

Site Habitat Assessments
for
Preble's Meadow Jumping Mouse

US 36 Corridor Environmental Impact Statement

Prepared by

URS

URS Corporation
8181 East Tufts Avenue
Denver, Colorado 80237

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US 36 CORRIDOR
Environmental Impact Statement

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US 36 CORRIDOR
Environmental Impact Statement

1.0 INTRODUCTION

Colorado Department of Transportation (CDOT) and Regional Transportation District (RTD) are proposing transit improvements from Denver to Boulder, Colorado. The US 36 Environmental Impact Statement (EIS) analyzes the impacts to threatened and endangered species from project implementation. This report summarizes habitat assessments completed for all riparian crossings along the US 36 and the Burlington Northern and Sante Fe (BNSF) railroad corridors to determine potential suitable habitat for Preble's meadow jumping mouse (*Zapus hudsonius preblei*) within the project area. *Z. h. preblei* is a federally threatened species listed by the U.S. Fish and Wildlife Service in May 1998. Portions of the project area are within the Preble's Block Clearance Zone. Rock Creek and Coal Creek on the south side of US 36 as well as all of the crossings to the east of Rock Creek (including S. Platte River, Fisher Ditch, Clear Creek, Little Dry Creek, Big Dry Creek, Walnut Creek, and Community Ditch at US 36) are within the Denver Metropolitan Block Clearance zone and are therefore not assessed in this report.

Preble's meadow jumping mouse (Preble's) inhabits diverse riparian habitats and adjacent upland grassland habitats along the Front Range of Colorado from Colorado Springs north to the foothills of southeastern Wyoming. The species is typically found in habitats characterized by a permanent water source, and a dense, well-developed vegetative cover of forbs, grasses, and shrubs. While Preble's do not regularly occupy uplands adjacent to riparian zones, individuals hibernate and forage up to 330 feet from the 100-year flood plain (USFWS 2004a). Preble's mice hibernate from approximately September to May (USFWS 2004a).

URS assessed 10 riparian crossings along US 36 and 21 crossings along the BNSF corridor for suitability to support Preble's. Based on field observations of habitat, previous trapping records, and discussions with USFWS and CDOT threatened and endangered species personnel, only one site along the BNSF corridor is recommended for trapping to determine presence/absence of Preble's prior to construction.

2.0 DESCRIPTION OF PROPOSED PROJECT

Four packages (alternatives) described in the US 36 EIS propose improvements and additions to the existing US Highway 36 from Denver to Boulder. Package 2 includes express toll lanes (Bus Rapid Transit vehicles given priority), with no additional general-purpose lanes or commuter rail. The basic configuration consists of two new express toll lanes in each direction, primarily within the median of the US 36 ROW in a barrier-separated configuration, with in-line Bus Rapid Transit stations in the median connected to adjacent park-n-Rides. Six Bus Rapid Transit stations would be located along US 36 at major intersections throughout the project area. Package 3 is similar to Package 2 except that Package 3 would include Bus Rapid Transit-only exclusive guideways combined with additional general-purpose lane capacity for single-occupant vehicles.

Under Packages No. 4 and 5, a commuter rail would be built that extends from Union Station in downtown Denver to the end of line in north Boulder. The commuter rail would parallel the existing BNSF railroad tracks and the new tracks would be built within the existing BNSF right-of-

way. This would include approximately nine new rail station constructed along the BNSF corridor. Package 4 proposes buffer-separated Bus Rapid Transit/HOV lanes with median stations. Package 5 includes additional general-purpose lanes and emphasizes buffer-separated HOV lanes throughout the US 36 corridor but with passenger loading at slip ramps rather than median stations. The rail system is proposed to operate with 15-minute headways during peak periods, and 30-minute headways during off-peak periods.

Implementation of any of the action packages would require lengthening or replacement of existing culverts and bridges along US 36 and the BNSF corridor.

3.0 METHODS

URS biologists evaluated all of the riparian crossings in the project area several site visits conducted between May 12 and June 28, 2004. These assessments included observations of vegetation, site condition, suitability for Preble's, and photographs of each crossing. Representatives from CDOT, RTD, and URS discussed areas of impact in the project area on June 18, 2004. On June 28, Kim Sandoval, Alison Deans Michael (USFWS), and Jeff Peterson (CDOT) visited several sites to determine if the areas may constitute suitable Preble's habitat. These sites included Coal Creek, Rock Creek, the Unnamed ditch on Davidson Mesa, and Cottonwood No. 2 and Dry Creek Davidson Ditch.

Habitat assessments were completed using Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*) Survey Guidelines, revised April 2004, obtained from the USFWS (USFWS 2004a). These survey guidelines include forms to record all relevant information for a site. URS used these forms for each evaluation; these completed forms are included in Appendices D and E of this report. In addition, USFWS provided a GIS shapefile and associated data (USFWS 2004b) of all previous trapping and habitat assessment locations within the project area. This data was used to determine areas where Preble's presence or absence is known.

4.0 SITE DESCRIPTIONS, RECOMMENDATIONS, AND RESULTS

URS assessed each riparian stream or ditch crossing outside of the Preble's Block Clearance Zone. Each site is shown in figures included in Appendix A.

4.1 US 36 Corridor

Rock Creek (Map #1)

Rock Creek crosses US 36 just west of the Interlocken Loop exit. The portion of Rock Creek on the south side of US 36 is within the Denver Metropolitan Preble's Block Clearance Zone and is therefore not given consideration in this habitat assessment. Vegetation along Rock Creek on the north side of US 36 is mainly riparian woodland with cottonwoods (*Populus deltoides*), peachleaf willow (*Salix amygaloides*), sandbar willow (*Salix exigua*), leadplant (*Amorpha canescens*), skunkbush

sumac (*Rhus trilobata*), western wheatgrass (*Agropyron smithii*), Kentucky bluegrass (*Poa pratensis*), smooth brome (*Bromus inermis*), Canada thistle (*Cirsium arvense*), curly dock (*Rumex crispus*), field bindweed (*Convolvulus arvensis*), wild licorice (*Glycyrrhiza lepidota*), and common teasel (*Dipsacus fullonum*).

The crossing under US 36 is a two-span concrete box culvert, approximately 8 feet high by 20 feet wide by 360 feet long. This culvert would be extended to approximately 400 feet to 630 feet in length. The west side of the culvert carried flowing water and the east culvert was muddy at the time of site visit. Trapping is not recommended north of the US 36 crossing at Rock Creek due to heavy disturbance in the area in recent years as well as previous negative trapping surveys (USFWS 2004b).

Coal Creek (Map #2)

The immediate banks of Coal Creek are protected, though the areas surrounding Coal Creek are developed. On the north side of US 36, Coal Creek is bounded on the west by buildings and a golf course, and on the east side by a residential development. The existing bridge would be replaced with a three span bridge 260 feet long by 175 feet to 225 feet wide. The dense riparian woodland on the north side of US 36 at Coal Creek consists of crack willow (*Salix fragilis*), plains cottonwood, Russian olive (*Elaeagnus angustifolia*), green ash (*Fraxinus pennsylvanica*), Siberian elm (*Ulmus pumila*), American elm (*Ulmus americana*), hawthorn (*Crataegus* sp.), American plum (*Prunus americana*), chokecherry (*Prunus virginiana*). Understory vegetation includes sandbar willow, snowberry (*Symphoricarpus occidentalis*), bluestem willow (*Salix irrorata*), leadplant, wild grape (*Vitis* sp.), western virgin's bower (*Clematis occidentalis*), meadow fescue (*Festuca pratensis*), horsetail (*Equisetum* sp.), Canada thistle, bulrush (*Scirpus* sp.), teasel, orchardgrass (*Dactylis glomerata*), creeping spikerush (*Eleocharis palustris*), false tarragon (*Artemisia dracunculus*), and goldenrod (*Solidago* sp.).

The portion of Coal Creek on the south side of US 36 is within the Denver Metropolitan Preble's Block Clearance Zone. Areas of Coal Creek upstream and downstream of US 36 have been previously trapped (USFWS 2004b) and the site is disturbed and developed in areas adjacent to the creek. Based on this, Coal Creek at US 36 is not recommended for trapping or further evaluation.

Unnamed Ditch on Davidson Mesa (Map #2)

This ditch crossing consists of a 2-foot wide concrete box culvert with no flowing water. The vegetation along the ditch is plains cottonwood, peachleaf willow, sandbar willow, and leadplant with an understory of smooth brome and cheatgrass (*Bromus tectorum*). The riparian woodland does not continue far from the road crossing. The site is surrounded by vacant land with some rural residences on the south side of US 36. Due to the lack of permanent water as well as a well-developed understory, this site is not considered suitable habitat for Preble's.

Davidson Ditch (Map #3)

Davidson ditch is located within Boulder County Open Space and Mountain Parks (OSMP) land. The existing culvert would be lengthened approximately 67 to 96 feet. Vegetation at this ditch crossing includes riparian shrub (*J. exigua*) with scattered plains cottonwood, green ash, and Siberian elm on the south side of US 36. On the north side of the ditch is heavily browsed sandbar willow.

Understory species include smooth brome, cheatgrass (*Agropyron cristatum*), and Canada thistle. The vegetation was heavily grazed on the south side of US 36 where the ditch crosses under the highway. Recent trapping conducted by Anne Ruggles confirmed presence of Preble's at this ditch crossing (USFWS 2004c), therefore no further trapping is recommended at this location.

Goodhue Ditch (Map #3)

This ditch is located on Boulder County OSMP land. The current structure is a 12 feet wide box culvert; no change in structure width or length is proposed. Riparian shrub consists mostly of sandbar willow and leadplant, with some crack willow, box elder, American plum, Russian olive, and plains cottonwood. Additionally, wild rose (*Rosa* sp.) grows in the adjacent grasslands north of US 36. Water does not flow continuously in this ditch and stagnant water was observed during one site visit. However, recent trapping conducted by Anne Ruggles confirmed presence of Preble's at this ditch crossing (USFWS 2004c), therefore no further trapping is required at this time.

Marshallville Ditch (Map #3)

Marshallville Ditch is also located on OSMP land and crosses under US 36 via an 8' wide box culvert; no change in the width or length of the structure is proposed. The vegetation along the ditch on the north side of US 36 is composed of riparian shrub/woodland with cattails (*Typha* sp.) in the ditch. Understory vegetation includes wild rose, showy milkweed, Baltic rush (*Juncus balticus*), Canada thistle, Indian hemp (*Apocynum cannabinum*), orchard grass, meadow fescue, showy milkweed (*Asclepias speciosa*), wild licorice, dandelion (*Taraxacum* sp.), some smooth brome, *Carex praeegracilis*, and common teasel. Overstory species include sandbar willow, plains cottonwood, Russian olive, and box elder (*Negundo aceroides*). While trapping has not occurred at this crossing, it is assumed that Preble's occupy this riparian corridor due to occupation of surrounding areas to the east and west (USFWS 2004b). No trapping is recommended at this site; because, Preble's is assumed to occupy this area.

Shearer Ditch (Map #3)

Shearer Ditch, located within OSMP property, crosses under US 36 via a 3 feet diameter metal culvert; no change in the width or length of the structure is proposed. This ditch runs in a north-south direction along Cherryvale Road. Vegetation communities along the ditch include grassland to the east of Cherryvale, riparian woodland between Cherryvale and US 36, and riparian shrub and grassland south of US 36.

The vegetation on the north side of US 36 is a mixture of riparian woodland (plains cottonwood, chokecherry, and Russian olive) and grassland, while the south side of US 36 is comprised of sandbar willow and various grasses and forbs. These understory species include smooth brome, Canada thistle, wild rose, Kentucky bluegrass, Baltic rush, poison ivy (*Toxicodendron rydbergii*), *Carex* sp. Showy milkweed, teasel, redtop (*Agrostis gigantea*), and perennial pepperweed (*Lepidium latifolium*). Anne Ruggles conducted trapping surveys of Shearer ditch but did not capture Preble's (USFWS 2004c). However, because of positive trapping surveys in the vicinity the species is assumed to be present (USFWS 2004b).

