



National Park Service
US Department of the Interior

Mesa Verde National Park
Colorado

FINDING OF NO SIGNIFICANT IMPACT
Mesa Top Loop Roads Improvement Project

Recommended:

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Date

Approved:

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Serving Department of Interior Regions 6, 7, and 8

Date

INTRODUCTION

In compliance with the National Environmental Policy Act (NEPA), the National Park Service (NPS) prepared an environmental assessment (EA) to examine alternative actions and environmental impacts associated with the proposed project to improve the existing Mesa Top Loop Roads and the intersection at the park entrance. The project is needed to address accessibility, safety, operational, and recreational issues for three high visitor-use areas and the park's entrance intersection.

The statements and conclusions reached in this finding of no significant impact (FONSI) are based on documentation and analysis provided in the EA and associated decision file. To the extent necessary, relevant sections of the EA are incorporated by reference below. A copy of the EA can be obtained [here](#).

SELECTED ALTERNATIVE AND RATIONALE FOR THE DECISION

Based on the analysis presented in the EA, the NPS selected Alternative C – 3R Plus Bike Lane Alternative (NPS Preferred Alternative) for implementation with the following modifications. The width of the loop roads has been corrected to reflect the specifications in the 70% design, work at night to construct the roundabout at the park entrance would be allowed based on comments from the Federal Highway Administration (FHWA) to further alleviate construction traffic delays, and some mitigation measures have been edited (see Errata for details). These modifications did not change the assessment of impacts. The project will be completed in cooperation with the FHWA.

The selected alternative will improve the conditions on the Mesa Loops Roads and at the park entrance intersection. The proposed action will consist of several improvements to the road surfaces, circulation, access to popular sites, and parking areas, as summarized below:

- **The Loop Roads.** The selected alternative will be a 3R (resurfacing, restoration, and rehabilitation) project. The current travel lanes of the Mesa Top Loop, Sun Temple Loop, and Cliff Palace Loop roads will be widened to a consistent width to meet standards identified in Park Road Standards (NPS 1984). The two-way sections of Mesa Top Loop and Sun Temple Loop roads will be 28-foot wide in total, including two 10-foot wide travel lanes and striped 4-foot wide shoulders on both sides of the travel lanes that also serve as bike lanes. The two-way section of Cliff Palace Loop Road will have two 9-foot wide travel lanes with 1.5-foot wide shoulders (21 feet wide total). The one-way sections of the three roads will be made a consistent 14-foot wide, but the widths of the travel lanes and shoulders will vary slightly. On Cliff Palace Loop, the travel lane will be 11-foot wide with 1.5-foot shoulders on either side of the travel lane. The travel lanes of Mesa Top Loop and Sun Temple Loop roads will be 9-feet wide with 1-foot shoulders on the left side of the travel lane and 4-foot shoulders on the right side of the travel lane. The 4-foot shoulders will be striped to serve as bike lanes; however, widening of the road will not be required in these one-way sections. The superelevations on all three roads will be reconstructed to Park Road Standards, as well. All worn and failing road surfaces, including associated parking lots, will be repaired. Repairs will include resurfacing roads, replacement or repair of failing culverts, and reducing the height and unevenness of the shoulders. Six informal pullouts will be paved, and six pullouts will be eliminated and revegetated.
- **Sidewalks, Overlooks, and Shade Structure.** Existing asphalt sidewalks along Mesa Top Loop, Cliff Palace Loop, and Sun Temple Loop roads will be replaced with colored concrete sidewalks, curbs, and ramps compliant with the Architectural Barriers Act (ABA). These concrete sidewalks and curbs will be constructed in the existing locations. New ramps will be constructed in areas within the limits of disturbance for the project and be free of archaeological resources and sensitive plants. Existing asphalt pavement at the overlooks will also be replaced with colored concrete pavement. A new accessible route with ramp will be constructed at Sun Point Overlook on Mesa Top Loop Road

adjacent to the existing sidewalk. The existing juniper shade structure above Balcony House will be removed during construction of the sidewalk, and a new shade structure will be constructed. All new landscape design elements within the Chapin Mesa Loop Roads Historic District will comply with the Secretary of Interior's Standards for Treatment of Historic Properties.

- **Headquarters Infield Parking and Trail.** The previously developed portion of the infield (a gravel parking lot used by park and concessioner staff) on the Headquarters Loop Road will be converted to a parking area that will be open to the public and accommodate approximately 60 vehicles to serve as overflow parking during periods of high visitation. An existing deteriorated asphalt trail (an old road) will be resurfaced with hardened aggregate into an accessible trail. A new ABA accessible trail will be constructed connecting this existing trail to the concrete sidewalk north of Spruce Tree Terrace. A new trail segment will be constructed parallel to Headquarters Loop Road to connect to the existing concrete sidewalk north of Spruce Tree Terrace.
- **Entrance Intersection.** The existing off-set four-way intersection at the park entrance, Visitor and Research Center (VRC), and water treatment plant access road will be improved with a roundabout. The roundabout will have one-lane and four entry/exit points, including the park entrance, the exit to Highway 160, the VRC, and water treatment plant access road.
- **Revegetation.** Prior to construction, seeds will be collected, and native plants and biological crust will be salvaged from within the project area. Following construction, areas that were temporarily disturbed during construction will be recontoured and revegetated. The park will treat for non-native species in the areas from the road shoulder to approximately 15 feet from the edge-of-pavement for approximately 9 linear miles of road. The treated areas will be monitored and managed to prevent colonization by non-native species. To compensate for the losses of Chapin Mesa milkvetch (*Astragalus schmollii*) habitat from construction of this project, the National Park Service will restore two acres of highly degraded habitat that currently consists of an abandoned helipad and leach field that are within an area of high-density Chapin Mesa milkvetch habitat.
- **Construction Timing, Zones, and Staging Areas.** Construction will occur on a daily basis for about 12 months during day light hours except at the park entrance where night work will be allowed to construct the roundabout. Construction zones will be fenced with temporary construction fencing or some similar material. There will be three potential staging areas, including the overflow parking lot in the Headquarters Loop Road, a previously disturbed 1.1-acre area northwest of the Headquarters four-way intersection, and in the Chapin Mesa Material Storage Yard.

Rationale

Alternative C was selected because it best meets the project purpose to rehabilitate the Cliff Palace Loop, Mesa Top Loop, and Sun Temple Loop roads to ensure that visitor overlooks, parking lots, and roads at the park continue to provide visitors safe, reliable access and a broad range of recreational opportunities. As also would have occurred under Alternative B, Alternative C will address accessibility, safety, and operational issues for three high visitor-use areas and an intersection by:

- Replacing the existing off-set and confusing four-way intersection at the VRC with a roundabout to enhance traffic safety as visitors drive into the park from US Highway 160;
- Widening, resurfacing, restoring, and rehabilitating the Cliff Palace Loop, Mesa Top Loop, and Sun Temple Loop roads to meet park road standards, improve surface traction, and eliminate steep and uneven shoulders; and
- Adding or improving ramps, sidewalks, and curbs at popular park attractions along the loop roads to provide better access to the overlooks at these sites for visitors of all abilities, including those with limited mobility.

In addition, Alternative C will add a bike lane to Mesa Top Loop and Sun Temple Loop roads, which will better enhance recreational opportunities compared to Alternative B, which would not provide bike lanes along these roads. Currently, cyclists must share the same lanes as vehicles, and the existing shoulders are narrow, steep, and uneven, limiting bicycling to experienced riders. A bike lane will provide a safe biking opportunity to park visitors with a range of abilities.

MITIGATION MEASURES

The selected alternative incorporates the mitigation measures listed in Appendix A of this document.

PUBLIC INVOLVEMENT/AGENCY CONSULTATION

Mesa Verde NP engaged 26 tribes on the project through consultation, beginning in November 2018. Further, the project was discussed at the annual tribal consultation meeting held in April 2019. Several tribes declined further consultation (Ysleta del Sur Pueblo, Southern Ute Indian Tribe, Navajo) on the project. The Navajo Nation recommended that all work stay within the road right-of-way of the current road. The Ute Mountain Ute stated that the Cliff Palace Loop crosses onto their property; however, they did not provide further comments. The Hopi Tribe has determined that the project is likely to adversely affect cultural resources important to their tribe and requested continuing consultation. Copies of the survey report, testing report, and proposed treatment plans were provided to the Hopi for review and comment.

The NPS initiated informal consultation with the US Fish and Wildlife Service (USFWS) in November 2018 and discussed how to assess species and follow the Conservation Plan for the Chapin Mesa milkvetch. The NPS and the USFWS continued coordination in July 2019 on the anticipated impacts from the Mesa Top Loop Roads Project on special-status species, appropriate mitigation measures, and potential determinations of effect. Based on this coordination, the NPS prepared a biological assessment to analyze possible impacts on Mexican spotted owl (*Strix occidentalis lucida*) (a federally threatened species) and Chapin Mesa milkvetch (a candidate species currently under review for listing). On April 24, 2020, the NPS received USFWS concurrence with the determination that the preferred alternative may affect, not likely to adversely affect Mexican spotted owl. Although formal consultation is not required under Section 7 of the Endangered Species Act for Chapin Mesa milkvetch, the USFWS agreed with the NPS conclusion that the proposed action is unlikely to jeopardize the continued existence of Chapin Mesa milkvetch.

Consultation between the park and Colorado State Historic Preservation Office (SHPO) was initiated in November 2018, and the park has continued to consult with the SHPO on the project. The park has provided copies to the SHPO of the testing plan and treatment plan for archeological resources. The SHPO has provided comments on cultural resources surveys and Determinations of Eligibilities. Based on the criteria for adverse effects outlined in the implementing regulations of the National Historic Preservation Act (NHPA) (36 CFR 800), the National Park Service has determined that the selected alternative (Alternative C) will result in an “Adverse Effect” to the Chapin Mesa Loop Roads Historic District and the Entrance Road Corridor Cultural Landscape. Therefore, the park prepared a memorandum of agreement with the SHPO to avoid, minimize, and mitigate for adverse effects to historic properties. The memorandum of agreement establishes stipulations for the National Park Service to meet its NHPA responsibility if it implements the actions under the selected alternative. The memorandum of agreement was signed by all parties on July 22, 2020.

Mesa Verde NP conducted civic engagement of the preliminary concepts for the loop road improvements between December 30, 2019 and January 30, 2020. The park received 28 pieces of correspondence. The correspondences were generally supportive of the overall project. The park considered these comments

when developing and refining the alternatives into those presented in the EA, and in the impact assessment.

The EA was available for public review and comment between May 20, 2020 and June 19, 2020. During this public comment period, six pieces of correspondence were received from the public and three Tribes.

FINDING OF NO SIGNIFICANT IMPACT

Council on Environmental Quality regulations in 40 Code of Federal Regulations 1508.27 identify ten criteria for determining whether a selected action will have a significant effect on the human environment. The NPS reviewed each of these criteria given the environmental impacts described in the EA.

The following impact topics were dismissed from full analysis in the EA and are not discussed in this FONSI: wildlife, the Mexican Spotted owl, historic districts, and cultural landscapes. In addition, there will be no significant impacts on public health, public safety, or unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the selected alternative will not violate any federal, state, or local environmental protection law.

As described in the EA and briefly summarized below, the selected alternative has the potential for beneficial and adverse impacts on piñon-juniper woodlands and semi-desert grassland, Chapin Mesa milkvetch and Cliff Palace milkvetch, and archeological resources; however, no potential for significant adverse impacts on these resources was identified.

Piñon-Juniper Woodlands and Semi-Desert Grassland

The selected alternative will remove 8.8 acres of piñon-juniper woodlands (5.4 acres of old growth piñon-juniper woodlands and 2 acres of piñon-juniper shrublands) and semi-desert grassland habitat (1.4 acres) outside of the existing road prism to complete construction activities. Although this entire area will be revegetated following construction, old growth piñon-juniper woodlands could take several hundred years for the revegetated area to succeed to the intact old growth piñon-juniper habitat that was removed and it could take decades for the piñon-juniper shrubland to recover. Therefore, the selected action will result in a reduction in acreage of intact piñon-juniper woodlands habitat, representing a reduction of approximately 0.13% of the old growth piñon-juniper woodlands and 0.02% of the piñon-juniper shrublands available in the park. The selected action will also result in a reduction of semi-desert grassland habitat (approximately 0.02% of the semi-desert grassland habitat available in the park). Though this 1.4 acres will be revegetated, it will take several years to succeed to the semi-desert grassland that was removed. However, the loss of piñon-juniper woodland and semi-desert grassland habitat will not affect the stability of these communities within the park or represent population-level impacts. It is likely the spread of non-native species in disturbed areas will adversely impact native vegetation communities; however, the treatment for non-native species will reduce competition by decreasing the amount of non-native plants and seed sources and allow for successful revegetation of the disturbed areas with native species. The past and reasonably foreseeable future projects, in combination with the impacts of the selected alternative, will result in continued adverse and beneficial impacts on piñon-juniper woodlands and semi-desert grassland. Overall, the incremental impacts of the selected alternative will not make a substantial contribution to the impacts on vegetation that are already occurring.

Chapin Mesa Milkvetch and Cliff Palace Milkvetch

Chapin Mesa Milkvetch. The selected alternative will remove 8.8 acres of Chapin Mesa milkvetch habitat to complete construction activities, directly impacting approximately 0.44% of the park's Chapin Mesa milkvetch habitat. Removal of this 8.8 acres will result in permanent impacts on Chapin Mesa milkvetch from mortality of individual plants and habitat loss. Temporary impacts will occur from defoliation and tissue loss, but it is anticipated these plants will recover within a year. Following construction, disturbed areas will be revegetated with Chapin Mesa milkvetch. The success of the revegetation could be affected by the local environment and the reduction of soil productivity and consequently plant vigor due to construction-related soil compaction in these disturbed areas.

Competition from non-native species will also reduce reproductive effort and seedling recruitment and lower plant vigor, though park staff will treat the revegetated areas and adjacent areas for non-native species to decrease the amount of non-native plants and seed sources. For these reasons, revegetation may only provide slight beneficial impacts for Chapin Mesa milkvetch and this species might not recover within the 8.8-acre area of impact. The park will also restore previously disturbed Chapin Mesa milkvetch habitat to increase the amount of habitat supporting this species in the park by 2.1 acres. The success of restoration could be affected by non-native species competition, but it is anticipated that the number of Chapin Mesa milkvetch plants will increase in the restored areas to help contribute to the population and better connect existing patches of Chapin Mesa milkvetch. The selected action will not constitute population-level impacts on or affect the stability of this species within the park. The past and reasonably foreseeable future projects, in combination with the impacts of the selected alternative, will result in permanent adverse impacts on these special-status plant species from construction and fire fuels reduction activities; however, fire fuels reduction will also prevent potentially devastating wildfires. Overall, the incremental impacts of the selected alternative will not make a substantial contribution to the impacts on Chapin Mesa milkvetch that are already occurring.

