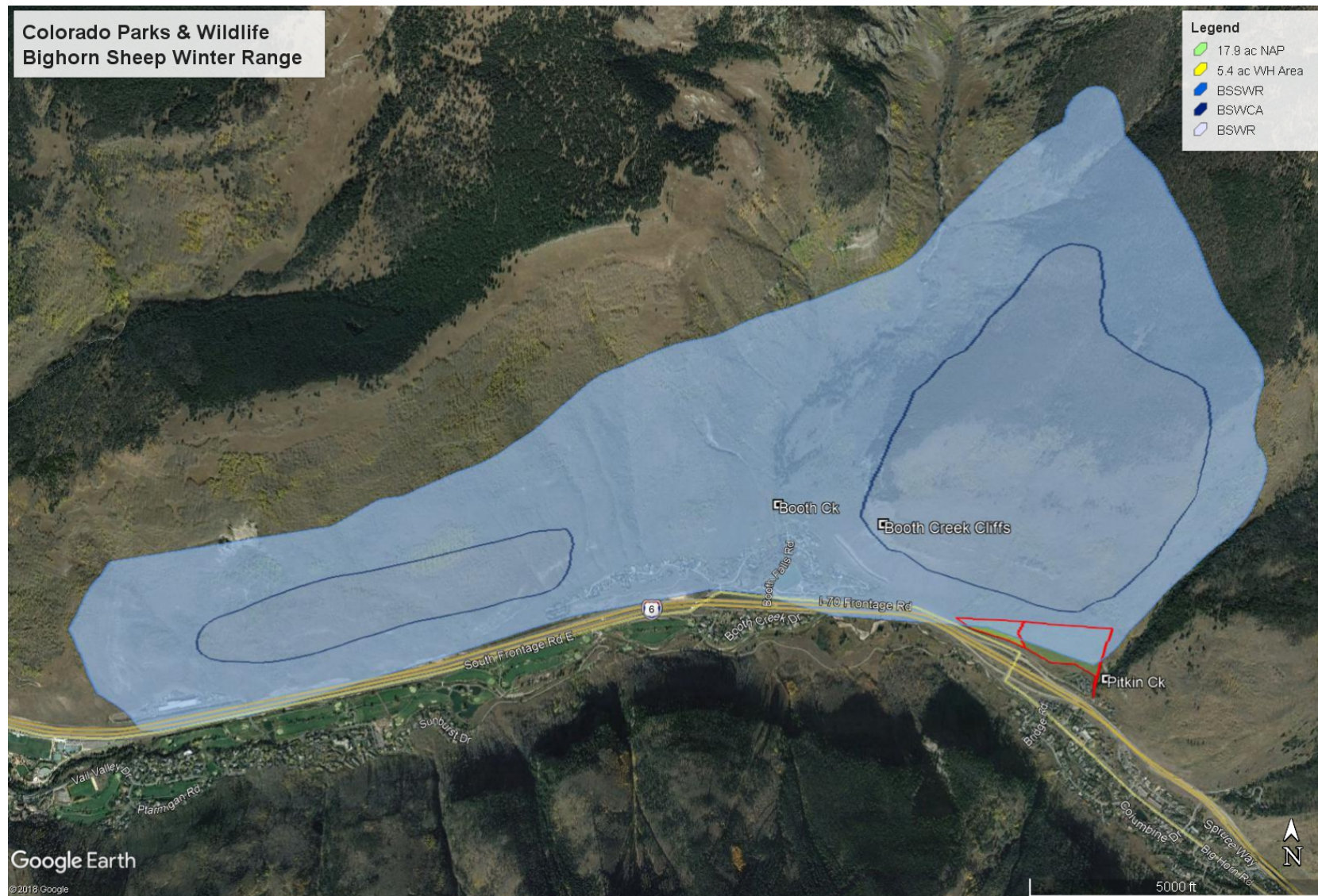


Figure 3-1. Bighorn sheep winter ranges mapped by CPW (Dec. 6, 2017) in the vicinity of the 23.3-acre East Vail parcel (red outline). See text for range definitions. Bighorn sheep winter range (BSWR) and severe winter range (BSSWR) cover the same largest polygon shaded light blue. Winter concentration area (BSWCA) is shown in the two darker blue polygons.

3.1.1.2 Results of the East Vail 2017-2018 Winter Sheep Study

Results of the 2017-2018 East Vail Winter Sheep Study (Thompson 2018c, App. A) are summarized below. The October 13, 2017 to June 14, 2018 wildlife study was primarily designed to detect and characterize winter bighorn sheep use on and in the vicinity of the East Vail parcel. The study employed five trail cameras (4 on the East Vail parcel, including 3 overlooking the development area, and 1 below the eastern Booth Creek cliffs), winter tracking, and binocular and spotting scope surveys of the 1,800-acre sheep winter range polygon.

Winter severity¹ affects spatial and temporal, winter, big game use patterns. Compared to the prior nine years, winter 2017-2018 was below average for total snowfall (-35%), total snowfall days (-40%), and mean base snowfall depth (-12%), and above average for maximum base depth (+3%). Shallower and less persistent snow in the East Vail project area over the 2017-2018 winter should have allowed sheep to use higher elevation habitats, more forested habitats,² and a larger portion of their winter range than during average and harsher winters.

Sheep use detected on the East Vail parcel over the 2017-2018 winter included foraging along the smooth brome-dominated cut slope above the Frontage Road on three occasions, forced travel through the potential 5.4-acre development area on two occasions, and a single animal travelling through the NAP portion of the parcel in May, outside the winter period. The south-facing cut slopes above the Frontage Road are non-forested and steeper than the aspen forest portion of the development area, resulting in shallower depths and less persistent snow that facilitated foraging.

Trail cameras captured 125,699 images over the study period. A total of 91 sheep³ were caught on two of the four trail cameras on the East Vail parcel during the winter range period, both of them in the 5.4-acre development area (where strategic camera placement covered all trails and much of the area 24/7). Sheep use of the property caught on cameras occurred on January 24, 2018 (n=24 sheep) and 28 (n=28), February 7 (n=±15), and March 24 (n=8), 2018, and involved a total of 75 sheep. All but eight of the sheep (67 of 75 sheep) detected in the development area were associated with foraging along the cut slope above the Frontage Road on three days during the winter. In comparison, images of 534 sheep were caught on the single camera below the eastern portion of the Booth Creek cliffs (with a 4.4-ac. field of view). More meaningfully, sheep were detected on the four cameras on the East Vail parcel on four days compared to sheep detected on the single camera below the cliffs on 40 days.

Although the entire 23.3 acre parcel warrants consideration as winter range, meaningful foraging only occurred on the cut slope below (and largely off) the East Vail development area for up to several hours at a time on three days. That foraging was stressful to the sheep because of the ensuing traffic jams, as motorists stopped to observe and photograph the sheep. On at least one occasion (Jan. 25, 2018), the sheep were chased by some human disturbance from the cut slope into the interior of the East Vail parcel. It is possible that during more normal winters with deeper and more persistent snow depths, those

¹ Winter severity is generally an interrelated function of snowfall (amounts and persistence) and temperature.

² Which support deeper and more persistent snow depths than non-forested habitats, all else being equal.

³ This total includes a double counting of the same 24 sheep that were captured on Trail Camera (TC) 2 and TC3 on Jan. 24. Numeric differences (i.e., 91 vs. 75 sheep) associated with double counting the same group of sheep on two cameras in the same day are attributable to the different minimum number of sheep visible on images from each camera vs. the actual number of sheep present (i.e., not all sheep present were captured on one of the cameras).

grasses on the cut slope would not be available to the sheep. However, what foraging that occurs along the cut slope takes foraging pressure off other accessible winter range.

The distribution of 222 bighorn sheep sightings over the course of the study was mapped in relation to the East Vail parcel and CPW's sheep winter range, severe winter range, and winter concentration area polygons. No sheep sightings were made outside of CPW's winter range polygon. That sighting distribution did not include the 625 sheep sightings recorded by all trail cameras during the study, all of which were within the 2017-2018 sightings distribution. The visual sightings represent a spatial subset of overall winter range use over the relatively mild 2017-2018 winter. Sheep were at lower elevations within their overall winter range polygon and used southwest- and south-facing aspects that had the best snow-shedding characteristics, even though it was a mild winter. The cluster of sheep sightings and trail camera results below the Booth Creek cliffs to the west of the study parcel suggests that area is the most heavily used and most important block of winter range within the overall winter range polygon because of higher quality forage in close proximity to escape cover. Four occasions of time lapse images of sheep foraging in the high quality habitat below the Booth Creek cliffs indicated that sheep appeared to select against foraging far into transitional aspen habitat above and to the west of the study parcel (i.e., where sparse seedling to pole stage aspen extend west into the mountain shrub habitat below the cliffs). This "avoidance" behavior was more likely related to the quality, quantity, and availability of forage than to predator detection.

Only 15% (266.28 acres) of CPW's 1,800-acre winter range polygon was used during winter 2017-2018.⁴ That is likely a function of (1) the smaller present population of 41 sheep, (2) sheep now using the highest quality habitat available, (3) sheep avoiding forested habitats, (4) sheep restricted from some portions of their winter range by jackstrawed logs, and (5) sheep not using isolated mountain shrub patches, over mature shrub patches with little available forage, and shrub communities where forage has grown out of their browsing range. Rams used more distant portions of winter range compared to ewes and lambs.

With respect to minimum herd size and composition, the maximum number of sheep observed during the study at any one time was 39. Based on the observed sex and age composition of sheep, the herd was composed of at least 10 lambs, 21 ewes, and 10 rams, totaling 41 sheep. The highest number of lambs (born in 2017) seen at any one time was 10 on two occasions. There was no detectable overwinter lamb mortality. The above numbers do not include a minimum of seven lambs born in 2018.⁵

⁴ The acreage was calculated by encircling the locations of all sheep detected over the 2017/2018 winter (see Fig. 4-8 in Thompson 2018c) and adding likely movement corridors and straight line segments between the outer locations. This estimate underestimates actual use because there were days during the study when no sheep or only a small number of sheep were observed. Although virtually all of the lowest elevation, highest quality, and most effective winter range was detectable from the valley bottom, some portions of CPW's winter range polygon were not visible from valley bottom observation points. For example, considering two observations of sheep in winter 2018-2019 by a TOV employee (G. Ruther, K. Bertuglia, TOV, pers. comm., Jan. 10, 2019), the winter range use polygon for those two winters would be 17% of the overall winter range. Furthermore, sheep never used the entire 1,800 acres of winter range during any one winter. The polygon is a composite of winter sheep locations observed over many years as well as adjacent apparently suitable habitat.

⁵ The sheep study (Thompson 2018c) was not designed to extend outside the winter range period. These lambs were opportunistically observed with 12 ewes and yearlings at the licks atop the rockfall berm cut slope on June 14, 2018 coincident with peregrine monitoring. Assuming equal productivity of the other known ewes in the herd, the herd could have numbered 54-55 animals in mid-June, 2018. This estimate was supported when Rick Spitzer, a local photographer, documented 54 sheep in East Vail on February 24, 2019.

3.1.2 Peregrine Falcon

A cliff south of I-70's East Vail Interchange has been used in recent years for peregrine falcon nesting. The cliff is located 0.36 miles from the closest point on the East Vail parcel, on the opposite side of the Frontage Road, I-70, East Vail interchange on/off ramps, the East Vail Park and Ride, Vail Trail, Gore Creek, a social trail, and the East Vail Memorial Park. Colorado Parks and Wildlife's nesting area polygon is defined as the area that includes good nesting sites and contains one or more active or inactive nest locations (Fig. 3-2). The boundaries are drawn based on professional judgment to include most known nesting habitat in the vicinity. Usually these areas are mapped as polygons around cliffs and include a 0.5 mile buffer surrounding the cliffs.

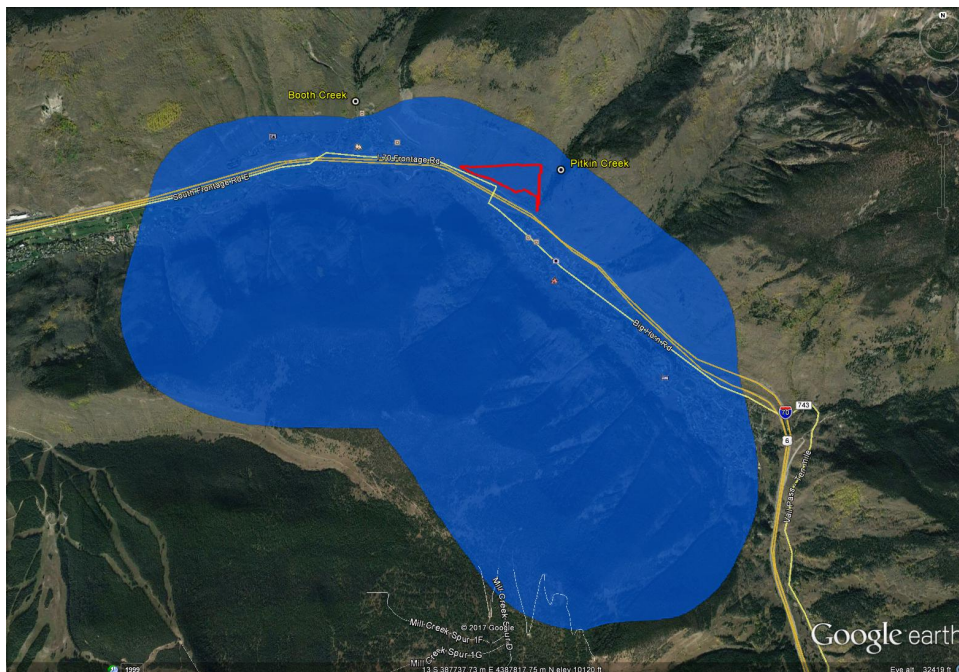


Figure 3-2. Active peregrine falcon nesting cliff complex and surrounding 0.5 mile buffer (shaded blue) mapped by CPW in the vicinity of the East Vail parcel (red outline).