South Boulder Canyon Ditch (Map #3)

The South Boulder Canyon Ditch runs parallel to and is immediately east of South Boulder Creek. The habitat on the west side of the ditch is contiguous with S. Boulder Creek at US 36. Overstory plants are dominated by sandbar willow and chokecherry with a large stand of plains cottonwood north of US 36. Understory species include snowberry, wild rose, poison ivy, Canada thistle, houndstongue (*Cynoglossum officinale*), wild licorice, smooth brome, toadflax (*Linaria* sp.), and prairie sagewort (*Artemisia frigida*). This ditch flows under US 36 through a large concrete siphon; no change to this structure is proposed. Positive trapping records in the vicinity indicate Preble's occupy this ditch corridor (USFWS 2004b).

South Boulder Creek (Map #3)

South Boulder Creek is occupied Preble's habitat, as indicated by trapping records (USFWS 2004b). The existing bridge would be widened by 27 feet on the south side and 13.5 feet on the north side, for a total width of 127 feet. The vegetation is primarily composed of mesic riparian shrub (sandbar willow) and riparian woodland (plains cottonwood). The east slope of the creek also supports chokecherry and hawthorn. Understory species include burdock (*Arctium* sp.), houndstongue, Canada thistle, common mullein (*Verbascum thapsus*), wintercress, goldenrod, *Geum* sp., *Equisetum laevigatum*, orchard grass, meadow fescue, alfalfa, black medic (*Medicago lupulina*), and white clover (*Trifolium repens*).

South Boulder Ditch/Upper Bear Canyon Ditch (Map #3)

This ditch is approximately 500 feet long and crosses US 36 on a diagonal. The vegetation along the ditch banks on the north side of US 36 is lined with cottonwood and Siberian elm with dense sandbar willow wetland in the drainage. Cottonwood, crack willow, and black locust (*Robinia pseudoacacia*) occur near the highway; the vegetation on the south side of the highway with a narrow strip of sandbar willow and young cottonwoods surrounded by mowed lawn.

This ditch is located at the edge of OSMP property on the north side of the highway, while the vegetation along the ditch on the south side is mowed. While no trapping has been conducted at this ditch, per conversations with USFWS and CDOT, this area is assumed to support Preble's and therefore no trapping will be required (USFWS 2004c).

4.2 BNSF Corridor

All streams and ditches located east of Community Ditch are within the Denver Metropolitan Block Clearance Zone.

Community Ditch (Map #1)

The vegetation at this ditch crossing is riparian woodland on the east consisting of plains cottonwood, Russian olive, Siberian elm, and sandbar willow. The banks are grassy. The west side banks were sprayed so there is no woody vegetation. However, crack willow, Siberian elm, and

plains cottonwood occur on the steep slope above the ditch on the west side. This site is surrounded by commercial/office developments within 200 feet of the railroad tracks.

The habitat at this site is not suitable for the presence of Preble's due to the surrounding industrial/commercial developments and the lack of suitable vegetative cover. Preble's are very unlikely to occupy this area and therefore, no trapping is recommended at this site.

Tributary of Rock Creek (Map #1)

The BNSF tracks cross this drainage via a corrugated metal pipe; no change to this structure is currently proposed. Vegetation at this crossing is open grassland with weeds in disturbed areas. No riparian woodland or shrubland is present. The area surrounding the crossing is open, weedy undeveloped land with Rock Creek Farm Open Space to the north. A large wetland with cattail (*Typha* sp.) wetland is present to the south of the crossing.

Trapping surveys conducted in the vicinity indicate Preble's is not present at this drainage (USFWS 2004b); furthermore, the habitat is unsuitable to support the subspecies. No trapping is recommended at this location.

Rock Creek (Map #1)

The portion of Rock Creek south of US 36 is within the Denver Block Clearance Zone. The BNSF railroad track crosses Rock Creek ¼-mile north of US 36. The existing 16 feet long by 12-foot wide concrete arch culvert would be extended. The vegetation at the railroad crossing over Rock Creek is a 100' wide corridor of open riparian woodland. Plant species include plains cottonwood, peachleaf willow, sandbar willow, snowberry, golden current (*Ribes aureum*), goldenrod, showy milkweed, wild lettuce (*Lactuca serriola*), teasel, Canada thistle, wintercress (*Barbarea vulgaris*), and wild rose. The south side of the crossing is very weedy. Upland grasses include western wheatgrass, crested wheatgrass, and smooth brome.

The habitat at this crossing is marginal for supporting a population of Preble's. Furthermore, the upstream areas (south of BNSF tracks) have been recently disturbed, a road is currently under construction approximately 120 feet south of the tracks and 96th Street crosses Rock Creek 500 feet south of the tracks. After the June 28 field visit, USFWS, CDOT, and URS concluded no trapping was required at this site and presence of Preble's is unlikely.

Goodhue Ditch (Map #1)

Goodhue Ditch crosses under the BNSF tracks through a small culvert. The ditch is located within privately owned farmland. The habitat is primarily grass pasture with sparse and scattered cottonwood, Russian olive, and leadplant along the ditch. OSMP property occurs to the north and east of the crossing. The habitat at this crossing is considered unsuitable to support Preble's, therefore no trapping is recommended and the species should be considered absent from the drainage at this location.

Coal Creek (Map #4)

The BNSF track crosses Coal Creek via an elevated railroad bridge. A new bridge would be constructed for the commuter rail on the east side of the existing BNSF bridge. This new bridge would be 20-feet high by 118 feet long by 19.3 feet wide and would consist of three concrete piers in the creek.

The south bank of Coal Creek is rip rapped under the bridge; a pedestrian path and grass occurs on the north bank. Both sides of Coal Creek support riparian woodland with crack willow, cottonwood, chokecherry, golden current, some snowberry, smooth brome, yarrow (*Achillea* sp.), flaxweed (*Descurainia sophin*), alfalfa (*Medicago* sp.), ragweed (*Ambrosia artemisiifolia*), meadow fescue, and diffuse knapweed (*Centaurea diffusa*). A large area on the southeast side of Coal Creek (east side of BNSF track) is immature green ash, snowberry, Canada thistle, smooth brome, Tartarian honeysuckle (*Lonicera tatarica*), and chokecherry. A thicket on the south side is hawthorn, chokecherry, American plum, golden current, false Solomon's seal (*Smilacina racimosa*), Canada thistle, meadow rue (*Thalictrum* sp.), cow parsnip (*Heracleum maximum*). A road is being constructed on the south side of Coal Creek. An abandoned ditch on the south side of Coal Creek is impacted by this road construction. This old ditch supports snowberry, chokecherry, skunkbush sumac, poison ivy, and Siberian elm.

No Preble's were caught during previous trapping survey at this location (USFWS 2004c). The area was previously and currently disturbed and is not likely to support Preble's.

Dawson Lateral (Map #4)

Vegetation at this drainage is composed of riparian shrub (*S. exigua*) on the west side; a 200 foot long dense patch of white poplar (*Populus alba*) on the east side, then more riparian willow shrub further from the railroad tracks. On the east side of the railroad tracks is a grassy pasture and to the west is a residential development. While no trapping has been conducted in the immediate vicinity to the site, the crossing is not considered suitable habitat, as the upstream portions of the ditch are located within parks and residential developments. No trapping is recommended and the species is considered absent from this site.

Davidson Ditch (Map #4)

This ditch flows under the railroad tracks through a culvert. An approximately 100 feet wide area of dense riparian woodland occupies both sides of the ditch; species include crack willow, box elder, Russian olive, plains cottonwood, apple (*Malus* sp.), and green ash. Understory species include smooth brome, sandbar willow, and chokecherry. This riparian woodland continues on each side of the railroad tracks for a minimum of 0.75-mile. The ditch channel is sparsely vegetated with smooth brome. This ditch is located within an agricultural field.

No trapping surveys have been conducted in the vicinity of this ditch. However, due to the surrounding agricultural land use and upstream development, Preble's are unlikely to occur at this location and no trapping is recommended.

Marshallville Ditch (Map #4)

This crossing supports a 50' wide strip of riparian woodland mainly consisting of crack willow, smooth brome, orchard grass, Canada thistle, and sparse snowberry. The ditch is 6' deep with mostly grass on the banks. The ditch is located within agricultural fields (hay meadows). The habitat at this ditch crossing is not considered suitable to support Preble's and therefore no trapping is recommended at this location.

South Boulder Canyon Ditch (Map #4)

The South Boulder Canyon Ditch flows through agricultural (alfalfa/hay) fields at this BNSF crossing. The west side of railroad tracks supports riparian woodland/shrub (large cottonwoods and sandbar willow), while the east side is composed of grass. The banks of the ditch consist of smooth brome, Canada thistle, poison hemlock (*Conium maculatum*), Kentucky bluegrass, meadow rue, meadow fescue, Emory's sedge (*Carex emoryi*), orchard grass, dandelion, Asparagus sp., *Euthamia* sp., goldenrod, pennycress (*Thlaspi* sp.), burdock (*Arctium minus*), whitetop (*Cardaria draba*), and houndstongue.

Due to the surrounding agricultural land use and upstream development, Preble's are unlikely to occur at this location and no trapping is recommended.

City of Boulder Burke-Hodgson Lateral (Map #4)

This ditch is located within agricultural hay meadows. The vegetation at the BNSF crossing over City of Boulder Burke-Hodgson Lateral is grassland/agricultural with only one large cottonwood at the culvert. The habitat is not suitable for Preble's and no trapping is recommended.

Cottonwood No. 2 Ditch and Dry Creek Davidson Ditch (Map #5)

New Dry Creek Ditch crosses under the railroad just east of 75th Street in east Boulder. The ditch consists of two parallel channels, the south channel flows through a culvert, the north through 3 concrete box culverts. The southern channel is ditch-like with high banks; crack willow is dominant on the southern side and Russian olive and sandbar willow on the northern side of the railroad track. The northern channel is not bermed, supports diverse wetlands, marshy areas, and riparian vegetation. The culvert under the elevated railroad berm is a triple concrete pipe culvert, which does not allow wildlife passage. Just west of the crossing, the railroad crosses over 75th Street via a bridge. The west side of the railroad berm is open space, the east side is private (pasture).

The habitat at New Dry Creek Ditch is suitable to support Preble's. Trapping surveys are recommended at this site to determine the presence or absence of the species prior to any construction activities.

Enterprise Lateral (Map #5)

The Enterprise Lateral is located just south of Arapahoe Road. The drainage is lined with riparian woodland, which is localized at the crossing. Species include cottonwood, crack willow, chokecherry, boxelder, and American plum. The woodlands are associated with both the ditch and the old

farmsteads in the vicinity. The surrounding land use is agricultural. The habitat at this location is not considered suitable to support Preble's; no trapping is recommended at this site.

Enterprise Ditch (Map #5)

The BNSF crossing at Enterprise Ditch occurs north of Arapahoe Road, just south of Hillcrest Reservoir. The water flowing through this ditch is siphoned under the railroad tracks, which does not allow animal passage. The east side of the railroad tracks is riparian woodland consisting of 20 percent trees and 70 percent dense shrubs. The overstory consists of mature cottonwoods, leadplant, American plum, and apple. The understory is dominated by houndstongue, cheatgrass, burdock, and orchard grass. On the west side of the railroad tracks, Enterprise Ditch is concrete-lined and flows through an industrial area, with no riparian vegetation. The land use to the east of the ditch crossing is agricultural; Legion Park is located south of the ditch and is comprised of grassland.

This site is unlikely to support Preble's as upstream portions are within a residential development. Trapping is not necessary at this site.

East Boulder Ditch (Map #5)

This ditch crossing is located north of Arapahoe Rd and flows into Hillcrest Reservoir. The habitat is riparian woodland on the south side of the tracks, mostly Siberian elm. The north side is 90% grass but there are patches of cottonwood and sandbar willow. The ditch parallels the north side of the tracks and is partly piped and partly an open ditch. The vegetation in East Boulder Ditch is comprised of wetlands as the ditch nears Hillcrest Reservoir. Further south across Arapahoe Road, the ditch connects to Sombrero Marsh. The surrounding land use is industrial.

Areas near this ditch were previously evaluated or trapped with no Preble's captured. The habitat at this ditch crossing is not considered suitable habitat for the species and therefore no trapping surveys are recommended at this site.

