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Rebuilding the Mill Canyon Dinosaur Tracksite Trail and Amending ROW UTU-91920

Draft Environmental Assessment
DOI-BLM-UT-Y010-2021-0092-EA

Location: Mill Canyon, Grand County, Utah
T. 24 S., R. 20 E. Section 17

Applicant: Bureau of Land Management Moab Field Office

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CHAPTER 1. INTRODUCTION

The Bureau of Land Management (BLM) Moab Field Office (MFO) proposes to rebuild a popular paleontological attraction, the Mill Canyon Dinosaur Tracksite Trail. The trail is located 15 miles north of Moab, Utah, off Highway 191. The trail is a popular destination for visitors as it is easily accessible from the highway. The original boardwalk, constructed in 2014, was in need of repair to withstand the heavy usage. The BLM proposes to replace the original wooden boardwalk in its same location to provide a safer and more durable surface for visitors to walk on while visiting the site.

In 2009, a dinosaur tracksite in the Mill Canyon area was reported by a member of the public to the BLM. After this report, the designated road which bisected the site was closed to the public to protect the tracksite (DOI-BLM-UT-Y010-2010-0212-EA: *Non-Designation of Route near Mill Canyon*). Shortly thereafter, a range fence was erected around the tracksite to further protect the tracks (DOI-BLM-UT-Y010-2011-0163-CX: *Range Exclosure near Mill Canyon*). It is thought that the tracksite was uncovered when a rain event washed off a thin layer of soil that had covered it.

In 2013, the University of Colorado and BLM paleontologists mapped the tracksite using photogrammetry; over 200 individual tracks from at least ten species of dinosaur were recorded. The project was authorized under DOI-BLM-UT-Y010-2013-0132-EA: *Paleontological Excavation – Mill Canyon Tracksite*. The Mill Canyon Dinosaur Tracksite (Tracksite) was found to be Lower Cretaceous in age (approximately 112 million years ago) and is the largest and most diverse tracksite known in the Cedar Mountain Formation. Collaborative research efforts indicate that the Tracksite is one of the most significant early Cretaceous tracksites in the world.

After completion of the scientific studies, the BLM made the decision to interpret the Tracksite for the public. In July of 2014, a Decision Record was signed designating the Mill Canyon Dinosaur Tracksite Trail for public use (DOI-BLM-UT-Y010-2014-0110-EA: *Designation of the Mill Canyon Dinosaur Tracksite Trail*). The trail was built in 2015, using a raised wooden boardwalk so that the tracks themselves could be seen, but would not be at risk of being stepped on. This project resulted in a 230-foot, “E”- shaped wooden boardwalk with railings, along with a viewing platform for a crocodilian slide trace and a shade structure with interpretive panels. Visitors were provided with ample interpretation; a walk on the boardwalk allowed visitors to look down at the dinosaur tracks without causing damage to the tracks themselves.

Because of the construction techniques and materials used, the floor of the shade structure failed soon after it was installed. Later, the wooden boardwalk also started to deteriorate and became a potential hazard to visitors. The BLM concluded that replacing the existing boardwalk would be in the best interests of both the resource and the visiting public. Funding was secured for the project.

In October of 2021, the BLM issued a Decision Record on an Environmental Assessment (EA) to replace the boardwalk at the Tracksite with a new walkway. In this EA, the old structure will be referred to as the boardwalk and the proposed structure will be referred to as the walkway.

During the initial construction phase in January of 2022, it was realized that the design features outlined in the Decision Record were insufficient in protecting paleontological resources. The old

boardwalk was removed, but all other on-the-ground activity was halted. The October 2021 Decision Record was rescinded, and the BLM brought in agency Paleontologists to assist in assessing the damage and reevaluating the project.

Public interest brought about during the initial construction stage of the project in January 2022 brought issues regarding methodology to the fore. These issues were summarized in paleontological reports issued by the BLM Wyoming State Paleontologist[1] and the BLM Paleontologist for the Paria River District, Utah.[2]

In February of 2022, the BLM Wyoming State Paleontologist conducted a paleontological assessment of the Tracksite. The BLM Utah Paria River District Paleontologist conducted fieldwork in April of 2022 to locate potential access routes that would avoid damaging tracks. Using the paleontological assessment and the Paria River District Paleontologist's report, this EA analyzes the environmental consequences of repairing the Mill Canyon Dinosaur Tracksite Trail in light of the recommendations of both paleontologists.

The project area is defined as the 0.19 acres of Cretaceous tracks at the Tracksite, existing approach trail from the trailhead and proposed access routes for equipment access (see Section 2.2).

1.1. Background

The Tracksite was discovered circa 2009 and first brought to the attention of the scientific community when the discoverer, John Cowan, reported the site to Martin Lockley, of the University of Colorado, Denver. The site has since been extensively excavated and documented in the scientific literature by two peer-reviewed papers. In addition, there has been a large body of detailed low-altitude imagery and photogrammetric models amassed (a small portion of which was featured in Lockley et al., 2014a).

Scientific assessment of the site (Lockley et al., 2014b) has concluded that it is unique in three ways: 1) its age; 2) the diversity of fauna represented as trace makers, and 3) the high quality of the preservation of some of the tracks. Early Cretaceous terrestrial vertebrate trace sites are not uncommon globally but are much less common in North America. Local concentrations in the Glen Rose Formation of Texas and its lateral equivalents in the midwestern USA and the Mississippi Embayment represent the acme of occurrence for this time in North America, but these locations are generally of lower diversity than the Mill Canyon Tracksite. In the western United States, the Mill Canyon Tracksite is singularly unique.

Paleontological assessments (Beithaupt, 2022 and Titus, 2022) assessed the current conditions of the Tracksite after the 2014 boardwalk was dismantled. "Overall, damage to the tracks and traces as the result of impacts from construction appears minor" (Beithaupt, 2022). Much of the perceived damage is thought to be legacy damage from past freeze-thaw, mast wasting, or human disturbance (Titus, 2022). Three instances of damage were noted by Titus where damage appears to have been caused by vertical loading of the track rim. Small microfractures from the weight of the machinery

[1] Breithaupt, Brent. *Mill Canyon Dinosaur Tracksite Paleontological Assessment*. March 2022

[2] Titus, Alan. *Report on Fieldwork Conducted at the Mill Canyon Dinosaur Tracksite April 11-22, 2022, with Recommendations for Fossil Resource Protection*, April 2022.

may have formed on the track-bearing surface which can accelerate natural degradation (Beithaupt, 2022).

1.2. Purpose and Need

The purpose of the Proposed Action is to "provide for public visitation and education opportunities while simultaneously protecting and supporting the scientific and research value of paleontological resources in the MPA" (page 79, 2008 RMP). The Mill Canyon Dinosaur Tracksite Trail was in need of replacement, and demolished, as authorized in the 2021 Decision Record. It was concluded that the methodology analyzed in the previous EA was insufficient and the project design needed to be revisited. Thus, the need for this action is established from insufficient methodology and the need for its reevaluation.

An amendment to the current rights-of-way to protect the investment of the boardwalk built by the BLM would be sought for the project.

1.2.1. Decision to be Made

The BLM will decide what is the best method to replace the Mill Canyon Dinosaur Tracksite Trail.

