



Lakamp, Donna <donna\_lakamp@fws.gov>

### Fwd: Terrain - PMJM Determination

1 message

Linner, Susan <susan\_linner@fws.gov>  
To: Donna Lakamp <donna\_lakamp@fws.gov>

Thu, May 22, 2014 at 8:01 AM

Log as a TA.

----- Forwarded message -----

From: **Phil Dalrymple** <pdalrymple@coreconsultantsco.com>  
Date: Thu, May 22, 2014 at 6:31 AM  
Subject: Terrain - PMJM Determination  
To: "susan\_linner@fws.gov" <susan\_linner@fws.gov>

*2014TAD651 EM-P. Dalrymple*

U.S. FISH AND WILDLIFE SERVICE	
<input type="checkbox"/> NO CONCERNS	
<input checked="" type="checkbox"/> CONCUR NOT LIKELY TO ADVERSELY AFFECT	
<input type="checkbox"/> NO COMMENT	
<i>Susan C. Linner</i>	MAY 29 2014
SUSAN C. LINNER	DATE
COLORADO FIELD SUPERVISOR	

Susan,

Attached is a site layout of the property from our phone conversation on Tuesday. The site is generally located at the northeast corner of State Highway 86 and Founders Parkway in the Town of Castle Rock Colorado. The name of the drainageway within the site is McMurdo Gulch. I received some information from our environmental consultant, and it appears that a Prebles Mouse study was done back in 2000 for this area, but it did not extend far enough south. I have attached that map as well. Please take a look and let me know if you have any questions. Thanks for your help!

Phil Dalrymple, PE



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# **BURROWING OWL SURVEY REPORT**

**FOR  
TERRAIN RESIDENTIAL DEVELOPMENT PROJECT**

**TOWN OF CASTLE ROCK  
DOUGLAS COUNTY, CO  
PROJECT NO. 14-001-036**

**PREPARED FOR:**

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CORE PROJECT NUMBER: 14-001-036

JUNE 9, 2015



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**APPENDIX I**

- SITE LOCATION MAP
- BURROWING OWL STUDY AREA MAP



## EXECUTIVE SUMMARY

Core Consultants, Inc. (Core) was retained by Starwood Land Ventures (Starwood) to provide ecological management services, surveys, and support for the Terrain residential development project (Project) in Castle Rock, Douglas County, Colorado. The following report describes the monitoring of ecological resources on the Project associated with numerous black-tailed prairie dog (*Cynomys ludovicianus*) colonies, including delineation of all colonies at the site, and Burrowing Owl (*Athene cunicularia*) surveys and monitoring. Core surveyed all planning areas comprising the first phases of the Terrain development as identified by Starwood for active and historical prairie dog colonies, after which all colonies were surveyed for Burrowing Owls. Three surveys each separated by one week were conducted following the survey protocols outlined by Colorado Parks and Wildlife (CPW). This technical report will serve as documentation of the actions taken to protect the state-threatened Burrowing Owl during prairie dog control prior to development of the site.

This Executive Summary is intended to be taken in context with the following report and is not designed to be used as a separate document. This document does not entail a habitat assessment of the entire Project Area, but rather is concerned solely with the ecological resources associated with historic or currently-active prairie dog colonies.

Core surveyed the site on foot on 7 May, 2015 and delineated all active and historic prairie dog colonies using a handheld Garmin GPS mapping unit. Core established ten (10) observation points throughout the project that provided good vantage points to observe all delineated prairie dog colonies. Burrowing Owl surveys were then conducted at each point over a three-week period (May 8, 15, and 22), to allow one week in between each survey. Ten-minute observation periods were used, and in addition to visually scanning prairie dog colonies for owls, the species' calls were broadcast over a small speaker to increase the likelihood of their detection. No Burrowing Owls were observed during this study, and are presumed not to be present on the Project. It is Core's professional opinion that any prairie dog management/control measures utilized at this time would have no impacts to the Burrowing Owl, a state threatened species. Prairie dog management may be accomplished by several means, including translocation to other sites; however, at present there are no available sites for translocation within the County. Core does not herein recommend a preferred method for prairie dog management.



