United States Department of the Interior

Bureau of Land Management

Long Valley Road Extension Right-of-Way

Environmental Assessment
DOI-BLM-UT-C030-2020-0004-EA

November 2020

Location:

Section 31, Township 42 South, Range 14 West
Section 6, Township 43 South, Range 14 West
Section 36, Township 42 South, Range 15 West
Salt Lake Baseline and Meridian

Applicant:

Washington City
1305 East Washington Dam Road
Washington, Utah 84780

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The estimated total costs associated with developing this Environmental Assessment are: $61,523.45

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CHAPTER 1. PURPOSE AND NEED

1.1 Introduction

The proposed Long Valley Road extension is part of a Washington City master planned roadway that would connect the existing Long Valley Road with a planned interchange on the Southern Parkway known as Interchange 11 (3650 South). The proposed road would lie adjacent to the recently completed parkway (**Figure 1**). The extension would provide a principal access to the planned Trails at Long Valley master community as well as traffic circulation and utility access to approximately 2,000 residential units located within the subdivision. The proposed road would provide additional traffic circulation and emergency access to the area prior to the completion of the interchange, which is currently under discussion to be constructed. Additionally, public utilities (culinary water, sewer, natural gas, television, and telephone lines) would be located underneath the proposed roadway (James Raines personal communication 2020). A paved bicycle trail would eventually be constructed adjacent to the road within the proposed right-of-way (ROW). Because the trail is being analyzed as a part of the proposed project, no additional environmental assessment work would be required. The proposed project would be located on Bureau of Land Management (BLM)-administered land and private land.

Washington City, Utah, in conjunction with Brennan Holdings, LLC (Brennan), applied for an ROW grant to extend the road in 2019. This ROW grant and the proposed project require National Environmental Policy Act (NEPA) analysis as the extension occurs on BLM-administered public land. The proposed project would serve as an outlet for the Trails at Long Valley, Brennan's planned subdivision.

1.2 Background

The planned Brennan subdivision, the Trails at Long Valley, would comprise approximately 2,000 units in the Long Valley region southeast of the Southern Parkway (see **Figure 1**). As a recently annexed part of Washington City, Utah, the Trails at Long Valley subdivision must comply with the Washington City Zoning Ordinance, which states that any subdivision greater than 30 houses must have at least 2 access routes (Washington City 2018). Long Valley Road, which intersects the Southern Parkway at Interchange 15 and extends down into the Trails at Long Valley property from the north, is currently the only access route for the proposed subdivision. The proposed extension of this roadway to access the Southern Parkway from the southwest would provide the required secondary access route to this subdivision and alleviate traffic congestion that may be generated by the future community.

The legal description of the project area is lots 5, 6, 8, and 11 of Section 31, Township 42 South, Range 14 West; lot 1 of Section 6, Township 43 South, Range 14 West; and the southeast quarter of the southeast quarter of Section 36, Township 42 South, Range 15 West, Salt Lake Baseline and Meridian, Washington County, Utah.

The project area is approximately 93.3 acres (19.7 acres of ROW and 73.6 acres of surrounding buffer area that may be affected). The 300-foot size of the buffer complies with U.S. Fish and Wildlife Service (USFWS) analysis requirements due to potential effects to the listed desert tortoise and dwarf bear-poppy. The majority of the project area (81.4 acres) is located on public land administered by the BLM St. George Field Office (SGFO). Approximately 11.9 acres of the

project area are located on private lands owned by Brennan. No lands administered by the State of Utah are located within the project area.

1.3 Purpose and Need for Action

The BLM's purpose is to respond to Washington City's application for the proposed ROW grant for the extension of Long Valley Road to provide principal access and utilities and to meet Washington City's requirements for traffic circulation to the 2,000 units that would be developed at the planned Trails at Long Valley master community. The need is established by the BLM's statutory and regulatory responsibilities regarding ROWs under the Federal Land Policy and Management Act (43 U.S. Code [USC] 1761).

1.4 Decision to be Made

The BLM will decide whether or not to issue a ROW grant for the extension of Long Valley Road and, if so, under what terms and conditions the grant would be issued.

1.5 Conformance with BLM Land Use Plan

The Proposed Action (Section 2.2) would be in conformance with the following management decisions from the BLM SGFO's Record of Decision (ROD)/Resource Management Plan (RMP) (BLM 1999), as amended in 2001 and 2016:

> *LD-12: Applications for new rights-of-way on public lands will be considered and analyzed on a case-by-case basis. Proposals will be reviewed for consistency with planning decisions and evaluated under requirements of the National Environmental Policy Act and other applicable laws for resource protection. Mitigation needed to avoid adverse impacts will be integrated into project proposals and, where appropriate, alternatives identified to further reduce environmental impacts to lands, resources, or adjacent land uses (BLM 1999, 2.3).*
>
> *LD-13: All new rights-of-way will be subject to applicable standards listed in Appendix 1 for surface disturbing activities. Where needed, wildlife seasonal use restrictions will apply to right-of-way construction. Rights-of-way will generally remain open to other public uses that do not conflict with the purposes for which the rights-of-way are established (BLM 1999,2.3–2.4).*

The relevant management goals and objectives about special-status plant species include those for dwarf bear-poppy (*Arctomecon humilis*), Siler pincushion cactus (*Pediocactus sileri*), and Holmgren milkvetch (*Astragalus holmgreniorum*) detailed in the SGFO's ROD/RMP.

Objectives for dwarf bear-poppy and Siler pincushion cactus include the following:

a) *BLM will continue to implement existing recovery plans, habitat management plans, and the Washington County Habitat Conservation Plan as they apply to these two species. Among other things, the plans call for monitoring and studies, habitat consolidation, selected fencing, public education, signing, law enforcement, and protection from mining, off-road travel, and other forms of impacting land use*

b) *The Red Bluff and Warner Ridge/Fort Pearce habitat areas will be designated and managed as Areas of Critical Environmental Concern (ACECs). Specific prescriptions that will be applied to these areas are described in the section of this plan on ACECs under Special Emphasis Areas*
c) *To reduce conflicts and additional disturbance, habitat areas will be designated as rights-of-way avoidance areas and closed to fuelwood and mineral materials sales. Plants will be protected by restricting mountain bike use and off-road vehicle travel to designated roads and trails. (BLM 1999, 2.23)*

Objectives for Holmgren milkvetch include the following:

a) *In collaboration with interested local, state, and federal agencies, institutions, and Indian tribes, BLM will prepare conservation agreements and strategies designed to stabilize declining populations and promote protective management to ensure survival of the species*
b) *To reduce conflicts and additional disturbance, habitat areas will be designated as rights-of-way avoidance areas and closed to fuelwood and mineral materials sales. Plants will be protected by restricting mountain bike use and off-road vehicle travel to designated roads and trails (BLM 1999, 2.23)*

The management goals and objectives for special-status species that apply include the following:

BLM will manage public lands to meet the goals and objectives of recovery plans, conservation agreements and strategies, approved activity level plans, and the Washington County HCP Implementation Agreement related to the recovery of special-status animals in Washington County. As part of its plan implementation, BLM will work with its partners to promote public education on species at risk, significance to the human and biological communities, and reasons for protective measures that will be applied to the lands involved. BLM's objective will be to collaboratively manage habitat for federally-listed species so as to achieve recovery and delisting. Approved recovery plans will guide management decisions. Recovery plan actions already implemented will be evaluated for effectiveness in achieving desired effects and revised where studies show objectives have not been met. BLM will also collaborate with appropriate local, state, and federal agencies in the management of habitat for non-listed special-status animal species with the objective of eliminating the need for additional listings. Management actions will be guided by conservation agreements and strategies. Special attention will be given to those animals listed as "sensitive" under the Utah Sensitive Species List maintained by the Utah DWR.

BLM will work collaboratively with local, state, and federal partners to accomplish the goals and the objectives of the Washington County HCP and Red Cliffs Desert Reserve. Major goals include the preservation and protection of the desert tortoise and its habitat so as to achieve full recovery of the tortoise as well as other listed or sensitive species found within the Upper Virgin River Recovery Unit.

FW-10: Critical habitat for federally-listed species and habitat for candidate species will be designated right-of-way avoidance areas and closed to mineral materials sales.

Appropriate use restrictions affecting off-road travel, mineral leasing, mining, recreation, occupancy, and fuelwood sales will be employed where needed to accomplish conservation and recovery objectives (BLM 1999, 2.25–2.29).

FW-14: Section 7 consultation with the FWS will be required for any action that might affect federally-listed species or associated critical habitats.

Finally, the RMP's management goals and decisions related to Warner Ridge/Fort Pearce Area of Critical Environmental Concern (ACEC) are as follows:

AC-03: The Warner Ridge/Fort Pearce ACEC encompasses 4,281 acres. This area contains the endangered dwarf bearclaw poppy, the threatened Siler pincushion cactus, important riparian values along the Fort Pearce Wash, historic sites, and highly erodible soils, all of which are at risk from off-road travel, road proliferation, urban growth, and human encroachment. The area also contains essential habitat for waterfowl, the gila monster, spotted bat, raptors, and other nongame species which have suffered from habitat loss caused by urbanization and development in the St. George area. The following prescriptions will be applied to protect and improve these values:

b) The area will be closed to fuelwood and mineral materials sales and designated a right-of-way avoidance area. BLM will work with sponsors of the Southern Transportation Corridor to define an environmentally preferred route through the area that will minimize impacts to the resources being protected

d) Motorized travel will be limited to designated roads and trails. Fencing, barricading, and signing will be employed as necessary to eliminate unauthorized vehicle access and impacts to protected resources (BLM 1999, 2.62–2.63)

1.6 Issue Identification

1.6.1 Introduction

An SGFO BLM Interdisciplinary (ID) team screened the proposed ROW and completed an ID checklist that identified specific areas of concern within the proposed project area (**Appendix A**). The specific areas of concern that could be affected by granting the proposed ROW are addressed in this Environmental Assessment (EA).

1.6.2 Issues Identified

- Would project implementation (construction and maintenance activities) affect wildlife (excluding USFWS designated species) and result in loss of animals?
- Would project implementation (construction and maintenance activities) affect migratory bird species habitat and result in loss of birds?
- Would project implementation (construction and maintenance activities) result in vegetation (excluding USFWS designated species) habitat loss?
- Would project implementation (construction and maintenance activities) result in the loss of the listed endangered dwarf bear-poppy and Holmgren milkvetch and the threatened Siler pincushion cactus habitat and individual plants?
- Would project implementation (construction and maintenance activities) result in the loss of the listed threatened desert tortoises and their habitat?
- Would project implementation (construction and maintenance activities) result in the loss of Warner Ridge/Fort Pearce ACEC values?

1.6.3 Issues Considered but Eliminated from Further Analysis

The ID checklist provides a description of all resources and issues within a project area as well as a rationale for the findings of their resource specialists. The ID checklist for the Long Valley Road Extension ROW identified many resources that are either not present or would not be affected to a degree that required detailed analysis. The resources that are not present or would not be affected by the project are listed in Section 3.1.

CHAPTER 2. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 Introduction

This section describes the Proposed Action, the design features included to minimize impacts on the affected resources identified in scoping, the No Action Alternative, and any other alternatives considered for this analysis.

2.2 Proposed Action

The extension of Long Valley Road is the Proposed Action. The 93.3-acre project area includes the proposed ROW (19.7 acres) and a 300-foot buffer surrounding the ROW (73.6 acres). All construction would be limited to the proposed ROW. The proposed project would be constructed in four phases as shown below. The first three phases would be completed between 2021 and 2025 (approximately 60 weeks of actual construction).

- Phase 1—Grading and utility installation: spring of 2021
- Phase 2—Road-base gravel of graded surface: fall of 2021
- Phase 3—Pave two lanes (24 feet wide): fall of 2025 or upon completion of the planned Interchange 11 (3650)
- Phase 4—Pave additional traffic lanes: as needed but not before 2030

The proposed roadway would be 110 feet wide and 4,877 feet long. The Long Valley Road Extension would be a permanent facility used year-round that would connect the planned Trails of Long Valley master community to the existing Southern Parkway terminating at the planned highway Interchange 11 (3650 South). It would accommodate residential vehicular traffic, provide secondary access to the Trails of Long Valley development, and provide enhanced traffic circulation assistance in the area. The road would originate at the Trails at Long Valley development and be a dedicated public roadway. At an undetermined point in time, a paved bicycle trail would be located immediately adjacent to the road within the proposed ROW. The entire project would result in the permanent disturbance of approximately 19.7 acres.

The road would be constructed to Washington City road standards (which comply with all state and federal design standards including but not limited to the American Association of State Highway and Transportation Officials standards). The maximum grade of the road would be 3.06 percent, and road (pitch) would be at 2.00 percent. No sand or gravel would be required from public lands. All construction equipment staging areas and access routes to the project area would be located on private lands held by Brennan.

The proposed road design would not include any major structures such as bridges or retaining walls. Eight existing culvert crossings that convey the existing dry washes would be extended from the Southern Parkway underneath the proposed ROW. The road would ultimately be surfaced with bituminous asphalt. Public utilities, including culinary water, sewer, natural gas, television, and telephone lines, would be installed fully within the proposed ROW as part of the initial construction and would be included in the anticipated 19.7 acres of surface disturbance. No additional public lands would be needed for utility installation; however, additional ROW grants would be required. It is assumed that the utilities would begin at the south and north ends

of the project area. The holders of the utilities have not yet been identified. The paved bicycle trail construction timeframe has not been determined.

The construction of the roadway would include the following activities:

- Clearing and grubbing
- Grading of the existing surface to sub-grade including 27,011 cubic yards of cut, 12,202 cubic yards of fill, and 14,809 cubic yards of export. Export would be placed on the Brennan parcel
- Installation of public utilities including but not limited to sanitary sewer, culinary and irrigation water lines, a natural gas line, underground power lines, and telephone and television lines
- Installation of bituminous asphalt surface
- Construction of a paved bicycle trail immediately adjacent to the proposed road
- The work force required to complete the various phases of the roadway construction would range from a minimum of 2–3 workers to a maximum of 50 workers
- The construction of the roadway would not require flagging. The roadway ROW, limits of construction, and construction staking would be overseen by a Professional Land Surveyor licensed to practice in the State of Utah
- Clearing and grubbing would be completed in phases. Construction would be completed using the established methods and practices consistent with local, state, and federal guidelines
- Access to the ROW during construction would occur from the private lands owned and controlled by Brennan on the north and from the Utah Department of Transportation (UDOT) ROW where the planned Intersection 11 (3650 South) would be located on the south

All project activities and equipment would be confined to the designated ROW except equipment staged on adjacent private lands owned by Brennan. A visual representation of the proposed project can be found in **Appendix B**.

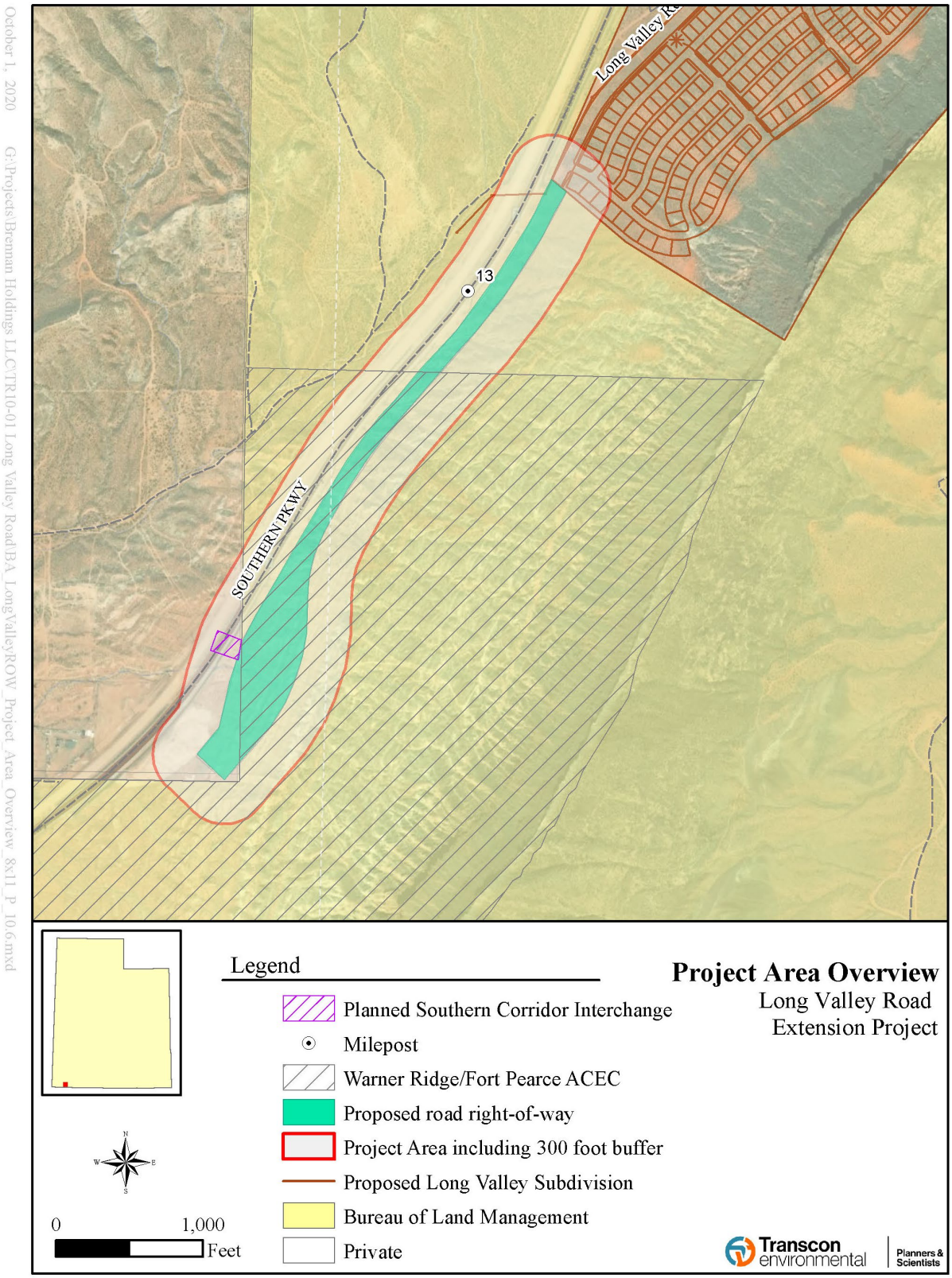

Figure 1. Project area overview map. Depicts the project area including the proposed ROW and buffer area, the Southern Parkway, and the planned Trails at Long Valley subdivision

2.2.1 Applicant-Committed Measures

The following applicant-committed measures would be implemented as part of the Proposed Action to minimize the overall effects of the project and the effects on the ACECs as identified in the BLM ID team's checklist.

2.2.1.1 General Measures

The following general measures will be implemented:

- BLM best management practices (BMPs), including water application when needed, will be used to control fugitive dust levels during road construction
- In order to control stormwater discharges, BMPs will be used as needed, including material handling and temporary storage procedures that minimize exposure of potential pollutants to stormwater, spill prevention and response, sediment and erosion controls, and physical stormwater controls
- A Stormwater Pollution Prevention Plan will be submitted to the BLM and adhered to during construction
- Signs will be placed on roads where needed to warn recreational riders of any hazards
- Prior to initiation of construction activities, all project personnel will attend an environmental training led by a qualified biologist approved by the USFWS and the BLM. The training will identify threatened and endangered species potentially occurring in the project area and the appropriate course of action if such a species is encountered. Applicant-committed conservation and protection measures to avoid and minimize potential adverse impacts will be discussed
- An environmental inspector will be the field contact representative (FCR) responsible for overseeing compliance with protections for federally-listed species. The FCR will have the authority to halt activities that are in violation of the applicant-committed measures. The FCR will also halt non-emergency project activities that may endanger a federally-listed or BLM sensitive species. The FCR will authorize work resumption only after the hazards are removed, the species is no longer at risk, or the individual is moved out of harm's way by an authorized biologist approved by the USFWS and BLM SGFO biologists
- Prior to construction, a permanent fence will be constructed for the entire length of the project area. This fence will serve two purposes: 1) to protect the Warner Valley population of dwarf bear-poppies by preventing off-highway vehicle (OHV) users from gaining access to sensitive lands through the proposed ROW and 2) to serve as a desert tortoise exclusionary structure. The fence will be constructed to meet USFWS desert tortoise standards. The fence location will be determined by the BLM but will tie into existing fences constructed as part of the Gateway South Segment 3B construction project. The BLM will be responsible for fence maintenance following completion of the project
- Disturbance of natural vegetation within the ROW will be limited to the extent necessary to complete the project and to reduce the impact to native plant species and ground-nesting pollinators

- The top 12 inches of gypsiferous soils within the disturbance area of the proposed ROW will be salvaged, stockpiled, and redistributed along the cut-and-fill slopes. The contractor will remove these soils after clearing and grubbing activities but prior to roadway excavation or other use of the site
- Areas of disturbance within the ROW but outside of the road itself will be revegetated with native shrubs and grasses as determined by the BLM

2.2.1.2 Desert Tortoise

The following measures specific to desert tortoise will be implemented:

- Any suitable habitat with potential for desert tortoise will be surveyed according to USFWS protocol by a qualified biologist (who has taken the mandatory desert tortoise survey training) within 1 year prior to construction (USFWS 2011a, 2017). A desert tortoise pre-project clearance survey will be conducted immediately prior to surface disturbance within the project area. If necessary, these activities will supplement the 2019 survey
- Surveys will be conducted to determine potential relocation sites located within 300 meters of the project area for any tortoises that will need to be translocated from the site
- If no suitable sites are found within 300 meters of the proposed ROW, other areas will be evaluated and approved by the USFWS prior to translocation
- Any translocation activities will be conducted in accordance with USFWS guidance and regulations
- During construction, a qualified desert tortoise biologist will monitor the construction site. The biologist will verify crews are staying within the construction area, verify that the exclusionary fence has not been damaged and is being properly maintained, and conduct other activities as necessary to minimize harm and harassment of desert tortoises
- If a tortoise is encountered in the project area during construction, the animal will not be approached or handled, and all nearby project activities will be halted. The BLM wildlife biologist and the USFWS will be notified, and construction activities will not be reinitiated until the BLM provides approval
- Cross-country travel will be avoided unless authorized and flagged by the qualified desert tortoise biologist
- The ROW will be fenced with an approved desert tortoise exclusion fence, as described above
- A donation of acreage to the Desert Tortoise Red Cliffs Desert Reserve may be necessary. The acreage will be determined by the USFWS
- The BLM agrees to enhance and restore 10 acres of modeled suitable tortoise habitat which will be achieved using fencing for the purposes of establishing long-term habitat monitoring plots. The location will also benefit the dwarf bear-poppy as it is co-located in suitable, occupied habitat
- Fencing will consist of t-posts that will be pounded into the ground using post pounders. Barbed wire (2–3 strands) will be strung between t-posts. All work will be completed by hand, and no machinery will be utilized. Fencing will not restrict ingress/egress of native wildlife. The total length of the fencing will be 2,640 feet

- Materials will be carried to the site by hand; any motorized access will be restricted to previously disturbed areas
- In order to reduce the potential for running over tortoises, vehicle and equipment speeds will not exceed 20 miles per hour in the project area
- The underside of any parked vehicles and equipment will be checked for tortoises seeking shelter prior to moving the vehicle or equipment
- To prevent entrapment of wildlife during construction, all open pits and trenches will be monitored throughout the construction day
- At the beginning of the construction day and before they are filled, pits and trenches will be inspected for trapped animals. If any animals are found, they will be moved out of harm's way by a qualified biologist approved by the USFWS and BLM SGFO biologists

2.2.1.3 Federally Listed Plant Species (Dwarf Bear-Poppy, Holmgren Milkvetch, and Siler Pincushion Cactus)

The following measures specific to federally-listed plant species, specifically the dwarf bear-poppy, Holmgren milkvetch, and Siler pincushion cactus, will be implemented:

- To offset the loss of any occupied habitat, the applicant or other parties, in coordination with the USFWS, will contribute $50,000 to the Washington County Habitat Conservation Plan (HCP) to be used in dwarf bear-poppy habitat management and protection. For consultation purposes, the USFWS includes a 300-foot buffer surrounding occupied habitat **(Figure 2)**. Based on this determination, 6.33 acres of occupied habitat are included within the actual ROW and will be a part of the committed mitigation (**Figure 4**)
- As detailed in the General Measures section, the applicant will install a fence along the ROW for the purpose of protecting dwarf bear-poppy habitat located within the buffer and adjoining areas. The fence will be sited and constructed according to specifications provided by the BLM and the USFWS. The fence will be constructed to prevent OHV use, target shooting, and refuse dumping within the ACEC. The fence will tie into existing fences in order to prevent vehicle access to the buffer area (see **Figure 3** for existing fences in the area)
- USFWS protocol-level surveys will be conducted within 1 year prior to construction for federally-listed plant species in order to identify occupied and potential habitat and develop protective measures
- Ground-disturbing activities will not occur within 300 feet of any dwarf bear-poppy during its flowering season (mid April–May) unless authorized by the BLM and USFWS botanists
- If Holmgren milkvetch and Siler pincushion cacti are determined to be present, ground-disturbing activities will not occur within 300 feet during their flowering season (April–June) unless authorized by the BLM and USFWS botanists. Surveys conducted in 2020 did not locate either species within the project area (Transcon 2020a)
- The project area will be watered as needed (at least three times per day when dry conditions are present) within 300 feet of dwarf bear-poppy and Siler pincushion cactus

locations to keep dust down and limit any adverse impacts to the plants, especially if construction must occur during the flowering season

- The chosen area has been checked and cleared utilizing aerial imagery to minimize disturbance of individual dwarf bear-poppy plants
- USFWS and BLM approved biologists will clear (50 feet on either side of fence disturbance), stake, and flag fence perimeter prior to construction to ensure individual dwarf bear-poppy plants and tortoise burrows will not be trampled during fence construction. All dwarf bear-poppies found on-site will be mapped and data will be submitted to the BLM and the USFWS
- Crews will receive dwarf bear-poppy identification and tortoise awareness training prior to working in suitable habitat

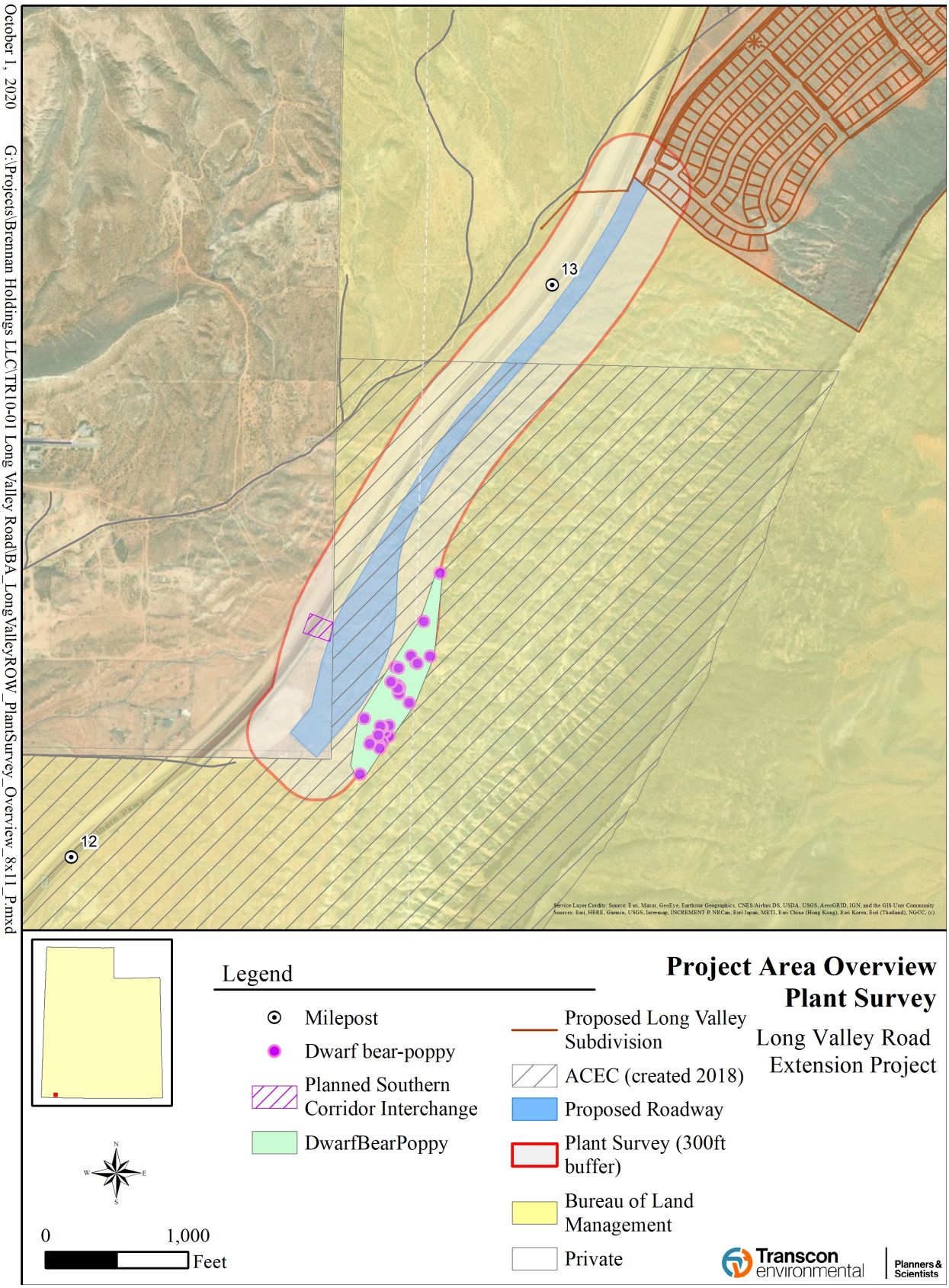

Figure 2. Occupied and unoccupied dwarf bear-poppy habitat located within the project area