Cliff Palace Milkvetch. The selected alternative will impact 2.6 acres of Cliff Palace milkvetch habitat, which represents approximately 1.0% of the park's known habitat. The impacts will be similar to those described for Chapin Mesa milkvetch in terms of plant mortality from vegetation removal and defoliation and tissue loss from trampling. However, this species will be more susceptible to effects from trampling and erosion due to the soils in which they grow and location where they grow. Disturbed areas will be revegetated with seeds that were collected and propagated prior to disturbance, but this species does not compete well with non-native species and although park staff will continue to treat roadside areas for non-native species, revegetation may only provide slight beneficial impacts for Cliff Palace milkvetch. Cliff Palace milkvetch might not recover within the 2.6-acre area of impact, but this will not represent a population-level impacts on or affect the stability of this species within the park. The past and reasonably foreseeable future projects, in combination with the impacts of the selected alternative, will result in permanent adverse impacts on these special-status plant species from construction and fire fuels reduction activities; however, fire fuels reduction will also prevent potentially devastating wildfires. Overall, the incremental impacts of the selected alternative will not make a substantial contribution to the impacts on Cliff Palace milkvetch that are already occurring.

Archeological Resources

Archeological features of 12 prehistoric sites were destroyed during the original construction of the three loop roads. Implementation of the selected alternative will result in 0.36 acre of additional disturbance to these sites. Construction activities could subject the 12 sites to additional subsurface and surficial damage, including physical destruction, displacement from their context, or exposure from erosion of features and artifacts comprising the individual archeological sites. Exposure of archeological features and artifacts can result in artifacts washing away or being damaged or destroyed. However, under an approved Archeological Testing Plan (MVNP 2019), all of the 12 potentially affected archeological sites were

tested and limited data recovery was done to minimize the loss of information potential contained within the sites. Three sites have been identified for additional testing and data recovery due to findings of the initial testing. Further, archeological monitoring during construction and data recovery for inadvertent discoveries will be conducted to ensure additional artifacts and information/data are not inadvertently lost. Therefore, though the selected alternative could diminish the data potential of the 12 sites, data collection through testing and mitigation will ensure that the individual sites will continue to be eligible for nomination to the NRHP under Criterion D, Information Potential (NPS 2019d), and will continue to serve as important contributing properties to the Mesa Verde National Park Archeological District (5MV4341). The past and reasonably foreseeable future projects, in combination with the impacts of the selected alternative, will result in permanent adverse impacts on archeological sites from construction projects and fire fuels reduction activities; however, fire fuels reduction will also prevent potentially devastating wildfires. Overall, the incremental impacts of the selected alternative will not make a substantial contribution to the impacts on archeological resources.

CONCLUSION

The selected alternative does not constitute an action that normally requires preparation of an environmental impact statement (EIS) (see Section 1.5.E of the NPS NEPA Handbook). And as described above, the selected alternative will not have a significant effect on the human environment in accordance with Section 102(2)(c) of NEPA. Based on the foregoing, it has been determined that an EIS is not required for this project and, thus, will not be prepared.

Appendix A: Mitigation Measures

- Staging and stockpiling areas will be restored to pre-construction conditions following construction. Equipment and materials will be removed at the end of construction and the surface regraded, but these areas will remain unvegetated following their use for construction.
- To minimize the area of ground disturbance, construction area limits will be clearly defined, fenced, flagged, and delineated. No disturbance will occur beyond these limits other than protection measures for erosion/sediment control.
- Fugitive dust generated by construction activities will be controlled by spraying water from the park's domestic water supply on the construction site, as necessary.
- A soil and erosion control plan will be developed and implemented, as mandated in state permits for Colorado Department of Public Health and Environment. Erosion control measures such as sediment traps, erosion check structures, filters, and/or prevention of rutting soils when wet will be considered to minimize soil loss and impacts to water quality.
- A spill prevention and response plan will be prepared for the staging areas and construction zones to reduce risks to the environment from equipment fuel leaks or spills. Temporary berms will be constructed to contain fuel sites. The goal of the plan is to minimize the potential for a spill, contain any spillage to the smallest area possible, and to protect environmentally sensitive areas, including springs.
- No imported topsoil or hay bales will be used during revegetation to avoid introduction of non-native invasive plant species or inappropriate genetic stock of native plant species. Additionally, construction vehicles and equipment will be washed prior to use to remove possible non-native invasive plant seeds from the vehicle.
- Following revegetation, restored areas will be monitored and managed to prevent colonization by non-native invasive species. The treatment of non-native plant species for the park has been analyzed previously under a separate NEPA process in a programmatic categorical exclusion (3.3 E2) and controls common non-native species within the park, including musk thistle (*Carduus nutans*), Canada thistle (*Cirsium arvense*), cutleaf vipergrass (*Scorzonera laciniata*), cheatgrass (*Bromus tectorum*), and smooth brome (*Bromus inermis*). In addition to the roadside areas disturbed from construction activities, larger areas adjacent to the project area will continue to be treated to reduce the potential for recruitment of non-native species in newly restored areas, especially in semi-desert grassland habitats where abundance of non-native species is high.
- The National Park Service will re-initiate Section 7 consultation with the USFWS immediately if Chapin Mesa milkvetch, a candidate species, becomes a proposed, threatened, or endangered species prior to or during project activities.
- As resources allow, the National Park Service will continue to collect additional data and perform research on Chapin Mesa milkvetch. As proposed by the Colorado Natural Heritage Society, the National Park Service will collect plants from within the limits of disturbance to conduct population studies, which will further scientific knowledge on this species.
- No vegetation removal will occur during the migratory bird nesting season (April 1 through August 15) during the implementation of the Mesa Top Loop Roads Project. If construction activities cannot occur outside the bird nesting season, migratory bird surveys will be conducted by a qualified biologist prior to scheduled activity to determine if active nests are present within 164 feet (50 meters) of the construction area. Any nesting locations found during surveys will be

barricaded (e.g., plastic fencing) to eliminate construction impacts on nests. Vegetation containing nests will not be removed until the nest is deemed inactive.

- The National Park Service will continue to survey for Mexican spotted owls, according to the *USFWS Section 7 Mexican Spotted Owl Survey Protocol*, each year during the implementation of the Mesa Top Loop Roads Project in areas affected by the project. If owls are detected, all work within 1,640 feet (500 meters) of an active nest will cease, and the National Park Service will immediately re-initiate Section 7 consultation with the USFWS. The National Park Service will also re-initiate consultation if new information reveals that the project may affect the Mexican spotted owl in a manner or to an extent not considered in the Biological Assessment prepared in January 2020.
- Construction workers and their supervisors will be informed about special-status species. Contract provisions will require the cessation of construction activities if newly identified species were encountered in the project area or if a special-status wildlife species is found within the project area; park staff will then re-evaluate the project activities. This will allow modification of the contract for any protection measures determined necessary to protect the discovery.
- During construction, park staff will monitor for the presence of solution rills. A solution rill is a natural depression in the sandstone found in the park. Solution rills are formed when acidic rain dissolves the calcium carbonate that holds sandstone together. The depressions deepen as small grooves develop along the paths that the water follows into the depressions. Eventually a flower pattern can result, as the ridges between the grooves grow upward from the deposition of minerals along them. Archeologists have speculated that these rills held a special importance for the Ancestral Puebloans. Solution rills will be avoided.
- The rock containing the trace fossil specimen along Mesa Top Loop Road will be removed during construction to avoid damage during construction and placed back in its original location to retain context for potential interpretation after construction is completed.
- If archeological resources are discovered during construction, all work in the immediate vicinity of the discovery will be halted until the resources are identified and documented and an appropriate mitigation strategy developed, if necessary, in accordance with pertinent laws and regulations, including the stipulations of the 2008 Programmatic Agreement Among the National Park Service (US Department of the Interior), the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers.
- The National Park Service has prepared a memorandum of agreement in consultation with the Colorado SHPO. The memorandum of agreement includes stipulations that serve as avoidance, minimization, and mitigation measures for potential adverse effects to historic properties (see Appendix A of the environmental assessment).
- In the event that human remains are discovered, the park inadvertent discovery plan and the project memorandum of agreement (see Appendix A of the environmental assessment) will be followed.
- The National Park Service will ensure that contractors and subcontractors are informed of the penalties for illegally collecting artifacts and biological or geological specimens, or intentionally damaging paleontological materials, archeological sites, historic properties, or natural resources. Contractors and subcontractors will also be instructed on procedures to follow in case paleontological or archeological resources are uncovered during construction.
- The National Park Service will post information at the visitor center and on the park website to inform visitors of when and where construction activities will occur. Visitors will also be restricted from construction areas for their safety.

Errata and Response to Public Comments Mesa Top Loop Roads Improvement Project Environmental Assessment

Mesa Verde National Park June 2020

The following errata and response to substantive public comments, together with the FONSI and the EA, describe the final decision of the National Park Service for improving the Mesa Top Loop Roads at Mesa Verde National Park.

ERRATA

These errata are to be attached to the Mesa Top Loop Roads Improvement Project EA dated May 2020 and are intended to correct or clarify statements in the EA other than typographical and minor editorial errors and to address substantive comments on the document received during the public review period. EA text to be deleted is shown as **red strikeout** and revised or new text is shown as **red italicized text**. These modifications did not change the assessment of impacts in the EA.

Issues and Resource Topics Dismissed from Detailed Analysis

Review of additional information, continuing field surveys and further consultation with subject matter experts indicates that the migratory bird nesting season in Mesa Verde National Park is shorter in duration than previously thought. The migratory bird nesting season has been changed based on this new understanding as indicated in the following sentence. This correction does not change the assessment of impacts.

Wildlife (page 3, paragraph 3)

To comply with the Migratory Bird Treaty Act, vegetation removal would occur outside the migratory bird nesting season (~~March 1 through September 1~~*April 1 through August 15*) to avoid impacts to nesting birds known to occur in the project area.

Chapter 2: Alternatives

The Loop Roads sections of alternatives B and C describe the widths of the one-way and two-way sections of the loop roads. The correct width of the roads has been changed to reflect the specifications in the 70% design, as indicated in the following paragraphs.

The construction timing, equipment and deliveries section for alternative B and applicable to alternative C describe the time of day when work is to be performed. In order to further reduce traffic delays during construction of the entrance roundabout the FHWA has asked that this work be performed at night. The restriction of work being performed during day light hours has been changed to allow night work at the park entrance. Work would be restricted to day light hours at the other project locations except at the park entrance as indicated in the following sentence.

These corrections do not change the assessment of impacts.

Alternative B: 3R Only Alternative (page 8, paragraph 4)

Under alternative B, the current lanes of the Mesa Top Loop, Cliff Palace Loop, and Sun Temple Loop roads (Figure 4) would be widened to a consistent width to meet standards identified in Park Road Standards (NPS 1984); ~~one-way sections would be 13 feet wide (11 foot wide lane with 2 foot wide paved shoulders), and two-way sections would be 20 feet wide (two 9 foot wide lanes with 1 foot wide paved shoulders).~~ *The one-way sections would be 14-feet wide but would vary between Cliff Palace Loop Road and Mesa Top Loop and Sun Temple Loop roads. On Cliff Palace Loop Road, the travel lane would be 11-feet wide and both shoulders would be 1.5-feet wide. On Mesa Top Loop and Sun Temple Loop roads, the travel lane would be 9-feet wide and the shoulders would generally be 1-foot wide on the left and 4-feet wide on the right. The two-way sections of Cliff Palace Loop Road would be 21-feet wide (two 9-foot wide lanes with 1.5-foot wide paved shoulders). On Mesa Top Loop and Sun Temple Loop roads, the travel lanes of the two-way sections would be 9-feet wide with 1-foot wide shoulders for a total width of 20 feet.*

Construction Timing, Equipment, Deliveries. (page 13, paragraph 1)

Construction would occur on a daily basis for about 12 months; work would be restricted to day light hours; ~~except at the park entrance where night work would be allowed to construct the roundabout.~~

Alternative C: 3R Plus Bike Lane Alternative (page 14, paragraph 1)

Alternative C would be the same as alternative B, but this alternative would include the addition of bike lanes. Approximately 0.8 mile of Mesa Top Loop Road and 0.1 mile of Sun Temple Loop Road of the two-way section of roadway would be widened to accommodate a 4-foot wide bike lane on both sides of ~~this portion~~ *the two-way sections* of the roads. *These sections would be 28 feet wide in total, including two 10-foot wide travel lanes and striped 4-foot wide shoulders on both sides of the travel lanes that also serve as bike lanes* (8 feet of additional width for approximately 4,224 feet on Mesa Top Loop Road and 528 feet on Sun Temple Loop Road). *Along the one-way sections of the Mesa Top Loop Road and the Sun Temple Loop Road, the travel lanes would be 9-feet wide with 1-foot shoulders on the left side of the travel lane and 4-foot shoulders on the right side of the travel lane. The 4-foot shoulders would be striped to serve as bike lanes; A bike lane would be striped along the one-way sections of these loop roads;* however, widening of the road would not be required in these one-way sections. Figure 7 highlights the portions of Mesa Top Loop and Sun Temple Loop roads that would be widened for the bike lanes.

Resource Protection Measures (pages 16 and 17)

The following refinements were made to mitigation measures identified in the EA:

- ~~No~~ *Vegetation* removal would occur ~~outside~~ *during* the migratory bird nesting season (~~March 1 through September 1~~ *April 1 through August 15*) during the implementation of the Mesa Top Loop Roads Project. If construction activities cannot occur outside the bird nesting season, *migratory bird* surveys will be conducted by a qualified biologist prior to scheduled activity to determine if active nests are present within 164 feet (50 meters) of the construction area. Any nesting locations found during surveys will be barricaded (e.g., plastic fencing) to eliminate construction impacts on nests. Vegetation containing nests will not be removed until the nest is deemed inactive.
- If ~~previously unknown~~ archaeological resources are discovered during construction, all work in the immediate vicinity of the discovery will be halted until the resources are identified and documented and an appropriate mitigation strategy developed, if necessary, in accordance with pertinent laws and regulations, including the stipulations of the 2008 Programmatic Agreement Among the National Park Service (US Department of the Interior), the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers.