## 1.0 INTRODUCTION

Core Consultants, Inc. (Core) was retained by Starwood Land Ventures (Starwood) to provide ecological management services, surveys, and support for the Terrain residential development project (Project) in Castle Rock, Douglas County, Colorado. The following report describes the monitoring of ecological resources on the Project associated with numerous black-tailed prairie dog (*Cynomys ludovicianus*) colonies, including delineation of all colonies at the site, and Burrowing Owl (*Athene cunicularia*) surveys and monitoring. Core surveyed all planning areas comprising the first phases of the Terrain development as identified by Starwood for active and historical prairie dog colonies, after which all colonies were surveyed for Burrowing Owls. Three surveys each separated by one week were conducted following the survey protocols outlined by Colorado Parks and Wildlife (CPW). This technical report will serve as documentation of the actions taken to protect the state-threatened Burrowing Owl during prairie dog control prior to development of the site.

The project area is located east of Castle Rock near the intersection of State Highway 86 and Founders Parkway in portions of sections 5 and 6, Township 8 South, Range 66 West (see **Appendix I – Site Location Map**). The Project Area is located in central Colorado along the foothills of the Rocky Mountains within the mixed-grass prairies of the Southwestern Tablelands in the Pine Oak Woodlands level IV Ecoregion (Western Ecological Division - US EPA, 2006). Topography of the Project Area consists of rolling hills to occasionally steep uplands. One primary drainage flows across the Project Area from south to north, namely McMurdo Gulch, as well as associated tributaries.

The scope of this report is to provide documentation of the surveys that were performed on the Project in May, 2015 for Black-tailed Prairie Dogs and Burrowing Owls. The area is slated for grading and construction as a residential development beginning in 2015. In order to avoid harming Burrowing Owls during the implementation of prairie dog control measures and grading of planning areas, clearance surveys were performed following the protocols recommended by Colorado Parks and Wildlife (CPW). The results of the survey efforts are presented herein.

## 2.0 BACKGROUND AND METHODS

The Burrowing Owl is a diminutive ground-dwelling owl found in North America across much of the Western U.S., Mexico, Florida, the Caribbean, and parts of Canada. In Colorado, the Burrowing Owl is an icon of the eastern plains and

foothills, where it occupies abandoned burrows in prairie dog colonies. The 'Western' subspecies (*A. c. hypugaea*) which is found in Colorado is migratory, spending the breeding season in Colorado and winters in Central America. The breeding season in Colorado is between late March and early August, and owls are generally not present in the state between November 1<sup>st</sup> and March 14<sup>th</sup>. Although the subspecies *A. c. floridana* is capable of excavating its own nest burrows, the Western Burrowing Owl is unable to dig, and thus depends on the presence of potential nest burrows for breeding (Haug et al. 1993). In Colorado, the species is almost exclusively found occupying unused burrows in Black-tailed Prairie Dog colonies.

CPW recommends specific protocols when performing presence/absence detection surveys for Burrowing Owls. Surveys should be conducted between March 15<sup>th</sup> and October 31<sup>st</sup> when owls may be present in the state. Because owls may occupy the same habitats during migration as when they are actively breeding, multiple surveys are recommended, and the minimum required is three. Surveys should be separated by at least one week. Burrowing Owls are diurnal, meaning that they may be active during the day or at night, but are most active around dawn and dusk. Because of this, surveys must be conducted in the early morning (1/2 hour before sunrise until 2 hours after sunrise) or the early evening (2 hours before sunset until 1/2 hour after sunset)(CPW 2008).

Methodology for surveying for Burrowing Owls involves selecting survey locations from which to scan an area (typically a prairie dog colony) visually with the naked eye or with binoculars. Multiple points may be utilized in order to provide adequate visual coverage of the entire site. Burrowing Owls are typically located visually, but may also be detected audibly. To increase the likelihood of detection, broadcast surveys can be used to play the calls of the owls, often causing them to emerge from burrows to investigate. The 10-minute timeline for each observation point suggested by CPW for broadcast surveys is outlined below:

- 3 minutes of silent observation
- 30 seconds of call-broadcast of primary call
- 30 seconds of silent observation
- 30 seconds of call-broadcast of primary call
- 30 seconds of silent observation
- 30 seconds of call-broadcast of alarm call
- 4 minutes, 30 seconds of silent observation

Weather conditions for conducting surveys should be without precipitation, and with wind speeds no greater than a 3 on the Beaufort scale (approximately 8-12 mph).