2.2.1.4 Hazardous Materials and Waste

The following measures will be implemented with regard to hazardous materials and waste:

- Local, state, and federal regulations related to the use, handling, storage, transportation, and disposal of hazardous materials will be followed. No equipment oil or fuel will be drained on the ground; the oils or chemicals will be hauled to an approved site for disposal
- All toxic substances (e.g., oil, gas, antifreeze) will be stored in closed containers at all times. Accidental spills will be cleaned up immediately
- Refuse and trash, including stakes and flags, will be removed and disposed of properly
- Construction sites, staging areas, and access roads will be kept orderly during construction
- Portable toilets will be used on-site and maintained on a regular schedule
- A hazardous materials spill kit that is appropriate for the solvents involved in the operation and maintenance of vehicles and machinery used during the project will be kept on-site during construction
- The BLM and other regulatory agencies will be contacted as soon as possible in the event of a fuel/oil or hazardous material spill. Actions will be taken to minimize the amount and spread of the spill material, including the use of straw bale plugs, earthen berms, and the use of absorbent materials. If necessary, soil remediation will be conducted, including the removal of contaminated soils to an approved facility and soil sampling to verify successful site remediation

2.2.1.5 Fire Prevention and Protection

The following measures will be implemented with regard to fire prevention and protection:

- Construction staff will adhere to BLM fire prevention and suppression requirements; all construction personnel will have fire tools and extinguishers available at all times

2.2.1.6 Noxious Weeds and Invasive Species

The following measures will be implemented with regard to noxious weeds and invasive species:

- A detailed weed control plan will be provided to the BLM for approval before construction
- All equipment will be cleaned of soils, seeds, vegetation matter, and other debris prior to entering or re-entering the project area
- Vegetation will be monitored periodically for the establishment of noxious weeds or undesirable plant species. If needed, the applicant will be responsible for weed control in disturbed areas within the ROW, including consultation with the authorized officer and/or local authorities in determining acceptable weed control methods
- Temporary ground disturbance outside of the actual road will be restored to original contours to the extent determined by the BLM and seeded with BLM-approved certified native species weed-free seed mix
- The applicant will follow BLM regulations pertaining to control of noxious weeds; use of herbicides will comply with the BLM SGFO requirements

2.2.1.7 Avian

The following measures will be implemented with regard to avian species:

- Where possible, construction activities, including habitat alteration and noise, will occur outside of Utah's migratory bird primary nesting season (April 1–July 15). In Utah, the migratory bird nesting season can extend from January 1–August 31 (especially for raptors); therefore, a pre-construction survey by a qualified biologist (fewer than 7–10 days prior to when work actually begins on the project site) will be conducted for nesting birds. After such surveys are performed, the applicant will not conduct any additional disturbance during the avian breeding season without first conducting another avian survey
- If an active nest is identified, the BLM biologist will be notified, and a no-activity buffer (ranging from 100 feet to 1 mile, depending on species) will be established around the nest site and remain in place until the young have fledged and/or the nest becomes inactive (Romin and Muck 2002; USFWS 2014). After August 31, no further avian surveys will be required until the next year. A survey conducted in 2020 located a cactus wren (*Campylorhynchus brunneicapillus*) nest in the southern portion of the project area (Transcon 2020a)
- Activities will comply with BLM BMPs for raptors and their associated habitats in Utah (BLM 2006). Project activities will not occur within recommended spatial and seasonal buffers for raptors, unless otherwise approved by the BLM. If existing topography limits line of sight between an active nest and construction activities, spatial and seasonal buffers may be reduced

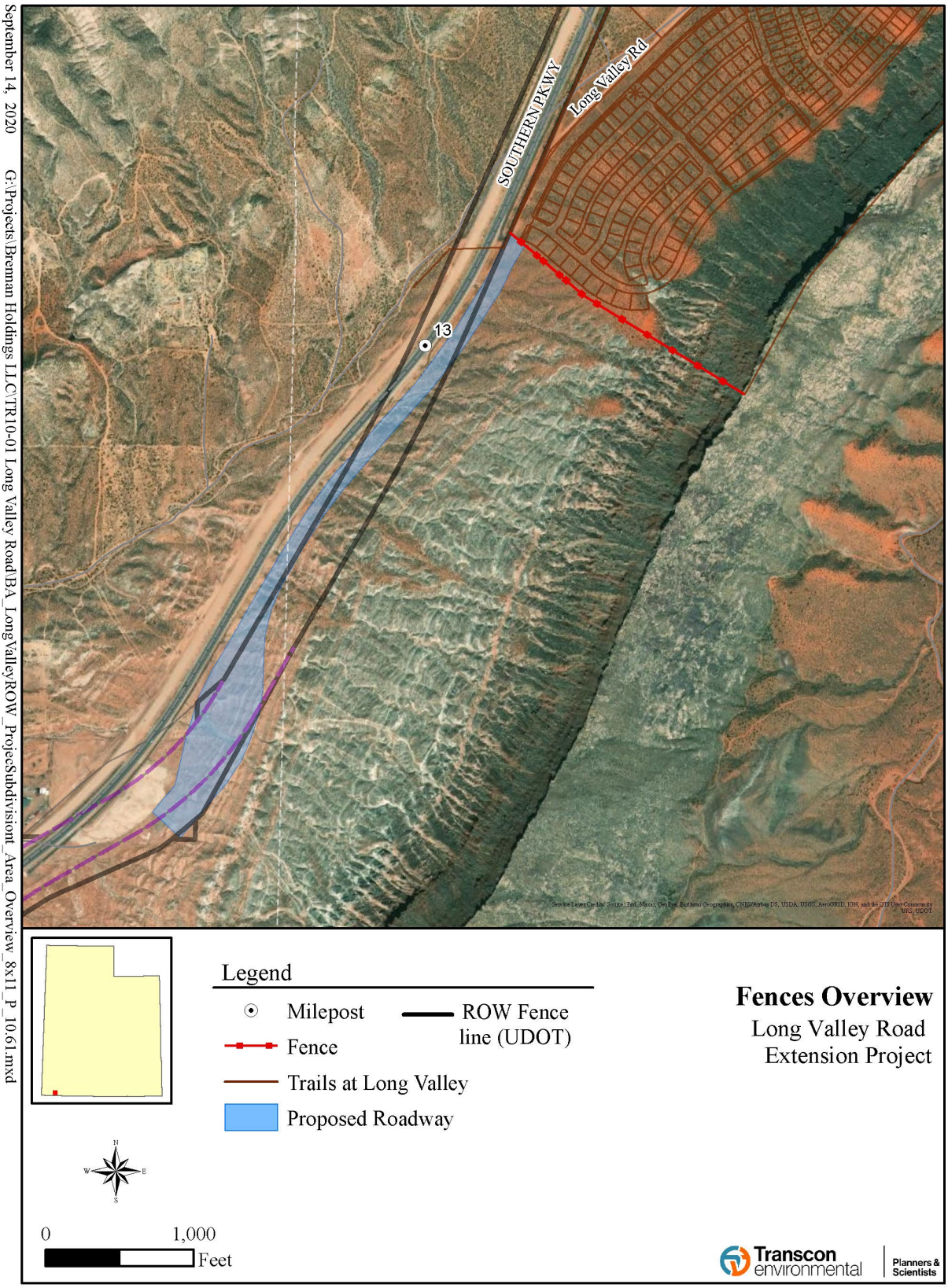

Figure 3. Fences overview map. Depicts the current fences present in the proposed project area based off of UDOT spatial data and ground-verified pasture fence locations

2.3 No Action Alternative

Implementation of the No Action Alternative would not result in the approval of the ROW grant and authorization to construct the road as proposed. The No Action Alternative would not meet the purpose and need of the applicant to provide a principal access to the planned master community and to provide traffic circulation and utility access to the planned 2,000 residential units that would be located within the subdivision. A separate ROW application for the public utilities identified in the Proposed Action would need to be submitted by each utility holder and a separate environmental analysis completed.

To meet access requirements to the planned subdivision, UDOT would need to engineer a new interchange on the Southern Parkway near the planned development.

2.4 Alternatives Considered but not Analyzed in Detail

No additional alternatives were considered. Due to the topographical features of the area and the location of the Southern Parkway, including the planned 3650 South Interchange, no other alternative would reasonably meet the purpose and need of the project; therefore, the only alternatives considered in this EA are the Proposed Action and the No Action Alternative.

CHAPTER 3. AFFECTED ENVIRONMENT

3.1 Introduction

This section addresses the resources anticipated to be affected by the implementation of the Proposed Action. All potential resources present within the Proposed Action area were analyzed by an ID team made up of BLM staff (**Appendix A**). Resources that were analyzed but determined not to be present in the action area or not likely to be affected to a degree that needs detailed analysis included the following:

- Air quality
- Greenhouse gas emissions
- Wastes
- Water resources/quality
- Cultural resources
- Native American religious concerns
- Paleontology
- Geology
- Caves
- Environmental justice
- Socioeconomics
- Farmlands
- Soils
- Floodplains
- Wetlands
- Woodlands
- Fire management
- Invasive species
- Lands/access
- Livestock
- Rangelands
- Recreation
- Visual resources
- National Landscape Conservation System
- National recreational trails
- Wild and scenic rivers
- Wilderness
- Lands with wilderness characteristics

Resources that would be affected include the following:

- Wildlife (excluding USFWS designated species)
- Migratory birds
- Threatened, endangered, or candidate plant species
- Threatened, endangered, or candidate animal species
- Vegetation (excluding USFWS designated species)
- ACECs

The project area (the proposed road, utilities, bicycle trail, and 300-foot buffer) is located within the Great Basin subdivision of the Basin and Range physiographic province (McGinty and McGinty 2009). The area is characterized by low humidity, relatively mild winters, and hot summers. Elevation is approximately 2,820 feet above sea level. The west side of the project area is adjacent to the Southern Parkway. The southwest end of the project area is heavily disturbed with little vegetation cover (Washington County HCP 2019).

Details about the potentially affected resources present in the project area are included below in Section 3.2.

3.2 Affected Environment

3.2.1 Would Project Implementation (Construction and Maintenance Activities) Affect Wildlife (Excluding USFWS Designated Species) Habitat and Result in Loss of Animals?

The following BLM sensitive species may occur in the project area: burrowing owl (*Athene cunicularia*) (permanent resident, uncommon), kit fox (*Vulpes macrotis*) (permanent resident, uncommon), common chuckwalla (*Sauromalus ater*) (permanent resident, uncommon), sidewinder (*Crotalus cerastes*) (permanent resident, fairly common), western banded gecko (*Coleonyx variegatus*) (permanent resident, uncommon), western threadsnake (*Leptotyphlops humilis*) (permanent resident, rare), and zebra-tailed lizard (*Callisaurus draconoides*) (permanent resident, fairly common) (BLM 2019). The Utah Natural Heritage Program (UNHP) Online Species Search Report (UDWR 2019) also noted the Gila monster (*Heloderma suspectum*) and several Virgin River riparian and fish species as present to the north of the project area. As this project will not affect the Virgin River habitat, these species are not discussed further.

Transcon Environmental, Inc. (Transcon) biologists surveyed the 93.3-acre project area for BLM non-listed sensitive species, particularly kit fox and burrowing owl, in April 2020. No kit fox or burrowing owls were located, and no suitable excavated holes for either species were observed (Transcon 2020a).

3.2.2 Would Project Implementation (Construction and Maintenance Activities) Affect Migratory Bird Species Habitat and Result in Loss of Birds?

Within Washington County, the migratory bird nesting season can be divided into two major timeframes: 1) early nesting season, which extends from January 1–March 31 and includes raptors (e.g., eagles, owls, falcons, and hawks), and 2) primary nesting season, which extends from April 1–July 15 and includes songbirds, flycatchers, cuckoos, raptors, and the majority of species. The maximum time period for the migratory bird nesting season can extend from January 1–August 31. The project area and surrounding area consist of migratory bird habitat that is common to Washington County. Nearby rock ledges and cliffs that could provide raptor nesting habitat occur within 0.5 mile of the project area. More than 300 species of migratory birds have been documented using habitats in Washington County for breeding, nesting, foraging, and migration (Fridell and Comella 2007). The USFWS identifies potential for 11 migratory bird species, including bald and golden eagles, to occur in or near the project area (USFWS 2019a, 2019b). Transcon biologists observed ravens (*Corvus corax*), turkey vultures (*Cathartes aura*), and a red-tailed hawk (*Buteo jamaicensis*) during April 2020 survey activities. Additionally, a cactus wren nest was located in the southern portion of the project area (Transcon 2020a).

3.2.3 Would Project Implementation (Construction and Maintenance Activities) Result in Vegetation (Excluding USFWS Designated Species) Habitat Loss?

The project area is primarily composed of Mojave Desert shrubland. Predominant vegetation includes white bursage (*Ambrosia dumosa*) and Mormon tea (*Ephedra nevadensis*). Other common plants include desert holly (*Atriplex hymenelytra*), brittlebush (*Encelia farinosa*), and pricklypear cactus (*Opuntia basilaris*). Grass and herb cover are sparse except during springs after above-average winter rains when ephemeral annual plants cover the desert floor. Perennial

bunch grasses are also present. In areas affected by livestock grazing and other surface-disturbing activities, non-native vegetation such as Russian thistle (*Salsola* spp.) and cheatgrass (*Bromus tectorum*) have become established. A thick cryptobiotic crust is present in much of the area (Washington County HCP 2019) (Transcon 2020b).

While surveying the project area in April 2020, Transcon biologists also located lupine (*Lupinus* spp.), desert globemallow (*Sphaeralcea ambigua*), sego lily (*Calochortus nuttallii*), scarlet paintbrush (*Castilleja* spp.), desert trumpet (*Eriogonum inflatum*), cholla (*Opuntia* spp.), Utah yucca (*Yucca utahensis*), wild onion (*Allium* spp.), African mustard (*Malcolmia africana*), tumble mustard (*Sisymbrium altissimum*), winterfat (*Eurotia lanata*), spiny hop sage (*Grayia spinosa*), greasewood (*Sarcobatus vermiculatus*), and red brome (*Bromus rubens*) on-site (Transcon 2020a).

3.2.4 Would Project Implementation (Construction and Maintenance Activities) Result in the Loss of the Listed Endangered Dwarf Bear-Poppy and Holmgren Milkvetch and the Listed Threatened Siler Pincushion Cactus Habitat or Individual Plants?

The project is located within known proximity of the endangered dwarf bear-poppy, Holmgren milkvetch, and Siler pincushion cactus plant species.

3.2.4.1 Dwarf Bear-Poppy

The dwarf bear-poppy is a federally-listed endangered plant species (USFWS 1979a). Species survival is threatened by low gene flow (resulting from individual population isolation) as well as habitat loss, fragmentation, and degradation from development and OHV use associated with rapid urban development and population growth (NatureServe 2015). The USFWS currently recognizes eight individual populations restricted to approximately 9,000 acres of habitat in the vicinity of St. George in Washington County, Utah (USFWS 2016).

The proposed project area contains habitat deemed suitable for the dwarf bear-poppy. The UNHP Online Species Search Report (UDWR 2019) documented dwarf bear-poppies within a 2-mile radius of the project area, and the 375-acre North Warner Ridge dwarf bear-poppy population is located to the southeast of the project, with its northern portion extending into the project area. No designated critical habitat for the dwarf bear-poppy has been proposed.

A protocol-level survey (USFWS 2011b) of the project area was conducted in April 2020 during peak flowering period. Transects oriented north to south and were 10–20 feet in width. Due to the discovery of small dwarf bear-poppy plants in the occupied habitat site, transect width was narrowed in order to locate the plants. Approximately 100 individual plants were found within a 7-acre area located in the southeast buffer portion of the project area (**Figure 4**; **Appendix D**). No individual plants were located within the 19.7-acre proposed ROW; however, approximately 6.33 acres of 300-foot occupied habitat buffer is located within the proposed ROW and will need to be included in applicant-committed mitigation. Most of the plants were in very good condition with limited evidence of decadence. Several healthy juvenile dwarf bear-poppies approximately 1.5 inches in diameter were located. Little surface disturbance is evident where the dwarf bear-poppies were located. A cryptobiotic soil crust is present and dominates in portions of the survey area. **Appendix D** contains figures of poppies as well as occupied and unoccupied habitat located within the project area. Additional dwarf bear-poppy plants were located just outside and east of the buffer area but were not included in the count.

3.2.4.2 Holmgren Milkvetch

The Holmgren milkvetch is a federally-listed endangered species with designated critical habitat present roughly 4.5 miles northeast and 5.8 miles southwest of the project (USFWS 2006). Soils of the Shnabkaib, Lower, and Middle Red members of the Moenkopi Formation exist in or near the project area which would provide potential habitat for this plant species; however, the UNHP Online Species Search Report did not document the presence of Holmgren milkvetch within a 2-mile radius of the project area.

Transcon biologists conducted a protocol-level survey of the project area and surrounding 300-foot buffer area in April 2020. Transects oriented north to south and were 10–20 feet wide. No Holmgren milkvetch plants were located (Transcon 2020a). The nearest known population is located approximately 4.5 miles northeast of the project area. Critical habitat has been designated for this species but is not located near the project area.

3.2.4.3 Siler Pincushion Cactus

The Siler pincushion cactus is a federally-listed threatened species that occurs near the project area (USFWS 1979b). There is no critical habitat designated for Siler pincushion cactus. Soils of the Moenkopi Formation are present within the project area, so the project area may have suitable habitat; however, the UNHP Online Species Search Report did not document the presence of Siler pincushion cactus within a 2-mile radius of the project area.

Transcon biologists conducted a protocol-level survey of the 93.3-acre project area including the surrounding 300-foot buffer area in April 2020. Transects oriented north to south and were 3–6 feet wide. No Siler pincushion cactus plants were located (Transcon 2020a). The nearest known population is located approximately 4 miles south of the project area. No critical habitat has been designated for this species.

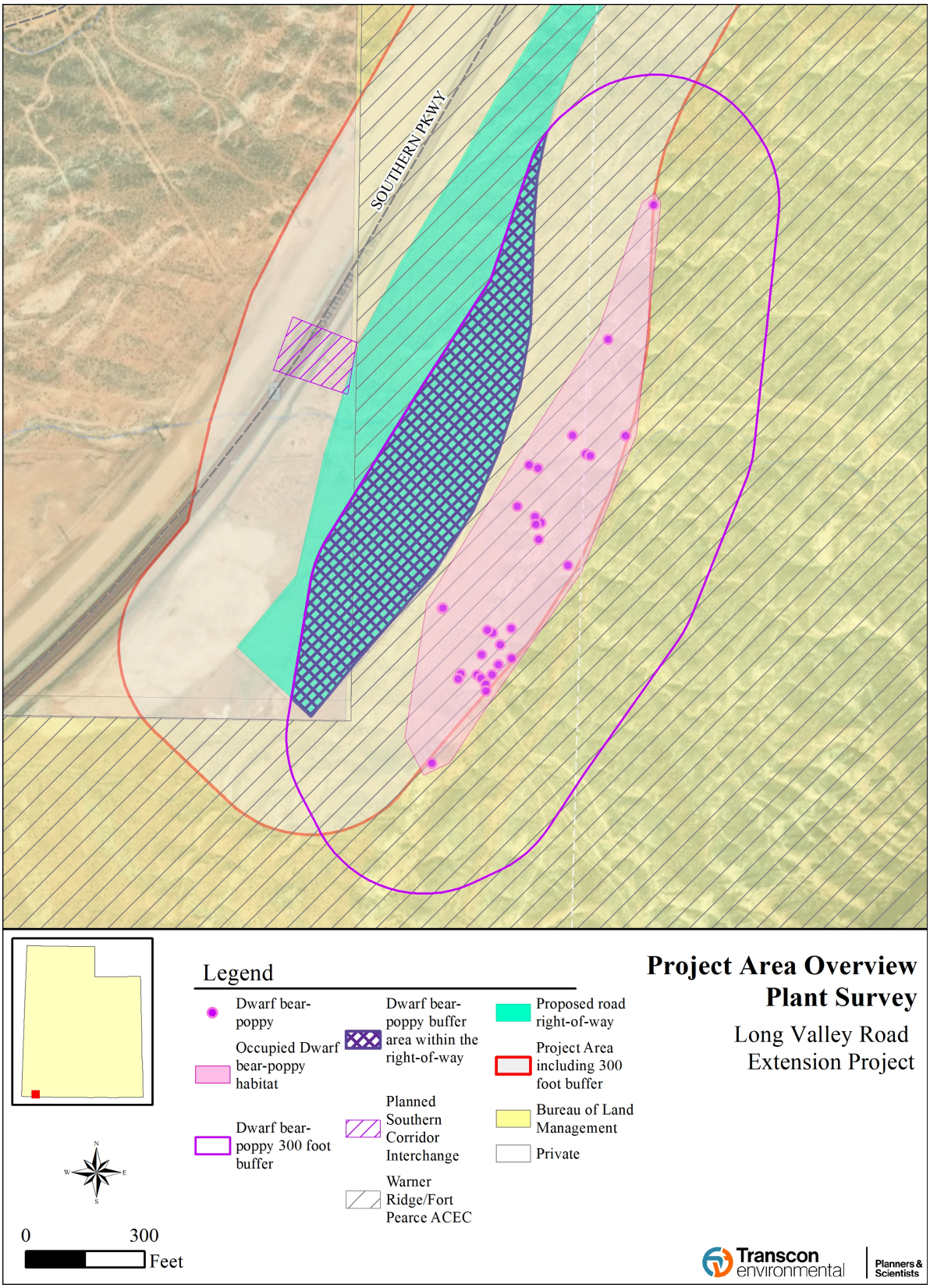

Figure 4. Plant area overview map. Depicts the locations where listed plant species were encountered in relation to the proposed ROW

3.2.5 Would Project Implementation (Construction and Maintenance Activities) Result in the Loss of the Listed Threatened Desert Tortoises or Their Habitat?

3.2.5.1 Mojave Desert Tortoise

The Mojave population of the desert tortoise is a federally-listed species. The proposed project falls within the Upper Virgin River Recovery Unit, which is located at the extreme north end of the species' overall range (USFWS 2011a).

The project area contains habitat that matches the typical habitat of the Upper Virgin River Recovery Unit; therefore, this area provides suitable habitat for Mojave desert tortoise (USFWS 2011a). Surveys conducted in October 2019 found signs of multiple Mojave desert tortoises in the project area (both the proposed ROW and the surrounding buffer area); however, no designated critical habitat is currently present for this species within the project area. The closest designated critical habitat is approximately 5 miles to the north in the Red Cliffs Desert Reserve. Washington City, the Southern Parkway, and Interstate 15 separate the reserve from the project area. The entire project area is considered to be tortoise habitat; therefore, approximately 19.7 acres of tortoise habitat is located within the ROW and 73.6 acres are located within the surrounding buffer area. A survey was conducted in October 2019 by a Washington County HCP biologist who is approved by the USFWS for all work pertaining to tortoise surveys (Washington County HCP 2019). The results of the survey are described below.

Washington County HCP 2019 Mojave Desert Tortoise Survey

Twenty-six tortoise burrows were found within the survey area, 14 within the proposed ROW and 12 within the buffer area. Twenty-one of the 26 burrows were in good condition and were determined to be active or likely active in 2019. The sizes of the majority of burrows were small to medium, indicating that juvenile- or immature-sized tortoises use them. Some adult burrows/pallets were also observed. Burrows were at a variety of depths. Some were very shallow pallets beneath shrubs; however, others were very deep, and it is possible that some of these could have contained a concealed desert tortoise. Possible tracks were observed inside one of the burrows. Tortoise scat was found in three locations: two within the proposed ROW and one within the buffer area. All three scats were determined to be from 2019 (the year the survey was conducted), and two of the three scats were determined to be less than 3 months old. Although no live tortoises were observed during the survey, it was obvious that multiple tortoises have frequently used the northern end of the survey area (Washington County HCP 2019) (see **Figure 5** for burrow locations).

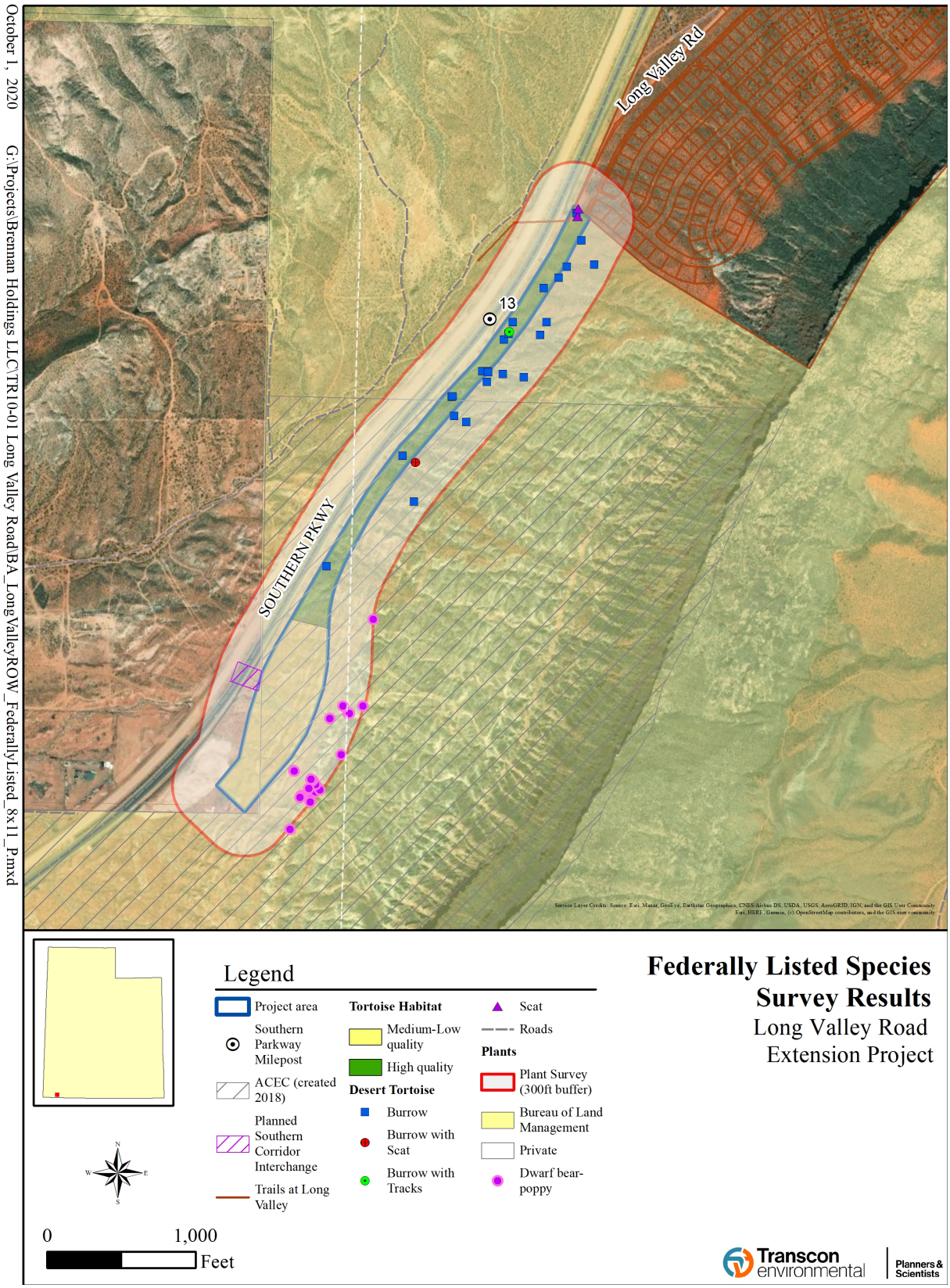

Figure 5. Federally-listed species map. Depicts all listed plant and animal species encountered either within the proposed ROW or a 300-foot buffer

3.2.6 Would Project Implementation (Construction and Maintenance Activities) Result in the Loss of Warner Ridge/Fort Pearce ACEC Values?

