

4.2.7 Utilities

4.2.7 Utilities

The No-Action Alternative is not expected to have an impact on utilities. This alternative would not impact existing utilities or require new utilities.

The Monetary Settlement Alternative may impact local utilities. However, impacts are not known because they would depend on the use of local funds.

The Laurel Branch Picnic Area Alternative would require electric power for the restroom facility proposed at the day-use development area.

The Partial-Build Alternative to Bushnell (Primitive and Principal Park Roads) would require electric power and phone service for the day-use development area, including the restroom facility. Phone service to Bushnell would require an underground extension from Bryson City.

The Northern Shore Corridor (Primitive and Principal Park Roads) would require electric power at the two restroom facilities. The baseline alignment of the Northern Shore Corridor follows the Fontana Dam power line access road (from Fontana Dam west to NC 28). The Southern Option Crossing Fontana Dam would avoid any impacts to the power line access road.

For each partial-build and build alternative, electric power would be generator-supplied or underground utility lines would be extended from north of Bryson City. Electric power lines (if extended from Bryson City) and phone lines would be buried adjacent to the roadway, including the existing Lake View Road in GSMNP and Fontana Road outside of GSMNP. Water supply and sewer treatment (septic) would be handled on site at each development area or facility.

No cumulative effects to utilities were identified.

4.2.8 Cultural Resources

4.2.8.1 Methodology for Assessing Impacts to Cultural Resources

Potential impacts have been assessed for four types of cultural resources, including archaeological sites, historic structures, TCPs and, for a separate potential resource, the AT. Direct impacts to cultural resources include those to archaeological sites that are intersected by the proposed construction footprint. Indirect impacts would include impacts to cemetery access routes, as well as visual impacts to the AT. Since the potential Cemetery Decoration TCP includes 27 spatially distinct and widely dispersed cemeteries as contributing resources (Appendix G), the potential indirect impacts to each cemetery have been assessed and listed separately. First, a combination of existing data (Webb 2004), sample surveys and other studies (Appendix G; Webb and Jones 2005), and predictive modeling (Webb 2004; Webb and Jones 2005) was used to generate information concerning the nature and potential location of potentially significant cultural

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resources within the study corridors. These resources were then mapped as GIS layers. Potential impacts were then identified by comparing the construction footprint for each alternative with maps of the various types of resources.

Type

Impacts were categorized as adverse or beneficial, as defined for each type of cultural resource in Table 4-12. Some of the impacts to TCPs were found to be indeterminate based on changes to access trails and roads that were not clearly adverse or beneficial or that might result in some effects of both types. Impacts were also classified as indirect or direct, following the definition in Table 4-12. The potential for cumulative impacts associated with cultural resources is discussed in Section 4.2.8.4.

Duration



Roxie McClure Dismantled Mill

Impacts to cultural resources are characterized as short-term if they would occur only during the construction period, which is anticipated to last just one or a few years in any given locality. An example of a short-term impact might be disturbance to access to a TCP due to construction effects on trail use. Long-term impacts extend beyond the construction period into the indefinite future. Examples of a long-term impact might be destruction of part to an archaeological site by construction activities or a permanent change in access to a TCP due to elimination of vehicular access via a Park Administrative Road.

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Clarification of the term “baseline” for this project:

The Partial-Build Alternative to Bushnell and the Northern Shore Corridor include a baseline route, as well as options to that route. Baseline routes and options are detailed in Section 2.5 and shown on Figure 2-8. Baseline routes have been compared to existing conditions. Impact analyses for the options are shown as a difference from the associated baseline route.