South Boulder Creek Inlet Canal and South Boulder Creek (Map #5)

The BNSF tracks cross over South Boulder Creek Inlet Canal by a low 80-foot long bridge; this would be replaced with an 82-foot long by 42-foot wide concrete culvert with five chambers. A new bridge structure is proposed to be constructed north of and parallel to the existing bridge over South Boulder Creek. The vegetation at these crossings is a mix of riparian woodland, riparian shrub, wetlands, and grassland. Woodland species consist of crack willow, cottonwood, sandbar willow, boxelder, Russian olive, and Siberian elm. Grasses are smooth brome, crested wheatgrass, Kentucky bluegrass, and western wheatgrass. Surrounding land uses are open space, industrial, and undeveloped private land. Based on conversations with Alison Dean-Michael (USFWS), no trapping is necessary at these crossings as recent trapping in the vicinity indicates that Preble's are not present.

Dry Creek No. 2 Ditch (Map #5)

This ditch is located northeast of 55th and Arapahoe streets in Boulder. The railroad crosses over this ditch via a bridge; a new bridge structure would be constructed parallel to the existing bridge for the commuter rail. Riparian woodland and shrubland dominated by cottonwood, crack willow, and Russian olive. Other vegetation is grasses and weedy forbs. The surrounding land uses are industrial and commercial properties with some vacant land. This ditch crossing is considered unsuitable habitat for Preble's, therefore, the species is unlikely to occupy the drainage and no trapping is recommended at this site.

Boulder Creek (Map #6)

The BNSF tracks cross over Boulder Creek by a low wooden bridge; riparian woodland occurs on both sides of the creek for approximately 1/3-mile from the bridge crossing. The commuter rail would cross Boulder Creek via a new bridge located north of a parallel to the existing bridge. The new bridge would be 4 to 6 feet high by 62 feet long and 10 feet wide with one pier in the creek.

Some areas have very tall, lush undergrowth (almost wooded wetlands), but most areas are more mesic. Species include crack willow, dames rocket (*Hesperis matronalis*), sandbar willow, green ash, perennial pepperweed, leadplant, false Solomon's seal, bedstraw (*Galium* sp.), Canada thistle, houndstongue, western virgins's bower, cheatgrass, Kentucky bluegrass, rose (introduced unknown species), poison hemlock, Indian hemp, showy milkweed. Cottonwood Grove is located north of the BNSF tracks, and is a protected Boulder OSMP nature preserve. The south side of the BNSF tracks is partly protected as Open Space. The surrounding land uses are commercial office space. This area was recently trapped but no Preble's were captured (USFWS 2004b). No additional trapping is recommended.

Boulder and Lefthand Ditch (Map #6)

BNSF crosses this ditch north of Pearl Street and west of 33rd Street in Boulder. This riparian woodland habitat is dominated by crack willow, Siberian elm, box elder, and weedy forbs. The woodland is patchy on the south side of the railroad tracks where the ditch is piped underground. The area is surrounded on all sides by commercial and industrial developments. The ditch crossing is concrete lined and lacks vegetation on the north side of Pearl Street. This ditch crossing is unsuitable habitat to support Preble's, therefore no trapping surveys are recommended.

Goose Creek (MAP #6)

The Goose Creek drainage crosses the BNSF line just north of Pearl Street in Boulder via a bridge. The vegetation is wetlands in the ditch channel (softstem bulrush, broadleaf and narrowleaf cattail, reed canarygrass, pink water speedwell) and weedy species such as perennial pepperweed, diffuse knapweed, field bindweed, Alyssum sp., smooth brome, cheatgrass, and Kentucky bluegrass. Scotch thistle (*Onopordum acanthium*) is present on the banks of the ditch and adjacent upland. No woody riparian vegetation is present. Goose Creek comprises a 200' wide corridor of open space between industrial developments. This site is not suitable Preble's habitat and therefore no trapping is recommended:

Wonderland Creek (Map #6)

The Wonderland Creek drainage crosses the BNSF tracks just west of 47th Street. The creek parallels the railroad for 1000' on the west side of the tracks. On the east side of the tracks the ditch crosses 47th Street, medians, and berms. Riparian woodland along Wonderland Creek on the west side of BNSF tracks consists of crack willow, boxelder, cottonwood, chokecherry, American plum, and green ash. Due to surrounding and upstream developments, Wonderland Creek is unlikely to support Preble's, therefore, no trapping is recommended.

Fourmile Canyon Creek (Map #6)

Fourmile Canyon Creek crosses the BNSF track just east of Highway 119. The riparian woodland at this crossing consists primarily of cottonwood, American plum, chokecherry, crack willow, golden current, and peachleaf willow. The understory vegetation includes smooth brome, perennial pepperweed, and Canada thistle. This site has been previously trapped with no Preble's captured, therefore, no trapping is necessary.

Boulder and Whiterock Ditch (Map #6)

The BNSF tracks cross the Boulder and White Rock ditch twice, the southern crossing is north of Fourmile Canyon Creek, just south of Jay Road; the northern crossing is north of Jay Road. The vegetation at both crossings is comprised of mostly grassy banks dominated by smooth brome with a patch of sandbar willow just east of the crossing. The portion of the ditch in the highway median is grassy. Additional understory species are perennial pepperweed and Canada thistle. The site is not suitable Preble's habitat and was previously trapped in the vicinity with no Preble's captured. No trapping is necessary at this location.

5.0 SUMMARY

The majority of the ditch and stream crossings within the US 36 EIS project area are not considered suitable Preble's habitat or presence of Preble's is known from previous trapping surveys. Within the US 36 EIS project area, only Cottonwood No.2 and Dry Creek Davidson Ditch at the BNSF railroad crossing at 75th Street in East Boulder has suitable habitat for Preble's but has not yet been trapped to determine presence of the species. Therefore, prior to project implementation, trapping surveys are recommended at the Cottonwood No.2 and Dry Creek Davidson Ditch to determine the presence or absence of Preble's at these locations.

6.0 LITERATURE CITED

Spagnuolo, Fish and Wildlife Biologist on February 13. US Fish and Wildlife Service, Ecological Services, Colorado Field Office, 755 Parfet Street, Ste. 361, Lakewood, Colorado.

U.S. Fish and Wildlife Service (USFWS). 2004a. Survey Guidelines for Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*). Revised April 2004. Accessed on-line at http://mountain-prairie.fws.gov/preble/RELATED_ACTIONS/pmjm2004guidelines.pdf.

USFWS. 2004b. ArcView GIS shapefiles of Preble's meadow jumping mouse trapping survey and habitat assessment locations. Obtained from Barbara

USFWS. 2004c. Personal Communication between Alison Dean-Michael, US Fish and Wildlife Service and Kim Sandoval, URS Corporation on June 18.



US 36 CORRIDOR
Environmental Impact Statement

APPENDIX A
HABITAT ASSESSMENT MAPS

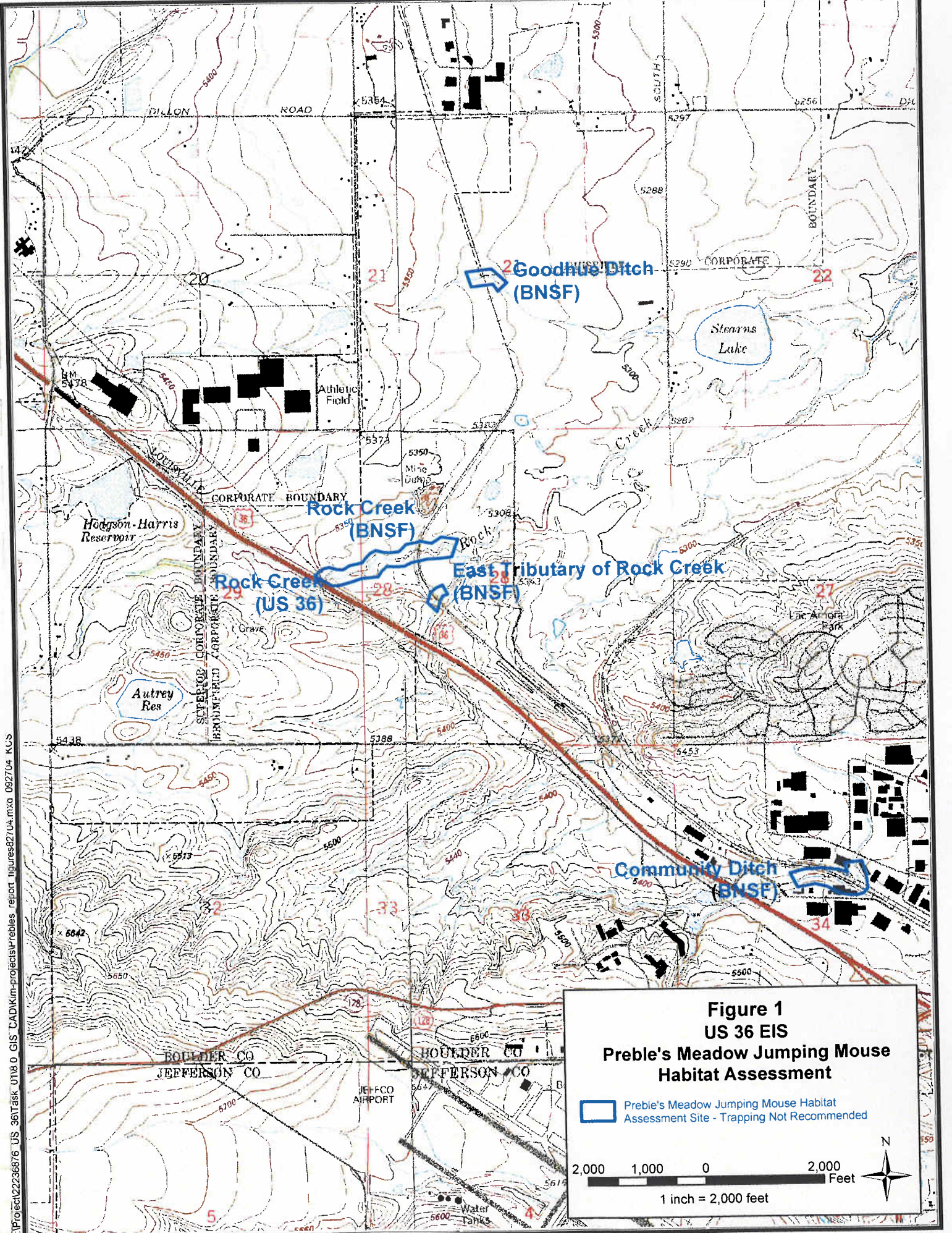
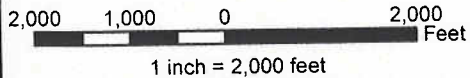