### **3.0 RESULTS**

Core initially surveyed the Project Area on May 7, 2015 and delineated all Black-tailed Prairie dog colonies at the site. Ten (10) discreet colonies were located and their boundaries mapped with a Garmin GPSMap 64 handheld GPS unit (see **Appendix I – Burrowing Owl Study Area Map**). All prairie dog colonies, whether currently active or historical, were delineated to the furthest extents. Observation points were selected that provided unobstructed views of all limits of the colonies. Ten (10) total points were employed, providing views of partial colonies, entire single colonies, or multiple colonies at a time. Point locations were typically selected at the edge of a colony or colonies so as to disturb prairie dogs and owls as little as possible prior to commencement of the survey. Refer to the *Burrowing Owl Study Area Map* in **Appendix I**.

Burrowing Owl surveys were conducted in the early mornings on May 8, 15, and 22, 2015, between the hours of 0535 and 0815 as dictated by local sunrise times. The call-broadcast survey protocol detailed above was followed, and observation was aided by the use of high quality 10x42-power Zeiss binoculars. No Burrowing Owls were observed during any of the surveys. Following the completion of a survey, it was often necessary to walk through the prairie dog colony to access the following observation point. No Burrowing Owls flushed from colonies during passage through them.

### **4.0 CONCLUSIONS AND RECOMMENDATIONS**

After three (3) call-broadcast surveys at ten (10) survey locations, Burrowing Owls have not been observed at the Terrain Project Area. Ten (10) Black-tailed Prairie Dogs colonies were located throughout the site and delineated, and these colonies were observed in their entirety during surveys. Surveys were spaced one week apart each over the 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> Fridays in May, 2015. Call-broadcast survey technique was employed for each survey, and colonies were scanned with high-quality optics for owls.

Based on the survey results, it is Core’s professional opinion that Burrowing Owls are not present at the site. Furthermore, it is our opinion that any methods of prairie dog management can proceed on the site without risk of harming Burrowing Owls. Typically, techniques for humane removal of prairie dogs involve translocation or euthanasia. At present, there are no sites available for

translocation in Douglas County (Douglas County pers. comment); translocation out of county requires the assent of the receiving county and a permit from CPW approving the transfer. Methods for prairie dog removal at the Project prior to ground disturbance are being reviewed by Starwood at this time.

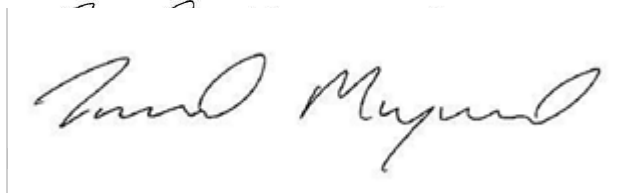
### 5.0 GENERAL COMMENTS

This report was performed in accordance with generally accepted practices of this profession undertaken in similar studies at the same time and in the same geographical area. This report has been prepared for the exclusive use and reliance of our Client for the specific application as discussed, and represents our service to you as of the report date and constitutes our final document; its text may not be altered after final issuance. Findings in this report are based upon the site's current utilization and from other activities described herein; such information is subject to change.

Should you have any questions regarding this or any other matter, please feel free to contact our office at (303) 703-4444.