Table 4-12. Cultural Resources Threshold Definitions

Cultural Resource	Impact Thresholds			
	No/Negligible	Minor	Moderate	Major
Archaeological Sites	Impact(s) to a NHRP-listed or eligible site(s) is not measurable or at the lowest level of detection – barely measurable with no perceptible consequences, either adverse or beneficial. For purposes of Section 106, the determination of effect would be <i>no historic properties affected or no adverse effect</i> .	<p>Adverse impact – disturbance of a site(s) results in little effect on any of the characteristics that qualify it for the NRHP, and little loss of integrity or information potential (the ability to provide information relevant to significant research questions), and the NHRP-listing/eligibility of the site is unaffected. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i>.</p> <p>Beneficial impact – the alternative would result in retention of the site(s) in its existing condition. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i>.</p>	<p>Adverse impact – disturbance of a site(s) would affect any of the characteristics that qualify it for the NRHP, or result in loss of integrity or information potential to the extent that its NRHP-listing/eligibility is jeopardized. For purposes of Section 106, the determination of effect would be <i>adverse effect</i>.</p> <p>Beneficial impact –the alternative would noticeably enhance the protection or preservation of a site(s). For purposes of Section 106, the determination of effect would be <i>no adverse effect</i>.</p>	<p>Adverse impact – disturbance of a site(s) would result in substantial effect on one or more of the characteristics that qualify it for the NRHP, resulting in loss of integrity or information potential to the extent that it would no longer be eligible for listing in the NRHP. For purposes of Section 106, the determination of effect would be <i>adverse effect</i>.</p> <p>Beneficial impact – the alternative would substantially enhance the ability to protect and interpret important archaeological resources. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i>.</p>
Historic Structures	Impact(s) to a NRHP-listed or eligible structure(s) or building(s) is not measurable or at the lowest level of detection – barely measurable with no perceptible consequences, either adverse or beneficial. For purposes of Section 106, the determination of effect would be <i>no historic properties affected or adverse effect</i> .	<p>Adverse impact – impact results in little effect on any of the character defining feature(s) of a NRHP-eligible or listed structure(s) or building(s), and little loss of resource integrity, and its NRHP-listing/eligibility is unaffected. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i>.</p> <p>Beneficial impact – the alternative would maintain the existing integrity and condition of character-defining features of the building or structure in accordance with the Secretary of the Interior’s <i>Standards for Treatment of Historic Properties</i>. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i>.</p>	<p>Adverse impact – impact would alter a character defining feature(s) of the structure(s) or building(s) and would diminish the integrity of the resource to the extent that its NHRP-listing/eligibility is jeopardized. For purposes of Section 106, the determination of effect would be <i>adverse effect</i>.</p> <p>Beneficial impact – the alternative would noticeably enhance the protection or preservation of the character-defining features of a building or structure in accordance with the Secretary of the Interior’s <i>Standards for the Treatment of Historic Properties</i>. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i>.</p>	<p>Adverse impact – impact would alter a character defining feature(s) of the structure(s) or building(s) diminishing the integrity of the resource to the extent that it is no longer eligible to be listed in the NRHP. For purposes of Section 106, the determination of effect would be <i>adverse effect</i>.</p> <p>Beneficial impact – the alternative would substantially enhance the preservation or protection of the character-defining features of a building or structure in accordance with the Secretary of the Interior’s <i>Standards</i>. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i>.</p>

Table 4-12. Cultural Resources Threshold Definitions

Cultural Resource	Impact Thresholds			
	No/Negligible	Minor	Moderate	Major
Traditional Cultural Properties	<p>Impact(s) to a NRHP-listed or eligible property(ies) is not measurable or at the lowest level of detection, and would not alter resource conditions, such as access or site preservation, nor the relationship between the resource and the affiliated group's body of beliefs and practices. For purposes of Section 106, the determination of effect would be <i>no historic properties affected or no adverse effect</i>.</p>	<p>Adverse impact – impact(s) would be slight but apparent, but would neither appreciably alter resource conditions, such as access or site preservation, nor the relationship between the resource and the affiliated group's body of beliefs and practices. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i>.</p> <p>Beneficial impact – impact would accommodate a group's traditional practices or beliefs. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i>.</p>	<p>Adverse impact – impact(s) would be apparent and would alter resource conditions, such as access or site preservation, and/or the relationship between the resource and the affiliated group's beliefs and practices, even though those beliefs and practices would survive. For purposes of Section 106, the determination of effect would be <i>adverse effect</i>.</p> <p>Beneficial impact – impact would facilitate a group's beliefs and practices. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i>.</p>	<p>Adverse impact – impact would alter resource conditions, such as access or site preservation, and/or the relationship between the resource and the affiliated group's body of beliefs and practices, to the extent that the survival of a group's beliefs and/or practices would be jeopardized. For purposes of Section 106, the determination of effect would be <i>adverse effect</i>.</p> <p>Beneficial impact – impact would encourage a group's beliefs and practices. For purposes of Section 106, the determination of effect would be <i>no adverse effect</i>.</p>

Intensity

Impacts were categorized as no/negligible, minor, moderate, or major based on the available information on each resource and in accordance with the impact definitions and thresholds provided for each type of cultural resource in Table 4-12 in accordance with NPS guidance. The guidance and the definitions also cross-reference the impact assessments to effect determinations under Section 106 of the NHPA.