Figure 1
US 36 EIS
Preble's Meadow Jumping Mouse
Habitat Assessment

 Preble's Meadow Jumping Mouse Habitat Assessment Site - Trapping Not Recommended



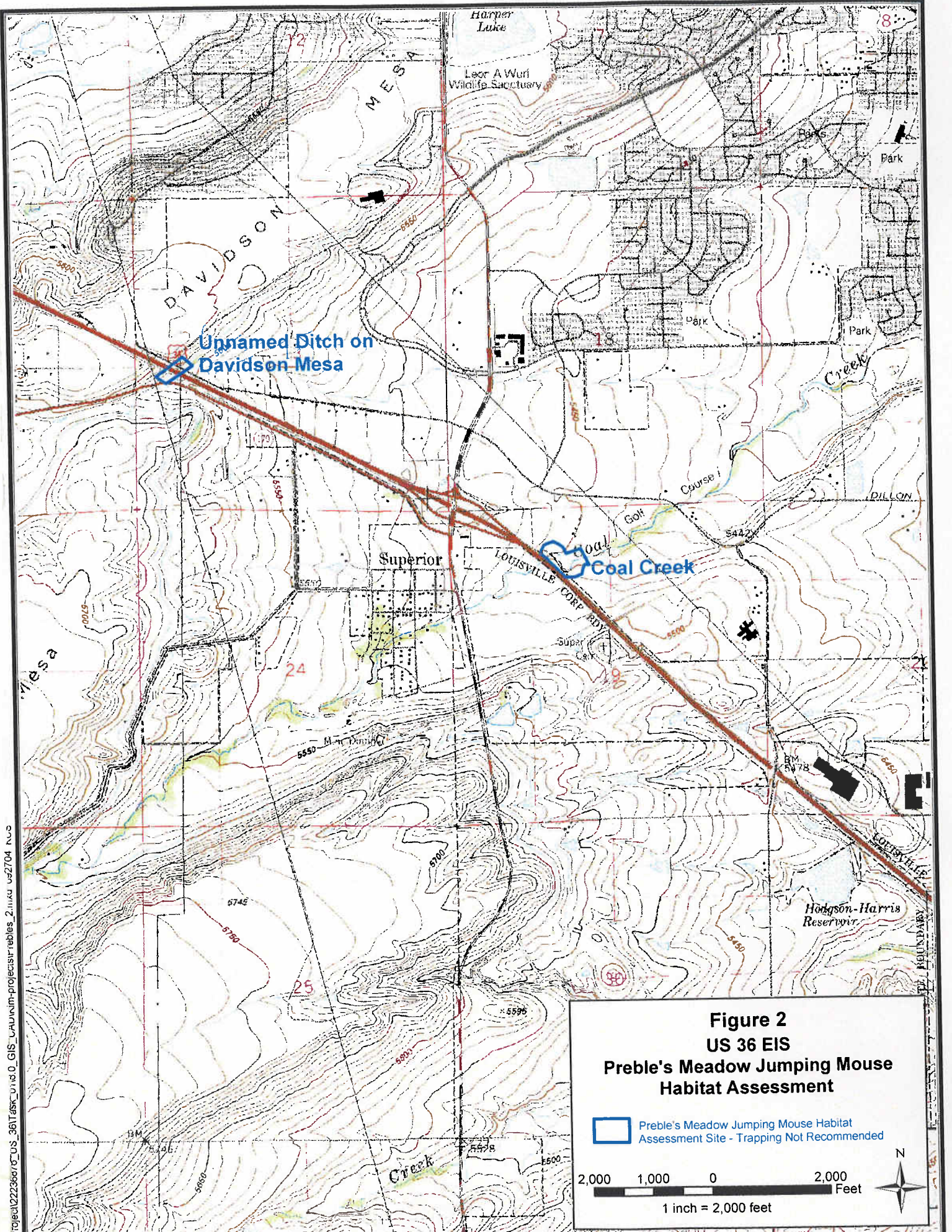
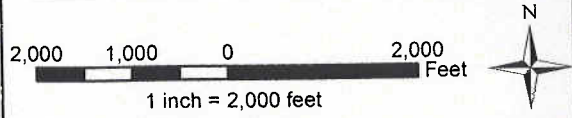


Figure 2
US 36 EIS
Preble's Meadow Jumping Mouse
Habitat Assessment

 Preble's Meadow Jumping Mouse Habitat Assessment Site - Trapping Not Recommended



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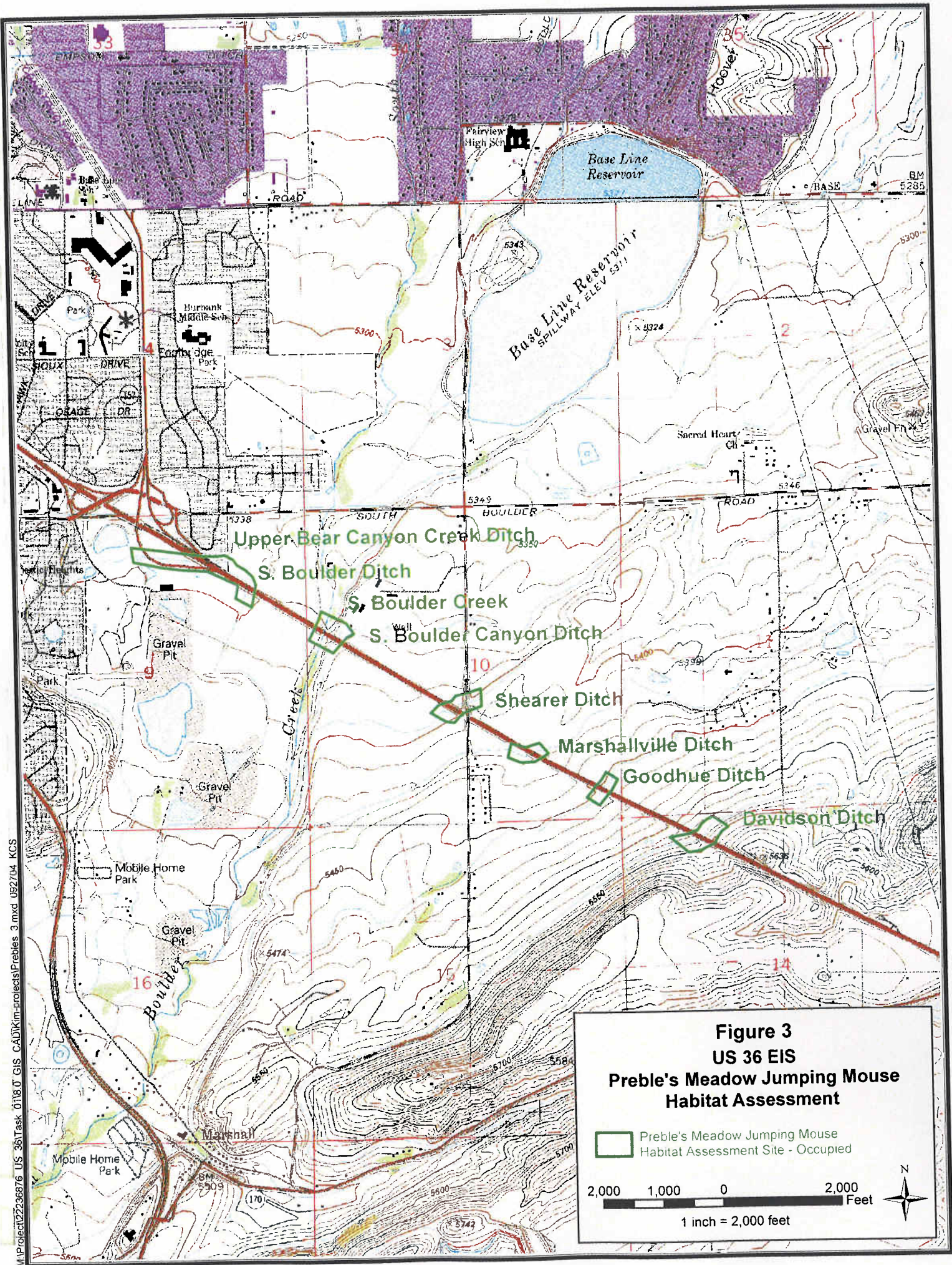




Figure 3
US 36 EIS
Preble's Meadow Jumping Mouse
Habitat Assessment

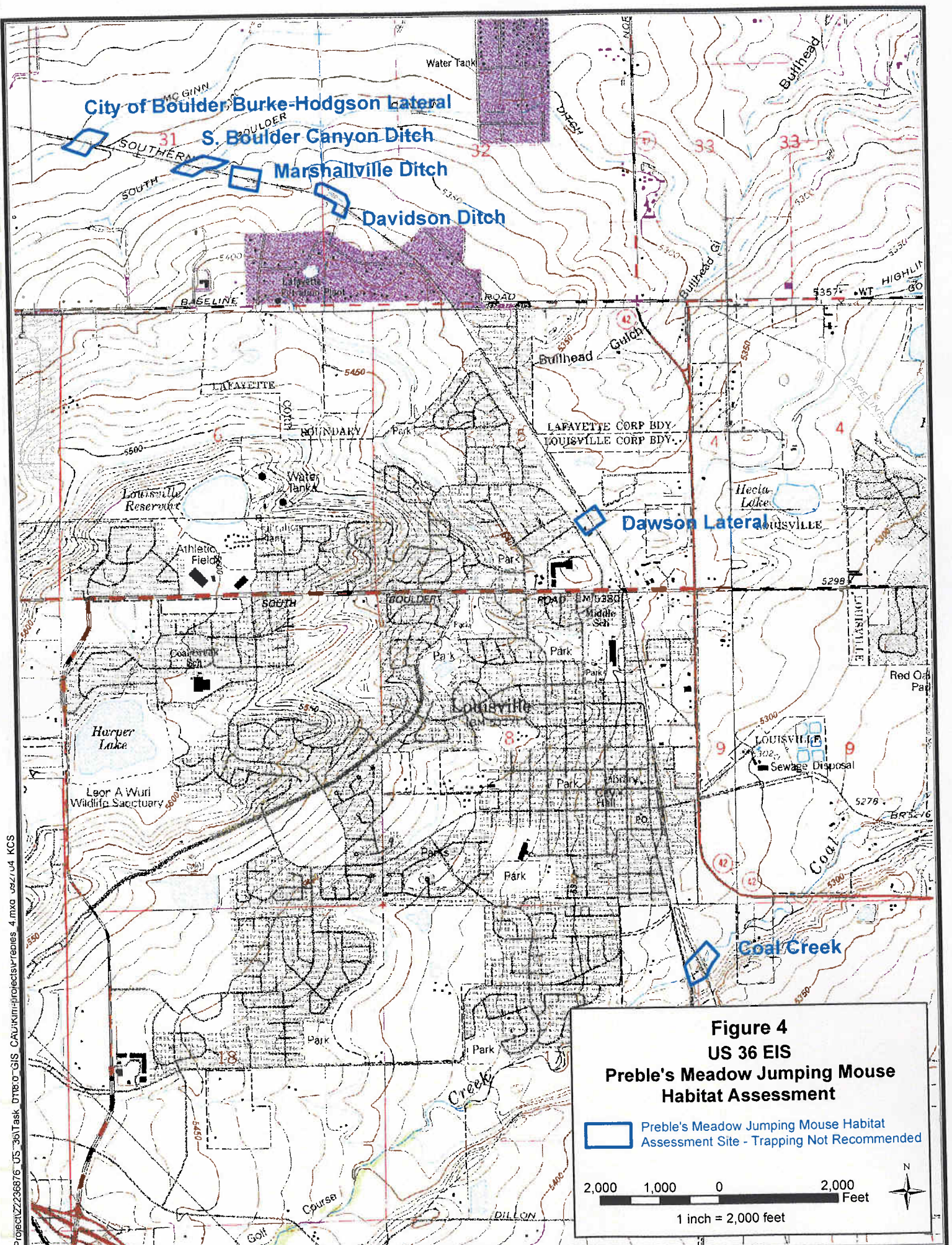
 Preble's Meadow Jumping Mouse
 Habitat Assessment Site - Occupied

2,000 1,000 0 2,000
 Feet

1 inch = 2,000 feet



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M:\Project\2236876 US 36\Task 018 0 GIS CAU\KIM\Projects\Report 4.mxd 05/21/04 KCS