- ~~In the event that human remains are discovered during construction activities, all work on the project will stop and as required by law, the coroner will be notified first. An NPS Intermountain Region Archeologist will also be contacted immediately. All provisions outlined in the Native American Graves Protection and Repatriation Act (1990) will be followed. In the event that human remains are discovered, the park inadvertent discovery plan and the project memorandum of agreement (see Appendix A of the environmental assessment) will be followed.~~
- The National Park Service is preparing a ~~programmatic agreement~~ memorandum of agreement in consultation with the Colorado SHPO. The ~~programmatic agreement~~ memorandum of agreement includes stipulations that serve as avoidance, minimization, and mitigation measures for potential adverse effects to historic properties (see Appendix A).
- The National Park Service will ensure that contractors and subcontractors are informed of the penalties for illegally collecting artifacts and biological or geological specimens, or intentionally damaging paleontological materials, archeological sites, historic properties, or natural resources ~~outside the limits of disturbance~~. Contractors and subcontractors will also be instructed on procedures to follow in case ~~previously unknown~~ paleontological or archeological resources are uncovered during construction.

Chapter 3: Affected Environment and Environmental Consequences

Piñon-Juniper Woodlands and Semi-Desert Grassland Habitat Impacts Assessment, Impacts of Alternative B: 3R Only Alternative (page 23, Cumulative Impacts, first paragraph)

Past and pending projects presented in Table 1 that would have an effect on piñon-juniper woodland and semi-desert grassland habitat are those that require removal of or disturbance on this vegetation—construction of Headquarters Comfort Station #247, conversion of the Mesa Top Comfort Station #167 into a water cistern and construction of vault toilets, the Spruce Tree House arch stabilization, the entrance road repair along Point Lookout, the Paths to Mesa Verde Bike Path project, construction of the wildland fire facility, and fire fuels reduction. *Table 3 presents the amount of piñon-juniper woodland and semi-desert grassland habitat that would be affected by each of these projects.*

Table 3. Area of Vegetation Cover Types Impacted by Cumulative Projects

<i>Project</i>	<i>Piñon-Juniper Woodlands</i>	<i>Semi-Desert Grassland</i>
<i>Headquarters Comfort Station #247</i>	<i>0.1 acre</i>	<i>0 acre</i>
<i>Mesa Top Comfort Station #167</i>	<i>0.15 acre</i>	<i>0 acre</i>
<i>Wildland Fire Facility</i>	<i>0 acre</i>	<i>1.0 – 1.5 acres</i>
<i>Spruce Tree House Arch Stabilization</i>	<i>0.25 acre</i>	<i>0 acre</i>
<i>Paths to Mesa Verde Bike Path</i>	<i>Route not known at this time, low quality habitat</i>	<i>Route not known at this time, low quality habitat</i>
<i>Entrance Road Repair along Point Lookout</i>	<i>2.6 acres</i>	<i>0.04 acre</i>
<i>Fire Fuel Reduction</i>	<i>270.0 acres</i>	<i>268.0 acres</i>

Chapin Mesa Milkvetch and Cliff Palace Milkvetch Impacts Assessment, Impacts of Alternative B: 3R Only Alternative (page 27, Table 3. Area of Chapin Mesa Milkvetch Habitat Impacted by the Mesa Top Loop Roads Project)

Table 3. Table 4. Area of Chapin Mesa Milkvetch Habitat Impacted by the Mesa Top Loop Roads Project

Chapin Mesa Milkvetch and Cliff Palace Milkvetch Impacts Assessment, Impacts of Alternative B: 3R Only Alternative (page 27, bottom of page, last paragraph)

Disturbed areas would be revegetated with Chapin Mesa milkvetch following construction; however, *the success of the restoration of the species in an uncontrolled could be affected by the local environment is unknown and the reduction of soil productivity and consequently plant vigor* due to construction-related soil compaction, *soil productivity and, hence, plant vigor would be reduced* in these disturbed areas. Similarly, though park staff would treat the revegetated areas and adjacent areas for non-native species, herbaceous weed species would still compete with Chapin Mesa milkvetch, resulting in reduced reproductive effort and seedling recruitment (Rondeau 2019), and lower plant vigor. For these reasons, revegetation may only provide slight beneficial impacts for Chapin Mesa milkvetch and the Chapin Mesa milkvetch might not recover within the 7.9-acre area of impact.

Chapin Mesa Milkvetch and Cliff Palace Milkvetch Impacts Assessment, Impacts of Alternative B: 3R Only Alternative (page 28, top of the page, second paragraph)

During revegetation efforts, the park would also restore 2.1 acres of previously disturbed Chapin Mesa milkvetch habitat. This restoration effort would increase the amount of habitat supporting Chapin Mesa milkvetch by 2.1 acres. While the *success of the restoration of the species in previously disturbed areas is unknown could be affected by non-native species competition*, it is anticipated that the number of Chapin Mesa milkvetch plants would increase in the restored areas to help contribute to the population and better connect existing patches of Chapin Mesa milkvetch. Non-native species would likely become established within the restored areas; however, with treatment for non-native species and recruitment from surrounding plants in key areas of Chapin Mesa milkvetch habitat, this restoration would result in permanent beneficial impacts for Chapin Mesa milkvetch.

Chapin Mesa Milkvetch and Cliff Palace Milkvetch Impacts Assessment, Impacts of Alternative B: 3R Only Alternative (page 28-29, Cumulative Impacts, first paragraph)

Past and pending projects presented in Table 1 that would have an effect on these special-status species are those that require removal of Chapin Mesa milkvetch or Cliff Palace milkvetch or disturbance of these species' habitat. *Table 5 presents the area of Chapin Mesa milkvetch and Cliff Place Milkvetch habitat that would be affected by each of these projects.*

Table 5. Area of Milkvetch Impacted by Cumulative Projects

Project	Chapin Mesa Milkvetch	Cliff Palace Milkvetch
<i>Headquarters Comfort Station #247</i>	<i>0.1 acre</i>	<i>N/A</i>
<i>Mesa Top Comfort Station #167</i>	<i>0.15 acre</i>	<i>N/A</i>
<i>Spruce Tree House Arch Stabilization</i>	<i>0.25 acre</i>	<i>N/A</i>
<i>Wildland Fire Facility</i>	<i>1.0 – 1.5 acres</i>	<i>N/A</i>
<i>Fire Fuel Reduction</i>	<i>Individual plants</i>	<i>Individual plants</i>

~~—t~~The new comfort station constructed at the Headquarters Loop in 2018 resulted in disturbance and mortality of individual Chapin Mesa milkvetch plants and a permanent habitat loss of approximately 0.1 acre. The conversion of the Mesa Top Comfort Station #167 could result in disturbance and mortality of individual Chapin Mesa milkvetch plants and the permanent loss of approximately 0.15 acres of habitat. The Spruce Tree House arch stabilization would require the use of large equipment and therefore the trail would need to be widened, resulting in the loss of up to 0.25 acres habitat and disturbance to Chapin Mesa milkvetch plants. The construction of the wildland fire facility could result in disturbance and mortality of individual Chapin Mesa milkvetch plants and the permanent loss of 1.0 to 1.5 acres of semi-desert grasslands habitat. The impacts from habitat and plant loss from these projects would be long-term, lasting as long as the comfort station and widened trail are in existence. Fire fuels reduction methods within special-status species habitat would have adverse impacts on individual plants from cutting and hauling fuel, burning slash piles, and from the potential spread of non-native plants. However, this management method would have the beneficial effect of reducing the potential for wildfire, which can adversely affect both Chapin Mesa milkvetch and Cliff Palace milkvetch. These beneficial impacts would be long-term, working to reduce the severity of wildfires and protecting natural habitats. The past and reasonably foreseeable future projects, in combination with the impacts of alternative B, would result in permanent adverse impacts on these special-status plant species from construction and fire fuels reduction activities; however, fire fuels reduction would also prevent potentially devastating wildfires. Overall, the incremental impacts of alternative B would not make a substantial contribution to the impacts on Chapin Mesa milkvetch or Cliff Palace milkvetch that are already occurring.

Archeological Resources (page 31, top of page, paragraph 2)

No archeological resources have been identified within the VRC intersection *project limits of disturbance*. ~~or~~ *Archeological resources are present within* the Headquarters Loop Road infield project areas *that contribute to the overall historic district and cultural landscape* (NPS 2019c).

Archeological Resources, Impacts of Alternative B: 3R Only Alternative (page 31)

Implementation of alternative B would result in an additional 0.27 acres of disturbance to the 12 previously disturbed archeological prehistoric sites within the Mesa Top Loop, Sun Temple Loop, and Cliff Palace Loop road corridors. Within the 0.27-acre area of disturbance, construction activities, could subject the 12 sites to additional subsurface and surficial damage, including physical destruction, displacement from their context, or exposure from erosion of features and artifacts comprising the sites. *Exposure of archeological features and artifacts can result in artifacts washing away or being damaged or destroyed.* However, under an approved Archeological Testing Plan (MVNP 2019), all of the 12 potentially affected archeological sites were tested and limited data recovery was done to minimize the loss of information potential contained within the sites. Three sites have been identified for additional testing and data recovery due to findings of the initial testing. Further, archeological monitoring during construction and data recovery for inadvertent discoveries would be conducted to ensure additional artifacts and information/data are not inadvertently lost.

Appendix A: ~~Draft Programmatic Agreement~~ Memorandum of Agreement

The programmatic agreement in this appendix will be replaced by the memorandum of agreement provided as an attachment to this errata statement.

RESPONSE TO PUBLIC COMMENTS

On May 20, 2020, the National Park Service released the Mesa Top Loop Roads Improvement Project Environmental Assessment for public review and comment. The EA was available for public review until

June 19, 2020. The park accepted comments through the NPS's online Planning, Environmental, and Public Comment (PEPC) system.

A total of six pieces of correspondence were received during the public review period from the public and three Tribes. All correspondences will be maintained in the project decision file. The six correspondences contained nine comments. A comment is a portion of text within a correspondence that addresses a single subject or issue.

Response to public comments addresses substantive comments that were received during the public review period. Substantive comments are those that: "1) question, with reasonable basis, the accuracy of the information in the NEPA document; 2) question, with reasonable basis, the adequacy of the environmental analysis; 3) present reasonable alternatives other than those presented in the NEPA document; or 4) cause changes or revisions in the proposal." Three comments were not substantive. These comments expressed support or opposition to the NPS preferred alternative or were outside of the project scope. Six comments were substantive and are addressed below.

1. **Comment Summary:** A traditional cultural property of the Navajo Nation is at the end of the loop of Mesa Top Loop Road and construction should not occur within 100 feet of this property.

Response: The road currently lies within 100 feet of this traditional cultural property. Therefore, though the road will not be expanded towards the resource, related construction activities will, by necessity, have to occur within 100 feet of the traditional cultural property.

2. **Comment Summary:** If a discovery is made during the project, all operations must cease, and the Navajo Nation Heritage and Historic Preservation Department must be notified.

Response: As per the mitigation measures in the environmental assessment and this FONSI, if during construction archeological resources are uncovered, a park cultural resource specialist will be contacted immediately. All work in the immediate vicinity of the discovery will be halted until the resources are identified and documented and an appropriate mitigation strategy developed in consultation with the State Historic Preservation Officer (SHPO) and associated American Indian tribes. The National Park Service will comply with pertinent laws, regulations, and the memorandum of agreement for notifications and consultation.

3. **Comment Summary:** The commenter expressed concern that the EA does not discuss the relationship between the descendant communities and the archaeological resources. The commenter states that if a concern about this arises during consultation with the THPO Advisory Board, they will notify the park.

Response: The environmental assessment analyzes and acknowledges the potential impacts to resources that may be affected by this project, including archaeological resources and cultural landscapes. As stated above, if archeological resources are discovered during construction, all work in the immediate vicinity of the discovery will be halted until the resources are identified and documented and an appropriate mitigation strategy developed in consultation with the SHPO and associated American Indian tribes. To maintain open dialog, the park consults with the tribes on a regular basis.

4. **Comment Summary:** The commenter expressed concern that the EA does not discuss the presence of other areas of traditional and cultural concerns. The commenter stated that if a concern about this arises during consultation with the THPO Advisory Board, they will notify the park.

5. **Response:** The tribal consultations that occurred in the development of the alternatives and environmental assessment did not identify any ethnographic resource concerns and ethnographic resources were not carried forward for detailed analysis. As noted above in the response to Comment 3, to maintain open dialog, the park consults with the tribes on a regular basis.
6. **Comment Summary:** One commenter suggested that instead of adding a bike lane, the park should consider shutting down the road to all traffic except shuttle buses and open the road to bikes and pedestrians.

Response: The purpose of this project is to rehabilitate the Cliff Palace Loop, Mesa Top Loop, and Sun Temple Loop roads to ensure that visitor overlooks, parking lots, and roads at the park continue to provide visitors safe, reliable access and a broad range of recreational opportunities. Transportation management alternatives such as the one suggested are outside the scope of this project. That said, the park did consider providing shuttle services in the 2017 Visitor Distribution and Transportation Vision Plan; however, it was determined that the current and projected level of park visitation does not provide the necessary ridership to sustain a shuttle system.

7. **Comment Summary:** The Natural Resources Conservation Service suggested the addition of two summary tables in the habitat cumulative impact sections for clarity and reader ease.

Response: These tables are included in the errata above (new tables 3 and 5).

Attachment A: Memorandum of Agreement

The following memorandum of agreement has been edited to remove sensitive resource information.

