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Comments of
National Parks Conservation Association,
Grand Canyon Trust, Sierra Club, and
Center for Biological Diversity

on the

Town of Tusayan Proposed Roadway
Easements (Project #46776)

June 1, 2015

Submitted to

Ms. Deirdre McLaughlin
Kaibab National Forest, Williams Ranger District
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Via Email: comments-southwestern-kaibab@fs.fed.us

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Re: Comments of the National Parks Conservation Association et al. on Tusayan Roadway Easements (Project #46776)

Dear Ms. McLaughlin:

On behalf of the National Parks Conservation Association, Grand Canyon Trust, Sierra Club, and Center for Biological Diversity, we thank you for this opportunity to comment on the Town of Tusayan's application for road and utility easements across Kaibab National Forest land, which are designed to permit build-out of a massive commercial and residential development.

National Parks Conservation Association (NPCA), founded in 1919, is the leading national, independent voice for protecting and enhancing America's National Park System for present and future generations. It has more than one million members and supporters from every state in the union, including 20,000 in Arizona.

Grand Canyon Trust is a non-profit corporation headquartered in Flagstaff, Arizona with over 3,500 members. The mission of the Grand Canyon Trust is to protect and restore the canyon country of the Colorado Plateau – its spectacular landscapes, flowing rivers, clean air, diversity of plants and animals, and areas of beauty and solitude. One of the Trust's goals is to ensure that the Colorado Plateau is a region characterized by vast open spaces with restored, healthy ecosystems, and habitat for all native fish, animals, and plants.

Sierra Club is one of the oldest grassroots environmental organizations in the country with more than 2.4 million members and supporters and 35,000 as part of the Grand Canyon (Arizona) Chapter. Sierra Club's mission is "to explore, enjoy, and protect the wild places of the earth; to practice and promote the responsible use of the earth's ecosystems and resources; and to educate and enlist humanity to protect and restore the quality of the natural and human environments." Many of the Club's members use and enjoy the areas within the Kaibab National Forest and Grand Canyon for hiking, wildlife viewing, camping, and more. Sierra Club has long been involved in protecting Grand Canyon and the Kaibab National Forest from development and objected to previous attempts to build a mega-development (Canyon Forest Village) in this area.

The Center for Biological Diversity ("Center") is a non-profit, public interest, conservation organization with more than 825,000 members and online activists dedicated to the protection of endangered species and wild places.

Earthjustice, on behalf of NPCA et al., first urges the Kaibab National Forest to reject the Town of Tusayan's application. The Forest Service can and should reject the application because it is not in the public interest. The purpose and effect of the easements is to facilitate Stilo's plans for a massive commercial and residential development on the doorstep of Grand Canyon National Park, one of the nation's and the planet's most recognized, iconic, awe-inspiring, and beloved landscapes. As detailed below, Stilo's massive development threatens the water, wildlife, visitors, and infrastructure of the Park, and for that reason alone should be rejected. The easements and development are opposed by the undersigned, Flagstaff businesses, the National Park Service, former Park Service employees, and more than a hundred thousand members of the public who have written the Forest Service. On the other side of the ledger are the hopes of a wealthy foreign corporation seeking to cash in on the Canyon's popularity. This project thus does not serve the public interest.

Second, the Forest Service should reject, or at least suspend processing, Tusayan's application until the Town has provided the agency with sufficient information to conduct an adequate analysis of the easements' impacts. Tusayan has failed to disclose the water source that will be required to maintain thousands of dwelling units and millions of square feet of commercial space. Without these key data, the Forest Service may find it difficult to predict the magnitude of the easements' — and the development's — threat to South Rim springs, the Havasupai Tribe, and Grand Canyon's wildlife. It makes little sense to proceed — and there is no urgency to do so — until and if Tusayan identifies a source of water.

Third, if the Forest Service nonetheless decides to analyze the application under the National Environmental Policy Act (NEPA), the Forest Service must prepare a full environmental impact statement (EIS) because the development will have significant impacts on Grand Canyon National Park and its water, wildlife, visitors, and infrastructure, as well as on the Kaibab National Forest and the surrounding environment. The Forest Service must disclose the development's impacts because the easements' purpose and effect is to make that development possible.

Finally, NEPA requires the Forest Service to evaluate all reasonable alternatives and consider all reasonable mitigation measures. The Forest Service has a duty to meaningfully consider alternatives and mitigation measures that will limit the environmental damages of the proposed easements and development.

I. BACKGROUND: THE PURPOSE OF THE EASEMENTS IS TO FACILITATE A MASSIVE PRIVATE DEVELOPMENT.

A. The Town of Tusayan's special use application

On June 5, 2014, the Town of Tusayan submitted a special use application to the Kaibab National Forest.¹ The purpose and intent of the application, and the reasonably foreseeable impacts of approving it, will be the transformation of two undeveloped properties on the

¹ See Town of Tusayan, Application For Transportation And Utility Systems And Facilities On Federal Lands 8 (June 5, 2014) (hereinafter Tusayan Application), attached as Ex. 1.

threshold of Grand Canyon into a major resort facility that could not and would not exist but for the Forest Service's approval.

According to Tusayan's application,

The use requested in this application is in support of the requirements of the Pre-Annexation and Development Agreement (PADA) No. 2011-11-02 . . . and the First Amendment to the PADA No. 2011-11-02 . . . between the Town of Tusayan (Town) and Stilo Development Group USA, LP (Stilo). The applicant proposes to make improvements to segments of existing forest roads and construct new segments to provide all weather access and utility service to two in-holding properties (TenX Ranch and Kotzin Ranch). Kotzin Ranch includes land owned by Stilo and the Town, and Ten-X is wholly owned by Stilo.²

The Kotzin Ranch is located just northwest of Tusayan; the parcel's northern boundary is less than a mile from Grand Canyon National Park and less than two miles from the Park's South Rim entrance. The TenX Ranch is to the southeast of Tusayan; the northern boundary of the parcel is less than three miles from the Park boundary.

The rights-of-way Tusayan seeks include the right to:

- improve about five miles of existing unpaved road into two-lane paved roads 28 feet wide to facilitate year-round, all-weather access to the two parcels;
- construct about one-half mile of new road;
- construct and use 16-foot wide shoulders on both sides of the two-lane roads to accommodate utilities;
- construct a further 8-foot wide pedestrian and bike path on one side of the road beyond the utility corridor;
- construct utility lines including:
 - o water transmission and distribution mains;
 - o reclaimed water mains;
 - o sewer mains;
 - o electric lines;
 - o natural gas pipelines; and
 - o telecommunications facilities (for cable, phone and internet).

² Id. at 1.

- construct facilities to assist in the movement of water and sewer flows, including:
 - o two wastewater lift stations — one for the TenX Ranch and one for the Kotzin Ranch — each requiring an area of Forest Service land 100 feet by 100 feet, to convey wastewater flows from the private property; and
 - o two booster pump stations, one for reclaimed water and one for potable water — each requiring an area of Forest Service land 100 feet by 100 feet — to move water to/from TenX Ranch.³

“Construction and maintenance funding for the roadway and utilities is the responsibility of Stilo.”⁴ If Stilo does not fund the construction or maintenance, the Town of Tusayan may do so.⁵

The purpose and effect of the special use authorization is to permit the private development of the two parcels, development that would not and could not occur but for the Forest Service’s approval of Tusayan’s application. The application states that the nature and scope of the infrastructure that Tusayan seeks is that necessary to permit “anticipated build out” of the TenX and Kotzin Ranches.⁶ The application also explains that without the infrastructure made possible by the special use authorizations, development of the two private parcels cannot occur as planned. “Improved, all-weather access is necessary to ascertain reasonable use and enjoyment of these privately held lands.”⁷ The First Amendment to the PADA, which the special use application states it was submitted to support, defines the easements Tusayan seeks as “necessary infrastructure” for Stilo’s development of the Kotzin and TenX parcels.⁸ Stilo’s spokesman, Thomas DePaolo, has confirmed that the road permits are “vital” to the development, and that without improved access to the parcels “they won’t be developed.”⁹

³ Tusayan Application (Ex. 1) at 2-4.

⁴ Id. at 5.

⁵ Id. (“Pursuant to the PADA, construction and maintenance funding for the roadway and utilities is the responsibility of Stilo, however, if not completed in a timely manner the Town may fund and construct.”).

⁶ See id. (“Utility infrastructure for the private parcels that will be served by these roadways across Forest Service lands will be sized based on the anticipated build out of the private parcels. The utility corridors within the roadway section are of sufficient size to support all of the utility infrastructure contemplated for the private parcels at build out.”).

⁷ Id. at 6 (emphasis added). The only conceivable purpose for Tusayan seeking all-weather road access, water and sewer connections, and electricity for the two parcels is to serve the massive private development of those lands to suit Stilo’s plans.

⁸ See First Amendment to Pre-Annexation and Development Agreement, Agreement No. 2011-11-02, Between the Town of Tusayan, an Arizona municipal corporation, and Stilo Development Group USA, LP (Jan. 22, 2014) (hereinafter “First Amendment to the PADA”) at 2-4 (emphasis added), excerpts attached as Ex. 2.

⁹ L. Valdez, Grand Canyon: Two developments pose risks, Arizona Republic (May 12, 2015), attached as Ex. 3.

The only public benefit the application identifies is “improved access to the in-holdings, and the surrounding lands of the Kaibab National Forest.”¹⁰ Access on maintained roads to the parcels already exists; the “improved access” is necessary only to turn the parcels into massive developed resorts properties.¹¹

B. Stilo’s development plans for the two parcels

In 2014, Tusayan adopted a plan that describes the anticipated build-out of the properties that the special use authorization is designed to enable.¹² That build-out includes up to nearly 2,200 new housing units and more than 120 acres of commercial development, and up to three million square feet of new commercial space. Such development would hugely expand the commercial footprint of Tusayan (which is now less than 150 acres) and could increase the Town’s population by more than ten-fold.

The plan states that “approved zoning for [the Kotzin and TenX] parcels allows a maximum of 2,176 dwelling units (446 single family units and 1,730 multi-family units, which includes 300 dormitory rooms).”¹³ The National Park Service noted that Stilo’s legal representative projected the development would increase Tusayan’s population from 550 to between 5,500 and 6,000, and that others have estimated a population increase to as high as 8,000.¹⁴

The plan also anticipates significant commercial development for a resort at the two sites. Much of the Kotzin Ranch and TenX Ranch parcels are zoned PC, or “planned community,” permitting more than 120 acres of commercial development on the properties. “The potential on the Kotzin Ranch parcel is for 77.1 acres of commercial development. The development plan for the TenX Ranch parcel would allow 44.4 acres of commercial development. It should be noted that a substantial portion of the permitted commercial development on these two parcels is projected to be lodging (i.e. hotel, resort hotel or motel).”¹⁵ The entire footprint of the existing Town of Tusayan, not including the two parcels, is 144 acres. The General Plan places no limits on the square footage that could be built on the 120 acres zoned for commercial development.

Stilo’s promotional materials confirm the nature and breadth of the residential and commercial facilities whose construction will be made possible by the special use authorization. According to Stilo’s website:

The 65 [hectare] Kotzin Ranch property is planned for a wide range of visitor services that will include lodging, a pedestrian-orientated retail village, an Insight

¹⁰ Tusayan Application (Ex. 1) at 7 (emphasis added).

¹¹ See Letter from Nicholas Larson, District Ranger to Thomas De Paolo, Stilo (Jan. 30, 2013) (also stating, “You currently have access for the enjoyment of these properties as they are currently being used.”), attached as Ex. 4.

¹² Town of Tusayan, Tusayan General Plan 2024 (Apr. 16, 2014), attached as Ex. 5.

¹³ Id. at 26.

¹⁴ Grand Canyon National Park, Issues and Concerns Regarding Proposed Groundwater Developments Near the South Rim, Grand Canyon National Park (June 6, 2012) (GCNP Report) at 8-9, attached as Ex. 6.

¹⁵ Tusayan General Plan (Ex. 5) at 36-37.

educational campus, a Native American Cultural Center, a conference hotel, other services and limited residential uses.

The 78 [hectare] TenX Ranch, located just east of Tusayan, is planned as a residential community for area residents of the Grand Canyon region. Housing diversity will include single-family homes, apartment, condominiums and townhouses. A recreational vehicle park will be included as a replacement for the Camper Village RV Park and land is reserved for parks, trails, houses of worship and other community amenities. Neighborhood commercial services are conveniently located on site for area residents. A dude ranch and spa hotel are planned for the southern tip of the property. . . .

The Town Council approved the re-zoning of the . . . properties in November of 2011 allowing for the contemplated land uses.¹⁶

Media reports indicate that the resort's commercial space will total at least three million square feet, or about the footprint of ten average big box stores, and that development plans include a "water park."¹⁷

II. THE FOREST SERVICE HAS NO OBLIGATION TO PROVIDE TUSAYAN OR STILO WITH ADDITIONAL ROAD OR UTILITY RIGHTS-OF-WAY.

The Forest Service has cited three separate legal authorities as governing its consideration of the application for easements: the Alaska National Interest Lands Conservation Act (ANICLA), the Federal Roads and Trails Act (FRTA), and Title V of the Federal Land Policy and Management Act (FLPMA).¹⁸ None of these laws mandate that the Forest Service provide the upgraded access that the Town seeks, and the latter two grant the Forest Service authority to condition or reject the application. For these reasons, the Forest Service must not be under the misimpression that the Town of Tusayan has a right to construct the easements it seeks.

¹⁶ Gruppo Stilo USA, Under Development United States, Grand Canyon, Arizona USA, available at http://www.gruppostilousa.it/UNITED_STATES.html (last visited Mar. 20, 2015), attached as Ex. 7.

¹⁷ J. Cart, National Park Service calls development plans a threat to Grand Canyon, Los Angeles Times (July 6, 2014) (Stilo's development "would add 2,200 homes and 3 million square feet of commercial space to a town two blocks long."), attached as Ex. 8; A. Nagourney, Where 2 Rivers Meet, Visions for Grand Canyon Clash, New York Times (Dec. 3, 2014) ("A group of Italian developers is planning three million square feet of retail construction, plus 2,200 homes, in Tusayan, a newly incorporated village with a population of just 587 at the entrance to the park . . ."), attached as Ex. 9; E. Betz, Park Service to Tusayan: Where is the water?, Arizona Daily Sun (Feb. 28, 2014) (town plan for the two parcels includes a water park), attached as Ex. 10.

¹⁸ See U.S. Forest Serv., Tusayan Roadway Easements, Forest Service Decision Framework (May 2015), attached as Ex. 11.

A. ANILCA does not mandate that the Forest Service approve the easement application because Stilo already has access for “reasonable use and enjoyment” of its lands.

Because Stilo already has access for the reasonable use and enjoyment of its lands using existing Forest Service roads, the Forest Service has no legal obligation to provide additional access.

ANILCA provides landowners with limited access to private inholdings:

Notwithstanding any other provision of law, and subject to such terms and conditions as the Secretary of Agriculture may prescribe, the Secretary shall provide such access to nonfederally owned land within the boundaries of the National Forest System as the Secretary deems adequate to secure to the owner the reasonable use and enjoyment thereof: Provided, That such owner comply with rules and regulations applicable to ingress and egress to or from the National Forest System.¹⁹

This provision gives the Secretary discretion to define reasonable use and enjoyment and to establish terms and conditions for access.²⁰ The Secretary has defined “adequate access” to mean “a route and method . . . that provides for reasonable use and enjoyment of the non-Federal land consistent with similarly situated non-Federal land and that minimizes damage or disturbance to National Forest System lands and resources.”²¹

The Forest Service may not grant Tusayan’s application for easements under ANILCA. Stilo’s massive planned development is not “consistent with similarly situated non-federal land.” Although there are numerous private inholdings in the Kaibab National Forest, none contain a large-scale residential and commercial development.²² None are accessed by paved roads. Comparable private inholdings are used primarily for ranching operations and individual homes.²³ In fact, one of the reasons such outcry has accompanied Tusayan’s application is that the proposed development would be grossly out of proportion to uses of private land — including the Town of Tusayan — in the area. Based on the Forest Service’s regulations, Stilo’s planned development does not constitute reasonable use and enjoyment. Further, permitting the mammoth development Stilo proposes would, as discussed below, cause significant damage and disturbance to Forest Service resources. Stilo already has reasonable use and enjoyment of its land in the context of similarly situated non-Federal land in the area. Its proposed use is entirely unreasonable for the area.

¹⁹ 16 U.S.C. § 3210(a) (emphasis added).

²⁰ See Adams v. United States, 255 F.3d 787, 794–95 (9th Cir. 2001); United States v. Jenks, 22 F.3d 1513, 1517–18 (10th Cir. 1994).

²¹ 36 C.F.R. § 251.111 (emphasis added); see also id. § 254.114(a) (“The authorizing officer shall determine what constitutes reasonable use and enjoyment of lands based on contemporaneous uses made of similarly situated lands in the area and any other relevant criteria.”).

²² See Coconino County, Parcel Viewer, available at <https://gismaps.coconino.az.gov/parcelviewer/> (last visited June 1, 2015).

²³ Id.

Further, the Forest Service has recognized that Stilo already has sufficient access for use that would be consistent with similarly situated lands. A January 30, 2013 letter from the District Ranger to Stilo's representative stated, "You currently have access to these properties consistent with the current land uses."²⁴

The existing roads to the inholdings are Maintenance Level 3 roads, which the Forest Service Handbook describes as "roads open and maintained for travel by a prudent driver in a standard passenger car."²⁵ "Users can reasonably drive with expectations of predictable road conditions and can expect warning signs and traffic control devices meeting Manual on Uniform Traffic Control Devices standards when hazards are present."²⁶ The Forest Service does not explain why this access is not adequate for a use "consistent with similarly situated non-Federal land." Accordingly, the Forest Service has no obligation to provide Stilo — or Tusayan — with additional access.²⁷

Furthermore, ANILCA only provides landowners with the right to adequate "ingress and egress," not to utility corridors.²⁸ Accordingly, ANILCA does not provide the Forest Service with any authority to consider Tusayan's application for easements for water, power, sewer, etc. The Forest Service must analyze the proposed easements for such services under FLPMA Title V FLPMA (discussed infra).

Finally, ANILCA applies where "landowners" seek access to their property. "The regulations in this subpart [implementing ANILCA] set forth the procedures by which landowners may apply for access across National Forest System lands."²⁹ The Town is not the landowner of at least one of the parcels (Ten-X), and owns only a small piece of the Kotzin parcel.³⁰ Nor does Tusayan appear to seek access for itself. Its application states that "an 80-foot-wide corridor is requested to provide all weather access and utility service to the two privately owned in-holding parcels."³¹ The Town is seeking easements to assist in accessing Stilo's land, to support Stilo's development, not to its own land for its own use. For this reason, too, Forest Service may not grant Tusayan's application pursuant to ANILCA.

²⁴ Letter from Nicholas Larson, District Ranger to Thomas De Paolo, Stilo (Ex. 4) at 4 (also stating, "You currently have access for the enjoyment of these properties as they are currently being used").

²⁵ U.S. Forest Serv., Forest Service Handbook 7709.59 – Road System Operations and Maintenance Handbook, Chapter 60 – Road Maintenance § 62.32 (Feb. 5, 2009).

²⁶ Id. § 62.33.

²⁷ See Johnson v. U.S. Forest Serv., 93 Fed. App'x. 133, 134 (9th. Cir. 2004) (upholding Forest Service's finding "that hiking, stock, and helicopter access . . . constituted adequate access"); Hoffenberg v. United States, No. CV-08-08164-PCT-FJM, 2010 WL 3083533, at *2 (D. Ariz. Aug. 6, 2010) (affirming Forest Service's conclusion that applicant already had adequate access via "the same type of access adjacent residential properties have in this area").

²⁸ 36 C.F.R. § 251.111 ("Access means the ability of landowners to have ingress and egress to their lands. It does not include rights-of-way for power lines or other utilities.").

²⁹ See 36 C.F.R. § 251.110(a) (emphasis added).

³⁰ Tusayan Application (Ex. 1) at 1 ("Ten-X is wholly owned by Stilo").

³¹ Id. at 3 (emphasis added); see also id. at 6 ("Improved, all-weather access is necessary to ascertain reasonable use and enjoyment of these privately held lands").

B. FRTA does not authorize the Forest Service to grant the easement applications because the law does not permit private development access unrelated to National Forest management.

In the Project Definition, the Forest Service states that it is considering a “permanent easement for road rights-of-way” for the project under the Federal Roads and Trails Act (FRTA), Public Law 88-657.³² However, the FRTA does not provide the Forest Service with authority to authorize additional road access solely to facilitate private development.

Although the FRTA authorizes the Secretary to grant road easements,³³ this authorization is limited to rights-of-way that are necessary for management of national forest lands, such as roads used for timber harvest. The act’s “Congressional findings and declaration of policy” state:

The Congress hereby finds and declares that the construction and maintenance of an adequate system of roads and trails within and near the national forests and other lands administered by the Forest Service is essential if increasing demands for timber, recreation, and other uses of such lands are to be met; that the existence of such a system would have the effect, among other things, of increasing the value of timber and other resources tributary to such roads; and that such a system is essential to enable the Secretary . . . to provide for intensive use, protection, development, and management of these lands under principles of multiple use and sustained yield of products and services.³⁴

Multiple use and sustained yield principles do not address private uses of private land. Taken together these provisions demonstrate that the FRTA provides the Secretary with authority to facilitate use, development, or protection of the national forests, not private development unrelated to forest management.

Indeed, the Ninth Circuit has held that FRTA easements may be obtained only by “applicants who are participating in the construction and maintenance of the national forest road system.”³⁵ The court held that the owners of a private inholding were not entitled to an easement under the FRTA because they were not using the road to “assist the Forest Service in managing the Sitgreaves National Forest.”³⁶

In the regulations implementing the FRTA, the Forest Service defines the “forest transportation system” as the system of national forest roads, trails, and air fields on national forest lands.³⁷ “Forest road or trail” is defined as a “road or trail wholly or partly within or adjacent to and

³² Kaibab Nat’l Forest, Letter to Interested Party at 3 (Apr. 24, 2015), attached as Ex. 12.

³³ 16 U.S.C. § 533.

³⁴ Id. § 532 (emphasis added).

³⁵ Fitzgerald Living Trust v. United States, 460 F.3d 1259, 1268 (9th Cir. 2006) (emphasis added).

³⁶ Id. (citing H.R. Rep. 88-1920 (1964))

³⁷ See 36 C.F.R. § 212.1.

serving the National Forest System that the Forest Service determines is necessary for the protection, administration, and utilization of the National Forest System and the use and development of its resources.³⁸

As noted, the sole purpose of Tusayan's application is to enable private development. As the Forest Service has acknowledged, the roads are not necessary for management of the Kaibab National Forest. In a January 30, 2013 letter to Stilo, the Service stated: "The current road serves the agency's needs as well as the current private land use. The Forest Service is not interested in maintaining a higher level road and needs assurance that we will not be left with maintaining a paved 'road to nowhere.'"³⁹

Because additional access is not needed for national forest management, the Forest Service has no authority under the FRTA to issue a road easement to Tusayan.⁴⁰

Even if the FRTA provided the Forest Service with authority to review Tusayan's application, the law does not mandate that the Forest Service provide access to anyone. The FRTA merely authorizes the Forest Service to grant such access should the agency choose to do so.⁴¹ The Forest Service retains the authority to reject applications such as Tusayan's that are not in the public interest, and should do so here.

C. Under FLPMA, the Forest Service may reject or condition the application under FLPMA Title V based on environmental or other concerns.

FLPMA Title V authorizes the Secretary to grant "rights of way" over national forest lands for numerous purposes, including water pipelines, utilities, telecommunications, and roads.⁴² Title V grants are discretionary.⁴³ The Forest Service may reject a permit based on environmental or other concerns.⁴⁴ As the Forest Service has acknowledged, "FLPMA and other special use authorities provide permissive authorities that may be used to accommodate the needs of individuals, groups and industries only when they are in, or at least compatible with[,] the public interest."⁴⁵

³⁸ Id. (emphasis added).

³⁹ Letter from Nicholas Larson, District Ranger, to Thomas De Paolo (Ex. 4) at 3 (Jan. 30, 2013).

⁴⁰ The Forest Service may allege that an internal guidance document instructs agency staff to grant access under FRTA where subdivisions are at issue. See U.S. Forest Serv., Forest Service Manual, Chapter 2730 - Road and Trail Rights-of-Way Grants § 2732.3 (Aug. 10, 2004). The Forest Service, however, may not rely on internal guidance when the Ninth Circuit has held that FRTA permits may be issued solely for Forest protection.

⁴¹ 16 U.S.C. § 533 ("The Secretary is authorized . . . to grant permanent or temporary easements . . .").

⁴² 43 U.S.C. § 1761(a).

⁴³ Id. § 1761(b)(1).

⁴⁴ 36 C.F.R. § 251.54(g)(4) ("Based on evaluation of the information provided by the applicant and other relevant information such as environmental findings, the authorized officer shall decide whether to approve the proposed use, approve the proposed use with modifications, or deny the proposed use." (emphasis added)).

⁴⁵ 44 Fed. Reg. 29,107, 29,110 (May 18, 1979) (proposed rule revising regulations governing the authorization of the occupancy of land and conduct of activities on National Forest System lands).

Because of the impacts that Stilo's planned development will have on Grand Canyon National Park and other concerns, discussed infra, granting access that will allow such development to proceed is not in the public interest. Accordingly, the Forest Service should reject Tusayan's application.

III. THE FOREST SERVICE SHOULD REJECT THE PERMIT APPLICATION AND ADOPT THE 'NO ACTION' ALTERNATIVE.

Tusayan's current application does not warrant the Forest Service expending resources on a NEPA analysis. The application suffers from several flaws. As explained in our March 20, 2015 letter to the Forest Service, the project does not pass the initial screening criteria because it is not in the public interest.⁴⁶ Second, the proposed use does not pass the initial screening criteria because it is inconsistent with the Kaibab Forest Plan. Third, Tusayan and Stilo have not provided sufficient information about their development plans — such as where Stilo will obtain the necessary water — to allow the Forest Service to efficiently analyze the impacts under NEPA. Based on the current application, the Forest Service will have to address all possible scenarios for the development. Finally, the application does not pass the second-level screening because Tusayan has not yet demonstrated technical or financial capability to construct the improvements for which it seeks Forest Service authorization.

A. Under FLPMA, the Forest Service has the authority and duty to reject the permit application because it is not in the public interest.

Because the purpose and effect of the easements sought is to make possible the build-out of Stilo's mammoth development, the Forest Service must consider whether making that development possible is in the public interest and whether the development will unreasonably conflict and interfere with adjacent non-National Forest System lands.⁴⁷ The evidence overwhelmingly demonstrates that the development is not in the public interest and that it will unreasonably conflict and interfere with the protection of Grand Canyon National Park.

First, and as described below, building the resort the easements will make possible threatens the water that is the lifeblood of springs that nourish wildlife and habitat within Grand Canyon National Park. This is so because the most likely source of water for the giant commercial development and the thousands of new residents and overnight guests is groundwater pumping from the regional aquifer. Stilo has repeatedly refused to commit to not using groundwater to supply the development, although it claims it is exploring other potential water sources.⁴⁸

⁴⁶ Letter from E. Zukoski, Earthjustice, to R. Bonnie, U.S. Dep't of Agric., and T. Tidwell, C. Joyner, & M. Williams, U.S. Forest Serv. (Mar. 20, 2015), previously submitted to Kaibab National Forest.

⁴⁷ See 36 C.F.R. § 251.54(e)(1)(v), (5)(ii).