1.3. Conformance

The Proposed Action and alternatives are in conformance with the 2008 Moab Field Office Record of Decision and Approved Resource Management Plan (2008 RMP) and are specifically provided for in the following decisions:

> **REC-32: Facilities:** Manage developed sites as necessary under the authority of 43 CFR Par 8360, inclusive of published closures, restrictions, and supplemental rules developed for the public lands within the MPA [Moab Planning Area], to protect visitor health and safety, reduce visitor conflicts, and provide for the protection of government property and resources (page 84).
>
> **REC-39: Labyrinth Rims/Gemini Bridges SRMA:** Manage the Labyrinth Rims/Gemini Bridges SRMA [Special Recreation Management Area] as a Destination SRMA (page 89).
>
> **PAL-3:** Locate, evaluate, and protect significant paleontological resources. Provide for public visitation and education opportunities while simultaneously protecting and supporting the scientific and research value of paleontological resources in the MPA (page 79).

The following laws, regulations, policies, or orders are directly related to the Proposed Action and alternatives:

- Title III of the Federal Land Policy and Management Act (FLPMA) of 1976, as amended requires the BLM to manage public lands for multiple use and sustained yields and in accordance with land use lands. This project conforms to the 2008 RMP and manages the Tracksite for visitor enjoyment, education, and protection of paleontological resources.
- Paleontological Resources Preservation Act (PRPA) of 2009 states that the BLM shall manage and protect paleontological resources by using scientific principles and expertise.

1.4. Scoping and Issues

Utilizing the paleontological reports, internal scoping took place to evaluate access routes, construction materials, and construction techniques. The proposed project was presented to the Interdisciplinary Team (IDT) on April 19, 2022. The conclusions of this meeting are presented in the IDT Checklist in Appendix A. The resources determined to be present with the potential for impact and require further detailed analysis are listed in Table 1.

The project was listed for reconsideration on ePlanning on April 26, 2022. The Moab Field Office Manager attended several meetings of the Gastonia (Moab) Chapter of the Utah Friends of Paleontology to give the group updates on the project.

Table 1. Issues Analyzed in Detail

Resource and Issue #	Issue Statement
Paleontology- Issue 1	How would paleontological resources be impacted by rebuilding the walkway?
Recreation - Issue 2	How would the public be impacted by the rebuilding of the walkway?

CHAPTER 2. ALTERNATIVES

2.1. Alternative A – No Action Alternative

Alternative A would be to not reconstruct the Mill Canyon Dinosaur Trackway Trail. The old boardwalk was removed in January of 2022 and there is currently no walkway for the public at the location.

2.2. Alternative B – Proposed Action

The BLM proposes to rebuild the Mill Canyon Dinosaur Tracksite Trail, using safer and more durable materials than those utilized in the original raised wooden boardwalk, which was built in 2014. The newly built walkway would have nearly the same footprint as the old wooden boardwalk (see Figure 1). It would be the same length as the previous boardwalk, which was approximately 230 feet. As well as replacing the boardwalk, the BLM would replace the platform under the shade structure, and the platform which accesses the interpreted crocodile slide.

Many materials were considered for use in the new walkway; each will be discussed in Section 2.5. Factors such as durability, safety and cost were considered.

Figure 1: Diagram of proposed walkway overlaid on original wooden boardwalk.

The shade structure can be seen on left-hand side of diagram. Visitors would approach the walkway from the south (bottom of diagram).

Construction Method

The proposed walkway would be a continuous structure constructed of tubular steel and concrete, supported by a pair of "legs" spaced at 12-foot (+/-) increments. The steel, which comprises the structure of the walkway, would be welded on location and would support the decking or walkway of the trail. Each pair of legs would support a 12-foot by 6-foot section of walkway, amounting to approximately 3,600 pounds, which is spread out over two 0.5 square foot steel "feet". Therefore, the steel and concrete walkway would exert approximately 3,600 pounds per square foot (PSF). The construction of the old boardwalk included four legs supporting a 6-foot by 6-foot section and exerted approximately 647 PSF.

The typical range in unconfined compressive strength (capacity of the rock to withstand a load before failure) for the types of lime mudstone and siltstone sedimentary rocks present at the Mill Canyon Dinosaur Tracksite is 20-70 Megapascal (MPa) or 417,708 PSF. Fractures in the rock could reduce the compressive strength by as much as half to 208,854 PSF (National Engineering Handbook. 1976).

The decking for the walkway and platforms would be constructed by placing underdecking on top of the steel support structure. This underdecking would be made of corrugated metal (often called "B deck"). It provides metal channels that would be filled with a thin concrete veneer to create the walking surface. This corrugated metal decking is often used in roofs and is designed to have a few inches of concrete poured in its channels.

A concrete pump truck with a one-hundred-foot boom would be used to pour the concrete veneer onto the underdecking (held off the ground by the tubular steel support structure). Concrete would be placed on the decking by hand if necessary. Concrete spatter would be eliminated by use of plastic sheeting laid on the ground under and around the support structure during concrete operations. Stall mats would be utilized when working in the vicinity of tracks so that work crews do not inadvertently step on any tracks.

Hand railings would extend the entire length of the walkway. They would be around 3 feet in height and would be constructed of square tubular steel with solid steel rod reinforcers. The railing would be attached to the decking itself, on the inside edge so that no rust would drip onto the ground surface.

Construction Access

Three access routes were identified during paleontological review. The Proposed Action utilizes Route #3 (see Appendix B for depiction of proposed routes) to access the Tracksite. Utilizing this route would mean that construction vehicles would approach the site from the north until reaching the gate at the fence, then following the fenceline to the west and south. Access to the site would be immediately south of the shade structure and would require taking down the fence in that area. This would also serve as the staging area as there is already existing disturbance. This access route would travel over several feet of sediment, thus protecting any tracks that might be under the soil. The route would be established and marked for access by a BLM Paleontologist and would be the sole access route allowed during construction.

Vehicles would not approach paleontological resources such that damage could occur to those resources. The approved access route would be marked for construction use; markings would be removed at the conclusion of the project. All welding equipment would be situated up to 300 feet away from the tracksite. The site would be prepped by removing loose rubble and cobbles along the old boardwalk so that these rocks do not impact the tracks.

The access route would be obscured by raking out tracks when access is no longer needed. Fences would be repaired at the conclusion of the project.

Paleontological Survey and Monitoring

All areas of potential impact have been surveyed for paleontological resources, and areas of avoidance would be clearly marked on maps for work crews. Prior to any on-the-ground activity, crews would be thoroughly briefed by a paleontologist on the tracks and traces at the site and taught how to recognize, avoid and not impact trace fossils while installing the walkways. All areas containing tracks or other sensitive resources would also be flagged for avoidance by a BLM or contracted Paleontologist prior to the start of any work, whether that be within 1) the interpretive areas peripheral and east of the boardwalk, 2) the areas peripheral and south of the boardwalk or 3) the areas north of the boardwalk. This flagging would show work

crews what areas should be avoided. Where work crews are required to be near tracks or traces, stall mats would be utilized to protect those tracks and traces.

Work of any type would proceed only in the presence of a BLM or contracted Paleontologist authorized to oversee the project.

Other Factors

Public access to the Tracksite would be restricted during the construction period. At the conclusion of the construction, the interpretive area would be cleared of sediment to allow better viewing of the tracks and traces. This clearing activity would be monitored by a paleontologist; interested groups and qualified volunteers would be invited to assist.