Viable peregrine falcon nesting sites possess two components: (1) adequate nesting habitat and (2) extensive hunting habitat with an adequate prey base to support the adults and their offspring (Craig 1978). Nesting sites are located on precipitous cliffs ranging in height from 40 to 2,100 feet, averaging 200 to 400 feet tall. Several ledges, potholes, or small caves must be present in the cliff face to function as a suitable nest site. A breeding pair will frequently alternate their nesting activities to different ledges on a cliff face between years, and they will often relocate to adjacent cliff faces. As a result, protective measures must address an entire cliff complex (and potential nesting areas) rather than an individual cliff.

Nesting peregrines will not tolerate excessive human encroachment or prolonged disturbance in the vicinity of the nesting cliff. Any activity or development above the nesting cliff will likely cause abandonment. Breeding peregrines become extremely agitated and may abandon the nest site if disturbance occurs during courtship, prior to the initiation of egg laying. Once birds have eggs or young, they have a strong fidelity to their invested resources. The CDOW (2008) recognized that “some individuals within a species also habituate and tolerate human activity at a proximity that would cause the majority of the group to abandon their nests.” The East Vail peregrines are examples of how wildlife, in

general, can habituate to chronic, but benign, human activities, although residential and golf course development along the valley bottom has reduced their prey base.

In Colorado, peregrines usually return to nesting cliffs in late February or early March and initiate courtship activities, which continue to mid- or late April when eggs are laid. The young hatch from mid- to late May and fledge (i.e., leave the eyrie) in mid- to late June. The young and adults remain in the vicinity of the nesting cliff up to several months after fledging.

Extensive hunting habitat is a second key component of a viable peregrine nest site. Peregrines will frequently travel at least 10 miles from their eyrie to procure prey and they have been documented hunting up to 30 miles away from nest sites (G. Craig, CDOW, pers. comm.). It is, therefore, important to maintain the integrity of important hunting areas within at least 10 miles of the nesting cliff. All habitats within the 10-mile radius need not be considered essential habitat, since only those areas that attract or support peregrine prey need be protected. The primary prey captured by nesting Colorado peregrines are small to moderately-sized birds, such as blackbirds, doves, robins, flickers, jays, nutcrackers, meadowlarks, and pigeons, but prey as large as waterfowl are also taken. Any habitat that supports or concentrates birds should be considered essential to locally nesting peregrines.

Key hunting areas fall into two categories: (1) those habitats that concentrate or support important prey species, and (2) those habitats that expose prey and make them vulnerable to peregrine attack. Peregrines capture their prey through precipitous dives from considerable height above their quarry. Peregrines must, therefore, frequent habitats permitting this type of pursuit. Peregrines do not hunt below the forest canopy, but capture birds flying above forests or across open expanses. Larger prey are raked (with talons) or knocked out of the air and peregrines need open areas on the ground to recover them. Nesting cliffs, are generally situated at considerable heights above the surrounding terrain, so peregrines have a broad panorama from favorite hunting perches near the cliff top.

Annual (2011-2017, n=5 yrs.) cliff monitoring by a long time Vail resident (Anne Esson) indicated that the pair(s) successfully fledged at least two birds during each of the five years. Monitoring of the nest cliff in 2018 indicated that the nesting attempt failed approximately 19 days after incubation was expected to have started (Thompson 2018b). It is unknown why the 2018 nesting attempt failed. Construction of a new sanitary water line on the south side of I-70's East Vail interchange and the falcons selecting a different nest ledge on the cliff in 2018, compared to prior years, were the only known independent variables that differed with those of past years. There could have been other common causes of the nest failure. Subsequent behavior of the female observed on June 14 suggested that the pair may have been in the process of a second nest attempt. However, cliff monitoring was discontinued for the 2018 season after surveys by Thompson and Esson out to July 1 failed to detect any evidence of peregrine presence. Monitoring of the nest cliff in 2019 detected at least one peregrine and a pair was suspected of nesting as recently as May 13 (A. Esson, Vail resident, pers. comm., May 13, 2019).

The East Vail parcel represents a small area of largely intact undeveloped habitat below and within fairly close proximity to the adjacent nest cliff. Its seral and relatively young aspen forest does not support even moderate concentrations of prey species that would be particularly attractive to birds using the adjacent nesting cliff, but it does support potential avian prey that could contribute to the local pair's prey base.

3.1.3 Elk

Figure 3-3 shows one elk seasonal range mapped by CPW in the vicinity of the East Vail parcel that warrants consideration. The **elk winter range** definition follows that provided for sheep, above. No elk winter range is shown overlapping the subject parcel, but that mapping is incorrect. The winter range

polygon boundary along the north side of I-70 appears to follow an assumed land ownership boundary. At the time of CPW mapping, the County's and the Town's mapping assumed the East Vail parcel was in USFS ownership. Colorado Parks and Wildlife appears to have adopted the Town's position and extended the polygon along the U.S. Forest Service property line, rather than bringing it down to the north edge of the Frontage Road and I-70 where it should be. There are no mapped elk severe winter range or winter concentration areas in the vicinity of the East Vail parcel.

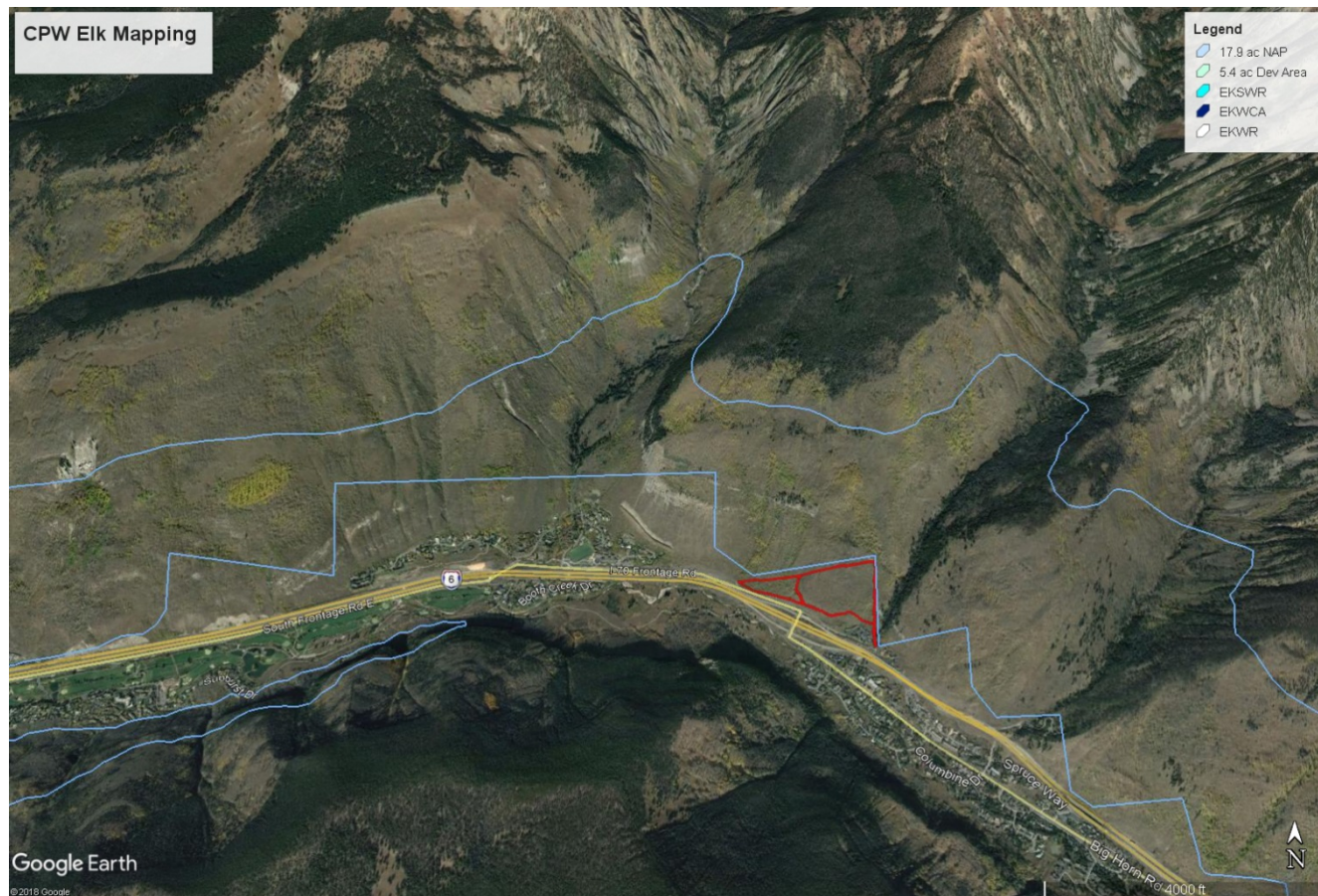


Figure 3-3. Elk winter range (outlined in light blue) mapped by CPW in the vicinity of the East Vail parcel (red outline). In undeveloped habitats, which include the entire East Vail parcel, the winter range actually comes down to the north shoulder of I-70.

Results of the winter sheep study found that a minimum of 15 elk⁶ were occasionally present and moving back and forth between the Pitkin and Booth Creek drainages through the East Vail parcel. Using the spike in the group as a marker, the same group of elk was captured on the three most widely separated trail cameras in the same night. Compared to the sheep, the local elk were more wary of human activity areas. Although some of their movements closely approached I-70 and the Frontage Road, they only did so under cover of darkness. Elk were only captured on the trail cameras at night and their movements between the Pitkin and Booth Creek drainages were completed at night. Evidence of elk foraging was captured on all cameras except one of three within the interior of the 5.4-acre development area. Concerted foraging was noted on cameras located below the cliffs and in the NAP area. Foraging in the meadow in the development area's northeast corner was opportunistic as animals were traveling.

⁶ Composed of 12 cows, 2 calves, and a spike bull.

Although there are areas of the East Vail parcel that may not be used because of terrain and proximity to human disturbances areas, for all practical purposes, the entire parcel should be mapped as elk winter range.

The elk winter range on the subject parcel is part of a polygon containing the highest elevation elk winter range in the Gore Creek Valley and some of the highest winter range in the Eagle Valley. This higher elevation winter range is used more during the early part of winters and during milder winters when excessive snow depths have not yet pushed animals to lower elevations down valley. Nevertheless, these winter ranges are valuable because they support animals during portions of the winter when animals would otherwise be further down valley on increasingly smaller, more crowded, and less effective winter range because of collective habitat losses and the effects of human activities.

Over the past 50 years there has been a considerable loss of big game winter range to secondary ski area development in the Eagle Valley. Winter ranges generally occur at lower elevations along valley bottoms that are dominated by private lands. Development of those lands has pushed elk further west down valley. In recent years, CPW have increased their hunting permits to increase harvest and reduce the elk and deer populations to levels that the smaller winter range acreage can support.

3.1.4 Black Bear

Colorado Parks and Wildlife have mapped two black bear seasonal ranges in the vicinity of the East Vail parcel that warrant consideration (Fig. 3-4). **Black bear summer concentration areas** are defined as those parts of the overall range where activity is greater than the surrounding overall range during that period from June 15 to August 15. This entire polygon extends along and above the valley bottom from east of East Vail to west of West Vail. This designation has merit overlapping the subject parcel. During summer, the young, open-canopy aspen stands on the west end of the parcel supported a moderate density of berry-rich serviceberry shrubs that represent important summer forage for bears. A **human/bear conflict area** is represented by the same polygon along the Gore Creek valley bottom. Such areas are defined as that portion of the overall range where two or more confirmed black bear complaints per season were received which resulted in CPW investigation, damage to persons or property (cabins, tents, vehicles, etc.), and/or the removal of the problem bear(s). This does not include damage caused by bears to livestock.

3.2 OTHER WILDLIFE SPECIES OF CONCERN

3.2.1 Migratory Birds

The East Vail parcel supports a low to moderate diversity of largely migratory birds that reach peak numbers during the spring and mid-summer breeding season. The avian community is typical of those associated with the habitats present and is largely uninfluenced by chronic human activity associated with the adjacent Frontage Road and I-70.

3.2.2 Raptors

Red-tailed hawks (*Buteo jamaicensis*) were the only raptor actually observed on the East Vail parcel during 2017-2018 wildlife baseline surveys. No raptor nests are present and the parcel is within the hunting territory of a pair of red-tailed hawks that nested on the south side of I-70 in 2018. Other raptors

observed in the vicinity of the parcel during field surveys that could hunt the parcel include peregrine falcons, golden eagles (*Aquila chrysaetos*), and sharp-shinned hawks (*Accipiter striatus*).

3.2.3 Fish

The moderate gradient, intermittent creek bisecting the East Vail development parcel does not support fish. Stream water enters a 24-inch diameter culvert and flows under the Frontage Road and I-70 before dropping into Gore Creek that supports a fishery. The culvert's drop prevents Gore Creek fish from attempting to colonize the creek during stream flows.