⁴⁸ Emery Cowan, Road decision determines fate of Tusayan development, *Ariz. Daily Sun* (May 3, 2015) (“According to Stilo consultant Andy Jacobs, the company is still considering several options for getting water, including transporting tanks via train or truck, tapping groundwater or repurposing a coal slurry pipeline . . .”), attached as Ex. 13; J. Cart, National Park Service calls development plans a threat to Grand Canyon, *L.A. Times* (July 6, 2014) (Ex. 8) (“ ‘Why do we want to preclude [the groundwater pumping] option that is available to us

Continued flow from the springs below Grand Canyon's South Rim depends on groundwater supply from the Redwall-Muav (R-M) regional aquifer, which underlies the Town of Tusayan and which has been tapped to provide for the Town's water demands. Groundwater pumping in Tusayan is almost certain to have a direct negative effect on spring flows in Grand Canyon National Park. Modeling done in 1999 to assess a prior version of Stilo's development projected that 50 years of groundwater pumping at 300 gallons per minute (gpm) in Tusayan would reduce spring flows at critical springs in the Park – including Indian Gardens by an average of 14% and at Hermit Spring by an average of 8% – and would also reduce annual flows at Havasu Spring within the Havasupai Reservation by about 275 acre-feet per year.⁴⁹ The pumping rate required to satisfy the water demands of the Stilo development is likely to be much higher than 300 gpm, likely resulting in even greater reductions in flows of springs and seeps.⁵⁰

Flow reductions to South Rim springs gravely threaten the wildlife and visitors that rely on them. In a report prepared to evaluate the impacts of Stilo's proposal, the Park's Division of Science and Resource Management warned that “[r]educing spring flows can . . . make perennial springs intermittent or seasonal, harming or eliminating spring-obligate species or endemic flora and fauna that do not have the ability to spread across the arid landscape to a more suitable location. Reliable sources of water to backcountry hikers and wildlife may be threatened, creating a hazard to human safety and the health of animal communities.”⁵¹ Species diversity near springs is 100 to 500 times greater than in surrounding Park habitats.⁵² The impacts of groundwater pumping would exacerbate effects to springs and seeps likely to be caused long term by reductions in precipitation resulting from climate change.

The Interior Department recently underscored the threat groundwater pumping would pose to Grand Canyon National Park. Michael J. Bean, Principal Deputy Assistant Secretary for Fish, Wildlife and Parks, informed the Agriculture Department:

the Special Use Authorization will facilitate development which could result in a variety of negative impacts to the Park and, importantly, to its “Outstanding Universal Value” (OUV), i.e., what makes the Park significant at a global level. In particular, if the development taps into groundwater sources, it could present irretrievable loss in water resources and attendant biota associated with seeps and

when we don't have to?” [Stilo's representative] said.”); Leslie MacMillan, *Everyone Wants a Piece of the Grand Canyon, But at What Cost*, *Esquire* (Aug. 29, 2013) (“DePaolo said that Stilo will import its water at 2,000 acre-feet per year from the Colorado River, which they will pump via an old coalmine slurry pipeline from Laughlin, Nevada across hundreds of miles of federal land (that it does not own) to its development in Tusayan.”), attached as Ex. 14.

⁴⁹ Errol L. Montgomery & Assocs., *Supplemental Assessment of Hydrogeologic Conditions and Potential Effects of Proposed Groundwater Withdrawal, Coconino Plateau Groundwater Subbasin, Coconino County, Arizona* (1999) at 49-50, excerpts attached as Ex. 15.

⁵⁰ In 2011, Tusayan's wells were pumping 123 gpm of water to serve approximately 500 residents and commercial businesses in a town 142 acres in size. GCNP Report (Ex. 6) at 7-8. A ten-fold increase in population and the addition of 120 acres of commercial space would very likely increase water demand well above the 300 gpm withdrawal that was modeled in 1999.

⁵¹ GCNP Report (Ex. 6) at 24.

⁵² *Id.* at 5.

springs in the Park. It is our understanding that, to date, neither the town of Tusayan nor the developer has identified a source of water for the development. Until a water source has been identified, it may be premature to begin an environmental analysis.⁵³

Assistant Secretary Bean also noted that the development made possible by the easements threatened a World Heritage Site (Grand Canyon), which all departments, including the Forest Service, have a duty to protect.⁵⁴

The development also threatens the “life-blood of the . . . the Havasupai.”⁵⁵ The Havasupai people rely on flows from the R-M aquifer into Havasu Creek for their water supply. And the Havasupai Reservation contains dozens of other springs and seeps that help meet local water demands and that “are of paramount importance for cultural and religious purposes.”⁵⁶ Springs and seeps on the Reservation provide water not only for domestic and cultural purposes but also for livestock, wildlife and unique riparian habitats. Flows from these waters are threatened if Stilo taps into the regional aquifer to meet its water demands.

The easements, and the development they are intended to make possible, also are likely to harm resources beyond Grand Canyon National Park’s water and spring-dependent wildlife. The Park’s superintendent, David Uberuaga, has stated that the Tusayan development threatens to harm the Park’s night sky with light pollution, and will degrade visitor experience in the park by causing increased noise, increased crowding in the Park, and more use of the airport in Tusayan by jets.⁵⁷ The Park Service believes that Stilo’s proposal could result in the Park’s infrastructure becoming further overwhelmed. Superintendent Uberuaga testified to these impacts in 2011:

With a large residential community on the boundary of the park, and with increased visitation will come additional operational demands on park infrastructure and staff that provide emergency services, law enforcement, visitor programs, maintenance and other visitor related services such as the visitor transportation system, and on the local clinic and school – both located within the park boundary.

Beyond water, wildlife, visitor experience, park infrastructure . . . and the long term impacts that can occur to these resources, we are also greatly concerned about park vegetation – such as the invasion and spread of exotic species; for cultural sites – knowing that increased development and additional roads can lead to looting of archeological sites both within and outside of the park; threats to proposed wilderness adjacent to the South Rim that could be impacted by

⁵³ Michael J. Bean, Principal Deputy Assistant Secretary for Fish, Wildlife and Parks, U.S. Dep’t of the Interior to Robert Bonnie, Undersecretary for Natural Resources and Environment, U.S. Dep’t of Agriculture (May 11, 2015) at 1, attached as Ex. 16.

⁵⁴ Id.

⁵⁵ Bureau of Reclamation, North Central Arizona Water Supply Study (2006) at 17, attached as Ex. 17.

⁵⁶ Id.

⁵⁷ See A. Nagourney, Where 2 Rivers Meet, Visions for Grand Canyon Clash (Ex. 9).

degraded air quality, noise impacts to natural sounds, impacts to view sheds and vistas from installation of infrastructure, and clearing and grading for roads to name just a few. We are also concerned about large increases in visitation and local populations and how we might manage those with limited resources and an aging infrastructure. What will be the environmental and fiscal effects . . . we don't know, as no analysis has taken place, and concerns that we and others have expressed, have not been addressed in an adequate manner.

Ecological processes cross park boundaries, and park boundaries may not incorporate all of the natural resources, cultural sites, and scenic vistas that relate to park resources or the quality of the visitor experience. Therefore, activities proposed for adjacent lands may significantly affect park programs, resources, and values.⁵⁸

For all of these reasons, Superintendent Uberuaga has declared the private development, for which the Kaibab National Forest's approval of the special use authorization is the on/off switch, "[one of] the greatest threat[s] to the Grand Canyon in the 96-year history of the park."⁵⁹

For similar reasons, representatives of the Havasupai Tribe – whose culture and life are based on the waters of Havasu Creek that spring from the at-risk aquifer – have expressed grave concerns about the impacts of the Forest Service special use authorization that is designed to facilitate Stilo's proposed resort development.⁶⁰

Even if Tusayan and Stilo identified a source of water other than the R-M aquifer, those alternatives would not be in the public interest. For example, reversing the former coal slurry pipeline from Laughlin, NV will require moving millions of tons of water over hundreds of miles more than a mile in elevation uphill. This will require vast amounts of energy, potentially leading to significant climate pollution. Removing water from the Colorado River watershed at a time of historic drought and in a water future increasing constrained by climate change will have negative consequences for downstream users.

Stilo's planned development also threatens to harm the Kaibab National Forest's own resources through increased vehicle traffic, noise, lights, and air pollution. The TenX Ranch has been identified as providing habitat for fawning pronghorn, and is directly adjacent to Forest Service

⁵⁸ Remarks by Superintendent David V. Uberuaga, Grand Canyon National Park, presented to the Tusayan Town Council (Oct. 26, 2011) at 3, attached as Ex. 18.

⁵⁹ D. Roberts, Who Can Save the Grand Canyon?, Smithsonian Magazine (Mar. 2015) ("Taken together, the proposed Tusayan and Escalade developments are unprecedented, says Dave Uberuaga, superintendent of Grand Canyon National Park: 'These two projects constitute the greatest threat to the Grand Canyon in the 96-year history of the park.'"), attached as Ex. 19.

⁶⁰ See letter of M. Vick, attorney for Havasupai Tribe, to N. Larson, Kaibab NF (Mar. 13, 2013) at 1 (urging the Forest Service to prepare an EIS to examine the potentially significant impact of the Forest Service's approval of a special use authorization due to the potential impacts "from the proposed development to Havasupai water resources and to the cultural resources in the area of [the Tribe's] aboriginal territory"), attached as Ex. 20. The undersigned groups do not speak for the Havasupai Tribe. We urge the Forest Service to coordinate and consult directly with that sovereign government on this issue.

lands that include elk calving grounds, deer and pronghorn fawning grounds, and an “important wildlife water source.”⁶¹

Impacts will reverberate beyond the Park and the Forest. Increasing Tusayan’s population ten-fold or more will cause an increase in litter, solid waste, water runoff, sewage, noise, light pollution, traffic, crime, air pollution, and roadkill from increased vehicle traffic, and a need for additional services including schools, police, ambulance, fire, and refueling stations. Flights to and from the Grand Canyon Airport may increase, bringing more air pollution and noise. Businesses in Williams, Flagstaff, and other communities that serve Grand Canyon visitors will be impacted by competition from the new facilities.

The threat of these myriad impacts has prompted significant public opposition to the resort development and to the Forest Service’s approval of the easement application. Hundreds of thousands of Americans from across the country have written to the Forest Service expressing their opposition. The nearby city of Flagstaff adopted a resolution opposing the Forest Service’s intent to approve the special use authorization, citing the threat to the city’s businesses and the environment.⁶² The former mayor of Tusayan has expressed concern about the location of one of the easements which would impact Grand Canyon School District property, threaten the safety of children, and bypass businesses in the existing Town.⁶³ The South Grand Canyon Sanitary District has complained that the development will require improvements to wastewater and reclaimed water infrastructure⁶⁴ and could place “all planning of wastewater collection lines and reclaimed water distribution lines . . . at risk.”⁶⁵ A former superintendent of Grand Canyon National Park has urged the Forest Service to prepare an EIS given the potential for significant harm to Grand Canyon.⁶⁶ Former and current Coconino County supervisors have expressed grave concerns about the project’s impacts.⁶⁷ The Interior Department has noted that

⁶¹ See U.S. Forest Service, Final EIS for Tusayan Growth (Aug. 6, 1999) at 200-204 (PDF pages 266–71) (note: original page numbers were lost in the PDF scan, so we also provide PDF page numbers with our citations), attached as Ex. 21.

⁶² City Council of the City of Flagstaff, Resolution No. 2015-08 (Mar. 10, 2015), attached as Ex. 22.

⁶³ E. Cowan, Water concerns loom over proposed Tusayan project, Arizona Daily Sun (May 22, 2015) (“Pete Shearer was one of those whose comments were specific to the town of Tusayan. The town's former mayor, Shearer expressed concern about the alignment of one of the Forest Service's proposed routes to Stilo's proposed development. On plan documents, the road would run through a corner of the Grand Canyon School District property. Building a heavily trafficked road beside the future school and town park puts children’s safety at risk, Shearer said.”), attached as Ex. 23.

⁶⁴ Letter from Pete Shearer, Chairman, South Grand Canyon Sanitary District Board of Directors, to Arizona Corporation Commission, Re: Tusayan Ventures Application for a CC&N, Docket No. W-20828A-11-0475, at 2 (Oct. 10, 2012) (hereinafter 10/10/12 Sanitary District letter), attached as Ex. 24.

⁶⁵ Letter from Steve Wene, attorney for the South Grand Canyon Sanitary District, to James Simino, Tusayan District Ranger, and Will Wright, Town of Tusayan Manager, Re: Utility Easement on Forest Land 2 (Apr. 8, 2015) (hereinafter 4/8/15 Sanitary District letter), attached as Ex. 25.

⁶⁶ Letter of S. Martin to M. Williams, Forest Service (May 6, 2015) (“An EIS is the most prudent and reasonable response to this issue, in view of the national and international significance of the Grand Canyon and the broad potential impacts and probable controversy of this project”), attached as Ex. 26.

⁶⁷ E. Cowan, Water concerns loom over proposed Tusayan project (Ex. 23) (paraphrasing Supervisor Art Babbott’s concerns regarding law enforcement, traffic, and floodplain protection); letter of C. Taylor, Grand Canyon is in

international observers fear for Grand Canyon's status as a World Heritage Site.⁶⁸ A prior effort by Stilo to develop a similarly grandiose resort complex near Tusayan – the so-called “Canyon Forest Village” proposal – ended in 2000 when Coconino County voters rejected a rezoning proposal necessary for the project to go forward, reflecting the depth of local opposition.

Conservation groups, including the undersigned, have long opposed the development – and the Forest Service's approval of any easements to enable it – due to development's potential impact to the Park's water and other resources.

In fact, beyond the private interests of Stilo and some Tusayan businesspeople (the smallest town in Arizona), it is difficult to locate any voices that argue in favor of the massive development that the Forest Service's special use authorization is designed to enable.

The Town of Tusayan may argue that Stilo has agreed to give the Town two 20-acre portions of the inholdings for the Tusayan to develop and relieve the lack of housing in town; and that the easements are necessary for Tusayan to develop its parcels. This does not change the outcome of the public interest test. As an initial matter, any housing the Town develops will have many of the same impacts as the larger private development itself: potable water demand, habitat degradation, light pollution, etc.

More significantly, while Stilo's provision of a few acres to the Town of Tusayan may be helpful PR, the sum total of Stilo's development may actually worsen the Town's alleged housing shortage. The shops, hotels, spas, interpretive centers, and other business are likely to bring in hundreds of new employees who will need housing. The demand for affordable housing in Tusayan likely would increase dramatically as a result of the resort and commercial development. Any assertion that enabling a massive resort development will alleviate Tusayan's housing shortage defies common sense.

In addition, any argument that the inholdings are the only location in which affordable housing can be constructed ignores the fact that Stilo owns nearly 20 acres of land with existing road and utility connections that could be developed for affordable housing: the Camper Village parcel.⁶⁹ Stilo has chosen not to allow affordable housing development on that parcel, instead “intend[ing] [Camper Village] to ultimately become a commercial/mixed use site.”⁷⁰ Although Stilo may

peril, Arizona Daily Sun (May 13, 2015) (former Coconino County Supervisor stating “The Forest Service needs to hear now from those of us who don't want the Grand Canyon to be permanently scarred by this disastrous development”), attached as Ex. 27.

⁶⁸ See letter of Michael J. Bean (Ex. 16).

⁶⁹ See Stilo Development Group USA, LP, Camper Village, Applicant's Narrative Report, Planned Community District Zoning Submittal to Town of Tusayan Arizona 1 (Aug. 1, 2011), attached as Ex. 28, available at <http://tusayan-az.gov/p&z%20pdf/DevAg/Formal%20Submittal%20Camper%20Village%20PC%20Zoning%20Application.pdf> (last visited May 29, 2015).

⁷⁰ First Amendment to the PADA (Ex. 2) at 10; see also Loretta Yerian, Stilo shares concept plans for future development of Camper Village, Grand Canyon News (Mar. 31, 2015), attached as Ex. 29 (quoting Stilo representative: “The ground floor of the buildings will be retail, commercial services — restaurants, galleries,

develop its property as it sees fit, it cannot assert that the only way to provide affordable housing in Tusayan is to develop the Kotzin and TenX inholdings when the company simply prefers to elevate commercial development over affordable housing on its Camper Village parcel.

Even if development of the inholdings were required to provide sufficient affordable housing in Tusayan, the proposed use and requested easements are far more than is necessary to achieve those ends. Stilo has conveyed only one 20-acre parcel to the Town thus far — in the north part of Kotzin Ranch.⁷¹ That parcel can be accessed via the Kotzin North access route.⁷² There is no need to grant easements for the Kotzin South or TenX Ranch access routes for Tusayan to be able to develop within the inholdings.

Stilo's provision of a few acres to the Town appears to be little more than an attempt to put lipstick on a pig; to make an inappropriate, profit-driven resort development appear more palatable from a public relations perspective.

There is thus ample basis for the Forest Service to conclude that approving Tusayan's special use application is not in the public interest; no rational basis exists to conclude otherwise. As with an expansion of the Crested Butte ski area expansion rejected by the Forest Service in 2009,⁷³ the Tusayan proposal is deeply controversial, is opposed by local communities, would stress local and Park infrastructure, will transform a rural landscape into an intensely developed resort, and will require a significant commitment of resources to complete the NEPA process. Most importantly, the proposed easements represent a significant threat to a unique, irreplaceable, and iconic landscape and crown jewel national park — Grand Canyon — and the water upon which its wildlife relies to survive. For these same reasons, approving the easements would unreasonably conflict and interfere with the protection of Grand Canyon National Park and adjacent lands, further requiring that the application be denied.

We therefore urge the Forest Service to reject the Town's application and abandon the NEPA process forthwith.

B. The Forest Service should reject the permit application because Tusayan and Stilo have not provided sufficient information regarding the development plans.

Neither Stilo nor Tusayan has provided sufficient information for the Forest Service to meaningfully evaluate the application or for the public to meaningfully comment on the

shops, grocery stores. The second and third levels are guest rooms, lodging and then on an interim basis we are required to provide on-sight [sic] housing for the employees that work in those businesses.”).

⁷¹ First Amendment to the PADA (Ex. 2) at 5; Pre-Annexation and Development Agreement Between the Town of Tusayan, an Arizona municipal corporation, and Stilo Development Group USA, LP (Oct. 31, 2011) (hereafter “2011 PADA”) at Exh. B1, attached as Ex. 30.

⁷² See 2011 PADA at Exh. B1 (Ex. 30). Tusayan may select a 20-acre parcel adjacent to its first parcel if the TenX Ranch road and utilities have not been completed by the time Tusayan develops at least ten acres of its first parcel. First Amendment to the PADA (Ex. 2) at 6.

⁷³ See Letter of C. Richmond, Supervisor, GMUG National Forest to T. Mueller, Pres., Crested Butte LLC (Nov. 5, 2009), attached as Ex. 31.

proposed use. Although information on the scale of development is available, precise plans have not been provided. Perhaps most significantly, Stilo has not identified the water source that will supply its development. Groundwater pumping from the regional aquifer — the most likely water source — threatens grave consequences for Grand Canyon and the Havasupai Reservation. Stilo claims that it is exploring other water supply options.⁷⁴ But until it identifies and receives approval to use one of those sources, it is premature for the Forest Service to consider Tusayan’s application.

The Forest Service has ample authority to forego processing Tusayan’s application until it obtains additional information regarding the water supply and other precise development plans. Under the Forest Service’s Title V regulations, applicants must provide a project description, including “appropriate resource information, in sufficient detail to enable the authorized officer to determine the feasibility of a proposed project or activity, any benefits to be provided to the public, the safety of the proposal, the lands to be occupied or used, the terms and conditions to be included, and the proposal’s compliance with applicable laws, regulations, and orders.”⁷⁵ Furthermore, to facilitate its environmental analysis, the Forest Service “may request such additional information as necessary to obtain a full description of the proposed use and its effects.”⁷⁶ The Forest Service needs information regarding water supply to determine: 1) the project’s feasibility, including whether Tusayan and Stilo will be able to get the necessary approvals to obtain water; 2) the environmental impacts of the proposal; and 3) any appropriate terms and conditions to impose on the special use authorization. For this very reason, Interior Assistant Secretary Michael Bean told the U.S. Department of Agriculture, “Until a water source has been identified, it may be premature to begin an environmental analysis.”⁷⁷ More detail on Stilo’s and Tusayan’s specific development plans also is necessary for the Forest Service to be able to more precisely analyze the proposed use’s environmental effects.

Moreover, the public must be provided with more information about the development plans to be able to meaningfully participate in the NEPA process. Full and effective public participation in agency decision-making is a cornerstone of the law. CEQ regulations implementing NEPA state:

“NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality.”⁷⁸

⁷⁴ See *infra* section IV.C.5.b.ii.1.

⁷⁵ 36 C.F.R. § 251.54(d)(4); see also *id.* § 251.54(d)(5) (stating the Forest Service “may require any other information and data necessary to determine the feasibility of a project or activity proposed; compliance with applicable laws, regulations, and orders; compliance with requirements for associated clearances, certificates, permits, or licenses; and suitable terms and conditions to be included in the authorization”).

⁷⁶ *Id.* § 251.54(g)(2)(i).

⁷⁷ Letter of Michael J. Bean (Ex. 16) at 1.

⁷⁸ 40 C.F.R. § 1500.1(b).

“Federal agencies shall to the fullest extent possible: . . . [e]ncourage and facilitate public involvement in decisions which affect the quality of the human environment.”⁷⁹

“Agencies shall . . . [m]ake diligent efforts to involve the public in preparing and implementing their NEPA procedures.”⁸⁰

Federal courts hold that an agency’s NEPA review must “foster both informed decision-making and informed public participation.”⁸¹ By requiring agencies to take a “hard look” at the choices before them and how they “affect the environment, and then to place their data and conclusions before the public . . . NEPA relies on democratic processes to ensure . . . that ‘the most intelligent, optimally beneficial decision will ultimately be made.’ ”⁸² The Ninth Circuit has further emphasized that one of NEPA’s purposes is “to insure that the public has sufficient information to challenge the agency.”⁸³ An agency has failed to provide the public with sufficient information if the public notice fails to highlight the “truly significant issue presented by the relevant permit application.”⁸⁴

The Forest Service’s scoping notice fails to highlight the “truly significant issue presented” by the permit application: development of a massive commercial and residential resort caused by the requested easements. Development of the inholdings is the reasonably foreseeable result of granting the requested easements; such development is the easements’ *raison d’etre*. Yet the Forest Service’s scoping notice disclaims any responsibility for the parcel’s development: “These properties, Ten-X Ranch and Kotzin Ranch, are not owned or managed by the federal government”⁸⁵ The Forest Service notes only that “[c]ommercial and residential development [has been] proposed on both properties.”⁸⁶ The Forest Service’s scoping notice fails to “insure that the public has sufficient information to challenge the agency.”

Although the public is aware of the proposed development, the Forest Service has provided no information as to the scale, specific development plans, or the development’s potential to cause wide-ranging and significant environmental damage. This paucity of information makes it difficult for the public to meaningfully comment on the proposed action. The Forest Service

⁷⁹ Id. § 1500.2(d).

⁸⁰ Id. § 1506.6(a).

⁸¹ California v. Block, 690 F.2d 753, 761 (9th Cir. 1982); see also Bering Strait Citizens for Responsible Res. Dev. v. U.S. Army Corps of Eng’rs, 524 F.3d 938, 953 (9th Cir. 2008) (Agencies preparing an EA “must provide the public with sufficient environmental information, considered in the totality of circumstances, to permit members of the public to weigh in with their views and thus inform the agency decision-making process.”).

⁸² Or. Natural Desert Ass’n v. Bureau of Land Mgmt., 625 F.3d 1092, 1099-100 (9th Cir. 2010) (internal citations omitted).

⁸³ Idaho Sporting Cong. v. Thomas, 137 F.3d 1146, 1150 (9th Cir. 1998).

⁸⁴ Ohio Valley Env’tl. Coal. v. U.S. Army Corps of Eng’rs, 674 F. Supp. 2d 783, 813-14 (S.D. W. Va. 2009). For this same reason, the omitted information is necessary to make a reasoned choice between alternatives. See 40 C.F.R. § 1502.22(a).

⁸⁵ Kaibab Nat’l Forest, letter to Interested Party (Ex. 12) at 3.

⁸⁶ Id. at 4.

should disclose the full scale and precise plans of the easements' objective before beginning its NEPA scoping process.

Furthermore, even if the Forest Service ultimately decides to grant the application — which it should not — additional information regarding water supply and other potential impacts of the parcels' development is important so that the Forest Service can analyze any appropriate terms and conditions to include in an authorization. Each Title V right-of-way authorization “[m]ust contain” terms and conditions which will “minimize damage to scenic and esthetic values and fish and wildlife habitat and otherwise protect the environment.”⁸⁷ The Forest Service also must include terms and conditions that it deems necessary to “protect the public interest.”⁸⁸ The Forest Service cannot properly evaluate the proposal or determine which terms and conditions are necessary to minimize damage to the environment and protect the public interest without knowing how or where Stilo will get the necessary water, or what Stilo's precise development plans are.

C. The Forest Service should reject the application because neither Tusayan nor Stilo has demonstrated financial or technical capability.

Applicants for Title V rights-of-way must demonstrate that they have the technical and financial capability to build the project.⁸⁹ The Forest Service's Title V regulations contemplate that the proponent will make this demonstration before the Forest Service accepts a written formal application and conducts NEPA analysis.⁹⁰ The Tusayan District Ranger also has asked for “some assurance that [the] road will be maintained and by whom. Also a plan of funding and to what standard roads and utilities will be maintained. . . . We need some guarantee of maintenance in perpetuity.”⁹¹

We are unaware that Tusayan — the applicant — has made this showing in its application or elsewhere. The application identifies Stilo as the likely party responsible for constructing the easements although the Town of Tusayan may still be on the hook if Stilo does not move forward quickly enough.⁹² Either way, it does not appear that either Tusayan or Stilo has demonstrated financial capability: the application indicates that the “ability to fund will be demonstrated based upon the Kaibab National Forest requirements for substantiating (i.e.,

⁸⁷ 36 C.F.R. § 251.56(a)(1)(i)(B).

⁸⁸ Id. § 251.56(a)(1)(ii)(G).

⁸⁹ 43 U.S.C. § 1764(j).

⁹⁰ 36 C.F.R. § 251.54(d)(3) (listing technical and financial capability demonstration as a minimum requirement for any special use proposal); see also id. § 251.54(e)(5)(iv) (listing lack of technical or economic feasibility as a reason for rejecting a proposal during second-level screening).

⁹¹ Letter from Nicholas Larson, District Ranger to Thomas De Paolo, Stilo (Ex. 4) at 2–3.

⁹² Tusayan Application at 5 (“Pursuant to the PADA, construction and maintenance funding for the roadway and utilities is the responsibility of Stilo, however, if not completed in a timely manner the Town may fund and construct.”).

financial records, list of completed projects, etc.).”⁹³ Tusayan must make this showing before the Forest Service engages in the NEPA analysis.

IV. IF THE FOREST SERVICE DOES NOT REJECT THE PERMIT APPLICATION OUTRIGHT, IT MUST PREPARE A FULL ENVIRONMENTAL IMPACT STATEMENT.

If the Forest Service decides to process Tusayan’s easement application, it must undertake a robust analysis pursuant to NEPA. In doing so, the agency must:

- Not rely on stale NEPA documents that address different proposals;
- Set a proper baseline;
- Disclose all direct, indirect, and cumulative impacts of the proposed action;
- Prepare an EIS;
- Evaluate all reasonable alternatives and mitigation measures; and
- Invite American Indian tribes and agencies to cooperate in the NEPA analysis.

We address these mandates below.

A. The Forest Service may not rely on the 1999 Tusayan Growth EIS for its NEPA compliance.

Regulations implementing NEPA permit agencies to adopt other agencies’ NEPA documents or to tier to programmatic documents prepared by the agency to avoid duplicative paperwork. Courts may permit agencies to rely on a prior EIS or to tier to programmatic documents to avoid repeating analysis of broad-scale impacts.⁹⁴ Agencies are also required to supplement previously completed NEPA documents where: 1) the agency “makes substantial changes in the proposed action that are relevant to environmental concerns,” or 2) “[t]here are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.”⁹⁵

Any suggestion that the Forest Service may rely on or merely prepare a supplement to the 1999 Tusayan Growth EIS to comply with NEPA for the easement application is incorrect for several reasons.

First, the proposed action at issue in the Tusayan Growth EIS was a land swap that would concentrate development near the Town.⁹⁶ Here, development will occur on two parcels outside of the developed area of Tusayan; the opposite of the Tusayan Growth proposal. The proposed action at issue here is not a “substantially changed” version of the land swap, but an entirely

⁹³ Id. (emphasis added).

⁹⁴ See 40 C.F.R. § 1508.28 (tiering is appropriate for referencing general discussions in larger impacts statements in subsequent narrower statements).

⁹⁵ 40 C.F.R. § 1502.9(c)(1)(i), (ii).