**MEMORANDUM OF AGREEMENT
BETWEEN
MESA VERDE NATIONAL PARK
AND
THE COLORADO STATE HISTORIC PRESERVATION OFFICER
REGARDING
THE RESURFACING, RESTORATION, AND REHABILITATION (3R)
OF THE LOOP ROADS
MESA VERDE NATIONAL PARK
MONTEZUMA COUNTY, COLORADO**

WHEREAS, Mesa Verde National Park (MVNP) is a unit of the National Park Service (NPS) within Region 7 – Upper Colorado Basin, Montezuma County, Colorado, and charged to meet the directives of the NPS Organic Act of 1916 (PL 64-235, 39 Stat. 535) to “conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations,” as it applies to the park units; and

WHEREAS, in collaboration with the Federal Highway Administration (FHWA), MVNP plans to resurface, restore, and rehabilitate (3R) the Mesa Top Loop, Cliff Palace Loop, and Sun Temple Loop roads located on Chapin Mesa; improve physical accessibility at adjacent overlooks, sidewalks and parking areas; replace the current Visitor and Research Center intersection with a roundabout; widen the two-way sections of Mesa Top Loop and Sun Temple Loop to accommodate a bike lane; replace or construct new landscape design elements including fences, barriers, signage, overlooks, sidewalks, curbing, drainage; replace the Balcony House shade shelter; and re-vegetate disturbed areas (the project) (see [https://parkplanning.nps.gov/Construction Drawings 3R](https://parkplanning.nps.gov/Construction_Drawings_3R) for the construction drawings); and

WHEREAS, the FHWA was invited to be a concurring party on April 2, 2020 to this agreement and they declined to participate on April 2, 2020; and,

WHEREAS, MVNP has determined that this project constitutes an undertaking subject to review under Section 106 of the National Historic Preservation Act (NHPA), as amended, 54 USC 306108 (formerly 16 USC § 470f), and *Protection of Historic Properties*, its implementing regulations, 36 CFR Part 800, herein referred to as Section 106; and

WHEREAS, MVNP has defined the Undertaking’s Area of Potential Effect (APE) as described in Attachment A to include all direct, indirect, and cumulative effects associated with the Undertaking and the Colorado State Historic Preservation Officer (SHPO) agreed with this definition in a letter dated January 28, 2020; and

WHEREAS, MVNP has identified twelve (12) archaeological sites within the APE that may be directly impacted by the project because their site boundaries are truncated by the current Loop Roads, or they have features directly adjacent to the roads, and there are additional archaeological sites that are within the APE but will not be directly impacted; and

WHEREAS, MVNP prepared an Archeological Testing Plan (Attachment B) which the SHPO accepted in a letter dated September 10, 2019.

WHEREAS, MVNP has determined that the Undertaking may have an adverse effect on properties listed in, or eligible for listing in, the National Register of Historic Places (NRHP) (see Attachment C) and the NPS has consulted with the SHPO pursuant to 36 CFR Part 800i; and

WHEREAS, in accordance with 36 CFR § 800.6(a)(1), MVNP notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination on November 26, 2018 with specified documentation, and on November 27, 2018 the ACHP declined to participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii); and

WHEREAS, in a letter dated November 19, 2018, MVNP initiated consultation regarding the Undertaking with the twenty-six (26) Native American tribes that are affiliated or associated with MVNP (see Attachment D). The Hopi Tribe of Arizona requested formal government-to-government consultation; and

WHEREAS, in a letter dated July 10, 2020, the twenty-six (26) Native American tribes that are affiliated or associated with MVNP were notified of the adverse effect and invited to participate in this Memorandum of Agreement (MOA) as concurring parties; and

WHEREAS, MVNP fulfilled public consultation requirements, including consultation with representatives of local government, the applicant for federal assistance, permits, licenses and other approvals, others having a demonstrated interest, and the public, through the National Environmental Policy Act (NEPA) in lieu of public involvement pursuant to 36 CFR 800 Sub Part B, as allowed by 36 CFR 800.8(c) by providing necessary notification to SHPO and ACHP on 11/09/2018; and

NOW, THEREFORE, MVNP and the SHPO agree that should MVNP proceed with the Undertaking, MVNP shall ensure that the following stipulations are implemented in order to take into account the effect of the undertaking on historic properties.

STIPULATIONS

MVNP shall ensure that the following measures are carried out:

I. PRESERVATION OF THE CHAPIN MESA LOOP ROADS HISTORIC DISTRICT AND THE ENTRANCE ROAD CULTURAL LANDSCAPE

- A. MVNP shall ensure that the historic character of the Chapin Mesa Loop Roads Historic District and the Entrance Road Cultural Landscape is preserved by designing all new landscape elements; including fences, barriers, signage, overlooks, sidewalks, curbing, drainage, accessibility improvements, structures, and re-vegetation; to be consistent with the Secretary of the Interior's Standards for Rehabilitation. If there are additions or changes to the current scope of work for landscape design features, MVNP will submit

the new plans to the SHPO for review and concurrence that they are consistent with the SOI Standards for Rehabilitation.

B. The CCC-era culvert located at Station 3049 + 66, is a contributing resource to the Chapin Mesa Loop Roads Historic District and the Entrance Road Cultural Landscape. The undertaking requires the road in this section to be widened. The stone headwalls of the culvert will be preserved following accepted preservation practices:

1. Prior to disassembly, the east and west headwalls will be documented to Level II standards as outlined by the Colorado SHPO in the History Colorado Publication # 1595, including a full descriptive and historical narrative, measured drawings, and 35 mm film black and white photography, all in archivally stable format. MVNP will also prepare an Architectural Inventory Form (Form 1403) for the culvert.
2. Individual stones will be labeled with pencil, chalk, a removable tag, or another method that will not damage the stone.
3. The headwalls will be disassembled and stored on site.
4. After road widening construction is completed, the MVNP Stabilization Crew will reconstruct the headwalls based on the documentation. The reconstructed headwalls will be moved up to four (4) feet outward from their original location so that they are reconstructed along the edge of the widened road.
 - a. Original stones will be replaced in their original configuration and orientation.
 - b. The MVNP Stabilization Crew will analyze the mortar to determine the approximate original ratio of ingredients (lime, Portland cement, and aggregate) and prepare a mortar sample prior to final assembly to ensure proper mortar color and consistency for the stone. The new mortar will be based on the mortar analysis and will be compatible with sandstone. Information from the mortar analysis will be submitted to the SHPO for their records.
 - c. The concrete mortar joints will be replaced in-kind with new concrete matching the original in workmanship, color, aggregate, and joint width.
 - d. The original corrugated metal culvert pipe will be documented and replaced in-kind with a pipe that is seven (7) feet longer.
 - e. An additional course may be added to the top of the headwalls if it is required to meet the elevation of the road, the new course will be compatible with the original size, workmanship, and appearance as the

original. The new course will be identified as a modern addition through a chiseled mark on the stones and/or possibly a date stamp in the new course that will be determined by the MVNP Stabilization Crew stone masons.

5. The culvert at Station 3049 + 66 is the only culvert with historic headwalls that requires widening. If any additional historic drainage features must be widened, MVNP will notify the SHPO and follow the same stipulations for documenting, disassembly, and reconstruction.

II. TREATMENT OF ARCHEOLOGICAL RESOURCES

- A. MVNP shall ensure that all archeological work performed by MVNP or on its behalf pursuant to this MOA shall be accomplished by or under the direct supervision of a qualified archeologist. A “qualified archeologist” is a person who meets the Anthropologist/Archeologist standards outlined in NPS-28, Appendix E.
- B. MVNP will mitigate potential data loss in the twelve (12) impacted archaeological sites by testing and excavation to recover information. The twelve (12) archeological resources will be treated according to the Archaeological Testing Plan (Attachment B) The treatments include:
 1. A qualified archeologist will recover surface artifacts within the anticipated area of direct impacts.
 2. Following the recovery of surface artifacts, a qualified archeologist will conduct 2-inch bucket auger testing to identify subsurface features and deposits. Where cultural deposits are encountered based on the results of the auger testing, a qualified archeologist will conduct controlled excavations in 1-square meter units. These test units will provide critical information about the features that would be impacted by construction.
 3. A qualified archeologist will collect all artifacts and samples encountered during testing and future data recovery operations. Collections will be processed and temporarily stored at Park Division of Research and Resource Management facilities and held until decisions are made regarding the need for formal data recovery. Collections will eventually be permanently housed at the MVNP curation facility.
- C. Upon completion of the testing, MVNP will develop a research design and data recovery plan to mitigate for adverse effects. The data recovery plan shall include the following elements:

1. Information on the archeological property or properties where data recovery is to be carried out, and the context in which such properties are eligible for the NRHP.
 2. Information on any property or portions of properties that will be destroyed without data recovery.
 3. Discussion of the research questions to be addressed through the data recovery with an explanation/justification of their relevance and importance.
 4. Description of the recovery methods to be used, with an explanation of their pertinence to the research questions.
 5. Information on arrangements for any regular progress reports or meetings to keep the SHPO and other consulting parties up to date on the course of the work. The plan will contain the expected timetable for excavation, analysis and preparation of the final report.
- D. MVNP will submit the research design and data recovery plan to the SHPO and Affiliated and Associated Pueblos and Tribes for review and comments. Submission and responses may be done electronically. MVNP will follow-up to confirm receipt of the submission and determine if the recipient is interested in continued consultation on the research design and data recovery plan. If MVNP has not received a response from the SHPO/Tribal Historic Preservation Officer (THPO) within ninety (90) calendar days of receiving the submittal, then MVNP can assume SHPO/THPO agreement with the adequacy of the research design and data recovery plan. Disagreements will be resolved under Stipulation V (Dispute Resolution) of this agreement.
- E. Recovered artifacts will be permanently housed at the Mesa Verde National Park Visitor and Research Center according to NPS curation standards.
- F. MVNP will submit a copy of a report detailing the results of the data recovery to the SHPO/THPO within one (1) year of completing the data recovery fieldwork.
- G. MVNP will use the data recovered from the archaeological sites to provide for new educational and interpretive opportunities for the public through a local public presentation and sharing information on the park's website and/or social media outlets by January 1, 2022. The park shall present a poster and/or paper on the findings at a professional cultural resource conference by January 1, 2022.
- H. MVNP shall ensure that contractors and subcontractors are informed of the penalties for illegally collecting artifacts or intentionally damaging paleontological materials, archeological sites, or historic properties. Contractors and subcontractors would also be instructed on procedures to follow in case previously unknown paleontological or archeological resources are uncovered during construction.

- I. Any archeological sites within or intersected by the APE, but not within or intersected by the area of direct impacts, will be flagged and avoided during construction and restoration.
- J. MVNP shall ensure that a qualified archeological monitor will be present during ground disturbing activities that have the potential to affect cultural resources. A qualified archeologist will prepare a monitoring report that MVNP shall submit to the SHPO for the record. Affiliated and Associated Pueblos and Tribes may provide a tribal monitor if desired.

III. POST REVIEW DISCOVERIES

- A. If previously unidentified or unanticipated effects to historic properties are discovered during the Undertaking, that do not involve human remains, the contractor shall immediately halt all activity within a one hundred (100)-foot radius of the discovery. Construction will cease at the site of discovery until MVNP has fulfilled the requirements of 36 CFR 800.13, including consultation with ACHP, SHPO, Affiliated and Associated Pueblos and Tribes.

If human remains are inadvertently discovered, MVNP shall comply with all state and federal regulations including consultation with the SHPO according to 36 CFR 800.13. MVNP will comply with the stipulations of the *General Agreement between Aztec Ruins National Monument, Chaco Culture National Historical Park, Mesa Verde National Park, and Tribes* (Attachment E) when consulting with Affiliated and Associated Pueblos and Tribes.

IV. MONITORING AND REPORTING

Each year, by August 14, following the execution of this MOA until it expires or is terminated, MVNP shall provide all parties to this MOA a summary report detailing work undertaken pursuant to its terms. Such report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in MVNP's efforts to carry out the terms of this MOA.

V. DISPUTE RESOLUTION

Should any signatory to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, MVNP shall consult with such party to resolve the objection. If MVNP determines that such objection cannot be resolved, MVNP will:

- A. Forward all documentation relevant to the dispute, including MVNP's proposed resolution, to the ACHP. The ACHP shall provide MVNP with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, MVNP shall prepare a written response

that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. MVNP will then proceed according to its final decision.

- B. If the ACHP does not provide its advice regarding the dispute within the thirty (30)-day time period, MVNP may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, MVNP shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories to the MOA and provide them and the ACHP with a copy of such written response.
- C. MVNP's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

VI. AMENDMENT

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP.

VII. TERMINATION

If any signatory determines that the terms of this MOA will not or cannot be carried out, that party shall immediately consult with the other signatories and concurring parties to seek an amendment in accordance with Stipulation VI of this PA. If within thirty (30) days an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories and concurring parties.

Once the MOA is terminated, and prior to work continuing on the Undertaking, the NPS must either (a) execute another MOA pursuant to 36 CFR Part 800.6, or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR Part 800.7. The NPS shall notify the signatories as to the course of action it will pursue.

VIII. DURATION OF AGREEMENT

This MOA will expire if its terms are not carried out within five (5) years from the date of its execution. Prior to such time, the signatories may consult and agree in writing to an extension for carrying out the terms of the MOA in accordance with Stipulation VI above.

Execution of this MOA by the NPS and the SHPO and implementation of its terms are evidence that the NPS has considered the effects of the project on historic properties, and that the NPS has satisfied its Section 106 responsibilities for the Undertakings covered by this MOA. Upon the completion of all stipulations to this PA, the NPS shall circulate to the SHPO a signed memorandum documenting that the NPS has fulfilled all its responsibilities under this MOA.

**Memorandum of Agreement Between Mesa Verde National Park
and the Colorado State Historic Preservation Officer
Regarding the Resurfacing, Restoration, and Rehabilitation (3R) of the Loop Roads
Mesa Verde National Park
Montezuma County, Colorado**

SIGNATORY:

Mesa Verde National Park

**CLIFFORD
SPENCER**

Digitally signed by CLIFFORD
SPENCER

Date: 2020.07.21 08:25:07
-06'00'

Date _____

Cliff Spencer, Superintendent

**Memorandum of Agreement Between Mesa Verde National Park
and the Colorado State Historic Preservation Officer
Regarding the Resurfacing, Restoration, and Rehabilitation (3R) of the Loop Roads
Mesa Verde National Park
Montezuma County, Colorado**

SIGNATORY:

Colorado State Historic Preservation Officer

Dr. Holly K Norton

Digitally signed by Dr. Holly K
Norton

Date: 2020.07.22 11:09:55 -06'00'

Steve Turner, Colorado State Historic Preservation Officer

**Memorandum of Agreement Between Mesa Verde National Park
and the Colorado State Historic Preservation Officer
Regarding the Resurfacing, Restoration, and Rehabilitation (3R) of the Loop Roads
Mesa Verde National Park
Montezuma County, Colorado**

CONCURRING PARTY:

Pueblo or Tribe: _____

_____ Date _____

Attachment A: Area of Potential Effect Description and Maps

There are three discrete APE locations: the 4-way intersection near the park entrance, the Infield area, and the Mesa Top loop roads area. The APE comprises all areas of direct, indirect, and cumulative impacts. The SHPO concurred that the APE was adequate for the project in a letter dated January 28, 2020.

Potential Effects

The road prism and staging areas would have direct ground disturbance. There are previously known archaeological resources within the area of ground disturbance. Portions of twelve of these sites would be impacted by disturbing the soil stratigraphy, and potentially disturbing buried features, displacing artifacts, and potential loss of data.