ACECs are areas that "require special management to prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems" (BLM 1999). The BLM SGFO designated ten ACECs throughout its territory per the St. George RMP (BLM 1999). The project area intersects the Warner Ridge/Fort Pearce ACEC, which was established to protect the dwarf bear-poppy, Siler pincushion cactus, and important riparian values. This ACEC is 4,281 acres in size and contains essential habitat for waterfowl, Gila monster, spotted bat (*Euderma maculatum*), raptors, and other species affected by habitat loss due to urbanization. The southern portion of the project area (approximately 51.1 acres) is located within the ACEC (**Figure 6**). ACEC values that could occur within the project area include the dwarf bear-poppy and Siler pincushion cactus as well as non-listed wildlife species including migratory birds.

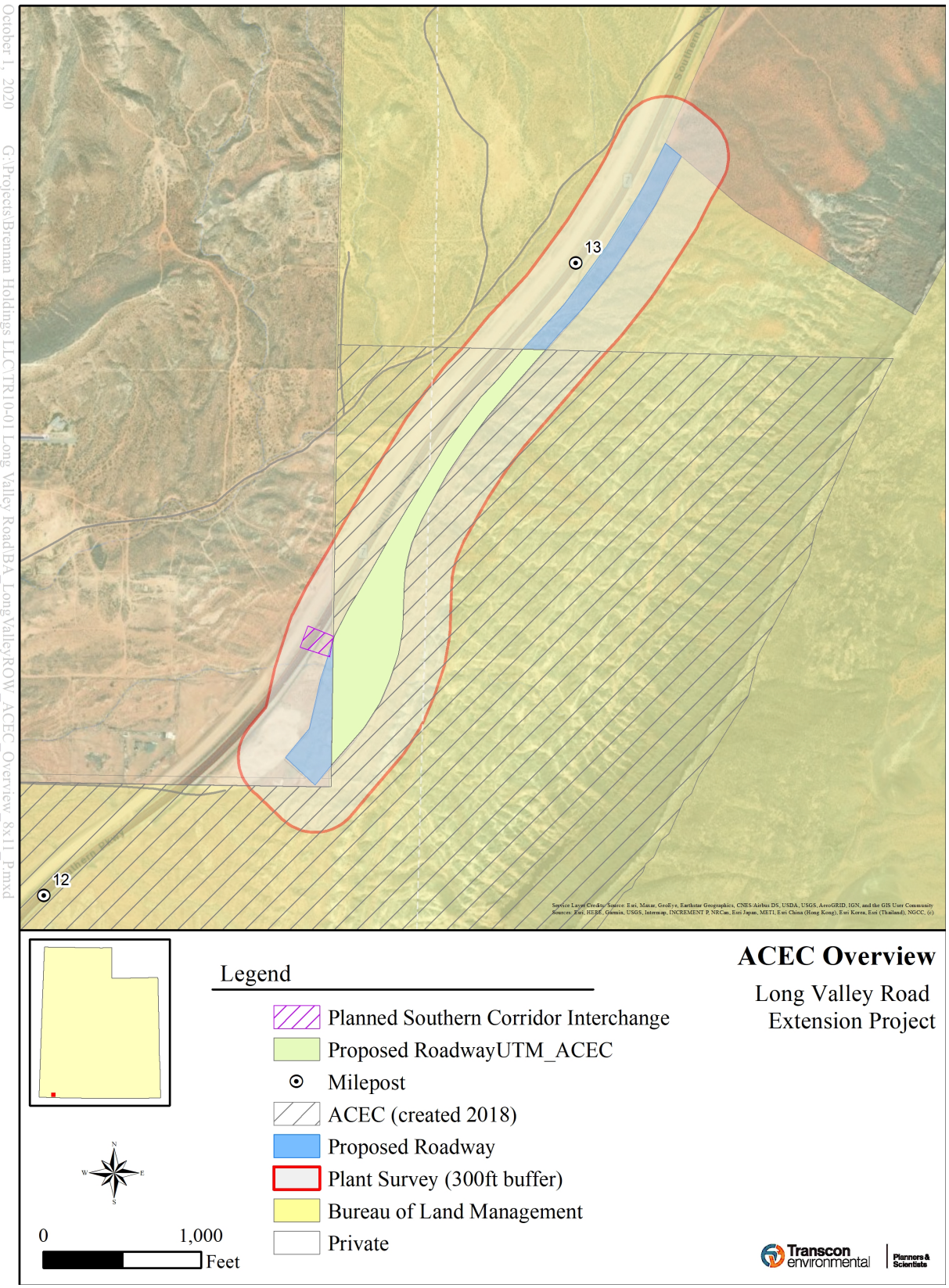

Figure 6. ACEC overview map. Depicts the project area, what portions fall within BLM jurisdiction, and what portion falls within the Warner Ridge/Fort Pearce ACEC

CHAPTER 4. ENVIRONMENTAL EFFECTS

4.1 Introduction

Effects are defined based on their duration, intensity, and scale. The environmental effects that may occur under the proposed project are described using the following terms:

- **Minor effect—**Changes to the resource may be noticeable and measurable, but mitigation measures are not necessary
- **Moderate effect—**Changes to the resource will likely be noticeable and measurable, and mitigation measures may be required
- **Major effect—**Changes to the resource will likely be readily noticeable, and mitigation measures will be required
- **Short-term effect—**An effect not anticipated to last beyond the anticipated length of project development (2021–2025; approximately 60 weeks of actual construction)
- **Permanent effect—**An effect that will last beyond the anticipated length of project development (beyond 2025)

4.2 Anticipated Environmental Effects

The Proposed Action would have effects on the resources identified by the BLM present within the project area as described in Chapter 3. This section includes a description of the anticipated effects caused by the Proposed Action with the incorporation of the applicant-committed measures and the effects of the No Action Alternative.

4.2.1 Proposed Action

Resources that would be affected by the Proposed Action include the following:

- Wildlife (excluding USFWS designated species)
- Migratory birds
- Vegetation (excluding USFWS designated species)
- Threatened, endangered, or candidate plant species
- Threatened, endangered, or candidate animal species
- ACEC

The Proposed Action anticipated effects are described below.

4.2.1.1 Would Project Implementation (Construction and Maintenance Activities) Affect Wildlife (Excluding USFWS Designated Species) Habitat and Result in Loss of Animals?

During project construction, an undetermined number of small mammals and reptiles may be disturbed and/or killed, and their nests or dens may be destroyed. Construction may also cause larger animals to be disturbed or displaced to adjacent habitats. The project may also yield minor, permanent adverse effects on wildlife. At construction's completion, the project would result in the permanent loss of 19.7 acres of general terrestrial habitat for wildlife in the area. This effect

would be minor in scope as habitat for these species is common in Washington County (including over 10,000 acres in the immediate vicinity of the project area). Implementation of applicant-committed mitigation measures, such as restricting surface disturbance to the actual ROW and installing a fence around the ROW prior to construction, would limit surface disturbance to the proposed ROW (See Section 2.2.1 for details); therefore, no wildlife habitat beyond the ROW would be permanently lost.

Applicant-committed mitigation measures would help minimize the overall short-term and permanent effects. The native vegetation surrounding the ROW would remain in place and would continue to provide habitat for small mammals, reptiles, birds, and larger animal species. Overall, the proposed project will likely yield minor short-term adverse effects on wildlife.

4.2.1.2 Would Project Implementation (Construction and Maintenance Activities) Affect Migratory Bird Species Habitat and Result in Loss of Birds?

Even with the implementation of applicant-committed measures, an undetermined number of migratory birds could be displaced by activities associated with construction and continued maintenance and use of the road. Project construction may result in migratory bird species being disturbed, injured, or killed as well as the possible destruction of some nests in the adjacent area. Most of the impacts would be experienced during construction and minimized by timing work outside of the nesting season and conducting nesting bird surveys prior to work; therefore, the Proposed Action is expected to result in minor adverse effects to migratory birds.

4.2.1.3 Would Project Implementation (Construction and Maintenance Activities) Result in Vegetation (Excluding USFWS Designated Species) Habitat Loss?

Although the southwest portion of the project area has already been disturbed and vegetation lost, vegetation would be removed in the remaining portion of the ROW during construction. A total of approximately 19.7 acres of vegetation would be permanently removed. Implementation of applicant-committed mitigation measures, such as restricting surface disturbance to the actual ROW and installing a fence around the ROW prior to construction, would limit vegetation disturbance to the proposed ROW (See Section 2.2.1 for details). The installation of fencing around the ROW would reduce the indirect effects of construction on surrounding vegetation by preventing traffic from driving off the roadway into the surrounding habitat. Overall, the projected permanent loss of vegetation habitat would be expected to be minor, as the loss would not exceed 19.7 acres. Similar habitat is common in Washington County, exceeding 10,000 acres in the vicinity of the project area alone. These adverse effects would be limited to the project area.

4.2.1.4 Would Project Implementation (Construction and Maintenance Activities) Result in the Loss of the Listed Endangered Dwarf Bear-Poppy and Holmgren Milkvetch and the Listed Threatened Siler Pincushion Cactus Habitat or Individual Plants?

Dwarf Bear-Poppy

No surface disturbance would occur within the 7-acre occupied dwarf bear-poppy habitat area because it is entirely located within the buffer zone but outside of the proposed 19.7-acre ROW. Applicant-committed conservation and mitigation measures, including regular watering of disturbed areas and fencing of the occupied dwarf bear-poppy area (see Section 2.2.1, Applicant-Committed Protection Measures), would help ensure that no individual plants would be lost;

however, if construction occurs during the dwarf bear-poppy flowering period (April–May), pollination success of dwarf bear-poppies within or near the project area could be reduced as a result of fugitive dust resulting from construction activities. Regular watering of the disturbance area would minimize but not totally eliminate potential pollination concerns associated with fugitive dust. Reduced pollination success for this population could result in a permanent reduction in the number of plants in the area. Additionally, approximately 19.7 acres of currently unoccupied, potential habitat would be permanently lost due to development of the ROW. This would represent approximately 0.22 percent of the approximately 9,000 acres of dwarf bear-poppy habitat in Washington County. This impact would be mitigated by a financial contribution to a dwarf bear-poppy management fund administered by the Washington County HCP. The funding would be used for dwarf bear-poppy habitat management and protection. No critical habitat has been designated for the dwarf bear-poppy; therefore, no critical habitat would be affected. While the amount of surface disturbance is minor, the impact would be considered moderate in scope as dwarf bear-poppy habitat in Washington County is limited and isolated.

Holmgren Milkvetch

No construction or maintenance-related disturbance would occur within any known occupied Holmgren milkvetch habitat or designated critical habitat; therefore, no direct effects to individual Holmgren milkvetch plants or designated critical habitat would be anticipated as a result of project development.

Siler Pincushion Cactus

No construction or maintenance-related disturbance would take place within known occupied Siler pincushion cactus habitat; therefore, no direct adverse effects to Siler pincushion cactus including loss of individual plants would be expected to occur. Occupied and potential unoccupied habitat exists near the project area.

4.2.1.5 Would Project Implementation (Construction and Maintenance Activities) Result in the Loss of the Listed Threatened Desert Tortoises or Their Habitat?

Mojave Desert Tortoise

Due to the presence of Mojave desert tortoise habitat and the likely presence of tortoises within the project area, direct adverse effects to the species and its habitat would result from project development. Approximately 19.7 surface acres would be required for the development of the road, bicycle trail, and public utilities (Long Valley Road Extension POD undated). The 14 burrows identified through surveys within the ROW (Washington County HCP 2019) would be permanently lost. Future routine maintenance and repair activities could also disturb habitat to an undetermined degree. Additionally, 19.7 acres of habitat would be permanently lost.

An undetermined amount of take on the 19.7-acre ROW (including mortality, injury, and harassment) would occur during construction resulting from collisions/crushing by vehicles or equipment or by trapping tortoises in trenches or holes; burrows, winter dens, and nests would also be destroyed by construction activities. Occupied winter dens or burrows that collapse would entomb an undetermined number of tortoises.

Implementation of applicant-committed mitigation measures (see Section 2.2.1, Applicant-Committed Protection Measures) would reduce but not eliminate the significance of the effect to

the tortoises and their habitat. No tortoise designated critical habitat would be affected by development of the proposed project; however, because occupied habitat and individual tortoises would be permanently lost, this effect would be moderate in scope.

The tortoise habitat in the surrounding buffer area contains an additional 12 burrows and could also be affected by construction related activities such as noise and dust, reducing habitat quality. These impacts would not extend beyond the construction period. No direct loss of burrows would occur within the buffer area.

Applicant-committed mitigation measures, such as fencing around the ROW prior to construction, watering during construction, and the extension of the Southern Parkway's existing culverts underneath the proposed ROW, would reduce adverse effects; however, because occupied habitat and individual tortoises may be lost, this impact would be moderate in scope.

4.2.1.6 Would Project Implementation (Construction and Maintenance Activities) Result in the Loss of Warner Ridge/Fort Pearce ACEC Values Located Within the Project Area?

The project area is located within approximately 51.1 acres of the northern end of the Warner Ridge/Fort Pearce ACEC (approximately 1 percent of the 4,286-acre ACEC). Project development would remove ACEC values that overlap the proposed ROW on a permanent basis. As described above, construction activities would adversely affect dwarf bear-poppy and desert tortoise habitat. In addition to loss of habitat, construction activities could produce dust, affecting the pollination success of the endangered dwarf bear-poppy through loss of seed bank.

These effects to the ACEC could be reduced through applicant-committed mitigation measures, such as dust abatement and the installation of a fence around the ROW that ties into existing fences that would effectively stop traffic from exiting the Long Valley Road Extension into the ACEC. Still, the loss of approximately 51.1 acres of ACEC land (approximately 1 percent of the ACEC) would be permanent and represent an adverse impact that would be moderate in scope.

4.2.2 No Action Alternative

Under the No Action Alternative, none of the effects resulting from project implementation would occur; however, the No Action Alternative would not fulfill the purpose and need of this project. Additionally, the $50,000 contribution to a dwarf bear-poppy mitigation fund would not occur.

4.3 Cumulative Impact Analysis

This section looks at the potential cumulative effects of the proposed extension of Long Valley Road in relation to past, present, and future actions within the area.

4.3.1 Past and Present Actions

Past and present actions near the proposed project area include the following:

- Sand Hollow Reservoir and designation of Sand Hollow State Park
- Installation of the Sand Hollow Regional Pipeline
- Designation and recreational use of Sand Hollow OHV area

- Construction of Sand Hollow Golf Course
- Construction of the Southern Parkway
- Development of subdivisions located west of the project area
- Development of roads, transmission lines, and other infrastructure
- Livestock grazing
- Recreation activities including OHV use

4.3.2 Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions (RFFA) near the proposed project area include the following:

- Power transmission lines: As urban expansion occurs throughout Washington County, additional transmission lines will be needed. One such line, the Purgatory Flats line, is being constructed approximately 3 miles north of the project
- Roads: The demand for new roads in this region is expected to increase over time, and usage of roads in the area is expected to increase over time. An increase in new roadways may lead to increased effects upon native plant and animal species due to noise and dust and will lead to increased habitat fragmentation in the area
- Urban expansion: Washington County is expanding, and additional housing development is likely to occur in this region in the future similar to the Trails at Long Valley subdivision. With increased urban expansion will come increased demand for recreation in the area, such as hiking or OHV use, which potentially pose a threat to the plant and animal species in the area
- Application has been submitted and is undergoing the NEPA process for a ROW grant for the Northern Corridor Project north of the City of St. George, Utah. The proposed project is located on non-federal and BLM-administered public lands across the Red Cliffs National Conservation Area and Reserve, which was established for the Mojave desert tortoise under the 1995 Washington County HCP

4.3.3 Cumulative Effects

The past, present, and RFFAs identified in Sections 4.3.1 and 4.3.2 are expected to continue. Federally-listed species and the ACEC would continue to be afforded a measure of federal protection in accordance with applicable regulations as future actions are proposed and evaluated under NEPA and the Endangered Species Act (ESA). The cumulative impact of the Proposed Action on federally-listed species in conjunction with the past, present, and RFFAs would be minor. Impacts that would affect values associated with the 51.1 acres of the Warner Valley/Fort Pearce ACEC located within the project area would be cumulative to other actions that have occurred or may occur in the future inside of the ACEC and would be minor is scope.

Anthropogenic impacts are expected to continue in the areas surrounding the project. Migratory birds and wildlife would be affected by the loss of habitat through the clearing of vegetation as well as noise associated with construction activities. Some nest abandonment by migratory birds would occur if these actions occurred during the nesting season. Habitat adjoining the project

area would become more fragmented. Since most of the land in the analysis is administered by the BLM, actions that would alter the use of this land would be analyzed on a case-by-case basis under the provisions of NEPA. Significant adverse impacts to wildlife, BLM sensitive species, and vegetation would be reduced or mitigated accordingly. Considering the established wildlife, migratory bird, and vegetation protective measures, the cumulative impact of the Proposed Action on wildlife, BLM sensitive species, migratory birds, and vegetation when combined with past, present, and RFFAs would be minor in the long term.

CHAPTER 5. CONSULTATION AND COORDINATION

5.1 Introduction

Section 7 consultation with the USFWS regarding listed plan and animal species is on-going. **Appendix C** will contain the USFWS Biological Opinion when it is completed.

5.2 Tribes, Individuals, Organizations, or Agencies Consulted

TABLE 1
TRIBES, INDIVIDUALS, ORGANIZATIONS, AND AGENCIES CONSULTED

Name	Purpose and Authorities for Consultation or Coordination	Findings and Conclusions
USFWS	Consultation under Section 7 of the ESA (16 USC 1531)	Identification of potential listed wildlife, plants, and migratory birds near the project area
Utah Department of Wildlife Resources	Expertise on wildlife species	UNHP data records for federal and state sensitive species occurring near the project area
Washington City	Proponent	Project information

5.3 Public Participation

The BLM issued a news release on September 29, 2020, announcing the release of the Draft EA and initiating the 30-day public review and comment period, which ended on October 27, 2020. The Draft EA was available on the BLM's ePlanning website during the public review and comment period. Two respondents provided eighteen comments during the public review and comment period. The comments and responses are presented in **Appendix E**.

5.4 List of Preparers

5.4.1 BLM Preparers

A list of BLM preparers is included in **Appendix A**.

5.4.2 Non-BLM Preparers

TABLE 2
NON-BLM PREPARERS

Name	Title	Responsible for the Following Section(s) of this Document
Tim Green	Project Manager	Quality Control/Quality Assurance (QC/QA)
Heather Breakiron	Biologist, Project Manager	QC/QA
Ronald Bolander	Senior Environmental Planner	EA and Biological Assessment review and preparation
Natalie Bartel	Environmental Planner	EA preparation

Name	Title	Responsible for the Following Section(s) of this Document
Ron Rodriguez/Miranda Castillo	Biologists	Project area plant and animal species surveys
Claire Blystra	Editor	Editing and QC/QA
Felixcia Blanchard	GIS Specialist	Figures/acreage

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APPENDIX A

BLM ID TEAM CHECKLIST

INTERDISCIPLINARY TEAM CHECKLIST

Project Title: City of Washington Long Valley Road Right-of-Way Extension

NEPA Log Number: DOI-BLM-UT-C030-2020-0004-EA

File/Serial Number: UTU-94658

Project Leader: Stephanie Trujillo

Project Location:

Salt Lake Meridian, Utah
T. 42 S., R. 14 W.,
Sec. 31, Lots 5, 6, 8, 10, 11
T. 43 S., R. 14 W.,
Sec. 06, Lot 1

Project Description:
Washington City has submitted application for extension of the Long Valley Road. The Long Valley road is the principle access for the future Trails Development in Long Valley, southeast of Washington, Utah. The Trails Development is a proposed 605.61-acre master planned community, which is to be developed within the recently completed Brennan/BLM land exchange. The road extension is needed to provide a secondary access for traffic circulation and utility access for the Trails development. The extension will connect the current Long Valley Road with the future proposed 3650 South interchange near Washington Fields and runs adjacent to the eastern side of a portion of the Southern Parkway.

The road is approximately 4,877 feet in length and is proposed to be 110 feet wide and will be built to Washington City standards. There are 8 proposed minor pipe-culvert crossings that will be needed along the roadway. During construction, all staging will be on private lands. No equipment or materials will occur on the proposed roadway or on other public lands.

The roadway will be a long-term transportation and utility corridor for the area along with bicycle use. The alignment of the roadway includes a small portion that runs thru the Warner Ridge/Fort Pearce ACEC. Phase 1 construction would take 6 months from the start of construction. The additional phases would be completed as the area grows and the time frame for each phase will vary.

Map attached

DETERMINATION OF STAFF: ***(Choose one of the following abbreviated options for the left column)***

NP = not present in the area impacted by the proposed or alternative actions
NI = present, but not affected to a degree that detailed analysis is required
PI = present with potential for relevant impact that need to be analyzed in detail in the EA

NC = (DNAs only) actions and impacts not changed from those disclosed in the existing NEPA documents cited in Section D of the DNA form. The Rationale column may include NI and NP discussions.

Determination	Resource	Rationale for Determination*	Signature	Date
RESOURCES AND ISSUES CONSIDERED (INCLUDES SUPPLEMENTAL AUTHORITIES APPENDIX 1 H-1790-1)				
NI	Air Quality	The proposed action would have no impact on air quality in the area.	D. Corry	10/24/19
NI	Greenhouse Gas Emissions**	Greenhouse Gas Emissions would not increase as a result of this proposal.	D. Corry	10/24/19
NI	Wastes (hazardous or solid)	If BMP are followed hazardous and Solid wastes should not be an issue within the project area.	D. Corry	10/24/19
NI	Water Resources/Quality (drinking/surface/ground)	The proposed action would not impact water quality in the area. The nearest surface water resource is the virgin river located approximately one mile north of the project area.	D. Corry	10/24/19
PI	Areas of Critical Environmental Concern	The project goes through the Warner Ridge/ Fort Pearce ACEC, which was established to protect the dwarf bear-claw poppy, siler pincushion cactus, and important riparian values.	S. Root	10/29/19
NP	Cultural Resources	There are no recorded archeological sites within or adjacent to the project area. This review finds no effect to historic properties. There are three previous Class III inventories that provide full coverage of the project area. U99MQ0200 (covers the entire project area), U10MQ0042 (inventory encompassed the eastern edge of the project area), and U12HO892 (encompasses the majority of the project area, does not cover the bulge on the western side). All three inventories found no archeological sites. This review was done in compliance with Programmatic Agreement Regarding National Historic Preservation Act Responsibilities for Small-scale Undertakings.	A. VanAlfen	11/4/19
NP	Native American Religious Concerns	Prior and ongoing consultations with American Indian Tribes that claim cultural affiliations to southwestern Utah have not identified religious concerns within or near the proposed project area.	A. VanAlfen	11/4/19
NI	Paleontology	There are no recorded paleontological resources within or adjacent to the project area. The nearest recorded site is .75 miles to the south along the Southern Parkway corridor and occurs in a narrow band of the Virgin Limestone. The proposed project falls within Potential Fossil Yeild Class (PFYC) 2, which states: ***Class 2* – Low**. Geologic units that are not likely to contain paleontological resources. Units assigned to Class 2 typically have one or more of the following characteristics: ☐ Field surveys have verified that significant paleontological resources are not present or are very rare. ☐ Units are generally younger than 10,000 years before present. ☐ Recent aeolian deposits. ☐ Sediments exhibit significant physical and chemical changes (i.e., diagenetic alteration) that make fossil preservation unlikely. (1) Except where paleontological resources are known or found to exist, management concerns for paleontological	K. Voyles	10/31/19

Determi-nation	Resource	Rationale for Determination*	Signature	Date
		resources are generally low and further assessment is usually unnecessary except in occasional or isolated circumstances. (2) Paleontological mitigation is only necessary where paleontological resources are known or found to exist. The probability of impacting significant paleontological resources is low. Localities containing important paleontological resources may exist, but are occasional and should be managed on a case-by-case basis. An assignment of Class 2 may not trigger further analysis unless paleontological resources are known or found to exist. However, standard stipulations should be put in place prior to authorizing any land use action in order to accommodate unanticipated discoveries.		
NP	Geology / Mineral Resources/Energy Production	There are no mineral resources or energy production within the project boundary.	K. Voyles	10/24/19
NP	Cave and Karst	There are no cave or karstic geology in the proposed project area.	K. Voyles	10/24/19
NI	Environmental Justice	According to the EPA Environmental Justice Screening and Mapping Tool in combination with the Headwaters Socio-Economic Profile System, Washington County, Utah has been categorized as a minority population area of 10-20% and a poverty population area of 10-20%. Less than 5% of the population speaks English "Not Well". This data also shows that low income and high minority populations are generally located in the St. George/Santa Clara/Washington areas in locations not adjacent to BLM managed lands. (see https://ejscreen.epa.gov/mapper/). No minority or economically disadvantaged communities or populations are present which could be affected by the proposed action or alternatives.	C. Goff	10/24/19
NI	Socio-Economics	The project area occurs within a rapidly developing area (Washington Fields) that is transitioning from rural to urban. Residential development is the driver behind this project. However, in the context of overall development within Washington County, the socio-economic impact of the proposed project would be so small that it would have no measurable effect.	C. Goff	10/24/19
NP	Farmlands (Prime or Unique)	There is no designated Prime or Unique Farmlands within or adjacent to the proposed project area.	D. Corry	10/24/19
NI	Soils	Some soil will likely be disturbed during construction with some being lost due to wind and water erosion, however this impact is expect to be minimal and short term. Recommend keeping the soil moist during construction to limit wind erosion.	D. Corry	10/24/19
NP	Floodplains	There is no designated floodplains within or adjacent to the proposed project area.	D. Corry	10/24/19
NP	Wetlands/Riparian Zones	There are no wetlands/riparian zones within or adjacent to the proposed project area.	D. Corry	10/24/19
PI	Fish and Wildlife Excluding USFW Designated Species	The following BLM Sensitive species may occur in the project area: burrowing owl (permanent resident, uncommon), kit fox (permanent resident, uncommon),	S. Root	10/29/19

Determi-nation	Resource	Rationale for Determination*	Signature	Date
		common chuckwalla (permanent resident, uncommon), sidewinder (permanent resident, fairly common), Western banded gecko (permanent resident, uncommon), Western threadsnake (permanent resident, rare) and zebra-tailed lizard (permanent resident, fairly common. During project construction, small mammals, and reptiles may be disturbed and/or killed, and their nests, or dens destroyed causing short-term impacts; Also, during project construction, larger animals maybe disturbed and/or displaced to adjacent habitats causing short-term impacts, but may return to the general area once disturbances cease. Once construction is completed, the project will result in permanent loss of general terrestrial habitat for BLM Sensitive species and general wildlife in the area. Most of the native vegetation would remain in place and would provide habitat for small mammals, reptiles and birds, and also larger animal species. Newly constructed roads may encourage increased and/or illegal visitor use of the area and would disturb BLM Sensitive and general wildlife species in the long-term.		
PI	Migratory Birds	A number of migratory birds species may use the project area yearlong, or for a portion of the year. Within Washington County, the migratory bird nesting season can be divided into 2 major timeframes: (1) Early Nesting Season: January 1–March 31, e.g., raptors (eagles, owls, falcons, and hawks); and (2) Primary Nesting Season: April 01–July 15, e.g., songbirds, flycatchers, cuckoos, raptors, and the majority of species. However, the maximum time period for the migratory bird nesting season can extend from January 1–August 31. Project construction could result in migratory bird species being disturbed, injured, or killed and some nests destroyed. In order to avoid take of migratory birds and/or minimize the loss, destruction, or degradation of migratory bird habitat, it is recommended that construction activities occur outside of the primary nesting season. If project construction occurs during the maximum migratory bird nesting season, a pre-construction survey by a qualified biologist (< 7–10 days prior to when work actually begins on the project site) is to be conducted for nesting birds. If an active nest is identified, a no-activity buffer (ranging from 100-feet to 1-mile, depending on species) is to be established around the nest site and remain in place until the young have fledged and/or the nest becomes non-active.	S. Root	10/29/19
PI	Threatened, Endangered or Candidate Plant Species	Due to known proximity of federally listed plant species (Dwarf bear-poppy, Holmgren milkvetch, and Siler pincushion cactus) to the proposed ROW, and similarities of project area soils to designated critical habitats for these species, USFWS protocol T&E plant surveys (by a USFWS approved, qualified botanist) need to be completed (next spring – April-May/within the ROW/300-foot buffer area).	S. Root	10/30/19
PI	Threatened, Endangered or Candidate Animal Species	The ROW area may provide suitable habitat for Mojave desert tortoise – therefore, USFWS (2017) protocol tortoise surveys need to be conducted by a qualified biologist.	S. Root	10/31/19
PI	Vegetation Excluding USFW Designated Species	Although much of the vegetation on the site has already been disturbed due to previous activities, some vegetation would likely be remove from the site during construction. This impact may be limited but should be addressed in this EA.	D. Corry	10/24/19