⁹⁶ Tusayan Growth EIS (Ex. 21) at 21 (PDF page 35).

different proposal. Further, the Tusayan Growth selected alternative — Alternative H — assumed that development would be capped at 1,270 rooms, that only 272 acres would be developed, and that only 270,000 square feet of commercial, retail space would be built.⁹⁷ Zoning of the TenX and Kotzin parcels permits far more development on every front; indeed significantly more development is planned.⁹⁸

Second, the world – and the local area – has changed significantly over the last 16 years. For example, today there is much better understanding of the effects and accelerating pace of climate change. Impacts to South Rim springs and seeps from groundwater pumping will be aggravated by prolonged drought and a warming climate in the desert Southwest.⁹⁹ In addition, Grand Canyon National Park now faces a staggering maintenance backlog, which increased visitation will worsen.¹⁰⁰

Third, the Tusayan Growth EIS assumed that development would occur on three parcels (including Kotzin and TenX) under the “no action” alternative, in which a land swap would not occur.¹⁰¹ Here, the “no action” alternative to granting the easements is that no development would occur.¹⁰² The action vs. no action comparison in the two cases is vastly different, so the Forest Service cannot rely on the Tusayan Growth EIS’s alternatives analysis. Moreover, the Tusayan Growth EIS provided little detail about the nature and scope of the “inevitable” development on the three parcels, so it would be impossible to tell whether the intensity of development analyzed under the “no action” alternative in 1999 would bear any resemblance to the proposed action here.

To be sure, the Tusayan Growth EIS contains some information that may be useful to the Forest Service if it undertakes a proper, full-scale NEPA and the Tusayan Growth EIS often lumped the development impacts of the three parcels together so that it would be difficult to tease out which impacts relate to only the two parcels to be developed as a result of Tusayan’s application here. A analysis on the easements, including information about the types of impacts that large developments can have in this area, and about some of the values at risk in and around the Kotzin and TenX properties. We urge the Forest Service to review that EIS for such useful information. However, the agency cannot rely on that stale EIS in any way to fulfill its NEPA obligations to evaluate the impact of Tusayan’s application.

⁹⁷ Id. at 22, 251 (PDF pages 36, 324).

⁹⁸ See supra section I.B.

⁹⁹ See infra section IV.C.5.b.ii.1.

¹⁰⁰ See infra section IV.C.m.

¹⁰¹ Tusayan Growth EIS (Ex. 21) at 25, 29 (PDF pages 39, 47).

¹⁰² See supra text accompanying notes 6–9 (noting easements are “vital” and necessary precondition to inholdings’ development).

B. Any NEPA document must fully disclose the baseline against which the alternatives will be measured.

For the Forest Service to fulfill its obligation to take a “hard look” at the environmental effects of the easements, any NEPA document the Forest Service prepares must focus its analysis on those areas and resources likely to be impacted by the proposed action.¹⁰³ Further, CEQ regulations require the Forest Service to provide information concerning baseline conditions by “succinctly describ[ing] the environment of the area(s) to be affected or created by the alternative under consideration.”¹⁰⁴ “Without establishing . . . baseline conditions . . . there is simply no way to determine what effect [an action] will have on the environment and, consequently, no way to comply with NEPA.”¹⁰⁵

A key baseline condition that the Forest Service must address in any NEPA document is climate change. Climate change is occurring in Arizona and the desert Southwest and will continue over the next century. According to a 2013 report, climate scientists have high confidence that the climate of the Southwest will continue to change through the twenty-first century and beyond, in response to human-generated greenhouse gas emissions, and that much of this change will be irreversible for centuries after substantial human-caused carbon dioxide emissions have ceased.¹⁰⁶ The report’s key findings include:

- Warming will continue, with longer and hotter heat waves in summer. Surface temperatures in the Southwest will continue to increase substantially over the twenty-first century (high confidence), with more warming in summer and fall than winter and spring (medium-high confidence) (Figures 1.5 and 1.6). Summer heat waves will become longer and hotter (high confidence). Winter cold snaps will become less frequent but not necessarily less severe (medium-high confidence).
- Average precipitation will decrease in the southern Southwest (including Arizona) perhaps increase in northern Southwest. Precipitation will decline in the southern portion of the Southwest region, and change little or increase in the northern portion (medium-low confidence).
- Precipitation extremes in winter will become more frequent and more intense (i.e., more precipitation per hour) (medium-high confidence).

¹⁰³ See 40 C.F.R. § 1508.25(c); Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 350-51 (1989) (internal quotation omitted) (NEPA requires that federal agencies take a ‘hard look’ at the environmental consequences of their proposed actions.).

¹⁰⁴ 40 C.F.R. § 1502.15; see Council on Environmental Quality, Considering Cumulative Effects under the National Environmental Policy Act 41 (Jan. 1997) (“The concept of a baseline against which to compare predictions of the effects of the proposed action and reasonable alternatives is critical to the NEPA process.”).

¹⁰⁵ Half Moon Bay Fishermans’ Mktg. Ass’n v. Carlucci, 857 F.2d 505, 510 (9th Cir. 1988).

¹⁰⁶ Gregg Garfin, et al., eds., Assessment of Climate Change in the Southwest United States: A Report Prepared for the National Climate Assessment (2013) at 5, attached as Ex. 32.

- Late-season snowpack will continue to decrease. Late winter-spring mountain snowpack in the Southwest will continue to decline over the twenty-first century, mostly because temperature will increase (high confidence).
- Declines in river flow and soil moisture will continue. Substantial portions of the Southwest will experience reductions in runoff, streamflow, and soil moisture in the mid- to late-twenty-first century (medium-high confidence).
- Droughts in parts of the Southwest will become hotter, more severe, and more frequent (high confidence). Drought, as defined by Colorado River flow amount, is projected to become more frequent, more intense, and more prolonged, resulting in water deficits in excess of those during the last 110 years (high confidence).¹⁰⁷

Scholarship also concludes that “in the U.S. Southwest, ... the risk of a decade-scale megadrought in the coming century is ... at least 80%, and may be higher than 90% in certain areas. The likelihood of longer-lived events (35 yr) is between 20% and 50%, and the risk of an unprecedented 50-yr megadrought is nonnegligible under the most severe warming scenario (5%–10%).”¹⁰⁸

Higher temperatures and reduced precipitation will further stress groundwater levels. As EPA states:

The [Southwest] region’s water supplies are already constrained under current climate conditions. Water allocations in the region, some of which were agreed upon almost a century ago, have become difficult to meet. Meanwhile, groundwater pumping is already lowering water tables. Future climate change is projected to worsen these conditions. Increasing temperatures are projected to further reduce snowpack, which will lead to reduced streamflows, especially in the spring.¹⁰⁹

The Forest Service’s analysis of the impacts of the easement and Stilo’s development must be grounded on the baseline assumption that current and ongoing climate change will further tax already severely strained water and groundwater resources, and may worsen the risk of wildfire.

¹⁰⁷ Id. at 5–6.

¹⁰⁸ T. Ault, Assessing the Risk of Persistent Drought Using Climate Model Simulations and Paleoclimate Data, *J. of Climate* (Oct, 15, 2014), attached as Ex. 33.

¹⁰⁹ EPA website, Climate Change, Southwest, attached as Ex. 34, available at www.epa.gov/climatechange/impacts-adaptation/southwest.html (last visited June 1, 2015).

C. The Forest Service must prepare a full environmental impact statement because the easements, and the development they are intended to induce, will significantly damage the environment.

1. *An EIS is required if the easements may significantly affect the environment.*

“NEPA places upon an agency the obligation to consider every significant aspect of the environmental impact of a proposed action.”¹¹⁰ “The purpose of NEPA is twofold: ensure[] that the agency . . . will have available, and will carefully consider, detailed information concerning significant environmental impacts[, and] guarantee [] that the relevant information will be made available to the larger [public] audience.”¹¹¹

NEPA requires federal agencies to prepare an EIS for all “major Federal actions significantly affecting the quality of the human environment.”¹¹² The “significance” of an action’s effects depends on both the context and intensity of those effects.¹¹³

An action’s effects “must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality.”¹¹⁴ The context here is the Grand Canyon watershed, with its vast undeveloped habitats, scenic views, clear air quality, unique seep and spring ecosystems, and unparalleled recreational opportunities. This iconic landscape draws over five million visitors per year who seek to experience Grand Canyon’s incomparable natural values.

“Intensity relates to the degree to which the agency action affects the locale and interests identified in the context part of the inquiry.”¹¹⁵ Council on Environmental Quality (CEQ) regulations provide ten factors for evaluating intensity.¹¹⁶

An agency may prepare an Environmental Assessment (EA) to assist it in “determining whether to prepare an environmental impact statement or a finding of no significant impact.”¹¹⁷ But “[n]o matter how thorough, an EA can never substitute for preparation of an EIS[] if the proposed action could significantly affect the environment.”¹¹⁸ An EIS is required if the proposed action

¹¹⁰ Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc., 435 U.S. 519, 553 (1978).

¹¹¹ Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin., 538 F.3d 1172, 1185 (9th Cir. 2008) (alterations in original) (quoting Idaho Sporting Cong. v. Thomas, 137 F.3d 1146, 1149 (9th Cir. 1998)) (internal quotation marks omitted).

¹¹² 42 U.S.C. § 4332(C).

¹¹³ 40 C.F.R. § 1508.27.

¹¹⁴ Id. § 1508.27(a).

¹¹⁵ Nat’l Parks & Conservation Ass’n v. Babbitt, 241 F.3d 722, 731 (9th Cir. 2001).

¹¹⁶ 40 C.F.R. § 1508.27(b).

¹¹⁷ Id. § 1508.9(a)(1).

¹¹⁸ Anderson v. Evans, 371 F.3d 475, 494 (9th Cir. 2004) (emphasis added).

may significantly affect the environment; it is not necessary to establish that significant effects will occur.¹¹⁹ “The purpose of an EIS is to obviate the need for speculation” on potential effects of the proposed action.¹²⁰

The easements themselves will damage the environment directly. More importantly, the purpose of the easements is to expand vastly the footprint of commercial, retail, and residential development on the doorstep of Grand Canyon, in effect building a town that will more increase Tusayan’s population as much as ten times. This development will inarguably significantly impact the water, air quality, visitor experience, wildlife habitat, and numerous other values on the doorstep of, and within, Grand Canyon National Park. Because the proposed action will so obviously have significant impact, the Forest Service must prepare an EIS.

2. *The Forest Service must analyze and disclose direct effects from the easements.*

The Forest Service must analyze and disclose the direct effects of the easements. Direct effects “are caused by the action and occur at the same time and place.”¹²¹ The direct effects of the easements include effects from the construction and ongoing use of the roads and utility corridors. The Forest Service also must analyze and disclose the direct effects of constructing and using the road and utility segments that will connect the Forest Service easements to existing roads and utilities.¹²²

a. Construction impacts

Construction of the roads and utilities through the easements is likely to have various effects on the environment that the Forest Service must analyze and disclose. Both the Kotzin South and Kotzin North easements require construction through undisturbed forest.¹²³ The South easement will traverse 1,892 feet of undisturbed National Forest land, requiring at least 5.3 acres to be cleared.¹²⁴ The North easement will traverse 770 feet of undisturbed forest, requiring at least 1.4 acres to be cleared.¹²⁵

¹¹⁹ Id. at 488 (“[T]he plaintiffs need not demonstrate that significant effects will occur. A showing that there are substantial questions whether a project may have a significant effect on the environment is sufficient.” (quoting Blue Mountains Biodiversity Project v. Blackwood, 161 F.3d 1208, 1212 (9th Cir. 1998)) (internal quotation marks omitted)).

¹²⁰ Sierra Club v. U.S. Forest Serv., 843 F.2d 1190, 1195 (9th Cir. 1988).

¹²¹ 40 C.F.R. § 1508.8.

¹²² See Fla. Wildlife Fed’n. v. U.S. Army Corps of Eng’rs, 401 F.Supp.2d 1298, 1313–17 (S.D. Fla. 2005) (holding the Army Corps of Engineers had a duty to consider the effects of a projected connection road from the proposed road extension to an already existing highway).

¹²³ Tusayan Application (Ex. 1) at 2–5.

¹²⁴ Id. at 2.

¹²⁵ Id.

Those easements following existing forest roads also will require additional clearing and land disturbance because the proposed easements are wider than the existing roads. The TenX, Kotzin South, and Kotzin North easements will require an additional 27.3, 3.6, and 13.2 acres, respectively, of new disturbance along existing Forest Service roads.¹²⁶ Related structures and facilities require another 1.2 acres of new disturbance.¹²⁷ This disturbance is in addition to the surface disturbance required to excavate, regrade, and pave the existing roadways. All told, road construction and widening will pave or scrape bare 52 acres, or the equivalent of nearly 40 football fields (plus another 4 acres of disturbance on non-Forest Service land).¹²⁸

Surface disturbance from constructing maintenance level 5 roadways and laying utilities is likely to cause airborne dust. Airborne dust can negatively affect plants at least 1,000 m (3,280 ft.) to 2,000 m (6,562 ft.) away from ground disturbance.¹²⁹ Airborne dust can cause plant dehydration and suffocation, reduce plant reproductive capacity, change plant species composition and reduce species richness, alter soil properties, and impede the abilities of plant pollinators — bees, wasps, and other insects — to obtain food.¹³⁰ And airborne dust could be detrimental to the health and enjoyment of Grand Canyon visitors and local residents. Dust can reduce visibilities, obscuring the Canyon's scenic views. And it may make cause respiratory distress in sensitive populations.¹³¹ The Forest Service should consider the magnitude and timing of airborne dust from construction activities; specifically whether increased dust will coincide with periods of high visitation to Grand Canyon.

The Forest Service must analyze and disclose the vegetation removal that will accompany additional surface disturbance. Special status plants, including clustered leather flower (*Clematis hirsutissima*) and Tusayan flameflower (*Phemeranthus validulus*), are known to occur in the area and could be damaged or destroyed by surface disturbance.¹³² Vegetation removal can have direct effects on fauna that use the vegetation for forage, nesting, predator avoidance, or shelter. Ground disturbance can destroy burrows and nests of the area's ground-dwelling animals, including the Arizona pocket mouse (*Perognathus amplus*) and little pocket mouse (*P. longimembris*), which are Species of Greatest Conservation Need in Arizona. The Forest Service should examine whether easement construction may directly or indirectly harm or kill vegetation and wildlife in the area.

New road construction and widening of existing corridors can impose barriers to wildlife movement and disrupt connectivity among plant and wildlife populations. Arizona Game and

¹²⁶ Id.

¹²⁷ Id.

¹²⁸ Id.

¹²⁹ See generally U.S. Fish & Wildlife Serv., Ecological Effects of Ground Disturbance and Roads on Plants and Recommended Buffer Distances, with Emphasis on Uinta Basin, Utah (Mar. 6, 2014) and references cited therein, attached as Ex. 35.

¹³⁰ Id.

¹³¹ See, e.g., Brockton J. Hefflin, et al., Surveillance for Dust Storms and Respiratory Diseases in Washington State, 1991, 49 Archives of Env'tl. Health 170, 173–74 (1994), attached as Ex. 36.

¹³² Tusayan Growth EIS (Ex. 21) at 207–08 (PDF pages 275–76).

Fish Department (AGFD) maps show the easement areas as having medium value as unfragmented habitat.¹³³ And the easement area overlaps an important wildlife linkage AGFD has identified for elk, mule deer, mountain lion, northern goshawk, and pronghorn: the Coconino Plateau-Kaibab National Forest linkage.¹³⁴ The Forest Service has a duty to examine whether the easements or their development could diminish the ecological value of this linkage. It also must consider whether any other species found in the area¹³⁵ might be harmed by the easements' construction and use; through behavior (foraging, breeding, nesting, migrating, etc.) disruptions, lost habitat, or habitat fragmentation, for example. And the Forest Service should examine whether the easements pass between fragmented plant populations, and assess whether the easements would increase the populations' isolation.

Construction of the proposed roads and utility corridors may require a significant amount of excavation and fill in or near streambeds and washes. The Kotzin Ranch South access road appears to cross Coconino Wash.¹³⁶ The Forest Service should analyze and disclose any impacts to streams and washes and attendant effects on the ecosystems associated with these water bodies. And the Service should disclose whether Tusayan's activities may require a Clean Water Act fill permit before discharging fill into jurisdictional waters of the United States.¹³⁷

The Kotzin Ranch South access road appears to be partially located in a flood zone.¹³⁸ And both the Kotzin Ranch North and TenX Ranch access routes appear to cross drainages.¹³⁹ The Forest Service should analyze and disclose the likelihood and frequency that these routes may flood during storm events; and it should consider possible effects such flooding would have on the area's traffic patterns and on public safety.

Surface disturbance and groundcover removal during construction likely will increase sediment runoff and erosion during periods of rain. The Forest Service should consider the degree to which runoff and erosion will be increased, and the effects such runoff and erosion may have on plants and wildlife in the area. The Forest Service should pay particular attention to whether construction is likely to coincide with rainy seasons when runoff would be greatest.

Developing the easements will require the use of heavy construction equipment that can affect the human environment in various ways. Noise from the equipment could interfere with the visitor experience in Grand Canyon National Park, Kaibab National Forest, and Tusayan. And it may diminish local residents' quality of life. Construction equipment also emits harmful diesel emissions that can negatively impact local air quality. The Forest Service should analyze and

¹³³ HabiMaps, produced with Ariz. Game & Fish Dep't HabiMap software on May 27, 2015, at 7 (habitat fragmentation map), attached as Ex. 37.

¹³⁴ Ariz. Wildlife Linkages Workgroup, Arizona's Wildlife Linkages Assessment 47 (2006), excerpts attached as Ex. 38.

¹³⁵ See Table 1, *infra*.

¹³⁶ See U.S. Forest Serv., Kotzin Ranch Access (May 2015), attached as Ex. 39.

¹³⁷ See 33 U.S.C. § 1344.

¹³⁸ See Letter from YSMA to Deirdre McLaughlin 3 (May 22, 2015) (hereinafter YSMA Letter), attached as Ex. 40.

¹³⁹ See Kotzin Ranch Access (Ex. 39); U.S. Forest Serv., TenX Ranch Access (May 2015), attached as Ex. 41.

disclose these effects from construction equipment; considering in particular whether the impacts would overlap with increased visitation.

Construction activities likely will require temporarily altering traffic patterns or conducting traffic control on SR 64 to accommodate construction equipment and operations.¹⁴⁰ The Forest Service should consider what effects traffic control may have on traffic volumes and congestion on SR 64; particularly considering how construction may overlap with seasonal traffic patterns.

The area to be disturbed could contain American Indian cultural artifacts, sacred or culturally significant sites, and other important resources that could be destroyed or disturbed by the easements. The project area includes the traditional use areas of several tribes: Southern Paiute, Hualapai, Havasupai, Hopi, Navajo, Yavapai, and Pueblo of Zuni.¹⁴¹ The Forest Service should analyze and disclose any potential impacts constructing the roads and utilities may have on American Indian cultural resources and sites. In addition, the National Historic Preservation Act (NHPA) requires federal agencies to analyze and minimize the effects of their actions on historic tribal properties, including traditional cultural properties (TCPs) and places of traditional religious and cultural importance.¹⁴² The Forest Service should survey the area likely to be disturbed for road and easement construction for potential historic tribal properties as part of its assessment of environmental effects,¹⁴³ and should include the results of those surveys in its NEPA document.

b. Impacts from easement use

The Forest Service must consider environmental effects from the easements' ongoing use after they have been developed. Tusayan has not provided an estimate of vehicular traffic that would use the roads. Tusayan's statement in the easement application that the easements' design "would adequately accommodate anticipated traffic" is belied by its statement in the same section that "[t]he volume of traffic [is] undetermined at this time."¹⁴⁴

The Forest Service must determine or make reasonable projections about the anticipated volumes and timing (daily and seasonal) of each traffic type (e.g., car, heavy truck, bus, recreational vehicle, etc.) so that it is able to: 1) assess whether the proposed easements can accommodate traffic volumes to and from the inholding development, and determine the consequences if the easements are inadequate; 2) assess how vehicular use of the easement roads will affect traffic patterns on existing roads (e.g., Long Jim Loop Road, SR64); and 3) analyze the environmental effects of vehicular traffic induced by the development. Any traffic assessment necessarily

¹⁴⁰ See YSMA Letter (Ex. 40) at 3.

¹⁴¹ See Bureau of Land Mgmt., Northern Arizona Proposed Withdrawal, Final Environmental Impact Statement 3-214 (2011) (hereinafter Mineral Withdrawal EIS), excerpt attached as Ex. 42; see also infra sections IV.C.5.r, IV.E.4.

¹⁴² 54 U.S.C. § 306108; see also 36 C.F.R. Part 800; infra sections IV.C.5.r, IV.C.5.s, IV.E.1.d; IV.E.4.

¹⁴³ See U.S. Forest Serv., Forest Service Manual, Chapter 2360 – Heritage Program Management § 2364.1 (July 25, 2008).

¹⁴⁴ Tusayan Application (Ex. 1) at 5.

depends on the potential development scenarios for the inholdings. Because neither Stilo nor Tusayan has disclosed its precise development plans, the Forest Service should assume the inholdings will be developed to full build-out.¹⁴⁵ Traffic modeling should consider various maximum-development scenarios; for example a development with a greater residential-to-commercial ratio would create more car traffic, whereas a development with a greater commercial-to-residential ratio would create more truck and bus traffic.

Once the Forest Service projects various traffic scenarios, it must analyze and disclose the effects of traffic in each scenario. The Forest Service should consider traffic congestion along the easements; whether the proposed roads contain adequate capacity for the projected traffic volumes. A recent analysis by the firm YSMA estimates that the proposed access roads unlikely will be able to accommodate nearly as many vehicle trips as the development will generate.¹⁴⁶

The Forest Service also must analyze and disclose effects the development's traffic will have on existing roads and traffic patterns. State Route 64 is likely to see increased traffic levels from vehicles traveling to the new development. The Forest Service must assess whether SR64 currently has adequate capacity to accommodate additional traffic and, if not, what improvements (with their attendant environmental effects) would be necessary. Even if SR64 does have sufficient capacity, increased traffic volumes will increase the rate of road wear and, accordingly, maintenance costs. And the Forest Service must analyze and disclose the degree to which congestion will be increased on SR64 and how that may affect visitors traveling to Grand Canyon.

The Forest Service also must examine specific ways in which the easements may disrupt traffic patterns on SR64. For example, traffic waiting to enter Grand Canyon National Park apparently backs up on SR64 southward of the proposed intersection with the Kotzin Ranch North access route.¹⁴⁷ This situation would create a safety concern for SR64 traffic and traffic trying to enter or exit the North access road. And it could impede emergency vehicle access via the North access road. When considering the development traffic effects on existing traffic patterns, the Forest Service should specifically analyze how the North access road may affect traffic on SR64 when vehicles are backed up at the Park entrance.

Increased traffic along the TenX access road may hinder access to Forest Road 302 beyond the parcel. Forest Road 302 appears to be the preferred route to access Kaibab Forest landmarks such as Hull Cabin and Grandview Lookout Tower.¹⁴⁸

¹⁴⁵ See infra section IV.C.5.a.

¹⁴⁶ YSMA Letter (Ex. 40) at 2.

¹⁴⁷ Id. at 2–3.

¹⁴⁸ See U.S. Forest Serv., Hull Cabin, <http://www.fs.usda.gov/recarea/kaibab/recreation/recarea/?recid=16849> (last visited June 1, 2015); U.S. Forest Serv., Grandview Lookout Tower, <http://www.fs.usda.gov/recarea/kaibab/recarea/?recid=11695> (last visited June 1, 2015).

Forest Service Manual 7712.4 requires a travel analysis to be conducted on new roads.¹⁴⁹ The Forest Service should conduct such a travel analysis as part of its NEPA review.

Vehicles using the easement roads will emit pollutants, which will vary by vehicle type. These emissions may affect local air quality. The Forest Service should analyze and disclose how increased vehicle emissions would affect human health and visibility in Tusayan and, importantly, in Grand Canyon National Park.¹⁵⁰

An increase in wildlife-vehicle collisions is inevitable as traffic through the National Forest increases. Vehicular traffic can also disturb wildlife, causing behavioral changes and imposing a barrier to movement.¹⁵¹ The Forest Service should estimate potential wildlife mortality from increased traffic and analyze the effects vehicular traffic will have on wildlife movement. Pronghorn and deer — both Species of Economic and Recreation Importance — are most at risk from increased vehicular traffic in the area.¹⁵² The Service should pay particular attention to any negative effects on these species and others that rely on the Coconino Plateau-Kaibab National Forest wildlife linkage.¹⁵³

The Forest Service should analyze and disclose how increased traffic will affect noise levels in the area, paying particular attention to noise levels within Grand Canyon National Park and Kaibab National Forest recreational areas.

The Forest Service should request additional information from Tusayan on precise utility placements so that it can determine whether utilities could be inundated and adversely affected by stormwater percolation through roadside drainage ditches.¹⁵⁴

Finally, more traffic will lead to more litter, more noise, more human-caused fires, more air pollution, more camping in the area, more noise, more accidents (and hence the need for more emergency services), and more potential trespass off road. The Forest Service must address and disclose these impacts. The Forest Service must disclose these impacts in any NEPA document.

3. *The Forest Service must analyze and disclose environmental effects from the inholdings' development because such development is an indirect effect of and a connected action to the proposed easements.*

As shown above, Tusayan and Stilo seek the easements at issue for one purpose: to facilitate the development by Stilo of the Kotzin and TenX properties. Tusayan and Stilo also make plain that

¹⁴⁹ U.S. Forest Serv., Forest Service Manual, Ch. 7710 – Travel Planning § 7712.4 (Jan. 8, 2009).

¹⁵⁰ See infra section IV.C.5.e.

¹⁵¹ See generally Ian F. Spellerberg, Ecological Effects of Roads and Traffic: A Literature Review, 7 *Global Ecology and Biogeography Letters* 317 (1998), attached as Ex. 43.

¹⁵² AGFD, Wildlife Interactions Along State Route 64, available at http://www.azgfd.gov/w_c/research_wildlife_interactions_sr64.shtml (last visited June 1, 2015), attached as Ex. 44.

¹⁵³ See Arizona's Wildlife Linkages Assessment 47 (2006) (Ex. 38).

¹⁵⁴ See YSMA Letter (Ex. 40) at 4.

the easements are the linchpin of the development, and that without the easements, development will not occur. The Forest Service's NEPA analysis therefore must disclose the impacts of developing the two parcels. This is consistent with the Forest Service's recognition that "an analysis of the development itself will be included in the environmental review."¹⁵⁵

- a. The inholdings' development is both a connected action to and an indirect effect of granting the easements.

CEQ regulations require agencies to include within the scope of their NEPA analyses both connected actions and "[i]mpacts, which may be: (1) Direct; (2) indirect; [or] (3) cumulative."¹⁵⁶ "Actions are connected if they: (i) Automatically trigger other actions which may require environmental impact statements[;] (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously[; or] (iii) Are interdependent parts of a larger action and depend on the larger action for their justification."¹⁵⁷ Indirect effects are those that:

are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.¹⁵⁸

CEQ regulations and Ninth Circuit precedent mandate that any NEPA document — whether it be an EA or an EIS — include analysis and consideration of both connected actions and indirect effects.¹⁵⁹ Connected actions and indirect effects must be included in an EA because those actions and effects must be considered in determining whether a federal action may significantly affect the environment and, accordingly, whether an EIS must be prepared.¹⁶⁰

¹⁵⁵ Kaibab Nat'l Forest, Tusayan Proposed Roadway Easements Project and Environmental Analysis, Frequently Asked Questions (May 26, 2015), attached as Ex. 45.

¹⁵⁶ 40 C.F.R. § 1508.25(a), (c).

¹⁵⁷ Id. § 1508.25(a)(1).

¹⁵⁸ Id. § 1508.8(b).

¹⁵⁹ Id. § 1508.25 (requiring EIS include connected actions and indirect effects); id. § 1508.9 (requiring EA to include "discussions . . . of the environmental impacts of the proposed action"); id. § 1508.8 (stating "impacts" includes "indirect effects"); Save the Yaak Comm. v. Block, 840 F.2d 714, 720 (9th Cir. 1988) ("Thomas [v. Peterson] teaches that an environmental assessment must include an analysis of these connected actions." (citing Thomas v. Peterson, 753 F.2d 754 (9th Cir. 1985))).

¹⁶⁰ Sylvester v. U.S. Army Corps of Eng'rs, 884 F.2d 394, 400 (9th Cir. 1989); Save the Yaak, 840 F.2d at 721.

- b. The inholdings' development is an indirect effect of granting the easements.