There will be visual impacts from widening sections of Mesa Top Loop and Sun Temple Loop for the bicycle lane, changing asphalt sidewalks to colored concrete sidewalks, and installing curbs with ABA accessible ramps. Visual impacts will also result from removing selected juniper trees, pinyon trees, and vegetation immediately adjacent to the road.

Atmospheric effects include a temporary increase in noise and dust during construction. Construction is expected to last approximately 120 days. Visitor traffic will be disrupted during construction as the road might be narrowed to one lane of traffic. Temporary traffic congestion, longer travel time for visitors, and an increase in automobile exhaust from slower traffic are anticipated.

Cumulative impacts include the accumulation of impacts that result from past, present, and future actions that would affect resources within the APE. Cumulative impacts for the project include continued alterations to the 4-way entrance intersection and to the landscape features in the Chapin Mesa Loop roads area.

Description of APE

In the 4-way entrance intersection project area, the APE includes all areas of direct ground disturbance plus an additional 20 feet beyond the area of direct disturbance to account for visual and atmospheric impacts. Visual and atmospheric impacts are not expected to exceed 20 feet from the road prism because of the surrounding vegetation and there are no vertical elements to the roundabout that would result in high visibility from a distance. The APE in the 4-way entrance intersection covers approximately 2.8 acres.

In the Infield Area, the APE includes the areas of direct ground disturbance where the parking lot will be improved, plus a 10-foot corridor along the alignment for the new 5-foot wide path from the Infield parking lot to the existing sidewalk. The corridor accounts for construction activities. The APE in the Infield Area is approximately 0.87 acres. There is little potential for visual impacts that extend beyond the construction area because of the dense juniper-pinyon woodland.

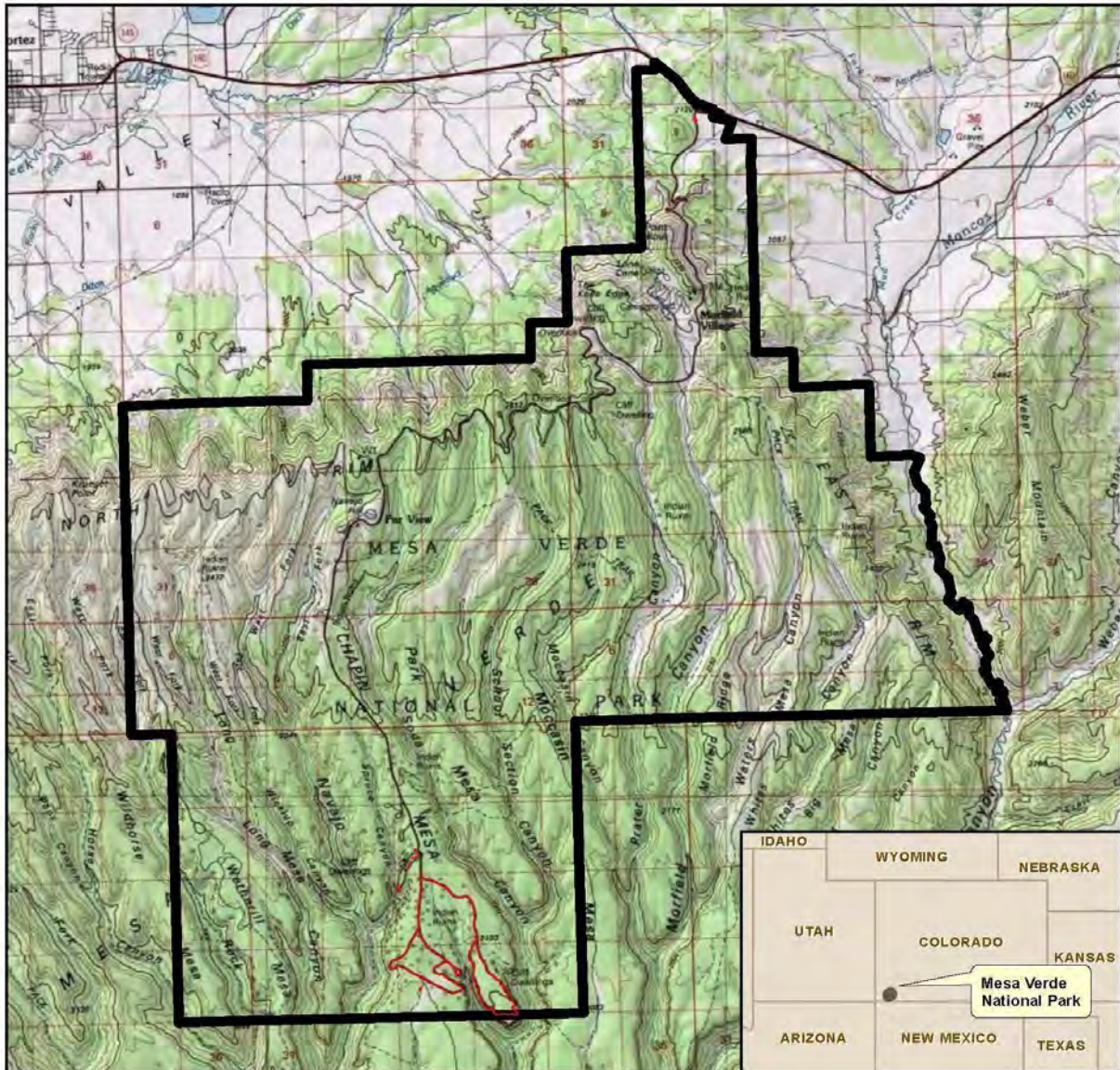
In the Chapin Mesa Loop Roads project area, the APE includes the road prism, plus an additional 20 feet on either side to account for visual and atmospheric impacts. Visual and atmospheric

impacts are not expected to exceed 20 feet from the road prism because of the surrounding vegetation. Overlooks that will be improved are also included in the APE. The three staging areas are also included in the APE. The APE in the Chapin Mesa loop roads area covers approximately 103.31 acres.

The entire APE for the Mesa Top Loops Roads Improvement Project is approximately 106.98 acres.

Resurface Cliff Palace Loop, Mesa Top Loop,
and Sun Temple Loop Roads,
and Construct a Bike Path on Mesa Top Loop Road
PEPC #70883

National Park Service
U. S. Department of the Interior



0 0.450.9 1.8 2.7 3.6
Miles

10.50 1 2 3 4
Kilometers

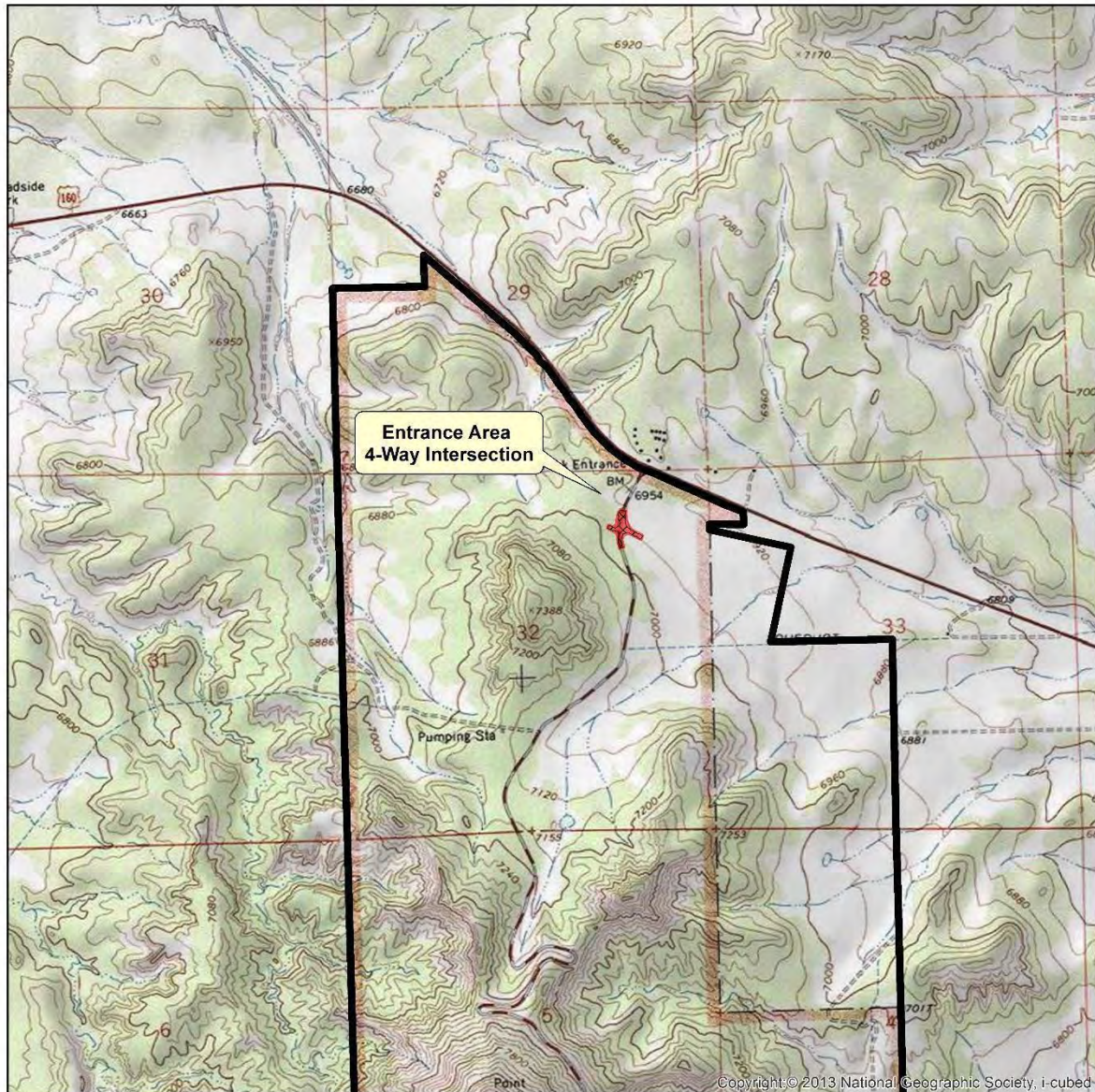
Area of Potential Effect
 Mesa Verde National Park Boundary

Universal Transverse Mercator, North American Datum 1983

Produced by Mesa Verde National Park - Map for Informational Purposes Only



October 2018



0.0 0.1 0.2 0.3 0.4 0.5 0.6

Miles

0.25 0.5 0.75 1




Kilometers

Universal Transverse Mercator, North American Datum 1983

Produced by Mesa Verde National Park

USGS 7.5' Point Lookout Quadrangle, T 36N, R 14W, Section 32

1:24,000

-  Mesa Verde National Park Boundary
-  Area of Direct Impacts
-  Area of Potential Effect



June 2020



0 62.5 125 250 375 500
Feet

30 15 0 30 60 90 120
Meters

Universal Transverse Mercator, North American Datum 1983
Produced by Mesa Verde National Park

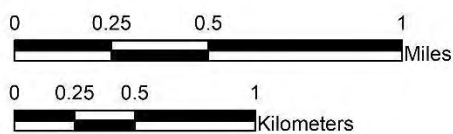
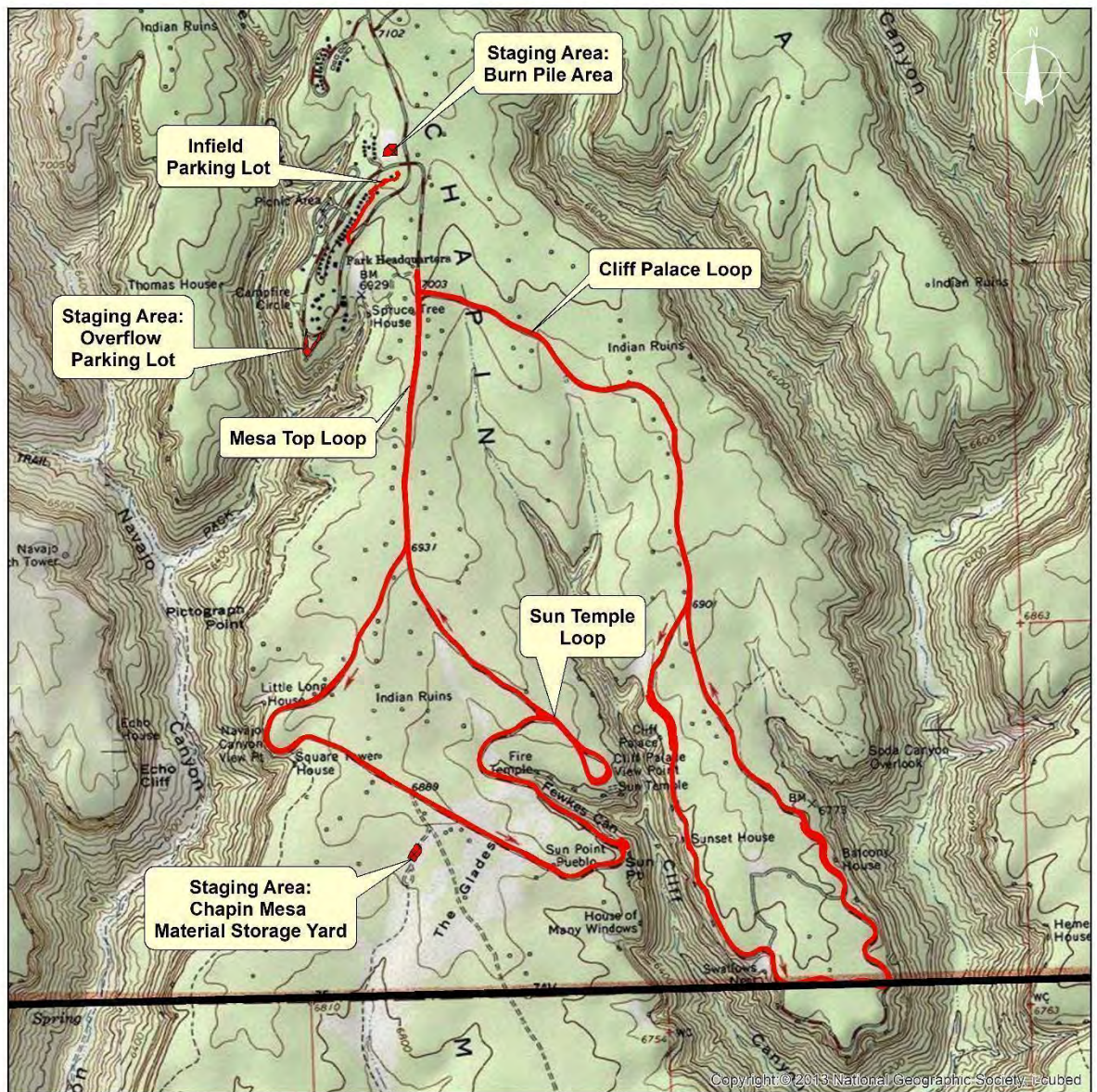
Mesa Verde National Park Boundary
 Area of Direct Impacts
 Area of Potential Effect