In addition to constructing the concrete and steel walkway, the BLM would amend the current ROW for the trailhead to include the Tracksite Trail, protecting its investment.

The timeline for construction would be approximately six weeks.

2.2.1. Design Features

- During construction, ¾-inch thick, 4-foot by 6-foot stall mats would be placed adjacent to the walkway as it is fabricated to provide a continuous protective surface for the tracks from foot traffic.
- Plastic sheeting would be laid on the rock surface during concrete operations to eliminate rock spatter.
- The feet and legs of the steel support structure would be pre-treated with Rhino Lining applied to the outer surfaces to prevent the steel from rusting and discoloring the track bearing surface. The rest of the steel support, that which would be on the underside of the concrete, protected from the elements, would be pre-treated with a cold galvanizing product such as Rust-Oleum Zinc Cold Galvanizing Compound to prevent rust and discoloration of the track bearing surface. Cup-shaped rubber or plastic may be applied around the legs if warranted from residual moisture/dew and to confine any rust bearing water.
- Metal footers would be placed to avoid fractures in rock surface where feasible to increase stability of rock.
- Work of any type would proceed only in the presence of a BLM or contracted Paleontologist.
- The Tracksite would be monitored by BLM personnel to ensure these measures are effective.
- Additional stipulations specific to the Moab Field Office are described in Appendix C.

2.3. Alternative C

Alternative C is the same as the Proposed Action but would utilize Route #1, as shown in Appendix B, to access the Tracksite.

2.4. Alternative D

Alternative D is the same as the Proposed Action but would utilize Route #2, as shown in Appendix B, to access the tracksite. Under this alternative, stall mats would also be used to cover the area where equipment would need to cross the poorly exposed track surface to access the east bench.

2.5. Construction Materials Assessed but Eliminated from Further Consideration

Different materials were considered when designing the walkway. These materials were assessed for their durability, ease of maintenance, heat resistance and cost. A brief summary of the materials considered is detailed below. Also discussed are the merits of the materials that were chosen for the project.

<u>Wood/composite decking such as "Trex"</u>

A wooden boardwalk with a wooden support structure was constructed at the Mill Canyon tracksite in 2014. In the eight years since its construction, the wooden material deteriorated in the harsh desert environment, causing safety concerns. While a relatively inexpensive material, the following list details the disadvantages of using wood or composite decking:

- Lifespan of less than 10 years in the exposed environment of Mill Canyon
- Would require full replacement every 10 years
- Prone to warping; creates trip hazards
- Substantial maintenance requirements to keep boardwalk safe for the public
- Using wood/composite decking for support structure requires more piers because its load bearing is limited
- Moderate cost (cost estimate: $24,000)

<u>Aluminum decking</u>

- Limited lifespan (15 years)
- Must be powder coated to avoid slip hazards
- Powder coating is easily damaged with high use
- Fastening hardware is light duty and easily damaged and would result in high maintenance needs
- Very expensive material (cost estimate: $80,000)

<u>Steel decking (serrated or non-serrated)</u>

- Steel decking can be slippery when wet or frosted
- Serrated steel decking is slip-resistant, but very abrasive
- Absorbs heat and reaches very high temperatures (110 degrees Fahrenheit)
- Presents challenges for accessibility, as wheelchair wheels can become stuck in the gaps
- Limited maintenance due to durability of material
- Moderate cost (cost estimate: $30,000)

<u>Diamond plate decking</u>

- Fastening hardware is light duty and would result in high maintenance costs
- Absorbs heat and reaches very high temperatures

- Very expensive material (cost estimate: $75,000)

2.5.1. Construction Materials Chosen/Rationale for Choosing

Tubular steel (for support frame)

- Provides greater strength, allowing heavier decking materials and reducing the number of uprights needed to support the decking and its load
- Support structure (frame) would be welded, eliminating maintenance issues with fastened wood supports
- Lifespan of at least 30 years
- Cost effective material (cost estimate: $4,700)

Concrete veneer on corrugated structural metal decking

- Concrete walking surface would be finished to allow for traction and colored to match surroundings
- Concrete walking surface does not reach high temperatures
- Estimated 50-year life span with very little maintenance required
- Cost effective material (estimated at $20,000).

CHAPTER 3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

This chapter describes the existing conditions relevant to the issues presented in Table 1 in Section 1.4 and discusses the potential impacts of the Proposed Action and alternatives. The affected environment provides the baseline for comparison of impacts/effects described under environmental impacts. For a discussion of issues not described, see the IDT Checklist (Appendix A).

3.1. Issue 1: Paleontology

How would paleontological resources be impacted by rebuilding the trail?

3.1.1. Affected Environment

The exposed formation at the Tracksite location has a potential fossil yield classification (PFYC) 4 – 5. Class 4 (High) signifies the geologic unit contains a high occurrence of fossils. Fossils are known to occur and have been documented but may vary in occurrence and predictability. Class 5 (Very High) signifies the geologic unit contains a consistent and predictable occurrence of fossils. Class 5 sites are at risk of human-caused adverse impacts or natural degradation.

The April 2022 Paleontological Assessment (Titus, 2022) analyzed past and present damage to the resource. A complete paleontological survey of the project area (both within and outside the fenced interpretive area) was undertaken by the Utah BLM Paria River District Paleontologist. The purpose of the survey was to assess the impacts of deconstructing the boardwalk in January 2022 as well as the potential impacts from future work on the Tracksite. Past impacts to the site (those associated with past freeze-thaw, mass wasting, or human disturbance prior to 2009) were easily discernable because of deposits of desert varnish (iron/manganese oxidation). Much of the perceived damage done to the site during the old boardwalk deconstruction (in January of 2022)

is actually due to these past events and not related to actions undertaken during the last year. There were three instances where recent damage, possibly associated with the deconstruction of the old boardwalk caused minor impacts to the paleontological resource. Damage includes spalled rock on the rims of dinosaur tracks.

It was also noted that approximately 25% of the formerly exposed interpreted track surface is now covered with alluvium and many still exposed tracks have been infilled by recently washed-in sediment. This situation arose after the 2010 excavation, which created a channel that captures runoff from thunderstorms and directs it into the major concentration of tracks. Having flash floods run through the site has two main long term deleterious consequences, the first being the physical wear on the site caused by traction of sand and gravel over the track bearing surface, which acts like a sandblaster, slowly wearing away at the track bearing surface. The second negative effect results from extension of the natural freeze-thaw cycle within sediment filled tracks that retain moisture for much longer periods than clean tracks.

3.1.2. Environmental Impacts

The track-bearing bed is a cryptocrystalline siliceous bed (like a silcrete), representing diagenetic replacement of what was originally a calcium carbonate-clay-rich bedrock. Because this rock is essentially chemically inert and highly resistant to physical weathering, it provides a highly durable and ideally suitable surface for public interpretation. However, the rock is also extremely brittle, which would make it subject to catastrophic failure if it were put under a large load after underlying supporting bedrock was undermined or experienced extensive shrink swell from alternately wetting and drying (Titus 2022).

3.1.2.1. *Impacts of Alternative A – No Action Alternative*

Under Alternative A, the Mill Canyon Tracksite Trail would not be rebuilt. Because the tracksite is known, the public would continue to visit it without benefit of a walkway to provide safe access while preserving the paleontological resource. Observation at the tracksite between January 2022 (when the old boardwalk was demolished) and today has shown that the public continues to access the site on foot on a daily basis. This continual foot traffic at the site could degrade the paleontological resource over time, as visitors might damage the tracksite by stepping on the 112-million-year-old tracks.