Indirect effects are those “which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.”¹⁶¹ Indirect effects “may include growth inducing effects,” such as the inholdings' development.¹⁶²

Subsequent development — or induced growth — clearly is a reasonably foreseeable effect of a federal action when the entire purpose of the federal action is to facilitate such development.¹⁶³ The Ninth Circuit's City of Davis v. Coleman decision is on point.¹⁶⁴ That case involved a claim that a federal agency funding a highway interchange failed to consider in its NEPA analysis the effects of industrial development the interchange would enable.¹⁶⁵ The court found that the interchange was “not being built to meet the existing demand for freeway access [as asserted by the project proponent] but to stimulate and service future industrial development in the . . . area.”¹⁶⁶ It noted that “the interchange is an indispensable prerequisite to rapid development of the Kidwell area.”¹⁶⁷ Not only could development not proceed without the interchange, but such development was the project's “raison d’etre.”¹⁶⁸ Accordingly the court ordered the federal agency to prepare an EIS accounting for the effects of industrial development that the interchange would enable.¹⁶⁹

Sierra Club v. United States (Rocky Flats) involved a near identical factual situation to the present one.¹⁷⁰ In that case, a private corporation asked the Department of Energy (DOE) for an easement across federal land to its inholding so that it could develop and transport resources from that land.¹⁷¹ DOE did not consider the inholding's development in a NEPA analysis.¹⁷² The court explained, “But for the road [across DOE lands], the mining company could not access the mine site; absent the mine, there is no independent utility for the access road.”¹⁷³ It concluded that “the [e]asement is an integral part of the entire mining project” and that development was “reasonably foreseeable” because there were “firm plans” to develop a mine on

¹⁶¹ 40 C.F.R. § 1508.8(b).

¹⁶² Id.

¹⁶³ See, e.g., Sierra Club v. Marsh, 769 F.2d 868, 878–80 (1st Cir. 1985); City of Davis v. Coleman, 521 F.2d 661, 674–77 (9th Cir. 1975).

¹⁶⁴ 521 F.2d 661.

¹⁶⁵ Id. at 667.

¹⁶⁶ Id.

¹⁶⁷ Id. at 674.

¹⁶⁸ Id. at 675.

¹⁶⁹ Id. at 677.

¹⁷⁰ 255 F. Supp. 2d 1177 (D. Colo. 2002).

¹⁷¹ Id. at 1180.

¹⁷² Id. at 1183.

¹⁷³ Id. at 1184.

the inholding.¹⁷⁴ The court thus held that development of the mine was an indirect effect that had to be considered in DOE's NEPA review of the easement.¹⁷⁵

Tusayan's requested easements are "an indispensable prerequisite" and "an integral part of the entire [development] project." And the development is the easements' "raison d'etre"; enabling the inholdings' development is the "announced goal and anticipated consequence" of Tusayan's requested easements.¹⁷⁶ Tusayan states in its application that the easements' purpose is "to improve access to facilitate reasonable use and enjoyment of the in-holding properties" so that "[b]oth properties will be developed for commercial and residential use."¹⁷⁷ No other purpose is provided.

And the inholdings' development is reasonably foreseeable. Stilo has presented detailed development plans and persuaded Tusayan to rezone its parcels to allow for major development in anticipation of receiving the special use authorization.¹⁷⁸ After the inholdings were rezoned, Tusayan applied for easements. There are firm plans to develop the inholdings once the easements are granted.¹⁷⁹ The inholdings' development is an indirect effect of the easements, so the environmental effects of the development must be analyzed and disclosed in an EA or an EIS.

- c. The inholdings' development is a connected action to granting the easements.

Most circuits, including the Ninth, apply an "independent utility" test to determine whether two actions are connected and so must be analyzed together in a single EIS.¹⁸⁰ Under that test, the court asks "whether 'each of two projects would have taken place with or without the other.'"¹⁸¹

¹⁷⁴ Id. at 1185.

¹⁷⁵ Id.

¹⁷⁶ Friends of the Earth, Inc. v. U.S. Army Corps of Eng'rs, 109 F. Supp. 2d 30, 41 (D.D.C. 2000) ("Since the economic development of these areas is an announced goal and anticipated consequence of the [federally approved] projects, the Corps cannot claim that the prospect of secondary development is 'highly speculative.' "); see also City of Davis, 521 F. 2d at 677 ("The argument that the principle object of a federal project does not result from federal action contains its own refutation."); 44 Fed. Reg. 29,107, 29,110 (May 18, 1979) (stating Forest Service must consider "off-site consequences" in NEPA analysis of special use authorizations).

¹⁷⁷ Tusayan Application (Ex. 1) at 6-7.

¹⁷⁸ See Stilo Development Group USA, LP, Kotzin Ranch, Applicant's Narrative Report, Planned Community District Zoning Submittal to Town of Tusayan Arizona (as resubmitted Sept. 26, 2011), attached as Ex. 46; Stilo Development Group USA, LP, TenX Ranch, Applicant's Narrative Report, Planned Community District Zoning Submittal to Town of Tusayan Arizona (as resubmitted Sept. 26, 2011), attached as Ex. 47.

¹⁷⁹ See First Amendment to the PADA (Ex. 2) (prohibiting inholding development "until the Final Approval of the Forest Service Application").

¹⁸⁰ E.g., Del. Riverkeeper Network v. FERC, 753 F.3d 1304, 1316-17 (D.C. Cir. 2014); N. Plains Res. Council, Inc. v. Surface Transp. Bd., 668 F.3d 1067, 1087 (9th Cir. 2011).

¹⁸¹ N. Plains Res. Council, 668 F.3d at 1087 (quoting Wetlands Action Network v. U.S. Army Corps of Eng'rs, 222 F.3d 1105, 1118 (9th Cir. 2000)).

“If the answer is yes, then the projects have ‘independent utility’ and do not require the same EIS.”¹⁸²

The court in Alpine Lakes Protection Society v. U.S. Forest Service applied the independent utility test to facts paralleling those here, holding that development on an inholding was a connected action to the easement requested to access the parcel.¹⁸³ That case involved a challenge to a National Forest Service special use permit to allow a timber company “to build, maintain, and use a 0.23 mile road [across National Forest lands] for access to its property for a 5-year period to conduct timber management activities.”¹⁸⁴ The Forest Service did not consider the company’s timber management in its NEPA analysis.¹⁸⁵ The court stated, “there is no dispute that the sole purpose of the . . . access road is to facilitate [the] timber management activities.”¹⁸⁶ It then held: “Because it depends solely on [the company’s] logging activities for its justification and is an ‘interdependent part’ of [the company’s] timber management activities, the . . . access road and the timber management activities are connected actions” that must be considered in a NEPA review of the easement.¹⁸⁷

This situation is nearly identical: Tusayan’s requested easements and the inholdings’ development do not each serve an “independent utility”: each action would not take place without the other. Granting the easements cannot be justified unless the inholdings were to be developed. In a letter to Stilo, the Forest Service clarified that it had no interest in developing the roads independent of Stilo’s “intended use”:

What happens if . . . the intended use is not realized? The current road serves the agencies[’] needs as well as the current private land use. The Forest [S]ervice is not interested in maintaining a higher level road and needs assurance that we will not be left with maintaining a paved “road to nowhere.”¹⁸⁸

Further, the inholdings would not and could not be developed unless the easements were granted. Tusayan’s application states, “Improved, all-weather access is necessary to ascertain reasonable use and enjoyment of these privately held lands.”¹⁸⁹ The First Amendment to the PADA states that “paved access roads consisting of at least two lanes[,] water lines[,] electrical service, telephone service, and a sanitary sewer solution” are “necessary infrastructure,” the approval for which would have to be obtained from the Forest Service.”¹⁹⁰ Stilo’s spokesman, Thomas

¹⁸² Id. at 1087–88.

¹⁸³ 838 F. Supp. 478, 482–83 (W.D. Wash. 1993)

¹⁸⁴ Id. at 480.

¹⁸⁵ Id.

¹⁸⁶ Id. at 482.

¹⁸⁷ Id. (citing 40 C.F.R. § 1508.25(a)(1)(iii)).

¹⁸⁸ Letter from Nicholas Larson (Ex. 4) at 3 (emphasis added).

¹⁸⁹ Tusayan Application (Ex. 1) at 6.

¹⁹⁰ First Amendment to the PADA (Ex. 2) at 2.

DePaolo, has confirmed that the road permits are “vital” to the development, and that without improved access to the parcels “they won’t be developed.”¹⁹¹

It does not matter that the construction and development on the inholdings are not themselves federal projects.¹⁹² The inholdings’ development is a connected action to granting the easements.¹⁹³ The Forest Service therefore must analyze and disclose the effects of the development as a connected action in an EA or an EIS.

4. *The Forest Service must analyze and disclose all reasonably foreseeable environmental effects from possible development scenarios.*

Agencies must analyze and disclose the reasonably foreseeable environmental effects from induced development if that development is a connected action to or indirect effect of the federal action.¹⁹⁴ It is not adequate to simply disclose that such development is likely without addressing the development’s environmental effects.¹⁹⁵

A possible environmental effect of development must be analyzed “when the nature of the effect is reasonably foreseeable [even if] its extent is not.”¹⁹⁶ Development plans do not need to be particularly detailed for the nature of the development’s effects to be reasonably foreseeable.¹⁹⁷ When “the development potential which the [federal action] will create comprehends a range of possibilities,” the agency must “evaluate the possibilities in light of current and contemplated plans and . . . produce an informed estimate of the environmental consequences”; it must “explor[e] in the EIS . . . alternative scenarios based on . . . external contingencies.”¹⁹⁸

¹⁹¹ L. Valdez, Grand Canyon: Two developments pose risks (Ex. 3).

¹⁹² See, e.g., Port of Astoria v. Hodel, 595 F.2d 467, 477 (9th Cir. 1979); Alpine Lakes, 838 F. Supp. at 482.

¹⁹³ See, e.g., Rocky Flats, 255 F. Supp. 2d at 1184–85 (holding private mine was connected action to federal easement where easement was intended to allow transport of mined sand and gravel across federal land); Alpine Lakes, 838 F. Supp. at 482 (holding timber management on private inholdings was connected action to Forest Service easement where “the sole purpose of the . . . access road [was] to facilitate . . . timber management activities” on the inholdings).

¹⁹⁴ See 40 C.F.R. § 1508.8(b) (“Indirect effects may include . . . effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.”); TOMAC v. Norton, 240 F. Supp. 2d 45, 51–52 (D.D.C. 2003) (holding EA’s discussion of induced growth inadequate because it “provides little discussion of the impact of secondary growth on public services . . . or on endangered species, wetlands, air quality, or other natural resources”), aff’d, 433 F.3d 852 (D.C. Cir. 2006).

¹⁹⁵ See Davis v. Mineta, 302 F.3d 1104, 1123 (10th Cir. 2002) (concluding adequate consideration of induced growth required “discussion or comparison of the local effects” of such growth; table outlining growth was insufficient).

¹⁹⁶ Mid States Coal. for Progress v. Surface Transp. Bd., 345 F.3d 520, 549 (8th Cir. 2003).

¹⁹⁷ City of Davis, 521 F.2d at 676 (“We reject [the] position that the uncertainty of development in the [project] area makes the ‘secondary’ environmental effects of the interchange too speculative for evaluation. . . . And regardless of its nature or extent, this development will have significant environmental consequences for the surrounding area, including Davis.”).

¹⁹⁸ Id.

Stilo's development plans for its inholdings are "far from speculative." Although there may be some uncertainty as to the precise development that will occur, where Stilo will obtain potable water, exact infrastructure designs, and other specific environmental effects, the nature of the development's effects is known or knowable. As the Ninth Circuit explained in City of Davis, "this is precisely the kind of situation Congress had in mind when it enacted NEPA: substantial questions have been raised about the environmental consequences of federal action, and the responsible agencies should not be allowed to proceed with the proposed action in ignorance of what those consequences will be."¹⁹⁹ The Forest Service must analyze and disclose all reasonably foreseeable environmental effects possible under the range of development possibilities on the table.

5. *The inholdings' development could have numerous reasonably foreseeable environmental effects.*

a. Development plans for the inholdings

Extensive development is planned for both inholdings, although neither Stilo nor Tusayan have disclosed precise development plans. The Kotzin Ranch and TenX Ranch zoning is indicative of Stilo's development plans and will guide Tusayan's development of its portion of the inholdings.²⁰⁰ The parcels are zoned "Planned Community," or PC.²⁰¹ PC zoning allows for commercial development on up to 77.1 and 44.4 acres of the Kotzin Ranch and TenX Ranch parcels, respectively.²⁰² The zoning also allows construction of up to 2,176 dwelling units (446 single family units and 1,730 multi-family units).²⁰³

Stilo has given some public information on its development plans. The National Park Service noted that Stilo's legal representative projected the development would increase Tusayan's population from 550 to between 5,500 and 6,000, and that others have estimated a population increase to as high as 8,000.²⁰⁴

In the absence of detailed development plans, the Forest Service should assume that the maximum amount and type of development allowed under Tusayan's zoning ordinance will be built as the reasonably foreseeable result of granting the easements.²⁰⁵ This is the only

¹⁹⁹ Id. at 675–76.

²⁰⁰ See generally Kotzin Ranch, Applicant's Narrative Report, Planned Community District Zoning Submittal to Town of Tusayan Arizona (Ex. 46); TenX Ranch, Applicant's Narrative Report, Planned Community District Zoning Submittal to Town of Tusayan Arizona (Ex. 47).

²⁰¹ Tusayan General Plan (Ex. 5) at 36.

²⁰² Id.

²⁰³ Id. at 26; see also supra section I.B.

²⁰⁴ GCNP Report (Ex. 6) at 8-9. Tusayan's application itself acknowledges that "the population growth anticipated by the allowed zoning of the in-holdings is a reasonably foreseeable future action that would be considered during the environmental review of this application." Tusayan Application (Ex. 1) at 7.

²⁰⁵ Cf. Sierra Club v. Marsh, 769 F.2d at 880–81 (looking to recently enacted zoning regulations allowing "radically alter[ed] land use" in concluding agency failed to adequately consider extent of induced growth); Rocky Flats, 255

reasonable and defensible assumption since Tusayan seeks the easements to be of sufficient size to permit maximum build-out of Stilo's properties.²⁰⁶

b. Water supply

Neither Tusayan nor Stilo has announced where or how it will obtain potable water to supply the development. But Stilo has presented some possibilities: groundwater pumping from the Redwall-Muav (R-M) aquifer; pipeline, train, or truck importation of Colorado River water;²⁰⁷ or potentially train or truck importation of Central Arizona Project (CAP) water.²⁰⁸ The Forest Service must "evaluate the[se] possibilities [and] produce an informed estimate of the environmental consequences" of each.²⁰⁹ A meaningful evaluation would begin with an estimate of the development's water demand, and then analyze and disclose the environmental effects of obtaining that water from each potential source — R-M aquifer, Colorado River, CAP — using each potential transport method — pipeline, train, truck.

i. Demand

Demand can be estimated using existing information. The Bureau of Reclamation reported in 2006 that Tusayan's per capita residential water demand equaled 276 gallons per capita per day (gpcd).²¹⁰ This demand factor can be applied to the projected number of new residents — discussed in section IV.C.5.a above — to estimate the added residential demand: between 1,656,000 and 2,208,000 gallons per day (gpd) for between 6,000 and 8,000 new residents. A number of sources estimate commercial water demand. For example, a 2014 National Park Service letter cites a Flagstaff commercial water usage factor of 861 gallons per acre per day (gpad).²¹¹ Applying this factor to the 121.5 acres of planned commercial development yields an anticipated commercial water demand of 104,611 gallons per day. The Forest Service also should estimate the water required to irrigate public spaces; while it would be preferable to irrigate with reclaimed water, neither Stilo nor Tusayan has conveyed any firm plans to do so.

F. Supp. 2d at 1185 (finding application for rezoning indicated the "reasonably foreseeable future action" that would result from granting easement).

²⁰⁶ Tusayan Application (Ex. 1) at 5.

²⁰⁷ Emery Cowan, Road decision determines fate of Tusayan development (Ex. 13) ("According to Stilo consultant Andy Jacobs, the company is still considering several options for getting water, including transporting tanks via train or truck, tapping groundwater or repurposing a coal slurry pipeline . . ."); J. Cart, National Park Service calls development plans a threat to Grand Canyon (Ex. 8) ("Why do we want to preclude [the groundwater pumping] option that is available to us when we don't have to?" [Stilo's representative] said.); Leslie MacMillan, Everyone Wants a Piece of the Grand Canyon, But at What Cost (Ex. 14) ("DePaolo said that Stilo will import its water at 2,000 acre-feet per year from the Colorado River, which they will pump via an old coalmine slurry pipeline from Laughlin, Nevada across hundreds of miles of federal land (that it does not own) to its development in Tusayan.").

²⁰⁸ Stilo apparently had an option to use CAP water to supply its Canyon Forest Village development, so it is reasonable to assume Stilo is considering that option here. Tusayan Growth EIS (Ex. 21) at 107 (PDF page 123).

²⁰⁹ City of Davis, 521 F.2d at 676.

²¹⁰ Bureau of Reclamation, North Central Arizona Water Supply Study (Ex. 17) at 77.

²¹¹ Letter from David V. Uberuaga, GCNP Superintendent, to Richard Turner, Tusayan Town Planner 2 (Feb. 24, 2014), attached as Ex. 48.

Just the additional residential and commercial demand will require up to 2,000 AFY (or 1,222 gallons per minute) to be pumped or imported. Irrigation water would only increase this volume.

ii. Sources

1. Groundwater

The primary regional aquifer in the Tusayan/South Rim area is the R-M aquifer.²¹² The R-M aquifer supplies flows to the majority of springs and seeps on the Grand Canyon's South Rim.²¹³ Ninety-eight percent of South Rim discharge from the R-M aquifer occurs at Havasu Springs, Hermit Creek, and Indian Gardens, with the vast majority occurring at Havasu Springs.²¹⁴ A series of confining layers and perched aquifer systems overlay the R-M aquifer.²¹⁵ Many small seeps and springs emanate from the perched aquifers, although there is evidence that these seeps and springs are at least partially dependent on R-M aquifer groundwater for their flows.²¹⁶

Wells in the Tusayan area pump groundwater exclusively from the R-M aquifer. There are three wells in the Tusayan area, two of which are active.²¹⁷ The two wells have capacities of 80 and 85 gallons per minute (gpm).²¹⁸ As of 2011, Tusayan was utilizing 75% of that capacity — or approximately 123 gpm.²¹⁹

Supplying the inholding development with groundwater would require drilling at least one new well because existing wells lack sufficient capacity. Drilling wells into the R-M aquifer carries a substantial degree of risk because there is a high likelihood that the water will be mineralized with high total dissolved solids and other contaminants.²²⁰ The Forest Service should consider this risk — that Stilo may not be able to drill a useable well — as well as the direct effects of ground disturbance from drilling one or more new wells.

Aside from analyzing the effects of drilling, the Forest Service must analyze and disclose all effects groundwater pumping may have on the environment. In performing this analysis, the Forest Service must consider ongoing changes to baseline conditions; namely reduced aquifer recharge. Climate change threatens to reduce precipitation in the region and increase

²¹² GCNP Report (Ex. 6) at 9.

²¹³ Id.

²¹⁴ Id. at 12.

²¹⁵ Id. at 10.

²¹⁶ Id.; see Donald J. Bills, Marilyn E. Flynn, and Stephen A. Monroe, U.S. Geol. Survey, Hydrogeology of the Coconino Plateau and Adjacent Areas, Coconino and Yavapai Counties, Arizona 70 (2007), attached as Ex. 49.

²¹⁷ GCNP Report (Ex. 6) at App. A. There currently are about 905 groundwater wells in the Coconino Plateau. Ctr. for Biological Diversity, Wells on the Coconino Plateau Basin (April 2015) (map of wells using data from Arizona Department of Water Resources), attached as Ex. 50.

²¹⁸ GCNP Report (Ex. 6) at App. A.

²¹⁹ Id.

²²⁰ See Peter W. Huntoon, Variability of karstic permeability between unconfined and confined aquifers, Grand Canyon region, Arizona, 6 *Envtl & Engineering Geoscience* 155, 166 (2000), attached as Ex. 51.

temperatures, resulting in greater evaporation.²²¹ Both of these changes would reduce aquifer recharge. A Kaibab National Forest study indicates that tree and shrub area has increased over the past 20 years and may continue to increase, resulting in greater evapotranspiration and less aquifer recharge.²²² And land uses in the area, especially grazing, have compacted soils, resulting in increased runoff and less infiltration and recharge.²²³ These existing processes will only magnify any depletions caused by the development's groundwater pumping.

Withdrawing groundwater via the new wells threatens to deplete the aquifer. The Forest Service must determine whether the development's pumping could lower the water table below the level at which Tusayan's existing wells draw groundwater, thereby threatening Tusayan's water supply.

Perhaps most importantly, the Forest Service must examine the possible effects the development's groundwater withdrawals would have on South Rim seeps and springs. The South Rim's many seeps and springs represent the most diverse ecosystems in the region and are some of the most threatened ecosystems on earth. Groundwater pumping threatens to destroy these ecosystems. These oases are essentially the only water sources for most of the Inner Canyon's flora, fauna, and humans. Allowing these springs and seeps to run dry would be devastating to Grand Canyon ecology, possibly eliminating some rare and endemic species. It would be a severe blow to the region's American Indian people, including the Havasupai and Hopi, who have deep historical, cultural, and religious ties to these springs. And it could make many areas of Grand Canyon dangerous for hikers for lack of water. It would significantly degrade the values the Park was established to protect.

Flow reductions already have been observed at South Rim springs, probably due in part to existing groundwater pumping. From 1994-2001, researchers observed a 19% decrease in winter discharge from Cottonwood Springs and a 25% decrease in winter discharge from Indian Gardens Springs.²²⁴ Declines were attributed to some combination of precipitation declines and groundwater pumping.²²⁵

Modeling from 1999 projects that additional groundwater pumping in the Tusayan area can be expected to substantially reduce spring flows on the South Rim. Montgomery and Associates modeled the effects on spring flows at Hermit Creek, Indian Gardens, and Havasu Springs assuming groundwater is withdrawn from the R-M aquifer in Tusayan at a rate of 285gpm — less than 25% of the pumping rate that could be necessary to meet the development's added

²²¹ See, e.g., Gregg Garfin, et al., eds., *Assessment of Climate Change in the Southwest United States: A Report Prepared for the National Climate Assessment* (Ex. 32) at 110-14, 150; Thomas R. Karl, et al., eds., *U.S. Global Change Research Program, Climate Change Impacts in the United States* 15, 41 (2009), attached as Ex. 52.

²²² GCNP Report (Ex. 6) at 17.

²²³ *Id.*

²²⁴ Jeremiah S. Kobor, *Simulating Water Availability in a Spring-Fed Aquifer with Surface Water/Groundwater Flow Models*, Grand Canyon, Arizona 51 (Aug. 2004) (unpublished M.S. thesis, Northern Arizona University), attached as Ex. 53.

²²⁵ *Id.*

demand.²²⁶ Under such a withdrawal regime, flows were expected to decrease by 31%, 18%, and 2% at Indian Gardens, Hermit Creek, and Havasu Springs, respectively, after 100 years of pumping.²²⁷ Most of the declines occurred within the first 50 years of simulated pumping.²²⁸ Although the authors only modeled flows at three springs, they indicated that groundwater pumping in Tusayan likely would threaten flows at other springs, particularly those east of Indian Gardens; the risk would be highest at Miner's, O'Neill, Cottonwood, Cottonwood West, Grapevine, Boulder, Lonetree, Hom, Salt Creek, and Monument Springs.²²⁹

Any groundwater pumping to supply the development likely will significantly reduce flows at South Rim seeps and springs. In fact, when it evaluated how to meet Tusayan's future water demand, the Bureau of Reclamation assumed existing wells would be retired and no new wells would be drilled "[b]ecause of the suspected adverse impacts associated with the pumping of the Tusayan R-M Aquifer wells on Grand Canyon springs."²³⁰

We are aware that USGS has preliminary groundwater data and high-resolution models estimating potential effects on seeps, springs, and streams under various groundwater pumping regimes, and that its analyses appear to show that springs with smaller flows are likely to see the greatest flow reductions first as a result of aquifer depletions.²³¹ We strongly encourage the Forest Service to consult with USGS about these data and models, and to incorporate modeling results into the NEPA analysis. The Forest Service should look to previous and current groundwater studies and modeling to comprehensively analyze and disclose any effects potential groundwater pumping may have on the R-M and perched aquifers, and South Rim spring and seep flows that emanate from those aquifers.²³² We further urge the Forest Service to design and undertake new studies and modeling to ensure that it has all the data necessary to understand the potential for Stilo's development to reduce flows to seeps and springs.

²²⁶ Errol L. Montgomery & Assocs., Inc., Supplemental Assessment of Hydrogeologic Conditions (Ex. 15) at 7, 54.

²²⁷ Id. at 7. A two percent reduction in Havasu Springs flows is not insignificant: it amounts to a reduction of about 275 acre-feet per year. See id. at 49–50.

²²⁸ Id. at 6.

²²⁹ Id. at 10.

²³⁰ Bureau of Reclamation, North Central Arizona Water Supply Study (Ex. 17) at 80.

²³¹ A. Gitlin, pers. communication with D. Bills, USGS (May 2015).

²³² E.g., D.R. Pool, et al., U.S. Geological Survey, Regional Groundwater-Flow Model of the Redwall-Muav, Coconino, and Alluvial Basin Aquifer Systems of Northern and Central Arizona 2011), attached as Ex. 54; Donald J. Bills, Marilyn R. Flynn, and Stephen A. Monroe, U.S. Geological Survey, Hydrogeology of the Coconino Plateau and Adjacent Areas, Coconino and Yavapai Counties, Arizona (Ex. 49); Bureau of Reclamation, North Central Arizona Water Supply Study (Ex. 17) at 77; Stephen A. Monroe, et al., U.S. Geological Survey, Chemical Characteristics of Ground-Water Discharge along the South Rim of Grand Canyon in Grand Canyon National Park, Arizona, 2000–2011 (2004), attached as Ex. 55; Jeremiah S. Kobor, Simulating Water Availability in a Spring-Fed Aquifer with Surface Water/Groundwater Flow Models, Grand Canyon, Arizona (Ex. 53); James A. Kessler, Grand Canyon Springs and the Redwall-Muav Aquifer: Comparison of Geologic Framework and Groundwater Flow Models (Dec. 2002) (unpublished M.S. thesis, Northern Arizona University), attached as Ex. 56; Errol L. Montgomery & Assocs., Inc., Supplemental Assessment of Hydrogeologic Conditions (Ex. 15).

It is particularly important to evaluate the effects the development may have on springs and seeps within Grand Canyon National Park as they relate to the Park's Management Plans' objectives to "[p]reserve natural spring and stream flows and water quality"²³³ and to "[p]rotect and conserve sources and quality of natural water resources."²³⁴ Any decline in spring flows could make the Park's water protection obligations under its Management Plans more onerous.²³⁵ The Forest Service should analyze and disclose how spring flow declines caused by the inholdings' development may affect Grand Canyon National Park's water management obligations, and whether such declines threaten a violation of the Park's management plans.²³⁶

Any decrease in spring flows likely will adversely affect the environment and human safety. Grand Canyon's seeps and springs possess great ecological importance. Species richness near Grand Canyon's springs is 100 to 500 times greater than in surrounding habitats.²³⁷ The springs and seeps are home to 11% of all the plant species found in Grand Canyon.²³⁸ The springs provide the primary habitat for some species, while other species depend on springs for transient habitat.²³⁹ Many spring-dependent species are rare and endemic. According to the National Park Service, two springs are home to "the only known white-flowering redbud trees," and other springs "host myriad butterflies previously unknown in Grand Canyon."²⁴⁰ The Center for Biological Diversity has petitioned for Endangered Species Act protections for two other rare species — the Arizona wetsalts tiger beetle and the MacDougal's yellowtops — that depend on continued spring flows in Grand Canyon.²⁴¹

The major South Rim springs — Indian Gardens, Hermit Creek, and Havasu Springs — feed streams that flow into the Colorado River, contributing water to that system. A substantial reduction in spring flows would decrease the water volume added to the Colorado River. The Forest Service should analyze and disclose what effects groundwater pumping may have on river flows and, in turn, the ecosystems and species — including the endangered humpback chub and razorback sucker — that depend on those flows.