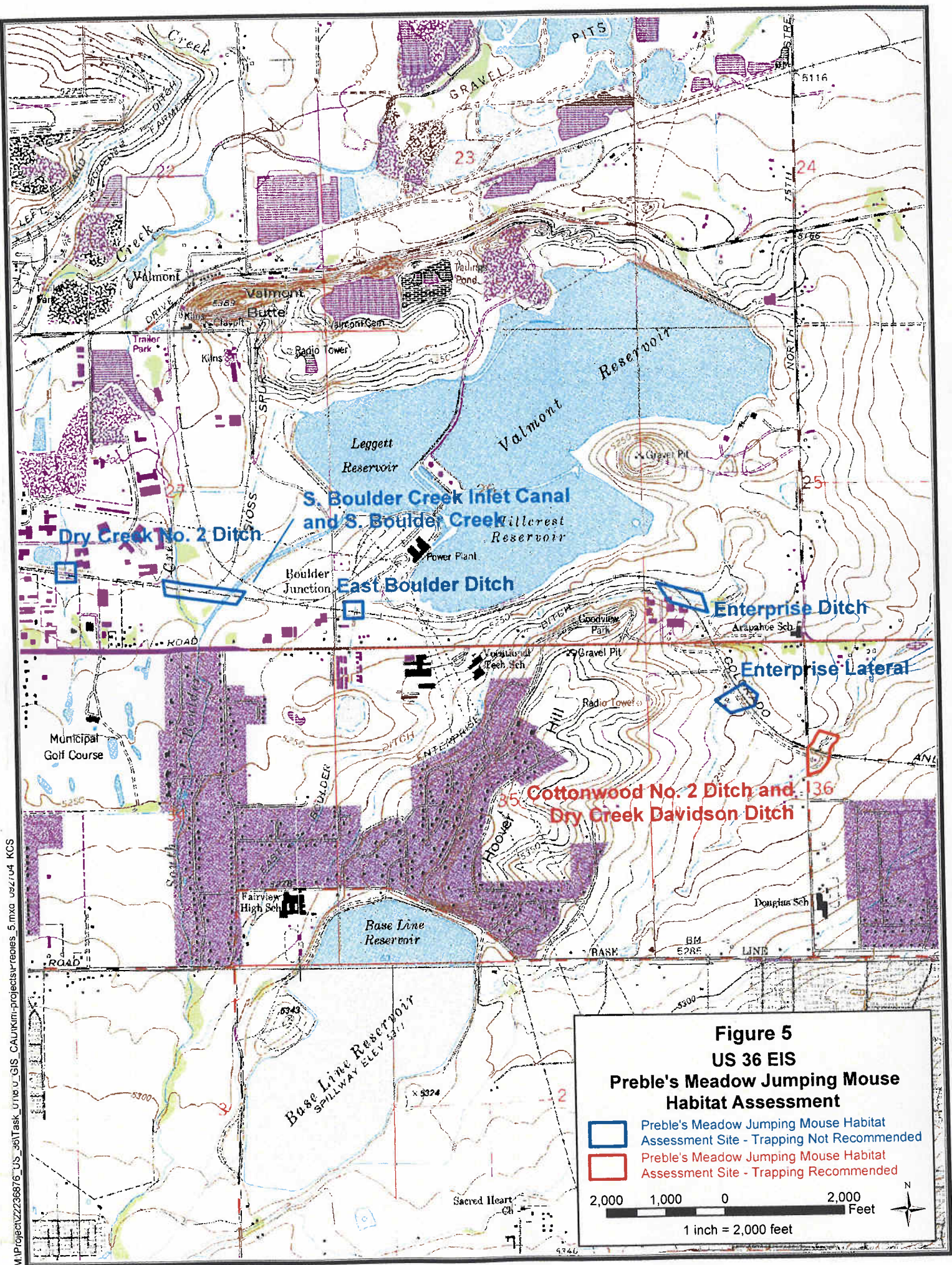
Figure 4
US 36 EIS
Preble's Meadow Jumping Mouse
Habitat Assessment

Preble's Meadow Jumping Mouse Habitat Assessment Site - Trapping Not Recommended

2,000 1,000 0 2,000 Feet

1 inch = 2,000 feet





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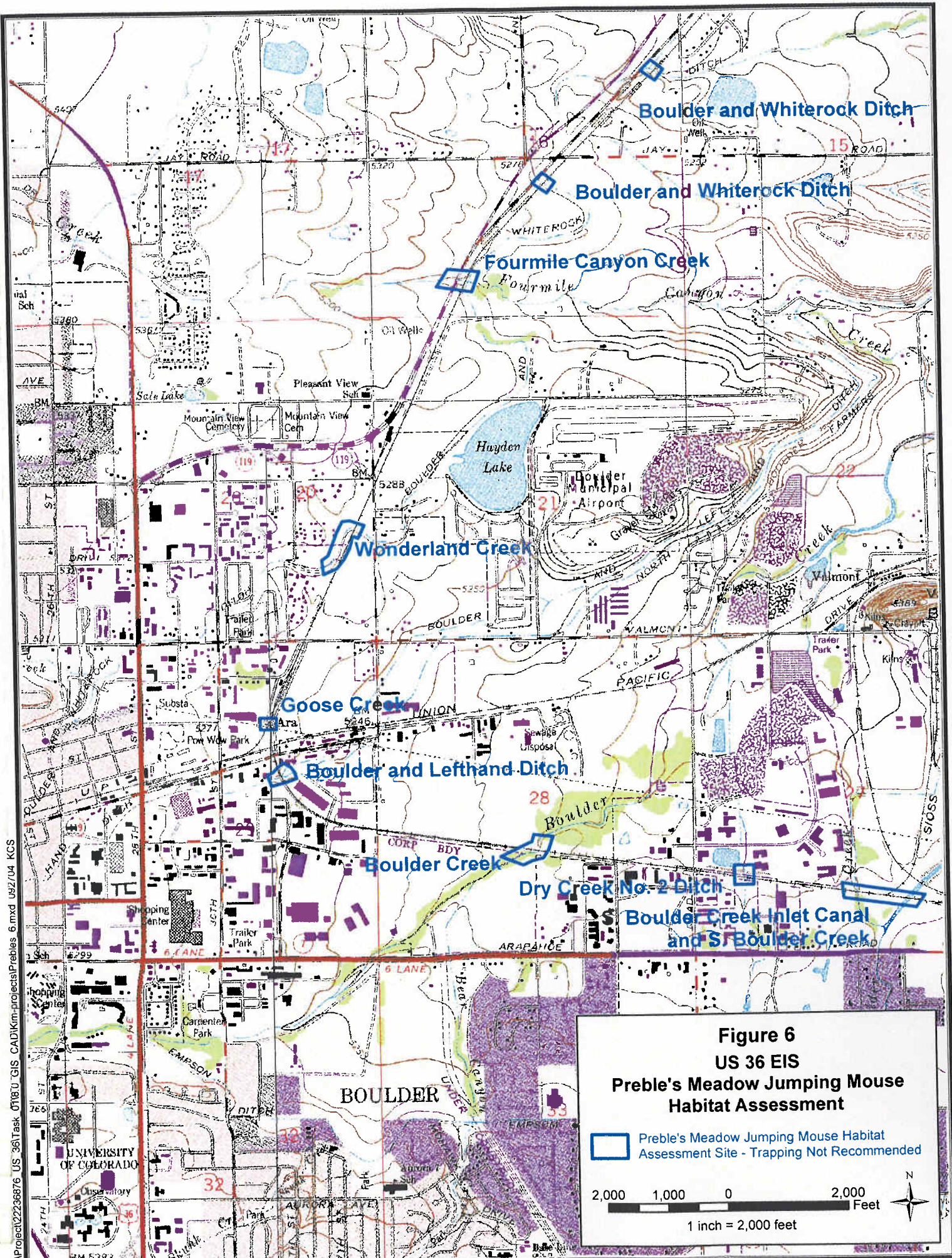
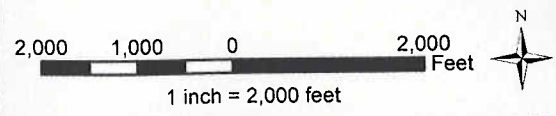


Figure 6
US 36 EIS
Preble's Meadow Jumping Mouse
Habitat Assessment

 Preble's Meadow Jumping Mouse Habitat Assessment Site - Trapping Not Recommended



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US 36 CORRIDOR
Environmental Impact Statement

APPENDIX B
US 36 RIPARIAN CROSSING PHOTOS



View of Rock Creek Culvert under North Side of US 36.



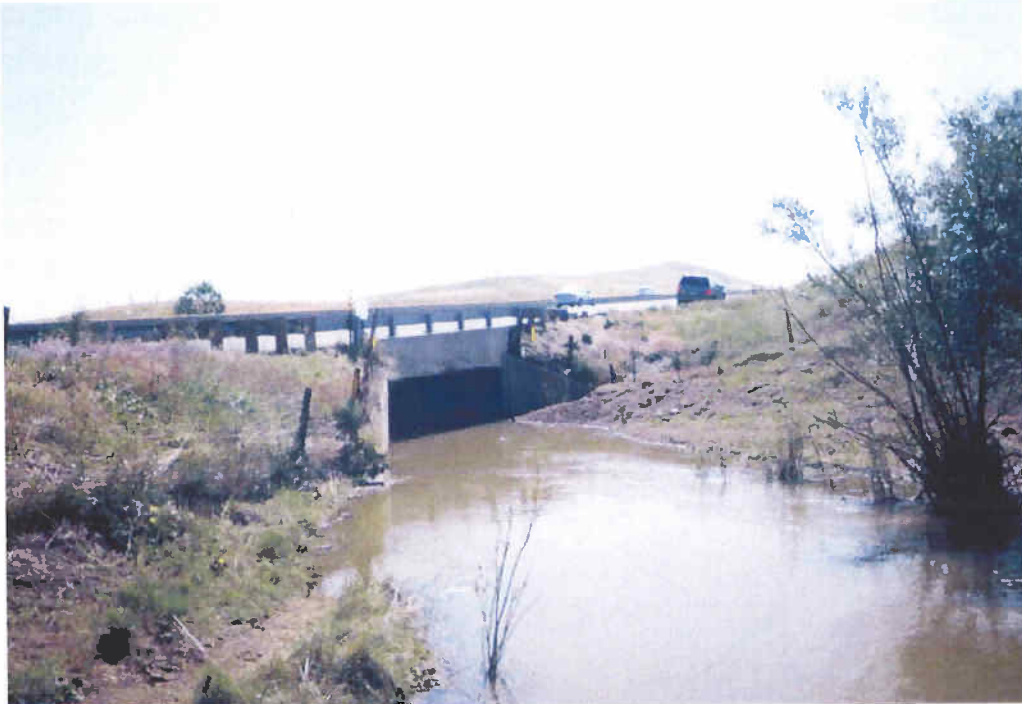
Rock Creek on the North Side of US 36 (Facing north).



Culvert under US 36 at Coal Creek.



Unnamed Ditch on Davidson Mesa (facing southwest).



Davidson Ditch crossing on south side of US 36.



Goodhue Ditch on north side of US 36.



Culvert under Marshallville Ditch on southwest side of US 36.



Pipe Culvert under Cherryvale Road on the North Side of US 36.



South Boulder Canyon Ditch on the Southwest side of US 36.



South Boulder Canyon Ditch (facing southwest toward US 36).



Bridge over South Boulder Creek (facing east)



South Boulder Ditch (view west).



South Boulder Ditch from east side of US 36 (View southeast).



US 36 CORRIDOR
Environmental Impact Statement

APPENDIX C
BNSF RIPARIAN CROSSING PHOTOS



Community Ditch (facing west)



Community Ditch (facing east)



East Tributary of Rock Creek at BNSF tracks (facing west).



Rock Creek, north of BNSF tracks (facing east).



BNSF tracks at Rock Creek (facing northwest).



Rock Creek Culvert under BNSF tracks (facing west).



Coal Creek, just east of BNSF tracks (facing southeast).



BNSF railroad bridge over Coal Creek (facing west northwest).



Dawson Lateral at BNSF track crossing.



Davidson Ditch at BNSF crossing facing north)



Marshallville Ditch on North Side of BNSF crossing (facing north)



Marshallville Ditch on South Side of BNSF crossing (facing south).



South Boulder Canyon Ditch at BSNF crossing (facing west).



South Boulder Canyon Ditch at BSNF crossing (facing east).



City of Boulder Burke-Hodgson Lateral at BNSF crossing (facing west-southwest).



City of Boulder Burke-Hodgson Lateral at BNSF crossing (facing northwest).



Culvert at Cottonwood No. 2 Ditch and Dry Creek Davidson Ditch crossing under BNSF tracks on south side (facing northwest).



Cottonwood No. 2 Ditch and Dry Creek Davidson Ditch at BNSF tracks on south side (facing south).



Cottonwood No. 2 Ditch and Dry Creek Davidson Ditch on north side of BNSF tracks
(facing north-northwest)



Enterprise Ditch, south of BNSF tracks (facing west)



Enterprise Ditch where ditch parallels BNSF tracks (facing east).



East Boulder Ditch at BNSF tracks (facing north).



East Boulder Ditch, north of railroad tracks (facing north).



South Boulder Creek Inlet Canal to Leggett Reservoir (facing north from bridge)



View of Vegetation at South Boulder Creek crossing near BNSF.



BNSF Bridge Crossing over Dry Creek No. 2 Ditch (facing north).



View of BNSF Railroad Bridge over Boulder Creek (facing north).



Boulder and Lefthand Ditch from BNSF Railroad tracks (facing east).



Goose Creek (facing west from BNSF tracks).



South crossing of Wonderland Creek from BNSF tracks (facing southwest).



South Crossing of BNSF Railroad Tracks over Wonderland Creek (facing east).



Fourmile Canyon Creek at BNSF Railroad Tracks (facing northeast).