4.2.8.2 Regulations and Policies Concerning Cultural Resources

The CEQ regulations (40 CFR 1500-1508) implementing NEPA require consideration of “historic and cultural resources” (40 CFR 1500.16) during the EIS process, as well as “the degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the NRHP or may cause loss or destruction of significant scientific, cultural, or historical resources” (40 CFR 1508.27). See Cultural Resources, Section 3.2.4.1 for definitions of the NRHP eligibility criteria. A NRHP-eligible property might also be eligible for determination as a NHL (see Section 3.2.4.1). Because of the special importance of NHLs, special requirements and procedures for protecting them are provided in 36 CFR 800.10, *Special Requirements for Protecting National Historic Landmarks*.

In addition to these regulations, other relevant laws and regulations include the National Park Service Act of 1916, as amended (16 USC 1 et seq.); the 1926 Enabling Legislation for GSMNP (16 USC 460a-2 et seq.); the National Historic Preservation Act of 1966, as amended (16 USC 470 et seq.) and its implementing regulations; the American Indian Religious Freedom Act of 1978 (42 USC 1996); the Archaeological Resources Protection Act of 1979, as amended (16 USC 470 et seq.); the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001); and Protection and Enhancement of the Cultural Environment (Executive Order 11593). Relevant NPS policies are outlined in DO-12 and orders 28 (Cultural Resource Management), 28B (Archaeology), and 28C (Draft Handbook for Oral History in the National Park Service).

4.2.8.3 Impacts to Cultural Resources

The following sections present impacts to cultural resources by alternatives. Unless otherwise noted, all impacts discussed are direct and long-term.

Impacts to the TCP cemeteries are assessed based on the potential impact of the alternatives on the current access to those properties. NPS provides annual ferry service for cemetery access on a scheduled basis for the public. Eleven trips are made to visit 20 cemeteries along the northern shore of Fontana Lake each year. The annual ferry service would continue if:

- an alternative does not include provisions for a new road,
- a partial-build or build alternative does not intersect an administrative road, or
- a partial-build or build alternative only reaches a portion of the cemeteries.

Clarification of the term “baseline” for this project:

The Partial-Build Alternative to Bushnell and the Northern Shore Corridor include a baseline route, as well as options to that route. Baseline routes and options are detailed in Section 2.5 and shown on Figure 2-8. Baseline routes have been compared to existing conditions. Impact analyses for the options are shown as a difference from the associated baseline route.

If a partial-build or build alternative intersects a maintained GSMNP administrative road, the public would be allowed access to the administrative road on a scheduled basis for cemetery visitation. Transportation would be provided by NPS or personal vehicle, depending on the condition of the road.

4.2.8.3.1 No-Action

The No-Action Alternative would have no foreseeable impacts to cultural resources. The archaeological sites within the proposed impact footprints would remain in their current state, as would any historic structures that might be present. Similarly, the No-Action Alternative would have no impacts to TCPs. The known TCPs (Decoration Day Cemeteries and Proctor Baptizing Hole) would be unaffected, and access to these resources would continue in the present manner. Any American Indian TCPs that might be present would also be unaffected by this alternative. Finally, there would be no impacts to the AT, a potential historic property, under the No-Action Alternative.

4.2.8.3.2 Monetary Settlement

The Monetary Settlement Alternative would have no or negligible impacts to cultural resources. As with the No-Action Alternative, resources within the Park would not be affected by this alternative. There may be potential for negligible indirect or cumulative impacts to resources outside the Park; however, those effects would depend on how the Monetary Settlement proceeds are used.

4.2.8.3.3 Laurel Branch Picnic Area

Impacts to Archaeological Sites

The Laurel Branch Picnic Area Alternative would result in no impacts to known archaeological sites, although there is one potential historic period archaeological site and about 3.95 acres (1.60 ha) of unsurveyed area with moderate to high probability for archaeological sites (area of 15 percent or less slope) within the construction footprint.

Impacts to Historic Structures

The Laurel Branch Picnic Area Alternative would result in no impacts to historic structures.

Impacts to Traditional Cultural Properties

The Laurel Branch Picnic Area Alternative would result in no impacts to TCPs.

Clarification of the term "baseline" for this project:

The Partial-Build Alternative to Bushnell and the Northern Shore Corridor include a baseline route, as well as options to that route. Baseline routes and options are detailed in Section 2.5 and shown on Figure 2-8. Baseline routes have been compared to existing conditions. Impact analyses for the options are shown as a difference from the associated baseline route.