Determi-nation	Resource	Rationale for Determination*	Signature	Date
NP	Woodland / Forestry	There are no Woodlands within the project area.	D. Corry	11/6/19
NI	Fuels/Fire Management	This should not be an issue however, If construct during the hot dry summer months it is recommended that a water resource be present during construction.	D. Corry	11/6/19
NI	Invasive Species/Noxious Weeds (EO 13112)	The proposed action is not anticipated to contribute to the further spread of noxious weeds on public lands. All ground disturbing activities should be done using weed prevention measures. Equipment should be washed, disturbed areas reseeded, etc.	R. Reese	11/6/19
NI	Lands/Access	The proposed action is not anticipated to impact others authorized users on public lands	S.Trujillo	10/22/19
NI	Livestock Grazing	The proposed action is not anticipated to impact Livestock Grazing as long as all fences are maintained during and after construction. Any rerouting of fences needs to be completed in a timely manner.	R. Reese	11/6/19
NI	Rangeland Health Standards	The proposed action is not anticipated to impact rangeland health.	R. Reese	11/6/19
NI	Recreation	There are no recreation resources that would be impacted by the proposed action. The proposed action would not affect access to other recreation opportunities on public lands	D. Kiel/K. Voyles	10/31/19
NI	Visual Resources	The project is entirely within Visual Resource Management Class III <u>Class III Objectives: To partially retain the existing character of the landscape</u> 1) The level of change to the landscape can be moderate. 2) Management activities may attract attention, but should not dominate the view of the casual observer. 3) Any changes should repeat the basic elements found in the natural landscape – form, line, color, & texture. Upon completion, the new road would be located immediately adjacent to the Southern Parkway. The views in this area are dominated by Warner Ridge to the southeast and Washington Dome to the northwest. Given the proximity of the proposed road to the existing parkway, and the visual dominance of Warner Ridge and Washington Dome, construction of this road would have only a minor impact on the visual landscape. Once completed, it would be noticeable to the casual observer, but it would not dominate the view. The project would meet VRM Class III objectives and no further analysis is required.	D. Kiel/K. Voyles	10/31/19
		<u>NLCS</u>		
NP	National Conservation Areas	The proposed action area does not fall within any NCAs.	S. Root	11/18/19
NP	National Historic Trails (Old Spanish Trail)	There are no National Historic Trails within the vicinity of the project area. Neither the Northern Route nor the potential Armijo Route of the Old Spanish National Historic Trail are located within or near the proposed project area.	A. VanAlfen	11/4/19

Determi-nation	Resource	Rationale for Determination*	Signature	Date
NP	National Recreational Trails (Gooseberry)	The National Recreation Trail (Gooseberry) is not within the proposed project area.	D. Kiel/K. Voyles	10/31/19
NP	Wild and Scenic Rivers	There are no eligible or designated WSR segments in the proposed project area.	D. Kiel/K. Voyles	10/31/19
NP	Wilderness/WSA	The proposed project is not in or near any Wilderness Areas.	D. Kiel/K. Voyles	10/31/19
NP	Lands with Wilderness Characteristics**	There are no designated, proposed, or inventoried lands with wilderness characteristics within the proposed project area.	D. Kiel/K. Voyles	10/31/19

FINAL REVIEW:

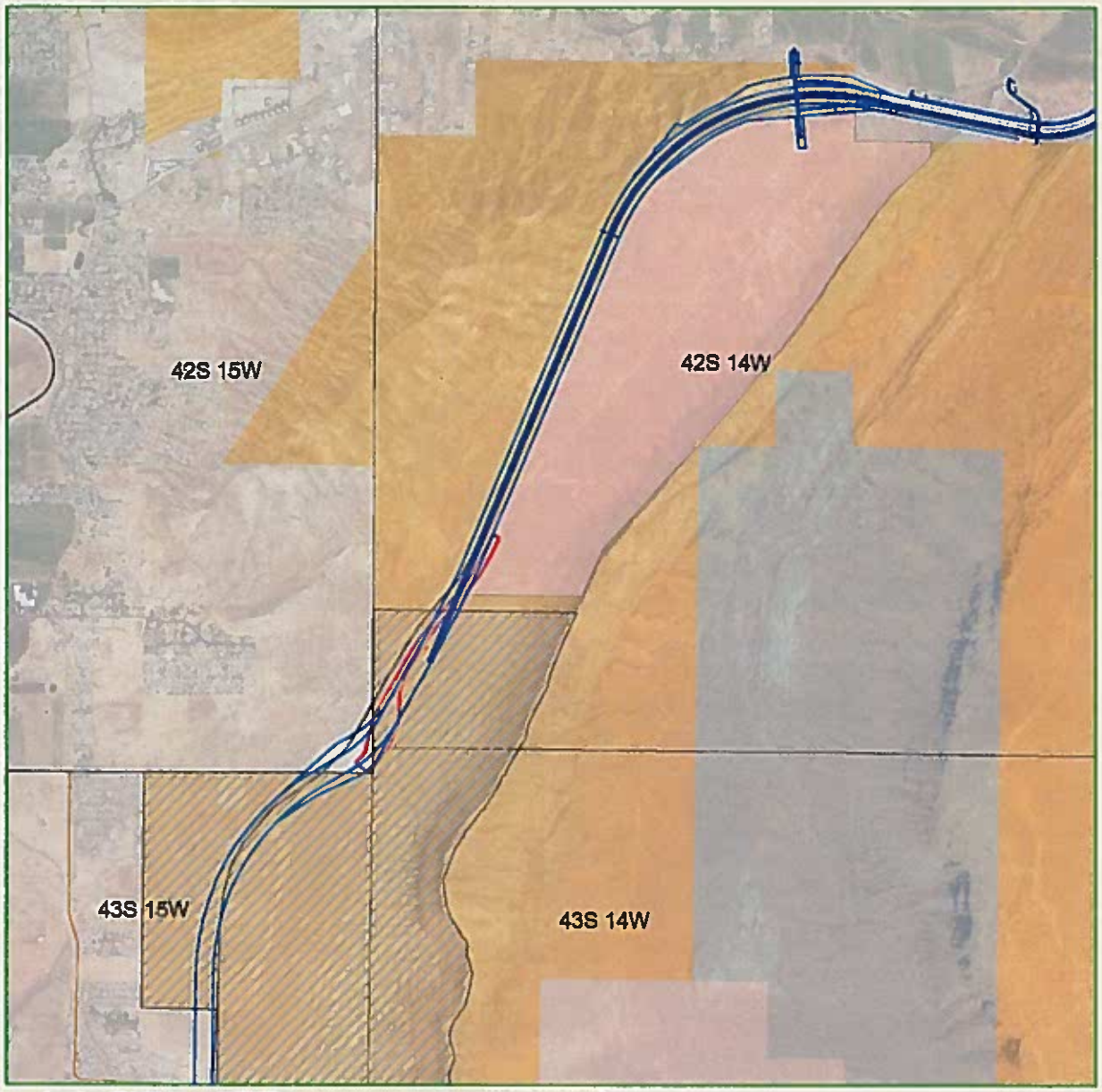
Reviewer Title	Signature	Date	Comments
Environmental Coordinator		11/19/19	
Authorized Officer		11/19/19	

Long Valley Rd Ext
City of Washington

St. George Field Office
10/24/2019

No warranty is made by the BLM for use of the data for purposes not intended by the BLM.

This product may not meet BLM standards for accuracy and content. Different data sources and input scales may cause some misalignment of data layers.



Location within St. George Field Office

N

Access Road ROW

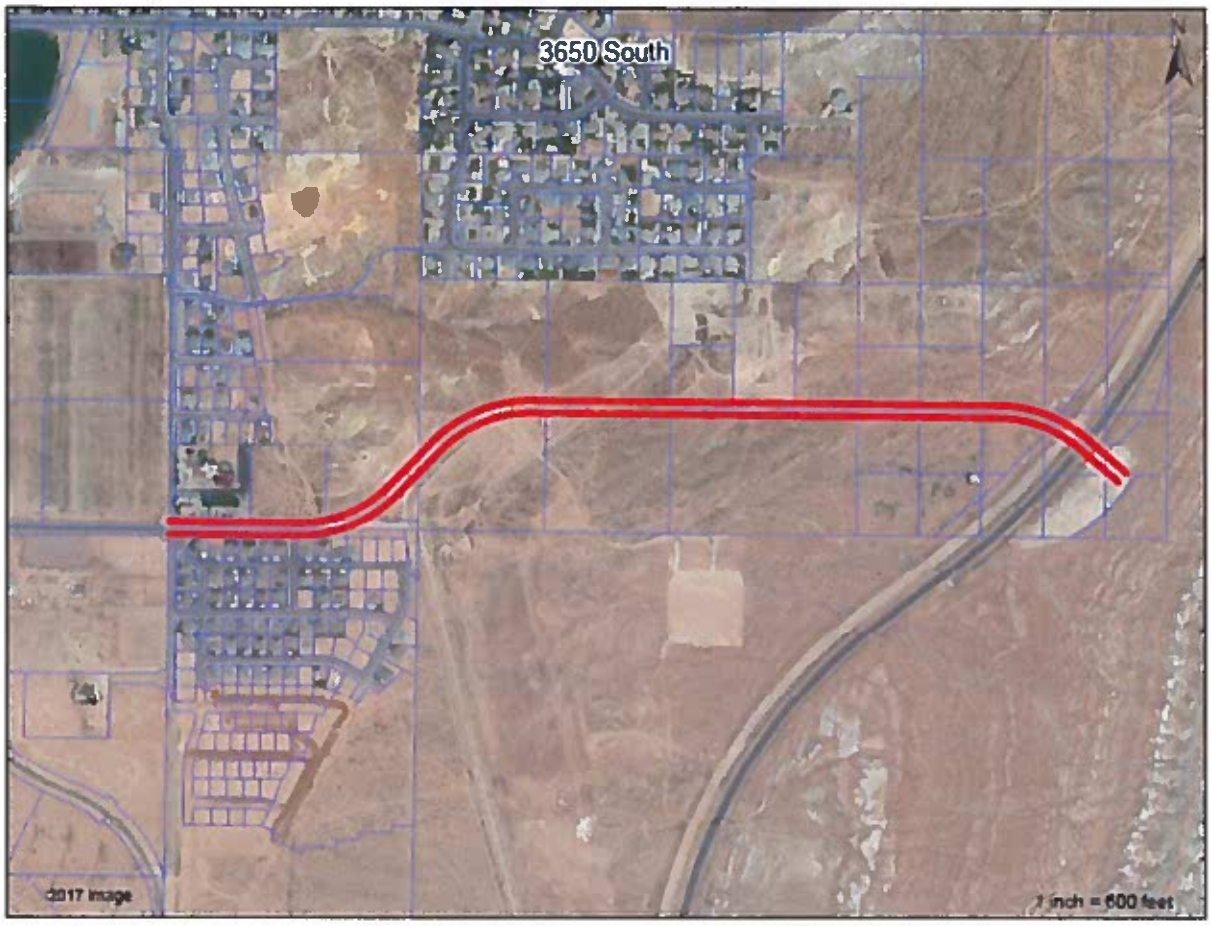
Land Status ut_lgd

Bureau of Land Management (BLM)

Private

State

0 0.4 0.8 Miles


3650 South
2017 Image
1 inch = 600 feet

APPENDIX B

PROJECT CONSTRUCTION PLANS

B&G PROJECT NUMBER 161174

LONG VALLEY ROAD EXTENSION

PROPOSED ACCESS ROAD

CONSTRUCTION PLANS

LOCATED IN WASHINGTON, UTAH

SECTION 31, T 42 S, R 14 W, SLB&M
SECTION 36, T 42 S, R 15 W, SLB&M
SECTION 6, T 43 S, R 14 W, SLB&M

OWNER / DEVELOPER

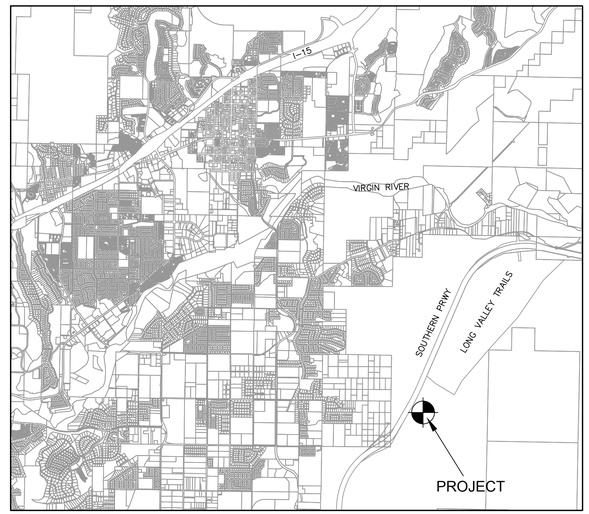
BRENNAN HOLDINGS NO 100, LLC
205 E. TABERNACLE #4
ST. GEORGE, UT 84770

JIM RAINES
435-668-3641

AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY
Call before you Dig
1-800-662-4111
BLUE STAKES LOCATION CENTER (UTAH)

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	RECORD OF SURVEY
3	CUT & FILL PLAN
4	PLAN & PROFILE - SHEET 1 (NORTH END)
5	PLAN & PROFILE - SHEET 2 (CENTER)
6	PLAN & PROFILE - SHEET 3 (SOUTH END)

VICINITY MAP



GENERAL NOTES

1) CONTRACTOR IS RESPONSIBLE TO VERIFY LOCATIONS OF ALL UTILITIES PRIOR TO COMMENCEMENT OF WORK IN ANY ZONE.
2) ALL WORK AND MATERIALS SHALL COMPLY WITH WASHINGTON CITY STANDARD SPECIFICATIONS.
3) PROJECTS SHALL INSTALL AN INFORMATIONAL SIGN ON SITE BEFORE CONSTRUCTION BEGINS. THIS SIGN WILL HAVE A MINIMUM SIZE, PLACEMENT LOCATION AND CONTENT INFORMATION WITH THE COMPANY NAME, PHONE CONTACT AND GRADING PERMIT NUMBER.
4) PROJECTS SHALL SUBMIT A DUST CONTROL PLAN WITH DETAILS ON EQUIPMENT, SCHEDULING AND REPORTING OF DUST CONTROL ACTIVITIES.
5) A MANDATORY PRE-CONSTRUCTION MEETING WILL BE REQUIRED ON ALL PROJECTS PRIOR TO ANY GRUBBING, GRADING OR CONSTRUCTION ACTIVITIES. THE PERMIT HOLDER WILL BE REQUIRED TO NOTIFY ALL DEVELOPMENT SERVICE INSPECTORS.
6) FOLLOW APPENDIX 'J' STANDARDS FOUND IN THE IBC.
7) ALL OBJECTS SHALL BE KEPT OUT OF THE SIGHT DISTANCE CORRIDORS THAT MAY OBSTRUCT THE DRIVER'S VIEW.

DUST CONTROL

THESE DUST CONTROL MEASURES MUST BE OBSERVED AT ALL TIMES:

EARTH MOVING ACTIVITIES:

1) APPLY WATER BY MEANS OF TRUCKS, HOSES AND/OR SPRINKLERS AT SUFFICIENT FREQUENCY AND QUANTITY, PRIOR TO CONDUCTING, DURING AND AFTER EARTHMOVING ACTIVITIES.
2) PRE-APPLY WATER TO THE DEPTH OF THE PROPOSED CUTS OR EQUIPMENT PENETRATION.
3) APPLY WATER AS NECESSARY AND PRIOR TO EXPECTED WIND EVENTS.
4) OPERATE HAUL VEHICLES APPROPRIATELY IN ORDER TO MINIMIZE FUGITIVE DUST AND APPLY WATER AS NECESSARY DURING LOADING OPERATIONS.

DISTURBED SURFACE AREAS OR INACTIVE CONSTRUCTION SITES:

1) WHEN ACTIVE CONSTRUCTION OPERATIONS HAVE CEASED, APPLY WATER AT SUFFICIENT FREQUENCY AND QUANTITY TO DEVELOP A SURFACE CRUST AND PRIOR TO EXPECTED WIND EVENTS.
2) INSTALL FENCE BARRIER AND/OR "NO TRESPASSING" SIGNS TO PREVENT ACCESS TO DISTURBED SURFACE AREAS.

APRIL, 2019

BUSH & GUDGELL, INC.
Engineers - Planners - Surveyors
205 East Tabernacle #4
St. George, Utah 84770
Phone (435) 673-2337

No.	Date	By	Revision

BUSH & GUDGELL, INC.
Engineers - Planners - Surveyors
205 East Tabernacle Suite #4
St. George, Utah 84770
Phone (435) 673-2337 / Fax (435) 673-3161
www.bushandgudgell.com

Drawn : MDR Date : APRIL, 2019
Email : mrodines@bushandgudgell.com
Checked : JAR
Approved : JAR
Scale : 1" = 60'
Job No : 161174

LONG VALLEY BLM PARCEL - PLAN & PROFILE

LOCATED IN
SEC. 6, T43S, R14W, SEC. 31, T42S, R14W & SEC. 36, T42S, R15W,
SALT LAKE BASE & MERIDIAN

SHEET 1 OF 1 SHEETS

FILE: 161174BLM road profile

GRAPHIC SCALE

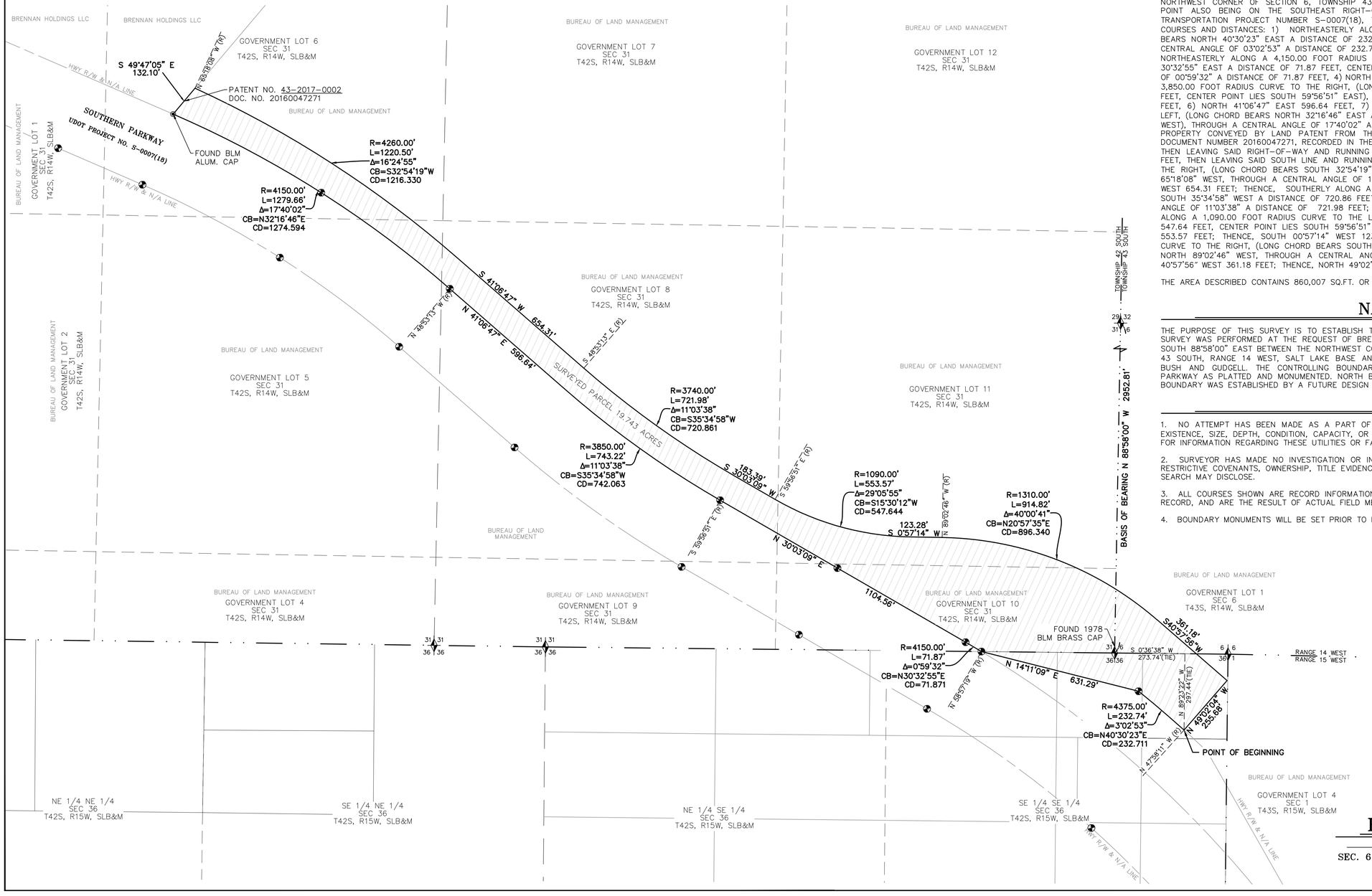
200 0 100 200 400

(IN FEET)

1 inch = 200 ft.

LEGEND

- SECTIONAL MONUMENTATION
- FOUND SOUTHERN PARKWAY RIGHT-OF-WAY MONUMENTATION
- FOUND BLM ALUMINUM CAP
- BOUNDARY LINE
- SECTION/RANGE/TOWNSHIP LINE
- 1/4 SECTION LINE
- 1/16 SECTION LINE
- ROW LINE
- PROPERTY LINE



SURVEYOR'S CERTIFICATE

I, D. GREGG MEYERS, A PROFESSIONAL LAND SURVEYOR, LICENSED UNDER TITLE 58, CHAPTER 22, PROFESSIONAL ENGINEERS AND PROFESSIONAL LAND SURVEYORS LICENSING ACT, HOLDING LICENSE NO. 312770, DO HEREBY CERTIFY THAT THIS PLAT REPRESENTS THE RESULTS OF A SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION AND THE INFORMATION AND MEASUREMENTS SHOWN HEREON ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

APRIL 29, 2019

DATE:
BUSH AND GUDGELL INC.

PROFESSIONAL LAND SURVEYOR
LICENSE #312770
D. GREGG MEYERS
4/29/19
STATE OF UTAH

D. GREGG MEYERS
PROFESSIONAL LAND SURVEYOR
UTAH LICENSE NUMBER 312770

BOUNDARY DESCRIPTION

A PARCEL OF LAND SITUATED IN GOVERNMENT LOTS 5, 6, 8, 10 AND 11 OF SECTION 31, TOWNSHIP 42 SOUTH, RANGE 14 WEST, GOVERNMENT LOT 1 OF SECTION 6, TOWNSHIP 43 SOUTH, RANGE 14 WEST, SOUTHEAST QUARTER (SE1/4) OF THE SOUTHEAST QUARTER (SE1/4) OF SECTION 36 TOWNSHIP 42 SOUTH, RANGE 15 WEST, SALT LAKE BASE AND MERIDIAN, WASHINGTON COUNTY, UTAH, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT A POINT THAT LIES SOUTH 00°36'38" WEST ALONG THE WEST LINE OF GOVERNMENT LOT 1, SAID SECTION 6 A DISTANCE OF 273.74 FEET AND NORTH 89°23'22"WEST A DISTANCE OF 297.44 FEET FROM THE NORTHWEST CORNER OF SECTION 6, TOWNSHIP 43 SOUTH, RANGE 14 WEST, SALT LAKE BASE AND MERIDIAN, SAID POINT ALSO BEING ON THE SOUTHEAST RIGHT-OF-WAY LINE OF SOUTHERN PARKWAY, UTAH, DEPARTMENT OF TRANSPORTATION PROJECT NUMBER S-0007(18), THENCE, ALONG SAID RIGHT-OF-WAY THE FOLLOWING SEVEN (7) COURSES AND DISTANCES: 1) NORTHEASTERLY ALONG A 4,375.00 FOOT RADIUS CURVE TO THE LEFT, (LONG CHORD BEARS NORTH 40°30'23" EAST A DISTANCE OF 232.71 FEET, CENTER POINT LIES NORTH 47°58'11" WEST), THROUGH A CENTRAL ANGLE OF 03°02'53" A DISTANCE OF 232.74 FEET, 2) NORTH 14°11'09" EAST 631.29 FEET, 3) NORTHEASTERLY ALONG A 4,150.00 FOOT RADIUS NON-TANGENT CURVE TO THE LEFT, (LONG CHORD BEARS NORTH 30°32'55" EAST A DISTANCE OF 71.87 FEET, CENTER POINT LIES NORTH 58°57'19" WEST), THROUGH A CENTRAL ANGLE OF 00°59'32" A DISTANCE OF 71.87 FEET, 4) NORTH 30°03'09" EAST 1,104.56 FEET, 5) NORTHEASTERLY ALONG A 3,850.00 FOOT RADIUS CURVE TO THE RIGHT, (LONG CHORD BEARS NORTH 35°34'58" EAST A DISTANCE OF 742.06 FEET, CENTER POINT LIES SOUTH 59°56'51" EAST), THROUGH A CENTRAL ANGLE OF 11°03'38" A DISTANCE OF 743.22 FEET, 6) NORTH 41°06'47" EAST 596.64 FEET, 7) NORTHEASTERLY ALONG A 4,150.00 FOOT RADIUS CURVE TO THE LEFT, (LONG CHORD BEARS NORTH 32°16'46" EAST A DISTANCE OF 1,274.59 FEET, CENTER POINT LIES NORTH 48°53'13" WEST), THROUGH A CENTRAL ANGLE OF 17°40'02" A DISTANCE OF 1,279.66 FEET TO THE SOUTH LINE OF THAT CERTAIN PROPERTY CONVEYED BY LAND PATENT FROM THE UNITED STATES OF AMERICA TO BRENNAN HOLDINGS, LLC BY DOCUMENT NUMBER 20160047271, RECORDED IN THE OFFICE OF THE WASHINGTON COUNTY RECORDER, STATE OF UTAH , THEN LEAVING SAID RIGHT-OF-WAY AND RUNNING ALONG SAID SOUTH LINE, THENCE, SOUTH 49°47'05" EAST 132.10 FEET, THEN LEAVING SAID SOUTH LINE AND RUNNING THENCE, SOUTHERLY ALONG A 4,260.00 FOOT RADIUS CURVE TO THE RIGHT, (LONG CHORD BEARS SOUTH 32°54'19" WEST A DISTANCE OF 1,216.33 FEET, CENTER POINT LIES NORTH 65°18'08" WEST), THROUGH A CENTRAL ANGLE OF 16°24'55" A DISTANCE OF 1,220.50 FEET; THENCE, SOUTH 41°06'47" WEST 654.31 FEET; THENCE, SOUTHERLY ALONG A 3,740.00 FOOT RADIUS CURVE TO THE LEFT, (LONG CHORD BEARS SOUTH 35°34'58" WEST A DISTANCE OF 720.86 FEET, CENTER POINT LIES SOUTH 48°53'13" EAST), THROUGH A CENTRAL ANGLE OF 11°03'38" A DISTANCE OF 721.98 FEET; THENCE, SOUTH 30°03'09" WEST 183.39 FEET; THENCE, SOUTHERLY ALONG A 1,090.00 FOOT RADIUS CURVE TO THE LEFT, (LONG CHORD BEARS SOUTH 15°30'12" WEST A DISTANCE OF 547.64 FEET, CENTER POINT LIES SOUTH 59°56'51" EAST, THROUGH A CENTRAL ANGLE OF 29°05'55" A DISTANCE OF 553.57 FEET; THENCE, SOUTH 00°57'14" WEST 123.28 FEET; THENCE, SOUTHERLY ALONG A 1,310.00 FOOT RADIUS CURVE TO THE RIGHT, (LONG CHORD BEARS SOUTH 20°57'35" WEST A DISTANCE OF 896.34 FEET, CENTER POINT LIES NORTH 89°02'46" WEST, THROUGH A CENTRAL ANGLE OF 40°00'41" A DISTANCE OF 914.82 FEET; THENCE, SOUTH 40°57'56" WEST 361.18 FEET; THENCE, NORTH 49°02'04" WEST 255.68 FEET TO THE POINT OF BEGINNING.