²³³ Grand Canyon Nat'l Park, General Management Plan 12 (Aug. 1995) (hereinafter GMP), attached as Ex. 57.

²³⁴ Grand Canyon Nat'l Park, Resource Management Plan 3-50 (Jan. 1997) (hereinafter GCNP RMP), attached as Ex. 58.

²³⁵ See, e.g., GCNP RMP (Ex. 58) at 3-83 to -89; GMP (Ex. 57) at 23-24.

²³⁶ See 40 C.F.R. § 1508.27(b)(10) (an action may be "significant" if it "threatens a violation of Federal . . . law or requirements imposed for the protection of the environment"); see also *infra* section IV.E.6.b.

²³⁷ GCNP Report (Ex. 6) at 24.

²³⁸ Nat'l Park Serv., Animals – Grand Canyon National Park, www.nps.gov/grca/learn/nature/animals.htm (last visited May 30, 2015).

²³⁹ See Tusayan Growth EIS (Ex. 21) at 160 (PDF page 223).

²⁴⁰ Nat'l Park Serv., A Study of Seeps and Springs – Grand Canyon National Park, www.nps.gov/grca/learn/nature/seepspringstudy.htm (last visited May 30, 2015), attached as Ex. 59.

²⁴¹ Ctr. for Biological Diversity, Emergency Petition to List the Arizona Wetsalts Tiger Beetle (*Cicindela haemorrhagica arizonae*) and the MacDougal's Yellowtops (*Flaveria macdougalii*) as Endangered or Threatened Under the Endangered Species Act (May 1, 2015), attached as Ex. 60.

The South Rim's springs and seeps also have significant value for Grand Canyon National Park's visitors. They provide an aesthetic and visual benefit; creating oases of green in an otherwise arid, rocky landscape. Many visitors cherish the springs and seeps for their habitat values to flora and fauna. The springs also provide critical drinking water sources to hikers and backpackers in the Inner Canyon. Lost flows will increase the risk of hiker dehydration or even death, and could make many trails — such as the Tonto Trail — impossible to safely traverse. The Forest Service should analyze and disclose any effects spring flow depletions could have on the visitor experience and public health and safety.

Havasus Springs has particularly important value to the Havasupai people; it is “life-blood of the . . . the Havasupai.”²⁴² The reservation's “springs and seeps serve as the municipal and agricultural water supply for the tribe, are of paramount importance for cultural and religious purposes, and are the source of the waterfalls and pools which are the primary draw for tourism and are critical to the recreation-based economy of the tribe.”²⁴³ The Forest Service has a duty to consider and disclose the possible effects that groundwater pumping would have on Havasu Springs and the Havasupai people.

The Forest Service must determine what possible effects the development's groundwater withdrawals are likely to have on South Rim springs and seeps — especially Indian Gardens, Hermit Creek, and Havasu Springs. The Forest Service then should analyze and disclose the effects any flow declines could have on flora, fauna, recreation, human safety, tribal water supply, and cultural, religious, and aesthetic values.

2. Colorado River

Although Stilo allegedly is exploring the option of supplying its development with imported Colorado River water, it has not demonstrated that it has received the requisite legal approvals to transport water from one Colorado River Compact state to another. Stilo has acknowledged that this proposal to take water from the Colorado River and transport it to Tusayan is still a “concept” and faces legal obstacles.²⁴⁴ The Colorado River already is drought-limited and overallocated, so acquiring rights will be extremely difficult.

If Stilo is unable to obtain Colorado River water rights, either Stilo will be forced to tap the R-M aquifer to supply the development; or the development could not be built for lack of water and the Forest Service will have granted “roads to nowhere.”²⁴⁵ Until Colorado River water rights

²⁴² Bureau of Reclamation, North Central Arizona Water Supply Study (Ex. 17) at 17. See also Tusayan Growth EIS (Ex. 21) at 318 (PDF page 391) (“The Havasupai and Hopi Tribes have deep cultural ties to certain springs in Grand Canyon. Groundwater withdrawals from well development could impact these springs and result in adverse cultural impacts.”).

²⁴³ Id.

²⁴⁴ See L. Yerian, Stilo discusses water options for future development, Arizona Daily Sun (Mar. 31, 2015), attached as Ex. 61 (quoting Stilo's DePaolo as stating: “There are some legal challenges and other things but certainly one that we're hopeful materializes into something more than just a concept.”).

²⁴⁵ Cf. Letter of Nicholas Larson (Jan. 30, 2013) (Ex. 4) at 3 (“The Forest [S]ervice is not interested in maintaining a higher level road and needs assurance that we will not be left with maintaining a paved ‘road to nowhere.’”).

have been acquired and the necessary transportation infrastructure built, the Forest Service must assume groundwater pumping is the most likely option to supply the development.

Even if Stilo is able to obtain water rights and construct the necessary infrastructure, the Forest Service must consider whether those rights can adequately supply the development into the foreseeable future. Colorado River flows and reservoir storage have been declining over the past several years due to an ongoing drought and climate change across the Southwest.²⁴⁶ The Bureau of Reclamation projects that in January 2017, Lake Mead water levels will fall below a “trigger point” that will force an 11.4% reduction in Arizona’s allocation of Colorado River water.²⁴⁷ Such a “call on the River” would reduce the likelihood that Stilo would receive a full allocation of any water rights it acquires. With climate change projected to further reduce the region’s precipitation and, accordingly, Colorado River flows,²⁴⁸ it is highly likely that further reductions in water allocations will be necessary in the future. If Stilo’s allocation were reduced, Stilo would need to either find a new water supply — most likely groundwater — or the development could be abandoned for lack of water. The Forest Service must consider the likelihood that Stilo would not be able to indefinitely fulfill the development’s water needs with Colorado River water, and the environmental effects if it cannot.

Several barriers exist to Stilo being able to supply 100% of the development’s water needs with Colorado River water. It is thus highly likely that Stilo would have to supplement any Colorado River water plan with some amount of groundwater pumping. The Forest Service must fully analyze and disclose the effects of groundwater pumping that may be necessary under a Colorado River water supply plan.

3. Central Arizona Project

Stilo apparently is considering meeting its water needs with CAP water. The possibility of Stilo obtaining CAP water rights to serve an area outside of central Arizona is highly unlikely. Even if Stilo were to acquire CAP water rights, there is a high possibility that the rights would have the lowest priority; meaning it would be unlikely that Stilo would receive actual water under those rights if and when a shortage occurs.²⁴⁹ The CAP water option presents even more barriers than the Colorado River water option. It is highly likely that Stilo would have to rely largely on groundwater pumping under this plan. The Forest Service must fully analyze and disclose the effects of groundwater pumping that would be necessary under a CAP water supply plan.

²⁴⁶ Gregg Garfin, *et al.*, eds., Assessment of Climate Change in the Southwest United States: A Report Prepared for the National Climate Assessment (Ex. 32) at 117; Thomas R. Karl, *et al.*, eds., U.S. Global Change Research Program, Climate Change Impacts in the United States (Ex. 52) at 51, 130.

²⁴⁷ Ken Ritter, Associated Press, Feds Project Lake Mead Below Drought Trigger Point in 2017, Arizona Daily Sun (May 19, 2015), attached as Ex. 62.

²⁴⁸ Gregg Garfin, *et al.*, eds., Assessment of Climate Change in the Southwest United States: A Report Prepared for the National Climate Assessment (Ex. 32) at 117.

²⁴⁹ See *supra* section IV.C.5.b.ii.2.

iii. Transport options for importing water

1. Pipeline

One of Stilo's options for importing Colorado River water is via a pipeline that was formerly used to transport coal slurry from the Black Mesa mine on the Navajo Reservation to Laughlin, Nevada.²⁵⁰ To employ this option, Stilo would need to refurbish the pipeline and engineer a system to reverse the pipeline's flow.

The Forest Service should evaluate the possible methods for refurbishing the pipeline, including how it will be repaired and cleaned, and whether such activities would cause vegetation degradation on or near the pipeline. The pipeline would need to be maintained during its useable life; the Forest Service should assess what effects maintenance operations — including constructing and/or maintain and using vehicle access routes — may have on the environment. As for cleaning the pipeline, the Forest Service should analyze and disclose what detergents or chemicals may be used, their possible threat to human or environmental health, how wastewater will be treated or disposed of, and any risk of spills. The Forest Service also should consider whether consumption and use — including for landscaping — of water transported through a coal slurry pipeline poses any risk to human health or the environment. Further, pumping water up an elevation of over a mile, and across 200+ miles of arid desert will require significant amounts of electricity. The Forest Service should analyze and disclose the energy and climate change impacts of the energy requirements for such an operation.²⁵¹

2. Train

Stilo representatives have stated that water could be transported to the inholdings via train.²⁵² The Forest Service should estimate the frequency and route of train trips required to supply the development with water. And it should analyze and disclose the effects such trips will have on rail traffic and congestion, along with emissions and air quality effects from the trains. Moving water from rail cars to the distribution system will require some sort of transfer facility. The Forest Service should analyze and disclose what such a facility would involve and what effects the facility may have on the environment.

3. Truck

“Trucking water into the development is another option Stilo is considering.”²⁵³ Water transport via truck is likely to have similar environmental effects as rail transport. But because each truck will be able to transport less water than a train, many more trips will be required. The Forest Service should analyze and disclose trip frequency and the effects these trips are likely to have

²⁵⁰ L. Yerian, Stilo discusses water options for future development (Ex. 61); Leslie MacMillan, Everyone Wants a Piece of the Grand Canyon, But at What Cost (Ex. 14).

²⁵¹ See *infra* section IV.C.5.v.

²⁵² L. Yerian, Stilo discusses water options for future development (Ex. 61) (“De Paulo said brin[g]ing water by rail is still a viable option and the land exchange in 2000 contemplated water being hauled by train”).

²⁵³ *Id.*

on the environment; primarily increased traffic and congestion, diesel emissions and air quality effects, and fuel requirements. And like rail transport, a transfer facility will be necessary to get water from the trucks to the distribution system. The Forest Service should analyze and disclose what such a facility would involve and what effects it may have on the environment.

c. Water treatment

The development that the easements will make possible will result in sewage. The Forest Service must analyze and disclose: how much sewage; what facility will treat the sewage; whether new facilities will be required to treat the volume of sewage; where sewage will be pumped, and via what route; and whether sewage leaks or contaminants in sewage are likely to threaten surface or groundwater quality.

Neither Stilo nor Tusayan has publically identified plans to transport or treat the significant volume of effluent from the development. It is reasonable to assume that a substantial portion of the potable water used — potentially 2,000 AFY — will enter the sewer system as effluent.

Tusayan and Stilo contemplated in the First Amendment to the PADA that the development's effluent either would be pumped for treatment at the South Grand Canyon Sanitary District's existing treatment plant or would be treated at new wastewater treatment plants constructed by Stilo.²⁵⁴ Tusayan's application requests easements for sewer lines from the inholdings to connect to the existing sewer system, suggesting that treatment in the Sanitary District's treatment plant is the preferred option. Nonetheless, neither Stilo nor Tusayan has foreclosed the option of new wastewater treatment facilities. Therefore the Forest Service must analyze both possibilities: use of new wastewater treatment facilities, and connection to and use of existing wastewater treatment facilities.

i. Infrastructure

The South Grand Canyon Sanitary District has expressed concerns with Stilo's possible plans to connect the development's sewer systems to the District's system. In an October 10, 2012 letter to the Arizona Corporation Commission, the District noted that the proposed development likely would "demand improvements to the wastewater collection system, wastewater treatment system, reclaimed water storage facilities, and reclaimed water distribution system."²⁵⁵ But Stilo had not provided it with the "realistic flow data" it required "to properly plan proper influent treatment and effluent recycling" from the development.²⁵⁶

The District wrote the Forest Service and Tusayan in September 2014 expressing additional concerns that Stilo was planning a wastewater system without consulting the District; this time regarding the siting of the development's wastewater collection lines. It warned, "the District will not be driven into ill-advised planning decision because transmission line siting was conducted and an Easement was granted without the District's input. Accordingly, siting the

²⁵⁴ First Amendment to PADA (Ex. 2) at 16.

²⁵⁵ 10/10/12 Sanitary District letter (Ex. 24).

²⁵⁶ Id.

transmission lines and Easements on the Forest before it is determined where the lines need to connect to the existing system makes little sense.”²⁵⁷ Involving the District in siting is particularly important because the District apparently may own and operate the wastewater collection system and effluent distribution system on the easements after they are constructed.²⁵⁸ The District received no response to its request, prompting it to announce that it would not ask again to be included in the planning process: “Without the District’s input, all planning of wastewater collection lines and reclaimed water distribution lines will be at risk, meaning the District will not adjust what it believes is in the best interest of the District’s membership simply because plans have already been made.”²⁵⁹

The Forest Service should analyze and disclose the implications of not consulting with the District on wastewater and reclaimed water infrastructure, and whether the failure to consult places the development at risk of not being able to connect to existing infrastructure. The Forest Service should consider the complications and cost to the District of connecting the easement utilities to existing infrastructure.

The District also expressed concern “as to the rights of a utility to operate with the Easement if the Application is granted to the Town” because an entity other than Tusayan apparently is responsible for constructing and owning the utilities.²⁶⁰ The Forest Service should determine what utility operation rights will exist after utilities are constructed on the easements, and whether those rights are compatible with Arizona law on utility operation; it should consider whether a wastewater utility will be able to serve the development through the easements based on the current arrangement.

The Forest Service also should examine whether the District’s wastewater treatment plant has adequate existing capacity to receive and treat the substantial increase in effluent from the development if the development are able to connect to the District’s system. The plant has a capacity of only 750,000 gallons per day, one third of which is being used.²⁶¹ Even if just a portion of the development’s potable water used becomes effluent, the plant could be overwhelmed.²⁶² The Forest Service should analyze and disclose whether the additional effluent would compromise the plant’s ability to treat effluent to proper standards or would risk overwhelming the system during peak flow events. A larger problem is that the District’s wastewater collection system already is at capacity.²⁶³ Transporting the development’s effluent through the system will require major upgrades, likely including new sewer lines and pumping

²⁵⁷ Letter from Steve Wene, attorney for the South Grand Canyon Sanitary District, to James Simino, Tusayan District Ranger, and Will Wright, Town of Tusayan Manager, Re: Utility Easement on Forest Land 2 (Sept. 17, 2014) (hereinafter 9/17/14 Sanitary District letter), attached as Ex. 63.

²⁵⁸ Id.

²⁵⁹ Letter from Steve Wene to James Simino (Ex. 25) at 2.

²⁶⁰ Id. at 2–3.

²⁶¹ Tusayan General Plan (Ex. 5) at 16.

²⁶² Our estimate of the development’s water demand — 2,000 AFY — translates to about 1.75 million gallons per day. The existing wastewater treatment plan can accommodate only about one quarter that volume.

²⁶³ Tusayan General Plan (Ex. 5) at 16.

stations. The Forest Service must analyze and disclose the effects such an upgrade may have on the environment; for example, ground disturbance, traffic routing and congestion, temporary service outages, taxpayer or ratepayer costs, and other construction-related effects.

If the plant lacks capacity to handle the development's effluent, the Forest Service should analyze and disclose potential options to accommodate the increased capacity. Tusayan's plant could be expanded, which would require construction that is likely to have environmental impacts. Or, as Stilo and Tusayan contemplate, one or more new wastewater treatment plants could be constructed on the inholdings. The Forest Service should analyze and disclose the possible environmental impacts of constructing and operating new treatment plants.

ii. Environmental impacts

Regardless whether the additional effluent is treated at Tusayan's plant or at a new wastewater treatment plant, it is likely to affect the environment. The added water volume could increase the surface area of treatment ponds, which could, in turn, attract wildlife. Water leaving the treatment system could result in an increase in standing water near the treatment plants, or the water could flow into Grand Canyon National Park. Standing water can affect wildlife habitat use, movement patterns, or behavior.²⁶⁴ Treated effluent also may discharge into the shallow aquifer, where it may increase flows at perched springs and seeps and subsequently affect wildlife visiting those springs and seeps.²⁶⁵ The Forest Service should analyze and disclose the effects of the additional effluent volume entering the environment.

Treated effluent also may increase pollution in and near Tusayan, including in South Rim springs and seeps. Treated effluent from the new development would, as it infiltrates the aquifer and discharges at springs,²⁶⁶ carry with it various chemicals and pharmaceuticals. These chemicals could affect wildlife that rely on the springs for drinking water. The Forest Service should analyze and disclose these reasonably foreseeable effects.

iii. Reclaimed water system

Tusayan's easement application indicates that reclaimed water lines will feed both the Kotzin Ranch and TenX Ranch properties.²⁶⁷ But no information has been provided as to how reclaimed water will be produced or used. The volume of reclaimed water can be estimated based on the projected volume of additional effluent the development will produce and the demand for reclaimed water to irrigate the development's landscaping. It is important to estimate the volume of reclaimed water to be used because this volume may offset some of the development's potable water demand. If neither existing nor newly constructed infrastructure

²⁶⁴ See, e.g., Paul R. Krausman, *et al.*, Developed Waters for Wildlife: Science, Perception, Values, and Controversy, 34 Wildlife Soc'y Bull. 563, 564 (2006), attached as Ex. 64.

²⁶⁵ Neil L. Ingraham, *et al.*, Application of Stable Isotopes to Identify Problems in Large-Scale Water Transfer in Grand Canyon National Park, 35 *Envtl. Sci. & Tech.* 1299, 1301-02 (2001), attached as Ex. 65.

²⁶⁶ See *id.*

²⁶⁷ Tusayan Application (Ex. 1) at 4.

can produce the reclaimed water demanded, then potable water would be needed to irrigate the development's landscaping and the overall potable water demand would increase.

The Forest Service should analyze and disclose how the reclaimed water system will work. The South Grand Canyon Sanitary District currently recycles most of its influent, and provides recycled water to support local wildlife.²⁶⁸ The Forest Service should consider how the development's reclaimed water system will integrate with the District's existing system. And it should consider whether the District has the infrastructure to treat, produce, and transport the additional volume of reclaimed water demanded by the development. The Forest Service also should analyze and disclose the environmental effects of substantially increasing the volume of reclaimed water used to irrigate the area; specifically whether it could increase nitrogen, phosphate, or other pollutant levels in the surrounding environment.

d. Flooding and urban-enhanced runoff

Portions of both inholdings lie within floodplains, so any new development could be subject to flooding during storm events. Coconino Wash passes through both parcels and could overflow its banks during storms.²⁶⁹ And at least parts of both parcels are designated as special flood hazard areas.²⁷⁰ The Forest Service should determine whether the development could be flooded and should analyze and disclose the effects of building a development in a flood zone: public safety concerns, pollution and debris transport, obstruction and redirection of flood waters, etc.

The Forest Service also should determine whether the development will require filling any washes or other intermittent water bodies. It should consider whether Stilo or Tusayan will need to apply for a Clean Water Act fill permit, and what effects such fill activities may have on the environment.

Even if the developers do not fill any water bodies, the development could increase flooding in the area. Flooding has been an ongoing issue in Tusayan. The Forest Service recently stated that "in the absence of development of a comprehensive stormwater management plan and appropriate stormwater management facilities in town, nuisance flooding will likely remain problematic in Tusayan."²⁷¹ The inholdings' development will create expansive impervious surfaces, increasing runoff during rain and snow-melt events. Neither Stilo nor Tusayan has presented specific plans for runoff management. Stilo has a poor track record of accounting for flooding risks in Tusayan: it constructed Camper Village temporary housing without complying

²⁶⁸ 10/10/12 Sanitary District letter (Ex. 24) at 1.

²⁶⁹ Kotzin Ranch, Applicant's Narrative Report, Planned Community District Zoning Submittal to Town of Tusayan Arizona (Ex. 46) at 26; TenX Ranch, Applicant's Narrative Report, Planned Community District Zoning Submittal to Town of Tusayan Arizona (Ex. 47) at 27.

²⁷⁰ Kotzin Ranch, Applicant's Narrative Report, Planned Community District Zoning Submittal to Town of Tusayan Arizona (Ex. 46) at 26; TenX Ranch, Applicant's Narrative Report, Planned Community District Zoning Submittal to Town of Tusayan Arizona (Ex. 47) at 27.

²⁷¹ Kaibab National Forest, Decision Notice and Finding of No Significant Impact, Tusayan Flood Reduction Project, Tusayan Ranger District 4 (Sep. 7, 2013), attached as Ex. 66.

with Coconino County's floodplain regulations, resulting in a stop-work order from the state.²⁷² The Forest Service should consider Stilo's past history with regard to addressing flood risks in analyzing stormwater management and flooding issues with the proposed development. Stilo's history aside, the Forest Service must analyze and disclose, based on foreseeable development scenarios, how much land surface will be covered by impervious surfaces such as buildings, roofs, parking lots, sidewalks, and patios. Local precipitation data can then be used to predict runoff from those surfaces.

Absent any stormwater management infrastructure, runoff can increase erosion of surrounding lands, carry pollutants such as brake dust and oil into surrounding habitats, create new water bodies, and cause flooding at downgradient locations.²⁷³ The inholdings sit at a higher elevation than much of Grand Canyon National Park's South Rim, including Grand Canyon Village. So enhanced runoff from the inholdings' development is likely to flow into Coconino Wash and into Supai. This runoff may flood roads and trails — both within and outside the Park — adversely affect habitat in the Park, increase erosion of Park lands, and transport hazardous pollutants into the Park. The Forest Service should analyze and disclose the effects enhanced runoff will have on Grand Canyon National Park and adjacent lands.

Even if Stilo or Tusayan constructs stormwater management infrastructure, enhanced runoff from the development will have environmental effects. The Forest Service should analyze whether any stormwater management system has the capacity to handle peak rainfall amounts and whether it will remove hazardous pollutants before stormwater enters the environment. The Service should determine where stormwater could be transported once it leaves the stormwater management system, and analyze how releasing high volumes of stormwater in those areas could affect the environment: through erosion, downstream flooding, habitat modification, or increased groundwater recharge affecting nearby seeps or springs.

e. Air quality

The inholdings' development is likely to affect local air quality in a variety of ways. As discussed above, the development will substantially increase vehicle traffic in the area by inducing hundreds of thousands of vehicle trips each month: from residents, employees of new commercial businesses, additional visitors to the commercial businesses (especially visitors to resorts, spas, cultural offerings, and lodging), supply trucks, shuttle buses, and service vehicles. Vehicle exhaust can contain the following pollutants: particulate matter; hydrocarbons and nitrogen oxides (NOx); carbon monoxide (CO); sulfur dioxide (SO₂); hazardous air pollutants; and greenhouse gases. The Forest Service must: (1) model the potential increase in each of these pollutants due to increased motor vehicle trips and other sources;²⁷⁴ and (2) disclose the environmental impacts of the increase in pollutants. For example, the NEPA analysis the agency

²⁷² See Mike Scerbo, Developer that wants to lead Grand Canyon area project cannot figure out how to install a few trailer homes, Grand Canyon Watchdog (June 29, 2013), attached as Ex. 67.

²⁷³ See, e.g., Vassilios A. Tsihrintzis & Rizwan Hamid, Modeling and Management of Urban Stormwater Runoff Quality: A Review, 11 Water Res. Mgmt. 137, 141 (1997), attached as Ex. 68.

²⁷⁴ We note that the Tusayan Growth Final EIS acknowledged that: "As visitation increases, so would emissions of sulfur dioxide, carbon monoxide, and nitrogen dioxide." Tusayan Growth EIS (Ex. 21) at 296 (PDF page 369).

prepares should address the potential for hydrocarbons and NO_x to combine with other chemicals to worsen ozone pollution. The NEPA analysis must disclose the climate impacts of increased greenhouse gas emissions by calculating the social cost of carbon.

Further, the increase of wildland urban interface caused by the development and the potential increase in human-caused fires caused by increased visitation and human presence will cause a predictable increase in fire frequency.²⁷⁵ Wildland fire is one of the biggest sources of air pollution in the region, producing particulate matter that degrades visibility and can harm human health.

The NEPA analysis also must disclose the extent to which residences, restaurants, and other commercial establishments will be a source for increased air pollution; for example, from fireplaces, wood-burning stoves, grills, air-conditioners (refrigerants), heating fuel use, etc.

Air pollution and deposition of pollutants may also impact wildlife by polluting springs and ephemeral waters sources (tinajas and potholes), and can harm vegetation.

The Clean Air Act provides special protection for Grand Canyon National Park.²⁷⁶ The NEPA analysis must analyze the impacts of additional air pollution on: (1) haze and visibility in the Park; (2) any other Air Quality Related Values in the Park; and (3) Grand Canyon National Park's Class I airshed. Again, the Forest Service should use modeling to disclose these impacts.

The increased resident and visitor populations likely will increase traffic on nearby unpaved roads and trails, whether by car, truck, or off-highway vehicle (OHV). The Forest Service should analyze and disclose how much additional use of unpaved roads could be caused by the development. Unpaved road use increases airborne dust, which could affect air quality and visibility in Grand Canyon National Park and surrounding areas, and can harm or kill vegetation.²⁷⁷ OHVs are subject to less stringing emission controls than cars and trucks; so increased OHV emissions are likely to adversely affect local air quality.²⁷⁸ The Forest Service must analyze the effects of increased emissions and airborne dust. Increase travel on paved roads will cause pollution from re-entrained road dust (microscopic particle from tires on paved roads). The Forest Service also must examine these effects.

Increased vehicular traffic will require greater fuel availability in the area. Tusayan presently has just one gas station, which likely is insufficient to serve the lodging guests, over 8,000 new residents, additional visitors, buses, and supply trucks brought in by the development. Gas

²⁷⁵ See *infra* section IV.C.5.t.

²⁷⁶ 42 U.S.C. § 7472(a)(4).

²⁷⁷ See *infra* section IV.C.5.h. The Tusayan Growth Final EIS stated: "Additional traffic would increase dust from unpaved roads, decreasing air quality." Tusayan Growth EIS (Ex. 21) at 296 (PDF page 369). The Forest Service's NEPA document must go beyond this very qualitative statement to attempt to quantify air pollution impacts through modeling.

²⁷⁸ See, e.g., Chris Kassir & Paul Spitler, Ctr. for Biological Diversity, Fuel to Burn: The Climate and Public Health Implications of Off-road Vehicle Pollution in California 14–20 (May 2008) and references therein, attached as Ex. 69.

stations are a significant source of volatile organic compound emissions; which can be health hazards on their own, but also contribute to ozone formation.²⁷⁹ The Forest Service should determine the amount of additional fuel service that will be necessary to serve the induced growth, and analyze and disclose potential air quality effects from new gas stations.

f. Uranium mining waste

Tusayan residents have heard that uranium mining waste was dumped in the area, possibly on Kotzin parcel. The Forest Service should examine whether such waste is present and whether development activities could cause hazardous uranium dust to become airborne and harm human health. It also should determine the costs and environmental effects of clean-up operations that would be required if such waste were found on the parcels.

g. Wildlife

The inholdings' development is likely to have many harmful effects on wildlife. The project area provides important habitat to scores of wildlife species. The easement routes and inholdings hold high habitat values for wildlife, especially considering the minimal habitat degradation in the area.²⁸⁰ The proposed easements and development fall in the Coconino Plateau-Kaibab National Forest wildlife linkage, an important corridor for elk, mule deer, mountain lion, northern goshawk, and pronghorn.²⁸¹ And, as explained above, the South Rim's seeps and springs support an incredible diversity of species, from those that spend their entire life cycles in the spring ecosystems to those that depend on the springs as transient habitat (e.g., as a water source). The Forest Service should analyze and disclose all foreseeable effects to the area's diverse species.

i. Habitat loss and fragmentation

Development of the parcels will result in habitat loss and fragmentation. The primary habitat on the inholdings is sagebrush grasslands, which is relatively rare in contrast with the surrounding pinyon-juniper woodlands in the Kaibab National Forest. Development would eliminate large portions of sagebrush grassland habitat.

Development also would fragment habitat. Roads, urbanization, and utility corridors all function as barriers to wildlife movement.²⁸² Elk, mule deer, mountain lion, northern goshawk, and pronghorn move through the area via the Coconino Plateau-Kaibab National Forest linkage,²⁸³ the construction of two massive development in the middle of that linkage is likely to disrupt

²⁷⁹ See, e.g., Isabel M. Morales Terrés, et al., Assessing the impact of petrol stations on their immediate surroundings, 91 J. of Env'tl. Mgmt. 2754, 2754 (2010), attached as Ex. 70.