Impacts to Other Cultural Resources

The Laurel Branch Picnic Area Alternative would result in no impacts to the AT, a potential historic property.

4.2.8.3.4 Partial-Build Alternative to Bushnell (Primitive and Principal Park Roads)

Partial-Build Alternative to Bushnell (Primitive Park Road)

Impacts to Archaeological Sites

The Partial-Build Alternative to Bushnell (Primitive Park Road) would result in major, adverse impacts to two archaeological sites (31SW336 and 31SW422) and a minor adverse impact to a third site (31SW424). (As discussed in Section 4.2.8.4, if those impacts cannot be avoided or minimized through redesign, they can potentially be reduced to the moderate level through implementation of mitigation measures.) This option would also impact three potential historic period archaeological sites and 7.66 acres (3.10 ha) of unsurveyed moderate to high probability area.

Impacts to Historic Structures

The Partial-Build Alternative to Bushnell (Primitive Park Road) would result in no impacts to historic structures.

Impacts to Traditional Cultural Properties

The Partial-Build Alternative to Bushnell (Primitive Park Road) would result in a moderate, adverse, indirect impact to one contributing resource to the Cemetery Decoration TCP (Hoyle Cemetery) and a minor to moderate, indeterminate or adverse, indirect impact to a second contributing resource (Woody Cemetery), in both cases by cutting current NPS-provided vehicular access. The option also would result in a major, beneficial, indirect impact to the McClure Cemetery and a minor, beneficial, indirect impact to the Welch Cemetery, however, in both cases by improving current access. Finally, the option would result in minor, short-term, adverse, indirect impacts to the Woody and McClure cemeteries, and a minor to moderate, short-term, adverse, indirect impact to the Hoyle Cemetery due to trail disruptions during construction.

Impacts to Other Cultural Resources

The Partial-Build Alternative to Bushnell (Primitive Park Road) would result in no impacts to the AT, a potential historic property.

Clarification of the term "baseline" for this project:

The Partial-Build Alternative to Bushnell and the Northern Shore Corridor include a baseline route, as well as options to that route. Baseline routes and options are detailed in Section 2.5 and shown on Figure 2-8. Baseline routes have been compared to existing conditions. Impact analyses for the options are shown as a difference from the associated baseline route.

Southern Option at Forney Creek Embayment (Primitive Park Road)

If the Southern Option at Forney Creek Embayment were chosen for the Primitive Park Road Type, this option would result in one less adverse impact to a significant archaeological site (31SW336), but would potentially impact one identified but unevaluated site (Unrecorded site 3). It would no longer impact any potential historic period archaeological sites, but would impact an additional 4.42 acres (1.79 ha) of unsurveyed moderate to high probability area. The long-term and short-term indirect impacts to the Hoyle and Woody cemeteries would also be eliminated. This option would also result in a minor, adverse, indirect impact to the AT, a potential historic property, due to construction of a bridge across the Forney Creek embayment that would be visible from the trail.

Partial-Build Alternative to Bushnell (Principal Park Road)

Impacts to Archaeological Sites

The Partial-Build Alternative to Bushnell (Principal Park Road) would result in major, adverse impacts to two archaeological sites (31SW336 and 31SW422) and a minor, adverse impact to an additional site (31SW424). This option would also impact one identified but unevaluated site (Unrecorded site 3) and two potential historic period archaeological sites, and would impact about 6.87 acres (2.78 ha) of unsurveyed moderate to high probability area.

Impacts to Historic Structures

The Partial-Build Alternative to Bushnell (Principal Park Road) would result in no impacts to historic structures

Impacts to Traditional Cultural Properties

The Partial-Build Alternative to Bushnell (Principal Park Road) would result in a moderate, adverse, indirect impact to one contributing resource to the Cemetery Decoration TCP (Woody Cemetery) by cutting current NPS vehicular access. The option also would result in a major, beneficial, indirect impact to the McClure Cemetery and a minor, beneficial, indirect, impact to the Welch Cemetery, in both cases by improving current access. Finally, the option would result in a minor to moderate, adverse, short-term, indirect impact to the Woody Cemetery and a minor, adverse, short-term, indirect impact to the McClure Cemetery due to trail disruptions during construction.