1:3,000





**Mesa Top Loop Roads Project
Mesa Verde National Park
Montezuma County, Colorado**

**National Park Service
Department of the Interior**



USGS 7.5' Moccasin Mesa, T 34N, R 15W

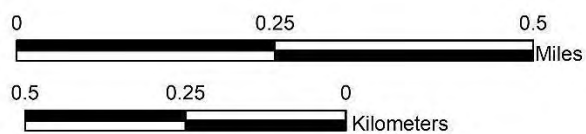
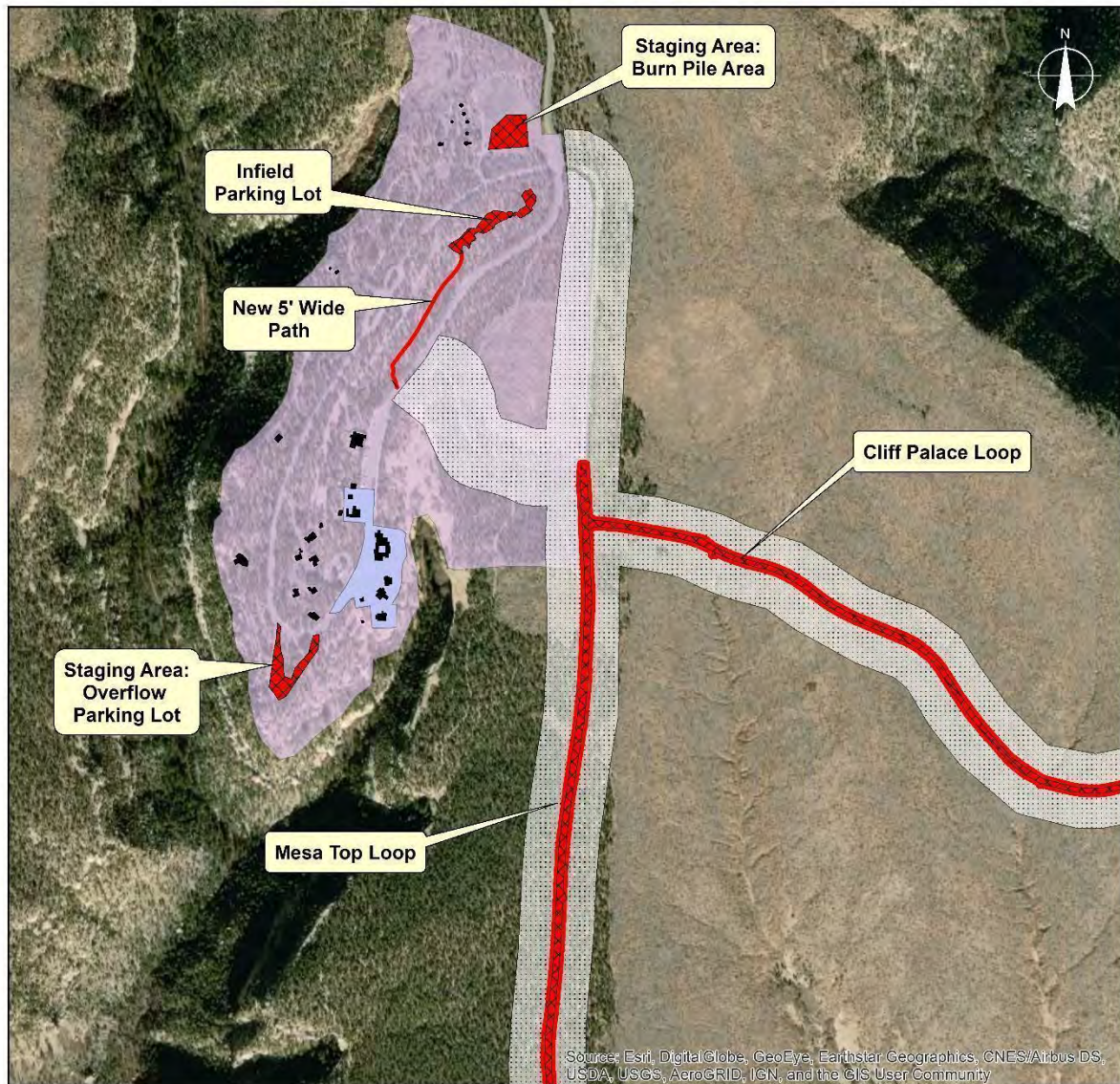
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-  Mesa Verde National Park Boundary
-  Area of Potential Effect

Universal Transverse Mercator, North American Datum 1983
Produced by Mesa Verde National Park, June 2020

Mesa Top Loop Roads Project
Mesa Verde National Park
Montezuma County, Colorado

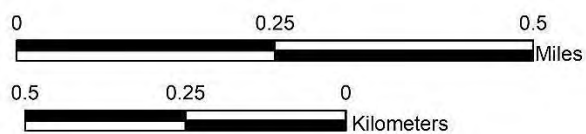
National Park Service
Department of the Interior



Universal Transverse Mercator, North American Datum 1983
Produced by Mesa Verde National Park, June 2020

- Building Footprints
- Administrative District NHL
- Area of Direct Impacts
- Area of Potential Effect
- Chapin Mesa Loop Roads Historic District
- Headquarters Loop Cultural Landscape

1:9,000



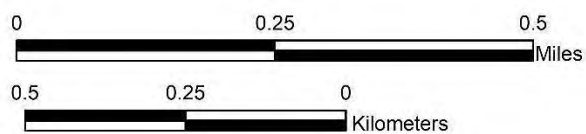
1:9,000

Universal Transverse Mercator, North American Datum 1983
Produced by Mesa Verde National Park, June 2020

- Overlooks (OL) & Sheltered Sites (SS)
- Area of Direct Impacts
- Area of Potential Effect
- Chapin Mesa Loop Roads Historic District



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



1:9,000

Universal Transverse Mercator, North American Datum 1983
Produced by Mesa Verde National Park, June 2020

- Overlooks (OL) & Sheltered Sites (SS)
- Mesa Verde National Park Boundary
- Area of Direct Impacts
- Area of Potential Effect
- Chapin Mesa Loop Roads Historic District

Attachment B: Archeological Testing Plan: Cliff Palace Loop, Mesa Top Loop, and Sun Temple Loop Roads and Construct Bike Lane on Mesa Top Loop Road, Mesa Verde National Park, Montezuma County, Colorado, PEPC 70883, HS 75208, August 2019 by T. Hovezak

The Archeological Testing Plan contains confidential archeological site location information. The plan content containing this information has been redacted.

Archeological Testing Plan:
Resurface Cliff Palace Loop, Mesa Top Loop, and Sun Temple Loop Roads
and Construct Bike Lane on Mesa Top Loop Road,
Mesa Verde National Park, Montezuma County, Colorado
PEPC 70883, HS 75208



“Ruins Loop Road” 1931 (MVNP Archives)

Prepared by:

Tim Hovezak
Co-Program Manager, Preservation Archaeology
Division of Research and Resource Management
Mesa Verde National Park
August, 2019

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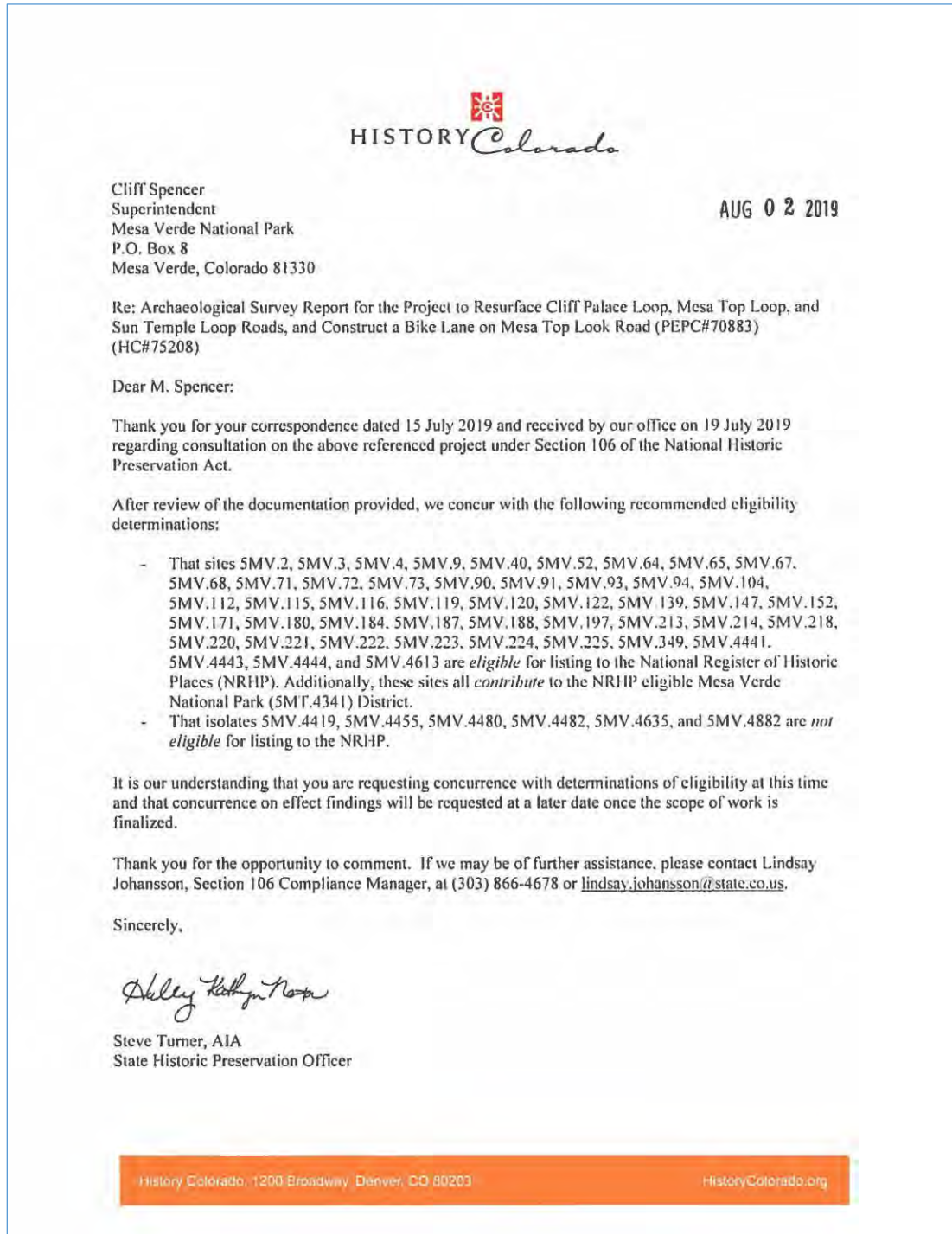
Appendix A

FHWA 50% Plans and Cross Sections, Mesa Top Loop and Sun Temple Loop 3R with Bike Lane; Cliff Palace Loop 3R

Appendix A contains confidential archeological site location information. The appendix content containing this information has been redacted.

Appendix B

History Colorado Letter, August 2, 2019



Attachment C: Historic Properties within the APE that may be Adversely Affected by the Project

Table 1: Archaeological Sites within or intersected by the APE that may be Adversely Affected by the Project

Resource Number	Description	NRHP Eligibility
5MT4341	Mesa Verde National Park Archaeological District	Listed
5MV122	Pueblo II habitation with evidence of several surface rooms visible as single vertical sandstone slabs and a roomblock of horizontally coursed masonry	SHPO consensus determination: Eligible D, contributor to 5MT4341.
5MV184	Pueblo I habitation consisting of a small, shallow house mound and refuse scatter	SHPO consensus determination: Eligible D, contributor to 5MT4341.
5MV187	Pueblo I - a dispersed scatter of ceramic and lithic artifacts and two small features visible as vertical native sandstone slabs characteristic of early pit features	SHPO consensus determination: Eligible D, contributor to 5MT4341
5MV213	Single unit habitation dating to either the Pueblo I or Pueblo II periods	SHPO consensus determination: Eligible D, contributor to 5MT4341
5MV218	Hamlet or multiple household habitation dating to the Pueblo I	SHPO consensus determination: Eligible D, contributor to 5MT4341
5MV221	Large early Pueblo habitation consisting of at least one house mound and an extensive scatter of artifacts	SHPO consensus determination: Eligible D, contributor to 5MT4341
5MV222	Pueblo I – Pueblo II habitation with surface evidence of a low rubble mound and artifact scatter	SHPO consensus determination: Eligible D, contributor to 5MT4341
5MV239	Pueblo II habitation with surface indications consisting of a low, L or J shaped rubble mound	SHPO consensus determination: Eligible D, contributor to 5MT4341
5MV256	Multiple unit habitation dating to the Pueblo II period	SHPO consensus determination: Eligible D, contributor to 5MT4341
5MV308	A large multi-unit habitation dating to the Pueblo I and Pueblo II periods	SHPO consensus determination: Eligible D, contributor to 5MT4341

5MV310	Multi-unit habitation dating to the Pueblo I period	SHPO consensus determination: Eligible D, contributor to 5MT4341
5MV90	Basketmaker III habitation consisting of a small surface structure, midden, and pit structure depression	SHPO consensus determination: Eligible D, contributor to 5MT4341

Table 2: Architectural Resources within or intersected by the APE that may be Adversely Affected by Project

Resource Number	Description	NRHP Eligibility
5MT23457	Chapin Mesa Loop Roads Historic District	SHPO consensus determination: Eligible A, C

The map showing locations of impacted archaeology sites has been redacted.

Map showing locations of impacted archaeology sites.