THE AREA DESCRIBED CONTAINS 860,007 SQ.FT. OR 19.743 ACRES

NARRATIVE

THE PURPOSE OF THIS SURVEY IS TO ESTABLISH THE BOUNDARY ON THE HEREON DESCRIBED PARCEL OF LAND. THE SURVEY WAS PERFORMED AT THE REQUEST OF BRENNAN HOLDINGS, LLC. THE BASIS OF BEARING FOR THIS SURVEY IS SOUTH 88°58'00" EAST BETWEEN THE NORTHWEST CORNER AND THE NORTH QUARTER CORNER OF SECTION 6, TOWNSHIP 43 SOUTH, RANGE 14 WEST, SALT LAKE BASE AND MERIDIAN. ESTABLISHED BY PREVIOUS SURVEY'S PERFORMED BY BUSH AND GUDGELL. THE CONTROLLING BOUNDARY ELEMENT'S FOR THIS PLAT ARE THE ESTABLISHED SOUTHERN PARKWAY AS PLATTED AND MONUMENTED. NORTH BOUNDARY WAS ESTABLISHED BY PATENT AS NOTED AND THE EAST BOUNDARY WAS ESTABLISHED BY A FUTURE DESIGN RIGHT OF WAY.

NOTES

1. NO ATTEMPT HAS BEEN MADE AS A PART OF THIS BOUNDARY SURVEY TO OBTAIN OR SHOW DATA CONCERNING EXISTENCE, SIZE, DEPTH, CONDITION, CAPACITY, OR LOCATION OF ANY UTILITY OR MUNICIPAL/PUBLIC SERVICE FACILITY. FOR INFORMATION REGARDING THESE UTILITIES OR FACILITIES, PLEASE CONTACT THE APPROPRIATE AGENCIES.

2. SURVEYOR HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS OF RECORD, ENCUMBRANCES, RESTRICTIVE COVENANTS, OWNERSHIP, TITLE EVIDENCE, OR ANY OTHER FACTS WHICH AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE.

3. ALL COURSES SHOWN ARE RECORD INFORMATION TAKEN FROM DEED DESCRIPTION OR OFFICIAL MAPS OR PLATS OF RECORD, AND ARE THE RESULT OF ACTUAL FIELD MEASUREMENTS.

4. BOUNDARY MONUMENTS WILL BE SET PRIOR TO RECORDATION OF THIS PLAT.

RECORD OF SURVEY PLAT

LOCATED IN
SEC. 6, T43S, R14W, SEC. 31, T42S, R14W & SEC. 36, T42S, R15W, SALT LAKE BASE AND MERIDIAN
PREPARED FOR: BRENNAN HOLDINGS

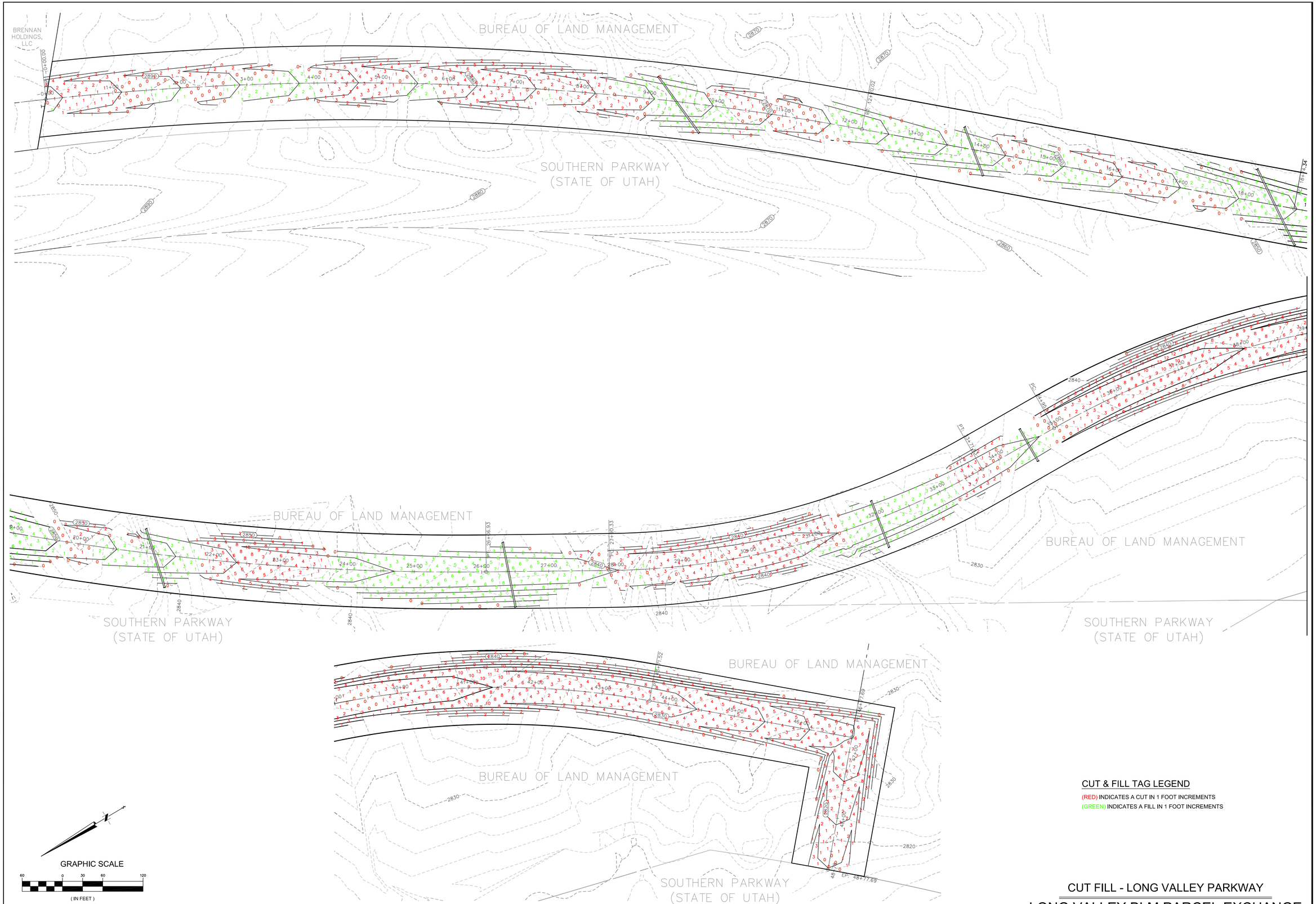
No.	Date	By	Revision

BUSH & GUDGELL, INC.
Engineers - Planners - Surveyors
205 East Tabernacle Suite #4
St. George, Utah 84770
Phone (435) 673-2337 / Fax (435) 673-3161
www.bushandgudgell.com

Drawn : BRS Date : 4-26-2019
Email : GMeyers@bushandgudgell.com
Checked : DGM
Approved : DGM
Scale : 1" = 200'
Job No : 161174

BRENNAN HOLDINGS RECORD OF SURVEY
LOCATED IN
SEC. 6, T43S, R14W, SEC. 31, T42S, R14W & SEC. 36, T42S, R15W, SALT LAKE BASE & MERIDIAN

SHEET
1
1
SHEETS
FILE: 161174 ROS



CUT & FILL TAG LEGEND

(RED) INDICATES A CUT IN 1 FOOT INCREMENTS

(GREEN) INDICATES A FILL IN 1 FOOT INCREMENTS

CUT FILL - LONG VALLEY PARKWAY

LONG VALLEY BLM PARCEL EXCHANGE

No.	Date	By	Revision

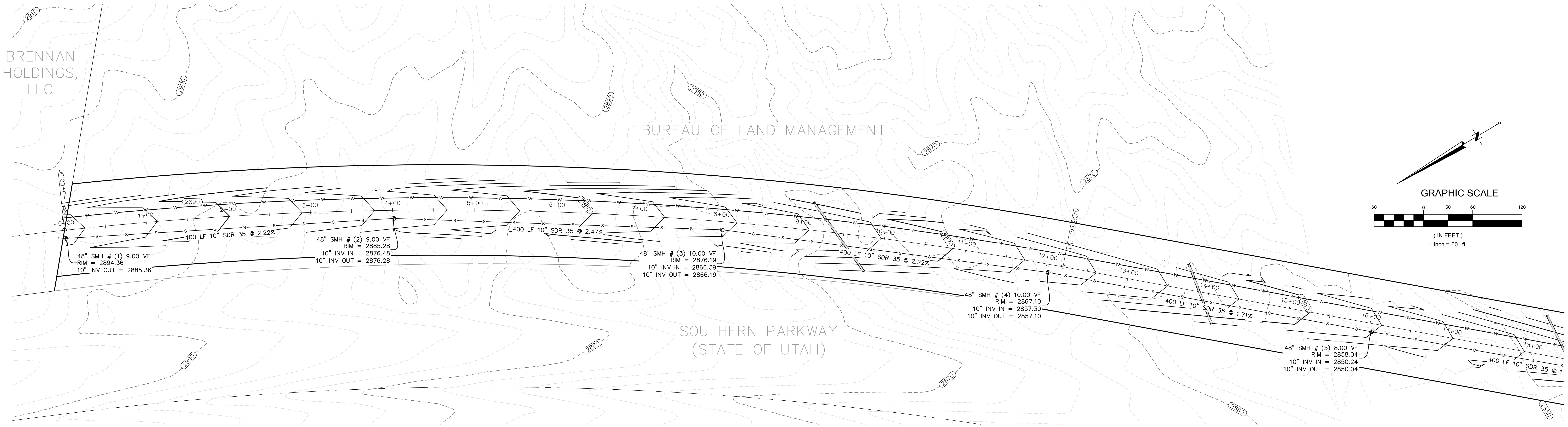
BUSH & GUDGELL, INC.
Engineers - Planners - Surveyors
205 East Tabernacle Suite #4
St. George, Utah 84770
Phone (435) 673-2337 Fax (435) 673-3161
www.bushandgudgell.com

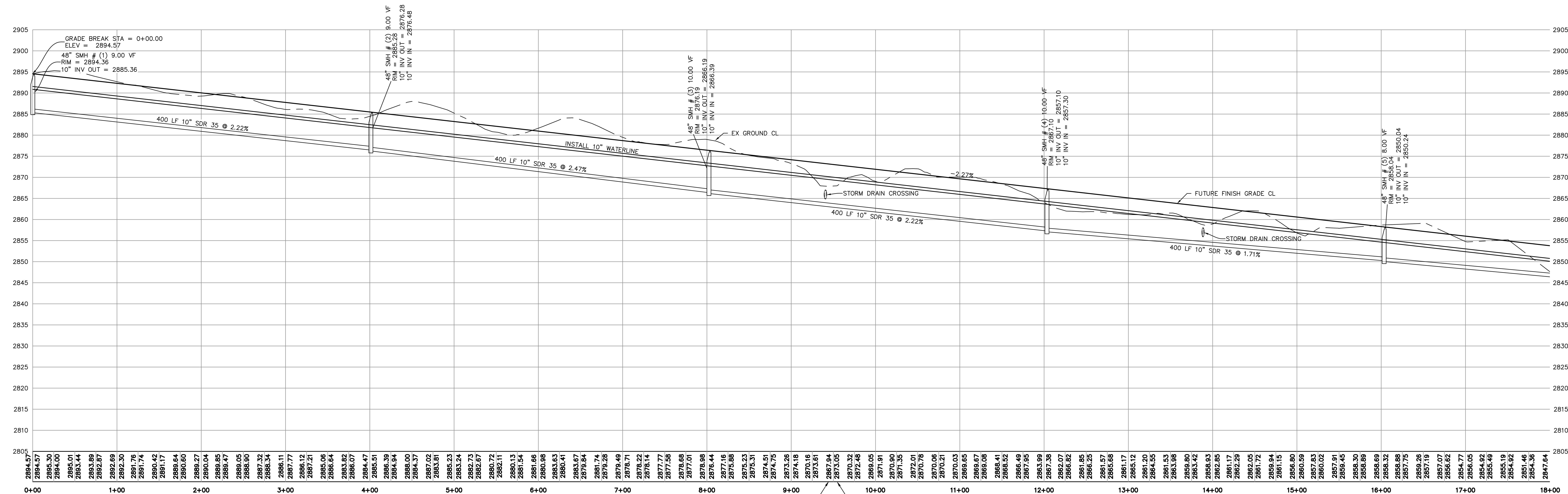
Drawn : MDR Date : APRIL, 2019
Email : mmoore@bushandgudgell.com
Checked : JAR
Approved : JAR
Scale : 1" = 60'
Job No : 161174

LONG VALLEY BLM PARCEL -CUT FILL
LOCATED IN
SEC. 6, T43S, R14W, SEC. 31, T42S, R14W & SEC. 36, T42S, R15W, SALT LAKE BASE & MERIDIAN

SHEET 1 OF 1 SHEETS

FILE: 161174BLM road profile



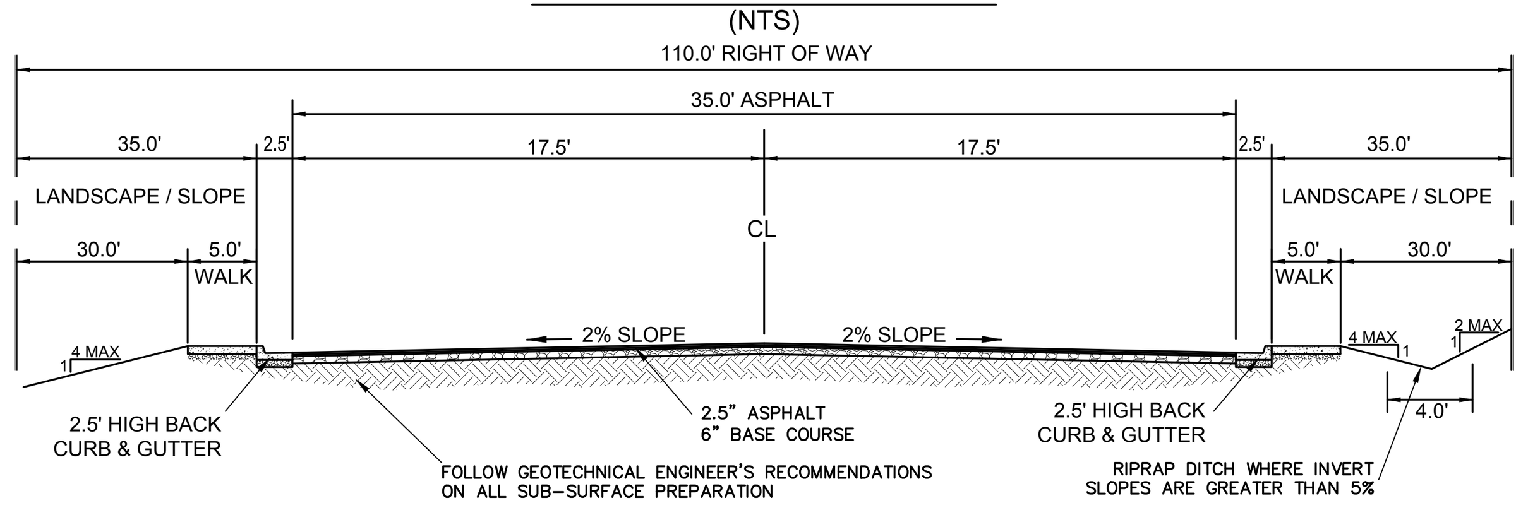


LONG VALLEY ROAD EXTENSION

PROFILE RANGE: STA. 0+00 TO STA. 18+00

FINISHED CROSS SECTION

(NTS)



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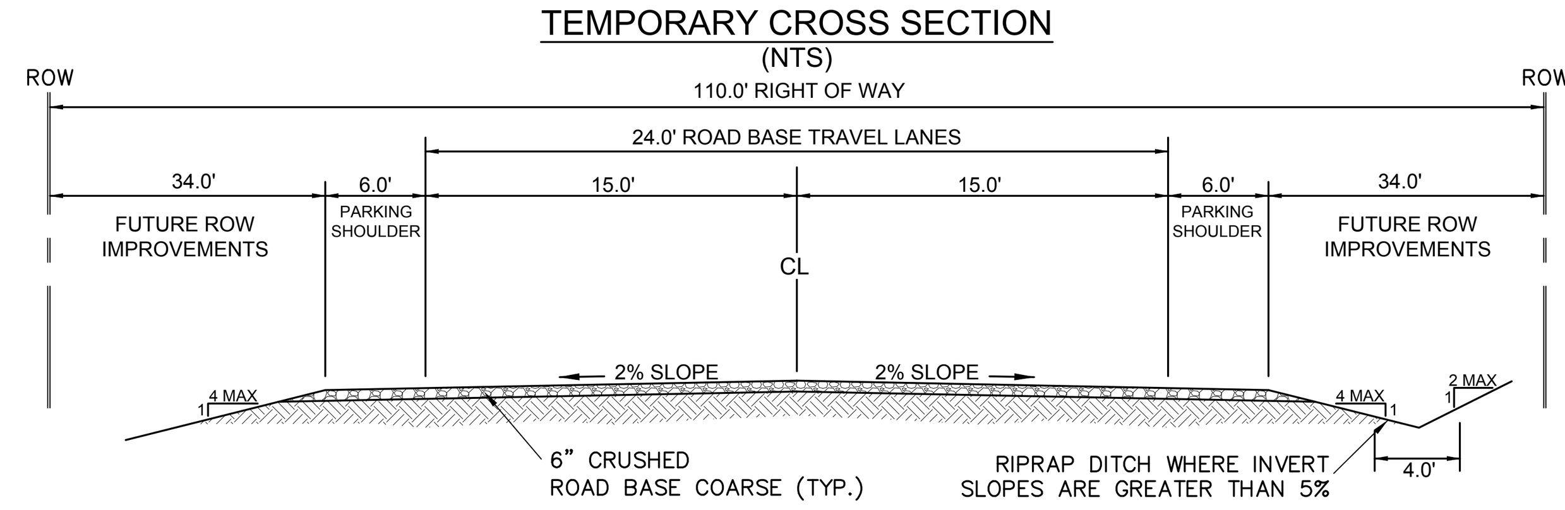
(NTS)



LEGEND

- EXISTING GROUND CONTOUR
- FINISH GROUND CONTOUR
- DRAINAGE FLOW
- PROPOSED ROW LINE
- EXISTING SOUTHER PARKWAY ROW
- EXISTING PROPERTY LINE

PLAN & PROFILE - LONG VALLEY PARKWAY

LONG VALLEY BLM PARCEL EXCHANGE

No	Date	By	Revision

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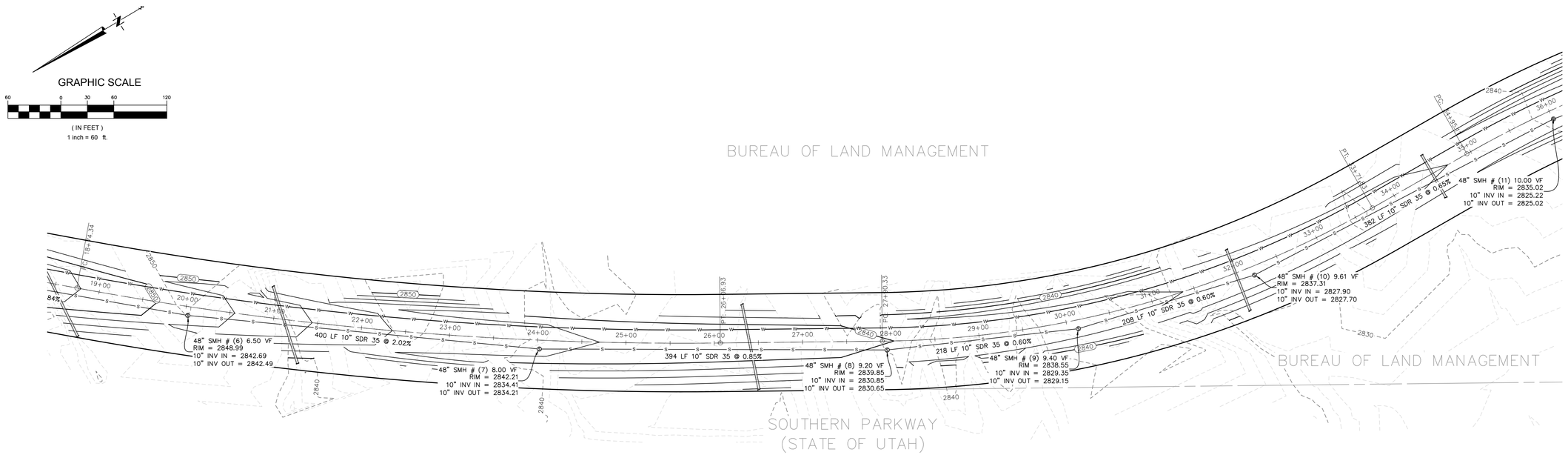
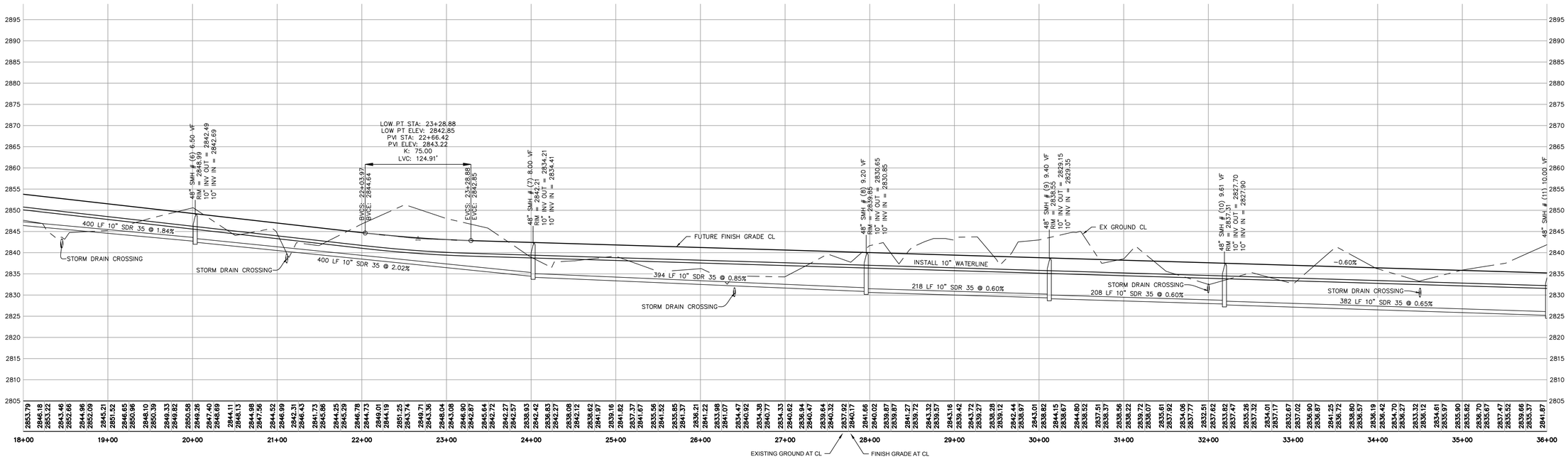
Drawn : MDR Date : APRIL, 2019
Email : mraines@bushandgudgell.com
Checked : JAR
Approved : JAR
Scale : 1" = 60'
Job No : 161174

LONG VALLEY BLM PARCEL – PLAN & PROFILE
LOCATED IN
SEC. 6, T43S, R14W, SEC. 31, T42S, R14W & SEC. 36, T42S, R15W, SALT LAKE BASE & MERIDIAN

SHEET 1
1 SHEETS
FILE: 161174BLM road profile

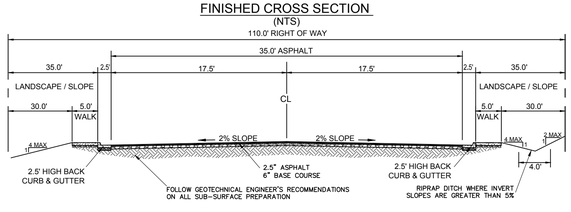




LONG VALLEY ROAD EXTENSION

PROFILE RANGE: STA. 18+00 TO STA. 36+00

FINISHED CROSS SECTION
(NTS)



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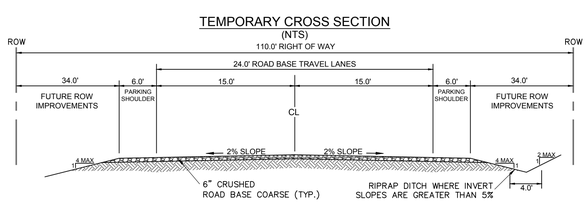

LEGEND

- EXISTING GROUND CONTOUR
- FINISH GROUND CONTOUR
- DRAINAGE FLOW
- PROPOSED ROW LINE
- EXISTING SOUTHER PARKWAY ROW
- EXISTING PROPERTY LINE

PLAN & PROFILE - LONG VALLEY PARKWAY

LONG VALLEY BLM PARCEL EXCHANGE

No.	Date	By	Revision

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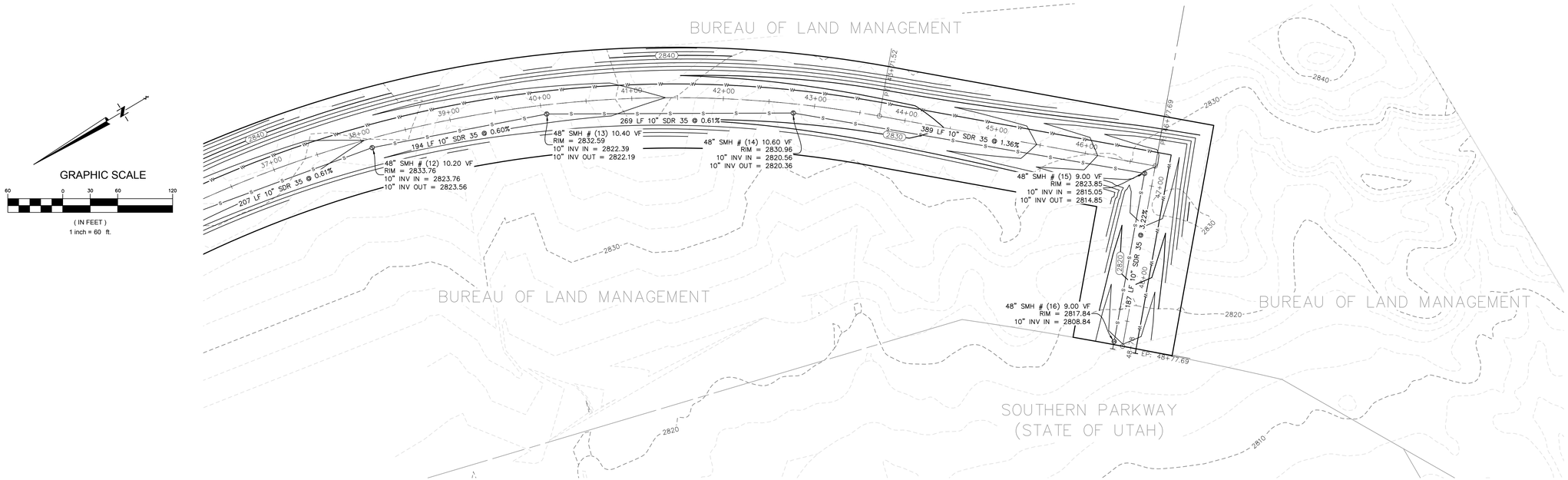
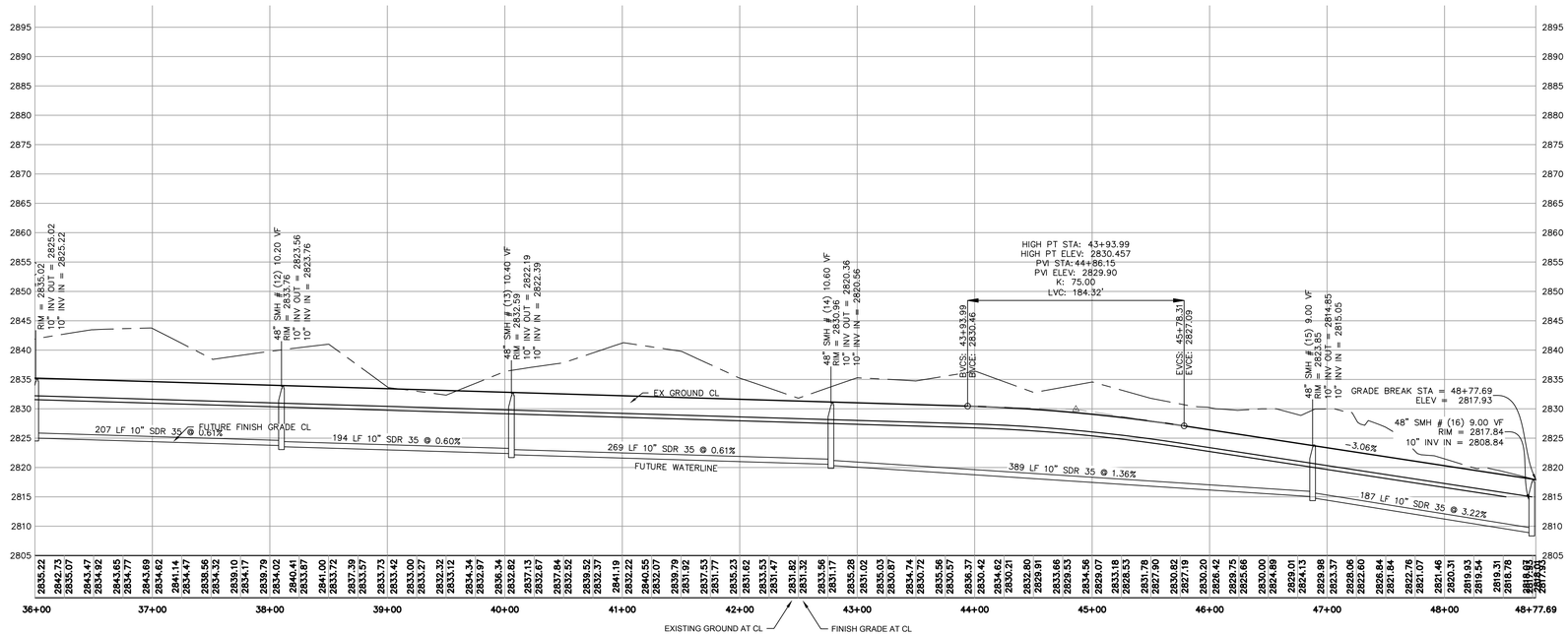
Drawn : MDR Date : APRIL, 2019
Email : mraines@bushandgudgell.com
Checked : JAR
Approved : JAR
Scale : 1" = 60'
Job No : 161174