Impacts to Other Cultural Resources

The Partial-Build Alternative to Bushnell (Principal Park Road) might result in a negligible, adverse, indirect impact to the AT, a potential historic property, due to construction of a bridge across at the north side of the Forney Creek embayment that might be visible from the trail.

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The Partial-Build Alternative to Bushnell and the Northern Shore Corridor include a baseline route, as well as options to that route. Baseline routes and options are detailed in Section 2.5 and shown on Figure 2-8. Baseline routes have been compared to existing conditions. Impact analyses for the options are shown as a difference from the associated baseline route.

Southern Option at Forney Creek Embayment (Principal Park Road)

If the Southern Option at Forney Creek Embayment were chosen for the Principal Park Road, it would result in one less adverse impact to an archaeological site (31SW336). There would be no changes in impacts to unevaluated sites or potential historic period archaeological sites, but there would be an increase of 3.65 acres (1.48 ha) of unsurveyed moderate to high probability area that would be impacted. The long-term and short-term indirect impacts to the Woody Cemetery would be eliminated. This option would also result in a minor, adverse, indirect impact to the AT, a potential historic property, due to construction of a bridge across the Forney Creek embayment that would be visible from the trail.

4.2.8.3.5 Northern Shore Corridor (Primitive and Principal Park Roads)

Northern Shore Corridor (Primitive Park Road)

Impacts to Archaeological Sites

The Northern Shore Corridor (Primitive Park Road) would result in major, adverse impacts to two archaeological sites (31SW336 and 31SW422) and minor adverse impacts to an additional site (31SW424). This option would also impact one unevaluated site (31SW56) and 45 potential historic period archaeological sites, and would impact about 59.35 acres (24.02 ha) of unsurveyed moderate to high probability area. Many of these potential sites are in the Proctor area, which also contains potential historic structures and is being studied by the Park as a potential NRHP district. If not avoided, minimized, or mitigated, impacts to this complex of resources would potentially constitute a major, adverse impact.



Chambers Creek Church

Impacts to Historic Structures

The Northern Shore Corridor (Primitive Park Road) would result in major impacts to up to six potentially significant historic structures, should those be determined eligible for the NRHP.

Impacts to Traditional Cultural Properties

The Northern Shore Corridor (Primitive Park Road) would result in moderate, adverse, indirect impacts to three contributing resources to the Cemetery Decoration TCP (Hoyle, Pilkey and Posey cemeteries) and a minor to moderate, indeterminate, impact to the Woody Cemetery due to elimination of current NPS-provided vehicular access. It would result in major, beneficial, indirect impacts to the Bradshaw, McClure, and Proctor cemeteries and to the Proctor Baptizing Hole TCP, moderate, beneficial, indirect impacts to the Bone Valley, Calhoun, Hall, Higdon, McCampbell Gap, Mitchell, Walker, and Wike cemeteries, and minor, beneficial, indirect impacts to the Cook and Fairview cemeteries due to increased ease in private vehicular access, and minor, indeterminate, indirect impacts to the Orr and Payne cemeteries. The option would also

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result in a minor to moderate, short-term, adverse, indirect impact to the Hoyle Cemetery and minor, short-term, adverse, indirect impacts to the Bone Valley, Bradshaw, Calhoun, Hall, Higdon, McCampbell Gap, Mitchell, Orr, Payne, Pilkey, Posey, Proctor, Walker, Wike, and Woody cemeteries and to the Proctor Baptizing Hole TCP due to trail disruptions during construction.

Impacts to Other Cultural Resources

The Northern Shore Corridor (Primitive Park Road) would result in moderate, adverse, direct and minor, indirect impacts to the AT, a potential historic property, due to the road's intersection with the trail near the west end of the corridor and visibility from other points along the trail in that area. (For additional impacts to the AT see Visitor Use and Experience, Section 4.2.5.)

Southern Option at Forney Creek Embayment (Primitive Park Road)

If the Southern Option at Forney Creek Embayment were chosen for the Primitive Park Road, it would result in one fewer adverse impact to an archaeological site (31SW336), but would result in an additional potential adverse impact to an unevaluated site (Unrecorded site 3). It also would impact an additional 4.42 acres (1.79 ha) of unsurveyed, moderate to high probability area. The long-term and short-term, indirect impacts to the Hoyle and Woody cemeteries would be eliminated. This option would also result in an additional minor, adverse, indirect impact to the AT, a potential historic property, due to construction across the Forney Creek Embayment of a major bridge structure that would be visible from the trail.