Boulder and Whiterock Ditch Culvert at BNSF Railroad Tracks (facing north, just south of Jay Road).



US 36 CORRIDOR
Environmental Impact Statement

APPENDIX D
US 36 2004 SURVEY DATA COMPILATION FORMS

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 6/4/04, 6/10/04, and 7/15/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Louisville, CO County Broomfield Elevation 5340'

Township(s) 1S Range(s) 69W Section(s) 29

¼¼ Section(s) SE of NE

UTM Coordinates, Zone 13 Northing 4420690N Easting 488850E

URM Coordinate Datum NAD27 NAD83

Directions to Location From US 36, exit Storage Tech Drive/Interlocken Loop. Turn north onto Interlocken Loop and park on west side of street. Walk west to Rock Creek.

Land Ownership Private and public

Habitat:

General Habitat Description: Riparian woodland to north; riparian shrub to south.

Dominant Overstory Plant Community: Plains cottonwood, peachleaf willow, leadplant, sandbar willow, sumac.

Dominant Understory Plant Community: Western wheatgrass, Kentucky bluegrass, smooth brome, Canada thistle, curly dock, field bindweed, wild licorice, yellow flag, teasel.

Current Land Use Vacant land (open space?) to north, riparian and open space corridor (300' wide) to south located between parking lot and highway.

Drainage Name: Rock Creek Type: Perennial Stream X

Ephemeral Stream _____ Pond/Lake _____ Ditch _____ Other _____

South side recently rechannelized. Currently two-span bridge. South of US 36 is included in Denver Block Clearance Zone.

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 6/4/04 and 6/10/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Louisville, CO County Broomfield Elevation 5340'

Township(s) 1S Range(s) 69W Section(s) 29

¼¼ Section(s) SE of NE

UTM Coordinates, Zone 13 Northing 4422820N Easting 486300E

URM Coordinate Datum NAD27 NAD83

Directions to Location From US 36, pull to side of highway ½-mile east of McCaslin Blvd exit where Coal Creek crosses under US 36.

Land Ownership Private and public

Habitat:

General Habitat Description Riparian woodland to north and south; riparian shrub to south.

Dominant Overstory Plant Community Crack willow, plains cottonwood, Russian olive, green ash, Siberian elm, American elm, hawthorn, American plum, chokecherry.

Dominant Understory Plant Community Sandbar willow, snowberry, bluestem willow, leadplant, wild grape, western virgins bower, meadow fescue, horsetail, Canada thistle, Scirpus, teasel, orchardgrass, creeping spikerush, false tarragon, goldenrod.

Current Land Use Golf course to north, buildings to west and east, vacant/weedy prairie dog town to south. Trail along creek is a protected corridor.

Drainage Name: Coal Creek Type: Perennial Stream

Ephemeral Stream Pond/Lake Ditch Other

Bridge with bicycle path on west side. South side of US 36 is included in Denver Block Clearance Zone.

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 6/4/04 and 6/10/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Louisville, CO County Boulder Elevation 5620'

Township(s) 1S Range(s) 70W Section(s) 13

¼¼ Section(s) NW of SW

UTM Coordinates, Zone 13 Northing 4423825N Easting 484400E

URM Coordinate Datum NAD27 NAD83

Directions to Location From US 36, pull to side of highway 1.6-miles west of McCaslin Blvd exit. Large trees are visible on north side of US 36 where ditch is located.

Land Ownership Private

Habitat:

General Habitat Description Riparian woodland and open herbaceous.

Dominant Overstory Plant Community Plains cottonwood, peachleaf willow, sandbar willow, leadplant.

Dominant Understory Plant Community Herbaceous annuals/perennials.

Current Land Use Vacant land (open space?) Rural residential on south side of US 36..

Drainage Name: Unnamed Ditch on Davidson Mesa Type: Perennial Stream

Ephemeral Stream _____ Pond/Lake _____ Ditch X Other _____

No flowing water.

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 6/4/04 and 6/10/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Louisville, CO County Boulder Elevation 5530'

Township(s) 1S Range(s) 70W Section(s) 14

¼¼ Section(s) NW of NW

UTM Coordinates, Zone 13 Northing 4424545N Easting 483010E

URM Coordinate Datum NAD27 NAD83

Directions to Location From US 36, pull to side of highway 3.2-miles west of McCaslin Blvd exit. Large trees are visible where ditch is located.

Land Ownership Boulder County Open Space and Mountain Parks.

Habitat:

General Habitat Description Riparian shrub with some riparian woodland to south.

Dominant Overstory Plant Community Sandbar willow, plains cottonwood, ash, elm.

Dominant Understory Plant Community various grasses.

Current Land Use Open Space and grazing

Drainage Name: Davidson Ditch Type: Perennial Stream

Ephemeral Stream _____ Pond/Lake _____ Ditch Other _____

No flowing water.

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 6/4/04 and 6/10/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Louisville, CO County Boulder Elevation 5450'

Township(s) 1S Range(s) 70W Section(s) 10

¼¼ Section(s) SE of SE

UTM Coordinates, Zone 13 Northing 4424800N Easting 482500E

URM Coordinate Datum NAD27 NAD83

Directions to Location From US 36, pull to side of highway .75-miles east of Marshallville Road.

Land Ownership Boulder County Open Space and Mountain Parks.

Habitat:

General Habitat Description Riparian shrub.

Dominant Overstory Plant Community Mostly sandbar willow, some crack willow, plains cottonwood, and leadplant.

Dominant Understory Plant Community various grasses.

Current Land Use Open Space

Drainage Name: Goodhue Ditch Type: Perennial Stream _____

Ephemeral Stream _____ Pond/Lake _____ Ditch Other _____

Currently a culvert with no animal crossing when water is flowing.

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 6/4/04 and 6/10/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Louisville, CO County Boulder Elevation 5530'

Township(s) 1S Range(s) 70W Section(s) 14

¼¼ Section(s) SW of SE

UTM Coordinates, Zone 13 Northing 4425000N Easting 482145E

URM Coordinate Datum NAD27 NAD83

Directions to Location From US 36 heading east, pull to side of highway 0.4-miles east of Marshallville Road.

Land Ownership Boulder County Open Space and Mountain Parks.

Habitat:

General Habitat Description Riparian shrub/woodland to north with some riparian shrub to south.

Dominant Overstory Plant Community Sandbar willow, plains cottonwood, Russian olive, box elder.

Dominant Understory Plant Community various grasses.

Current Land Use Open Space and grazing

Drainage Name: Marshallville Ditch Type: Perennial Stream

Ephemeral Stream Pond/Lake Ditch Other

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice) _____

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 6/9/04 and 6/10/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Louisville, CO County Boulder Elevation 5400'

Township(s) 1S Range(s) 70W Section(s) 10

¼¼ Section(s) NE of SW

UTM Coordinates, Zone 13 Northing 4425205N Easting 481770E

URM Coordinate Datum NAD27 NAD83

Directions to Location From US 36, exit at Table Mesa Drive and head east on S. Boulder Road. Turn south on Marshallville Road to intersection with US 36. Shearer Ditch is located at this intersection.

Land Ownership Boulder County Open Space and Mountain Parks.

Habitat:

General Habitat Description Mixture of riparian woodland and grassland on the north side of US 36; riparian shrub and grassland to the south of US 36.

Dominant Overstory Plant Community North - plains cottonwood, Russian olive, sandbar willow.

Dominant Understory Plant Community Various grasses/forbs.

Current Land Use Open Space

Drainage Name: Shearer Ditch Type: Perennial Stream

Ephemeral Stream Pond/Lake Ditch Other

Metal culvert (3' diameter).

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey. _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 6/9/04 and 6/10/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Louisville, CO County Boulder Elevation 5370'

Township(s) 1S Range(s) 70W Section(s) 10

¼¼ Section(s) SW of NW

UTM Coordinates, Zone 13 Northing 4425600N Easting 481155E

URM Coordinate Datum NAD27 NAD83

Directions to Location From eastbound US 36 at Foothills Parkway, continue on US 36 for approx. .75-mile to ditch. S. Boulder Canyon Ditch parallels S. Boulder Creek on the east side.

Land Ownership Boulder County Open Space and Mountain Parks.

Habitat:

General Habitat Description Riparian shrub and riparian woodland.

Dominant Overstory Plant Community Plains cottonwood, sandbar willow.

Dominant Understory Plant Community Snowberry, wild rose.

Current Land Use Open Space

Drainage Name: South Boulder Canyon Ditch Type: Perennial Stream

Ephemeral Stream Pond/Lake Ditch Other

Large concrete siphon; S. Boulder Creek immediately adjacent to the west.

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 6/9/04 and 6/10/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Louisville, CO County Boulder Elevation 5350'

Township(s) 1S Range(s) 70W Section(s) 10

¼¼ Section(s) SW of NW

UTM Coordinates, Zone 13 Northing 4425620N Easting 481100E

URM Coordinate Datum NAD27 NAD83

Directions to Location From eastbound US 36 at Foothills Parkway, continue on US 36 for approx. 0.60-mile to S. Boulder Creek.

Land Ownership Boulder County Open Space and Mountain Parks.

Habitat:

General Habitat Description Riparian shrub and riparian woodland.

Dominant Overstory Plant Community Mostly sandbar willow, also plains cottonwood, chokecherry, hawthorn.

Dominant Understory Plant Community Wetlands, grasslands.

Current Land Use Open Space

Drainage Name: South Boulder Creek Type: Perennial Stream

Ephemeral Stream _____ Pond/Lake _____ Ditch _____ Other _____

Three-span bridge with bicycle path.

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 6/9/04 and 6/10/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Louisville, CO County Boulder Elevation 5355'

Township(s) 1S Range(s) 70W Section(s) 9

¼¼ Section(s) NW of NW

UTM Coordinates, Zone 13 Northing 4425855N Easting 480700E

URM Coordinate Datum NAD27 NAD83

Directions to Location From the eastbound onramp for US 36 at Foothills Parkway, ditch is located where onramp merges into US 36.

Land Ownership Boulder County Open Space and Mountain Parks.

Habitat:

General Habitat Description Riparian shrub/woodland to north; herbaceous to south of US 36.

Dominant Overstory Plant Community Plains cottonwood, crack willow, black locust.

Dominant Understory Plant Community South of US 36 is mowed lawn; north is Open Space.

Current Land Use Open Space, roadway, and median.

Drainage Name: South Boulder Ditch/Upper Bear Canyon Ditch Type: Perennial Stream

Ephemeral Stream Pond/Lake Ditch Other

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice) _____



US 36 CORRIDOR
Environmental Impact Statement

APPENDIX E
BNSF 2004 SURVEY DATA COMPILATION FORMS

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 5/19/04 and 6/2/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS – commuter rail

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Lafayette, CO County Broomfield Elevation 5375'

Township(s) 1S Range(s) 69W Section(s) 34

¼¼ Section(s) SW of NE

UTM Coordinates, Zone 13 Northing 4419127N Easting 491549E

URM Coordinate Datum NAD27 NAD83

Directions to Location From US36, exit at 287 and head north. Go west on Industrial Lane for approx. for approximately ½-mile to railroad track crossing over Community Ditch.

Land Ownership Private

Habitat:

General Habitat Description Riparian woodland on east side.

Dominant Overstory Plant Community Plains cottonwood, Russian olive, Siberian elm, and sandbar willow on east side. West side sprayed so no woody vegetation. Crack willow, Siberian elm, plains cottonwood occur on steep slope above ditch.

Dominant Understory Plant Community Various grasses.

Current Land Use Commercial office area with 200' wide railroad trench. Ditch is 12' wide.

Drainage Name: Community Ditch Type: Perennial Stream

Ephemeral Stream _____ Pond/Lake _____ Ditch Other _____

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice) _____

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 5/19/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS - commuter rail

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Lafayette, CO County Broomfield Elevation 5350'

Township(s) 1S Range(s) 69W Section(s) 28

¼¼ Section(s) NW of NW

UTM Coordinates, Zone 13 Northing 4420613N Easting 489433E

URM Coordinate Datum NAD27 NAD83

Directions to Location From US36, exit at 96th Street (Flatirons Mall) and head north. Turn east on Carbon Rd and south on Brainard Drive to where it crosses the BNSF tracks. The tributary of Rock Creek is 200' east of Brainard Dr. crossing at RR tracks.