LONG VALLEY BLM PARCEL - PLAN & PROFILE
LOCATED IN
SEC. 6, T43S, R14W, SEC. 31, T42S, R14W & SEC. 36, T42S, R15W, SALT LAKE BASE & MERIDIAN

SHEET
2
3
SHEETS
FILE: 161174BLM road profile

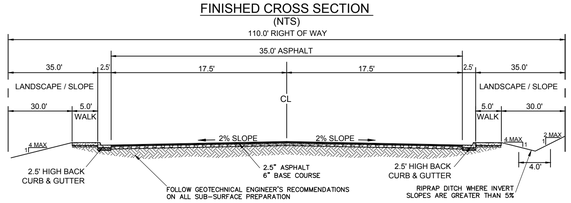




LONG VALLEY ROAD EXTENSION

PROFILE RANGE: STA. 36+00 TO END

FINISHED CROSS SECTION
(NTS)



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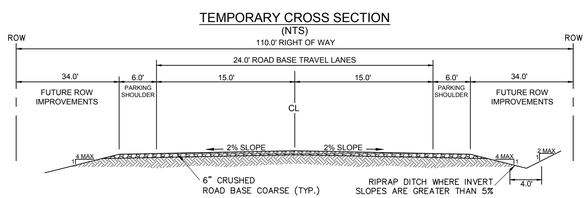
(NTS)



LEGEND

- EXISTING GROUND CONTOUR
- FINISH GROUND CONTOUR
- DRAINAGE FLOW
- PROPOSED ROW LINE
- EXISTING SOUTHER PARKWAY ROW
- EXISTING PROPERTY LINE

PLAN & PROFILE - LONG VALLEY PARKWAY

LONG VALLEY BLM PARCEL EXCHANGE

No.	Date	By	Revision

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LONG VALLEY BLM PARCEL - PLAN & PROFILE

LOCATED IN
SEC. 6, T43S, R14W, SEC. 31, T42S, R14W & SEC. 36, T42S, R15W,
SALT LAKE BASE & MERIDIAN

SHEET
3
3
SHEETS
FILE: 161174BLM road profile

APPENDIX C

USFWS CONSULTATION

United States Department of the Interior

FISH AND WILDLIFE SERVICE
2369 West Orton Circle Suite 50
West Valley City, Utah 84119

In Reply Refer to:
FWS/R6 06E23000-2020-B-0901

Memorandum

To: St. George Field Office Manager, Bureau of Land Management, 345 East Riverside Drive, St. George, Utah 84790

From: Utah Field Supervisor, Ecological Services, U.S. Fish and Wildlife Service, West Valley City, Utah 84119

Subject: Biological Opinion for the Long Valley Road Extension Project

In accordance with section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 et seq.), and the Interagency Cooperation Regulations (50 CFR section 402), this transmits our biological opinion (BO) for the Long Valley Road Extension Project (Project). The proposed Project would connect a planned residential subdivision, Trails at Long Valley, to the existing Long Valley Road Interchange on the Southern Parkway. Our BO is based on information provided in your August 19, 2020 biological assessment (BA) and the final revised version dated September 25, 2020, correspondence between our offices, and other sources of information. We provide additional details on the Project in the proposed action and action area sections below.

You determined that the Project may affect, but is not likely to adversely affect the Holmgren milkvetch (*Astragalus holmgreniorum*) and the Siler pincushion cactus (*Pediocactus sileri*). We concur with your not likely to adversely affect determinations for the Holmgren milkvetch and the Siler pincushion cactus based on the lack of individuals found in your protocol level surveys within the project area and the surrounding 300 foot buffer area, and the lack of observational records for either species within four or more miles of the project area.

We acknowledge your no effect determinations for the non-essential experimental population of the California condor (*Gymnogyps californianus*), and agree that the Project would not jeopardize the continued existence of the non-essential population or species.
Condors may fly over the project area and forage on carcasses of large animals (e.g., deer or cattle), including roadkill along the adjacent Southern Parkway.

However, the project area does not contain habitat features that would be conducive to roosting (occupancy for an extended duration of time). We acknowledge your no effect determination for the Mexican spotted owl and Southwestern willow flycatcher. The project area neither contains nor is adjacent to cliffs, woodlands, riparian habitat, or other habitat features necessary to support nesting populations of these species. We acknowledge your no effect determination for Jones cycladenia (*Cycladenia humilis* var. *jonesii*). Jones cycladenia is not known to occur in Washington County and the project area is approximately nine miles away from the nearest modelled suitable habitat. We acknowledge your no effect determinations for the designated critical habitat of Desert tortoise and Holmgren milkvetch. Neither proposed nor designated critical habitat occurs within the project area for these species.

Our BO evaluates the impacts to the Mojave desert tortoise (*Gopherus agassizii*), hereafter referred to as desert tortoise, and the dwarf bear-poppy (*Arctomecon humilis*) from the Project.

Consultation History

This section summarizes significant steps in the consultation process:

November 8, 2019: We received an email from Transcon Environmental, Incorporated (Transcon) providing information on the proposed road and survey results from a desert tortoise survey performed in the Project area.

December 2, 2019: We met with Transcon, Brennan Holdings (LLC; the Applicant), and Bureau of Land Management (BLM) to discuss the project.

December 9, 2019: We exchanged emails with Transcon to discuss mitigation for dwarf bear-poppy and to clarify whether the access road was a part of a Utah Department of Transportation (UDOT) consultation for the Southern Parkway (it was not part of the UDOT consultation).

April 29, 2020: We further discussed dwarf bear-poppy mitigation with Transcon.

June 1, 2020: We discussed dwarf bear-poppy survey results with Transcon. Dwarf bear-poppy plants were not found in the ROW but were found within the 300-foot buffer area.

June 2, 2020: We met with Transcon, the Applicant, and BLM to discuss the status of the Project, the draft Biological Assessment, and potential mitigation.

June 30, 2020: We met with Transcon, the Applicant, and BLM to discuss mitigation measures for the Project.

July 8, 2020: We reviewed potential dwarf bear-poppy mitigation alternatives with Transcon including the use of other properties owned by the Applicant, acquisition of State of Utah School Institutional Trust Lands Administration (SITLA) lands, and a mitigation fund.

July 13, 2020: We discussed potential dwarf bear-poppy habitat acquisition with SITLA over the phone.

July 15, 2020: We met with Transcon, the Applicant, and BLM to discuss the acquisition of dwarf bear-poppy habitat on SITLA lands and fencing of the acquisition area.

July 29, 2020: We met with Transcon, BLM, and the Applicant to further discuss the dwarf bear-poppy offset. We provided our dwarf bear-poppy habitat evaluation of the project area habitat and the potential SITLA parcel and recommended an acquisition ratio of 3:1 for lands to offset impacts to the species' habitat. The Applicant met with SITLA, and it was determined that land acquisition was no longer an option and that the Applicant would pursue a donation to a mitigation fund.

August 10, 2020: We received notice from Transcon that either the Applicant or Washington County would contribute $50,000 to the Washington County Habitat Conservation Plan (HCP) fund to mitigate impacts to dwarf bear-poppy.

August 11, 2020: We met with BLM and Washington County to discuss the poppy mitigation funding to be held in the County HCP fund.

August 19, 2020: We met with Transcon, the Applicant, and BLM to discuss the Project's schedule and determined that the Project decision needs to be completed by November 1, 2020.

September 9, 2020: We met with Transcon, the Applicant, and BLM to review the Project's progress and schedule.

September 15, 2020: We met with BLM and dwarf bear-poppy experts to discuss potential mitigation fencing locations at Warner Ridge and Beehive Dome but did not arrive at an agreement.

September 25, 2020: We received a request for Section 7 consultation from the BLM and the Biological Assessment.

September 25, 2020: We recommended that the BLM implement shade structures along desert tortoise exclusion fencing. The BLM agreed to implement this measure.

September 28, 2020: We met with BLM and dwarf bear-poppy experts to discuss fencing areas that would benefit both dwarf bear-poppy and desert tortoise. Val Springs near Bloomington was identified as a potential mitigation area with recreation impacts.

September 30, 2020: We met with Transcon, the Applicant, and BLM to review the Project's progress and schedule.

October 2, 2020: We clarified with the BLM that the culvert extensions would be a committed conservation measure as part of the Project.

BIOLOGICAL OPINION

1.0 Proposed Action

The proposed Project would consist of the construction of a five-lane connector road located between the Southern Parkway (UT-7) and the planned Long Valley residential subdivision (Figure 1). The purpose and need of the Project is to provide principal access and traffic circulation to the residential subdivision. The Project is located on BLM lands within the Warner Ridge Area of Critical Environmental Concern (ACEC) and private lands.

The Project area is approximately 93.3 acres and the majority of the acreage (73.6 acres) is the survey buffer for desert tortoise and dwarf bear-poppy. The Project right-of-way (ROW) is 19.7 acres and is 110 feet (ft) wide and 4,680 ft (0.89 mile (mi)) long. The Project would result in the permanent loss of approximately 20 acres. The planned Southern Parkway interchange identified in Figure 1 is not a part of the Project; it was part of a separate section 7 consultation for the Southern Parkway (2007-F-0074).

The proposed Project would be constructed in four phases:

- Phase 1—Grading and utility installation.
- Phase 2—Road-base gravel of graded surface.
- Phase 3—Paving two lanes (24 ft wide) initially.
- Phase 4—Paving additional traffic lanes as needed.

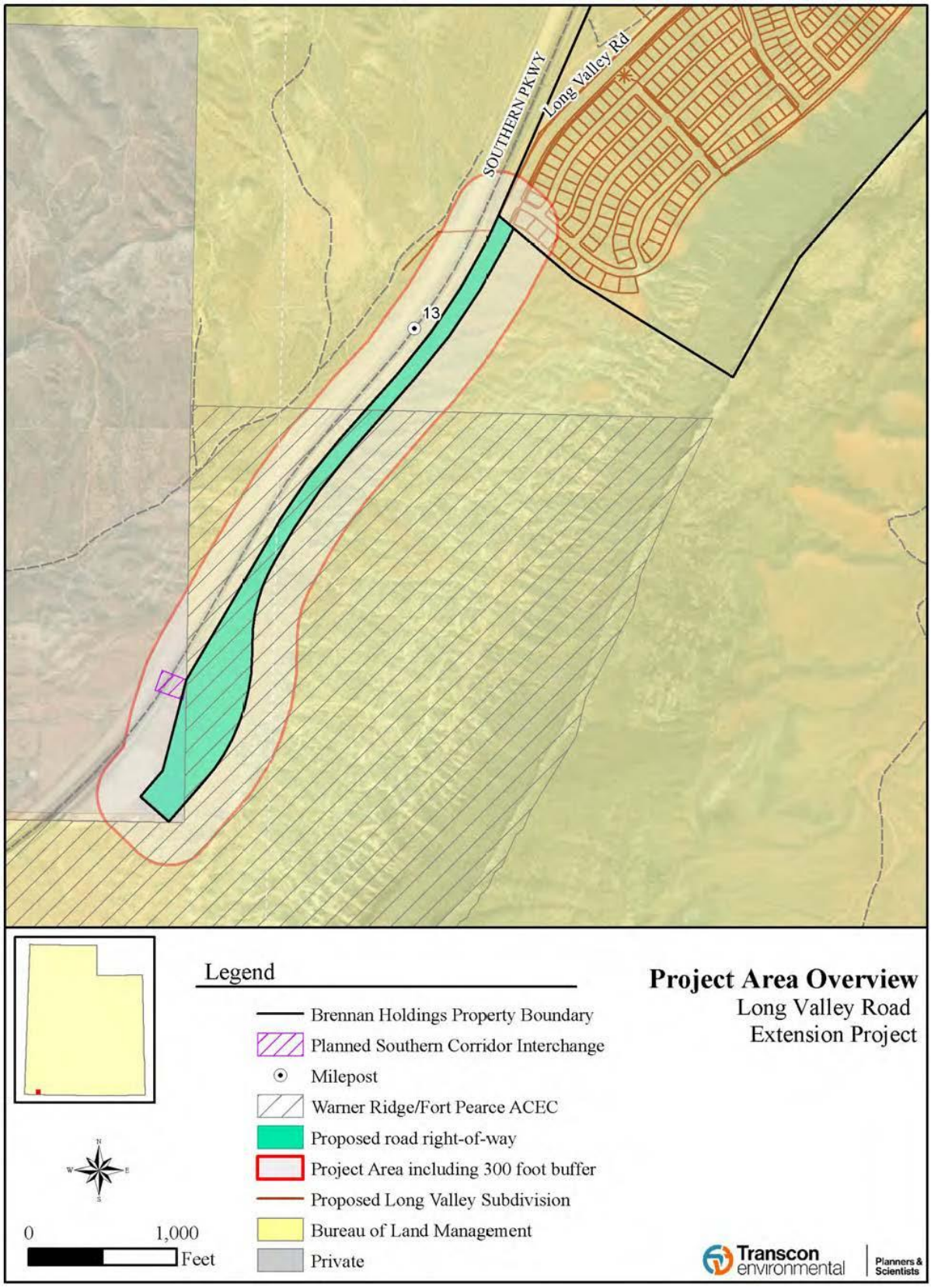

Figure 1. Proposed Project area (copied from BA, page 2)

2.0 Conservation Measures

The Applicant and BLM have committed to implement the following conservation measures (pages 3 - 9 in the BA; Root 2020a; Root 2020b):

General

The following general conservation measures will be implemented:

- BLM best management practices (BMPs), including water application when needed, will be used to control fugitive dust levels during road construction.
- BLM BMPs will be used as needed to control stormwater discharges, including material handling and temporary storage procedures that minimize exposure of potential pollutants to stormwater, spill prevention and response, sediment and erosion controls, and physical stormwater controls.
- A Stormwater Pollution Prevention Plan will be submitted to the BLM and adhered to during construction.
- Signs will be placed on roads where needed to warn recreational riders of any hazards.
- Prior to initiation of construction activities, all Project personnel will attend an environmental training led by a qualified biologist approved by our office and the BLM. The training will identify threatened and endangered species potentially occurring in the Project area and the appropriate course of action if such a species is encountered. Applicant-committed conservation and protection measures to avoid and minimize potential adverse impacts will be discussed.
- An environmental inspector will be the field contact representative (FCR) responsible for overseeing compliance with protections for federally-listed species. The FCR will have the authority to halt activities that are in violation of the Applicant-committed measures. The FCR will also halt non-emergency Project activities that may endanger a federally-listed or BLM sensitive species. The FCR will authorize work resumption only after the hazards are removed, the species is no longer at risk, or the individual is moved out of harm's way by an authorized biologist approved by our office and the BLM.
- Prior to construction, a permanent fence will be constructed for the entire length of the Project area. This fence will serve two purposes: (1) to protect the Warner Valley population of dwarf bear-poppies by preventing off-highway vehicle (OHV) users from gaining access to sensitive lands through the proposed ROW; and (2) to serve as a desert tortoise exclusionary structure. The fence will be constructed to meet U.S. Fish and Wildlife Service (USFWS) desert tortoise standards. The fence location will be determined by the BLM but will tie into existing fences constructed as part of the Gateway South Segment 3B construction project. The BLM will be responsible for fence maintenance following completion of the Project.
- Disturbance of natural vegetation within the ROW will be limited to the extent necessary to complete the Project and to reduce the impact to native plant species and ground-nesting pollinators.
- The top 12 inches of gypsiferous soils within the disturbance area of the proposed ROW will be salvaged, stockpiled, and redistributed along the cut-and-fill slopes.

The contractor will remove these soils after clearing and grubbing activities but prior to roadway excavation or other use of the site.
- Areas of disturbance within the ROW but outside of the road itself will be revegetated with native shrubs and grasses as determined by the BLM.

Desert Tortoise

The following conservation measures specific to desert tortoise will be implemented:

- Suitable habitat with potential for desert tortoise will be surveyed according to USFWS protocol by a qualified biologist within 1 year prior to construction (USFWS 2011a, 2018). A desert tortoise pre-project clearance survey will be conducted immediately prior to surface disturbance within the Project area.
- Surveys will be conducted to determine potential relocation sites located within 984 ft of the Project area.
- If no suitable sites are found within 984 ft of the Project ROW, other areas will be evaluated and approved by the USFWS prior to translocation.
- Translocation activities will be conducted in accordance with USFWS guidance and regulations.
- During construction, a qualified desert tortoise biologist will monitor the construction site. The biologist will verify crews are staying within the construction area, verify that the exclusionary fence has not been damaged and is being properly maintained, and conduct other activities as necessary to minimize harm and harassment of desert tortoises.
- If a desert tortoise is encountered in the Project area during construction, the animal will not be approached or handled, and all nearby Project activities will be halted. The BLM and our office will be notified, and construction activities will not be reinitiated until the BLM provides approval.
- The existing wildlife culverts under the Southern Parkway will be extended through the Project area. The BLM and our office will provide the necessary direction for culvert size and construction specifications.
- Cross-country travel will be avoided unless authorized and flagged by the qualified desert tortoise biologist.
- The ROW will be fenced with an approved desert tortoise exclusion fence, as described in the General Conservation Measures section, above.
- BLM will install shade structures along the fence approximately every 1,667 ft (average desert tortoise home range width; USFWS 2011).
- The BLM will permanently fence 10 acres of modeled suitable desert tortoise habitat to enhance and restore the habitat. The BLM will also establish long-term habitat monitoring plots within the fenced area. This conservation measure will also benefit the dwarf bear-poppy as it is co-located in occupied habitat.
    - Val Springs was selected as the fencing location based on desert tortoise habitat features, degraded habitat conditions from unauthorized recreation, and aerial (drone) imagery which identified 275 dwarf bear-poppy plants.
    - Fencing will consist of t-posts that will be pounded into the ground using post pounders.

  - Barbed wire (2 to 3 strands) will be strung between t-posts. All work will be completed by hand, and no machinery will be utilized. Fencing will not restrict ingress/egress of native wildlife. The total length of the fencing will be 2,640 ft.
  - Materials will be carried to the site by hand; any motorized access will be restricted to previously disturbed areas.
  - The proposed fencing will be consistent with the BLM St. George Field Office Resource Management Plan (BLM 1999), specifically VG-07 and VG-09(a) (Vegetation, Special Status Plant Species) through implementation of recovery actions found in the *Arctomecon humilis* Recovery Plan (USFWS 1985).
  - The proposed fencing will meet the categorical exclusion definition under the National Environmental Policy Act (NEPA) per 516 DM 11.9J(9), which allows for the construction of small protective enclosures, including those to protect reservoirs, springs, and small study areas.
- To reduce the potential for running over desert tortoises, vehicle and equipment speeds will not exceed 20 miles per hour (mph) in the Project area.
- The underside of any parked vehicles and equipment will be checked for desert tortoises seeking shelter prior to moving the vehicle or equipment.
- To prevent entrapment of wildlife during construction, all open pits and trenches will be monitored throughout the construction day.
- At the beginning of the construction day and before they are filled, pits and trenches will be inspected for trapped animals. If any animals are found, they will be moved out of harm's way by a qualified biologist approved by our office and the BLM.

Dwarf Bear-Poppy

The following conservation measures specific to dwarf bear-poppy will be implemented:

- Crews will receive dwarf bear-poppy identification training prior to working in suitable habitat.
- Ground-disturbing activities will not occur within 300 ft of any dwarf bear-poppy during its flowering season (mid-April to May) unless authorized by the BLM and our office.
- As detailed in the General Conservation Measures section, the Applicant will install a fence along the Project ROW to protect dwarf bear-poppy habitat on adjacent BLM lands within the Warner Ridge ACEC from OHV use, target shooting, and refuse dumping. The fence will be sited and constructed according to specifications provided by the BLM and our office and will tie into existing fences in order to prevent vehicle access.
- As detailed in the General Conservation Measures section, disturbance of natural vegetation within the ROW will be limited to the extent necessary to complete the Project and to reduce the impact to native plant species and ground-nesting pollinators.
- As detailed in the General Conservation Measures section, the top 12 inches of gypsiferous soils within the disturbance area of the proposed ROW will be salvaged, stockpiled, and redistributed along the cut-and-fill slopes. This conservation measure will minimize the loss of the dwarf bear-poppy seedbank within the Project area.
- To offset the loss of 6.33 acres of occupied habitat, the Applicant or other parties, in coordination with our office, will contribute $50,000 to the Washington County HCP to be used for dwarf bear-poppy habitat management and protection.

Future habitat management and protection actions for the dwarf bear-poppy may also benefit desert tortoise.

- As detailed in the Desert Tortoise Conservation Measures section, the BLM will permanently fence 10 acres of modeled suitable tortoise habitat that is also occupied by the dwarf bear-poppy to enhance and restore the habitat.
    - Val Springs was selected as the fencing location based on desert tortoise habitat features, degraded habitat conditions from unauthorized recreation, and aerial (drone) imagery which identified 275 dwarf bear-poppy plants.
    - USFWS and BLM approved biologists will clear (50 ft on either side of fence disturbance), stake, and flag the fence perimeter prior to construction to ensure individual dwarf bear-poppy plants and tortoise burrows will not be trampled during fence construction. All dwarf bear-poppies found on-site will be mapped, and data will be submitted to the BLM and our office.
    - The proposed fencing will be consistent with the BLM St. George Field Office Resource Management Plan (BLM 1999), specifically VG-07 and VG-09(a) (Vegetation, Special Status Plant Species) through implementation of recovery actions found in the *Arctomecon humilis* Recovery Plan (USFWS 1985).
    - The proposed fencing will meet the categorical exclusion definition under the National Environmental Policy Act (NEPA) per 516 DM 11.9J(9), which allows for the construction of small protective enclosures, including those to protect reservoirs, springs, and small study areas.

Federally-Listed Plant Species (Dwarf Bear-Poppy, Holmgren Milkvetch, and Siler Pincushion Cactus)

The following conservation measures specific to federally listed plants will be implemented:

- USFWS protocol-level surveys will be conducted within 1 year prior to construction for federally-listed plant species in order to identify occupied and potential habitat and develop protective measures.
- If Holmgren milkvetch and Siler pincushion cacti are determined to be present, ground-disturbing activities will not occur within 300 ft during their flowering season (April to June) unless authorized by the BLM and USFWS botanists. Surveys conducted in 2020 did not locate either species within the Project area (Transcon 2020).
- The Project area will be watered as needed (at least 3 times per day when dry conditions are present) within 300 ft of plant locations to keep dust down and limit any adverse impacts to the plants, especially if construction must occur during the flowering season.

Hazardous Materials and Waste

The following measures will be implemented with regard to hazardous materials and waste:

- Local, State, and Federal regulations related to the use, handling, storage, transportation, and disposal of hazardous materials will be followed.

No equipment oil or fuel will be drained on the ground; oils or chemicals will be hauled to an approved site for disposal.

- All toxic substances (e.g., oil, gas, antifreeze) will be stored in closed containers at all times. Accidental spills will be cleaned up immediately.
- Refuse and trash, including stakes and flags, will be removed and disposed of properly.
- Construction sites, staging areas, and access roads will be kept orderly during construction.
- Portable toilets will be used on-site and maintained on a regular schedule.
- A hazardous materials spill kit that is appropriate for the solvents involved in operation and maintenance of vehicles and machinery used during the Project will be kept on-site during construction.
- The BLM and other regulatory agencies will be contacted as soon as possible in the event of a fuel/oil or hazardous material spill. Actions will be taken to minimize the amount and spread of the spill material, including the use of straw bale plugs, earthen berms, and the use of absorbent materials. If necessary, soil remediation will be conducted, including the removal of contaminated soils to an approved facility and soil sampling to verify successful site remediation.

Fire Prevention and Protection

The following measures will be implemented with regard to fire prevention and protection:

- Construction staff will adhere to BLM fire prevention and suppression requirements; all construction personnel will have fire tools and extinguishers available at all times.

Noxious Weeds and Invasive Species

The following measures will be implemented with regard to noxious weeds and invasive species:

- A detailed weed control plan will be provided to the BLM for approval before construction.
- All equipment will be cleaned of soils, seeds, vegetation matter, and other debris prior to entering or re-entering the Project area.
- Vegetation will be monitored periodically for the establishment of noxious weeds or undesirable plant species. If needed, the Applicant will be responsible for weed control in disturbed areas within the ROW, including consultation with the authorized officer and/or local authorities in determining acceptable weed control methods.
- Temporary ground disturbance outside of the actual road will be restored to original contours to the extent determined by the BLM and seeded with BLM-approved certified native species weed-free seed mix.
- The Applicant will follow BLM regulations pertaining to control of noxious weeds; use of herbicides will comply with BLM requirements.

Avian

The following measures will be implemented with regard to avian species:

- Where possible, construction activities, including habitat-alteration and noise, will occur outside of Utah's migratory bird primary nesting season (April 1 to July 15). In Utah, the migratory bird nesting season can extend from January 1 to August 31 (especially for raptors). After August 31, no further avian surveys will be required until the next year.
- A pre-construction survey by a qualified biologist (less than 7 to 10 days prior to when work actually begins on the Project site) will be conducted for nesting birds.
- If an active nest is identified, the BLM biologist will be notified, and a no-activity buffer (ranging from 100 ft to 1 mi, depending on species) will be established around the nest site and remain in place until the young have fledged and/or the nest becomes inactive (Romin and Muck 2002; USFWS 2014). The Applicant will not resume disturbance within the no-activity buffer during the avian breeding season without first conducting another avian survey.
- Activities will comply with Utah BLM BMPs for Raptors and Their Associated Habitats in Utah (BLM 2006). Project activities will not occur within recommended spatial and seasonal buffers for raptors, unless otherwise approved by the BLM. If existing topography limits line of sight between an active nest and construction activities, spatial and seasonal buffers may be reduced.