Southern Option at Hazel and Eagle Creek Embayments (Primitive Park Road)

If the Southern Option at Hazel and Eagle Creek Embayments (Primitive Park Road) were chosen, this option would result in 1 fewer potential impact to an unevaluated site (31SW56), 27 fewer impacts to potential historic period archaeological sites and would impact 14.67 fewer acres (5.94 ha) of unsurveyed, moderate to high probability area. This option would eliminate potential impacts to six potentially significant historic structures in the Proctor vicinity. This option would also eliminate the major, beneficial impacts to the Proctor Baptizing Hole TCP and to the Bradshaw and Proctor cemeteries; the moderate, beneficial impacts to the Bone Valley, Calhoun, Hall, Higdon, McCampbell Gap, Walker, and Wike cemeteries; and the minor, short-term, adverse impacts to the Proctor Baptizing Hole TCP and to the Bone Valley, Bradshaw, Calhoun, Hall, Higdon, McCampbell Gap, Proctor, Walker, and Wike cemeteries. This option would also result in additional minor, adverse, indirect impacts to the AT, a potential historic property, due to construction of bridges across the Hazel and Eagle Creek Embayments that would be visible from the trail.

Southern Option Crossing Fontana Dam (Primitive Park Road)

If the Southern Option Crossing Fontana Dam were chosen (Primitive Park Road), this option would result in five fewer impacts to potential historic period archaeological sites and would impact 4.43 fewer acres

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(1.79 ha) of unsurveyed, moderate to high probability area. This option would result in a negligible to minor, adverse impact to Fontana Dam, a potential NHL, as it would tie directly into the existing road across the dam. There would be two fewer minor, long-term, indeterminate impacts and two fewer short-term, adverse, indirect impacts to the Orr and Payne cemeteries. This option would also result in both direct and indirect impacts to the AT, a potential historic property. It would run along the existing AT route for about 3,800 feet (1,158 m), resulting in a moderate, adverse, direct impact to the trail and would also be visible from the trail at several locations, constituting minor, adverse, indirect impacts to the trail.

Northern Shore Corridor (Principal Park Road)

Impacts to Archaeological Sites

The Northern Shore Corridor (Principal Park Road) would result in a major, adverse, impact to one archaeological site (31SW336); a moderate, adverse, impact to one site (31SW426); and a minor, adverse impact to one site (31SW425). This option would also impact 3 unevaluated sites (Unrecorded site 3, 31SW56, and 31SW445) and 41 potential historic period archaeological sites and would impact approximately 63.81 acres (25.82 ha) of unsurveyed, moderate to high probability area. Many of these potential sites are in the Proctor area, which also contains potential historic structures and is being studied by the Park as a potential NRHP district. If not avoided, minimized, or mitigated, impacts to this complex of resources would constitute a major, adverse impact.

Impacts to Historic Structures

The Northern Shore Corridor (Principal Park Road) would result in major impacts to up to six potentially significant historic structures, should those be determined eligible for the NRHP.

Impacts to Traditional Cultural Properties

The Northern Shore Corridor (Principal Park Road) would result in a moderate, adverse, indirect impact to one contributing resource to the Cemetery Decoration TCP (Woody Cemetery) and minor, indeterminate, indirect impacts to the Orr and Payne cemeteries, but would have major, beneficial, indirect impacts to the Bradshaw, McClure, and Proctor cemeteries and to the Proctor Baptizing Hole TCP; moderate, beneficial, indirect impacts to the Bone Valley, Calhoun, Hall, Higdon, McCampbell Gap, Mitchell, Walker, and Wike cemeteries; and minor, beneficial, indirect impacts to the Cook and Fairview cemeteries. The option would also result in minor, short-term, adverse indirect impacts to the Bone Valley, Bradshaw, Calhoun, Hall, Higdon, McCampbell Gap, Mitchell, Orr, Payne, Pilkey, Posey, Proctor, Walker, Wike, and Woody cemeteries and to the Proctor Baptizing Hole TCP due to trail disruptions during construction.

Clarification of the term "baseline" for this project:

The Partial-Build Alternative to Bushnell and the Northern Shore Corridor include a baseline route, as well as options to that route. Baseline routes and options are detailed in Section 2.5 and shown on Figure 2-8. Baseline routes have been compared to existing conditions. Impact analyses for the options are shown as a difference from the associated baseline route.