²⁸⁰ HabiMaps, produced with Ariz. Game & Fish Dep't HabiMap software on May 27, 2015 (Ex. 37), at 6 (habitat degradation map), 7 (habitat fragmentation map).

²⁸¹ Ariz. Wildlife Linkages Workgroup, Arizona's Wildlife Linkages Assessment (Ex. 38) at 47.

²⁸² Id. at i.

²⁸³ Id. at 47.

these species’ movements. The Forest Service should survey the fauna that inhabit the area near the inholdings, and analyze and disclose the effects that habitat loss and fragmentation caused by the development are likely to have on those species.

ii. Sensitive species

The ecosystem near the proposed development is home to a number of sensitive species and species of economic and recreation importance that are likely to be affected.²⁸⁴ Grand Canyon National Park is an important raptor area, containing the Lipan and Yaki Raptor Migration Points.²⁸⁵ In addition, the seeps and springs likely to be impacted by any groundwater pumping support many sensitive, rare, and endemic species. Several sensitive species also inhabit the Colorado River, from which the development may draw water or reduce flows.

Table 1 - Wildlife species likely to occur in or near the project area

Scientific Name	Common Name	Special Status
<i>Accipiter gentilis</i>	Northern Goshawk	FWS, FS, BLM, AZ
<i>Aquila chrysaetos</i>	Golden Eagle	BLM, AZ
<i>Clematis hirsutissima</i>	Clustered Leather Flower	FS
<i>Gymnogyps californianus</i>	California Condor	Endangered, AZ
<i>Haliaeetus leucocephalus</i>	Bald Eagle	FWS, FS, BLM, AZ
<i>Phemeranthus validulus</i>	Tusayan Flameflower	FWS
<i>Ambystoma mavortium nebulosum</i> *	Arizona Tiger Salamander	AZ
<i>Antilocapra americana Americana</i> *	American Pronghorn	AZ, SERI
<i>Aspidoscelis pai</i> *	Pai Striped Whiptail	AZ
<i>Buteo regalis</i> *	Ferruginous Hawk	FWS, BLM, AZ
<i>Castor canadensis</i> *	American Beaver	AZ
<i>Chordeiles minor</i> *	Common Nighthawk	AZ
<i>Coccothraustes vespertinus</i> *	Evening Grosbeak	AZ
<i>Corynorhinus townsendii pallescens</i> *	Pale Townsend’s Big-eared Bat	FWS, FS, BLM, AZ
<i>Cynomys gunnisoni</i> *	Gunnison’s Prairie Dog	FWS, BLM, AZ
<i>Dendragapus obscurus</i> *	Dusky Grouse	AZ
<i>Euderma maculatum</i> *	Spotted Bat	FWS, FS, BLM, AZ
<i>Eumops perotis californicus</i> *	Greater Western Bonneted Bat	FWS, BLM, AZ
<i>Falco peregrinus anatum</i> *	American Peregrine Falcon	FWS, FS, BLM, AZ
<i>Geothlypis tolmiei</i> *	MacGillivray’s Warbler	AZ
<i>Gymnorhinus cyanocephalus</i> *	Pinyon Jay	BLM, AZ
<i>Idionycteris phyllotis</i> *	Allen’s Lappet-browed Bat	FWS, FS, BLM, AZ
<i>Lithobates pipiens</i> *	Northern Leopard Frog	FS, BLM, AZ
<i>Melospiza lincolni</i> *	Lincoln’s Sparrow	AZ
<i>Microtus mexicanus</i> *	Mexican Vole	AZ
<i>Mustela nigripes</i> *	Black-footed Ferret	Endangered, AZ
<i>Myotis occultus</i> *	Arizona Myotis	FWS, BLM, AZ
<i>Myotis yumanensis</i> *	Yuma Myotis	FWS, AZ

²⁸⁴ See *infra* Table 1; see also HabiMaps (Ex. 37) at 1 (pronghorn map), 3 (golden eagle map), 4 (elk map), 5 (Species of Economic and Recreation Importance richness map).

²⁸⁵ Nat’l Audubon Society, Grand Canyon National Park – Raptor Migration Points (2013), attached as Ex. 71.

<i>Neotamias umbrinus</i> *	Uinta Chipmunk	AZ
<i>Neotoma stephensi</i> *	Stephen's Woodrat	AZ
<i>Panthera onca</i> *	Jaguar	Endangered, AZ
<i>Perognathus amplus cineris</i> *	Wupatki Arizona Pocket Mouse	FWS, AZ
<i>Perognathus amplus</i> *	Arizona Pocket Mouse	AZ
<i>Perognathus longimembris</i> *	Little Pocket Mouse	AZ
<i>Sylvilagus nuttallii grangeri</i> *	North Kaibab Mountain Cottontail	AZ
<i>Tadarida brasiliensis</i> *	Brazilian Free-tailed Bat	AZ
<i>Vireo bellii arizonae</i> *	Arizona Bell's Vireo	AZ
<i>Cervus elaphus</i> *	Elk	SERI
<i>Meleagris gallopavo</i> *	Wild Turkey	SERI
<i>Odocoileus hemionus</i> *	Mule Deer	SERI
<i>Patagioenas fasciata</i> *	Band-tailed Pigeon	AZ, SERI
<i>Puma concolor</i> *	Mountain Lion	SERI
<i>Sciurus aberti</i> *	Abert's Squirrel	SERI
<i>Ursus americanus</i> *	American Black Bear	SERI

*Predicted within the area based on AGFD range models.

Special Status codes: Endangered=Listed as Endangered under Endangered Species Act, FWS=U.S. Fish & Wildlife Service Species of Special Concern, FS=U.S. Forest Service Species of Special Concern, BLM=U.S. Bureau of Land Management Species of Special Concern, AZ=AGFD Species of Greatest Conservation Need, SERI=AGFD Species of Economic and Recreation Importance

Species list produced by the Arizona Game and Fish Department's Arizona Environmental Online Review Tool Report, on April 23, 2015. Report attached as Ex. 72.

The Kaibab National Forest plan includes specific protections for northern goshawks, peregrine falcons, and golden eagles.²⁸⁶ It requires various protections for goshawk nesting areas, ranging from 300-yard buffers to 420-acre protection areas.²⁸⁷ It recommends larger peregrine falcon nest buffers — up to a half mile.²⁸⁸ And closures are recommended in the vicinity of golden eagle nests.²⁸⁹ Human activity can have detrimental effects on these raptors' nesting and fledging. Thus the Forest Service must determine whether any of these species nest near the project area, and should analyze and disclose what effects the easements and inholdings' development may have on the species.

The area is home to four bat species of special concern: Pale Townsend's big-eared bat, greater western bonneted bat, Allen's lappet-browed bat, and Brazilian free-tailed bat. Development can harm bats by destroying or degrading habitats and reducing their prey base.²⁹⁰ The Forest

²⁸⁶ U.S. Forest Service, Land and Resource Management Plan for the Kaibab National Forest 49–52 (2014) (hereinafter Forest Plan).

²⁸⁷ *Id.* at 52.

²⁸⁸ *Id.* at 51.

²⁸⁹ *Id.* at 49.

²⁹⁰ See, e.g., Joshua B. Johnson, et al., Distribution and activity of bats at local and landscape scales within a rural-urban gradient, 11 Urban Ecosystems 227, 228 (2008), attached as Ex. 73.

Service should identify whether bat habitat could be impacted by the development and analyze and disclose any adverse effects the development could have on bats in the area, especially special status bat species.

The inholdings provide open grass and shrub habitat that differs from the surrounding pinyon-juniper woodland ecosystem. Elk and pronghorn calving areas have been identified on the southern portion of the TenX parcel, and a deer fawning area has been identified adjacent to the parcel.²⁹¹ Several special status mammal species likely depend on this open habitat: small ground mammals — such as voles, pocket mice, and prairie dogs. Raptors and other predators that feed on these and other small grassland mammals likely would experience reduced foraging success. The development's destruction of this habitat likely would negatively affect populations of these species. The Forest Service should analyze and disclose any effects the inholdings' development may have on special status mammals and their predators.

As explained in section IV.C.5.b.ii.1 above, spring-dependent species would be at risk if the development taps groundwater to supply their water needs. Many of these species are rare or narrow endemic species.²⁹² The Kaibab Forest Plan specifically requires projects to be designed to protect and preserve such species.²⁹³ Desert bighorn sheep and federally endangered California condors also likely depend on the springs and seeps.²⁹⁴ The Forest Service should analyze and disclose what effect the development's groundwater pumping may have on the rare and endemic species that depend on South Rim spring and seep flows.

iii. Human-wildlife interactions

As described above, the traffic increase from the development is likely to result in an increase in vehicle-wildlife collisions, causing wildlife mortality and costly property damage.²⁹⁵ The Forest Service should analyze and disclose these likely effects of granting the easements.

Precise landscaping development plans have not been disclosed, but landscaping of subdivision development has been known to attract animals seeking forage.²⁹⁶ The regular presence of these animals in a developed area can result in negative human-wildlife interactions.²⁹⁷ Residents and businesses may be faced with costly landscape restoration. Or they may take actions to prevent foraging, which could include harassing or physically injuring or killing the animals. Wildlife

²⁹¹ Tusayan Growth EIS (Ex. 21) at 197, 201–04 (PDF pages 266–71).

²⁹² See supra notes 240–241 and accompanying text.

²⁹³ Forest Plan at 45, 52.

²⁹⁴ See Nat'l Park Serv., A Study of Seeps and Springs – Grand Canyon National Park (Ex. 59) (noting California condors drink from Grand Canyon springs); HabiMaps, produced with Ariz. Game & Fish Dep't HabiMap software on May 27, 2015 (Ex. 37) at 2 (showing bighorn sheep habitat in Grand Canyon).

²⁹⁵ See supra section IV.C.2.b

²⁹⁶ See, e.g., Mark Hostetler & David Drake, Conservation subdivisions: A wildlife perspective, 90 Landscape & Urban Planning 95, 99 (2009), attached as Ex. 74.

²⁹⁷ Id.

excrement could pose a health risk to humans or their pets, and would create an aesthetic problem in the development.

Likewise, the presence of trash and litter can attract omnivores and carnivores, such as coyotes or mountain lions, to the development. Supplementing animals' natural diets with anthropogenic food sources can have various negative effects: malnutrition, decreased abilities to obtain natural food, or lost fear of humans, for example.²⁹⁸ Predators attracted to the development could become habituated to humans, leading to increased human-predator interactions in the surrounding National Forest and Grand Canyon National Park. Predators may attack small pets; or may simply scare residents and visitors, prompting potentially dangerous actions to remove the animals from the development. The Forest Service should analyze and disclose the development's possible changes to human-wildlife interactions in the area and the resulting effects on wildlife.

Pets — especially dogs — can harass wildlife. For this reason, Grand Canyon National Park has prohibited dogs on the North Rim and in the South Rim's inner canyon. The Forest Service should analyze and disclose the likelihood that residents and visitors will bring dogs to the development and surrounding Kaibab National Forest lands, and should evaluate the possible effects these dogs may have on wildlife.

iv. Forcing wildlife into Grand Canyon National Park

Elk, which were introduced to the area in the early 1900s, inhabit a broad portion of the Coconino Plateau. The relatively undeveloped nature of the area, including Kaibab National Forest, allows elk to move across the area freely. But constructing a massive residential and commercial complex may deter elk from using or moving through the area; especially if Tusayan or local residents resort to hazing to get rid of nuisance animals in the development. The deterrent effect of the development may force the area's elk to seek refuge in Grand Canyon National Park. Concentrating the local elk population in the Park can put severe pressures on Park habitat and may increase detrimental human-elk interactions in the Park. It may also cause competition with, and displacement of, native herbivores. The Forest Service should analyze and disclose whether the inholdings' development is likely to create elk management issues for the Park.

v. Hunting issues

Hunting is permitted in Kaibab National Forest, including the area near the inholdings and easements. The area sits in AGFD's Unit 9 management area, where the agency permits hunting for elk, mule deer, pronghorn, turkey, tree squirrel, and javelina.²⁹⁹ Building a massive resort and residential complex in the middle of popular hunting grounds poses many risks. It poses a public safety threat from hunting in close proximity to development and from increased trail use in a

²⁹⁸ See, e.g., Andrew J. Hansen, *et al.*, Effects of Exurban Development on Biodiversity: Patterns, Mechanisms, and Research Needs, 15 *Ecological Applications* 1893 (2005), attached as Ex. 75.

²⁹⁹ AGFD, Game Management Unit 9, available at <https://azgfdportal.az.gov/hunting/units/flagstaff/9> (last visited June 1, 2015).

forest open to hunting. AGFD may be forced to close areas or limit hunting opportunities as a result of the development. An increase in residents and visitors will increase the number of dogs in the area that could ingest lead from hunter-killed wildlife carcasses. And wildlife near the development may begin to lose their natural fear of humans, thereby becoming more vulnerable to hunting pressure. The Forest Service should analyze and disclose possible conflicts and effects caused by enabling a large development in the middle of an open hunting area.

h. Plants

Development will involve direct removal of and indirect effects on plants in the area. The parcels' development may increase fragmentation and isolation of plant populations in the surrounding habitat. An increase in airborne dust and particulate matter caused by the human activities associated with the development can adversely affect plants at least 1,000 m (3,280 ft.) to 2,000 m (6,562 ft.) away.³⁰⁰ Airborne dust can cause plant dehydration and suffocation, reduce plant reproductive capacity, change plant species composition and reduce species richness, alter soil properties, impede plant pollinators' — bees, wasps, and other insects — abilities to obtain food.³⁰¹ And the additional population drawn by the development is likely to result in increased pedestrian and OHV use of surrounding habitats. Direct plant mortality could result from plant collection, trampling, or OHV traffic. Clustered leather flower (*Clematis hirsutissima*) and Tusayan flameflower (*Phemeranthus validulus*) — both species of special concern — were found on and near the TenX Ranch parcel during the Tusayan Growth EIS process.³⁰² Several flameflower populations were found on the Kotzin Ranch parcel.³⁰³ The Forest Service should survey the inholdings and surrounding areas for these and other plants of special concern, such as Sentry milkvetch (*Astragalus cremnophylax var. cremnophylax*) and Fickeisen plains cactus (*Pediocactus peeblesianus var. fickeiseniae*). It should then analyze and disclose the effects that the inholdings' development may have on any populations on or near the inholdings.

i. Invasive species

The Kaibab National Forest and Grand Canyon National Park have been working to stem ongoing invasions of several nonnative plant and animal species.³⁰⁴ Surface disturbance can

³⁰⁰ See generally U.S. Fish & Wildlife Serv., Ecological Effects of Ground Disturbance and Roads on Plants and Recommended Buffer Distances, with Emphasis on Uinta Basin, Utah (Ex. 35) and references cited therein.

³⁰¹ Id.

³⁰² Tusayan Growth EIS (Ex. 21) at 207–08 (PDF pages 275–76). The Tusayan Growth EIS states: “If TenX is developed, up to 13% of the known number of Arizona leatherflower plants on the Tusayan Ranger District could be impacted or destroyed. Three populations of Tusayan flameflower, totaling about 100 individuals, are known to occur on the TenX inholding, and 10 populations, totaling at least 370, plants are known to occur on the Kotzin inholding. These populations account for about 3% of the known number of Tusayan flameflower plants on the Tusayan Ranger District.” Id. at 327 (PDF page 400).

³⁰³ Id.

³⁰⁴ See Forest Plan at 53–54; GCNP RMP (Ex. 58) at 3-96 to -116; Nat'l Park Serv., Nonnative Species – Grand Canyon National Park, <http://www.nps.gov/grca/learn/nature/nonnativespecies.htm> (last visited May 30, 2015), attached as Ex. 76.

facilitate invasions of nonnative plants.³⁰⁵ An influx of residents and visitors increases the number of OHVs, boats, and other vehicles coming into the area that may be carrying invasive organisms. The Forest Service must analyze and disclose the possible increase in invasive species that could result from development.

j. Waste management

Tusayan does not currently have a waste disposal facility, so the exponential increase in solid waste produced by residents and businesses would need to be transported out of the area. Waste management plans have not been disclosed, but presumably would involve using a fleet of trucks to collect and transport the waste to a regional disposal site. These trucks can increase traffic congestion, and their diesel emissions likely will affect air quality in the area and along their route to ultimate disposal.

Small-to-medium towns often establish a transfer station where waste collection trucks dump their waste for consolidation and transport to an ultimate disposal facility by a much larger truck.³⁰⁶ The Forest Service must consider whether such a facility is likely to be built to handle the development's waste, and it should analyze and disclose potential environmental effects of such a facility; such as noise, odor, emissions, pollution runoff, or localized traffic congestion. Similarly, the Forest Service must consider whether a recycling transfer station is likely to be built; Tusayan currently lacks recycling service.

Further, the increase in residents in the area and vehicle trip is likely to lead to more trash along roadways.

k. Tusayan infrastructure

The easements and the development they will enable will put other pressures on local and regional infrastructure. Tusayan's roads will see increased traffic, raising maintenance and repair needs and costs. The Tusayan Sanitary District has expressed concern that granting the easements will "[i]ncrease substantially costs paid by the District to insure, operate, and maintain Long Jim Loop Road for the remainder of the 30-year private roadway easement" it holds from the Forest Service.³⁰⁷ State Route 64 also is likely to see increased traffic volumes, resulting in quicker deterioration and higher maintenance costs. The Forest Service should analyze and disclose any traffic increase and associated effects on regional roads.

l. Kaibab National Forest roads and recreation

Building a massive residential and tourist development in Kaibab National Forest likely will have substantial impacts on the Forest's roads. Use of nearby forest roads by the development's

³⁰⁵ See Forest Plan at 53.

³⁰⁶ See U.S. Env'tl. Protection Agency, *Waste Transfer Stations: A Manual For Decision-Making 3* (2002), attached as Ex. 77.

³⁰⁷ Tusayan Sanitary District, *Resolution in Opposition to Proposed Road Siting Along Long Jim Loop Road*, Resolution 15-05-13-01, at 1 (May 13, 2015) (hereinafter Sanitary District Resolution), attached as Ex. 78.

residents and visitors will dramatically increase traffic, noise, vegetation and habitat disturbance, weed invasion, wildlife mortality, and trash along those roads. The Forest Service should analyze and disclose each of these effects, and should consider how such increased road use will deteriorate forest road conditions and increase maintenance costs.

Many people already use Kaibab National Forest to camp near Grand Canyon. Campers typically set up camp near a forest road for ease of access. Improving roads on the easements and developing the inholdings likely will push campers seeking more solitude away from these developed areas and deeper into the forest. An influx of new residents and visitors will increase the population of campers and other forest users, which also will push more campers further into the forest as they try to escape crowds. As a result, more wildlife, vegetative, and natural values are likely to be lost as a result of increased and more dispersed camping. And fire risk and illegal behavior associated with camping is likely to be pushed further away from Tusayan, creating a significant enforcement issue for the Forest Service. The Forest Service should analyze and disclose the effects that increased forest road use caused by the proposed easements and development may have on camping and the environment in Kaibab National Forest.

Granting the easements also would threaten the remote and primitive setting of the Arizona National Scenic Trail, which the Kaibab Forest Plan requires be preserved.³⁰⁸ The trail passes within a half mile of Forest Road 302 — the road Tusayan seeks to widen and pave to allow increased traffic to TenX Ranch.³⁰⁹ The Forest Service should analyze and disclose the effects the road's additional vehicle traffic may have on the Arizona National Scenic Trail's setting.

m. Grand Canyon National Park infrastructure & visitor experience

The massive inholding development will increase the strain on Grand Canyon National Park's infrastructure and likely will degrade the visitor experience in a number of ways. The Park's infrastructure and resources already are stretched to capacity. As of September 30, 2014, Grand Canyon National Park had \$329.5 million in deferred maintenance waiting to be completed.³¹⁰ Enabling the proposed development will only increase maintenance pressures by further accelerating the deterioration of Park infrastructure.

i. Infrastructure

A large resort development just steps from Grand Canyon Village likely will result in a substantial increase in visitation to Grand Canyon National Park and use of its facilities. This additional use will increase maintenance, operation, and repair costs for the Park. Visitors will produce more trash that must be hauled from the Park. Or worse, additional visitation could increase litter in the Grand Canyon landscape, possibly harming wildlife and impairing the visitor experience.

³⁰⁸ See Forest Plan at 93–94; see also *infra* section IV.E.6.a.v.

³⁰⁹ See Earthjustice, Map, Arizona National Scenic Trail and Tusayan Easements (Ex. 79).

³¹⁰ Nat'l Park Serv., NPS Deferred Maintenance by State and by Park (Sept. 30, 2014), attached as Ex. 80.

Parking lots in Grand Canyon Village may not have the capacity to accommodate additional vehicular traffic and may need to be expanded. Roads and trails in the Park will see additional traffic, requiring more frequent maintenance. Added trail traffic may increase erosion and airborne dust, both of which can have negative effects on plants, wildlife, and the environment. Added road traffic can degrade local air quality within the Park and can have adverse or even fatal effects on wildlife.

Additional visitors also will increase law enforcement demands in Grand Canyon National Park. The Forest Service should analyze and disclose whether the Park's current law enforcement staff can handle an increase in visitors; and if, not, what the effects will be (e.g., cost for additional rangers, increased vandalism, etc.).

Additional visitation will increase water demand in the Park. The Park currently obtains potable water from the North Rim the 50 year old Trans-Canyon Pipeline. According to the Park Service, "Since 1978, major pipeline breaks have occurred anywhere from five to 30 times annually and the frequency of breaks continues to increase as the pipeline ages."³¹¹ The pipeline is a fragile water source that likely could not tolerate increased strain from an increase in demand. Moreover, the pipeline and its reserve tanks likely are near capacity. The tanks can only provide a couple days' water in the event of a pipeline failure. An increase in demand would shorten the period the tanks could provide reserve water. The Forest Service must analyze and disclose whether the system will be able to satisfy a substantial increase in water demand on the South Rim.

Associated with an increase in water demand is an increase in effluent. Effluent from Grand Canyon Village is treated discharged in the local area. This discharge apparently affects flows at Indian Gardens. With that discharge could come chemicals and pharmaceuticals that are not removed by the treatment process (Grand Canyon National Park has been concerned about this problem; the Forest Service should consult with the Park about it). Any additional effluent from increased visitation and associated water demand may affect spring flows and increase contamination. The Forest Service should analyze and disclose how increased effluent may affect the Indian Gardens ecosystem and the wildlife that depend on its water.

ii. Trespassing

A substantial population increase in Tusayan may bring an increase in trespassing in Grand Canyon National Park. The Park already suffers OHV and pedestrian trespass west of the Hermit Trail and Pasture Wash areas. It is very difficult for the Park to patrol these areas, so enforcement is unlikely. The Park is concerned that an increase in visitors and residents will only exacerbate the trespassing problem and its associated adverse impacts (e.g., vandalism, rutting, vegetation loss, fire risk, etc.). The Kotzin Ranch property is within a mile of the Park boundary. And several forest roads run from the TenX Ranch property right up to the Park boundary. The Forest Service should consult with Grand Canyon National Park on the trespassing issue and should analyze and disclose the degree to which these properties'

³¹¹ Press Release, Nat'l Park Serv., Grand Canyon to Replace Portion of Trans-Canyon Pipeline at Phantom Ranch (Jan. 23, 2015), attached as Ex. 81.

development and added population may increase trespassing in Grand Canyon National Park, and the environmental effects of this additional trespassing.

iii. Visitor experience

Development of a large resort and residential complex next to Grand Canyon National Park is highly likely to impair the overall experience of Park visitors in various ways. As mentioned above, the Park's current infrastructure is not adequate to handle a substantial increase in visitors that would likely accompany the development. Visitor programs and services, such as the Park's school or clinic, would see additional pressure. Unless that infrastructure is expanded, visitors will experience longer lines and wait times. And even if Park infrastructure is expanded, crowds will increase, detracting from the visitor experience along the South Rim and on trails in the backcountry. The degree to which a visitor can experience solitude and an intimate relationship with Grand Canyon is virtually certain to suffer.

The increase in crowding along the South Rim could drive visitors seeking a more tranquil experience to other areas of the Park. The Forest Service must consider this possibility in its NEPA analysis.

The development also may adversely impact proposed wilderness areas in the Park.³¹² Park Service staff have expressed concern about impacts to proposed wilderness from Hermit Trail to the west side of Grand Canyon National Park.³¹³ That area already suffers harm from trespassing OHV riders, and others and is likely to suffer additional impacts if the inholdings are developed and augment the residential and visitor population in the area.

Grand Canyon is a national treasure where millions of American and international visitors seek beauty, nature, and inspiration each year. The Forest Service has a duty to analyze and disclose the effects the development enabled by the requested easements may have on Grand Canyon and its visitors.

n. Night skies

Grand Canyon has some of the darkest skies in the country, allowing for spectacular night sky viewing. Light from the development threatens to brighten the night skies in and around Grand Canyon. The development's light pollution would severely mar Grand Canyon's pristine night skies. Increased light pollution would be especially detrimental to night sky visibilities from the North Rim: that rim is higher than the South Rim, so lights from the south are highly visible. The National Park Service currently is conducting a night sky inventory and working to reduce its own light pollution in the Park. Increased light pollution from a massive new development would more than negate any gains made by the Park Service's efforts. The Forest Service must consult with the Park Service regarding its night sky inventory and how easement streetlights and

³¹² See Nat'l Park Serv., Grand Canyon Backcountry (July 2012), http://www.nps.gov/grca/learn/management/upload/GRCA_Wilderness_Map.pdf (last visited June 1, 2015).

³¹³ See supra section IV.C.5.m.ii.

other lighting that will accompany development might affect Grand Canyon's night skies. The Forest Service should analyze and disclose any light pollution effects in its NEPA analysis.

o. Soundscape

The requested easements and associated development will increase noise levels in the area. Traffic, emergency sirens, barking dogs, construction, and other activities on and near the new development would all raise sound levels. The Forest Service should analyze and disclose any effects the easements and subsequent development may have on Grand Canyon National Park sound levels.

The development also is likely to increase demand for Grand Canyon overflights, which can substantially increase noise levels in the Park. Although the number of overflights is regulated, the Forest Service should consider whether a substantial increase in demand may lead to an increase in permitted overflights, and thus an increase in noise levels.

The Tusayan Sanitary District has expressed concern that traffic along Long Jim Loop Road travelling to the Kotzin Ranch development would "[d]estroy the quiet enjoyment of the newly created school park complex, Grand Canyon School Site, Canyon Pines Mobile Home Park, and Fireside Ridge Housing Complex."³¹⁴ The Forest Service should analyze and disclose the effects that increased traffic along existing roads may have on noise levels at those locations and in Tusayan generally.

p. Grand Canyon School

Connecting the Kotzin Ranch Southern Access Road to the current road system at Long Jim Loop Road is likely to have several negative — and possibly dangerous — effects on the Grand Canyon School. The additional traffic will increase noise levels, generally disrupting the school day. Higher volumes of vehicular traffic also may increase local air pollution, harming child health and possibly contributing to asthma. And higher traffic volumes present a safety risk to school children playing near or crossing the street. The Forest Service should analyze and disclose the noise, health, and safety effects that increased traffic travelling to Kotzin Ranch via the South Access Route may have on the Grand Canyon School, its students, and its staff. Further, the increase in population encouraged by Stilo's residential developments will likely mean more school children, and thus a need for more infrastructure at schools in the area.

q. Grand Canyon Airport use

The Grand Canyon Airport currently accommodates, among other aviation, air tours, chartered flights, and private planes. A tenfold increase in the resident population, along with a substantial increase in visitor accommodations, is virtually certain to increase demand for flights in and out of Grand Canyon Airport. An increased demand for Grand Canyon overflights could lead to an increase in permitted flights from the airport. Many visitors and residents are likely to travel to and from Tusayan by airplane or helicopter, increasing airport use by charter and private flights.

³¹⁴ Sanitary District Resolution (Ex. 78) at 1.