There would be no risk to paleontological resources from construction activities because these activities would not occur. However, impacts to paleontological resources would most likely occur from human disturbance in the absence of a boardwalk as visitors would continue visiting the Tracksite without the benefit of infrastructure. Further, the No Action Alternative would not meet the purpose and need and FLPMA and PRPA law.

3.1.2.2. *Impacts of the Alternative B – Proposed Action*

The Proposed Action would construct a 230-foot concrete and steel walkway in the same location as the previous wooden boardwalk. As discussed under section 2.2, the concrete and steel boardwalk would exert approximately 3,600 PSF on the ground surface. The previous boardwalk exerted 647 PSF. The proposed boardwalk would require two legs every 12 (+/-) feet while the old boardwalk required legs every 6 feet. The steel footers would not need to be inserted or drilled into the ground but would merely rest on top.

Design features, as discussed in Section 2.2.1 of the Proposed Action include stall mats that would protect tracks from foot traffic, rust prevention and mitigation from the steel frame of the walkway, and the presence of BLM or contracted Paleontologists during all construction activities. Potential impacts from vertical loading of track rims (i.e., the weight of machines or people on the edge of a track) would be prevented by the location and flagging of each of the tracks in the vicinity of construction activities by a BLM or contracted Paleontologist. These features would protect the paleontological resources at the Tracksite from damage during construction activities.

Furthermore, providing sustainable access to the tracksite allows the public to share in a rare paleontological resource. This meets the purpose and need of the project by providing public visitation and education through a walkway and interpretive materials while simultaneously protecting the resources at the Tracksite.

Access Route

The Proposed Action would utilize Route #3 to access the tracksite for construction (see map in Appendix B). This route enters from the north and then goes to the west side of the tracksite; it would require the temporary dismantling of a section of the fence. Route #3 was found to be clear of major paleontological resources during the pedestrian survey conducted by BLM Paria River District Paleontologist (Titus, 2022), and thus is safe for ingress/egress of wheeled vehicles, machinery, supplies and equipment to the interpreted area. Use of Route #3 would not require crossing the track bearing surface and would not pose a risk to it.

The route is existing (although not designated), being utilized for past powerline access. In addition, there is evidence of past disturbance along the fenceline. Use of route #3 would thus create less new surface disturbance than use of Route #1 or Route #2. Vehicle tracks would be raked out when access to the Tracksite is no longer needed; vehicles would not be driving on surfaces with the potential to impact tracks, therefore obscuring vehicle tracks would not impact paleontological resources.

3.1.2.3. *Impacts of Alternative C*

The impacts of Alternative C would be the same as those described in Alternative B except for the discussion of the access route. Alternative C would utilize Route #1 to access the tracksite (see Map in Appendix B).

Access Route #1 approaches the tracksite from the southeast and from the Mill Canyon Road. It is located entirely on top of either bedrock or alluvium overburden deep enough to avoid impacting the track surface along its entire course. However, this route would require new surface disturbance across the relatively natural appearing bench. This new disturbance would be the most visible to the public, as it leaves the entrance road that is used to approach the tracksite. Because of the open nature of the area, it would be difficult to block this newly created access road, which might lead the public to try and drive closer to the tracksite.

3.1.2.4. *Impacts of Alternative D*

The impacts of Alternative D would be the same as those described in Alternative B except for the discussion of the access route. Alternative D would utilize Route #2 to access the tracksite (see Map in Appendix B).

Access Route #2 approaches the tracksite from the north. It follows the route of Access Route #3 for much of its length, but veers to the east as it approaches the tracksite. This would mean that the access route requires crossing the track bearing surface where it is covered with recently accumulated alluvium. This route does pose a minor risk to tracks if done without a BLM or contracted Paleontologist to flag a clear route and monitor vehicular traffic over the course of the project. To protect paleontological resources, stall mats would be placed where equipment would need to cross the poorly exposed track surfaces.

Access Route #2 is previously disturbed and would not create new surface disturbance.

3.1.2.5. *Cumulative Impacts: Paleontology*

The Cumulative Impact Area for Paleontology is the 0.19 acres containing Cretaceous tracks in the vicinity of the Mill Canyon Tracksite. Reasonably foreseeable actions in the vicinity of the Tracksite include continued visitation by the public with or without the benefit of a walkway. Past actions in the Cumulative Impact Area include powerline construction, motorized vehicle use, grazing and recreation activities including dispersed camping.

Under the No Action Alternative, cumulative impacts to the tracksite would occur through continued use of the tracksite by visitors on foot without benefit of a raised walkway. Over a period of time, this impact could harm the paleontological resource.

Alternatives B, C and D would replace the walkway at the current location. Cumulative impacts to the paleontological resource would be reduced as visitors would be able to view the tracks from a raised surface that does not impact the tracksite.

3.2. Issue 2: Recreation

How would the public be impacted by the rebuilding of the trail?

3.2.1. Affected Environment

The Mill Canyon Dinosaur Tracksite is located within the Labyrinth Rims/Gemini Bridges Special Recreation Management Area (SRMA), which is managed as a Destination SRMA (majority of visitation is from outside of the area). From 2014 to 2022, the Mill Canyon Dinosaur Tracksite Trail (wooden boardwalk) was enjoyed by thousands of people each year. Interpretation was offered at the site via interpretive signage, and visitors were allowed to walk on the elevated boardwalk above the dinosaur tracks. This elevation afforded an excellent view of the dinosaur tracks, while protecting the tracksite from visitors. The facility received many accolades from around the world, although the BLM had received complaints from visitors that the boards were warping and creating a trip hazard.

3.2.2. Environmental Impacts

3.2.2.1. *Impacts of the Alternative A – No Action Alternative*

The No Action alternative would leave the tracksite in its current condition and no walkway would be constructed. The visiting public would not have the opportunity to view the tracksite from a safe and durable walkway with interpretive information. The recreation experience would be diminished for visitors, especially for those children who have a deep interest in paleontology.

Under Alternative A, visitors would continue to clamber over the tracksite with no protective infrastructure, as the tracksite is already well known to the public. This would not provide the recreation experience that visitors had come to expect.

3.2.2.2. *Impacts of the Alternative B – Proposed Action*

Rebuilding the Mill Canyon Tracksite Trail with safe and durable materials (concrete and steel vs. wooden boards and supports) would benefit the visiting public by allowing them to safely get near enough to the tracks to enjoy their experience. In addition, the newly constructed trail would eliminate the trip hazards that the prior wooden boardwalk trail had presented. A reconstructed trail would provide the opportunity for the public to see a paleontological resource in a sustainable manner, as well as to learn about the Tracksite.

While there would be short term and temporary impacts to the trail atmosphere from the trucks and other construction equipment required to complete the project, this temporary impact would result in the long-term effect of a more permanent and safer trail for all visitors. Obscuring the tire tracks made by the construction vehicles would restore the site to its original state.

Recreationists, especially those with an interest in paleontology (which includes many children) would benefit from the rebuilding of the Mill Canyon Tracksite Trail. The trail would promote educational and recreational use and foster public awareness and appreciation for the area's paleontological resources.