Impacts to Other Cultural Resources

The Northern Shore Corridor (Principal Park Road) would result in moderate, adverse direct, and minor, indirect impacts to the AT, a potential historic property. It would cross the trail near the west end of the corridor, resulting in a minor, adverse, direct impact; other minor, adverse, indirect impacts would result from the visibility of this alternative from the trail in that area, as well as the potential visibility of the bridge structure on the north side of the Forney Creek embayment. (For additional impacts to the AT see Visitor Use and Experience, Section 4.2.5.)

Southern Option at Forney Creek Embayment (Principal Park Road)

If the Southern Option at Forney Creek Embayment were chosen for the Principal Park Road, it would result in one less adverse impact to an archaeological site (31SW336). It also would impact an additional 3.65 acres (1.5 ha) of unsurveyed, moderate to high probability area. The long-term and short-term impacts to the Woody Cemetery would also be eliminated. This option would also result in an additional minor, adverse, indirect impact to the AT, a potential historic property, due to construction of a bridge across the Forney Creek Embayment that would be visible from the trail.

Southern Option at Hazel and Eagle Creek Embayments (Principal Park Road)

If the Southern Option at Hazel and Eagle Creek Embayments were chosen for the Principal Park Road, this alternative would result in one fewer potential impact to an unevaluated site (31SW56), 27 fewer impacts to potential historic period archaeological sites, and impact 17.40 fewer acres (7.04 ha) of unsurveyed moderate to high probability area. This option would eliminate potential impacts to six potentially significant historic structures in the Proctor vicinity. The option would eliminate major, beneficial impacts to the Proctor Baptizing Hole TCP and to two contributing resources to the Cemetery Decoration TCP (the Bradshaw and Proctor cemeteries); the moderate beneficial impacts to the Bone Valley, Calhoun, Hall, Higdon, McCampbell Gap, Walker, and Wike cemeteries; and minor, short-term, adverse impacts to the Proctor Baptizing Hole TCP and to the Bone Valley, Bradshaw, Calhoun, Hall, Higdon, McCampbell Gap, Proctor, Walker, and Wike cemeteries. This option would also result in additional minor, adverse, indirect impacts to the AT, a potential historic property, because bridges across the Hazel and Eagle Creek Embayments would be visible from the trail.

Southern Option Crossing Fontana Dam (Principal Park Road)

If the Southern Option Crossing Fontana Dam (Principal Park Road) were chosen, it would result in five fewer impacts to potential historic period archaeological sites and would impact 5.32 fewer acres (2.16 ha) of unsurveyed, moderate to high probability area. This option would result in a negligible to minor, adverse impact to Fontana Dam, a potential NHL, because it would tie directly into the existing road across the dam. There would be two fewer minor, long-term, indeterminate impacts and two fewer short-term, adverse, indirect impacts to the Orr and Payne cemeteries. This option would also result in additional direct and

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The Partial-Build Alternative to Bushnell and the Northern Shore Corridor include a baseline route, as well as options to that route. Baseline routes and options are detailed in Section 2.5 and shown on Figure 2-8. Baseline routes have been compared to existing conditions. Impact analyses for the options are shown as a difference from the associated baseline route.

indirect impacts to the AT, a potential historic property. It would run along the existing AT route for about 3,800 feet (1,158 m), resulting in a moderate, adverse, indirect impact to the trail, and would also be visible from the trail at several locations, constituting minor, adverse, indirect impacts to the trail.

4.2.8.3.6 Cumulative Impacts

Some of the projects listed in Section 4.1.2, including the construction of Fontana Dam and Lake, the Ravensford Land Exchange, the Cades Cove Opportunities Plan, seasonal home construction, and aggregate surfacing of cemetery access roads, have affected or have the potential to affect cultural resources in the study area and vicinity. When added to those projects, it is possible that the impacts to archaeological sites, and possibly to other cultural resources, to be caused by the North Shore Road Project would constitute cumulative adverse impacts on the cultural resources of the region. Most of those impacts would be minor. However, the potential adverse impacts to the former Ritter Lumber Mill complex and associated structural and archaeological resources at Proctor that might result from selection of the Northern Shore Corridor could constitute a major, cumulative impact on cultural resources. When considered with the aggregate surfacing of cemetery access roads, the changes in cemetery access due to selection of the Northern Shore Corridor could constitute a minor, cumulative, beneficial impact on the Cemetery Decoration TCP.