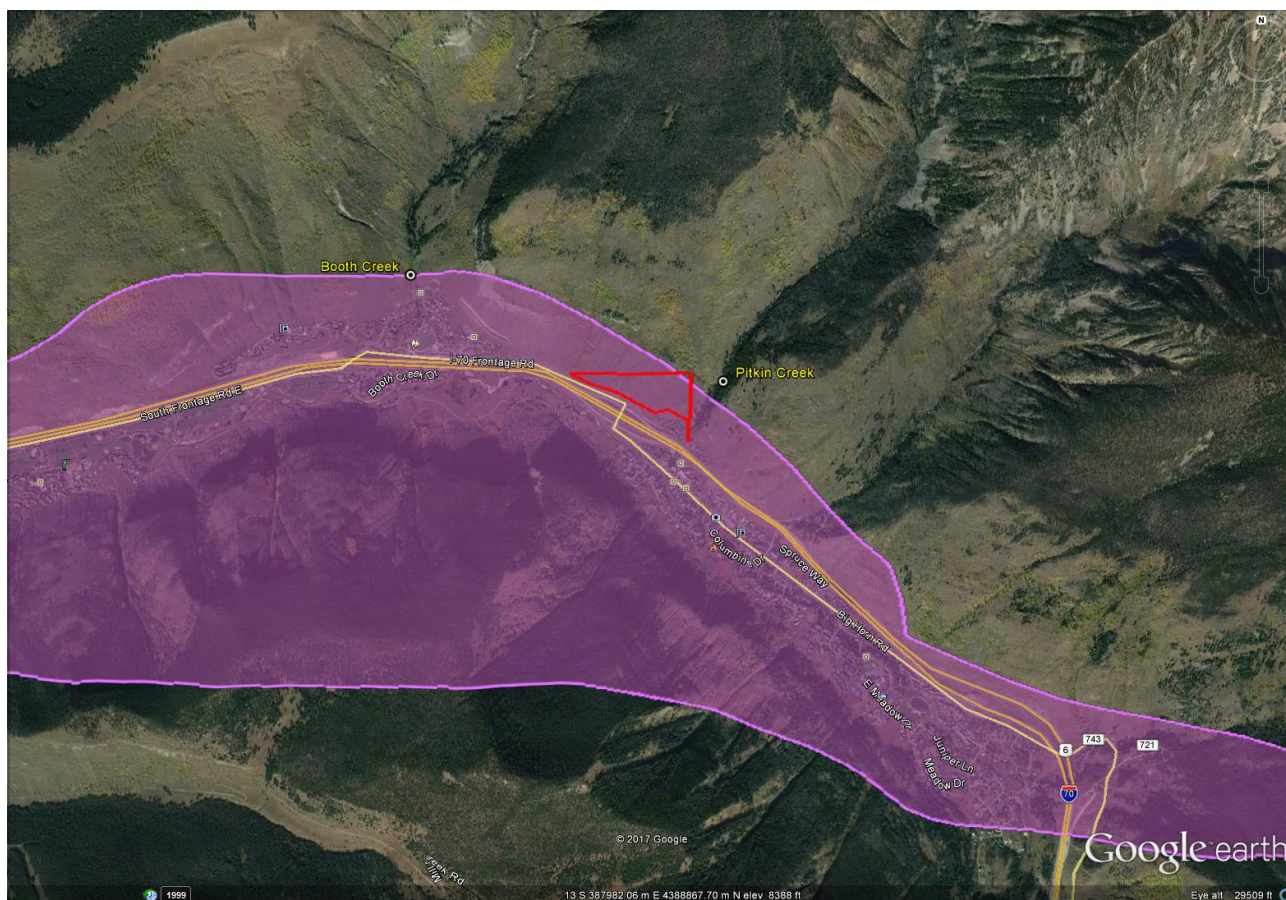


Figure 3-4. Black bear summer concentration area and human/bear conflict area (a single polygon outlined and shaded purple) mapped by CPW in the vicinity of the East Vail parcel (red outline).

3.2.4 Other Big Game Species

3.2.4.1 Mule Deer

The only mule deer seasonal ranges mapped by CPW in the vicinity of the East Vail parcel are overall range and summer range. The closest mule deer winter range is 8.7 miles down valley to the west, north of I-70. Low numbers of deer are present on and around the parcel from May through October.

3.2.4.2 Moose

The only moose seasonal ranges mapped by CPW in the vicinity of the East Vail parcel are overall range and summer range. The closest moose winter range is 2.5 miles to the northwest in Spraddle Creek. Moose may occur on or in the vicinity of the parcel, as they may just about anywhere else in Eagle County. Moose is the only ungulate whose population is increasing in the Gore Valley (Andree 2017).

3.2.4.3 Mountain Goat

The closest mountain goat seasonal ranges mapped by CPW in the vicinity of the East Vail parcel are overall range and summer range in the Gore Range alpine, 2.3 miles up Booth Creek and 2.8 miles up Pitkin Creek.

3.2.4.4 Mountain Lion

The East Vail parcel is located within a large polygon designated as a “mountain lion human conflict area” by CPW that includes all residential areas and trailheads from east of East Vail; to west of West Vail. Such areas are defined as areas where mountain lions have been involved in incidents (conflicts with humans that have serious results), an attack on a human, predation on domestic pets, or livestock held in close proximity to human habitation. Lion conflicts have increased since 2016 with most encounters involving the public encountering lions while hiking with their dogs (B. Andree, CPW, DWM [Ret.] 2017). In 2016, there were two incidents of dogs killed by lions and one lion was euthanized as a result. Lions are occasionally present on and around the East Vail parcel.

4.0 2017 EAST VAIL PARCEL REZONING

The East Vail Parcel was originally zoned Two Family Residential, which would have allowed 30-45 homes and roads to be spread out across most of parcel with no open space required. Development under that zoning would have appreciably altered big game use on and surrounding the parcel, with no resident education, wildlife requirements reducing negative wildlife effects, or any on-site enhancement. After an assessment of development and natural resource considerations and via the Town Planning Process, Vail Resorts successfully rezoned the parcel. Current zoning allows multifamily housing (zoned Housing Zone District) on the western 5.4-acre tip of the parcel, while preserving the more isolated 17.9 acres as Natural Area Preservation (NAP, open space). As a result of rezoning, development would be clustered into 23% of the parcel closest to the Frontage Road and I-70 where wildlife values are currently reduced to some extent by exiting human disturbances. A single, more isolated portion of the parcel (77%) extending into NFS land, would be preserved as open space (Thompson 2017).

5.0 DEVELOPMENT DESIGN CRITERIA

Western Ecosystems, Inc. proactively developed an approach to Workforce Housing on the East Vail parcel that, if incorporated into the project’s design, would avoid, minimize, and offset potential direct negative development effects to wildlife to the extent possible. The first draft of that document was finalized on February 28, 2018, after the author (Thompson) gave a presentation entitled “Optimal development design” at the January 18, 2018 Town of Vail Wildlife Forum. The document was finalized after the seven-month wildlife study report (Thompson 2018c) was finalized, but well before the developer of the Workforce Housing parcel was selected by Vail Resorts so that the wildlife criteria would be

considered and incorporated as initial integral components of the project's design, rather than the common development approach of trying to retrofit measures into a plan lacking and resistant to wildlife considerations.

A disclaimer in Thompson (2018a) indicated that "There is some flexibility in the implementation of these design measures and it should be recognized that some of these recommendations are contradictory. It will be an iterative process to develop a design that works for wildlife and the developer."

6.0 EAST VAIL WORKFORCE HOUSING SUBDIVISION PROPOSAL

The current East Vail Workforce Housing Subdivision ("EVWHS") proposal (aka the Booth Heights Neighborhood) and this section is based largely on Triumph Development (2019). Triumph Development is under contract to purchase from Vail Resorts the 23.3 acre East Vail parcel, located at 3700 North Frontage Road. Recognizing both the need for locals housing and nearby critical wildlife habitat, Vail Resorts rezoned the parcel from 23 acres of Two Family Residential to 5.4 acres of Housing and 17.9 acres of Natural Area Preservation set aside for wildlife, thereby clustering development onto 23% of the overall parcel.

This application to the TOV proposes to develop the 5.4-acre "Lot 1" of the EVWHS in conjunction with wildlife enhancements and conservation on the 17.9 acre "Tract A". The latter will be one of the most significant wildlife enhancement projects in the history of the Town on private property. The development plan has been prepared with a conscientious focus on protecting wildlife. It will include a substantial landscape area and berm to protect the neighborhood from rockfall and a fence on the north side of the property to create a physical barrier restricting neighborhood residents to important surrounding wildlife areas.

The new development, in keeping with the purpose of the underlying Housing Zone district, would be a mixture of rental and for-sale homes with more than 70% of the square footage built as Employee Housing Units ("EHUs"). To that end, the applicant proposes 73 total residences comprised of 42 EHU apartments, 19 EHU townhomes, and 12 market-rate townhomes within 11 buildings (Fig. 6-1). The apartments would be all 830-square-foot, two-bedroom units with surface parking. The townhomes would be a mix of two- and three-bedroom homes ranging in size from 1,300 square feet to just under 2,200 square feet with one car garages, driveways with two outdoor parking spaces in most cases, and private outdoor space at the rear of most units. Each new home will include ample storage, durable long-lasting and fire-resistant building materials, such as cementitious siding and stucco, 30-year asphalt shingle and metal roofs, oversized low-e glazed windows, R40+ insulation, Energy Star appliances, and long-cycle interior finishes. The apartment buildings would have separate ground floor storage for bikes and outdoor equipment that are so prevalent among Vail residents. There would also be an outdoor community picnic and barbecue area and low maintenance and low water landscaping.

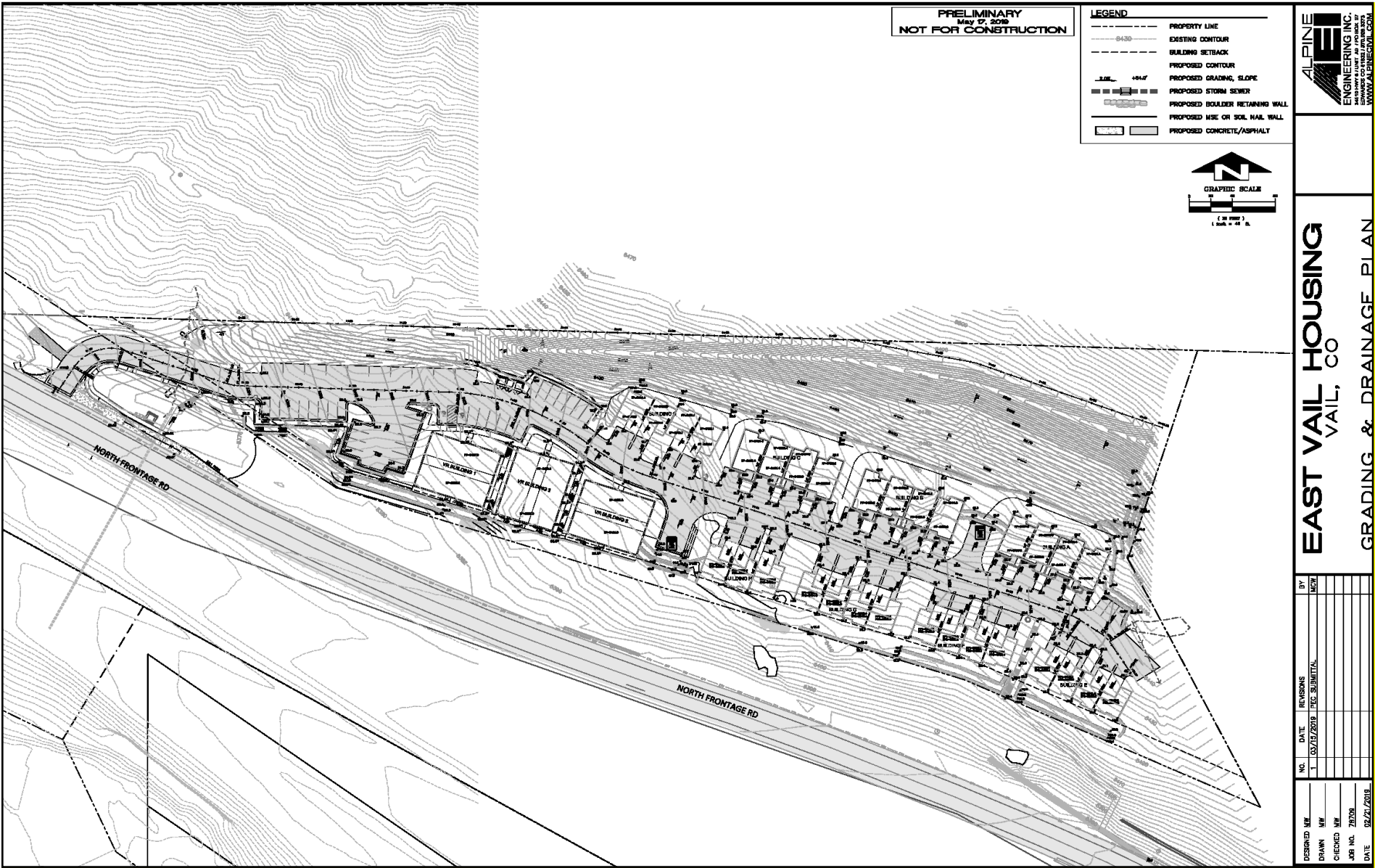


Figure 6-1. East Vail Workforce Housing Subdivision site plan.

7.0 WORKFORCE HOUSING DESIGN CRITERIA REDUCING POTENTIAL IMPACTS

Recognizing the wildlife benefits resulting from the rezoning (Section 4.0), the following design criteria that were incorporated into the Workforce Housing plan further reduced potential impacts.

7.1 STRUCTURAL DEVELOPMENT CLUSTERING

Structural development (16% of parcel) has been clustered as close as possible to the Frontage Road and within the interior of the parcel (Triumph Development 2019). A small area (0.26 ac.) of the most isolated, relatively open habitat on the development parcel, and the best potential sheep foraging habitat away from the Frontage Road, would be avoided. That area could be added to the open space enhancement acreage and would be important for better connecting the on-site enhancement with the heavily used sheep and elk winter range below the Booth Creek cliffs. The overall development footprint, including impervious surfaces, buildings, and snow storage is 2.7 acres (Triumph Development 2019), 50% of the 5.4-acre development parcel and 11.6% of the 23.3-acre East Vail parcel. While most of the remaining development area will be disturbed (e.g., for the rockfall berm) and then landscaped, most of that restored habitat would be unavailable or of lower value to the wildlife community (focusing on big game) because of access restricted by the fencing and its interstitial location within the development matrix. Thus, big game would lose access to approximately 5.0 acres of habitat, 21.5% of the 23.3-acre East Vail parcel. Areas of direct and indirect habitat losses can be offset by on-site habitat enhancement.

7.2 PARCEL ACCESS

Proposed parcel access off the Frontage Road at the existing rockfall berm road exploits the existing disturbance and provides the most gradual ascent to the development area, as recommended (Thompson 2018a).

7.3 ROCKFALL BERM

A rockfall berm is proposed to the north of all structural development (Skyline Geoscience 2019) that is consistent with the recommended development design criteria (Thompson 2018a)..