Land Ownership Boulder County Open Space (part of Rock Creek Farm)

Habitat:

General Habitat Description Grassland/weedy

Dominant Overstory Plant Community None

Dominant Understory Plant Community Various grasses and weeds in disturbed areas.

Current Land Use Open space/undeveloped with cattail wetland to south of crossing.

Drainage Name: Tributary of Rock Creek Type: Perennial Stream

Epheermal Stream Pond/Lake Ditch Other

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 5/12/04 and 5/19/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Kimberly C. Sandoval, Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Lafayette, CO County Broomfield Elevation 5320'

Township(s) 1S Range(s) 69W Section(s) 28

1/4 Section(s) SW of NW

UTM Coordinates, Zone 13 Northing 4420858 N Easting 489340 E

URM Coordinate Datum NAD27 NAD83

Directions to Location From US 36, exit at Flat Irons Mall and go North, Park and walk east to the crossing of Rock Creek and the railroad.

Land Ownership _____

Habitat:

General Habitat Description Riparian woodland, undeveloped; disturbed with bottomless box culvert under RR crossing. Potential habitat but very disturbed.

Dominant Overstory Plant Community Cottonwood, Amorpha fruticosa, snowberry, golden current, peachleaf willow, some sandbar willow.

Dominant Understory Plant Community Smooth brome, western wheatgrass, crested wheatgrass, Asclepias speciosa, wintercress, prickly lettuce, teasel, Canada thistle, Rosa sp., Rumex.

Current Land Use Undeveloped

Drainage Name: Rock Creek Type: Perennial Stream

Ephemeral Stream Pond/Lake _____ Ditch _____ Other _____

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 5/12/04 and 5/19/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Kimberly C. Sandoval, Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Louisville, CO County Louisville Elevation 5310'

Township(s) T1S Range(s) 69W Section(s) 16

¼¼ Section(s) NW of NW

UTM Coordinates, Zone 13 Northing 4424396N Easting 489083E

URM Coordinate Datum NAD27 NAD83

Directions to Location From Dillon Road, head approx. ¾-mile north on 96th Street to railroad crossing over Coal Creek on east side of 96th Street.

Land Ownership private and open space

Habitat:

General Habitat Description Riparian woodland with upland shrub habitat on south side, undeveloped; RR crossing is a bridge. RR crossing at 96th is rirapped/culvert.

Dominant Overstory Plant Community Crack willow, sandbar willow, green ash, chokecherry, Hawthorn, American plum.

Dominant Understory Plant Community Smooth brome, cheatgrass, wild lettuce, Reed canary grass, Achillia, Flax, Dandelion, Alfalfa, Ambrosia artemesiafoia, Solidago sp. Diffuse knapweed, orchard grass, snowberry, Rumex sp.

Current Land Use Undeveloped

Drainage Name: Coal Creek Type: Perennial Stream

Ephemeral Stream Pond/Lake Ditch Other

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice) _____

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 5/20/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Louisville, CO County Louisville Elevation 5330'

Township(s) 1S Range(s) 69W Section(s) 3

¼¼ Section(s) SW of SE

UTM Coordinates, Zone 13 Northing 4426684N Easting 488554E

URM Coordinate Datum NAD27 NAD83

Directions to Location From S. Boulder Road, go north on 55th and Arapahoe Rd, head east on Arapahoe Rd for 1/2 -mile. Crossing is approx. ¼-mile north at railroad tracks.

Land Ownership Private

Habitat:

General Habitat Description Riparian woodland and shrub – east of RR with shrub understory,

Dominant Overstory Plant Community Populus alba, plains cottonwood, Russian olive.

Dominant Understory Plant Community Populus alba, chokecherry, smooth brome. Narrow band of Salix exigua along each side of ditch. Mowed grass immediately adjacent to NE, weedy vegetation to SE, urban to west, prairie dog colony to SE.

Current Land Use Agricultural/abandoned agricultural; residential to the west.

Drainage Name: Dawson Lateral Type: Perennial Stream

Ephemeral Stream _____ Pond/Lake _____ Ditch Other _____

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 5/20/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Niwot, CO County Boulder Elevation 5370'

Township(s) 1N Range(s) 69W Section(s) 32

¼¼ Section(s) NW of SW

UTM Coordinates, Zone 13 Northing 4428307N Easting 487308E

URM Coordinate Datum NAD27 NAD83

Directions to Location From the intersection of Baseline Road and 75th Street, head east on Baseline Road for approx. 1 ½-miles to ditch crossing at Baseline. The ditch crossing at railroad track is not accessible by vehicle. Walk 1/3-mile NNE to ditch crossing with railroad.

Land Ownership Private (surrounded by agricultural land)

Habitat:

General Habitat Description Riparian woodland (100' wide)

Dominant Overstory Plant Community Crack willow, box elder, Russian olive, plains cottonwood, apple, and green ash.

Dominant Understory Plant Community Smooth brome, sandbar willow, chokecherry

Current Land Use Agricultural/rural residential.

Drainage Name: Davidson Ditch Type: Perennial Stream

Ephemeral Stream Pond/Lake Ditch Other

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 5/20/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Niwot, CO County Boulder Elevation 5340'

Township(s) 1N Range(s) 69W Section(s) 32

¼¼ Section(s) NW of SE

UTM Coordinates, Zone 13 Northing 4428458N Easting 486820E

URM Coordinate Datum NAD27 NAD83

Directions to Location From the intersection of Baseline Road and 75th Street, head east on Baseline Road for approx. 1-mile to road. Turn north to end of road and continue NNE on foot to railroad crossing over ditch (located just east of S. Boulder Canyon Ditch).

Land Ownership Private (surrounded by agricultural land)

Habitat:

General Habitat Description Riparian woodland (50' wide)

Dominant Overstory Plant Community Crack willow

Dominant Understory Plant Community Smooth brome, orchard grass, Canada thistle, snowberry.

Current Land Use Agricultural (hay meadow).

Drainage Name: Marshallville Ditch Type: Perennial Stream

Ephemeral Stream Pond/Lake Ditch Other

Ditch V-shaped, 6' deep. Banks are 1/3 trees, 2/3 grass.

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 5/20/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Niwot, CO County Boulder Elevation 5325'

Township(s) 1N Range(s) 69W Section(s) 31

¼¼ Section(s) NW of SE

UTM Coordinates, Zone 13 Northing 4428529N Easting 486541E

URM Coordinate Datum NAD27 NAD83

Directions to Location From the intersection of Baseline Road and 75th Street, head east on Baseline Road for approx. 1-mile to road. Turn north to end of road and continue on foot to railroad crossing over ditch.

Land Ownership Private (surrounded by agricultural land)

Habitat:

General Habitat Description Riparian woodland/shrub along west side; east side grassy.

Dominant Overstory Plant Community Cottonwood, sandbar willow on west.

Dominant Understory Plant Community Smooth brome, Canada thistle, poison hemlock, Kentucky bluegrass, meadow rue, meadow fescue, Emory sedge.

Current Land Use Agricultural (grass and alfalfa/hay meadows).

Drainage Name: South Boulder Canyon Ditch Type: Perennial Stream

Ephemeral Stream _____ Pond/Lake _____ Ditch Other _____

SECTION 2:

Z. h. preblei found? Yes _____ No _____ Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 5/20/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Niwot, CO County Boulder Elevation 5290'

Township(s) 1N Range(s) 69W Section(s) 31

¼¼ Section(s) NW of SW

UTM Coordinates, Zone 13 Northing 4428656N Easting 485997E

URM Coordinate Datum NAD27 NAD83

Directions to Location From the intersection of Baseline Road and 75th Street, head north on 75th Street for ½-mile to road. Turn east and continue until road ends. Walk ENE to railroad crossing over ditch.

Land Ownership Private (surrounded by agricultural land)

Habitat:

General Habitat Description Open grassy habitat surrounded by agricultural.

Dominant Overstory Plant Community One large cottonwood at crossing.

Dominant Understory Plant Community various grasses.

Current Land Use Agricultural (hay meadows).

Drainage Name: City of Boulder Burke-Hodgson Lateral Type: Perennial Stream

Ephemeral Stream _____ Pond/Lake _____ Ditch Other _____

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice) _____

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 5/12/04, 5/20/04, and 6/28/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Kimberly C. Sandoval, Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Niwot, CO County Boulder Elevation 5220'

Township(s) 1N Range(s) 70W Section(s) 36

¼¼ Section(s) SW of NE

UTM Coordinates, Zone 13 Northing 4428841N Easting 484838E

URM Coordinate Datum NAD27 NAD83

Directions to Location From Arapahoe Road, head approx. 2000' south on 75th Street to railroad crossing over New Dry Creek Ditch on east side of 75th Street.

Land Ownership North side of railroad ROW is private, south side is Boulder County Open Space.

Habitat:

General Habitat Description Riparian shrub, undeveloped; RR crossing triple pipe cement culvert.

Dominant Overstory Plant Community Crack willow to the north, Russian olive to the south.

Dominant Understory Plant Community Smooth brome, whitetop, canary grass, mustard (wintercress?), pennycress, iris, wild lettuce, buttercup.

Current Land Use Undeveloped

Drainage Name: Cottonwood No. 2 and Dry Creek Davidson Ditch Type: Perennial

Stream Ephemeral Stream Pond/Lake Ditch

Other _____

Comments: Connects to South Boulder Creek without intervening development. Not previously trapped/evaluated in vicinity, decent habitat.

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 5/12/04 and 5/20/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Kimberly C. Sandoval, Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Niwot, CO County Boulder Elevation 5270'

Township(s) 1N Range(s) 70W Section(s) 25

Section(s) SW of SW

UTM Coordinates, Zone 13 Northing 4429644N Easting 484162E

URM Coordinate Datum NAD27 NAD83

Directions to Location From Arapahoe Road, head approx. 2000' south on 75th Street to railroad crossing over New Dry Creek Ditch on east side of 75th Street.

Land Ownership

Habitat:

General Habitat Description Riparian shrub, undeveloped; RR crossing triple pipe cement culvert.

Dominant Overstory Plant Community Salix exigua, plum.

Dominant Understory Plant Community Smooth brome, whitetop, wild lettuce, wild licorice, cheatgrass, burdock, houndstongue, canarygrass.

Current Land Use Undeveloped – grazing/open space

Drainage Name: Enterprise Lateral Type: Perennial Stream

Ephemeral Stream Pond/Lake Ditch Other

36" diameter cast iron pipe (CIP) – 72' long.

Connects to South Boulder Creek/New Dry Creek Ditch no previous trapping/evaluations. Not great habitat.

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 5/24/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Kimberly C. Sandoval, Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Niwot, CO County Boulder Elevation 5275'

Township(s) 1N Range(s) 70W Section(s) 25

$\frac{1}{4}$ Section(s) SW of SW

UTM Coordinates, Zone 13 Northing 4429635N Easting 484179E

URM Coordinate Datum NAD27 NAD83

Directions to Location From 75th and Arapahoe Road, head west for 1/2-mile to entrance for Legion Park. Park in parking lot and walk 1/4-mile ENE to railroad crossing over ditch.

Land Ownership Private (agricultural; industrial to east)

Habitat:

General Habitat Description Riparian woodland to east; industrial to west.

Dominant Overstory Plant Community Cottonwood, apple, American plum, leadplant.

Dominant Understory Plant Community Houndstongue, cheatgrass, budock, orchard grass.

Current Land Use Agriculture

Drainage Name: Enterprise Ditch Type: Perennial Stream

Ephemeral Stream _____ Pond/Lake _____ Ditch X Other _____

West side of tracks is concrete lined channel, no riparian through industrial area.

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 5/24/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Kimberly C. Sandoval, Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Niwot, CO County Boulder Elevation 5250'

Township(s) 1N Range(s) 70W Section(s) 26,35

¼¼ Section(s) SW of SW (Section 26); NW of NW (Section 35)

UTM Coordinates, Zone 13 Northing 4429409N Easting 482450E

URM Coordinate Datum NAD27 NAD83

Directions to Location From 63rd and Arapahoe Road, head approx. 500' north on 63rd to railroad crossing. Site is approx. 500' east of 63rd Street.

Land Ownership Private (industrial)

Habitat:

General Habitat Description Riparian woodland to south; industrial to west.

Dominant Overstory Plant Community Siberian elm (south). Cottonwood and sandbar willow (north).