3.2.2.3. *Impacts of Alternative C*

The impacts of Alternative C to Recreation would be substantially similar to those identified in Alternative B. The various means of construction access to the Tracksite would not materially affect recreationists. However, under Alternative C, there would be a probability of vehicle track scars on previously undisturbed ground, which could impact the visual integrity of the tracksite.

3.2.2.4. *Impacts of Alternative D*

The impacts of Alternative D to Recreation would be substantially similar to those identified in Alternative B. The various means of construction access to the Tracksite would not materially affect recreationists.

3.2.2.5. *Cumulative Impacts*

The Cumulative Impact Area for the recreating public is the developed Mill Canyon Dinosaur Tracksite to include the 0.19 acres of track bearing surface and trails to access the tracks. Reasonably foreseeable actions in the vicinity of the Tracksite include continued visitation by the

public with or without the benefit of a walkway. Past actions in the Cumulative Impact Area include powerline construction, motorized vehicle use, grazing and recreation activities including dispersed camping.

Cumulative impacts include degradation of the paleontological resource from recreational use and natural weathering. Under the No Action alternative, the paleontological resource would not be afforded protection from the construction of a walkway for visitors to view from a safe distance while not walking directly on the tracks. Visitors would continue to enter the closed tracksite and walk on the fragile tracks without the benefit of a walkway or interpretation. Over time, the tracks would degrade from continued trampling. The degradation of the tracksite would then impact the recreational experience as the site would no longer be well preserved.

Alternatives B, C and D would provide a safe walkway for the visitors to enjoy the paleontological resources and reduce the cumulative impacts of recreationists walking on the fragile track surface.

CHAPTER 4. PUBLIC INVOLVEMENT, CONSULTATION AND COORDINATION

4.1. Public Involvement

The BLM initially released a Decision Record and EA to repair the then-existing tracksite trail in October of 2021. In January of 2022, removal of the old boardwalk started under that Decision; public reports on that action resulted in the BLM rescinding that decision and halting any further on-the-ground work. This EA takes the paleontological assessments done in February and April 2022 into account, as well as augments information regarding materials and specifics regarding the Proposed Action. The progress on this course of action has been discussed by BLM management with the members of the Friends of Paleontology at meetings of that group.

The ePlanning entry for this EA was updated to reflect the current effort on April 26, 2022.

The EA will be subject to a public comment period starting June 24, 2022.

4.2. Consultation and Coordination

Table 3: List of all Person, Agencies, and Organizations Consulted for Purposes of this EA.

Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
Brent Breithaupt, BLM Paleontologist, Wyoming State Office	Paleontological expertise	Site assessment, January 2022 construction work.
Alan Titus, BLM Utah Paria River District Paleontologist	Paleontological expertise	Paleontological survey of Tracksite, including recommendations for Fossil Resource Protection

A Class III Archaeological Survey was conducted for the three proposed access routes. The survey findings fell under the thresholds outlined in the Small Scale PA, therefore SHPO

consultation is not needed, and a report will be prepared and submitted to the SHPO will Small Scale submissions.

Table 4: List of BLM Preparers

Name	Title	Responsible for the Following Section(s) of this Document
Alan Titus	Paleontologist	Paleontology
Nate Huber	Natural Resource Specialist	Air Quality
Pam Riddle	Wildlife Biologist	T and E Animals, Migratory Birds, BLM Sensitive Species, Fish and Wildlife, T and E Plants
Charlie Fischer	Fuels Specialist	Invasive Species/Noxious Weeds, Fuels
Aaron Vollmer	Range Management Specialist	Soils, Woodlands/Forestry, Grazing, Rangeland Health Standards, Vegetation
Gabe Bissonette	Range Management Specialist	Floodplains, Wetlands
Bill Stevens	Outdoor Recreation Planner	Natural Areas, Wilderness/WSA, Socioeconomics, Lands with Wilderness Characteristics, Environmental Justice, Wild and Scenic Rivers
Lori Hunsaker	Archaeologist	Cultural Resources, Native American Religious Concerns
Katie Stevens	Outdoor Recreation Planner	ACECs, Recreation, Visual Resources, Team Lead
Mike Morningstar	Realty Specialist	Lands/Access
Jennifer Whittington	Geologist	Geology, Wastes, Water Resources
Malachi Baker	BLM Engineering Tech	Project design

References

BLM. 2008. Resource Management Plan, Bureau of Land Management, Moab Field Office. U.S. Department of the Interior, Bureau of Land Management, Moab Field Office, Moab, Utah.

Breithaupt, B.H. 2022. Mill Canyon Dinosaur Tracksite Paleontological Assessment. Informal working document for internal BLM use. 14 p., 3 figures.

Lockley, M.G., Gierlinski, G.D., Dubicka, Z., Breithaupt, B.H., Matthews, N.A. 2014a. A preliminary report on a new dinosaur tracksite in the Cedar Mountain Formation (Cretaceous) of eastern Utah. In Lockley, M.G., and Lucas, S.G., eds., Fossil Footprints of western North America, *New Mexico Museum of Natural History and Science Bulletin* 62, p. 279-286.

Lockley, M.G., Gierlinski, G.D., Houck, K., Lim, J., Kim, K.S., Kim, T.H., Kang, S., Hunt-Foster, R., Li, R., Chesser, C., Gay, R., Dubicka, Z., Cart, K., Wright, C. 2014b. New excavations at the Mill Canyon Dinosaur Tracksite (Cedar Mountain Formation, Lower Cretaceous) of eastern Utah. In Lockley, M.G., and Lucas, S.G., eds., Fossil Footprints of western North America, *New Mexico Museum of Natural History and Science Bulletin* 62, p. 287-300.

National Engineering Handbook, Part 631 Geology, Table 4.3; and P. B. Attewell and I. W. Farmer, 1976. Principles of Engineering Geology.

Titus, Alan. Report on Fieldwork Conducted at the Mill Canyon Dinosaur Tracksite, April 11-22, 2022, with Recommendations for Fossil Resource Protection. BLM, 9 pages.

Appendices

Appendix A: IDT Checklist

Appendix B: Map of Proposed Walkway and Access Routes

Appendix C: Stipulations

Appendix A: IDT Checklist

INTERDISCIPLINARY TEAM CHECKLIST

Project Title: **Rebuilding the Mill Canyon Dinosaur Tracksite Trail and Amending ROW UTU-91920**
NEPA #: DOI-BLM-UT-Y010-2021-0092-EA

SPECIALIST DETERMINATIONS: ***(Choose one of the following options for the "Determination" column)***
NP = not present in the area impacted by the proposed action or alternatives
NI = present, but not affected to a degree that detailed analysis is required
PI = present with relevant impacts that need to be analyzed in detail in the EA

The following elements are not present in the Moab Field Office and have been removed from the checklist: Farmlands (Prime or Unique), Wild Horses and Burros.