7.4 DEVELOPMENT BUFFER

With the exception of the initial driveway access onto the parcel, the Workforce Housing buildings and human activity areas would be well buffered by intervening forest cover from undeveloped surrounding habitats on TOV lands to the north and west and most private open space to the east. Temporary construction screening, berm installation, and tree plantings northwest of the driveway entrance that could screen project-related vehicles from nearby wildlife have been considered and could be constructed in areas that do not already have a berm/wall in time for the first bighorn sheep winter range season that is coincident with construction. The need and design for such screening will be resolved with CPW and the TOV during the planning process. The screening concern is that it would not be needed if sheep displaced by construction traffic during the day return and use that nearby habitat under cover of darkness, as sheep now use habitat along the Frontage Road. Furthermore, temporary construction screening could actually block sheep from accessing and foraging in the \pm 1.7-acre smooth brome stand that is east of the

driveway entrance and above the Frontage Road, unless they went around the screen's end and onto the Frontage Road at night.

7.5 ASPEN SCREENING

The on-site development effects would be well screened (visually and somewhat acoustically) from the important sheep foraging habitat on NFS and TOV lands below the Booth Creek cliffs by a broad (444-487 ft.; see Fig. 8-2, below) band of young to medium-aged aspen whose screening should increase as the trees age. However, there are issues to consider regarding the building heights warranting consideration. The upper floors of the buildings that would face undeveloped wildlife habitat to the north are three and two stories above grade. The tops of the habitable space (i.e., the area below the bottoms of the roof lines) are approximately 32 and 25 feet above the ground on the multifamily buildings and uphill town house buildings, respectively. Maximum tree heights in this area are around 30-35 feet. The building heights extending above the current aspen canopy should not be a wildlife concern because of the broad intervening distances (444-487 ft.) to occupied habitat and the local sheep being habituated to such sights as they look down on the Booth Creek neighborhood (e.g., where the closest home is 107 ft. downhill from the top of the rockfall berm). Furthermore, such inanimate objects are generally ignored by most wildlife. Perhaps, most importantly, portions of the buildings extending above the canopy are also less of a concern because none of the residential units have outside decks above ground level, as recommended in the design criteria (Thompson 2018a), where human activity could be visible and distracting to wildlife.

7.6 DEVELOPMENT SETBACKS FROM THE FRONTAGE ROAD CUT SLOPE

Over the relatively mild 2017-2018 winter, sheep foraged along the smooth brome-dominated cut slope above the Frontage Road on three occasions (Thompson 2018c). While use of that habitat was limited, all sheep winter range is important, particularly considering the amount of habitat deterioration and high quality habitats lost to human development. Even limited foraging in small areas takes foraging pressure off other accessible winter range. Virtually all of that smooth brome foraging area is off the East Vail parcel and would not be directly affected by development. However, some type of development setback was sought (Thompson 2018a) to increase the likelihood that sheep would continue foraging along that cut slope under suitable conditions. . Along most of the parcel's southern boundary, a young aspen stand exists in much of the 20 foot building setback and on the Colorado Department of Transportation (CDOT) right-of-way (ROW) that would help separate and screen housing activity from the smooth brome foraging area below. Multifamily buildings 1 and 2 at the west end of the site overlap a shallow draw and would provide no setback from the foraging habitat and would even directly remove a small amount of foraging habitat. Realistically, the diurnal effectiveness of that narrow foraging area, located between the Frontage Road and the Workforce Housing development/ activity areas may not be possible to save, although sheep could still access the area at night. Nevertheless, those forage resources could be offset by winter range enhanced in more remote open space portions of the parcel and possibly on surrounding NFS and TOV lands.

7.7 COLORADO PARKS AND WILDLIFE SETBACKS

With the exception of the two north-western town house buildings, which are setback 50 feet and 95 feet, respectively, the development plan would be consistent with CPW's past, arbitrary, 100-foot setbacks of residential development from private/ USFS property lines. This residential setback from the USFS property is further enhanced along most of the property rockfall berm.

7.8 UNIT NUMBERS

The proposed 73 housing units is on the low end of the range of possible units (72 to 120 units) anticipated in the design criteria document (Thompson 2018a). Nevertheless, consideration of the individual, unit-related, design considerations relative to the 73 proposed units is warranted.

1. “While the fewer the number of units, the better for wildlife, there is practically not much difference within a ± 10 -15% range of units, particularly if the development effects can be localized and buffered. Once a development gets to a certain size, a few more units have additional, but diminishing discernable effects. For this project, there is also a trade-off of clustering development as tightly as possible (i.e., to minimize habitat loss and development effects extending off-site) versus keeping structural development with visible human activity⁷ from extending vertically above the forest canopy and into view of wildlife on important surrounding habitats” (Thompson 2018a).

The proposed number of units falls at the low end of the range of the number of units anticipated in the design recommendations. The proposed housing has largely been clustered as close as possible to the Frontage Road and within the parcel’s interior and all outside, ground level human activity would be screened by existing aspen forest and rockfall berms/ walls from the heavily used sheep winter range to the west and northwest.

2. “...to that end, two story structures might be best, but three story buildings might also work. Stepping structures up the hillside on the parcel might help keep most of most structures below the canopy” (Thompson 2018a).

The proposed buildings would be two and three stories on their north sides that face the important sheep winter range. All but the roofs of the buildings would be screened from wildlife view. Most importantly, all outside, ground level human activity would be screened by existing aspen forest and rockfall berms / walls from the heavily used sheep winter range to the west and northwest. There , and there are no outside, west- and northwest-facing, upper level decks proposed on any of the buildings that would expose human activity, sounds, and smells to wildlife.

3. The number of units identified in the design criteria document (Thompson 2018a) was a surrogate for what really matters, the number of residents, which could not be accurately estimated until the project was designed. The proposed Workforce Housing would support 113 to 254 residents, depending on the number of people that would choose to live in a unit.⁸ That number of people confined to the parking lot and in the buildings, clustered in the interior of the parcel and screened from important surrounding wildlife habitats is fine. **The paramount issue associated with this project is not the habitat lost to development, or temporary construction disturbances, but keeping the residents away from the important surrounding habitats, particularly in winter.**⁹ That means no trails developed onto private open space, no use of the Booth Creek rockfall berm road (possibly a seasonal

⁷ An example of this would be an outside, north-facing deck on the upper level of a housing structure where human activity above the forest canopy would be visible to sheep on the hillside above. However, a roof or floor level without resident access to the outside (i.e., an inanimate object) could extend above the canopy.

⁸ Source: Triumph Development, M. O'Connor, May 7, 2019, pers. comm., file: EVWHS Population Projection 051919.xlsx.

⁹ This was a conclusion reached amongst biologists at a May 14, 2018 meeting held between Vail Resorts, the project biologist (Thompson), and CPW representatives (B. Andree, District Wildlife Manager, and Perry Will, Area Manager) to discuss the East Vail Workforce Housing project.

or permanent closure of TOV open space), no on-site use of National Forest System (USFS) lands beyond (north of) the rockfall walls, no sidewalks along the Frontage Road, no dogs, no drones, resident education, penalties for non-compliance (including losing the lease), and HOA and Town enforcement. Details of these restrictions and Wildlife Requirements will be fleshed out in the Wildlife Mitigation Plan. While such avoidance and minimization measures may not have 100% compliance, the project's design, enforcement opportunities, and the leverage and consequences of resident non-compliance make it likely that compliance will be adequate to avoid significant adverse effects to the sheep herd.

7.9 INTERNAL PARKS

As recommended in the design criteria (Thompson 2018a), there would be no sizeable internal parks, open space, or similar amenities, which could increase the footprint of the development area. The small community park and BBQ shelter is an internal location at the center of the site and would be screened from the Frontage Road with the proposed grading. There would also be small amounts of private outdoor space at the rear of each unit. This is highly preferable to upper level outside decks where some residents would grill and use for other activities, possibly in view of wildlife.

7.10 TREE CLEARING

Tree clearing would be consistent with the intent of recommended design criteria (Thompson 2018a). Tree clearing outside the development area (i.e., on the NAP parcel) would be implemented to increase winter foraging habitat.

7.11 MAINTAINING SHEEP MOVEMENTS ABOVE THE FRONTAGE ROAD

Consistent with the recommended design criteria (Thompson 2018a), the developer is not proposing excessive cut slopes, fencing, or entrance landscaping that could block east-west sheep movements along the north side of the Frontage Road.

The TOV Public Works Department has requested consideration of a public trail/sidewalk along the Frontage Road that would connect with the existing sidewalk ending west of Katsos Ranch Road, as well as a possible full-movement bus stop that would need to be located near the west end of the parcel (M. O'Connor, Triumph Development, Dec. 14, 2018 pers. comm.). Regarding both improvements, in addition to the direct loss of foraging habitat from trail and bus stop construction, the displacement of sheep from adjacent winter foraging habitat by pedestrians would affect sheep use not only below the East Vail parcel, but also the heavily used CDOT ROW and TOV open space to the west. A winter closure of such a trail would be difficult to enforce and would likely be ineffective. Should winter sheep use of the cut slope above the Frontage Road near the East Vail parcel be determined to be lost, a sidewalk could be considered east of the Workforce Housing access road. Although the project design documents have demonstrated adequate space and the ability to add these requested pedestrian and transportation improvements, a substantial new bus stop and pedestrian trail, eventually connecting to the Booth Creek neighborhood to the west is not recommended for the above reasons.

7.12 FENCING

Fencing to block human access from the property into important surrounding wildlife habitat was

requested by CPW¹⁰ before the Workforce Housing plan and the rockfall berm were designed. Such fencing would not only restrict humans from surrounding habitat, but also exclude big game from entering undeveloped and native landscaped areas of the development parcel (approx. 2.3 ac.). The need and design of fencing will be resolved with CPW and the TOV during the PEC/ TC planning process, with details finalized during the Building Permit process. A fencing concern includes a design that allows big game (that will inevitably find their way into the subdivision at night then become trapped and panic onto an adjacent Frontage Road when residential activity increases in the morning) to safely exit the development area. Fencing and jump gate designs, similar to those that have been installed in wildlife fencing along I-70 in Eagle County, have been obtained from the Colorado Department of Transportation (CDOT, J. Peterson, CDOT Wildlife Program Manager) and would be incorporated into the rockfall berm to facilitate the needed egress.

7.13 HABITAT ENHANCEMENT

Now that a detailed housing plan has been developed, the enhancement of bighorn sheep winter range (that will also benefit other wildlife [e.g., elk and mule deer] in the area) recommended in the design criteria document (Thompson 2018a), has been further refined (see Section 9.1, below). While the long-term viability of the local sheep herd is much more dependent on the implementation of a broad-scale enhancement plan on NFS and TOV lands supporting the vast majority of the winter range, Triumph Development plans to proceed with the enhancement of winter range under its control as soon as possible after receiving TOV approval.

7.14 HUMAN HABITATION-RELATED MINIMIZATION MEASURES AND WILDLIFE MITIGATION PLAN

The Wildlife Mitigation Plan in Section 9.0, below, addresses topics related to Workforce Housing construction and resident habitation of the property, as recommended in the design criteria (Thompson 2018a).

8.0 PROJECT-RELATED WILDLIFE EFFECTS

The proposed Workforce Housing is going to have a mix of negative and beneficial effects on the local wildlife community. There will be a net loss of habitat and wildlife displacement from development and human activity areas when 21.5% of the overall parcel is developed. Negative effects will include approximately five acres of direct habitat losses,¹¹ reduced habitat effectiveness of adjacent buffer zones, increased traffic along the Frontage Road and regional highways, and the displacement of wildlife around off-site recreation corridors that will likely be used by housing residents.¹² Potential negative development effects have already been somewhat reduced through the rezoning process that concentrated development on 23% of the parcel, as well as further avoided, minimized, and compensated with (1) the incorporation of wildlife-oriented design criteria into the development's design (Section 7.0 and 9.2), (2) with on-site

¹⁰ At a May 14, 2018 meeting with Vail Resorts.

¹¹ I.e., 2.7 acres from direct habitat losses and fencing blocking wildlife access to another 2.3 acres of the parcel.

¹² With resident education, fencing/ barriers, and aggressive fines and enforcement, these recreational impacts will be minimized on lands surrounding the East Vail development area that are important for sheep winter range and other wildlife uses. However, additional, incremental recreational impacts will occur along other existing trail corridors in Eagle County that bisect wildlife habitats as a result of increased recreational use of those trails by Workforce Housing residents.

habitat enhancement proposed on 14.6 acres of the parcel that will remain undeveloped (Section 9.1), (3) with the implementation of wildlife-related construction and operational considerations (Section 9.2), and (4) with the implementation and enforcement of the human habitation-related minimization measures and management plan (Section 9.3). The beneficial effect would be the enhancement of sheep and elk winter range that is not currently effective for sheep because of fire suppression effects. Additional details of project effects are contained in the wildlife section of the 2019 Environmental Impact Report submitted to the TOV as part of the planning and approval process for this project.

Figure 8-1 shows wildlife habitats that would be affected on and adjacent to the 5.4 acre East Vail Workforce Housing parcel. The development footprint, including the driveway and parking lots, buildings, the rockfall wall, and ancillary facilities, would affect approximately five acres of a relatively young aspen stand with a mountain shrub understory dominated by chokecherry. That area of habitat represents 21.5% of the 23.3-acre parcel; 78.5% of the parcel would remain undeveloped. Undeveloped habitat on 14.6 acres of the East Vail parcel would be enhanced as big game (bighorn sheep and elk) winter range. Mule deer, elk, and other wildlife with affinities to mountain shrub habitat would also benefit. Using the results of the 2017-2018 wildlife study (Thompson 2018c), additional sheep winter range enhancement, probably involving hundreds of acres, is under consideration on surrounding NFS lands and TOV open space.

Most wildlife present in development areas at the time of construction will be displaced to adjacent habitats, some of which will be occupied. Small mammals, the young of cavity nesting birds, and a reptile (garter snake, *Thamnophis elegans*) may be killed, depending on the time of year that site clearing starts. The size of the development area likely supports the home ranges of several to a handful of individual bird and small mammal species. After project development and habitation, the development parcel will support those wildlife species tolerant of human development.

The effectiveness of habitats surrounding the development to the north, east, and west would be reduced, to a certain extent, by noise, visual, and olfactory disturbances emanating from the development. Distances would vary by species and would be attenuated by screening forest, distance, topography, and the chronic disturbances extending through the parcel from the adjacent Frontage Road and I-70. Birds and small mammals would be the least affected by the adjacent development. Elk would exhibit the broadest avoidance zones.