Dominant Understory Plant Community Houndstongue, cheatgrass, budock, orchard grass.

Current Land Use Industrial surrounds ditch

Drainage Name: East Boulder Ditch Type: Perennial Stream

Ephemeral Stream _____ Pond/Lake _____ Ditch Other _____

Site is 90% grass along ditch. Ditch parallels north side of tracks, partly piped and partly open ditch. Linear wetland along ditch near reservoir – connects to Sombrero Marsh.

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 5/24/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Niwot, CO County Boulder Elevation 5225'

Township(s) 1N Range(s) 70W Section(s) 27

1/4 Section(s) SW of SE

UTM Coordinates, Zone 13 Northing 4429688N Easting 481826E

URM Coordinate Datum NAD27 NAD83

Directions to Location From 55th and Arapahoe Rd, head east on Arapahoe Rd for 1/2 -mile.

Crossing is approx. 1/4-mile north at railroad tracks.

Land Ownership Private

Habitat:

General Habitat Description Riparian woodland with shrub understory.

Dominant Overstory Plant Community Crack willow, box elder, Russian olive, cottonwood, apple, green ash.

Dominant Understory Plant Community Smooth brome, Salix exigua, dandelion, alfalfa, choke cherry. Ditch channel sparsely vegetated - mostly brome.

Current Land Use Open space/previously agricultural

Drainage Name: South Boulder Inlet Canal Type: Perennial Stream _____

Ephemeral Stream _____ Pond/Lake _____ Ditch Other _____

Ditch deeply cut in parts (15'), otherwise generally 4-6' deep and 6-8' wide.

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 5/24/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Niwot, CO County Boulder Elevation 5225'

Township(s) 1N Range(s) 70W Section(s) 27

1/4 Section(s) SE of SW

UTM Coordinates, Zone 13 Northing 4429724N Easting 481576E

URM Coordinate Datum NAD27 NAD83

Directions to Location From intersection of 55th and Arapahoe Roads, head east on Arapahoe for approx. 1/3-mile to road on north side. Turn north and follow road to where it crosses S. Boulder Creek. Walk to railroad crossing just south of here.

Land Ownership Open Space and Private

Habitat:

General Habitat Description Riparian woodland/shrub with wetland and grassland.

Dominant Overstory Plant Community Crack willow, cottonwood, sandbar willow, boxelder, Russian olive, Siberian elm.

Dominant Understory Plant Community Smooth brome, crested wheatgrass, Kentucky bluegrass, and western wheatgrass.

Current Land Use Mix of industrial, open space, and undeveloped private land.

Drainage Name: South Boulder Creek Type: Perennial Stream

Ephemeral Stream _____ Pond/Lake _____ Ditch _____ Other _____

S. Boulder Creek crossing is a bridge with bicycle path.

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 5/24/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Niwot, CO County Boulder Elevation 5210'

Township(s) 1N Range(s) 70W Section(s) 27

¼¼ Section(s) SW of SW

UTM Coordinates, Zone 13 Northing 4429803N Easting 481005E

URM Coordinate Datum NAD27 NAD83

Directions to Location From intersection of 55th and Arapahoe Roads, head north on 55th Street for ¼-mile to tracks. Follow tracks approx. 1/8-mile east to ditch crossing.

Land Ownership Private

Habitat:

General Habitat Description: Riparian woodland/shrub.

Dominant Overstory Plant Community: Crack willow, cottonwood, Russian olive.

Dominant Understory Plant Community: Grasses/weeds

Current Land Use: Mix of industrial, commercial and undeveloped private land.

Drainage Name: Dry Creek No. 2 Ditch Type: Perennial Stream

Ephemeral Stream Pond/Lake Ditch Other

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 5/12/04 and 5/24/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Kimberly C. Sandoval, Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Niwot, CO County Boulder Elevation 5220'

Township(s) 1N Range(s) 70W Section(s) 28

1/4 Section(s) NW of SE

UTM Coordinates, Zone 13 Northing 4429961N Easting 479947E

URM Coordinate Datum NAD27 NAD83

Directions to Location From Foothills Parkway, go east of Pearl Parkway, turn south into office complex and head to the south end of parking lot, turn east and follow parking lot to railroad crossing over creek..

Land Ownership Boulder County Open Space

Habitat:

General Habitat Description Riparian woodland/shrub,

Dominant Overstory Plant Community Peachleaf willow, green ash, cottonwood, sandbar willow, crack willow.

Dominant Understory Plant Community cheatgrass, smooth brome, mullein, houndstongue, wintercress, Asclepias, sedges.

Current Land Use Undeveloped - open space, office complex adjacent to north.

Drainage Name: Boulder Creek Type: Perennial Stream

Ephemeral Stream Pond/Lake Ditch Other

Site condition is good, concrete riprap/bridge with concrete pilings. PMJM potential low - already trapped/not found.

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 6/2/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Niwot, CO County Boulder Elevation 5260'

Township(s) 1N Range(s) 70W Section(s) 29

1/4 Section(s) SE of NW

UTM Coordinates, Zone 13 Northing 4430346N Easting 478653E

URM Coordinate Datum NAD27 NAD83

Directions to Location Site can be accessed from 33rd and Pearl Streets. Ditch and railroad crossing should be just west of here.

Land Ownership Private

Habitat:

General Habitat Description Riparian woodland

Dominant Overstory Plant Community Crack willow, Siberian elm, box elder.

Dominant Understory Plant Community weedy

Current Land Use Commercial and industrial developments.

Drainage Name: Boulder and Lefthand Ditch Type: Perennial Stream

Ephemeral Stream Pond/Lake Ditch X Other

Ditch is concrete lined and barren on north side of Pearl. Riparian woodland is patchy to south and most of ditch is underground.

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey

Trapping Information:

Type of Traps Type of Bait

% Available (unsprung) Number of Nights Trapped

Total Trapnights

Weather Conditions prior to and during survey

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 6/2/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Boulder, CO County Boulder Elevation 5265'

Township(s) 1N Range(s) 70W Section(s) 29

1/4 Section(s) SW of NE

UTM Coordinates, Zone 13 Northing 4430514N Easting 478608E

URM Coordinate Datum NAD27 NAD83

Directions to Location Site can be accessed from bicycle path from Pearl Street. At the intersection of 47th and Pearl, take bike path (NW side of Pearl), after the path curves west, you will come to the crossing of the ditch under the railroad tracks.

Land Ownership Private

Habitat:

General Habitat Description Wetland channel/weedy upland

Dominant Overstory Plant Community N/A

Dominant Understory Plant Community Perennial pepperweed, diffuse knapweed, field bindweed, Alyssum, smooth brome, cheatgrass, Scotch thistle, and Kentucky bluegrass. Wetland species include softstem bulrush, broadleaf and narrowleaf cattail, reed canarygrass, pink water speedwell.

Current Land Use Developed.

Drainage Name: Goose Creek Type: Perennial Stream

Ephemeral Stream Pond/Lake Ditch Other

Bridge and bicycle path.

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice) _____

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 6/2/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Niwot, CO County Boulder Elevation 5280'

Township(s) 1N Range(s) 70W Section(s) 20

¼¼ Section(s) NE of SE

UTM Coordinates, Zone 13 Northing 4431596N Easting 479045E

URM Coordinate Datum NAD27 NAD83

Directions to Location From the intersection of Valmont Rd and 47th Street, go west on Valmont to where tracks cross the road. Follow the tracks north to ditch.

Land Ownership Private and public

Habitat:

General Habitat Description Riparian woodland along ditch to west; east is more disturbed.

Dominant Overstory Plant Community Crack willow, box elder, cottonwood, chokecherry,

American plum, green ash.

Dominant Understory Plant Community N/A

Current Land Use Residential development, park, roadway.

Drainage Name: Wonderland Creek Type: Perennial Stream

Ephemeral Stream _____ Pond/Lake _____ Ditch Other _____

Very low railroad bridge, only allows water underneath.

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 6/2/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Niwot, CO County Boulder Elevation 5280'

Township(s) 1N Range(s) 70W Section(s) 16

¼¼ Section(s) SE of SW

UTM Coordinates, Zone 13 Northing 4432840N Easting 479637E

URM Coordinate Datum NAD27 NAD83

Directions to Location From intersection of Hwy 119 and Iris Ave, take 119 north for approx 1 ¾-miles to where ditch crosses railroad tracks on the east side of Hwy 119.

Land Ownership Boulder County Open Space

Habitat:

General Habitat Description Riparian woodland along creek.

Dominant Overstory Plant Community Cottonwood, American plum, chokecherry, crack willow, golden current, peachleaf willow.

Dominant Understory Plant Community Smooth brome, perennial pepperweed, Canada thistle.

Current Land Use Boulder County Open Space and roadway

Drainage Name: Fourmile Canyon Creek Type: Perennial Stream X

Ephemeral Stream _____ Pond/Lake _____ Ditch _____ Other _____

Bridge crossing over highways 119 and 157.

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 6/2/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Niwot, CO County Boulder Elevation 5280'

Township(s) 1N Range(s) 70W Section(s) 20

1/4 Section(s) NE of SE

UTM Coordinates, Zone 13 Northing 4431596N Easting 479045E

URM Coordinate Datum NAD27 NAD83

Directions to Location From intersection of Hwy 119 and Iris Ave, take 119 north for approx 2-miles to where ditch crosses railroad tracks on the east side of Hwy 119. This south crossing of Boulder and Whiterock Ditch is the ditch just south of Jay Road, the north crossing is approximately 1/4-mile north of Jay Road.

Land Ownership Private and public

Habitat:

General Habitat Description: Grassland with small patch of riparian shrub.

Dominant Overstory Plant Community: Small patch of willow just east of crossing.

Dominant Understory Plant Community various grasses; also grassy in highway median.

Current Land Use Open space to east, highway median to west.

Drainage Name: Boulder and Whiterock Ditch (N crossing) Type: Perennial Stream

Ephemeral Stream _____ Pond/Lake _____ Ditch Other _____

Railroad bridge, mostly water underneath as very narrow.

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice)

**Preble's Meadow Jumping Mouse, *Zapus hudsonius preblei*
2004 Survey Data Compilation Form**

TRAPPING SURVEY

EVALUATED, NOT TRAPPED

Fill out both sections 1 and 2 if trapping survey, fill out section 1 only if habitat evaluation (ie, not trapped). Compilation forms needed for updated habitat evaluations and site disqualification requests.

SECTION 1

Surveyor:

Date of Site/Habitat Assessment 6/2/04

Organization/Company URS Corporation 8181 E. Tufts Ave., Denver, CO 80237

Full Name(s) Jeffrey Dawson

Location:

Project Name (if applicable) US 36 EIS

Project Description (nearby road intersection, type of impact, etc.) Widen US 36 and add commuter rail along existing BNSF RR ROW. Requires widening of existing bridges and culverts.

U.S.G.S. Quad Name Niwot, CO County Boulder Elevation 5280'

Township(s) 1N Range(s) 70W Section(s) 20

1/4 Section(s) NE of SE

UTM Coordinates, Zone 13 Northing 4431596N Easting 479045E

URM Coordinate Datum NAD27 NAD83

Directions to Location From intersection of Hwy 119 and Iris Ave, take 119 north for approx 2-miles to where ditch crosses railroad tracks on the east side of Hwy 119. This south crossing of Boulder and Whiterock Ditch is the ditch just south of Jay Road, the north crossing is approximately 1/4-mile north of Jay Road.

Land Ownership Private and public

Habitat:

General Habitat Description: Grassland with small patch of riparian shrub.

Dominant Overstory Plant Community: Small patch of willow just east of crossing.

Dominant Understory Plant Community various grasses; also grassy in highway median.

Current Land Use Open space to east, highway median to west.

Drainage Name: Boulder and Whiterock Ditch Type: Perennial Stream

Ephemeral Stream _____ Pond/Lake _____ Ditch Other _____

Railroad bridge, mostly water underneath as very narrow.

SECTION 2:

Z. h. preblei found? Yes No Dates of Survey _____

Trapping Information:

Type of Traps _____ Type of Bait _____

% Available (unsprung) _____ Number of Nights Trapped _____

Total Trapnights _____

Weather Conditions prior to and during survey _____

Associated Animal Species (especially urban predators, rats, house mice) _____