RESOURCES AND USES CONSIDERED (INCLUDING SUPPLEMENTAL AUTHORITIES APPENDIX 1 H-1790-1)

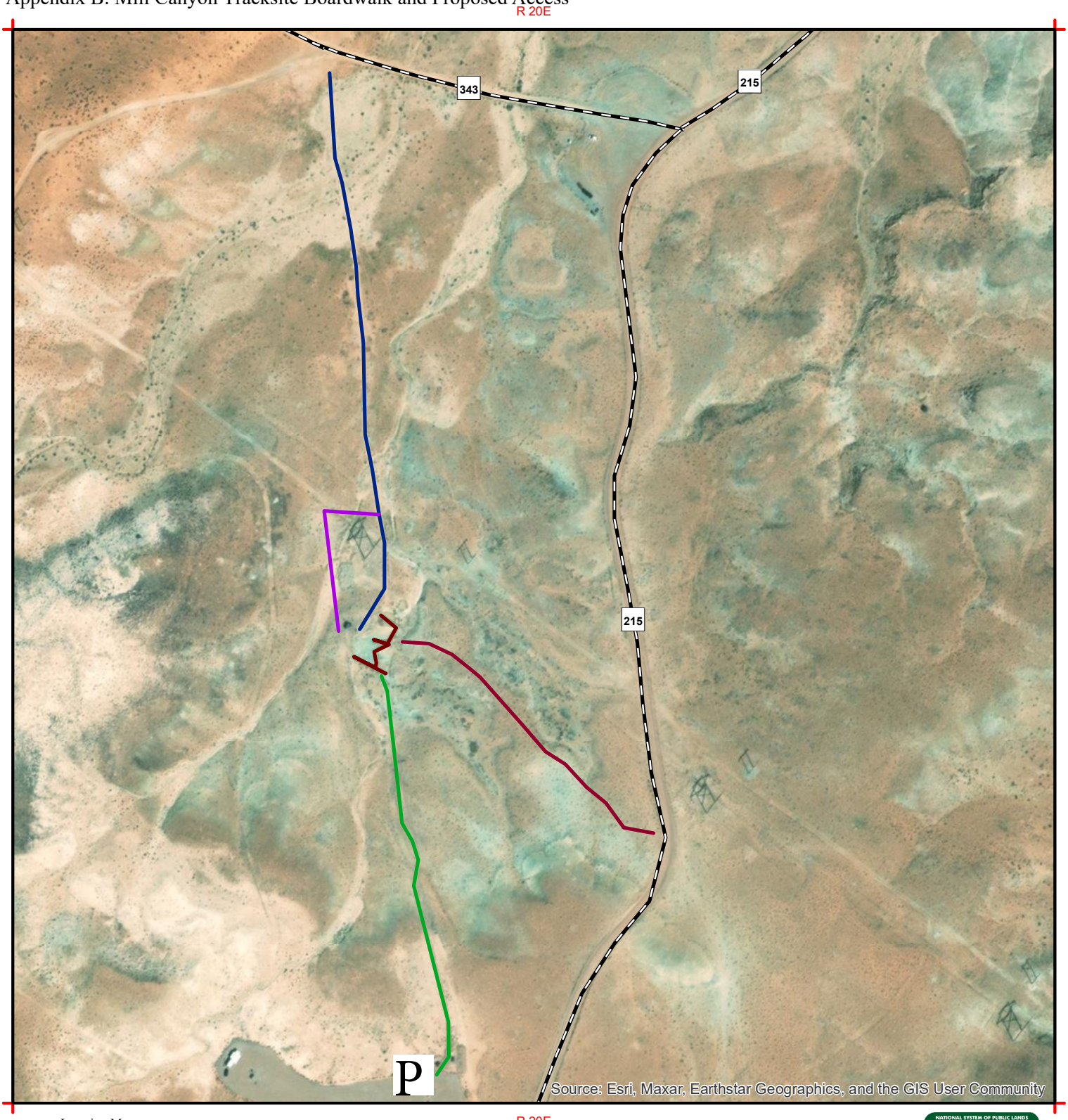
Resource/Use	Determi-nation	Rationale for Determination	Name of Assigned Specialist	Date
Air Quality Greenhouse Gas Emissions	NI	The proposed action would result in emissions of fugitive dust from the operation of construction equipment and vehicles on unpaved surfaces, and emissions from the operation of internal combustion engines. These emissions would be sporadic, would rapidly disperse, and are not likely to cause or contribute to a violation of the National Ambient Air Quality Standards	N. Huber	5/3/22
Areas of Critical Environmental Concern (ACEC)	NP	No ACECs within project area. See 2008 RMP, Map 21	K. Stevens	4/4/22
BLM Natural Areas	NP	No BLM Natural Areas within project area. See 2008 RMP, Map 16	B. Stevens	4/7/22
Cultural Resources	NP	A survey for the three alternative routes was completed (U22BL0285) and no cultural resources were identified. A report of findings will be submitted to the SHPO under the Small-Scale PA for concurrence.	L. Hunsaker	5/2/22
Environmental Justice (EO 12898)	NI	No EJ populations identified in planning area. See https://headwaterseconomics.org/apps/economic-profile-system/49019	B.Stevens	4/27/22
Fisheries – Non-designated Species (including UT BLM sensitive species)	NP	There are no fish bearing streams within the project area. No water withdrawals from the Upper Colorado River Basin is proposed.	G. Bissonette	4/29/22
Fisheries – Threatened, Endangered or Candidate Species	NP	There are no fish bearing streams within the project area. No water withdrawals from the Upper Colorado River Basin is proposed.	G. Bissonette	4/29/22
Floodplains	NI	No significant impact to ephemeral floodplains is anticipated from the proposed action. Consolidation of recreation to the walkway is likely to produce a positive impact to floodplains because visitors would be limited to the hardened surface of the walkway and not walking within the floodplain.	G. Bissonette	4/29/22
Fuels/Fire Management	NI	Fuels in the area are sparse. No impacts to Fire/Fuels anticipated.	J. Relph	5/13/22

Resource/Use	Determi-nation	Rationale for Determination	Name of Assigned Specialist	Date
Geology/ Mineral Resources/ Energy Production	NI	Labyrinth Rims-Gemini Bridges SRMA has no surface occupancy stipulation for surface disturbing activities related to mineral resource and energy production. Moab RMP 2008, REC-20.	J. Whittington	5/13/22
Lands with Wilderness Characteristics	NP	No LWC within project area. See 2008 RMP, Map 15	B. Stevens	4/7/22
Lands/ Access	NI	Access route would intersect ROWs UTU-015341 and UTU-91920 and would be subject to valid, existing rights of those ROWs. Access would not impact the ROW holder. UTU-91920, a right-of-way to the BLM for the Mill Canyon site would be amended as part of the proposed action.	L. Wilkolak	5/4/22
Livestock Grazing	NI	Tracksite is within Big Flat Tenmile Allotment; tracksite is currently fenced to keep cattle out of site. Proposed action would not exceed the existing fence and therefore not impact livestock grazing in that area of the allotment.	AVollmer	4/14/22
Native American Religious Concerns	NI	Section 106 consultation was not completed because no cultural resources were located and fell under threshold of Small Scale PA.	L. Hunsaker	5/02/22
Paleontology	PI	Exposed formation is PFYC 4(High) to 5(Very High). Site contains unique tracks and traces from Early Cretaceous which are at risk of human caused adverse impacts or natural degradation.	Alan Titus	5/11/22
Rangeland Health Standards	NI	The walkway would not exceed established structures and trails that are currently present in the fenced area. The proposed access routes would create temporary disturbance to short sections of soils and vegetation but would be rehabilitated and revegetated at the end of the project. Rangeland Health Standards would not be impacted because of the relatively small disturbance (less than 0.25 miles).	AVollmer	4/14/22
Recreation	PI	A reconstructed walkway would provide a tangible benefit to the recreating public by providing a safe and durable interpretive experience of the paleontological resources.	K. Stevens	4/26/22
Socioeconomics	NI	Construction of walkway would not provide additional benefits or impacts relative to overall economy of planning area. Construction would replace previous infrastructure and would utilize BLM workforce.	B. Stevens	4/7/22
Soils	NI	Proposed actions would not exceed the footprint of existing disturbance within the Tracksite and therefore not impact soil resources. The proposed access route would be via old two track road approaching from the north with existing disturbance over most of the route.	AVollmer	4/14/22
Vegetation – Non-designated Species	NI	Proposed actions would not exceed the footprint of existing disturbance within the Tracksite and therefore not impact vegetation resources. The proposed access route would be via old two track road approaching from the north with existing disturbance over most of the route. Common plant species such as blackbrush and sagebrush that have	AVollmer	4/14/22