Workforce Housing-related traffic increases may incrementally increase wildlife road-kill probabilities on the Frontage Road and along regional highways. Buildout of the East Vail parcel is expected to generate a total of 290 external vehicle trips over the course of an average weekday, including 17 trips during the morning peak hour and 24 trips during the afternoon/evening peak hour (McDowell Engineering 2019). Ten to 20% (29-58) of those contributions would be on the North Frontage Road while 70-80% (203-232) would be on I-70. These additional contributions represent an average of 9.9 % and 0.8% of the current, average, daily traffic volumes on those respective roads and highways. Increased road-kill probabilities on I-70 resulting from the additional Workforce Housing traffic would be discountable relative to the low mortality associated with current high traffic volumes and should not affect local big game because they don't cross the highway in the vicinity of the project area. Sheep are occasionally present during winter

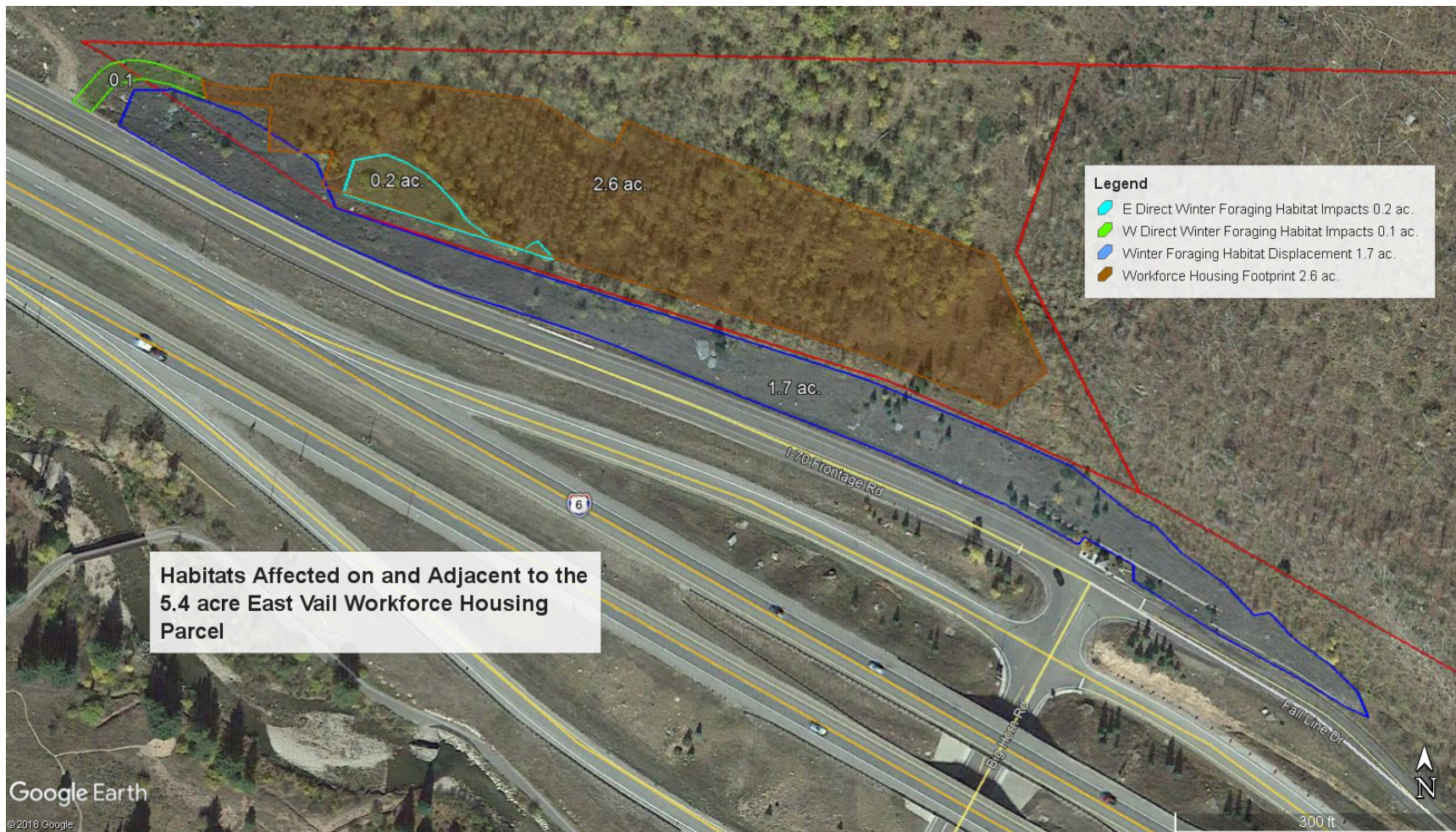


Figure 8-1. Wildlife habitats affected by structural development on and adjacent to the 5.4 acre East Vail Workforce Housing parcel. The development footprint would affect 2.7 acres of a relatively young aspen stand with a mountain shrub understory dominated by chokecherry. Another 2.3 acres (not shown; see Triumph Development 2019) north of the development area would also be disturbed for the rockfall berm, reclaimed, but blocked by fencing from big game access. Approximately 0.3 acres of bighorn sheep winter foraging habitat, largely composed of smooth brome, would be permanently lost. Approximately 1.7 acres of sheep winter foraging habitat, also composed of smooth brome and largely off-site, would not be disturbed, but its effectiveness would be reduced by its linear configuration and location between the Frontage Road and the housing. The effectiveness of winter range to the west of the housing's driveway could also be impaired by housing-related traffic, but that area is difficult to quantify. Mitigation is proposed to better maintain habitat effectiveness.

conditions along the Frontage Road and have been known to lick salt off the road and a few may even cross the road to forage between the road and I-70. Increased sheep road-kill probabilities on the Frontage Road are possible, but unlikely because of good horizontal visibility along the road, because the sheep are habituated to the traffic, and because most road mortality occurs on roads and highways where posted speeds are ≥ 45 mph (Gunther et al. 1998). In the vicinity of the site, the North I-70 Frontage Road has a posted speed limit of 25 mph eastbound and 45 mph westbound. Resident participation in public transportation would reduce potential traffic impacts. The Mitigation Plan contains a section that would educate residents about this issue.

Resident education about the parcel's sensitive location in wildlife habitat and the implementation and enforcement of the Wildlife Mitigation Plan, with significant penalties for violators, (App. G) should reduce and confine potential habitation effects to the parcel's development area and minimize the potential effects of greatest concern (recreationists and dogs) from extending off-site. Issues specific to individual species and wildlife groups are discussed below under those accounts.

9.0 WILDLIFE MITIGATION PLAN

Project-related effects on the local wildlife community can be further minimized with the implementation of this Workforce Housing Wildlife Mitigation Plan. Three categories of mitigation measures are outlined, below, (1) sheep winter range enhancement, (2) construction-related minimization measures, and (3) habitation-related minimization measures. The first two sections related to the East Vail parcel are relevant to the developer while the last section primarily applies to residents. Section 9.3 will likely be developed as a legally binding, stand-alone document that residents will be required to read, sign, and abide by should they wish to live in this setting.

9.1 WINTER RANGE ENHANCEMENT

Even with the implementation of minimization measures, Workforce Housing development is going to result in the permanent loss of approximately five acres of bighorn sheep and elk winter range and reduce the effectiveness of surrounding habitat. Construction would remove 0.3 acres of sheep winter foraging habitat on the East Vail parcel (Fig. 8-1). Wintering sheep could also be displaced by construction activity from two nearby foraging habitats, (1) the cut slope above the Frontage Road that is below the development area (1.7 ac.) and (2) from nearby TOV open space, west and northwest of the of the project's driveway entrance.¹³ Sheep displacement from adjacent foraging areas could also continue during the habitation phase of the project. To compensate for lost and impaired habitat, the developer is proposing on-site habitat enhancement on 14.6 acres that would more than offset winter foraging habitat losses to the development. Enhancement treatments could occur in fall 2019 and spring 2020 following initial Development Application approval. Increased forage would be available to compensate for the direct and indirect habitat losses that would and might occur during construction in winter 2020-2021 and thereafter. Suggestions are also provided in this section for what enhancement might be implemented on surrounding public lands to better connect the private East Vail parcel enhancement with other winter range segments also in need of enhancement, with or without the Workforce Housing. Proposed winter

¹³ As a worst case scenario, animals might be completely displaced from these foraging areas (i.e., in addition to their diurnal displacement, they would not forage in these areas during the 16 hours of the day when construction is not occurring and human activity has ebbed). Conversely, and more likely, if animals that may be displaced from these foraging areas during the day return to forage in this adjacent habitat under cover of darkness, as they do now, there would be little meaningful reduced habitat effectiveness.

range habitat enhancement on private and public lands was presented to and discussed with TOV, CPW, and USFS representatives on January 11, and February 6 and 8, 2019.

9.1.1 On-site Enhancement

The above direct and indirect effects to sheep winter range can be more than offset via on-site habitat enhancement on a portion of the 17.9 acre NAP parcel. On-site enhancement is generally best for wildlife because it benefits the individual animals affected by the development. It is rare for a development project to have the opportunity to implement any meaningful percentage of habitat enhancement on-site to offset its impacts, let alone enhance more than what is needed. The enhancement would be oriented at restoring bighorn sheep winter range, which has been degraded over the last 30 years by aspen encroachment, fallen aspen, and a mountain shrub community where much of the browse has grown out of the reach of sheep and elk, all effects of wildfire suppression. The enhancement would also benefit elk winter range use and black bear and mule deer summer range use.

Figure 9-1 shows 14.6 acres of habitat on the East Vail parcel that would be enhanced for sheep and elk winter range. Additional enhancement could occur on 0.26 acre in the undeveloped northeast corner of the 5.4-acre development parcel. The overall enhancement area is shown as a blue polygon, the bottom of which is above the shoulder of the steep slope dropping down to the valley bottom. The shoulder occurs in the vicinity of the ca. 1998 fire line or historic road. The untreated mountain shrub habitat below the shoulder is suitable for treatment, but there is assumed to be some need for (1) a physical barrier to prevent people from climbing up to the enhancement area (which does not currently occur) and (2) stabilizing vegetation to retard any runoff from above (although it may not be a practical concern in this small, gently-sloping enhancement area). If these concerns are invalid, the enhancement area could be larger. There is also a need to maintain a band of young aspen with a dense chokecherry understory and jackstrawed logs west of the Pitkin Creek Trail as a physical restriction and visual barrier between the trail and the enhancement area.

Within the enhancement area are three treatment categories, described below, where the common enhancement goal would be to restore the mountain shrub community within the browsing height of big game that is normally maintained by periodic wildfires (Fig. 9-1). While broadcast burning¹⁴ to restore the mountain shrub community could be the most cost effective, quickest, and most widespread treatment option that would best meet the goal of mountain shrub restoration/reinvigoration and nutrient recycling, the approach recommended by the TOV would involve cutting and stacking trees and downed logs, cutting shrubs, then burning the slash and log piles when dry (P. Cada and M. Novak, TOV, Jan. 11, 2019 pers. comm.). Soils sterilized and vegetation removed at burn piles should be reseeded with a wildlife mix suitable for the site.¹⁵ Fertilizing as soon as possible after spring snowmelt would increase forage availability for the first winter post-treatment.

With two exceptions, enhancement prescriptions differ between the three treatment categories (Fig. 9-1). First, the entire enhancement area is in need of pruning to remove shrub stems that are out of reach of wintering big game and to stimulate new nutritious growth that is available for winter browsing. This is

¹⁴ Prior broadcast burns conducted by the TOV on their open space below the Booth Creek cliffs and on what is now the East Vail parcel's NAP area was marginally successful in late 1990's (pers. comm. between, P. Cada, TOV, and M. O'Conner, Triumph Development, Jan. 30, 2019).

¹⁵ To be developed by the silviculturalist.



Figure 9-1. Bighorn sheep winter range enhancement prescriptions proposed on 14.6 acres of the East Vail parcel (red outline) to compensate for winter range lost to, and affected by, development of the Workforce Housing project. See text for prescription descriptions.

best accomplished in early spring when shrubs are still dormant and before they begin contributing resources to the new year's growth. Pruned stems,¹⁶ with new multiple shoots within the browse range of ungulates, would be available as forage for the following winter (e.g., winter 2020-2021) if pruning is prioritized to start as early in spring 2020 as possible. Second, the entire treated enhancement area could be fertilized¹⁷ to increase forage nutrition and grass, forb, and shrub productivity. Fertilizing in spring, before (preferred), during, or after other treatments, would increase forage availability for the following winter. The effects of fertilizing last for three growing seasons.

The 3.9-acre "mature aspen" stand on the parcel is regenerating and consists of young to overly mature trees with an overly mature mountain shrub understory dominated by chokecherry (Fig. 9-1). Most trees¹⁸ should be removed and the shrub understory pruned, as above. Felled trees should be cut into lengths that can be carried to piles. Logs and slash piles should be spaced apart (e.g., ≥ 10 -15 ft.) such that they do not restrict animal movements. Shrub pruning, tree canopy removal, and increased light penetration to the shrub understory would stimulate increased forage production that would be available the following winter. Tree removal would stimulate aspen suckering. The branches of aspen suckers within the browse range of sheep and elk would provide additional forage. However, when sucker foliage has grown out of the browse range (e.g., every ± 5 -7 yrs.), it should be cutback to provide available forage and to prevent aspen stand regeneration.

"Jackstrawed logs" are mature aspen that have died and fallen. At a certain density, they impede and block big game movements, reducing and eliminating forage and other habitat values that would otherwise be available. Winter snow cover makes such areas even more inaccessible. There are 4.8 acres of such "jackstrawed logs" in the enhancement area that impair sheep movements and reduce forage availability (Fig. 9-1). Those polygons contain the same vegetative composition as the 5.9-acre "over mature shrub" community, which consists of young, sparse to dense, aspen seedlings and pole stage trees with a chokecherry-dominated mountain shrub understory and a dense graminoid understory. Most of the chokecherry branch tips have grown out of the reach of ungulate (sheep, deer, and elk) browsing. In these areas, in addition to the shrub pruning and the removal of young aspen,¹⁹ described above, the logs should be piled and burned to where they no longer restrict big game movements.