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Attachment D: Tribal Consultation

In a letter dated November 13, 2018, MVNP contacted the 26 Pueblos and Tribes that are associated or affiliated with MVNP, inviting them to participate in government-to-government consultation for the project. MVNP mailed letters to the following tribal governors and presidents, and the Tribal Historic Preservation Office (THPO) or cultural department:

Hopi Tribe of Arizona
Jicarilla Apache Nation
Kewa Pueblo
Mescalero Apache Tribe
Navajo Nation
Okay Owingeh
Pueblo of Acoma
Pueblo of Cochiti
Pueblo of Isleta
Pueblo of Jemez
Pueblo of Laguna
Pueblo of Nambe
Pueblo of Picuris
Pueblo of Pojoaque
Pueblo of San Felipe
Pueblo of San Ildefonso
Pueblo of Sandia
Pueblo of Santa Ana
Pueblo of Santa Clara
Pueblo of Taos
Pueblo of Tesuque
Pueblo of Zia
Pueblo of Zuni
Southern Ute Indian Tribe
Ute Mountain Ute Tribe
Ysleta Del Sur Pueblo

Periodic newsletters regarding the project were also mailed to the Pueblos and Tribes. The Hopi Pueblo THPO, Navajo Nation THPO, Southern Ute Tribe Cultural & Preservation Department, and the Ysleta Del Sur Pueblo THPO responded.

In a letter dated July 10, 2020, MVNP invited the 26 Pueblos and Tribes that are associated or affiliated with MVNP to be a concurring party to this MOA. At the time of this MOA's execution, no Tribes or Pueblos had signed as a concurring party. Any signature pages from concurring party that are received will be forwarded to the Advisory Council on Historic Preservation.

Hopi Pueblo

The Hopi THPO identified all of MVNP as a Traditional Cultural Property and requested additional information on the archaeological surveys and the archaeological testing plan, which was provided. The Hopi THPO determined that the project would result in an adverse effect to cultural resources that are significant to the Hopi. MVNP will continue consultation with the Hopi THPO through the completion of the project construction.

Navajo Nation

The Navajo Nation identified all of Mesa Verde as a Traditional Cultural Property. They recommended restricting work to the road right-of-way and using construction materials that came from outside the park, as opposed to extracting road base material from within the park. They requested that no construction activity take place within 100 feet of Sun Temple.

Southern Ute Tribe

The Southern Ute Tribe Cultural & Preservation Department determined that the project would result in No Adverse Effect. They did not request additional information or consultation.

Ysleta Del Sur

The Ysleta Del Sur THPO declined additional consultation on the project and provided no comments.

***Attachment E: General Agreement between Aztec Ruins National Monument,
Chaco Culture National Historical Park, Mesa Verde National Park, and
Tribes***

General Agreement Between Aztec Ruins National Monument, Chaco Culture National Historical Park, Mesa Verde National Park and Tribes

Article I—Background and Objectives

This agreement is entered into by and between the following National Park Service (NPS) units: Aztec Ruins National Monument, Chaco Culture National Historical Park, and Mesa Verde National Park (hereinafter “the park”), United States Department of the Interior, and the following federally recognized Indian Tribes (hereinafter collectively “the tribes”), each acting through its President, Governor, Chairperson, or other executive officer, as authorized by its governing council: Hopi Tribe, Jicarilla Apache Tribe, Kewa Pueblo, Navajo Nation, Ohkay Owingeh, Pueblo of Acoma, Pueblo of Cochiti, Pueblo of Isleta, Pueblo of Jemez, Pueblo of Laguna, Pueblo of Nambe, Pueblo of Picuris, Pueblo of Pojoaque, Pueblo of San Felipe, Pueblo of San Ildefonso, Pueblo of Sandia, Pueblo of Santa Ana, Pueblo of Santa Clara, Pueblo of Tesuque, Pueblo of Taos, Pueblo of Zia, Pueblo of Zuni, Ute Mountain Ute Tribe, Southern Ute Tribe, and Ysleta del Sur Pueblo.

Throughout this agreement the parks and the tribes may be referred to jointly as “the parties.” Since inadvertent discoveries occur within the boundaries of distinct park units the language in this document will refer to the park with the inadvertent discovery as “the park”. However, the procedures for addressing inadvertent discoveries will apply to all the NPS units.

The purpose of this agreement is to establish the terms and conditions under which the parties will cooperate to implement certain provisions of the Native American Graves Protection and Repatriation Act [hereinafter “NAGPRA”], Pub. L. No. 101-601; 104 Stat. 3048, codified primarily at 25 U.S.C. §§ 3001-3013 (2006); and its implementing regulations, codified at 43 C.F.R. part 10 (2006), relating to inadvertent discoveries or intentional excavations within the park of human remains or funerary objects (hereinafter collectively “items”), as those terms are defined by NAGPRA and its implementing regulations. This agreement, once approved by the parties, supersedes previous inadvertent discovery agreements between the individual parks and The Tribes.

Any conflict between this agreement and NAGPRA shall be resolved in favor of the act and its implementing regulations.

Under NAGPRA, whenever possible, federal agencies should enter into comprehensive agreements with Indian Tribes that are affiliated with human remains and funerary objects and have claimed, or are likely to claim, those human remains and funerary objects that are excavated intentionally or discovered inadvertently on Federal lands [43 CFR §10.5 (f)]. These agreements should:

- Address all Federal agency land management activities that could result in the intentional excavation or inadvertent discovery of human remains and funerary objects.
- Establish a process for effectively carrying out the regulation requirements regarding standard consultation procedures, custody consistent with procedures in NAGPRA, and the treatment and disposition of human remains and funerary objects.[43CFR§10.5(f)]

This Agreement is intended to serve as the “comprehensive agreement” defined in NAGPRA as stated above and in 43CFR§10.5(f). The parks have consulted with representatives of the following tribes to develop this agreement: Hopi Tribe, Jicarilla Apache Tribe, Kewa Pueblo, Navajo Nation, Ohkay Owingeh, Pueblo of Acoma, Pueblo of Cochiti, Pueblo of Isleta, Pueblo of Jemez, Pueblo of Laguna, Pueblo of Nambe, Pueblo of Picuris, Pueblo of Pojoaque, Pueblo of San Felipe, Pueblo of San Ildefonso, Pueblo of Sandia, Pueblo of Santa Ana, Pueblo of Santa Clara, Pueblo of Tesuque, Pueblo of Taos, Pueblo of Zia, Pueblo of Zuni, Ute Mountain Ute Tribe, Southern Ute Tribe, and Ysleta del Sur Pueblo.

A. The following definitions shall apply:

1. Human remains: the physical remains of a human body of a person of Native American ancestry. The term does not include remains or portions of remains that may reasonably be determined to have been freely given or naturally shed by the individual from whose body they were obtained, such as hair made into ropes or nets. [43CFR§10.2(d)(1)].
2. Funerary Objects: any items, that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains at the time of death or later. [43CFR§10.2(d)(2).]
3. Burial site: any natural or prepared physical location, whether originally below, on, or above the surface of the earth, into which as part of the death rite or ceremony of a culture, individual human remains were deposited, and includes rock cairns or pyres which do not fall within the ordinary definition of grave site. [43CFR§10.2(d)(2)].
4. Inadvertent Discovery: the unanticipated encounter or detection of human remains, funerary objects, sacred objects, or objects of cultural patrimony found under or on the surface of Federal or tribal lands. Only human remains and funerary objects are considered in this agreement. [43CFR§10.2(g)(4)].
5. Intentional Excavation: the planned archeological removal of human remains, funerary objects, sacred objects, or objects of cultural patrimony found under or on the surface of Federal lands pursuant to section 3(c) of the Act. [43CFR§10.2(g)(3)].

B. A variety of activities within the parks may lead to inadvertent discoveries. They include, but are not limited to, the following:

1. Erosion, freeze-thaw cycles, and animal activity, mostly occurring in areas infrequently visited by staff and the public, and
2. Foot traffic, illegal digging, and vandalism by visitors, and
3. Survey and inventory of sites, and
4. Permitted research excavations, and

5. Subsurface replacement, repair, and or removal of existing underground utility lines and structures, tanks, building foundations, poles, fencing, and other structures for safety, preservation, and/or restoration, and
6. Planned construction of the following: roads, parking areas, irrigation ditches, fences, office and public buildings, campground facilities, storage buildings, and interpretive trails, and
7. Preservation work on sites, including backfilling, stabilization, and drainage work, and
8. Installation of new underground utilities in previously disturbed or undisturbed areas to accommodate new buildings or to upgrade the lines. The park always tries to place these lines in previously disturbed areas, but sometimes this is not possible.

Article II—Statement of Work

- A. Where inadvertent discoveries are made under the circumstances described in I.B.1, I.B.2, and I.B.3 above, the parks will:
 1. Leave the items in place in their original location, and stabilize by covering with soil [43CFR§10.4(d)(ii)].
 2. In cases where they have been moved through animal disturbance or displacement by visitors, return the items to their original location if known and cover with soil [43CFR§10.4(d)(ii)].
 3. Make a reasonable effort to divert the cause of erosion if the objects are exposed due to erosional processes. [43CFR§10.4(d)(ii)]. If diversion of erosion is not possible, the remains may be repositioned within the site to reduce future effects from erosion.
 4. Document the circumstances of the inadvertent discovery of the items and their condition through written description and basic recordation of features. In consultation with the Hopi Tribe, Pueblo of Acoma, Pueblo of Zia and Pueblo of Zuni and on a case by case basis, use photography for documentation when necessary and appropriate. To the extent authorized by 16USC§470hh, withhold any photographs from public distribution and maintain them securely within the parks.
 5. Within three working days of the discovery, notify by telephone, with written confirmation, the Hopi Tribe, Pueblo of Acoma, Pueblo of Zia and pueblo of Zuni. Describe the items and the situation in which they are found. [43CFR§10.4(d)(iii)].
- A. Where inadvertent discoveries are made as a result of park activities, and the cultural items will not be moved to accommodate those activities, the parks will:
 1. Immediately cease work in the area of the items. [43CFR§10.4(c)].

2. Leave the items where discovered and stabilize by covering them with soil. If the items have moved because of the work that revealed them, move the items to their original location and stabilize by covering them with soil. [43CFR§10.4(d)(ii)].
 3. Document the circumstances of the inadvertent discovery of the items and their condition through written description and basic recordation of features. In consultation with the Hopi Tribe, Pueblo of Acoma, Pueblo of Zia and Pueblo of Zuni, and on a case by case basis, use photography for documentation when necessary and appropriate. To the extent authorized by 16USC§470hh, withhold any photographs from public distribution and maintain them securely within the park.
 4. Within three working days of the discovery, notify by telephone, with written confirmation, the Hopi Tribe, Pueblo of Acoma, Pueblo of Zia and Pueblo of Zuni. Describe the items and the situation in which they are found. [43CFR§10.4(d)(iii)].
- B. Where inadvertent discoveries are made under circumstances where the items need to be intentionally excavated and moved (such as when they are in the path of a planned road, building foundation, utility line, etc.) the park will:
1. Immediately cease work in the area of the items. [43CFR§10.4(c)].
 2. Stabilize the items by covering them with soil or other protective material. [43CFR§10.4(d)(ii)].
 3. Within three working days of the discovery, notify by telephone with written confirmation, the Hopi Tribe, Pueblo of Acoma, Pueblo of Zia and Pueblo of Zuni. Describe the items and the situation in which they are found. Describe the planned excavation, its general location, the basis upon which it is determined that the items must be excavated, and the proposed treatment of the items. Also propose a time and place for meetings to further consider the activity if necessary [43CFR§10.4(d)(iii)] and [43CFR§10.3(b)].
 4. Publish general notices of the proposed disposition in the appropriate newspaper. Aztec Ruins National Monument and Chaco Culture National Historical Park will publish its notice in the Farmington Daily Times. Mesa Verde National Park will publish its notice in the Farmington Daily Times and Cortez Journal. Wording in the notices will be general, such as: “In accordance with 43CFR §10.6(c) of the regulations implementing the Native American Repatriation and Graves Protection Act, notice is hereby given that (the respective park) intends to transfer custody of human remains or funerary items found on (date) at (the respective park) to the culturally affiliated tribes, the Hopi Tribe, Pueblo of Acoma, Pueblo of Zia and Pueblo of Zuni. Other tribes who wish to claim custody of these remains should contact (the respective park)” and include the mailing address for the park. The three park addresses are: Superintendent, Aztec Ruins National Monument, 84 County Road 2900, 87410-9715; Superintendent, Chaco Culture National Historical Park, P.O. Box 220, Nageezi, NM 87037; and, Superintendent, Mesa Verde National Park, P.O. Box 8, Mesa Verde, CO 81330-0008 [43CFR§10.6(c)].

5. Prepare the transfer of custody papers to the Hopi Tribe, Pueblo of Acoma, Pueblo of Zia and Pueblo of Zuni and obtain signatures. The Hopi Tribe, Pueblo of Acoma, Pueblo of Zia and Pueblo of Zuni are determined to be the custodial tribes under 43CFR§10.6. Custody cannot be transferred to the Hopi Tribe, Pueblo of Acoma, Pueblo of Zia and Pueblo of Zuni until 30 days after the second time the notice is published. The two notices must be published at least a week apart. [43CFR§10.6(c)].
6. Within 10 working days of the discovery, and unless otherwise agreed between the Hopi Tribe, Pueblo of Acoma, Pueblo of Zia and Pueblo of Zuni and the park, the park will implement the following Plan of Action:
 - a. Excavate and move the items in accordance with current professional standards for archeological data recovery: Archeological Resources and Protection Act, [16 U.S.C. 470aa-II]; c.f. National Register, September 9, 1983; Archeology and Historic Preservation, Secretary of the Interior Standards and Guidelines, Vol. 48:190, pp 44716-44742).
 - b. Perform non-destructive "in-field" examination and recordation through observation, measurement, and field sketches of the items to determine: condition, context/association, orientation, age and gender, elements present, disease, cause of death, type/materials identification, counts, artifact and site function, and temporal estimates. In consultation with the Hopi Tribe, Pueblo of Acoma, Pueblo of Zia and Pueblo of Zuni and on a case by case basis, use photography for documentation when necessary and appropriate. To the extent authorized by 16USC§470hh, withhold any photographs from public distribution and maintain them securely within the park. Collect samples of items or their context only when otherwise agreed to by the Hopi Tribe, Pueblo of Acoma, Pueblo of Zia and Pueblo of Zuni.
 - c. Use temporary storage of the items only if such storage is agreed to by the Hopi Tribe, Pueblo of Acoma, Pueblo of Zia and Pueblo of Zuni and the park.
 - d. Rebury the items such that the location is as close to the original location of the items as reasonably possible to assure their protection, in a similar locale or situation, and with a similar orientation of items as at the original location. Handle the items as little as possible during the excavation, examination, and reburial.
 - e. Coordinate with the officially designated representatives of the Hopi Tribe, Pueblo of Acoma, Pueblo of Zia and Pueblo of Zuni so that they have the opportunity to select the site for the reburial and to carry out religious ceremonies or rituals attendant upon excavation and reburial of the objects.
 - f. Record the specific location of the reburied items in park records so that park actions and development will not disturb the items again. Withhold and protect their location from disclosure to the fullest extent allowed by federal law.

g. Provide copies of documentation to the Hopi Tribe, Pueblo of Acoma, Pueblo of Zia and Pueblo of Zuni within 90 days of the action. [43CFR§10.3(b)].