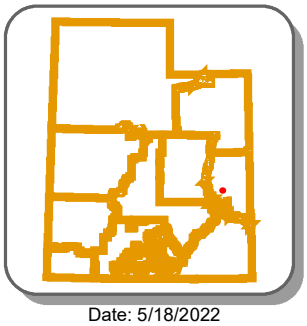
Resource/Use	Determi-nation	Rationale for Determination	Name of Assigned Specialist	Date
		revegetated from previous disturbance may be driven over.		
Vegetation – UT BLM Sensitive Species	NI	GIS data indicates habitat for three sensitive plant species, including Stage Station milkvetch in the vicinity of the Tracksite. Access route is via a previously disturbed two track road, where disturbance to any plant species would have taken place in the past.	D.P. for Pam Riddle	5/2/22
Vegetation – Threatened, Endangered or Candidate Species	NP	No threatened, endangered or candidate plant species are present within the project area.	D.P. for Pam Riddle	5/2/22
Vegetation – Invasive Species/Noxious Weeds	NI	The proposed action would not inherently promote the spread and establishment of invasive species. The access route is a previously disturbed two track. No new surface disturbance is anticipated to occur; reclamation activities call for reseeding access routes if needed. boardwalk will keep the spread of weeds to a minimum	C. Fischer	5/3/22
Visual Resources	NI	The proposed action would replace the 2014 boardwalk and not create any long-term visual impacts once construction equipment is removed from project area. Construction equipment would be onsite for approximately six weeks' time. The tracksite would be closed to visitors during that time.	K. Stevens	5/2/22
Wastes (hazardous or solid)	NI	No solid or hazardous wastes are expected to be generated during, or as a result of, the proposed action. Any waste generated during the project construction, including equipment fluid/oil/grease spills, should be cleaned up, collected, and hauled to a proper disposal site or landfill.	J. Whittington	5/13/22
Water Resources/ Quality (drinking, surface, ground)	NI	There are no surface water resources in or near the proposed project area. The proposed action would not penetrate the ground surface and is not expected to impact groundwater resources. The materials selected for construction would not disintegrate to pose a problem with seepage into groundwaters, and construction methods would protect for spills (equipment, concrete).	J. Whittington	5/13/22
Wetlands/Riparian Zones	NP	No Riparian or Wetlands are present within the project area. This is determination is based on riparian datasets from the 2008 Moab RMP, the Properly Functioning Condition (PFC) geocortex, AIM geoportal, and through the inspection of aerial imagery.	G. Bissonette	4/29/22
Wilderness / WSA	NP	No WSAs within project area. See 2008 RMP, Map 23	B. Stevens	4/7/22
Wildlife – Non-designated species	NI	No new surface disturbance or new activities. Proposed project will occur in the existing footprint of boardwalk, therefore local wildlife will not be affected to a degree that detailed analysis is required.	D.P. for Pam Riddle	5/2/22
Wildlife – UT BLM Sensitive Species	NI	No new surface disturbance or new activities. Proposed project will occur in the existing footprint of boardwalk, therefore local wildlife will	D.P. for Pam Riddle	5/2/22

Resource/Use	Determi-nation	Rationale for Determination	Name of Assigned Specialist	Date
		not be affected to a degree that detailed analysis is required.		
Wildlife – Migratory Birds (incl. raptors)	NI	No new surface disturbance or new activities. proposed project will occur in the existing footprint of boardwalk, therefore local wildlife will not be affected to a degree that detailed analysis is required	D.P. for Pam Riddle	5/2/22
Wildlife – Threatened, Endangered or Candidate Species	NP	No threatened, endangered or candidate wildlife species are present in the project area per GIS data and MFO plant and wildlife surveys.	D.P. for Pam Riddle	5/2/22
Wild and Scenic Rivers	NP	No suitable or designated WSRs are present within the project area. See 2008 RMP, map 22.	B. Stevens	4/7/22
Woodland/Forestry	NP	No woodland/forestry resources in area of proposed action.	Jill Stephenson	4/28/22

Appendix B: Mill Canyon Tracksite Boardwalk and Proposed Access



Location Map
Utah BLM Field Office Boundaries



Date: 5/18/2022

Legend

- Hiking Path
- Walkway
- Route3_MillCanyon_Path
- Route2_MillCanyon_Path
- Route1_MillCanyon_Path
- State and Federal Highways
- B Roads (Maintained)

1:3,000

0 0.03 0.06 Kilometers

0 0.03 0.06 Miles

N W E S

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.

APPENDIX C: Stipulations

Moab Field Office
General Stipulations

Applicable to all Projects within the Moab Field Office

The following stipulations and mitigation measures must be implemented unless the stipulation/measure is not applicable to the proposed action. Those stipulations/measures that include "if applicable, if used, or if constructed" are to be implemented if the proposed action includes the activity or design. If project specific stipulations have been developed and overlap any of the following stipulations and mitigation measures, the more restrictive of the two will be enforced.

General Resource Stipulations

a. The Holder shall comply with all applicable Federal, State, Tribal, and local laws and regulations for the protection of resources and the environment, to include but not limited to air, cultural, hazmat, soil, vegetation, water, wildlife.
b. Holder is authorized to implement the action only as recorded in the decision document. The Holder may only conduct the approved action at the approved time and location, and shall comply with all project-specific terms, conditions, and stipulations.
c. The Holder shall remove from public land and properly dispose of any and all trash, litter, debris, waste, excess materials, including flagging and signs, or other substances and materials resulting from the use under this authorization.
d. All travel is limited to designated roads and trails or as authorized in the decision document.

Cultural and Paleontological Resources

Any cultural and/or paleontological resources (historic or prehistoric site or object) or Native American human remains, funerary item, sacred object, or objects of cultural patrimony discovered by the Holder, or any person working on his behalf on public or federal lands shall be immediately reported to the Authorized Officer by telephone. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The Holder will be responsible for the cost of evaluation. Any decision regarding suitable mitigation measures will be made by the Authorized Officer after consulting with the Holder. Holder shall be responsible for the resultant mitigation costs.

Hazardous Materials

If hazardous materials/substances are used or present within the authorized area, the Holder shall immediately notify the Authorized Officer of any release (leaks, spills, etc.) of hazardous substances, toxic substances, or hazardous waste. As required by law, Holder shall have responsibility for and shall take all action(s) necessary to respond and fully remediate releases (leaks, spills, etc.) within the authorized area. A copy of any report required or requested by any federal, state, or local government agency as a result of a reportable release or spill of any hazardous substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved federal, state, or local government agency.