Triumph Development intends to proceed with the private land enhancement in either the fall of 2019 or spring 2020, subject to receiving initial TOV Planning and Environmental Commission (PEC) approval of the project. On Town land and private property in the TOV, there are no regulations, official permitting process, Town Code, or State requirements to conduct the type of enhancement proposed above on the East Vail parcel (pers. comm., P. Cada, TOV, and M. O'Conner, Triumph Development, Jan. 30, 2019).

¹⁶ E.g., shrub pruning could consist of a two-man team lassoing (using a 15-20 ft. length of rope with loops on the ends to encircle and tightly cinch the shrub, then use a chainsaw to cut shrub stems at shrub-specific heights where the new growth would be available to big game as winter browse.

¹⁷ Since 1986, the CDOW/ CPW has been aerially fertilizing (i.e., treating 1.57 acres of habitat once every three years in perpetuity to offset each 1.0 acre of habitat lost to development) of big game winter range in the Eagle Valley to increase its productivity and offset habitat losses (based on CDOW research in Middle Park). The application rate is 300 lbs. of ammonium nitrate per acre (=100 lbs. of nitrogen/ acre) and treatments are effective for three growing seasons. Application under suitable (moist) soil conditions in spring 2019 would require hand spreading. Occasional aerial application thereafter might be coordinated with CPW.

¹⁸ Except those needed for "feathering" to create a more organic shape to the clearing where the aspen stand meets the USFS property line. Young aspen with branches within the browse range of sheep and elk (e.g., 4 ft. above ground level) could be left to help create this visual form.

¹⁹ I.e., those whose branches have grown out of the winter browse range of ungulates.

The TOV Fire Department (FD) recommends enhancement treatment approval through the PEC application process for the whole project rather than a separate process. TOV FD has the capability and permission to implement cut/pile/burn projects and would be willing to help with the East Vail enhancement. Practically, it would work better if the TOV FD would do the piling to facilitate an efficient burn. The Work Plan would be prepared by the TOV FD. Some direction from a silviculturalist on the final appearance of the cleared forest, how and when to trim shrubs, reseeding, etc., is recommended. Triumph would pay for FD time; likely a crew of three, working for two to three months for nine to 15 acres, doing work by hand, plus the planning time. The subsequent pile burns will likely occur start in the following spring or fall when the logs have dried and there is sufficient (min. 4 in.) snow on the ground. Treatment access will likely be via the Pitkin Creek trail (to most of the large open space area) and via the rockfall barrier catchment corridor (to the enhancement area in and adjacent to the northeast corner of the 5.4-acre development area). Any access track(s) from the trail will be blocked and restored upon completion of the project to discourage pedestrian access.

To maximize the effectiveness of the enhancement area and surrounding habitats, there should be no trails or non-authorized human access onto the NAP parcel and no trails emanating from the Workforce Housing parcel onto surrounding TOV or NFS lands. Triumph Development is also aware that for maximum effectiveness of their enhanced winter range, it should be “connected” with current high quality habitats on NFS lands via non-forested corridors, including (1) the currently suitable, but over mature, winter range below and east of the main Booth Creek cliffs, and with (2) the cliff band above the East Vail parcel (as relayed to the U.S. Forest Service [USFS] on Feb. 6, 2019). Triumph will provide east-west connectivity through the site on the uphill side of the rockfall berm. This on-site winter range enhancement could complement a larger project now under consideration by the Town, USFS, and CPW to treat other areas within the overall sheep winter range polygon.²⁰ However, with the undetermined timeline and uncertainty of enhancement approval by the USFS, this off-site enhancement is not part of the Triumph’s proposal for the East Vail project.

With the above habitat enhancement, the 15.6 acres of treated habitat would provide a larger amount of isolated, better quality sheep winter range (foraging habitat) than what currently exists and would more than offset the winter foraging habitat located adjacent to the Frontage Road and I-70 that would be directly (0.3 ac.) and indirectly (.) affected by the new housing project. While the entire 3.3 acre development footprint and adjacent habitat represent sheep winter range, its value as foraging habitat is limited to 0.25 acres on-site and the narrow band of largely non-native smooth brome along the cut slope above the Frontage Road, which is almost entirely off the parcel and would not be developed. Therefore, the extent of the compensatory replacement of lost project-related foraging habitat is even more apparent.

9.1.2 Off-site Enhancement

The East Vail Workforce Housing project has enlightened the Vail community about the bighorn sheep herd and has become a catalyst prompting the TOV and resource agencies (the USFS and CPW) to again consider broad scale habitat enhancement, the real key to maintaining this herd. Most of the habitat within the 1,800-acre sheep winter range polygon is in need of some type of enhancement to restore and reinvigorate the mountain shrub community that is normally maintained by periodic wildfires. Such a widespread enhancement plan, similar in scope and approach to that proposed by the USFS in 1998, is now under preliminary consideration with the TOV, USFS, and CPW. Few of the personnel involved and familiar with the 1998 habitat enhancement proposal are currently available. Suggestions were provided to

²⁰ Initial meetings to discuss this project occurred on Jan. 11 and Feb. 5, 2019.

Town and agency personnel regard what and where enhancement might be implemented on surrounding public lands to better connect the private East Vail parcel enhancement with the larger treatment area, with or without the Workforce Housing. This potential enhancement in the immediate vicinity of the East Vail parcel was also presented to and discussed with TOV and CPW representatives on January 11, 2019 and with TOV, USFS, and CPW representatives on February 5, 2019. As of the spring 2019, some of this enhancement on Town of Vail property is underway.

9.2 CONSTRUCTION-RELATED MINIMIZATION MEASURES

Temporary (i.e., 1-2 yr.) construction disturbances will affect wildlife on and adjacent to the parcel. Of greatest concern are potential effects to wintering sheep and nesting peregrine falcons. The following minimization measures that would be implemented by Triumph Development would reduce potential negative effects.

9.2.1 Wintering Sheep

Construction would remove 0.3 acres of winter foraging habitat on the East Vail parcel (i.e., in the vicinity of the multifamily buildings' footprint and the driveway entrance; Fig. 8-1). Wintering sheep could also be displaced by construction activity from two nearby foraging habitats, (1) the cut slope above the Frontage Road and below the development area (1.7 ac.) and (2) from the nearby CDOT ROW and TOV open space, west and northwest of the of the project's driveway entrance. Combined, all of these areas support three+ acres of foraging habitat dominated by smooth brome. See Section 3.1.1.2, above, for comments regarding the stress level of sheep foraging close to the road, the frequency and amount of foraging on and adjacent to the development area, and the importance of this forage to wintering sheep. While sheep displacement from the cut slope below the construction area is most likely, most construction activity within the parcel's interior would be screened by intervening trees from the important foraging habitat to the west and northwest. The exception to this would be disturbances from vehicles entering the site where no effective screening is present to the west.

In consideration of the construction activity's displacement significance on the wintering sheep, the most obtrusive disturbances from site clearing, excavation, grading and wildlife/rockfall berm construction would not occur outside buildings during the winter range period. Some outside activity (which would largely be screened for view) such as framing and skinning the buildings would occur during the first winter, and any activity during the second winter would be largely inside the buildings. As a worst case scenario, animals completely displaced from adjacent foraging areas (i.e., in addition to their diurnal displacement, they would not return to forage in these areas during the 16 hours of the day when construction is not occurring and human activity has ebbed, as now occurs) they would have to obtain their forage from other areas of their winter range. Colorado Parks and Wildlife's sheep winter range polygon is approximately 1,800 acres. However, during winter 2017-2018, sheep only used 15% (277 acres) of the area within that polygon (Thompson 2018c).²¹ While that percentage underestimates winter range actually used by the sheep, the five acres of winter foraging habitat that would be removed and unavailable to wintering sheep represents 1.8% of the winter range used during winter 2017-2018. That is a relatively small proportion of available habitat, however all winter habitat is important not only for the

²¹ That is likely a function of (1) the smaller (than in past years) present population of 41 sheep, (2) sheep now using the highest quality habitat available, (3) sheep avoiding forested habitats, (4) sheep restricted from some portions of their winter range by jackstrawed logs, and (5) sheep not using isolated mountain shrub patches, over mature shrub patches with little available forage, and shrub communities where forage has grown out of their browsing range.

forage it provides, but also by reducing foraging pressure on other areas of winter range.

The range of measures that would minimize and offset, temporary, construction-related, winter range reductions include:

1. Schedule construction phasing so the most obtrusive disturbances do not occur outside buildings during the winter range period²². Initial clearing and site work, when heavy equipment would be operating and when disturbances would be greatest, should not occur during any winter. The framing through dry-in phase could overlap the first winter. All of that activity, other than framing, enclosing, and outside finishing of the upper floors, would be screened from sheep winter range to the west by a broad band of aspen forest. Most construction noise should blend in with noise associated with I-70 and the Frontage Road. Thereafter, the final inside finishing phase would have the least obtrusive disturbances.
2. Conduct construction activities only during daylight hours, excluding emergencies. This would give sheep the opportunity to enter foraging areas adjacent to construction areas (i.e., where they may be diurnally displaced) under cover of darkness and forage (as they do now in diurnal human activity areas near the Frontage Road), minimizing any reduction of forage availability.
3. With the exception of construction traffic entering the parcel on its western tip, virtually all construction activity²³ would be screened from sheep winter range to the west by a broad band of aspen forest. To better maintain sheep winter range habitat effectiveness on the CDOT ROW and TOV open space to the west of the project's driveway entrance, temporary construction screening, berm installation, and tree plantings northwest of the driveway entrance that could screen project-related vehicles from nearby wildlife have been considered. The need and design for such screening will be resolved with CPW and the TOV during the planning process. The screening concern is that it would not be needed if sheep displaced by construction traffic during the day return and use that nearby habitat under cover of darkness, as sheep now use habitat along the Frontage Road. Furthermore, temporary construction screening could actually block sheep from accessing and foraging in the \pm 1.7-acre smooth brome stand that is east of the driveway entrance and above the Frontage Road, unless they went around the screen's end and onto the Frontage Road at night. Should screen be needed, a berm or temporary, non-transparent construction fence that visually blocks construction traffic (and subsequent housing traffic) could be installed before the first winter construction season where traffic would enter the parcel. A berm could be seeded with an initial mix to stabilize the soils without irrigation. Thereafter, the berm could be reseeded with site-appropriate vegetation that would provide winter forage values. After construction, when project utilities are functional, trees could be strategically planted on areas around the berm to better screen traffic entering/ leaving the site. Irrigation would be needed for tree establishment and maintenance. Tree species, tree density, screening width, and topography should be considered. Conifers, whose lower branches would not lift, would be most effective. Screening effectiveness would increase over time and would be beneficial over the life of the project. The location of those plantings may extend onto TOV open space where permission would be required to landscape.

²² CPW has not defined the winter range period for this herd. Their generic winter range definition is that part of the overall range where 90% of the individuals are located during the average five winters out of ten, from the first heavy snowfall to spring green-up. Based on that definition and considering winter range dates for other big game species, average sheep winter range occupancy could be defined, on average, as November 15 to April 15 (dates inclusive). Sheep are present on portions of their winter range (i.e., below the Booth Creek cliffs) outside this period because of salt blocks.

²³ Other than framing of the upper floors, but certainly all ground-level activity.

4. Prohibit all construction personnel from bringing non-service animals on-site at any time of year.
5. A rockfall berm is planned for the upslope edge of the development area (Skyline Geoscience 2019). The tree- and shrub-less rock collection area uphill of the wall could function as a corridor facilitating wildlife movements around the development area. That narrow corridor could be cleared of jackstrawed logs and extended to the open mountain shrub below Booth Creek cliffs with the USFS's permission. Fencing to block human access from the property to important wildlife habitats beyond was requested by CPW²⁴ before the Workforce Housing and the rockfall berm was designed. The need and design of fencing along the rockfall berm to block restrict resident access will be resolved with CPW and the TOV during the planning process. The fencing concern includes a design that allows wildlife that might enter the development area to exit safely. The following design criteria are under consideration:
 - a. If fencing is required, it should be continuous to keep residents and domestic animals in and wildlife out. A fence midway down the uphill side of the berm would allow a portion of the berm to be used as wildlife habitat and a wildlife movement corridor. An eight-foot-tall cyclone fence would be recommended. Closure signs spaced on stakes along the base of the rockfall berm would not restrict access as effectively as a fence.
 - b. Jump gates (i.e., like those installed along fenced sections of I-70) might be the most appropriate features to allow wildlife that might enter the development area under cover of darkness to safely exit, while also preventing wildlife from entering the property. Their locations and design would require consultation with CPW, the landscaper, and geotechnical personnel, but by locating these fences on the uphill side of the berm, regularly spaced jump ramps can be incorporated into the berms grading. Fencing and jump gate designs, similar to those that have been installed in wildlife fencing along I-70 in Eagle County, have been obtained from the Colorado Department of Transportation (CDOT, J. Peterson, CDOT Wildlife Program Manager) and would be incorporated into the rockfall berm to facilitate the needed egress.
 - c. Access to the barrier catchment area should be secured with similar fencing.
 - d. Any rockfall wall/ fencing configuration should be continuous along the north and east property lines.
 - e. Signs (e.g., "Important wildlife habitat. Area behind sign closed to all non-authorized access year-round. Trespassers will be prosecuted.") should be strategically placed on at jump gates and at the fence ends to remind and educate residents and guests about the restricted access.
6. If debris removal from the barrier catchment area occurs during the early peregrine falcon nesting period (May and June, inclusive) and there are large boulders that must be broken into smaller fragments, use expansive grout rather than blasting.

Depending on when in on-site habitat enhancement is initiated and depending on what the treatment consists of, there could be increased forage availability on the entire 14.6 acres for the first winter of construction. Fertilizing and shrub cutting would provide an immediate response, followed by a gradual increase in habitat quality and forage availability over the following years. Treatments have been and can continue to be implemented on TOV open space and the CDOT ROW to the west of the East Vail parcel

²⁴ At a May 14, 2018 meeting with Vail Resorts.