4.2.8.4 Avoidance, Minimization, and Mitigation Measures

Several strategies can be used to mitigate impacts to cultural resources. Adverse impacts to archaeological sites would be avoided entirely with the No-Action or Monetary Settlement alternatives. They would be minimized with the partial-build alternatives or Northern Shore Corridor options (specifically the Southern Options at Forney Creek Embayment, Hazel and Eagle Creek Embayments) that avoid large expanses of stream floodplains and terraces, such as those at Gray Wolf Creek and around Proctor and Shehan Branch. Impacts to individual archeological sites also would be minimized, if not avoided, through minor road modifications and/or realignments. In cases where impacts cannot be entirely avoided, they can be mitigated through data-recovery excavations and accompanying displays, publications, and other measures, as provided for in the (Programmatic Agreement [PA]) (Appendix H) concerning cultural resources. Such mitigation measures would reduce the impacts from major to moderate under NEPA and the definitions provided in Section 4.2.8.1, although they would not eliminate adverse effects under Section 106 of NHPA. If the alternative selected in the Record of Decision is a partial-build or build alternative, the signatories of the PA will consult to determine what additional identification and evaluation efforts are needed.

The potential adverse impacts to historic structures associated with the Northern Shore Corridor would be eliminated with the Southern Option at Hazel and Eagle Creek Embayments. With the baseline Northern Shore Corridor Alternative, impacts to structures in the Proctor vicinity would potentially be avoided or minimized through modifications to the road alignment, the use of sensitive design techniques, and such measures as plantings. The potential minor, adverse, impact to Fontana Dam would be eliminated with the baseline Northern Shore Corridor Alternative (i.e., if the Southern Option Crossing Fontana Dam was not chosen).

Clarification of the term "baseline" for this project:

The Partial-Build Alternative to Bushnell and the Northern Shore Corridor include a baseline route, as well as options to that route. Baseline routes and options are detailed in Section 2.5 and shown on Figure 2-8. Baseline routes have been compared to existing conditions. Impact analyses for the options are shown as a difference from the associated baseline route.

Adverse impacts associated with the partial-build and build alternatives to TCPs would likely be avoided or minimized through design modifications, such as modifications to roadway designs to provide bridges over existing access routes, realignment of sections of the intersecting access routes to accommodate vehicular access, or by the addition of steps along grade changes between the roadway and access routes and/or the addition of parking areas.

Adverse impacts associated with the partial-build and build alternatives to the AT, a potential historic property, would be reduced, but not entirely eliminated, with the two southern options at the three embayments, elimination of the Southern Option Crossing Fontana Dam, and use of appropriate design practices to minimize road visibility from the trail.

4.2.8.5 Impairment Evaluation

Impairment to the cultural resources of GSMNP and the AT would not occur under the No-Action Alternative, Monetary Settlement Alternative, Laurel Branch Picnic Area, and the Partial-Build Alternative to Bushnell. The Northern Shore Corridor is not likely to impair the cultural resources of GSMNP or the AT based on the information obtained to date. Due to the magnitude of this alternative, it is likely that additional NEPA documentation would be required to address site specific impacts not currently known and to determine detailed mitigation measures as they relate to final design. The impairment determination related to cultural resources would be re-evaluated in such documentation.

4.2.9 Public Health and Safety

Within GSMNP, the Ranger Activities Division oversees all aspects of law enforcement. In addition to law enforcement, rangers provide search and rescue and emergency medical services (EMS); manage the campgrounds, backcountry campsites, and group camping areas; monitor road conditions; and provide fire protection. There are 15 rangers for the North Carolina side of the Park (Dutton 2005). These rangers provide coverage from 7:00 a.m. to midnight during the summer months, with rangers called out to after-hours incidents as needed. No ranger stations are in the study area. Two are in the vicinity of Bryson City, at Oconaluftee and Deep Creek, and another is at Twentymile, west of the study area along NC 28.

Although some rangers are certified emergency medical technicians (EMTs), GSMNP has mutual aid agreements with local responders for medical evacuations. These agreements allow the responders to cross county, but not state, lines.

4.2.9.1 Summary of Impacts

4.2.9.1.1 No-Action

The No-Action Alternative is not expected to have an impact on the public health and safety of GSMNP or the local area surrounding GSMNP.

Clarification of the term "baseline" for this project:

The Partial-Build Alternative to Bushnell and the Northern Shore Corridor include a baseline route, as well as options to that route. Baseline routes and options are detailed in Section 2.5 and shown on Figure 2-8. Baseline routes have been compared to existing conditions. Impact analyses for the options are shown as a difference from the associated baseline route.