3.0 Action Area

Our regulations define the action area as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 CFR section 402.02). Therefore, the action area incorporates all areas that may be affected directly or indirectly by the Project and includes the following:

- The Project area is located in south-central Washington County, Utah, adjacent to the Southern Parkway (Figure 1).
- A permanent ROW approximately 0.89 mi long by 110 ft-wide (19.7 acres), and a surrounding buffer area (73.6 acres) consisting of a 300 ft buffer for listed plant species and a 164 ft buffer for the desert tortoise. The total action area is 93.3 acres.
- The majority of the Project area (81.4 acres) is located on BLM land within the Warner Ridge ACEC administered by the BLM St. George Field Office (SGFO). Approximately 11.9 acres of the Project area are located on private lands.

4.0 Status of the Species

The information in this section summarizes the range-wide status of desert tortoise and dwarf bear-poppy. For additional information, please refer to the latest status of the species for desert tortoise (https://www.fws.gov/nevada/desert_tortoise/dt/dt_life.html) and 5-Year Status Review for dwarf bear-poppy (USFWS 2016), and our website, Utah Ecological Services Office Species of Utah (https://www.fws.gov/utahfieldoffice/species.php).

4.1 Desert Tortoise

We listed the desert tortoise populations north and west of the Colorado River in Arizona and Utah (excluding the Beaver Dam Slope population) as endangered under an emergency rule on August 4, 1989 (54 FR 42270). Subsequently, the entire Mojave population of the desert tortoise west of the Colorado River in California and Nevada, and north of the river in Arizona and Utah, including the Beaver Dam Slope, was listed as a threatened species on April 2, 1990 (55 FR 12178). We designated critical habitat for desert tortoise on February 8, 1994 (59 FR 5820). We completed a Desert Tortoise (Mojave Population) Recovery Plan (Recovery Plan) in 1994 (USFWS 1994), and a revised Recovery Plan in 2011 (USFWS 2011). In 2014, there was an estimated 16.9 million acres of modelled desert tortoise habitat and 212,000 adult desert tortoises (Allison and McLuckie 2018).

The desert tortoise is an arid land reptile associated with desert scrub vegetation, primarily creosote bush (*Larrea tridentata*) flats, washes, and hillside slopes or bajadas. A robust herbaceous component to the shrubs and cacti of the creosote bush vegetation type is an important component of suitable habitat. Within these vegetation types, desert tortoises potentially can survive and reproduce where their basic habitat requirements are met including: a sufficient amount and quality of forage species; shelter sites for protection from predators and environmental extremes; suitable substrates for burrowing, nesting, and over-wintering; various plants for shelter; and adequate area for movement, dispersal, and gene flow. The Recovery Plan (USFWS 2011) contains a complete description of the range, biology, and ecology of the desert tortoise.

Desert tortoises are most active during the spring and early summer when annual plants are most commonly available for forage (USFWS 2011). Additional activity occurs during warmer fall months and occasionally after summer rainstorms. While rare, desert tortoises have also been observed above ground in the winter, including when there is snow on the ground. In Utah, we consider desert tortoises most active from approximately March 15 through October 15; however, depending upon weather conditions, they can be active outside of these dates as well (USFWS 2020a). Desert tortoises spend the remainder of the year in burrows, escaping the extreme conditions of the desert (USFWS 2011). We have determined three ranges of dates based on anticipated levels of desert tortoise activity and ambient temperatures in Utah (USFWS 2020a):

- More active season: February 15 to November 30;
- Most active season: March 15 to May 15, and August 20 to October 20; and
- Less active season: December 1 to February 14.

Desert tortoise home range sizes vary with respect to location and year. Over its lifetime, each desert tortoise may require more than 1.5 square miles (mi^2) of habitat and make forays of more than seven miles at a time (Berry 1986).

Threats facing desert tortoises have been increasing since we finalized the 1994 Recovery Plan.

The most apparent threats to the desert tortoise are those that result in mortality and permanent habitat loss across large areas, such as urbanization and large-scale renewable energy projects and those that fragment and degrade habitats, such as proliferation of roads and highways, OHV activity, wildfire, and habitat invasion by non-native invasive plant species. These threats often have cumulative, synergistic, and interactive effects, and desert tortoise recovery depends on managing multiple threats simultaneously (Tracey *et al.* 2004). In addition, many recovery actions have not been fully implemented.

Direct loss of desert tortoises has occurred from illegal collection by humans for pets or consumption, intentional killing by humans, wildfire, upper respiratory tract disease (URTD), predation on juvenile desert tortoises by common ravens (*Corvus corax*), kit foxes (*Vulpes macrotis*), coyotes, dogs off-leash, and other predators, and collisions with vehicles on paved and unpaved roads. During droughts, desert tortoises forage over larger areas, increasing the likelihood of injury or mortality through encounters with humans and predators (Boarman 2002). Other threats affecting the desert tortoise include loss of habitat and habitat fragmentation from construction projects such as roads, housing and energy developments, and conversion of native habitat to agriculture. OHV use is also a threat to the species.

Habitat degradation influences desert tortoise health and survival and is occurring through habitat fragmentation, grazing, and wildfire. In addition to degrading habitat, grazing activities can also collapse burrows. Wildfire is an increasingly important threat, because it degrades or eliminates habitat (Appendix D of USFWS 1994). Following wildfire, native plant species are often replaced by invasive, non-native species such as red brome (*Bromus rubens*) and cheat grass (*Bromus tectorum*), resulting in long-term habitat degradation or loss. Over 500,000 acres of desert lands burned in the Mojave Desert in the 1980s, and approximately 500,000 acres burned in the northeastern Mojave Desert, including in Arizona and Utah, in 2005. Over 25,000 acres of Mojave desert burned on the Arizona Strip and the Upper Virgin River (UVR) recovery unit in 2006, and significant fires occurred in the UVR recovery unit again in 2012. In July 2020, a 12,000 acre fire burned portions of the Red Cliffs Desert Reserve (Reserve). The Reserve contains most of the species' critical habitat in Washington County, Utah. Approximately 39 percent of desert tortoise habitat acres in Zone 3 (i.e., the core of the Red Cliffs Desert Reserve) have been impacted by these combined fires, and we are still assessing the effects of the fire on desert tortoise populations and habitat condition.

There are five recovery units (Western Mojave, Eastern Mojave, Northeastern Mojave, Colorado Desert, and Upper Virgin River) based on genetics and a metapopulation evaluation (USFWS 2011). Desert tortoise populations may be distributed in metapopulations (group of populations separated by space) rather than single, large populations in recovery units (USFWS 2011; Tracey *et al.* 2004). Desert tortoise populations have declined significantly in four (Western Mojave, Eastern Mojave, Colorado Desert, and Upper Virgin River) of the five recovery units (USFWS 2015; Allison and McLuckie 2018). The Northeastern Mojave recovery unit is the only recovery unit that has shown an upward trend for desert tortoise populations; however, population numbers are still low and below viable population levels (USFWS 2015). Desert tortoise habitat in the Project action area is entirely within the UVR recovery unit.

To support metapopulation processes, it is important to protect the corridors between habitat patches and populations, in addition to reducing multiple threats within management areas.

Desert tortoise metapopulations require areas of suitable habitat for recovery, but these areas may be periodically vacant of desert tortoises. Absence during one survey period does not indicate an area is not important to the species. The revised recovery plan identified desert tortoise conservation areas outside of critical habitat as essential for the conservation and recovery of the species. For example, dispersal corridors may span private, State, and Tribal lands, as well as ACECs, wilderness areas, and other Federal lands without a critical habitat designation (USFWS 2011).

Desert tortoise management in Arizona is covered primarily by the Arizona Strip Resource Management Plan for BLM lands in northern Arizona (file number 22410-2007-F-0463), which also considered the effects of BLM actions on the conservation value of critical habitat. The desert tortoise is the primary species covered by the Clark County Multiple Species Habitat Conservation Plan (HCP) in Clark County, Nevada (USFWS and Clark County 2000), and we evaluated critical habitat units in Clark County in the analysis for the associated incidental take permit (permit number TE034927-0). In Utah, the USFWS and Washington County completed the Washington County HCP in 1996, after critical habitat designation; however, consultations for Federal actions in that area consider that the effects to critical habitat and most critical habitat is protected in Washington County's incidental take permit (permit number TE-036719). We are currently working with Washington County to amend the Washington County HCP (Washington County 2020). Effects to critical habitat areas for desert tortoise are fully included either by existing section 7 consultations or by the existing HCPs. Conservation actions for the species include protection for individuals and habitat.

4.2 Dwarf Bear Poppy

The dwarf bear-poppy is a perennial herb in the poppy (Papaveraceae) family. The species occurs in Washington County, Utah within 9 mi of St. George. This narrowly distributed perennial was federally listed as endangered in December 1979 (50 CFR 17.12) following a final rulemaking published in November 1979 (44 FR 64250). No critical habitat was designated for this species.

Dwarf bear-poppies are restricted to gypsiferous soils and most commonly occur on soils of the Shnabkaib Member of the Moenkopi Formation but sometimes are found on the Middle Red and Upper Red Members of the Moenkopi Formation, the Harrisburg Member of the Kaibab Formation, and the high gypsum soils of the Kayenta Formation (Lewinsohn pers comm, 2020; USFWS 1985; Nelson and Welsh 1993). A recent habitat model indicates annual precipitation is the strongest predictor of suitable habitat followed by geology, soil gypsum content, and summer maximum temperatures (Bowker 2014). Additionally, the habitat model indicates that the majority of existing suitable habitat is currently occupied by the species (Bowker 2014). Surveys in suitable habitat south of the state border in Arizona have not located additional populations (Bowker 2014).

There are nine populations of dwarf bear-poppy with an estimated total of 11,000 individuals which occur within approximately 11,000 acres of suitable habitat in Washington County, Utah. The total population size estimate is an average over a 20 year period. It is difficult to estimate total population size due to large fluctuations in plant abundance.

The large fraction of the population remains dormant and thus non-detectible as a seedbank outside of recruitment years, and vast acreages of suitable habitat within the Red Bluff population have never been surveyed, and may not be occupied habitat.

The species occurs in an elevation range of 2,700 to 3,300 ft. Approximately 30 percent of the habitat is located on State, private, or municipally administered lands; the remaining 70 percent occurs on Federal lands managed by the BLM (USFWS 2016, Nelson 1989).

Threats to the species include residential development, recreational use, and loss of pollinators and pollinator diversity (USFWS 2016).

5.0 Environmental Baseline

Regulations implementing the ESA (50 CFR 402.02) define the environmental baseline as the condition of the listed species or its designated critical habitat in the action area, without the consequences to the listed species or designated critical habitat caused by the proposed action. The environmental baseline includes the past and present effects of all Federal, State, or private actions and other human activities in the action area, the anticipated effects of all proposed Federal projects in the action that have already undergone formal or early section 7 consultation, and the effects of State or private actions that are contemporaneous with the consultation in process. The consequences to listed species or designated critical habitat from ongoing agency activities or existing agency facilities that are not within the agency's discretion to modify are part of the environmental baseline.

5.1 Status of the Species in the action area

5.1.1 Desert Tortoise

The action area is located within the UVR recovery unit, which encompasses 333,382 acres of desert tortoise habitat in southwest Utah and northwest Arizona. This recovery unit includes all critical and suitable desert tortoise habitat east of the Beaver Dam Mountains in Washington County, Utah (USFWS 1994 and 2011) and was recently expanded locally to consider contiguous modelled habitat in Arizona (USFWS 2020a). We estimate there are 4,415 adult desert tortoise, 22,958 juveniles, and 5,740 hatchlings in the Upper Virgin River recovery unit (> 5 percent of the range-wide population), about half of which are in designated critical habitat (USFWS 2020a). The action area does not contain designated critical habitat.

For desert tortoise management purposes, we split the UVR recovery unit into 11 analytical units (AUs) (USFWS 2020a). The action area occurs within the Sand Mountain AU of the UVR recovery unit. The Sand Mountain AU encompasses 47,432 acres of habitat, 41,158 of which are suitable for desert tortoises (USFWS 2020a). Information on the desert tortoise population within the Sand Mountain AU is limited. We estimate there are 3.4 desert tortoises per square mile, or 217 adult desert tortoises, in the Sand Mountain AU (USFWS 2020a).

There is connectivity between suitable habitats within the Sand Mountain AU, allowing desert tortoises to move relatively freely between suitable habitat areas.

Large tracts of modelled potential habitat occur within the AU (87 percent of the habitat area in Sand Mountain is modelled suitable habitat), though occupancy is not well known. The Sand Mountain AU supports sand dunes, which are not ideal desert tortoise habitat but pose low resistance to movement. Modeling indicates good connectivity may be present throughout the AU (Gray *et al*. 2019). However, connectivity may be compromised in the north section of this AU in areas within and adjacent to the Sand Mountain Special Recreation Management Area and Sand Hollow State Park, which are managed under open area designations for OHV use. Recreation in the area may detrimentally impact survival and recruitment (e.g., ravens and other effects associated with human access). There are a number of movement barriers between the Sand Mountain AU and adjacent AUs primarily from roads (e.g. Interstate-15) and urban development.

The action area is located within suitable habitat based on vegetation composition, soil structure, and elevation (Washington County 2020). The terrain is moderately hilly with several small washes. The north end of the action area contains more shrub cover and is better quality tortoise habitat than the south end, which has substantial surface disturbance and very little vegetation cover (Washington County 2020). The Southern Parkway is directly adjacent on the west side of the Project area, which features tortoise exclusion fencing and a wildlife crossing culvert intended to provide desert tortoise connectivity across the road.

Desert tortoises occupy the action area. Surveys identified twenty-six tortoise burrows within the action area, 14 within the proposed ROW and 12 within the 164 ft buffer area. Twenty-one of the 26 burrows were in good condition and were determined to be active or likely active in 2019. The sizes of the majority of burrows suggested that juvenile- or immature-sized tortoises use them, though some adult burrows/pallets were also observed. Although no live tortoises were observed during the survey, three recent scats (defecated by tortoises in 2019) were detected within the action area, and several deep burrows may have contained concealed desert tortoises (BA).

The action area contains private lands within the permit area of the current and draft amended Washington County HCP. However, the BLM, as the action agency, requested Section 7 consultation herein for the entire Project. Therefore, all effects to desert tortoises or their suitable habitats in the Project action area are evaluated in this BO.

5.1.2 Dwarf Bear Poppy

The North Warner Ridge dwarf bear-poppy population is located on the southeast side of the action area on BLM lands within the Warner Ridge ACEC. The population size of the North Warner Ridge population is estimated to be 3,000 individuals on 375-acres.

A protocol-level survey of the action area was conducted in April 2020 during peak flowering period. Approximately 100 plants were found within a 7-acre area of the action area (BA Figure 2). No plants were located within the 19.7-acre proposed ROW; however, approximately 6.33 acres of the 300 ft occupied habitat buffer are located within the proposed ROW. Little surface disturbance was evident where the dwarf bear-poppies were located. A cryptobiotic soil crust is present in portions of the action area.

Additional dwarf bear-poppy plants were located just outside and east of the buffer area but were not included in the count. Much of the vegetation in the southwestern quarter of the action area has been lost due to surface-disturbing activities and does not meet poppy habitat requirements. The northern three-quarters of the action area is less disturbed but is sandy and more heavily vegetated with shrubs resulting in marginal habitat.

Overall, the Project will result in the loss of no plants and 6.33 acres of occupied habitat, representing approximately two percent of Warner Ridge population habitat area. We do not know the total acreage of occupied habitat for the species range-wide.

5.2 Status of Critical Habitat in the action area

Designated critical habitat for the desert tortoise does not occur within the action area. Critical habitat has not been proposed or designated for dwarf bear-poppy. There will be no further analysis of critical habitat in the BO.

6.0 Effects of the Action

In accordance with 50 CFR 402.02, effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of all other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action (see 50 CFR 402.17).

6.1 Desert Tortoise

The construction of a five lane ROW will require surface-disturbing activities and the permanent loss of occupied desert tortoise habitat. The construction will also likely result in habitat degradation adjacent to the Project area, the displacement of home ranges, and potentially the injury or death of individual desert tortoises. A total of 41.7 acres of suitable desert tortoise habitat would be temporarily or permanently disturbed because of the Project, of which 19.7 acres of habitat would be permanently lost to the ROW.

Biologists did not encounter any live desert tortoises during surveys; however, they found 26 burrows (21 of which appeared to be active), scat in three locations, and tracks, indicating that desert tortoises are present in the action area. Fourteen burrows were identified within the proposed ROW and would be lost as result of the Project. An additional 12 burrows were located within the 164 ft buffer area, indicating that desert tortoises occur in suitable habitat adjacent to the Project area whose home ranges are likely to be adversely affected by the ROW. The average adult desert tortoise home range width is 1,667 ft (USFWS 2011), and thus the ROW will alter or degrade the home ranges of some unknown number of individuals at distances exceeding 164 ft from the ROW (an approximately 300 acre area). The size of the burrows encountered during surveys suggested that the action area is inhabited by both juvenile and adult desert tortoises.

The Project is not expected to significantly alter desert tortoise connectivity though the Sand Mountain AU, because the proposed ROW will be constructed parallel to an existing road, Southern Parkway, and will be integrated with the existing desert tortoise exclusion fencing and crossing culverts along Southern Parkway. The crossing culverts along Southern Parkway and near the Project area will be extended across the proposed ROW, and the extension will be designed to maintain connectivity for desert tortoises and other wildlife.

Desert tortoises are vulnerable to effects from surface-disturbing activities within the proposed ROW. Desert tortoise fatalities and injuries may result from crushing by construction equipment or vehicles during construction or maintenance activities and along access routes into work areas. Ground disturbing activities may also entomb desert tortoises in their burrows or dens. We consider the likelihood of desert tortoise fatality low for this Project, given that: (1) pre-project clearance surveys will be conducted immediately prior to surface disturbance within the Project area; (2) a permanent desert tortoise exclusion fence will be constructed along the entire length of the Project area; and (3) a qualified desert tortoise biologist will monitor the construction site to minimize harm and harassment of desert tortoises. Desert tortoises encountered within the Project area during surveys or construction will be relocated outside the Project area as described in the Applicant committed conservation measures. Exclusion fencing will prevent desert tortoises from entering the ROW from the surrounding habitats. USFWS permitted biologists and biological monitors will frequently check the Project area to ensure that the Project minimizes adverse effects to any desert tortoises encountered. As described in the conservation measures, construction workers or others would not approach or handle desert tortoises found in the Project area during Project activities, and all nearby Project activities would be halted immediately until the desert tortoise leaves the area or is moved from the site by an approved biologist.

If necessary, handling desert tortoises during burrow excavation or relocating them from the Project area will also likely cause some level of stress. The conservation measures that relate to handling, burrow excavation, and relocation will help minimize the stress associated with these activities as well as decrease the chances of causing stress, infections, or mortality associated with non-sterile techniques. USFWS permitted biologists and monitors will relocate desert tortoises off the Project site within 984 ft of their capture location, allowing them to remain within close proximity to, if not wholly within, their current home ranges to further minimize stress levels.

The effects of construction projects to the soils and vegetation of desert ecosystems that support the desert tortoises may affect desert tortoise populations and habitat quality over a long period, including loss of cover and forage. For this analysis, mechanical disturbance includes creation of access routes, clearing of ROWs, staging areas, maintenance activities, and habitat reclamation activities.

Mechanical disturbance of desert soils can cause: (1) changes in annual and perennial plant production and species composition (Adams *et al*. 1982, Burge 1983, Bury 1978, Vollmer *et al*. 1976, Woodman 1983); (2) soil loss due to increased rates of water and wind erosion (Bury and Luckenbach 1983 and 1986, Nakata 1983, Wilshire 1977); (3) reduced soil moisture (Hinkley *et al*. 1983, Wilshire 1977); (4) reduced infiltration rates (Hinkley *et al*. 1983, Wilshire and Nakata 1976); (5) changes in soil thermal regime (Webb 1978); and (6) compaction or an increase in surface strength (Burge 1983, Davidson and Fox 1974, Nakata 1983, Webb 1983, Wilshire 1977, Woodman 1983).

Movement and use of construction equipment can also result in soil compaction. Disturbance in an area can be detrimental to the vegetation because the soil compaction can decrease the amount of water entering the soil and available to plants (Davidson and Fox 1974). Soil compaction, or increased soil strength, substantially increases run-off of rain by decreasing infiltration rates, resulting in increased potential for water erosion. Soil compaction inhibits seed germination and subsequent regeneration of plant cover (Wilshire and Nakata 1976). Even minimal vehicle use can significantly reduce the establishment and growth of desert annuals in succeeding years (Adams *et al*. 1982). Bury *et al*. (1977) rejected the notion that light use has little or no effect on the biota of desert lands, stating that even partial damage to plants may subject them to stress in dry years or droughts. We expect greater soil surface disturbance under vehicles moving at higher speeds (Webb 1983).

Construction activities will completely remove fragile organic and inorganic crusts that protect desert soils and alter habitat for the desert tortoise. The organic biological soil crust (or biocrust) are composed of various microflora (algae, lichen, and fungi that form cryptogams) or macroflora (remnants of fibrous root material from dead annual plants; Went and Stark 1968). The inorganic crust can be described as desert pavement, silt, clay, or chemical crust layers. All of these crusts help prevent erosion, may increase infiltration and slow evaporation, and facilitate nutrient cycling (Epstein *et al*. 1966; Webb *et al*. 1978; Beymer and Klopatek 1991 in Floyd *et al*. 2003; Loope and Gifford 1972 in Floyd *et al*. 2003; Reynolds *et al*. 2001 in Floyd *et al*. 2003; Rychert *et al*. 1978 in Floyd *et al*. 2003). Modification of soils and crusts by surface-disturbing activities can result in a decrease in organic material and nutrient value of remaining vegetation and decrease available soil water for plants (Webb *et al*. 1978). As soil crusts are lost or degraded, surrounding soils are likely to decrease in their ability to provide nutrients for the forage and vegetation used by desert tortoises for shelter. Furthermore, the degradation of soil crusts can lead to a decrease in the recruitment of vegetation that provides both forage and shelter for desert tortoises. The degradation of soil crusts has the potential to decrease the fitness of the desert tortoise through loss of forage and sheltering sites (Esque *et al*. 2014).

As described in the Conservation Measures section, the Applicant has committed to limit the disturbance of natural vegetation within the ROW and restore all areas of disturbance adjacent to the road and within the ROW with salvaged topsoil, native shrubs, and grasses. This will limit the spread of invasive plants and promote the continued occupancy of desert tortoises in the surrounding habitat area. Additionally, the BLM committed to fence 10 acres of desert tortoise suitable habitat to reduce surface disturbances (e.g. grazing, off-highway vehicle use) as a form of mitigation. This will help to conserve desert tortoise and its habitat within the UVR Recovery Unit.

5.2 Dwarf Bear Poppy

The proposed Project will result in the loss of 6.33 acres of occupied dwarf bear poppy habitat. The occupied habitat contains a seedbank for the species, and we expect that an unknown number of seeds will be lost. No plants were located in the Project area in 2019. We expect the following impacts: soil compaction and habitat degradation from construction and maintenance activities in occupied habitat, impacts to plant growth and reproduction within the Project buffer area from habitat degradation, fugitive dust generation, and the potential encroachment and spread of non-native weeds in disturbance areas within occupied habitat. There is the potential for these effects to occur during all three phases of the proposed action, including the pre-construction, construction, and post-construction maintenance phases.

Adjacent areas that serve as construction staging and work areas, and ingress and egress areas may be considered temporary if the surface is not permanently altered. However, we consider these temporarily disturbed areas to contain degraded habitat conditions, because they experience destruction of vegetation, compaction of soil and vegetation, soil disturbance and erosion, increased dust deposition, invasion by weed species, and in many cases herbicide use (Brock and Green 2003). Soil disturbance, compaction, or erosion may reduce the suitability of the habitat and affect future recruitment if seeds are buried too deep for successful emergence or if compacted soils reduce the dwarf bear-poppy's ability to persist during drought conditions (Duiker 2004; Mennan and Zandstra 2006).

Fugitive dust deposition during the active growing and flowering season from increased traffic can impact dwarf bear-poppy individuals. Dust can clog plant pores, increase leaf temperature, alter photosynthesis, and affect gas and water exchange (Sharifi *et al.* 1997; Ferguson et al. 1999; Lewis 2013) thereby negatively affecting plant growth and reproduction. The likely effect zone of fugitive dust to plant growth and reproduction is within 300 ft of dust sources (USFWS 2020b). Implementation of fugitive dust conservation measures can reduce the size of the effect zone.

Seeds from non-native weeds are often carried and spread by vehicles, including construction equipment (Forman and Alexander 1998). The spread of non-native weeds is considered the second largest threat to imperiled plants in the United States (Wilcove *et al*. 1998) and is second only to habitat loss as factors responsible for biodiversity declines (Randall and Marinelli 1996). Non-native plants alter ecosystem attributes including geomorphology, fire regime, hydrology, microclimate, nutrient cycling, and productivity (Dukes and Mooney 2004). Non-native weeds also can detrimentally affect native plants through competitive exclusion, alteration of pollinator behaviors, niche displacement, hybridization, and changes in insect predation. Examples are widespread and involve numerous taxa, locations, and ecosystems (Aguirre and Johnson 1991; D'Antonio and Vitousek 1992; DiTomaso 2000; Melgoza *et al.* 1990; Mooney and Cleland 2001; Levine *et al.* 2003; Traveset and Richardson 2006). The likely effect zone of non-native weeds to plant growth and reproduction is within 300 ft of surface disturbance (USFWS 2020b). Implementation of weed control conservation measures can reduce the size of the effect zone.

Other effects to dwarf bear-poppy could be anticipated as a result of induced growth and development associated with the Project.

Growth inducing effects are related to changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems (as defined under NEPA, 40 CFR 1508.8). These effects can also result from incremental changes in land uses attributable to a transportation project that, for example, results in population growth (including rate or pattern) and development in a manner that would not have otherwise occurred (Tidd et al. 2013). The purpose and need of the Project is to provide access to a planned subdivision north of the action area. However, the site of the future subdivision is located outside of dwarf bear-poppy suitable and occupied habitat, and thus induced growth effects to the species on private lands are not a concern.

To avoid and minimize impacts to dwarf bear-poppy to the greatest extent possible, the Applicant will implement conservation measures (see Conservation Measures section for more information), that include:

- To minimize the loss of the seedbank, the top 12 inches of gypsiferous soils within the disturbance area of the proposed ROW will be salvaged, stockpiled, and redistributed along the cut-and-fill slopes. To limit access and damage to the remaining Warner Ridge ACEC, the Applicant will install a fence along the ROW to prevent OHV use, target shooting, and refuse dumping.
- To minimize the establishment of non-native plants, areas of disturbance within the ROW adjacent to the road will be revegetated with native shrubs and grasses.
- To minimize the effects of fugitive dust, ground-disturbing activities will not occur within 300 ft of any dwarf bear-poppy during its flowering season (mid-April to May), and the Project area will be watered as needed within 300 ft of dwarf bear-poppy plants.

7.0 Cumulative Effects

Cumulative effects "…are those effects of future state, or private activities, not involving Federal activities that are reasonably certain to occur in the action area of the Federal action subject to consultation" (50 CFR section 402.02). We do not consider future Federal actions that are unrelated to the proposed action in this section, because they require separate consultation pursuant to section 7 of the ESA. Future non-Federal actions reasonably certain to occur in the action area but not related to the Project include projected population growth and development or improvements in Washington County, including new roads, electrical transmission and distribution lines, and buried utilities, and associated recreation to the extent such improvements occur on non-Federal lands. Future activities may occur in the Project ROW which include installation of utilities such as transmission lines, buried natural gas pipelines, water lines, and fiber optic cables.

8.0 Jeopardy Analysis Framework

Section 7(a)(2) of the ESA requires that Federal agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. "Jeopardize the continued existence of" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR 402.02). The following analysis relies on four components:

1. Status of the Species, which evaluates the range-wide condition of the listed species addressed, the factors responsible for that condition, and the species' survival and recovery needs;

2. Environmental Baseline, which evaluates the condition of the species in the action area (excluding the consequences to the listed species or designated critical habitat caused by the proposed action), the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the species;

3. Effects of the Action (including those from conservation measures), which includes all consequences to listed species that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action; and,

4. Cumulative Effects, which evaluates the effects of future, non-Federal activities in the action area on the species.

The jeopardy analysis emphasizes the range-wide survival and recovery needs of the listed species and the role of the action area in providing for those needs. We evaluate the proposed Federal action within this context, taken together with cumulative effects, for making the jeopardy determination.