(both of which are in need of enhancement), whose vegetative response would be available to sheep in the first winter of Construction (see Section 9.1.2, Enhancement on TOV Lands). Those treatments could total up to 20.0 acres or more.

9.2.2 Nesting Peregrine Falcons

A pair of peregrine falcons have nested on a cliff on the opposite side of I-70 from the East Vail parcel in recent years (Thompson 2018b,c). The pair is largely habituated to the chronic traffic and human activity below their cliff. Most Workforce Housing construction activity should not affect the pair because of their level of habituation, the distance of the nest cliff from the closest construction activity (0.36 mi.), and the considerable amount of noise, traffic, and recreational activity present between the parcel and the nest cliff. For the same reasons, habitation of the Workforce Housing, which will be similar to other East Vail subdivisions to the east, west, and below the cliff, should not meaningfully affect nest success. However, there is one potential component of Workforce Housing construction could adversely affect their nesting success, blasting. It is unknown if blasting will be needed, but if it is, it should be conducted outside of the March 15 to July 31 (dates inclusive) nesting period or until fledging. It is unknown if blasting could be adequately baffled to attenuate noise and shockwaves from hitting the cliff ($\geq 1,923$ feet away)²⁵ and startling the birds. Blasting during the incubation period (early to mid-May to mid-June; Cade et al. 1996, Craig and Enderson 2004) would likely produce the greatest negative effects that could jeopardize recruitment.

9.2.3 Other Construction-related Mitigation

In addition to the above sheep and falcon measures, the following would minimize, temporary, construction-related, impacts on the broader wildlife community:

1. Prohibit all construction personnel from bringing dogs on-site at any time of year.
2. Prohibit all construction personnel from feeding or baiting wildlife.
3. To minimize conflicts with black bears, all construction activity on the parcel shall have available certified bear-proof trash receptacles for the disposal of any refuse associated with food or drink. No food products or food containers should be thrown in the larger roll-off style dumpsters. Receptacles shall be adequately distributed to facilitate use and be in place before any ground disturbance occurs. All construction personnel associated with the project shall be initially briefed about the bear issue and the need to properly handle and dispose of all materials that can attract bears. At no time will any refuse, that has been associated with food or drink, be allowed to be available to any wildlife species.
4. All vehicle windows should be kept closed and doors locked on all vehicles to prevent bear entry.
5. Sediment basins and other Best Management Practices should be implemented to contain construction-related erosion and sedimentation on-site and prevent parking lot runoff from reaching Gore Creek where it could negatively affect fish and other aquatic biota.

9.3 HUMAN HABITATION-RELATED MINIMIZATION MEASURES AND MANAGEMENT PLAN

In addition to construction impacts, resident habitation of the Workforce Housing will have additional

²⁵ As measured in Google Earth.

ongoing effects to on-site and off-site wildlife communities. This section and its reference to preceding sections of the Wildlife Mitigation Plan identifies (1) tasks to be implemented by the developer and (2) Wildlife Requirements for residents of the East Vail Workforce Housing Subdivision to avoid and reduce these effects. It is anticipated that these commitments and requirements will be incorporated into the subdivision's Development Application, approvals, and any Home Owners Association (**HOA**) governing documents. The term "**Responsible Party**" shall mean any resident, owner, tenant, family guests of the resident, owner, or tenant of the East Vail Workforce Housing parcel.

9.3.1 Requirements for the Developer of the East Vail Workforce Housing Parcel

The following additional recommendations should be implemented and/or overseen by the developer and its selected apartment management company ("**Housing Management**") to further avoid and minimize wildlife-related habitation effects.

1. The planting of gardens and fruit/ nut bearing trees or bushes on the parcel will be prohibited because bears will be attracted to these plants in close proximity to residences. If flowering trees are desirable, the developer should consult with a local landscaper to select a sterile variety that produces flowers, but no fruit.
2. There shall be no roads or trails developed on the undeveloped portion of the East Vail parcel. Such roads and trails would encourage recreational access, which is expressly prohibited²⁶ outside of the development area year-round. Unauthorized hiking and biking trails developed by third parties on the East Vail parcel shall be promptly deconstructed and reclaimed as soon as possible after they are discovered. Of paramount concern on this project is prohibiting all recreational use of Town of Vail (**TOV**) open space to the west, the East Vail parcel Natural Area Preservation Parcel to the east, a National Forest Service lands to the north (i.e., the "Surrounding Wildlife Areas of Concern;" see Fig. 2-1), some of which are vital to the small bighorn sheep herd. There are currently no official recreational trails on those lands between the Pitkin Creek trail to the east and the Booth Creek trail to the west. If and when Housing Management becomes aware of any such trails on those surrounding public lands, they shall promptly notify the appropriate land owner about the trail so that it may be decommissioned.
3. There shall be no outside storage of any trash or garbage, no matter how briefly (e.g., overnight), at any residence within the development, unless it is in a fully enclosed structure or contained within commercial-size, bear-proof containers, which meet North American Bear Society, Colorado Parks and Wildlife (**CPW**), or U.S. National Park Service specifications, or are of a custom design approved by CPW. Housing Management shall provide an adequate number of trash containers, distributed around the development to encourage and facilitate their use, and arrange and maintain a trash collection schedule that is adequate to prevent trash "overflow" that could attract and lead to bear conflicts. A separate bear-proof trash container shall be provided at the BBQ shelter.
4. Because the mountain shrub community within the bighorn sheep winter range polygon (see Section 3.1.1.1) is unlikely to be naturally maintained by periodic wildfires, it will need to be periodically restored and reinvigorated via some type(s) of enhancement, such as those prescriptions recommended in Section 9.1. In the best interest of the sheep, consideration and implementation of such

²⁶ Except as may be needed for (a) access to the rockfall wall cleanout area (b) authorized wildlife assessment, (c) periodic habitat enhancement, (d) utility maintenance and repairs, and (e) emergencies.

enhancement should occur approximately every 15-20 years. The owner or HOA responsible for the NAP parcel should undertake these enhancements periodically on its property.

5. Owner of the East Vail parcel will develop and implement a weed management program on and around the development area. Such a plan would be most important in the first few years following development and habitat enhancement.
6. The developer will post signs around the property informing the Responsible Parties of the Surrounding Wildlife Areas of Concern and the prohibition of accessing these areas by their lease or HOA Documents.

9.3.2 Wildlife Requirements for Residents of the East Vail Workforce Housing Parcel

The East Vail Workforce Housing parcel is located adjacent to the most important block of bighorn sheep winter range in the valley. It also supports other important wildlife values. The development and habitation of the project is going to have negative effects on the wildlife community. However, the potential negative effects have been, and will be, avoided, minimized, and compensated with (1) the parcel's rezoning, (2) the incorporation of wildlife-oriented design criteria into the development's design, (3) with on-site habitat enhancement, and (4) with the implementation of wildlife-related construction and operational considerations. The last component required to avoid and minimize project-related impacts on the local wildlife community is for residents to recognize that they are living in a sensitive wildlife setting and that they must strictly abide by the following **Wildlife Requirements** to maintain the wildlife community. It was only with the implementation of all of these wildlife protection measures that Workforce Housing was authorized on this site.

9.3.2.1 Recreation

Inappropriate recreational use beyond the Workforce Housing development area could adversely affect continued wildlife use of surrounding lands, some of which are vital to the small bighorn sheep herd. This is the paramount wildlife concern on this project. Lands of particular concern include TOV open space to the west, National Forest Service lands to the north, and the East Vail Natural Area Preservation parcel to the east, that extend above the East Vail parcel to the highest cliff band, hereinafter the "**Surrounding Wildlife Areas of Concern**" (see Fig. 2-1). There are currently no official recreational trails on those lands between the Pitkin Creek trail to the east and the Booth Creek trail to the west. Therefore, in the best interest of the sheep, the following recreation-related measures shall be enforced to minimize negative effects and will be implemented in partnership with the Town of Vail:

1. The TOV will use its authority as a municipality and property owner to enact and enforce protective restrictions on nearby Surrounding Wildlife Areas of Concern at appropriate times during the year, including but not limited to, closing privately owned parcels to access, and assisting the property owners with policing and preventing trespassing violations.
2. Responsible Parties will be prohibited from accessing the Surrounding Wildlife Areas of Concern during the times of year that the TOV determines that the property should not have human presence, which can include complete closure of privately owned property. This particularly includes the gated Booth Creek rockfall berm road that starts immediately west of the Workforce Housing driveway entrance. This measure is focused on protecting and maximizing bighorn sheep use of the habitat. While sheep are generally present from October through July, they may be present in this area year-

round. Any human presence could reduce sheep habitat effectiveness²⁷ and have negative effects on the herd. Because of habitat deterioration, winter range losses, and other factors, no further habitat losses or reduced habitat effectiveness should occur.

3. Colorado Parks and Wildlife specifically requested the fencing that extends along the northern and eastern boundaries of the development area as a physical barrier to restrict and discourage resident use from extending into the important Surrounding Wildlife Areas of Concern. Subject to TOV approval, the developer will install fencing recommended by CPW along the north side of the rockfall berm and eastern boundaries not already protected by natural grade.
4. Responsible Parties are prohibited from flying drones on the housing parcel and on or around the Surrounding Wildlife Areas of Concern year-round.
5. Responsible Parties are encouraged to recreate along existing official trails elsewhere in the area, to understand and follow all associated trail rules, including seasonal trail closures for wildlife, and not to use or create volunteer trails.

9.3.2.2 Pet Controls

Most pets and those properly controlled do not negatively affect wildlife. Of all pets, dogs present the most conflicts. Domestic dogs are carnivores and all breeds have the potential to be predators at some level. All domestic dogs were wolves or their wild canine relatives and 7,000-15,000 years of domestication and out-breeding aggression (Kendall 2002, Savolainen et al. 2002) has not bred all predatory tendencies out of all breeds. At some level, domestic dogs still maintain instincts to hunt and/or chase prey. It is well established that domestic dogs, including a loose or temporary “stray” dog that might originate from Workforce Housing, could harass, chase, exhaust, bite, injure, severely maul, or kill wildlife, including sheep, deer, and elk. In addition, free-ranging domestic cats are the top human-caused threat to wildlife in the United States, killing an estimated 1.3 to 4 billion birds and 6.3 to 22.3 billion mammals²⁸ annually (Loss et al. 2013).

Because of the sensitivity of the Workforce Housing parcel’s location in wildlife habitat and in the winter range of a small bighorn sheep herd, where the mortality of a single individual could negatively affect herd viability, the avoidance of any conflict between pets and wildlife must be avoided. Therefore, each of the following East Vail Workforce Housing Parcel Pet Policy (aka the General Pet and Dog Policy) measures

shall be included in the development application commitments, any leases for residents, and/or HOA documents enforced to minimize negative effects to wildlife.

General Pet, Service Animals, and Emotional Support Animals Policy

As background, residents who have need of assistance from “service animals”²⁹ or “emotional support

²⁷ Habitat effectiveness may be thought of as the ability of wildlife to use the amount, quality, and distribution of available forage and cover without being impaired from that use by human activities and developments.

²⁸ Including mice, shrews, voles, squirrels and rabbits.

²⁹ **Service animals** include dogs and are individually trained to do work or perform tasks for the benefit of an individual with a disability, including a physical, sensory, psychiatric, intellectual, or other mental disability. Tasks performed can include, among other things, pulling a wheelchair, retrieving dropped items, alerting a person to a sound, reminding a person to take medication,

animals”³⁰ are protected under the Americans with Disabilities Act (**ADA**) and/or the Fair Housing Administration Act (**FHA**). Other applicable Federal, State, and/or local laws and regulations may also apply. Such animals will not be prohibited or limited from the development and instead will be required to follow the rules and regulations of the community to the extent allowed by Federal and Colorado law.

1. All dogs shall be prohibited in any rental property on the East Vail Workforce Housing Parcel at all times, except for those that have valid documentation as a service animal or emotional support animal, which shall be provided to Housing Management. This prohibition applies to all Responsible Parties renting units in community. This measure reduces potential dog issues from those associated with 73 units to 31 units, with the possible exception of service or emotional support animals.
2. Owners shall be limited to harboring no more than two dogs on the East Vail Workforce Housing Parcel at any time. No resident shall be limited to the number of service or emotional support animals.
3. Other than pets of owners, no pets of family, guests, and/or contractors of residents will be permitted on the parcel other than service animals, emotional support animals, or other animals as required by Colorado and Federal law.
4. Any animal within the parcel must be under the direct control of its owner or Responsible Party at all times.
5. Anytime an animal is outside of the residence it shall be controlled by a leash of no more than 12 feet in length, unless it is a service animal that must be unleashed to perform its services.
6. An exception to Measure 6, above, is that owners may construct an outdoor facility (i.e., a dog run or kennel) that is adequate to contain the dog(s) when outside and unattended and then only for limited periods of time, not to exceed 30 minutes, to allow the dog to “do its business,” before its return to the residence. Dogs kept in a kennel or dog run for longer than 30 minutes shall constitute a violation of these rules. Enclosed runs or kennels must: (a) be located immediately adjacent to the home, surrounding an outside door, and as best possible attached to and integrated into the design and visual appearance of the residence and (b) not exceed 500 square feet. Dog run or kennel height shall be adequate to contain the breed of dog(s). Eight-foot fence heights are generally adequate to contain the most athletic of dogs, particularly if there is no opportunity to climb. Owners need not completely enclose the tops of kennels or runs to protect dogs from possible mountain lion predation because of the short duration that dogs will be present in the confinement area. The design, characteristics, and location of the kennel or dog run must be reviewed and approved by the HOA. If facilities are inadequate to contain the resident's dog(s) when outside and unattended, the animals will be immediately removed from the property until adequate structures can be built.
7. The walking of animals within the property shall be confined to the developed areas (parking lots and around buildings) within the Workforce Housing project area. Small parks and open space were intentionally excluded from the development to minimize the footprint of the development area and native habitat loss. Walking dogs along the Frontage Road would reduce wildlife use of adjacent habitat (e.g., Lenth et al. 2008, Ellenberger and Byrne 2009, Miller et al. 2011), a negative effect that must be avoided, particularly in winter (approx. Nov. 15 - Apr. 15).

or pressing an elevator button.