Any increase in flights would increase noise levels, air and ground pollution (including lead³¹⁵), and stress on the Grand Canyon Airport's infrastructure. In addition to considering the cumulative effects of the Airport's planned expansion,³¹⁶ the Forest Service should analyze and disclose the effects from increased flight demand and airport use by new residents and visitors.

r. American Indian cultural resources

The Coconino Plateau, including the Tusayan area, is replete with American Indian artifacts. The area in and near the proposed easements and development falls within the traditional use areas of the Southern Paiute, Hualapai, Havasupai, Hopi, Navajo, Yavapai, and Pueblo of Zuni.³¹⁷ "Traditional territories themselves are not simply areas on a map, but 'homelands' with intrinsic connections between the landscape, culture, and history."³¹⁸

The Bureau of Land Management commissioned a cultural resources inventory of the area as part of its proposed mineral withdrawal.³¹⁹ Inventory results for the South Parcel — a broad portion of the Coconino Plateau that includes the Tusayan area — indicate the area has a substantial number of American Indian sites. A survey of just 24% of the South Parcel recorded hundreds of American Indian sites.³²⁰ The area contains Navajo Cultural Landscape, American Indian Trails, and traditional use areas and seasonal camps.³²¹

The inholdings' development threatens American Indian cultural resources — including artifacts, ruins, and cultural sites — with damage from increased foot traffic, OHV traffic, looting, and dust. The development's residents, visitors, and noise may disrupt Indians' use of their traditional cultural and religious sites. The Forest Service should analyze and disclose any possible effects the inholdings' development may have on American Indian cultural resources or Indians' use and visitation to their cultural and religious sites.

The NHPA also provides an important tool to inform agencies of the possible effects their actions may have on historically or culturally important resources. The heart of the NHPA is Section 106, which prohibits federal agencies from approving any federal "undertaking" unless the agency takes into account the effects of the undertaking on historic properties that are included in or eligible for inclusion in the National Register of Historic Places.³²² Section 106 is a "stop, look, and listen provision" that requires federal agencies to consider the effects of their

³¹⁵ See, e.g., Marie Lynn Miranda, et al., A Geospatial Analysis of the Effects of Aviation Gasoline on Childhood Blood Lead Levels, 119 *Env'tl. Health Persp.* 1513, 1513 (2011), attached as Ex. 82.

³¹⁶ See *infra* section IV.D.3.

³¹⁷ See Mineral Withdrawal EIS (Ex. 42) at 3-214.

³¹⁸ SWCA Environmental Consultants, Class I Cultural Resources Overview for the Northern Arizona Proposed Withdrawal on the Bureau of Land Management Arizona Strip District and the Kaibab National Forest, Arizona 138 (Feb. 2011) (hereinafter Mineral Withdrawal Cultural Resource Inventory), attached as Ex. 83.

³¹⁹ *Id.*

³²⁰ *Id.* at 106, 109.

³²¹ *Id.* at 138–40.

³²² 54 U.S.C. §§ 306108, 300320.

actions and programs on historic properties and sacred sites before implementation.³²³ To adequately “take into account” the impacts on archeological resources, all federal agencies must comply with binding Section 106 regulations established by the Advisory Council on Historic Preservation (Advisory Council). Under these regulations, the first step in the Section 106 process is for an agency to determine whether the “proposed [f]ederal action is an undertaking as defined in [Section] 800.16(y).”³²⁴ Undertakings include any permit or approval authorizing use of federal lands.³²⁵ If the proposed action is an undertaking, the agency must determine “whether it is a type of activity that has the potential to cause effects on historic properties.”³²⁶ An effect is defined broadly to include direct and indirect adverse effects that might alter the characteristics that make a cultural site eligible for listing in the National Register of Historic Places.³²⁷ The agency next “[d]etermine[s] and document[s] the area of potential effects” and then “[r]eview[s] existing information on historic properties within [that] area.”³²⁸ “Based on the information gathered, . . . the agency . . . shall take the steps necessary to identify historic properties within the area of potential effects.”³²⁹ “The agency shall make a reasonable and good faith effort to carry out appropriate identification efforts.”³³⁰ If the undertaking is a type of activity with the potential to affect historic properties then the agency must determine whether in fact those properties “may be affected” by the particular undertaking at hand.³³¹ Having identified the historic properties that may be affected, the agency considers whether the effect will be adverse, using the broad criteria and examples set forth in section 800.5(a)(1). Adverse effects include the “[p]hysical destruction of or damage to all or part of the property.”³³² If the agency concludes that the undertaking’s effects do not meet the “adverse effects” criteria, it is to document that conclusion and propose a finding of “no adverse effects.”³³³ If, however, the agency concludes that there may be an adverse effect, it engages the public and consults further with the state historic preservation officer, Native American tribes, and the Advisory Council in an effort to resolve the adverse effects.³³⁴

The Forest Service Manual directs the Forest Service to complete NHPA’s section 106 requirements before issuing a NEPA decision.³³⁵ And the CEQ’s NEPA implementing

³²³ Muckleshoot Indian Tribe v. U.S. Forest Serv., 177 F.3d 800, 805 (9th Cir. 1999).

³²⁴ 36 C.F.R. § 800.3(a).

³²⁵ Id. § 800.16(y).

³²⁶ Id. § 800.3(a).

³²⁷ See id. § 800.16(i); 65 Fed. Reg. 77,698, 77,712 (Dec. 12, 2000).

³²⁸ 36 C.F.R. § 800.4(a)(1)(2).

³²⁹ Id. § 800.4(b).

³³⁰ Id. § 800.4(b)(1).

³³¹ Id. § 800.4(d)(2).

³³² Id. § 800.5(a)(2)(i).

³³³ Id. § 800.5(b), (d)(1).

³³⁴ Id. §§ 800.5(d)(2), 800.6.

³³⁵ U.S. Forest Serv., Forest Service Manual, Ch. 2360 – Heritage Program Management § 2364.11(17) (July 25, 2008); see also Pitt River Tribe v. U.S. Forest Serv., 469 F.3d 768, 787 (9th Cir. 2006) (holding NHPA compliance

regulations provide that agencies “to the fullest extent possible . . . shall prepare draft environmental impact statements concurrently with and integrated with environmental impact analyses and related surveys and studies required by . . . the National Historic Preservation Act of 1966.”³³⁶ The Forest Service should therefore inventory all historical sites that may be affected by granting the easements — including sites that may be affected by the development the easements enable (inholdings, springs, seeps, adjacent Forest land) — and assess the possible impacts to those sites as required by NHPA concurrent with the agency’s NEPA review.³³⁷ The Forest Service should also conduct inventories wherever impacts are likely to occur, including near the easements and private property but also on satellite roads where use is likely to increase.

The Forest Service also should consult with Indian tribes whose traditional resources, sites, or culture may be affected by the proposed action. Forest Service Manual chapter 2364.11 provides that the Service must complete its NHPA section 106 obligations “in consultation with . . . Indian tribes.”³³⁸

s. Other historic and cultural resources

The NHPA inventory for the Grand Canyon mineral withdrawal identified over 200 sites in the broader South Parcel eligible for listing on the National Register of Historic Places.³³⁹ It also noted:

Historic resources are present in higher densities [in the area], primarily as a result of access to timber and minerals and of tourist activity on the South Rim of the Grand Canyon. Numerous rail line beds and camps exist in the once-treed areas. Although not recorded, there are likely many CCC-related features and improvements scattered throughout the South Parcel.³⁴⁰

must be “initiated early in [an agency action’s] planning, so that a broad range of alternatives may be considered during the planning process for the [agency action]” (citations and internal quotation marks omitted); Save Ardmore Coal. v. Lower Merion Twp., 419 F. Supp.2d 663 (E.D. Penn. 2005) (holding that agencies must meet the requirements of NHPA before taking action, stating “the approval of the expenditure of federal funds acts as the deadline for agency action”).

³³⁶ 40 C.F.R. § 1502.25(a).

³³⁷ Prior to the Tusayan Growth EIS, “[i]ntensive cultural resource surveys were conducted on the . . . the private inholdings,” including the TenX and Kotzin properties. Four cultural resource sites not eligible for the National Register were located on the TenX property; none on the Kotzin property. Tusayan Growth EIS (Ex. 21) at 318 (PDF page 391). However, the Forest Service does not appear to have inventoried the areas to be paved or otherwise disturbed for the easements, or any areas outside the footprint of the two parcels where disturbance induced by increased visitation and inhabitation is likely to occur.

³³⁸ Forest Service Manual, Ch. 2360 – Heritage Program Management § 2364.11.

³³⁹ Mineral Withdrawal Cultural Resource Inventory (Ex. 83) at 128.

³⁴⁰ Id. at 142.

Several other sites listed on the National Register of Historic Places are present in the area.³⁴¹ Many of those historic sites and resources may be near the proposed easements and development and could be adversely affected by the proposed action.

The increased foot traffic, OHV traffic, looting, dust, and fire risk that likely will accompany the inholdings' development threaten to damage or destroy these resources. The Forest Service should analyze and disclose possible effects the development may have on these resources.

The Forest Service has a duty under the NHPA to inventory historic and cultural resources that may be affected by the proposed action and to avoid adverse effects to those resources.³⁴² The Forest Service should complete its NHPA obligations concurrent with its NEPA analysis.

t. Fire risk

Although the Kaibab National Forest ecosystem is adapted to endure frequent, low-intensity fires, more recent changes to the ecosystem have increased the risk of catastrophic fires.³⁴³ According to the Forest Plan,

the Kaibab NF contains uncharacteristically dense forests with many more young trees than were present historically. Ponderosa pine, spruce, fir, juniper, and pinyon seedlings have invaded forest openings, grasslands, and savannahs. The forest and woodlands are deficient in grasses, forbs, and shrubs due to tree competition, and are at high risk for insect and disease outbreaks. With the denser more continuous canopy cover and accumulated live and dead woody material, the probability and occurrence of large, uncharacteristic, stand-replacing fires continues to increase. These fires burn with more intensity, have higher tree and seed mortality, degrade watersheds, change soil chemistry, structure, nutrient availability, kill seeds, and threaten homes and communities.³⁴⁴

Human-caused fires have been a major problem for the Kaibab National Forest over the past several decades. The Tusayan Ranger District has averaged about seven human-caused wildfires each year over the last 20 years (not including more than 200 fires per year that are extinguished before escalating to wildfires).³⁴⁵ Due to its vigorous prevention efforts, the District saw zero human-caused fires in 2014.³⁴⁶

³⁴¹ See Nat'l Park Serv., Spreadsheet of listed properties on the National Register, available at http://www.nps.gov/nr/research/data_downloads/nrhp_links.xlsx (last visited June 1, 2015).

³⁴² See *supra* section IV.C.5.r.

³⁴³ Forest Plan at 73.

³⁴⁴ *Id.*

³⁴⁵ Press Release, U.S. Forest Serv., Tusayan Ranger District achieves goal of zero human-caused fires (Mar. 18, 2015), attached as Ex. 84.

³⁴⁶ *Id.*

That success likely would be negated by the proposed action. The inholdings' development will bring a substantial number of new residents and visitors to the area. It is reasonable to assume that many of these individuals will recreate in the Kaibab National Forest and have campfires — whether legal or not. An increase in campfires increases the risk of wildfire. And the development threatens to increase wildfire risks simply by virtue of drawing in a greater number of people who may start a fire unintentionally; by carelessly throwing burning cigarettes into the brush, for example.³⁴⁷ The Forest Service should analyze and disclose the increased risk of wildfire caused by the easements' induced growth, and the possible effects an increased fire frequency may have on the environment — habitat changes, visibility, wildlife mortality, etc.

Development of the two parcels will also place more development within the wildland-urban interface, thus putting more residents at risk. An increase in population in the wildland-urban interface may encourage or require more forest treatments (thinning, clearing, and/or prescribed burns) on national forest land to create defensible space around the parcels. Any NEPA document must address each of these potential impacts.

u. Community services

Neither Stilo nor Tusayan has outlined a plan to provide emergency services to the new development. Tusayan currently has extremely limited firefighting capacity,³⁴⁸ it lacks a police force (beyond a single Coconino County Sheriff's deputy housed at the airport), emergency medical services, or a fire department capable of serving the proposed development. The Town relies on Grand Canyon National Park to provide many of its emergency services. The Forest Service must analyze and disclose whether the area's emergency service can accommodate a substantial increase in Tusayan's residential and visitor populations; the population increase likely will require additional emergency services, including fire response, police, emergency medical services, and local urgent medical care.³⁴⁹ The Forest Service also must evaluate whether the easements provide adequate access for emergency vehicles to reach the inholdings in light of anticipated traffic volumes. And the Forest Service should examine whether adequate fire suppression infrastructure can be constructed, considering the various water supply options and whether each option can provide reliable supply to hydrants (e.g., if water rights are curtailed, pipelines/trains/trucks fail to make a planned delivery, etc.). Increased population will also likely require increased trash hauling. The Forest Service must analyze and disclose any threat to public health or safety if any of these services is inadequate or is not provided.

³⁴⁷ "Development of private . . . land near Tusayan may affect the amount of wildland/urban interface and increase fire risk." Tusayan Growth EIS (Ex. 21) at 336 (PDF page 409). If private lands are developed, "the scattered nature of the private inholding could affect fire response time and emergency services." Id. at 336-37 (PDF pages 409-10).

³⁴⁸ See Loretta Yerlan, Tusayan Fire asks council for help with budget, Grand Canyon News (Sept. 23, 2014), attached as Ex. 85.

³⁴⁹ See, e.g., id. (Tusayan Fire District representative stating, "Tusayan Fire District can no longer provide the current level of services" due to "the continued growth pattern").

Further, by increasing the area's population ten-fold, the development is also likely to spur an increase in crime, and thus increased need for police resources.³⁵⁰ Any NEPA document should address the need for additional police resources.

v. Electricity demand

The large development planned for the inholdings will place a substantial demand on the electricity grid. This additional demand could require the two regional generating stations — Glen Canyon Dam and the coal-fired Navajo Generating Station (NGS) — to increase output. Increased generation by the NGS would increase both harmful air emissions, including greenhouse gas pollution from carbon dioxide, and coal demand. The NGS's air emissions in particular contribute to decreased visibilities in Grand Canyon.³⁵¹ Increased generation at Glen Canyon Dam has its own environmental effects: changes to sedimentation and erosion, water temperature effects, and negative effects on endangered fish and their habitats. The Forest Service should analyze and disclose the development's electricity needs, the associated demands on the NGS and Glen Canyon Dam, and the environmental effects of increasing those generators' outputs.

w. Economic impacts

Development of a massive resort and commercial complex on inholdings just outside of Tusayan's commercial center will have economic impacts, including on nearby communities, including Flagstaff, Williams, Valle, Cameron, Supai, Jacob Lake, the region's Indian Tribes, and Tusayan itself. The Forest Service must consider those communities' current economic and demographic conditions, and analyze and disclose all possible effects the Stilo development may have.

The region's communities rely on Grand Canyon tourism, at least in part, to drive their local economies. Tourists to Grand Canyon National Park spent \$509 million in these communities in 2014.³⁵² Tourism supported 7,846 jobs in the area and had a cumulative benefit to local economies of \$711 million.³⁵³ The proposed development would divert a substantial portion of those benefits from communities like Flagstaff and Williams and concentrate them in the profits of a single foreign developer. Outlying communities likely would see job losses and reductions in their local tax bases. For these reasons, the City of Flagstaff, Asian American Hotel Owners

³⁵⁰ The Tusayan Growth EIS's analysis assumed that development of the Kotzin and TenX parcel "would hinder law enforcement because development would be scattered throughout the region instead of concentrated in one area." Tusayan Growth EIS (Ex. 21) at 272 (PDF page 345).

³⁵¹ See, e.g., ENSR Corporation, BART Analysis for the Navajo Generating Station Units 1 – 3, at 3-6 to -7 (2007), attached as Ex. 86.

³⁵² Press Release, Nat'l Park Serv., Tourism to Grand Canyon National Park Creates \$509 Million in Economic Benefits (Apr. 23, 2015), attached as Ex. 87.

³⁵³ Id.

Association, and other Flagstaff business owners oppose the proposed easements and development.³⁵⁴

The Stilo development would vastly expand visitor amenities near Grand Canyon's south entrance, which could siphon much of Grand Canyon's visitor traffic away from the east entrance. The considerable increase in available lodging near the South Rim also could draw visitors away from the North Rim. The planned Grand Canyon Airport expansion would only magnify this effect. Arizona visitors could bypass places like Sedona, Jerome, Cameron, Route 66, Arizona State Parks, National Monuments, the Museum of Northern Arizona, the Navajo Nation, and others to spend their visits entirely or primarily at the new resorts in Tusayan. The Forest Service must analyze and disclose the economic effects such a change in visitor traffic patterns would have on north and east entrance communities.

Even Tusayan's existing business community may suffer economic losses because the route to Kotzin Ranch — where most of the commercial development is planned — allows visitors to bypass Tusayan's current commercial center.³⁵⁵

We request that the Forest Service use economic modeling to predict the local and regional economic impacts of this huge increase in lodging, commercial space, and visitor amenities. We note that for the Tusayan Growth EIS,

[a]n economic model was developed that analyzed the potential economic impacts of additional development in the Grand Canyon/Tusayan area on other communities that accommodate Grand Canyon visitors, particularly communities in northern Arizona. The analysis considers the penetration rate potentially achieved under each of the alternatives and the "displaced demand" that would evolve from the prospective increase in penetration rates.³⁵⁶

The Tusayan Growth EIS's analysis is outdated because market conditions have changed since 1999. Further, the earlier EIS did not address Stilo's current development plans. However, the Forest Service should consider undertaking a similar analysis to understand the impact of Stilo's massive development on the lodging industry in other towns.

The Forest Service must analyze and disclose how a massive commercial and resort complex will increase pressure on the already strained Tusayan housing market. The new shops, hotels, spas, cultural centers, dude ranch and other employers could bring hundreds or even thousands of new employees seeking permanent housing to Tusayan. The Forest Service must evaluate whether the new residential development will be able to meet that demand, considering that new residences also must meet both existing housing demand and demand from those seeking to move to the area or own a second home near the Grand Canyon. This will require considering

³⁵⁴ See, e.g., City Council of the City of Flagstaff, Resolution No. 2015-08 (Ex. 22); Letter from Asian Am. Hotel Owners Ass'n to Thomas Tidwell, Chief, U.S. Forest Serv. (Mar. 26, 2015), attached as Ex. 88; Ash Patel, Come on, don't turn the Grand Canyon into another mall, *Ariz. Republic* (May 14, 2015), attached as Ex. 89.

³⁵⁵ See Sanitary District Resolution (Ex. 78) at 1.

³⁵⁶ Tusayan Growth EIS (Ex. 21) at 256 (PDF page 329).

the affordability of new homes. It is highly likely that individuals seeking to retire or own a second home in Tusayan will have significantly more income than employees of the Stilo development; their willingness to pay more for homes will drive housing prices beyond the range of affordability for local employees. And it is unclear whether Tusayan could create a housing authority that could sell new residential units to lower income individuals because Arizona's housing authorities typically can only rent housing.³⁵⁷ The result could be a greater housing shortage than currently exists in Tusayan. Employees of the new development would be forced to commute long distances to Flagstaff, Williams, or other towns with available housing stock. These additional commuters produced by Stilo's development would increase traffic congestion, vehicle emissions, and road wear. The Forest Service must analyze and disclose the effects that a substantial increase in Tusayan-area service industry employees would have on the area's socioeconomics and environment.

D. The Forest Service must analyze and disclose cumulative impacts of the proposed easements and connected development in conjunction with other reasonably foreseeable projects and actions in the region.

NEPA requires an agency preparing an EIS for a proposed action to identify and discuss the cumulative impacts of that action.³⁵⁸ Cumulative impacts are defined as impacts that result from "the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."³⁵⁹ Forest Service regulations also require cumulative analysis of reasonably foreseeable Federal and non-Federal future activities not yet undertaken and for which the effects can be meaningfully evaluated.³⁶⁰

For the cumulative impacts analysis to be meaningful, it must identify and discuss: "(1) the area in which the effects of the proposed project will be felt; (2) the impacts that are expected in that area from the proposed project; (3) other actions – past, present, and proposed, and reasonably foreseeable – that have had or are expected to have impacts in the same area; (4) the impacts or expected impacts from these other actions; and (5) the overall impact that can be expected if the individual impacts are allowed to accumulate."³⁶¹ An effect is "reasonably foreseeable" if "it is sufficiently likely to occur that a person of ordinary prudence would take it into account in reaching a decision."³⁶² Agencies have an affirmative obligation to procure information regarding reasonably foreseeable impacts when possible,³⁶³ and must engage in "[r]easonable

³⁵⁷ See Tusayan low income housing may face additional challenges, Grand Canyon Watchdog (Apr. 24, 2015), attached as Ex. 90.

³⁵⁸ 40 C.F.R. §§ 1508.25(c), 1502.4.

³⁵⁹ 40 C.F.R. § 1508.7.

³⁶⁰ See also 36 C.F.R. § 220.3; 36 C.F.R. § 220.4(a)(1).

³⁶¹ Grand Canyon Trust v. F.A.A., 290 F.3d 339, 345 (D.C. Cir. 2002).

³⁶² Mid States Coal. for Progress v. Surface Transp. Bd., 345 F.3d 520, 549 (8th Cir. 2003) (quoting Sierra Club v. Marsh, 976 F.2d 763, 767 (1st Cir. 1992)).

³⁶³ 40 C.F.R. § 1502.22.

forecasting and speculation.”³⁶⁴ An agency is required to evaluate reasonably foreseeable impacts even if the extent of those impacts is uncertain.³⁶⁵

When an agency fails to follow any of these requirements, the agency deprives decision makers and the public of valuable information necessary for a full understanding of the magnitude and significance of a project’s impacts. Accordingly, the Forest Service must analyze and disclose the cumulative impacts from the requested easements and proposed developments in conjunction with other reasonably foreseeable actions in the region.

The environmental integrity of the Tusayan region is experiencing and will continue to experience significant cumulative impacts from commercial, residential and other infrastructure development that will increase population and bring additional visitors to the region, as well as from mineral extraction, logging and forestry activities. While each of the projects in the region, individually, has significant environmental impacts, when considered cumulatively with the proposed easements and accompanying developments, these impacts are even more obvious on the region’s water resources, wildlife, diverse ecosystems, sacred tribal lands, air quality, and viewsheds. These actions and their reasonably foreseeable impacts are described in more detail below. NEPA requires the Forest Service to consider the cumulative effects of these projects, and to assess their impacts together with those of the easements and development of the two parcels made possible by the easements.

We note that the proper scope for addressing other actions that may have cumulative impacts may vary with the resource at issue. The scope of analysis of action that may cumulatively impact the R-M aquifer, for example, should be the area overlying that aquifer. The scope of analysis for air impacts may be broader. The scope of actions that may cumulatively impact economic activities should include, at least, those communities that rely on Grand Canyon for tourism revenue (including Flagstaff, Williams, the Navajo and Havasupai nations, etc.).

1. The South Zone Travel Management Revision Project

The proposed South Zone Travel Management Revision Project would increase access to motorized dispersed camping corridors and access to previously closed motorized areas in the Tusayan and Williams Ranger Districts. The project encompasses 890,000 acres and collectively, the project would impact millions of forest visitors annually. Specifically, the project proposes designation of 291 miles of camping corridors along both sides of forest roads; the addition of 15 spur roads to the official open route network of the Tusayan Ranger District; the closure of approximately 9 miles of roads; the addition of approximately 16 miles of roads to the official open route network; and the development of an “adaptive management” strategy for the purposes of facilitating future changes to the route network within both the Tusayan and

³⁶⁴ Scientists’ Inst. for Pub. Info. v. Atomic Energy Comm’n, 481 F.2d 1079, 1092 (D.C. Cir. 1973).

³⁶⁵ Id. See Northern Plains Resource Council v. Surface Transportation Board, 668 F.3d 1067, 1079 (9th Cir. 2011) (BLM acted arbitrarily by limiting its cumulative impacts analysis; the 20 year forecast scenario in a programmatic EIS provided enough information to conduct a meaningful cumulative impact analysis of the projected future coal bed methane development and mining in the region).

Williams Ranger Districts.³⁶⁶ Most importantly, all of the action alternatives propose expanded camping corridors, and thus impacts hundreds of feet on either sides of roadways, including along Forest Road 302, which provides access to the TenX parcel and would be paved and widened under Tusayan's easement application, and along Forest Road 328, in close proximity to the northern access route to the Kotzin parcel.³⁶⁷ The travel management project and the road easements will thus have overlapping impacts on the lands at issue.

The proposed Travel Management Project would bring about conflict between motorized recreation users of the forest and non-motorized recreation, posing public health and safety dangers that have not yet been fully identified and evaluated in the Draft Environmental Assessment on which many of the undersigned have commented.³⁶⁸

The Travel Management Project action area is located within the same impacted area as the easements, encompassing and impacting unique natural characteristics of the region, including a variety of elevations, vegetation structures, wildlife habitats, archaeological resources, extensive cultural and historic resources, and Grand Canyon National Park. The action area is also geographically close to designated wilderness areas on the Kaibab National Forest, endangered Mexican Spotted Owl Protected Activity Centers and critical habitat designated by the U.S. Fish and Wildlife Service, as well as in proximity to habitat for and experimental populations of the California condor and black-footed ferret.

Even the most cautious road construction methods cause soil exposure and erosion. These impacts can be exacerbated in areas like the South Zone, where natural disturbance to soil and vegetation from fire occurs and monsoon and high rainfall events can lead to significant erosion and flooding. Even "best management practices" have not succeeded in preventing or mitigating soil exposure, erosion rates, and productivity loss. Roads also can permanently impair soil productivity even if their use is temporary. Creation of new motorized access points and areas also create an invitation for forest users to utilize previously unroaded areas and can facilitate additional degradation of the ecosystem and watersheds.³⁶⁹

Roads and camping corridors directly eliminate wildlife habitat by occupying space within the ecosystem and by altering adjacent habitat. Roadside habitats experience increased temperature extremes and solar input, pollution from exhaust, herbicides, garbage, dust, and noise. These impacts will only be exacerbated with increased climate change impacts.³⁷⁰

Noise from increased traffic also interferes with wildlife's ability to find and capture prey, to escape from predators, and to successfully mate and reproduce. Already, there are significant

³⁶⁶ See Kaibab NF, South Zone Travel Management Revision Project (May 2014), attached as Ex. 91, available at <http://www.fs.usda.gov/project/?project=42961> (last visited June 1, 2015)

³⁶⁷ See *id.* at 8.

³⁶⁸ Letter of K. Davis, CBD *et al.* to Williams Ranger District, re: South Zone Travel Management Revision Project (May 11, 2015), attached as Ex. 92.

³⁶⁹ See *id.* at 17-19.

³⁷⁰ *Id.* at 19-23.

sources of noise pollution within and around the area from activities such as uranium mining operations, logging, hunting, urban development, off road vehicle recreation, helicopter and airplane traffic.³⁷¹

The cumulative impacts of the proposed easements and developments in conjunction with the impacts of the proposed Travel Management Project on these ecologically critical areas are dispersed, long-term, and significant. The easements will pave the way for a giant commercial and residential development, and drastically increase the population of, and traffic to and from, the Tusayan area, including on the very roads where the Travel Management Project seeks to expand dispersed camping. These changes, when combined with expanding the zone within which car camping can occur under the Travel Management Project, will likely encourage much more dispersed camping, and more camping farther away from the roads that Tusayan seeks to have paved, since those seeking a dispersed camping experience may not choose to camp near a heavily trafficked paved road. Those who do choose to camp along the easement routes will likely choose to camp as far from the paved easements as possible, up to the maximum 300 feet, thereby increasing the footprint of impacts along the paved routes. Together, these projects will result in increased impacts to forest roads, wildlife habitat, and visitor experiences. As such, the potential for such cumulative and synergistic impacts must be disclosed and evaluated in an EIS.³⁷²

2. *South Zone Grasslands Restoration Project*

The Kaibab National Forest also is considering and planning for the South Zone Grasslands Restoration Project, which would impact both human activities and wildlife in proximity to Tusayan's proposed easements. The Forest Service has issued a Proposed Action for the Restoration Project and solicited public scoping comments.³⁷³ The project area includes National Forest land surrounding the Kotzin parcel and thus lands that will be burdened by the easements to Kotzin, and within several miles of the TenX parcel.³⁷⁴

Both seasonal use restrictions and long-term changes in motorized use may be appropriate or needed to undertake grassland restoration work in this area. The use of fire, mechanical thinning, installation of water projects, and administrative and grazing permittee use may impact visitor experiences, motorized recreation options, and wildlife habitat that will also be impacted by the easement proposal and related development. The cumulative impacts from these projects within the same area or in proximity to each other must be identified and analyzed.³⁷⁵

³⁷¹ Id.