Survey Monuments

The Holder shall protect all survey monuments found within the ROW. Survey monuments include, but are not limited to, General Land Office (GLO) and BLM Cadastral Survey Corners,

reference corners, witness points, U.S. Coastal and Geodetic benchmarks and triangulations stations, military control monuments, and recognizable public and private civil survey monuments. In the event of disturbance or destruction of any of the above, the Holder shall immediately report the incident in writing to the Authorized Officer (AO) and the respective installing authority. Where GLO or BLM monuments or references disturbed or destroyed during operation, the Holder shall secure the services of a registered land surveyor or a BLM cadastral surveyor to restore the disturbed monuments or references using the surveying procedures found within the latest edition of the Manual of Surveying Instructions for the Survey of the Public Lands in the United States. The Holder shall record the resulting survey at the appropriate county facility and send a copy to the AO. If any BLM cadastral surveyors or other Federal surveyors are used to restore the disturbed survey monument, the Holder shall be responsible for all survey costs.

Fire Prevention and Mitigation

a. Compliance with fire restrictions is mandatory while fire restrictions are in effect (43 CFR 9212).
b. The use of standard fire prevention measures should be practiced at all times (43 CFR 2805.12)
c. The Holder shall immediately report fires to the Moab Interagency Fire Center (435) 259-1850 or (911).

Human Waste Disposal

For all activities and at all locations within Grand County, the Holder must have a toilet system or approved human waste bags which allow for the proper carry-out and disposal of solid human body waste in a responsible and lawful manner. Toilet paper must be carried out and not buried or burned.

Invasive Species and Noxious Weeds

a. The Holder shall keep their project area free of state-listed noxious weeds for the life of the project. Any detections of noxious weeds should be reported to the Authorized Officer to determine best course for treatment.
b. Avoid and/or limit travel through state-listed noxious weed-infested areas that can be further spread. Project related equipment should be cleaned of all mud, dirt, and plant parts before moving into relatively weed-free areas or out of weed-infested areas.
c. Prior to the use of pesticides, the Holder shall obtain from the AO written approval of a plan showing the type and quantity of material to be used, pest(s) to be controlled, method of application, location of storage and disposal of containers, and any other information deemed necessary by the AO. Applicator shall hold a current applicator's license or be under the direct supervision of a licensed applicator.

Mineral Resources

a. If construction activities produce excess mineral materials from within the boundaries of the Proposed Action, the mineral materials must be used within the boundaries of the Proposed Action or stockpiled within the boundaries of the Proposed Action for future disposal by the BLM.
b. If construction activities require that excess mineral materials be exported from within the boundaries of the Proposed Action as they are generated, then written authorization, a mineral material sales contract, a free-use permit, etc. must be obtained from the BLM by

the project Holder prior to exporting the excess mineral materials from within the boundaries of the Proposed Action.

c. If mineral materials are to be stockpiled on site for a future disposal, specific BLM use authorization in the form of a written authorization, mineral material sales contract, free use permit, etc. must be obtained from the BLM prior to exporting the excess mineral materials from within the boundaries of the Proposed Action.

Fish and Wildlife

a. If artificial water sources are used, ensure that they have a properly installed and designed escape ramp to allow for wildlife to flee in the event of accidental entrapping.
b. Project supplies or equipment where wildlife could temporarily hide will be inspected prior to moving them to reduce the potential for injury to wildlife. Supplies and equipment that cannot be inspected, or from which wildlife cannot escape or be removed, will be covered or otherwise made secure from wildlife intrusion or entrapment at the end of each workday.

Migratory Birds

In compliance with the Migratory Bird Treaty Act, habitat-altering projects or portions of projects should be scheduled outside of the bird breeding season, which generally occurs April 1 through August . If a project has to occur during the breeding season, then a BLM or contracted Biologist must survey the area for nests, including ground-nesting species, immediately prior to commencement of construction activities. If any active nests are found, an appropriately sized buffer area must be established and maintained until the young birds fledge. If feasible, the buffer area should connect to suitable, undisturbed habitat. As the above dates are a general guideline, any active nests that are observed outside this range must be avoided as described above.

Recreation

Unless expressly stated, a land use authorization does not create an exclusive right of use of an area by the holder. The holder shall not interfere with other valid uses of the federal land by other users, such as casual recreationists.

Reclamation

The Holder shall conduct interim reclamation on all disturbed areas not needed for ongoing operations as soon as practical following construction. To ensure successful growth of plants and forbs, topsoil will be stripped and stockpiled during road improvements and respread to the greatest degree practical on cut slopes, fill slopes, and borrow ditches prior to seeding. Revegetation of cut and fill slopes will help stabilize exposed soil and reduce sediment loss, reduce the emergence of noxious weeds, reduce maintenance costs, maintain scenic quality and forage, and protect habitat.

Moab Field Office
Bureau of Land Management
Stipulations Applicable to BLM Construction Projects

The following stipulations and mitigations measures apply to all BLM MFO construction projects, in addition to the Moab Field Office General Stipulations.

1. Prior to the start of any project (demolition, inspection, construction, etc.), ensure coordination has been made with the Authorized Officer (AO) and stipulations and mitigation measures are in hand.
2. Plan of Operations with detailed design features, materials, and construction plans must be submitted and approved with the AO. All Plan of Operations shall be in accordance with safe and proven engineering practices. If projects are subject to NEPA, this will be included in the planning phase and part of the NEPA document.
3. No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of four inches deep, the soil shall be deemed too wet to adequately support construction equipment.
4. Access with motorized vehicles and equipment must be kept to existing or approved constructed routes. Cross-country and off-route travel is not permitted. All designated routes on BLM managed lands must remain accessible for public use.
5. The Project Lead shall contact the AO if necessary operations and maintenance activities are required outside of the authorized area. The AO may permit these activities if it is determined necessary and reasonable and would not require additional NEPA.
6. The Project Lead shall conduct interim reclamation on all disturbed areas not needed for ongoing operations as soon as practical following construction. To ensure successful growth of plants and forbs, topsoil will be stripped and stockpiled and respread to the greatest degree practical on cut slopes, fill slopes, and borrow ditches prior to seeding.
7. Joint inspection of site would occur upon completion of project by Project Lead and AO.

Stipulations Specific to Mill Canyon Dinosaur Tracksite Trail

- During construction, ¾-inch thick, 4-foot by 6-foot stall mats would be placed adjacent to the walkway as it is fabricated to provide a continuous protective surface for the tracks from foot traffic.
- Plastic sheeting would be laid on the rock surface during concrete operations to eliminate rock spatter.
- The feet and legs of the steel support structure would be pre-treated with Rhino Lining applied to the outer surfaces to prevent the steel from rusting and discoloring the track bearing surface. The rest of the steel support, that which would be on the underside of the concrete, protected from the elements, would be pre-treated with a cold galvanizing product such as Rust-Oleum Zinc Cold Galvanizing Compound to prevent rust and discoloration of the track bearing surface. Cup-shaped rubber or plastic may be applied around the legs if warranted from residual moisture/dew and to confine any rust bearing water.
- Metal footers would be placed to avoid fractures in rock surface where feasible to increase stability of rock.
- Work of any type would proceed only in the presence of a BLM or contracted Paleontologist.
- The Tracksite would be monitored by BLM personnel to ensure these measures are effective.