³⁰ **Emotional support animals** (ESA) do not need any specialized training and are there to purely give comfort and love. Emotional support animals can be dogs, cats, birds, rabbits, lizards, etc. People may use all sorts of animals to give them the emotional support they need to live a fulfilling life.

8. Residents shall pick up after their animal and put any waste materials in proper trash containers.
9. Pets shall not be fed outside.
10. No animals shall be permitted to chase any wildlife (including, but not limited to, sheep, deer, elk, marmots, rabbits, coyotes, foxes, porcupines, and chipmunks) anywhere within or beyond the parcel, and each resident shall take all steps reasonably necessary to prevent its animal from chasing wildlife anywhere within or beyond the parcel (including off-site public trails).
11. No Responsible Party shall permit any animal to be a public nuisance. Examples of nuisance behavior include, but are not limited to, barking, whining, or howling in an excessive, continuous, or untimely fashion, as determined by Housing Management and/or the HOA, in their sole and absolute determination, which also reserve the right to define public nuisance in additional ways.
12. Housing Management, at their sole discretion, may ask a Responsible Party to remove their animal from the premises if it is not under control, if the handler fails to act to gain control, if the animal is behaving aggressively, or if the animal is posing a threat to human health and safety. If a service animal or emotional support animal must be removed for a legitimate reason, Housing Management and/or the HOA must permit the handler to obtain the services or goods they need without the animal's presence, including a new service animal or emotional support animal.
13. All rules and regulations required of residents will be required of the family, guests, and contractors of the residents. Remedies for infractions by the resident's family, guests, and contractors will be enforced upon the residents as if the animals were owned by the residents.
14. Each resident or homeowner in the East Vail Workforce Housing Subdivision shall sign a separate copy of the General Pet and Dog Policy indicating that the he/she understands and agrees to abide by the General Pet and Dog Policy as a part of its lease or in conjunction with the purchase of their unit in the HOA.
15. Responsible Parties requesting to have a service animal or emotional support animal that is a dog shall provide documentation to Housing Management, the HOA, and/or the employer, as applicable, who is/are responsible for the home or unit used by the Responsible Party demonstrating that: (a) the Responsible Party has a disability (i.e. a physical or mental impairment that substantially limits one or more major life activities) and (b) the Responsible Party has a disability-related need for the service or emotional support animal as allowed under the ADA and/or FHA.
16. The application for a service or support animal will be reviewed by Housing Management, the HOA responsible for the unit, or the employer. Approval will not be unreasonably withheld and will follow all state and federal laws.

9.3.2.3 Resident Education Regarding Black Bears/ Trash Removal/ Nuisance Wildlife

The Workforce Housing project is located in high quality black bear habitat. Most bears do not cause damage where residential and other developments have encroached into bear habitat. The key is that if a bear doesn't find food it will move on. Black bears are omnivorous and while they mostly eat vegetation, they will eat almost anything. Bears will eat human food, garbage, hummingbird nectar, bird seed, pet food, grease off grills, suntan lotion, etc. Garbage generally provides the greatest attraction for bears to residential developments. Once a bear has found an easily accessible, consistent food source, it will often overcome its wariness of people and visit the site regularly. This increases the chance of a bear-human encounter. After repeated use of the food source, the bear may even act aggressively toward residents or their unsuspecting neighbors. When this happens and wildlife authorities are notified, the bear is usually killed to protect human

safety.

The following education measures will be required to reduce potential bear problems:

1. Residents will be provided and are encouraged to review the bear section in this Plan (Section 3.1.4) describing the project's setting in bear habitat. Residents will be provided with information to educate themselves about most bear issues they might encounter by being provided the following link on CPW's website, or similar information:

<https://cpw.state.co.us/Documents/Education/LivingWithWildlife/LivingWithBears.pdf>

2. Residents are also encouraged to access and view a wide variety of pamphlets, brochures, reports, and videos of other bear-related topics such as CPW's Bear webpage:

<https://cpw.state.co.us/learn/Pages/LivingwithWildlifeWildBears.aspx>

3. Bird feeders attract bears. For this reason, residents are discouraged from using bird feeders of any design (e.g., mixed seed, sunflower, thistle [niger], suet, fruit, mealworms, nectar [hummingbird], etc.) from April 1 to November 15, dates inclusive, the period of the year when bears are actively seeking food, unless the feeders and seed spillage from them are clearly inaccessible to bears.

9.3.2.4 Resident Education on Mountain Lions

Mountain lions are occasionally present year-round in the vicinity of the East Vail parcel, but may be more common in the area from fall through spring when bighorn sheep and elk (prey species) are wintering and at lower elevations. In other areas of Colorado, where subdivisions have encroached upon mountain lion habitat containing high concentrations of prey species, encounters between lions, humans, and their pets and livestock have increased. The following measures will be implemented to minimize lion-human conflicts:

- 1 Residents are encouraged to review the mountain lion section of this Plan (Section 3.2.4.4) describing the project's setting in lion habitat and the recent increase involving the public encountering lions while hiking. Residents can further educate themselves about most lion issues they might encounter by via the link on CPW's website or similar information:

<https://cpw.state.co.us/Documents/Education/LivingWithWildlife/LivingWithLions.pdf>

Residents are also encouraged to access and view a wide variety of other lion-related topics on CPW's Lion webpage or similar information:

<https://cpw.state.co.us/learn/Pages/LivingwithWildlife Lion1.aspx>

9.3.2.5 Education on Wildlife Mortality on Local Roads

The following information will be provided to residents of the Workforce Housing parcel to minimize conflicts and wildlife mortality on local roads:

The Workforce Housing parcel is accessed by the I-70 Frontage Road where the posted speed limit is generally slow enough to avoid most wildlife mortality. Obeying posted speed limits would not only reduce wildlife mortality, but would also reduce the risks of collision, damage to personal property, and injury to motorists. Residents and their contractors, employees, and guests should obey posted speed limits to avoid wildlife mortality on roads.

During winter, bighorn sheep occasionally come down and graze along the cut slope above the Frontage Road, in the vicinity of the housing. Under certain conditions, they will lick salt off the road. To discourage this behavior, the TOV changed from using a salt product to cinders for treating slick road conditions in this area. However, the cinders still contain approximately 5% salt to keep the cinders from clumping, so the sheep continue to lick the road. Sheep on or adjacent to the road cause traffic jams. Traffic backs up as drivers stop to view the sheep. Drivers of some vehicles try to go around stopped traffic and end up closely approaching the sheep. The sheep often seem oblivious to the traffic. Law enforcement eventually shows up with the goal of restoring traffic flow. The sheep are chased off the road and traffic is encouraged to resume. If you encounter sheep grazing near or along the road, residents may slow down, but should not stop. It is stressful to the sheep to be foraging in such close proximity to humans and their vehicles and they only do it because they are starving and need the forage. If residents are caught in a sheep jam, they should not try to go around stopped vehicles or park and get out of their vehicle to get a better view the sheep.

9.3.2.6 Adjacent National Forest Lands

Undeveloped habitat north (uphill) of the Workforce Housing is National Forest Land managed by the U.S. Forest Service. While all Workforce Housing residents and guests are prohibited from those lands to protect their wildlife values (see Section 9.3.2.1), it is possible that residents may see hunters wearing fluorescent orange or pink clothing carrying weapons in that area during the fall hunting seasons. That activity is legal and residents need not report it by calling 911, CPW, or Housing Management.

9.3.2.7 Resident Education on Other Wildlife Concerns

With the exception of bird feeders, as described in Section 9.3.2.3, the feeding, baiting, salting, or other means of attracting wildlife is prohibited. It is illegal in Colorado to intentionally place or distribute feed, salt blocks, or other attractants for big-game animals and such actions are subject to fines for violations. The well-meaning sheep enthusiasts who illegally placed salt and mineral blocks on TOV open space are apparently unaware that their actions are deleterious to the herd. The sheep's attraction to salt blocks prolongs their use of winter range well into spring and even summer, putting additional pressure on the vigor and quantity of forage that should be reserved for winter, in a landscape that has deteriorated as a result of wildfire suppression. Salt blocks can spread disease. Concentrated, prolonged, and predictable sheep use of salt blocks may also attract mountain lions that prey on sheep. Not only might the use of salt blocks result in greater sheep predation, but it might also become necessary to kill the lions for public safety.

9.3.3 Enforcement

The East Vail Workforce Housing Subdivision is located within the TOV's jurisdiction and is subject to its laws. The Developer, Housing Management, and the HOA, if applicable, together with the TOV, will maximize the impact of enforcing the above Wildlife Requirements for the Developer and Residents of the East Vail Workforce Housing Parcel through the following measures.

1. The TOV will use its authority as a municipality and property owner to enact and enforce protective restrictions on TOV and private property that is important wildlife habitat at appropriate times during the year, including but not limited to, closing all or portions of parcels to access by the public, including residents of the East Vail Workforce Housing Subdivision, and policing and preventing trespassing violations.
2. Housing Management staff will enact and enforce the above restrictions regarding pet ownership as allowed by Federal and Colorado law. These items will be included in the community's rules and regulations and HOA documents, as applicable.
3. Residents of the Workforce Housing parcel will ultimately be responsible for costs related to any damage done by pets or service and emotional support animals.
4. Housing Management and HOA management will provide assistance to the TOV in enforcing violations of restrictions to TOV property by the timely reporting of observed violations of those restrictions, including providing evidence of the violation(s) to TOV authorities, who can take appropriate action.
5. Upon the occurrence of a violation of these policies by a Responsible Party, Housing Management or the HOA Manager, as applicable, shall give written notice ("**Notice of Violation**") to the Responsible Party (and a copy to the owner and Master Lessee of the unit, if the owner or Master Lessee is not the Responsible Party) regarding the occurrence of the violation, stating with reasonably detailed information concerning the violation, noting, among other things, the facts and circumstances surrounding the violation as well as the day, approximate time, and approximate location of the violation.
6. Housing Management should maintain a file of Wildlife Requirement violations by Responsible Parties. The TOV and CPW may periodically request summarized wildlife-related violation records to evaluate compliance with the Wildlife Requirements and determine if any adaptive management is needed to increase compliance.
7. East Vail Workforce Housing Subdivision residents and tenants are encouraged to report Wildlife Requirement violations associated with recreation and pet controls to Housing Management or the HOA, as appropriate, along with documentation (e.g., photos or video) of the violation, if possible. It is in the best interest of residents, owners, and tenants of the project, and the larger East Vail community to report violations to minimize impacts to wildlife so residents can continue appreciating the wildlife in this special setting and so more stringent requirements are not developed and implemented.
8. The Housing Manager is authorized, empowered, and obligated to impose the following fines and enforcement measures for violations of these Wildlife Requirements.
 - a. Upon the occurrence of the first violation, a fine in the amount of \$250.00 will be assessed to the owner or Master Lessee of the unit.
 - b. Upon the occurrence of the second violation, a fine in the amount of \$500.00 will assessed will be assessed to the owner or Master Lessee of the unit.
 - c. Upon the occurrence of a third and all subsequent violations, a penalty will be assessed according to ownership status of the Responsible Party as follows:
 - i. A Responsible Party who is a tenant in the Workforce Housing Parcel will be given a one-month notice in writing to vacate their premises, regardless of hardship.

- ii. A Responsible Party who owns a home in the Workforce Housing Parcel will assessed a fine of \$750.00.
 - d. Notwithstanding the above, for violations by residents whose occupancy at the East Vail Workforce parcel is a component of their employment, and subject to federal and state labor laws, fines and enforcement actions will be determined by and imposed solely through their employer, and include fines and enforcement measures up to and including the loss of housing at the East Vail Workforce Housing Subdivision.
9. The Owner or HOA of the East Vail parcel will retain any fines collected by the Housing Manager or HOA and use these funds for future wildlife-related enhancement on the parcel or otherwise valid enhancement that would benefit the local sheep herd. All fine assessments shall be due and payable to Housing Management within 30 days of written notice of such fine or assessment, as described below. All unpaid fines are subject to the imposition of liens on the unit as may be provided by the community's governing documents. If any fine assessment is not paid within ten days after the due date, a late charge in the amount of \$100 shall be assessed to compensate Housing Management for the expenses, costs, and fees, including attorney fees, involved in handling such delinquency. Responsible Parties shall be personally, jointly, and severally liable for all fines/penalty assessments.

9.3.4 Miscellaneous

1. In the event of a specific conflict between any non-wildlife related Workforce Housing Policies and these Wildlife Requirements, the Wildlife Requirements shall prevail.
2. Notwithstanding anything to the contrary contained in these Wildlife Requirements, Housing Management hereby reserves the right, at any time and from time to time hereafter, to modify, amend, repeal, and/or re-enact these Wildlife Requirements to better protect the wildlife community on and surrounding the Workforce Housing parcel, in accordance with non-wildlife related Workforce Housing Policies, Declarations, Bylaws, Town of Vail procedures, and applicable law.
3. For modifications or amendments to the Wildlife Policies that impact residents whose occupancy at the East Vail Workforce parcel is a component of their employment and subject to federal and state labor laws, such modifications and amendments will be subject to the review and approval of the employer.
4. Failure by Housing Management or any person to enforce any provision of these Wildlife Policies shall in no event be deemed to be a waiver of the right to do so thereafter.
5. Adaptive management will be used to resolve unanticipated wildlife issues. The TOV and CPW are two resources that may be consulted to assist.
6. The provisions of these Policies shall be deemed to be independent and several, and the invalidity of any one or more of the provisions hereof, or any portion thereof, by judgment or decree of any court of competent jurisdiction, shall in no way affect the validity or enforceability of the remaining provisions, which provisions shall remain in full force and effect.

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11.0 APPENDICES

A. APPENDIX A. WILDLIFE MONITORING REPORT FOR THE EAST VAIL Workforce Housing parcel, TOWN OF VAIL, COLORADO.

To be inserted in the Wildlife Mitigation Plan provided to Workforce Housing residents.

B. APPENDIX B. EAST VAIL PEREGRINES – 2018 NESTING ATTEMPT.

To be inserted in the Wildlife Mitigation Plan provided to Workforce Housing residents.