Sincerely,

**CORE Consultants**



Chris Haas,  
Project Manager



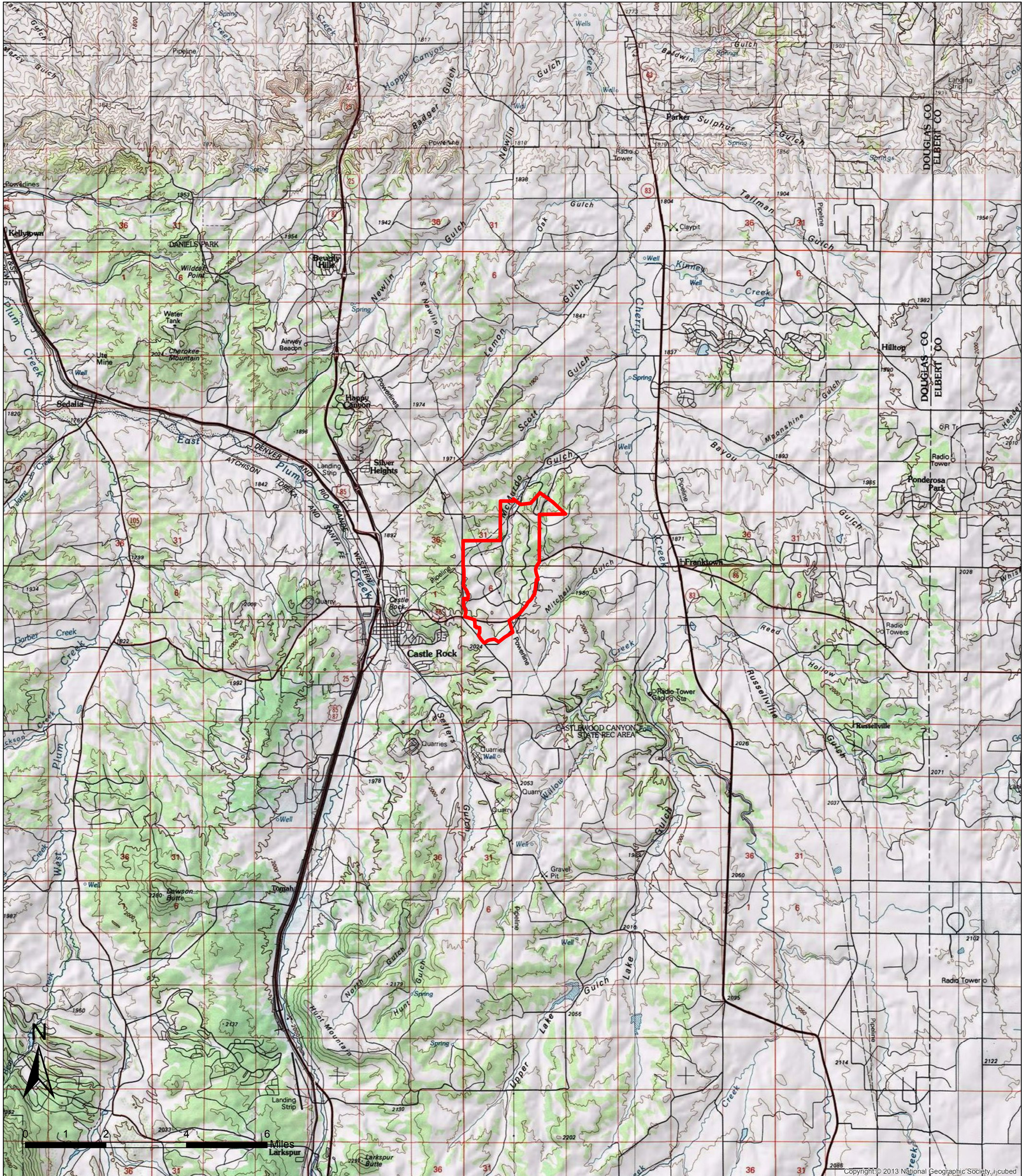
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- Haug, E. A., B. A. Millsap, and M. S. Martell. 1993. Burrowing Owl (*Athene cunicularia*). The Birds of North America Online.



**APPENDIX I**  
*SITE LOCATION MAP*  
*BURROWING OWL STUDY AREA MAP*

# Terrain Site Location Map



CIVIL ENGINEERING  
DEVELOPMENT CONSULTING  
LAND SURVEYING





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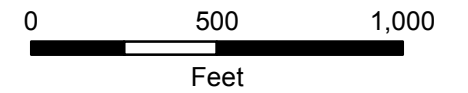
— Project Boundary

# Terrain Burrowing Owl Study Area Map

Douglas County, Colorado

## Legend

-  Project Boundary
-  Burrowing Owl Observation Point
-  NHD Watercourse
-  100-year Floodplain
-  NWI Wetland
-  Prairie Dog Colony



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