7. If after consultation with the Hopi Tribe, Pueblo of Acoma, Pueblo of Zia and Pueblo of Zuni, the desired excavation and treatment differs from the Plan of Action outlined above, the park will write a Plan of Action describing the planned treatment, care, and handling of the items, and seek concurrence from the custodial tribe(s). [43CFR§10.3(c)(2)] and [43CFR§10.5(e)].

8. Pay for all reasonable expenses associated with the excavation, disposition, and consultation associated with the treatment of the items.

D. With respect to the situations described in sub-articles II.A, II.B, and II.C above, the tribes will:

1. Cooperate with the park in resolving any questions or disputes arising under this agreement.

Article III—Term of Agreement

This agreement shall be effective for five years from the date of final signature, unless it is terminated earlier by one of the parties pursuant to article VIII below. The agreement may be amended only with the written consent of all parties hereto at the time of such amendment. At the conclusion of that five-year term, this agreement may be extended or renewed by written agreement of all the parties.

Article IV—Modification and termination

This agreement may be modified only by a written instrument executed by the parties. Any party may terminate this agreement by providing the other parties with sixty (60) days advance written notice. In the event that one party provides the other party with notices of its intention to terminate, the parties shall meet promptly to discuss the reasons for the termination notice and to try to resolve their differences amicably. The parties commit to using every reasonable means available to try to avoid terminating this agreement.

Article V—Standard Clauses

A. **Non-Discrimination** - All activities pursuant to this Agreement shall be in compliance with the requirements of *Executive Order 11246*: as amended; *Title VI of the Civil Rights Act of 1964*, as amended, (78 Stat. 252; 42 U.S.C. §§2000d et seq.); *Title V, Section 504 of the Rehabilitation Act of 1973*, as amended, (87 Stat. 394; 29 U.S.C. §794); the *Age Discrimination Act of 1975* (89 Stat. 728; 42 U.S.C. §§6101 et seq.); and with all other federal laws and regulations prohibiting discrimination on grounds of race, color, sexual orientation, national origin, disabilities, religion, age, or sex.

B. **Lobbying Prohibition** - 18 U.S.C. §1913, Lobbying with Appropriated Moneys, as amended by *Public Law 107-273*, Nov. 2, 2002 - No part of the money appropriated by any enactment

of Congress shall, in the absence of express authorization by Congress, be used directly or indirectly to pay for any personal service, advertisement, telegram, telephone, letter, printed or written matter, or other device, intended or designed to influence in any manner a Member of Congress, a jurisdiction, or an official of any government, to favor, adopt, or oppose, by vote or otherwise, any legislation, law, ratification, policy, or appropriation, whether before or after the introduction of any bill, measure, or resolution proposing such legislation, law, ratification, policy, or appropriation; but this shall not prevent officers or employees of the United States or of its departments or agencies from communicating to any such Members or official, at his request, or to Congress or such official, through the proper official channels, requests for legislation, law, ratification, policy, or appropriations which they deem necessary for the efficient conduct of the public business, or from making any communication whose prohibition by this section might, in the opinion of the Attorney General, violate the Constitution or interfere with the conduct of foreign policy, counter-intelligence, intelligence, or national security activities. Violations of this section shall constitute violations of section 1352(a) of title 31.

- C. **Anti-Deficiency Act - 31 U.S.C. §1341** - Nothing contained in this Agreement shall be construed as binding the park to expend in any one fiscal year any sum in excess of appropriations made by Congress for the purposes of this Agreement for that fiscal year, or other obligation for the further expenditure of money in excess of such appropriations.

SIGNATURES

_____	_____	_____	_____
Cultural Preservation Officer, The Hopi Tribe	Date	Governor, Pueblo of Acoma	Date

_____	_____	_____	_____
Governor, Pueblo of Zia	Date	Governor, Pueblo of Zuni	Date

_____	_____	_____	_____
Superintendent, Aztec Ruins National Monument	Date	Superintendent, Chaco Culture National Historical Park	Date

_____	_____
Superintendent, Mesa Verde National Park	Date

**General Agreement Between Aztec Ruins NM, Chaco Culture NHP, Mesa Verde National
Park and Tribes for Inadvertent Discovery**

Signature Page(s)


Governor

Tribal Representative



Date

Tribe/Pueblo:



**General Agreement Between Aztec Ruins NM, Chaco Culture NHP, Mesa Verde National
Park and Tribes for Inadvertent Discovery**

Signature Page(s)


Tribal Representative

4/10/17
Date

Tribe/Pueblo: Isleta

**General Agreement Between Aztec Ruins NM, Chaco Culture NHP, Mesa Verde National
Park and Tribes for Inadvertent Discovery**

Signature Page(s)

James R. Mountain 12/4/17
Tribal Representative Date

Tribe/Pueblo: San Ildefonso Pueblo

**General Agreement Between Aztec Ruins NM, Chaco Culture NHP, Mesa Verde National
Park and Tribes for Inadvertent Discovery**

Signature Page(s)


Tribal Representative

7/18/17
Date

Tribe/Pueblo: Pueblo of Zia

Non-Impairment Determination Mesa Top Loop Roads Improvement Project

By enacting the National Park Service (NPS) Organic Act of 1916 (Organic Act), Congress directed the U.S. Department of the Interior and the National Park Service to manage units “to conserve the scenery, natural and historic objects, and wild life in the System units and to provide for the enjoyment of the scenery, natural and historic objects, and wild life in such manner and by such means as will leave them unimpaired for the enjoyment of future generations” (54 United States Code 100101). NPS *Management Policies 2006*, Section 1.4.4, explains the prohibition on impairment of park resources and values:

“While Congress has given the Service the management discretion to allow impacts within parks, that discretion is limited by the statutory requirement (generally enforceable by the federal courts) that the Park Service must leave park resources and values unimpaired unless a particular law directly and specifically provides otherwise. This, the cornerstone of the Organic Act, establishes the primary responsibility of the National Park Service. It ensures that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them.”

An action constitutes impairment when its impacts “harm the integrity of park resources or values, including the opportunities that otherwise will be present for the enjoyment of those resources or values” (NPS 2006, Section 1.4.5). To determine impairment, the National Park Service must evaluate the: particular resources and values that will be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts. An impact on any park resource or value may constitute impairment, but an impact will be more likely to constitute an impairment to the extent that it affects a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or
- identified in the park’s general management plan or other relevant NPS planning documents as being of significance (NPS 2006, Section 1.4.5).

Fundamental resources and values for Mesa Verde National Park are identified in the enabling legislation for the park, the Foundation for Planning and Management Statement, and the Long-Range Interpretive Plan. Based on a review of these documents, the fundamental resources and values for Mesa Verde National Park are its prehistoric resources documenting the Ancestral Puebloan occupation from approximately AD 550 to 1300, and that it provides for the benefit, enjoyment, education, and inspiration of this and future generations.

Natural resources (vegetation and special-status species) and cultural resources (archeological resources) that were carried forward for detailed analysis in the EA are considered necessary to fulfill specific purposes in the enabling legislation or proclamation for Mesa Verde National Park. Such resources are also key to its natural and cultural integrity or are identified as a goal in relevant NPS planning documents. This non-impairment determination has been prepared for the selected alternative, as described in the Finding of No Significant Impacts for the Mesa Top Loop Roads Improvement Project.

Piñon-Juniper Woodlands and Semi-Desert Grassland

The project area contains piñon-juniper woodlands (old growth piñon-juniper woodlands and piñon-juniper shrublands) and semi-desert grassland habitat, which grows in areas where piñon-juniper woodlands have been burned in stand-replacing wildfires. The selected alternative will remove 8.8 acres of vegetation within the project area to complete construction activities – 5.4 acres of old growth piñon-juniper woodlands, 2 acres of piñon-juniper shrublands, and 1.4 acres semi-desert grassland habitat. This represents a small portion of these habitat types available within the park. Piñon-juniper woodlands habitat in general is one of the more abundant habitats in the park; however, there is little remaining intact old growth piñon-juniper woodland, as a large portion has been lost to wildfire. The selected alternative represents a loss of these habitat types. The 8.8 acres will be revegetated following construction with native piñon-juniper woodland plants, including the semi-desert grassland habitat, as this will help aid the recovery of the semi-desert grassland seral stage to the climax piñon-juniper woodland community. However, it could take hundreds of years for the revegetated area to succeed to intact old growth piñon-juniper habitat and decades for the piñon-juniper shrubland to recover. The selected alternative will result in approximately 0.13% of the old growth piñon-juniper woodlands, 0.02% of the piñon-juniper shrublands, and 0.02% of the semi-desert grasslands available in the park. The selected alternative will also indirectly impact native habitats through the spread of invasive plant species. The treatment for non-native species will reduce competition by decreasing the amount of non-native plants and seed sources and allow for successful revegetation of the disturbed areas with native species. The selected alternative will not affect the stability of piñon-juniper woodlands or semi-desert grasslands within the park or have population-level impacts to these affected vegetation communities.

Chapin Mesa Milkvetch and Cliff Palace Milkvetch

The project area contains habitat for Chapin Mesa milkvetch and Cliff Palace milkvetch and the 8.8 acres of Chapin Mesa milkvetch habitat and 2.6 acres of Cliff Palace milkvetch habitat that will be affected by the selected action represent 0.44% and 1.0%, respectively, of the habitat for these species available within the park. These milkvetch species will be directly affected during construction through vegetation removal, resulting in plant mortality and habitat loss. These impacts will be permanent. Individual plants could be temporarily impacted by defoliation and tissue loss as well, but it is anticipated these plants will recover within a year. Following construction, disturbed areas within the milkvetch habitats will be revegetated with Chapin Mesa milkvetch and Cliff Palace milkvetch plants, though due to lowered soil productivity, resulting from soil compaction generated during construction, and competition with non-native species, revegetation may only provide slight beneficial impacts for milkvetch and these species might not recover within the area of impact. Park staff will continue to treat roadside areas for non-native species, but competition from non-native species will also reduce reproductive effort and seedling recruitment, especially for Cliff Palace milkvetch, which is not a good competitor. The park will also restore previously disturbed Chapin Mesa milkvetch habitat to increase the amount of habitat supporting Chapin Mesa milkvetch in the park by 2.1 acres. The success of restoration in this area will also be affected by non-native species competition, but it is anticipated that the number of Chapin Mesa milkvetch plants will increase in the restored areas to help contribute to the population and better connect existing patches of Chapin Mesa milkvetch. Despite efforts to revegetate the 8.8 acres of Chapin Mesa milkvetch habitat and 2.6 acres of Cliff Palace milkvetch habitat there may be a loss of individual plants in the project area. However, these impacts do not represent population-level impacts on or affect the stability of either species within the park.

Cultural Resources (Archeological Resources)

Congress established Mesa Verde National Park in 1906 with the stated purpose to “provide specifically for the preservation from injury or spoliation of the ruins and other works and relics of prehistoric or primitive man within said park.” These same resources were the basis for listing Mesa Verde National Park on the National Register of Historic Places in 1966. In 1978, the worldwide value of the park’s archeological resources was further recognized when the park was selected as one of the seven original United Nations World Heritage Sites.

The prehistoric sites consist of mounds of fallen rubble and earth from small and large villages, soil and water control devices, work areas, rock alignments of uncertain function, scatters of pottery sherds and lithic fragments, campsites, and cliff dwellings. It is estimated that Mesa Verde National Park has over 4,700 archeological sites. The archeological sites contribute to the significance of this NRHP property and World Heritage Site because they expand the understanding of chronology, settlement patterns, and prehistoric use of the landscape in the vicinity of these important cliff dwellings of the Ancestral Pueblo people. Individually they are each eligible for nomination to the NRHP under Criterion D, Information Potential. The archeological sites along the Mesa Top Loop, Sun Temple Loop, and Cliff Palace Loop roads are important contributing properties to the Mesa Verde National Park Archeological District (5MV4341), for their role in developing an understanding of the cultural sequence of the Ancestral Pueblo people, and as “a landmark of cultural preservation in the United States.”

No archeological resources have been identified within the Visitor Resource Center intersection project limits of disturbance. There will be no anticipated adverse impacts to archaeological resources within the Headquarters Loop Road infield project area. There are 12 archeological sites located within the project limits of disturbance along the Mesa Top, Sun Temple, and Cliff Palace Loop roads. Approximately 0.55 acres (total) containing portions of these 12 archeological sites were impacted from the original construction and previous improvements to these roads.

Implementation of the selected alternative will result in 0.36 additional acres of ground disturbance to these archeological sites. This ground disturbance will result in additional permanent direct and indirect adverse impacts to the 12 archeological sites within the project limits of disturbance on the Mesa Top Loop roads. Construction activities could subject the 12 sites to additional subsurface and surficial damage, including physical destruction, displacement from their context, or exposure from erosion of features and artifacts comprising the individual archeological sites. Exposure of archeological features and artifacts can result in artifacts washing away or being damaged or destroyed. The impacts will occur along the existing road edge where archeological features are not visible on the surface. The impacts will occur from underground testing and during construction of the selected alternative. However, under an approved Archeological Testing Plan (MVNP 2019), all of the 12 potentially affected archeological sites were tested and limited data recovery was done to minimize the loss of information potential contained within the sites. Three sites have been identified for additional testing and data recovery due to findings of the initial testing. Further, archeological monitoring during construction and data recovery for inadvertent discoveries will be conducted to ensure additional artifacts and information/data are not inadvertently lost. Therefore, though the selected alternative could diminish the data potential of the 12 sites, data collection through testing and mitigation will ensure that the individual sites will continue to be eligible for nomination to the NRHP under Criterion D, Information Potential (NPS 2019d), and will continue to serve as important contributing properties to the Mesa Verde National Park Archeological District (5MV4341).

Conclusion

In conclusion, based on the preceding analysis and in consideration of the park's purpose and significance, it is the Superintendent's professional judgment that these resources will continue to be present for enjoyment by current and future generations. Therefore, implementation of the selected alternative will not constitute an impairment of the resources or values of Mesa Verde National Park.