9.0 Conclusion

After reviewing the current status of desert tortoise and dwarf bear poppy, the environmental baseline for the action area, the effects of the proposed action, and cumulative effects, it is our biological opinion that the proposed action is not likely to jeopardize the continued existence of the desert tortoise and dwarf bear poppy. We base this conclusion on the following:

<u>Desert Tortoise</u>

- The proposed ROW will be fenced prior to construction, and biological monitors and authorized biologists will be in place to move desert tortoises away from harmful situations.

- In the Incidental Take section below, we estimated there are as many as 21 desert tortoises in the action area, but that only up to 7 may be killed as a result of the proposed action, representing less than 0.001 percent of the Upper Virgin River Recovery Unit population.
- Only 19.7 acres of suitable desert tortoise habitat will be permanently destroyed, while there are more than 333,000 acres of suitable habitat within the Upper Virgin River Recovery Unit, and more than 41,000 acres of habitat within the Sand Mountain Analytical Unit (< 0.001 percent of suitable habitat within Sand Mountain AU). In addition, 10 acres of habitat will be fenced at another site to reduce the impacts of grazing and recreation.

Dwarf Bear Poppy and Critical Habitat

- The Project will not destroy dwarf bear-poppy plants. The Project will destroy 6.33 acres of occupied habitat that contains a seedbank and 19.7 acres of suitable habitat, representing 2 percent of occupied habitat in the Warner Ridge population and less than 0.002 percent of the rangewide suitable habitat.
- Gypsiferous topsoil will be salvaged and re-applied within the Project area on cut and fill slopes to minimize loss of the seedbank and support future establishment of the dwarf bear-poppy in the ROW.
- The Applicant will limit the impacts of fugitive dust and non-native weeds to plants and habitat adjacent to the ROW.

We based the conclusions of this biological opinion on full implementation of the Project as presented in the Proposed Action section of this document, including the Applicant-committed conservation measures included in the Project design.

10.0 Incidental Take Statement

Section 9 of the ESA and Federal regulations pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. The regulations define harm as "an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering" (50 CFR section 17.3). Harass is defined by regulation as "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering" (50 CFR section 17.3). Incidental take is defined as "…takings that result from, but are not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or Applicant" (50 CFR section 402.02).

Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the ESA provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary and must be undertaken by the Applicant and BLM so that they become binding conditions of any grant or permit issued to the Project proponent, as appropriate, for the exemption in section 7(o)(2) to apply. If BLM fails to assume and implement the terms and conditions, or fails to require the Applicant to adhere to the terms and conditions of the Incidental Take Statement through enforceable terms that are added to any grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the effect of incidental take, BLM and the Applicant, as appropriate, must report the progress of the action and its effect on the species to us as specified in the Incidental Take Statement [50 CFR section 402.14(i)(3)].

Amount or Extent of Take Anticipated

Take of the desert tortoise is reasonably certain to occur from construction activities and associated conservation measures, including excavating burrows and relocating desert tortoises outside of the construction zone. As previously described, surface disturbance activities can result in direct injuries and fatalities from vehicle collisions and entombment, as well handling procedures during excavations and relocations. Habitat degradation from dust and invasive plants may also reduce the fitness of desert tortoises as vegetation used by desert tortoises for shelter and forage may be changed or become degraded. These situations may result in injury, harassment, or death of desert tortoises.

We expect that desert tortoises may be affected differently depending on where they occur relative to the proposed ROW. Desert tortoises within the proposed ROW will experience the most direct impacts. These desert tortoises will lose a portion of their home range and may be displaced, handled, injured, killed, or entombed as a result of the action (19.7 acre ROW area). Desert tortoises within the 164 ft buffer outside of the ROW (22 acre buffer area) have a high probability of losing part of their home range and experiencing stress (from noise, human presence) or habitat degradation, thereby reducing fitness. In addition, the average desert tortoise home range width is approximately 1,667 ft (USFWS 2011), and thus desert tortoises residing between 164 ft and 1,667 ft outside of the ROW (approximately 260 acre home range area, considering only habitats on the east side of Southern Parkway) would experience a lesser degree of habitat loss and degradation, and thus reduced fitness.

In the past, we have assumed a density of 3.4 adult desert tortoises per square mile within the Sand Mountain AU, but survey data suggests that local densities in the Project area are likely higher. Surveys detected 14 burrows within the proposed ROW and 12 burrows within 164 ft of the ROW (21 of which appeared to be active). These data suggest that multiple desert tortoises occupy the action area. However, the number of burrows cannot be used as a 1:1 proxy for estimating the number of individuals in an area, because desert tortoise individuals often use multiple burrows throughout the summer and one burrow throughout the winter (Harless et al. 2009).

The USFWS Survey Protocol includes calculations to estimate the density of desert tortoise hatchlings and juveniles in occupied habitat (Turner *et al.* 1984, 1986, 1987; USFWS 2019). We expect 13.2 percent of desert tortoises alive in a population in one year to be an adult (> 180 mm carapace length). Hatchlings make up approximately 17.7 percent of the population (1.3 times as many hatchlings as adults) and juvenile desert tortoises (< 180 mm carapace length) comprise approximately 69.1 percent of the population (5.2 times as many juveniles as adults). Consistent with the demographic data presented above, most of the burrows detected within the Project area were small and would have been used by juveniles. Accurately estimating the number of desert tortoise eggs in any given site is extremely difficult given that the eggs incubate buried beneath the soil surface. Therefore, we recognize that some indefinable loss of desert tortoise eggs is a possibility year-round.

For these reasons, we estimate that there may be one adult, five juveniles, and one hatchling, and an unknown number of eggs within the Project ROW, for a total of 7 individuals. We estimate that the 164 ft buffer zone also contains 7 individuals (of the same demographic structure) based on the similar burrow densities and geographic size (area). For the approximately 260 acres of land extending between 164 to 1,667 ft away from the ROW, we lack survey information and defer to Sand Mountain AU density of 3.4 adult desert tortoises per square mile, and estimate one adult, five juveniles, and one hatchling. In total, we estimate 21 desert tortoises within the action area, and because all three analysis zones are within an average adult desert tortoise home range width, the number of desert tortoise within the proposed ROW at the time of construction may be more or less than 7 due to species movements.

The Applicant have committed to several measures to reduce the likelihood of desert tortoises entering the Project footprint and will remove any desert tortoises that enter the Project footprint. Thus, we do not expect all estimated 3 adult, 3 hatchling, or 15 juvenile desert tortoises in the action area will be taken. However, we cannot exclude the possibility that some desert tortoises may enter the Project footprint or remain undetected. Therefore, we estimate that one adult may be injured or killed from being crushed during construction activities. Survey coverage within the proposed ROW was thorough and likely detected most of the active burrows, and while detection of adult desert tortoises is nearly 100 percent at zero ft from the centerline of a transect (USFWS 2015b), desert tortoise juveniles and hatchlings are difficult to detect due to their small size, cryptic coloring, and ability to hide within vegetation. We estimate that 50 percent of the estimated juveniles and hatchlings may remain undetected, and thus be harmed or killed from Project activities (7.5 juveniles and 1.5 hatchlings). Calculations for determining number of eggs in an area are difficult to confirm in the field. Therefore, an unknown number of eggs may be taken by the Project activities. However, because survival in the wild from egg to the hatchling life stage is only 2 percent (Darst *et al.* 2013), we expect any desert tortoise eggs harmed by Project activities is likely compensatory to other forms of desert tortoise mortality in the wild. The action agency will track the known take of all desert tortoise eggs, hatchlings, juveniles, and adults from the construction and maintenance of the Project.

We expect that non-injury or non-lethal incidental take of desert tortoises for the purposes of relocating desert tortoises during construction activities could be double the estimated adult, hatchling, or juvenile population in the ROW to account for desert tortoise movement into the action area prior to Project construction.

Therefore, we anticipate an additional 2 adult, 10 juvenile, and 2 hatchling desert tortoises and an unknown number of eggs could be harassed due to being relocated away from construction and maintenance activities or from habitat degradation associated with the Project. We estimate that a similar number of desert tortoises could experience non-lethal incidental take resulting from stress, habitat loss, and habitat degradation.

We thus estimate the following level of take associated with implementation of the proposed action:

1. Up to, but not to exceed 10 desert tortoise mortalities (of any life stage) are anticipated during the proposed action (e.g., mortality from stress-related impacts, displacement, or direct collision).
2. Fourteen (14) desert tortoises (of any life stage) may be moved out of harm's way.
3. Twenty-one (21) desert tortoises (of any life stage) may be taken indirectly in the form of harm or harassment through increased noise associated with the operation of heavy equipment during this construction, habitat loss, and habitat degradation.

Sections 7(b)(4) and 7(o)(2) of the ESA generally do not apply to listed plant species. However, limited protection of listed plants from take is provided to the extent that the ESA prohibits the removal and reduction to possession of federally listed plants or the malicious damage of such plants on areas under Federal jurisdiction, or the destruction of endangered plants on non-Federal areas in violation of State law or regulation or in the course of any violation of a State criminal trespass law.

Effect of the Take

We estimate there are 4,415 adult desert tortoise, 22,958 juveniles, and 5,740 hatchlings in the Upper Virgin River recovery unit; about half of which are in designated critical habitat not in the Project area. The one adult desert tortoise, that we anticipate may be killed during Project actions is unlikely to reduce appreciably the likelihood of survival and recovery of the estimated 4,415 desert tortoises in the Upper Virgin River recovery unit. This one adult desert tortoise represents < 0.001 percent of all adult desert tortoises in the UVR recovery unit. Likewise, the five juveniles and one hatchling each represent < 0.001 percent of the estimated 22,958 juveniles and 5,740 hatchlings in the UVR recovery unit. Because adult mortality drives desert tortoise population demographics much more than juvenile mortality (0.87 and 0.12 respectively; Darst *et al*. 2013), these small percentages of possible juvenile and hatchling take are unlikely to affect the viability of the UVR recovery unit. In addition, Washington County is working with us on a Habitat Conservation Plan amendment to offset cumulative effects from habitat fragmentation and loss from human development and recreation on State and private lands in Washington County. As described in the Conclusion section, we determined the Project is not likely to jeopardize the continued existence of desert tortoise.

Reasonable and Prudent Measures and Terms And Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the action agencies must comply with the following terms and conditions, which implement the reasonable and prudent measures (numbered items) and outline reporting and monitoring requirements. The terms and conditions are non-discretionary.

The following reasonable and prudent measures and implementing terms and conditions are necessary and appropriate to minimize take of desert tortoise:

1. The action agencies shall implement programs and procedures to minimize injury or fatality of desert tortoises during Project activities.

2. Authorized activities will require monitoring of the desert tortoise population throughout the duration of the Project construction. The development of the appropriate level of monitoring will occur in coordination with the action agencies and USFWS.

3. The action agencies shall submit a desert tortoise relocation report to the Utah Ecological Services Field Office by February 1 of each year of construction. Specifically for this Project, the report shall briefly document the number of desert tortoises relocated, as well as actions taken to implement these terms and conditions, the effectiveness of these terms and conditions at reducing take of desert tortoise, and information on individual desert tortoise encounters. The report shall make recommendations for modifying or refining these terms and conditions to enhance desert tortoise protection.

4. The action agencies shall notify the Utah Ecological Services Field Office of any post-construction desert tortoise fatalities documented within the action area that result from Project activities. The report should include the estimated age class, size, and sex of the desert tortoise. Additionally, any circumstances that can be determined regarding the fatalities should be included. The action agencies shall notify the Utah Ecological Services Field Office (801- 975-3330) within 72 hours of discovering the fatalities, or as soon as possible.

Review requirement: The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the effect of incidental take that might otherwise result from the proposed action. If, during the course of the action, the level of incidental take is exceeded, such incidental take would represent new information requiring review of the reasonable and prudent measures provided. The action agencies must immediately provide an explanation of the causes of the taking and review the need for possible modification of the reasonable and prudent measures with the Utah Ecological Services Field Office.

Reporting Requirements

Upon locating a dead or injured desert tortoise or other ESA-listed animal, initial notification must be made within one business day to our Office of Law Enforcement in Littleton, Colorado at telephone (720) 981-2777, our Ecological Services Office at telephone (801) 975-3330, and the Southeastern Regional office of the Utah Division of Wildlife Resources (UDWR) at telephone (435)-613-3700. Pertinent information including the date, time, and location shall be recorded and provided to us. This reporting requirement will allow our field office or the UDWR to collect and process dead individual if necessary to determine cause of death. Instructions for proper handling and disposition of such specimens will be issued by our Division of Law Enforcement consistent with the provisions of the Incidental Take Statement.

Conservation Recommendations

Section 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

Desert Tortoise

1. The action agencies should fully implement the Revised Desert Tortoise Recovery Plan (USFWS 2011) and subsequent revisions of the plan.

2. The action agencies should manage activities (minimizing waste, reducing perching and nesting opportunities for ravens, etc.) so that they do not contribute to the proliferation of predators within desert tortoise habitat.

3. The action agencies should only construct new wildlife water troughs (guzzlers) in desert tortoise habitat that are designed to exclude desert tortoises and if sufficient forage is available to support additional wildlife.

4. The action agencies should coordinate and collaborate with other local, State, and Federal agencies as well as private groups to sponsor or assist with public education regarding desert tortoise conservation to enhance public support for conservation activities. Target groups for education and outreach may include OHV groups, hunting groups, home owner associations, scout troops, public schools, libraries, and other audiences and venues associated with regional land use or educational programming.

To be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, we request notification of the implementation of any conservation recommendations.

11.0 Re-initiation Notice

This concludes formal consultation on the proposed Long Valley Road Extension Project. As provided in 50 CFR section 402.16, reinitiation of formal consultation "…is required and shall be requested by the Federal agency or the USFWS, where discretionary Federal involvement or control over the action has been retained or is authorized by law" and:

1. If the amount or extent of taking specified in the Incidental Take Statement is exceeded.

2. If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;

3. If the identified action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in the biological opinion.

4. If a new species is listed or critical habitat designated that may be affected by the identified action.

To reinitiate section 7 consultation, BLM should immediately notify our office by phone or email if any of the reinitiation clauses are triggered.

Thank you for your coordination in preparing the biological assessment and your interest in conserving threatened and endangered species. If we can be of further assistance, please contact Garrett Sisson at (385) 285-7927.

cc (electronic):
Bureau of Land Management

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Desert Tortoise

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APPENDIX D

PHOTOGRAPHS OF THE PROJECT AREA

Photo 1. Dwarf bear-poppy plant located near the center of the 7-acre mapped occupied habitat area

Photo 2. Dwarf bear-poppy plants located near the center of the mapped occupied habitat area

Photo 3. Dwarf bear-poppy plant located near the southwestern edge of the mapped occupied habitat area. The proposed right-of-way would be located between the plant and the Southern Parkway shown in the upper portion of the photograph. Note sparse vegetation cover of hop sage, black brush, and ephedra

Photo 4. Dwarf bear-poppy plant located near the western edge of the mapped occupied habitat area. The proposed right- of-way would be located adjacent to the Southern Parkway shown in the upper portion of the photograph

Photo 5. Dwarf bear-poppy plant located near the eastern edge of occupied habitat area. Disturbed area adjacent to the plant is recent. Note cryptobiotic crust

Photo 6. Several small new dwarf bear-poppy plants located adjacent to the southeastern edge of the mapped occupied habitat area

Photo 7. A healthy dwarf bear-poppy located in the east-center portion of mapped occupied habitat area. Same for the next two photos

Photo 8. Group of dwarf bear-poppy plants located in east-center portion of occupied habitat area. Photograph is looking east toward Warner Ridge

Photo 9. A group of dwarf bear-poppies located near the center of the mapped occupied habitat area

Photo 10. Disturbed unoccupied habitat located within the buffer area at the southwestern end of the project area. Photograph is looking north

Photo 11. Unoccupied habitat. Photograph was taken from within the proposed right-of-way location looking north

Photo 12. Heavily disturbed area located adjacent to the Southern Parkway near the southern end of the project area. This site is within the proposed right-of-way. Photograph is oriented to the northeast

Photo 13. Unoccupied dwarf bear-poppy habitat located within the buffer area at the extreme southeastern end of the project area. Looking north toward the Pine Valley Mountains seen in the background

Photo 14. Unoccupied habitat located at the northern boundary of the project area. Photograph is looking east toward Warner Ridge

Photo 15. Unoccupied habitat located along the east boundary of the proposed right-of- way. Photograph is looking to the north. The Southern Parkway can be seen in the background

APPENDIX E

PUBLIC COMMENTS AND RESPONSES

TABLE E-1
RESPONDENT INFORMATION

Respondent #	Respondent Names	Organization or Affiliation	Respondent Type
1	Mr. Richard Spotts	Washington County resident	Individual
2	Mr. Tom Butine	Board President, Conserve Southwest Utah	Organization

TABLE E-2
COMMENT AND RESPONSE TABLE

#	Public Concerns by Resource Topic	Respondent #	Response
1	**Alternatives**	-	-
1.01	The EA did not comply with NEPA by not evaluating the required "reasonable range of alternatives."	1	The BLM evaluated potential reasonable alternatives. It was determined that none were available that would result in fewer adverse environmental impacts and still meet the purpose and need of the Proposed Action. Currently, UDOT has no plans for the construction of any additional interchanges that would result in a shorter access road being constructed. Consideration of any such interchange would require an application from a qualified proponent who would then plan and pay for the interchange. The proponent would need to meet UDOT standards and the Southern Parkway Standards for spacing and obtain a permit from UDOT to construct the interchange (Personal conversation with Kim Manwell, Project Director, UDOT). The BLM is responding to a Washington City proposal that only considers the planned Interchange 11 (3650 South). An analysis of other potential, unplanned interchanges are outside the scope of this EA. The BLM has conducted the required hard look at potential alternatives. The analysis of the Proposed Action and No Action Alternatives is in full compliance with NEPA guidelines. No changes in the text are required.

#	Public Concerns by Resource Topic	Respondent #	Response
1.02	Tortoise conservation should be given the benefit of the doubt, and all potential less-damaging alternatives should be rigorously evaluated.	1	See response to Comment 1.01.
1.03	The Long Valley Road Extension is proposed as the only reasonable way to provide the necessary access to a new development: "No additional alternatives were considered. Due to the topographical features of the area and the location of the Southern Parkway, including the planned 3650 South Interchange, no other alternative would reasonably meet the purpose and need of the project; therefore, the only alternatives considered in this EA are the Proposed Action and the No Action Alternative." This is an inadequate explanation and on the surface seems false. An interchange could be developed near mile post (MP) 13, completely negating the need for extending the Long Valley Road and for disturbing the ACEC.	2	See response to Comment 1.01. In order for MP 13 to be considered for this action, Washington City would be required to make a separate application to UDOT as explained above. This would be a separate action and beyond the scope of this EA. No changes in the text are required.

#	Public Concerns by Resource Topic	Respondent #	Response
1.04	There are existing interchanges at MP 10 (Warner Valley/Washington Fields) and 15 (Washington Dam/Long Valley). Adding a new one as planned at MP 11 rather than at MP 13 is arbitrary, perhaps even unjustified considering the proximity of the MP10 interchange. Doing so while disturbing an ACEC seems unwarranted. The reasons presented for not considering any other alternatives appears to be invalid.	2	See Comment Response 1.01. Interchange 11 (3650 South) is already in the planning stage and is a part of the Washington City Transportation Master Plan (2014). Consideration of another interchange, such as one at MP 13, would require a new submission from Washington City. It should be noted that Interchange 11 is not located at MP 11 (3650 South) but is located between MP 13 and MP 12. MP 10 is located nearly 2 miles southwest of the Interchange 11 site. As such, it is not a logical site to be considered for this action. No changes in the text are required.
1.05	Section 1.62 of the EA addresses public involvement but mentions no such involvement. Public engagement could have helped identify alternatives.	-	The EA text has been changed. Section 1.6 is now shown as Issue Identification. Section 5.3 and Appendix E contain discussions of the comments received from the public on the draft EA.
2	**Proposed Action**	-	-

#	Public Concerns by Resource Topic	Respondent #	Response
2.01	The EA provides no explanation for why 3650 turns to the south as it approaches the Southern Corridor nor why a turn to the north would instead be feasible so that a shorter and less destructive BLM ROW would be necessary.	1	See response to comments 1.01 and 1.04. Consideration of any of the potential 3650 South routes to the Southern Parkway is beyond the scope of this analysis as the proposed project terminates at Interchange 11. These potential routes would be independent of the proposed project. Should a new interchange be considered by UDOT or Washington City that is closer to the planned Trails at Long Valley subdivision, such as a MP 13, that location would likely fall within the scope of analysis of this EA, and the potential impacts would likely be less than currently analyzed. No changes in the text are required.
2.01	The scale of the maps used in the EA are inadequate to provide the project's context and to envision alternative solutions.	2	Different scales of the maps were used in the EA. As necessary, larger scaled maps focused on potentially impacted resources in order to inform the reader as to the location of these resources. Since it was determined that no additional reasonable alternatives exist (see response to Comment 1.01), no additional maps showing potential alternatives are necessary.

#	Public Concerns by Resource Topic	Respondent #	Response
2.03	The ROW is defined as routing from north of MP 13 to an interchange near MP 11, a distance of about 2.5 miles, yet the ROW description indicates it is only 1 mile long. Also, the purpose of the unusual shape of the ROW is not described. These details should be explained.	2	The initial Plan of Development submitted by Brennan Holdings was for a ROW 4,877 feet long. The application submitted by Washington City states that the length of the proposed road would be 4,680 feet long. This was the length analyzed in the EA. The figures in the EA support this distance. The unusual shape of the south end of the proposed ROW is to accommodate the road making a turn into the planned Interchange. It is important to understand that Interchange 11 is not the same location as MP 11. See response to comment 1.04 above. No changes in the text are required.
3	**Endangered Species**	-	-

#	Public Concerns by Resource Topic	Respondent #	Response
3.01	The new proposed road would contribute to the "death by a thousand cuts" which cumulatively explains why tortoise populations continue to decline in the USFWS Upper Virgin River Recovery Unit.	1	Section 4.3 of the EA analyzes potential effects cumulative to the proposed project. Both past and present actions and reasonably foreseeable future actions are identified. Additionally, several mitigation and conservation measures have been identified and would be implemented to reduce the significance of effects to the tortoise. As part of this analysis, the BLM has formally consulted with the USFWS to identify and implement mitigation and conservation measures to protect and conserve the tortoise and its habitat. These applicant-committed conservation measures are included in the Biological Opinion (BO) provided by the USFWS. Additionally, a 10-acre site would be established by the BLM for habitat restoration and enhancement (see response to comment 3.04 below). No changes in the text are required.

#	Public Concerns by Resource Topic	Respondent #	Response
3.02	While the EA encourages construction outside of the migratory bird-nesting season, it does not address whether future road construction should avoid the tortoise active season.	1	Desert tortoises can be active in every month of the year. As discussed in the USFWS BO, the selection of specific conservation measures will also be determined by the seasonal timing of construction activities: • More active season: February 15–November 30 • Most active season: March 15–May 15 and August 20–October 20 • Less active season: December 1–February 14 Desert tortoise exclusion fencing will be constructed after clearance surveys have been performed, which will exclude any active tortoises from traveling into the construction area. Additional applicant-committed conservation measures outlined in the Biological Assessment and BO will be followed to minimize impacts to the tortoise. See response 3.01 for additional details. No changes in the text are required

#	Public Concerns by Resource Topic	Respondent #	Response
3.03	There is no discussion on how the eight culverts underneath the ROW would be designed and constructed to provide for any tortoise movement.	1	As stated in Section 2.2, on page 6 of the EA, the eight culverts that would go underneath the proposed ROW would be extensions of existing culverts that currently go underneath the Southern Parkway. These extensions would be the same specifications as the current culverts. The BO states that the BLM and the USFWS will work with engineers to come up with a design that will be ideal for the desert tortoise. Additionally, the BO states that "The existing wildlife culverts under the Southern Parkway will be extended through the Project area. The BLM and our office (USFWS) will provide the necessary direction for culvert size and construction specifications." No changes in the text are required.

#	Public Concerns by Resource Topic	Respondent #	Response
3.04	The EA describes using fencing to establish a 10-acre habitat monitoring area. It is not clear how this would effectively mitigate adverse impacts. Ten acres is too small of an area for even a large portion of an average tortoise home range. What is the 10-acre site intended to achieve and where would it be located?	1	As part of Section 7 consultation with the USFWS, the 10-acre site would be enhanced and restored by the BLM as part of the tortoise mitigation. A fence would protect the site in order to establish a long-term habitat-monitoring plot. The BLM and the USFWS worked with researchers to identify a 10-acre plot that was "at-risk" but would protect both tortoise and dwarf bear poppy from grazing impacts and OHV/mountain bike use. Specifically, the BO states "The BLM will permanently fence 10 acres of modeled suitable desert tortoise habitat to enhance and restore the habitat. The BLM will also establish long-term habitat monitoring plots within the fenced area. This conservation measure will also benefit the dwarf bear-poppy, as it is co-located in occupied habitat. Val Springs was selected as the fencing location based on desert tortoise habitat features, degraded habitat conditions from unauthorized recreation, and aerial (drone) imagery that identified 275 dwarf bear-poppy plants within the monitoring area. No change in the text is required.
3.05	The EA does not address how this project's adverse tortoise impacts may affect the overall health of the tortoise population in this southern portion of the county.	1	See response to comments 3.01, 3.02, 3.03, and 3.04.

#	Public Concerns by Resource Topic	Respondent #	Response
3.06	The EA does not address that the current Washington County HCP is pending renewal with the USFWS. Washington County is attempting to hold future HCP tortoise conservation hostage until it receives Northern Corridor Highway approval. The BLM should be cautious about considering authorizing any projects, like this one, that would likely cause tortoise incidental take.	1	The BLM recognizes that the current Washington County HCP is pending renewal; however, that issue is beyond the scope of analysis of this proposed action. No change in the text is required.
3.07	There will clearly be significant impacts to the ACEC. The area contains many ESA-listed species and cultural resources. Disturbance of this area appears arbitrary, contrary to the BLM's own guidance, and should be avoided.	2	Conformance with the BLM's land use plan as it applies to the Proposed Action is outlined in Section 1.5 of the EA. The impacts to the ACEC that would result from project development are analyzed in Section 4.2.1.6 of the EA. The BLM has completed Section 7 consultation with the USFWS regarding the impacts to the ESA-listed species. No cultural resources/historic properties are located within the area of potential effects were identified by the BLM archeologist as noted in the ID Team Checklist in Appendix A of the EA. No change in the text is required.

#	Public Concerns by Resource Topic	Respondent #	Response
3.08	It is likely that Mojave desert tortoise occupy the ACEC. The EA fails to address the long-term cumulative effects of continued habitat destruction on the species. Their protected habitat in the Red Cliffs National Conversation Area has experienced fire and is under development pressure from proposals like the Northern Corridor Highway. The proposed Zone 6 will be under additional developmental pressure. The cumulative effects of this habitat destruction should be taken into account when considering the impacts of the proposed road through the ACEC.	2	The EA identifies the locations of tortoise sign found within the project area including sites within the ACEC. Cumulative affects are identified in Section 4.3. Applicant-committed mitigation and conservation measures are identified in Section 2.2.1 in the EA and in the USFWS BO. No changes in the text are required.
4	**Noxious Weeds and Invasive Species**	**-**	**-**
4.01	The EA does not address the potential threat of cheatgrass fires adjacent to roads.	1	Construction of the proposed road would not increase the potential threat of cheatgrass fires in the area. No increase in cheatgrass would be anticipated, and fire potential would not increase beyond that currently existing adjacent to the Southern Parkway. Applicant-committed mitigation and conservation measures are identified in the Section 2.2.1.6 of the EA and are addressed in the BO to ensure that cheatgrass and cheatgrass fire potential does not increase due to project development. No change in the text is required.
5	**Livestock Grazing**	-	-

#	Public Concerns by Resource Topic	Respondent #	Response
5.01	The EA does not indicate whether any livestock grazing occurs in or near the proposed project area. Livestock grazing is a known threat to the conservation and recovery of tortoises. If livestock grazing occurs in the general area covered by the EA, then the analysis should be revised to evaluate whether any phase out or reduction of the grazing could be done to mitigate the adverse impacts on tortoises.	1	The ID Team Checklist and EA documents that livestock grazing occurs within and near the project area. Grazing is not analyzed further as there would not be any changes to existing authorized grazing practices, such as reduction in Animal Unit Months or loss of livestock-related developments. Additionally, the BLM has completed Section 7 consultation with the USFWS regarding the impacts from the Proposed Action to the ESA-listed species; therefore, no additional impact analysis is required. No change in the text is required.

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