³⁷² See 40 C.F.R. § 1508.7.

³⁷³ See Kaibab Nat'l Forest, South Zone Grasslands Restoration Management Project (March 2015), attached as Ex. 93, available at <http://www.fs.usda.gov/project/?project=44132> (last visited June 1, 2015).

³⁷⁴ See id. at 13 (map of grassland project area).

³⁷⁵ See letter of A. Gitlin, Sierra Club et al. to M. Williams, Kaibab NF, re: South Zone Grassland Restoration Management Project (Apr. 22, 2015), attached as Ex. 94.

Specifically, the South Zone Grasslands Restoration Project suggests the use of chaining to treat forest landscapes and to remove conifers. This practice can have both short and long-term impacts on wildlife, including reducing the abundance and diversity of avian communities and small mammals. Chaining also can facilitate cheatgrass invasion that would undermine restoration efforts. Chaining is not an effective restoration method compared to natural methods such as fire that result in far more productive understories.³⁷⁶

The Restoration Project suggests the use of herbicide as a potential treatment tool which can have undesirable effects. For example, herbicide treatment allows grasses and forbs to grow if they are already rooted beneath the sage or have viable seed in the seedbank. Exotic species can proliferate under such treatment and can quickly grow to out-compete the slower growing seeds of native perennial bunchgrasses. Herbicides can be unsuccessful at killing juniper while killing or injuring native forbs and reducing native diversity in the plant community.³⁷⁷

The continuance of livestock grazing under the Grassland Restoration Project could inhibit full restoration and actually lead to reductions in understory biomass and density and reduction in competition with conifer seedlings. Continued grazing would increase the presence of exotic plant species, soil compaction, decreasing soil ability to absorb and filter water, and increase erosion.³⁷⁸

Impacts to prairie dog populations will also occur under the proposed Grassland Restoration Project. This species is particularly vulnerable to habitat destruction and development that pushes into grassland habitats. Poisoning of prairie dogs and shooting without restrictions is a major threat to these populations. The proposed easements and connected developments through the National Forest – which will degrade habitat, increase traffic, increase fire risk, litter, etc. – will only exacerbate these threats.³⁷⁹

The Forest Service also has an obligation to manage National Forest lands to maintain viable populations of Management Indicator Species (MIS) such as the pronghorn antelope.³⁸⁰ The Kaibab Forest Plan establishes management protocol related to pronghorn. As such, the Forest Service must provide analysis of how the proposed easements through the National Forest serving the massive proposed developments and bringing increased use of the adjacent national forest land, in conjunction with other projects such as the Grasslands Restoration Project, will cumulatively affect pronghorn populations. This is particularly important since the TenX access road and TenX parcel overlap pronghorn habitat.³⁸¹ The Forest Service must implement pronghorn monitoring data and use MIS population data to determine how changes in population relate to site-specific actions.³⁸²

³⁷⁶ Id. at 8.

³⁷⁷ Id. at 9.

³⁷⁸ Id. at 10-11.

³⁷⁹ Id. at 11-13.

³⁸⁰ See Idaho Sporting Congress v. Rittenhouse, 305 F.3d 957, 972-73 (9th Cir. 2002).

³⁸¹ See supra at IV.C.5.g.ii.

³⁸² Letter of A. Gitlin (Apr. 22, 2015) (Ex. 94) at 15-17.

Granting Tusayan the easements it seeks and the connected developments are likely to undercut potential benefits of the South Zone Grassland Restoration Project. Because the South Zone Grassland Restoration Project is a reasonably foreseeable future action proposed by the Forest Service that overlaps the easement proposal, the Forest Service must analyze and disclose the cumulative effects of the grassland project together with the proposed easements and associated developments in the Town of Tusayan.

3. *Grand Canyon National Park Airport Improvement Program*

The proposed Grand Canyon National Park Airport Capital Improvement Program is a proposed expansion of the existing airport facility that stands to significantly increase air pollution, noise, population stress, and water demands on Grand Canyon National Park and the surrounding region. The Arizona Department of Transportation has proposed, as part of its Five-Year Program, construction of a new airport terminal to replace the existing facility. The new terminal will be designed to support major airlines flying in from other major hubs in the country, allowing the airport to become a destination for major airlines to facilitate more visitors to the national park.³⁸³ The project would demand significantly more water resources which would require construction of new water well to provide on-demand water service to the airport facility.³⁸⁴ Both the new terminal construction and groundwater well are reasonably foreseeable actions because ADOT provides sufficient detail in its Five-Year Program about the project in which it intends to invest, including a timeline for the development of each project as well as expected costs for each step of the development.³⁸⁵ Once the Program is approved, the State Transportation Board takes action on specific projects on a monthly basis and it appears that the agency is preparing to make a decision on both projects very soon, with construction to begin on both the terminal and well projects in 2016.³⁸⁶ We understand that recently, ADOT turned down an offer to alter the Airport's storage of reclaimed water and hired an engineering firm to assess the best location to place the new well. The proposed Capital Improvement project will be funded by both grant money from the Federal Aviation Administration (more than \$22 million) and state funds (close to \$3 million),

The proposed airport modifications would harm Grand Canyon National Park, a national treasure and economic-revenue generator for the entire state of Arizona. Landing commercial jets at the airport would increase noise to – and visually intrude upon – the visitor experience at Grand Canyon National Park. The National Park Service already struggles to reduce traffic and air-tour noise within the park, and a flood of new commercial jets would further degrade the natural quiet at Grand Canyon. Expanded lighting on the airstrip and increased traffic also will degrade the

³⁸³ See Ariz. Dep't of Transp., 2016-2020 Tentative Five-Year Transportation Facilities Construction Program (2015) at PDF 153-54, attached as Ex. 95; see also Arizona Dep't of Transportation, Grand Canyon Airport to receive upgraded terminal (April 4, 2012) (“With the addition of the replacement terminal, the Grand Canyon Airport can become a destination point for major airlines to offer flights to their customers so they can come see the Grand Canyon”) attached as Ex. 96; ADOT, Airport Briefing City of Flagstaff Sept 2014, attached as Ex. 97.

³⁸⁴ See Airport Briefing City of Flagstaff Sept 2014 (Ex. 97).

³⁸⁵ Tentative Five-Year Transportation Program (Ex. 95) at PDF 153-54.

³⁸⁶ Tentative Five-Year Transportation Program (Ex. 95) at xviii (program to be adopted in June 2015).

night sky that visitors come to observe. A busier airport also would lead to increased air pollution in the park and adjacent areas, where haze and low visibility can obscure world class views. The water demands served by new wells under the proposed project will deplete already limited groundwater supplies into which existing and other proposed activities are already tapping. Grand Canyon seeps and springs risk drying up as more water is drawn from below Tusayan.³⁸⁷

The cumulative impacts of the proposed Grand Canyon Airport expansion must be evaluated in conjunction with the proposed easements that will pave the way for the massive proposed Tusayan developments. In fact, each project may provide a justification for the other: more residents may demand more airport services; and more commercial flights may make living in Stilo's developed parcels more attractive. Increased resident populations and long-term visitation in Tusayan will likely be facilitated and accelerated by the airport expansion together the proposed developments will have significant cumulative impacts, including serious risk to levels of the R-M aquifer (due to pumping for both the airport and the easements), increased activity in the surrounding national forest, air pollution, and stress on the national park ecosystems and infrastructure.³⁸⁸

4. *Canyon Mine and other uranium mining activities in the region*

The Canyon Mine, which was approved by the National Forest Service in 1986, proposes to restart operations this spring despite the lack of additional environmental analysis in the almost 30 years that have passed since its approval. The proposed mining operation is located in Coconino County, approximately 6 miles south of Tusayan and the actual mining operation would involve direct disturbance of 17 acres for the mine shaft and surface facilities, plus new and improved roads within the National Forest.³⁸⁹ Uranium ore hauling trucks will use SR 64, the same route used by those accessing the Tusayan easements from south of Tusayan,

Uranium mining in the region has had significant environmental impacts and in the decades since the Canyon Mine was approved natural resources in the region have been depleted and severely impacted. This warrants analysis not only of the impacts evaluated back in the 1986 Canyon Mine EIS, but also analysis of the impacts of Canyon Mine within the current regional context and in conjunction with the impacts of developments and activities that have occurred since the mid-1980s.³⁹⁰

Uranium mining poses a severe threat of groundwater pollution. Given the close proximity to the Colorado River, this could have widespread impacts. The aquifer in the Grand Canyon area is unique in that the water from these aquifers discharges into seeps, springs and streams in the

³⁸⁷ Letter of S. Bahr, Sierra Club to State Transportation Board (May 17, 2015) at 4-5, attached as Ex. 98.

³⁸⁸ Id.

³⁸⁹ See U.S. Forest Service, Final EIS, Canyon Uranium Mine (Aug. 1986), attached as Ex. 99.

³⁹⁰ See letter of S. Bahr, Sierra Club et al. to T. Baggiore, ADEQ re: Canyon & Pinenut Mines (July 22, 2009), attached as Ex. 100.

area that are critical to wildlife and that also help feed the Colorado River, an important drinking water source for millions of people.³⁹¹

As researcher David Kreamer, Professor of Geoscience at the University of Nevada, Las Vegas, states:

On the basis of [] research, I am profoundly concerned that mining in or near the Tusayan Ranger District and Federal land managed by Bureau of Land Management in the vicinity of Kanab Creek and in House Rock Valley will damage quantity and quality of Grand Canyon springs, and the plants and animal that depend on those springs. The springs support a rich diversity of animals, birds, insects and plants, and provide water for backcountry hikers and Native Americans.³⁹²

Researchers also have found that springs have a concentration of species 500 times that of the desert lands in which they occur, and have discovered that each spring is unique and supports a distinctive array of flora and fauna, many of which are endemic.³⁹³

Cumulative discharges of Canyon Mine and other regional activities in the greater Grand Canyon area will seep into the geologic formations and could result in violations of Aquifer Water Quality Standards. These discharges will negatively affect the seeps and springs and have devastating effects on the critical natural resources that depend on them.³⁹⁴ These impacts must not be underestimated given the hydrologic connectivity between the aquifer and the Colorado River.

Moreover, there is a history of contamination of Grand Canyon's streams. The Orphan Mine in Grand Canyon National Park has surface and groundwater contamination, including high levels of radiation, associated with it.³⁹⁵ Many potential mine sites are located in sinkholes which can be subject to surface flooding. This type of uranium mine generates ore and waste rock which is typically stockpiled on the land surface until shipment to a mill. Local precipitation and surface runoff waters can be in contact with the surface uranium ore. In addition, certain mining activities, such as the interception of water by wells, creation of vertical shafts, the diversion of surface water, and the collection of surface water into holding ponds, has the potential to alter the amount and quality of water recharging the aquifers surrounding Grand Canyon National Park. Recharge to deep aquifers in the region can be on the order of hours and days, not weeks or years, because it tends to be most recharged through faults, fractures and sinkholes.³⁹⁶ These geologic conditions significantly increase the likelihood of contamination from these mining facilities.

³⁹¹ Id. at 3-4.

³⁹² Id. at 4.

³⁹³ Id.

³⁹⁴ Id. at 4.

³⁹⁵ Id. at 6.

³⁹⁶ Id. at 6-7.

The Canyon Mine and other uranium mining activities threaten nearby wildlife populations. The area's vegetation serves as summer habitat for pronghorn, mule, deer, elk, and turkey. The northern goshawk, Cooper's hawk, red-tailed hawk, acorn woodpecker and pygmy nuthatch are among the more than twenty five bird species that nest in the area. Five elk calving areas totaling approximately 2,000 acres have the potential to be impacted by the mine proposal. Water is an important component in elk calving habitat, and each of the known calving areas is within proximity of a reliable water source. Approximately 9,900 acres of deer fawning habitat have been identified in the vicinity of the mine and ore haul routes. Quality forage and available water are essential components in fawning habitat. Three pronghorn fawning areas totaling 2,300 acres have been identified in the vicinity of the mine and ore haul routes. Approximately 1,600 acres of turkey nesting habitat have the potential to be impacted by the Canyon Mine. Extensive pinyon-juniper vegetation is in the vicinity of the mine, providing winter habitat for pronghorn, mule deer and elk, and nest sites for the plain tit mouse, pinyon jay and great horned owl. The endangered Bald Eagle and Peregrine Falcon also may use the area on a seasonal basis.³⁹⁷ The EIS for the Canyon Mine completed in 1986 provides information about potential impacts to wildlife considered at that time. Already lack of dependable waters sources are the primary factor affecting wildlife distribution in the area.³⁹⁸ As such, the depletion of the quantity and quality of waters resulting from Canyon Mine and other mining activities in conjunction with the proposed easements and associated developments that will continue likely draw on the same R-M aquifer, may have significant cumulative impacts must be fully analyzed in an EIS. Further, pumping groundwater in Tusayan may hasten the flow of water through the aquifer toward Grand Canyon from points north, increasing the mobility of any radioactive materials that enter the aquifer as a result of uranium mining.

A cumulative impacts analysis must not just look at the impacts described in the 1986 Canyon Mine EIS. The Tusayan Ranger District area (which includes the mine, the easements and the parcels to be developed due to the easements), the information about the area, studies on the hydrology, studies on unique seeps and springs, knowledge about the negative impacts of past uranium mining activities, and many other issues have changed dramatically in three decades. In particular, in 1986 there was limited information about the groundwater on the Coconino Plateau. At the time the Canyon Uranium Mine Final EIS was issued and Canyon Mine was approved, there were few, if any, water supply wells that were pumping groundwater from the R-M aquifer. Today, there are at least six active wells pumping 300 million gallons of water each year within about 6 miles of the mine site. Today, the Coconino aquifer is being depleted and the region will become increasingly dependent on the R-M aquifer.³⁹⁹ The population and development in the area have increased, resulting in greater demand on water resources and greater discharge into aquifers. A cumulative impacts analysis of the impacts of uranium mining and Canyon Mine specifically in conjunction with the proposed easements and connected developments must consider all "reasonably foreseeable" impacts of the Canyon Mine in today's setting.

³⁹⁷ Final EIS, Canyon Uranium Mine (Ex. 99) at 565-572.

³⁹⁸ Id.

³⁹⁹ Letter of S. Bahr, Sierra Club (July 22, 2009) (Ex. 100) at 9-10; see Bureau of Reclamation, North Central Arizona Water Supply Study (Ex. 17).

Moreover, Grand Canyon National Park is a designated Class I Attainment area pursuant to Arizona's implementation of the federal Clean Air Act, under R18-217(B)(4). R18-217(B)(4) implements Title I Part C of the Clean Air Act, and the primary function of that part of the Act is to "preserve, protect, and enhance the air quality of national parks ... and other areas of special national or regional natural, recreational, scenic, or historic value." In order to achieve that purpose, the Clean Air Act also states that all decisions to increase air pollution in any area where Title I Part C applies will be made only after "careful evaluation of all consequences of such a decision..."⁴⁰⁰ Because the proposed easement and development in Tusayan, the Canyon Mine, the proposed Grand Canyon Airport expansion, and other development activities affecting air quality are within just a few miles of Grand Canyon National Park, the Forest Service must undertake a searching cumulative impacts analysis.

In addition, in 2010, the Forest Service designated Red Butte and the surrounding area, including the location of the Canyon Mine, as a Traditional Cultural Property for its cultural and religious significance for the Havasupai and other tribes. This designation makes the land eligible to be included in the National Register of Historic Place. Further protections from the threats of uranium mining also were put in place in 2012 when Department of Interior Secretary Salazar withdrew 1 million acres of federal lands from new uranium and hard rock mining claims. Canyon Mine and the easements are located within the withdrawn area. Recognizing the adverse effects of uranium mining and the importance of protecting this critical watershed, the Secretary stated:

A withdrawal is the right approach for this priceless American landscape ... People from all over the country and around the world come to visit the Grand Canyon. Numerous American Indian tribes regard this magnificent icon as a sacred place and millions of people in the Colorado River Basin depend on the river for drinking water, irrigation, industrial and environmental use. We have been entrusted to care for and protect our precious environmental and cultural resources, and we have chosen a responsible path that makes sense for this and future generations.⁴⁰¹

Indeed, the recent Red Butte designation and mining withdrawal underscore the importance of evaluating cumulative air quality, surface water, groundwater and wildlife impacts of the proposed easements and connected developments in conjunction with resumed operations of the Canyon Mine and ongoing uranium mining activities in the region.

⁴⁰⁰ Letter of S. Bahr, Sierra Club (July 22, 2009) (Ex. 100) at 10-12.

⁴⁰¹ "Secretary Salazar announces Decision to Withdraw Public Lands Near Grand Canyon from New Mining Claims," Press Release issued January 9, 2012, available at: <http://www.doi.gov/news/pressreleases/Secretary-Salazar-Announces-Decision-to-Withdraw-Public-Lands-near-Grand-Canyon-from-New-Mining-Claims.cfm> (last visited June 1, 2015).

5. *Escalade Aerial Tram Project*

The proposed Escalade development at Grand Canyon's East Rim would shuttle up to 10,000 visitors a day from the cliff tops of the Navajo Nation to the edge the Colorado River before its confluence with the Little Colorado River via a 1.4 mile aerial tram. The project site is approximately a 100-mile drive from Flagstaff, Arizona. The parameters of the project are known to a sufficient degree because they have been set out in detail by the developer in a draft resolution to the Navajo Nation Council. The proposal includes significant infrastructure development such as roads, utilities, water resources, restaurants and hotels. As such, the Forest Service has sufficient information about the development to engage in meaningful consideration of the project's reasonably foreseeable cumulative impacts.

The proposal poses significant threats to the Canyon interior and its surrounding area, which until now could only be accessed by hiking, rafting or mule ride. The proposal would mar the sagebrush, rolling hill, arroyo and canyon landscape considered sacred by the Navajo and other tribal nations. The project would significantly increase the number of park visitors to this sensitive landscape and increase water demand, traffic and air pollution. The proposed easements facilitating the massive developments in Tusayan will only exacerbate the impacts of the Escalade project on the Grand Canyon landscape by increasing visitation pressure, impacts to the quiet and remoteness of the Park, etc. In fact, the superintendent of Grand Canyon National Park has said that the Tusayan easement application and the Escalade project together constitute the greatest threats to Grand Canyon National Park in its nearly 100-year history.⁴⁰² As such, the cumulative impacts of these projects together must be thoroughly evaluated.

6. *Grand Canyon Watershed National Monument*

A coalition of advocacy groups, supported by members of Congress, businesses and tribes, has proposed designation by the Obama Administration of a Grand Canyon Watershed National Monument.⁴⁰³ A detailed proposal has been presented to the Bureau of Land Management and Forest Service officials. The proposal sets out the parameters of the designation with sufficient degree, including monument boundaries, the environmental threats currently facing the watershed and detailing the benefits of national monument designation. The detail provided would allow the Forest Service to engage in meaningful consideration of the cumulative impacts of this reasonably foreseeable action and the adverse impacts of the easements and associated developments on monument protection.

Specifically, the designation would protect 1.7 million acres of ecologically critical and sacred landscapes encompassing a wild, rugged array of towering cliffs, deeply incised tributary canyons, grasslands, and numerous springs that flow into the Colorado River in Grand Canyon. At least twenty-two sensitive species, including the endangered California condor and the rare northern goshawk, make their home within the proposed monument lands. The proposed

⁴⁰² See Grand Canyon Trust website, <http://www.grandcanyontrust.org/stopping-grand-canyon-escalade> (last visited June 1, 2015); D. Roberts, "Who Can Save the Grand Canyon?", *Smithsonian Magazine* (Ex. 19).

⁴⁰³ See "Conserving the Grand Canyon Watershed, A Proposal for National Monument Designation," attached as Ex. 101; Map, "Threats to Proposed Grand Canyon Watershed National Monument," attached as Ex. 102.

Monument includes five distinctive and diverse geographic areas: the Kaibab Plateau, the Kaibab Paunsagunt Wildlife corridor, Kanab Creek Watershed, House Rock Valley, and the South Rim Headwaters, comprising much of the Colorado River watershed around Grand Canyon National Park and providing water for millions of people in Arizona, Nevada, and California.⁴⁰⁴

These lands include the uranium withdrawal areas south of Grand Canyon and west of Kanab Creek. The lands hold great significance to the Kaibab and Shivwits Paiute tribe, Hopi, Zuni, Hualapai, and Havasupai tribes, and the Navajo Nation. More than three thousand ancient Native American archaeological sites have been documented in the region, representing a fraction of the human history of the area.⁴⁰⁵

The proposed Monument contains the most intact, largely unprotected old-growth forest in the Southwest, including old growth ponderosa pine forests – which constitute one of America’s most endangered ecosystems. Together with the adjacent House Rock Valley, Kaibab-Paunsagunt Wildlife corridor, the Kanab Creek Watershed, and the south Rim Headwaters, the proposed Monument includes areas of critical and significant biological diversity, providing crucial habitat and wildlife movement corridors for a host of distinctive species, including the Kaibab squirrel, northern goshawk, the Kaibab-Paunsagunt mule deer herd, mountain lion, and the iconic endangered California condor.

Momentum is building to protect these lands because of the numerous existing and imminent threats that face them, including logging of ancient trees affecting native wildlife diversity and the resilience of ecological integrity of the landscape; high density primitive roads causing soil loss and vegetation damage affecting archaeological sites, water sources, and increasing poaching and habitat fragmentation and barriers for wildlife; loss of landscape connectivity for wildlife between Grand Canyon National Park and Grand Staircase-Escalante National Monument which has become critical as the climate becomes warmer and drier; inappropriate grazing resulting in habitat degradation, shrub invasion and soil erosion; uranium mining threatening water quality, wildlife, and intact habitat of the Grand Canyon watershed.⁴⁰⁶

The Town of Tusayan’s easements and Stilo’s development will undermine many of the values the proposed monument seeks to protect. Any NEPA document the Forest Service prepares on must address the impacts the easements and development would have on the proposed monument and the values the monument seeks to protect.

7. *Kaibab Village*

Stilo Development Group USA also has proposed a plan to develop a parcel in Tusayan downtown called Kaibab Village. In March 2015, Stilo presented its proposed plans to Tusayan’s city council and planning and zoning board.⁴⁰⁷ The development would transform the

⁴⁰⁴ Monument Proposal (Ex. 101) at ii.

⁴⁰⁵ Id.

⁴⁰⁶ Id.

⁴⁰⁷ See L. Yerian, Stilo shares concept plans for future development of Camper Village (Ex. 29). See also Tusayan’s Future, Building a Better Tomorrow, “Downtown Tusayan” coming soon (Mar. 2015), attached as Ex. 103.

existing Camper Village on the northeast side of town by developing several multi-use buildings for residential, lodging and commercial use. The commercial space will include a grocery store, pharmacy, shopping areas, restaurants and underground parking structures. Lodging and residential areas will be used to house hotel guests. The existing employee housing at Camper Village will be re-developed as apartments for visitors. The proposal apparently relies on Stilo's Kotzin and TenX developments for employee residences.

Like Stilo's other development proposals that will be served by the proposed easements, the Kaibab Village development will place similar strains on area resources, including water supply and water quality. The development will increase the number of temporary visitors and permanent residents to the region which will exacerbate impacts to the National Forest and Grand Canyon National Park ecosystems and infrastructure. Increased development will lead to more road building and increase traffic which will add to habitat degradation and fragmentation and increased air and water pollution.

The impacts of the Kaibab Village development must be considered in conjunction with the impacts from the proposed easements and connected Kotzin and TenX developments as well as other projects placing demands on the region's natural resources.

8. *New Water Well supporting Sage Valley Mobile Home Park in Valle*

Groundwater pumping for existing development in the region is drawing down the already depleted groundwater supplies, in particular, the Redwall-Muav aquifer which serves most development on the Coconino Plateau. Already, water supply throughout the basin appears to be severely depleted, yet ground water wells continue to be developed to support existing development in need of continued water supplies.⁴⁰⁸ A new well was recently sunk to support the existing Sage Valley Mobile Home Park in the Valle area, just south of Tusayan, on the Coconino Basin.

The Forest Service must evaluate the cumulative impacts of existing development throughout the basin and existing wells serving those developments that are depleting the R-M aquifer, including recently developed wells such as that supporting the Sage Valley Mobile Home Park and others contemplated and proposed to support existing and permitted development.⁴⁰⁹ In addition, these impacts must be analyzed in conjunction with the impacts of climate change on this region over the next several decades. Failure to evaluate water supply impacts of the proposed easements and connected development with water demands from existing development and climate change impacts over time on an already scarce water supply would violate NEPA's purpose of providing decision makers with the necessary information to make informed decisions.

⁴⁰⁸ See Arizona Dep't of Water Resources, Coconino Plateau Basin Adequacy Determinations Map, attached as Ex. 104.

⁴⁰⁹ See Ctr. for Biological Diversity, Wells on the Coconino Plateau Basin (Ex. 50).

9. *Tusayan Flood Reduction Project*

In September 2013, the Kaibab National Forest issued a Decision Notice approving construction of six detention basins on the eastern side of the Town of Tusayan in ephemeral drainages on National Forest land. The stated purpose of the project is to reduce flooding of property and infrastructure in the Town of Tusayan, the downstream South Grand Canyon Sanitary District water treatment plant and the Coconino Wash on the Tusayan Ranger District.⁴¹⁰ The detention basins are designed to reduce the flood peaks and velocity.⁴¹¹

As stated in comments submitted by conservation groups, the project's purpose remains vague and the Forest Service provided no justification that the detention basins will actually serve their intended purpose of alleviating downstream flooding problems.⁴¹² In fact, observations during storm events illustrate that some flooding in the Town of Tusayan is the result of little or no storm water infrastructure within the Town. Rather, flows appeared to emanate from the developed areas in town and the impervious surfaces within town are contributing to nuisance flooding.⁴¹³ As such, as Tusayan continues to grow and the Forest Service determines whether to approve the easements connected to such development, the agency must evaluate the impacts of increased flooding on the area's plant and wildlife communities, soil, water, recreation, and scenery that will result from massive proposed development that will increase impervious surfaces in town.

In addition, animals such as bats, have been known to become trapped and drown in stock tanks. The project will impact several acres of late-seral ponderosa pine relied upon by numerous wildlife species for habitat and protection. Large old-growth trees may be taken as a result of the project's location and grassy meadows will be impacted by large equipment.⁴¹⁴ As such, a cumulative impacts analysis must evaluate these impacts in conjunction with wildlife and flooding impacts that will result from the proposed easements and connected developments. Impacts from the flood project will be felt in close proximity to the TenX access road and development. In fact, two detention ponds and a temporary road will be (or may have already been) built just south of Forest Road 302 near Tusayan.

10. *Tusayan East Wireless Communication Sites Project*

The Forest Service recently proposed and conducted scoping for the Tusayan East Wireless Communication Sites Project which would construct two wireless and microwave communications towers at the Grandview and Skinner Ridge communications sites in the Kaibab

⁴¹⁰ Kaibab National Forest, Decision Notice and Finding of No Significant Impact, Tusayan Flood Reduction Project (Ex. 66) at 1.

⁴¹¹ Id.

⁴¹² Letter of A. Gitlin, Sierra Club, Comments re: Tusayan Flood Reduction Project (Aug. 27, 2013), at 1 -2, attached as Ex. 105.

⁴¹³ Id.

⁴¹⁴ Id. at 2.

National Forest east of the TenX parcel. The proposed action is one component of a broader plan to construct additional communications facilities throughout the Grand Canyon region.⁴¹⁵

Of significant concern is the visibility of the towers from the surrounding landscape. Grand Canyon National Park is clearly visible from Grandview, and visible in the background of Skinner Ridge.⁴¹⁶ This will have a significant effect on the scenic integrity of the area, which is known for its unfettered viewshed. The towers will be visible from Highway 64 through the Kaibab National Forest, from the Arizona National Scenic Trail, Coconino Rim Roadless Area, Grandview cabin (a National Register cultural site) and from Red Butte (a Traditional Cultural Property) and from the Red Butte Trail. Both Grandview and Skinner Ridge are designated with special viewshed status because of their scenic attributes which will be marred by the construction of these towers.⁴¹⁷ Tusayan's easements and Stilo's development may impact many of these same resources, including the Arizona National Scenic Trail.⁴¹⁸

Noise from generators will impact the surrounding forest. These towers and generators will degrade the experience of campers and those who recreate in the Kaibab National Forest.⁴¹⁹ Importantly, visitors from around the world, most of whom come to experience this treasured landscape, do not want to recreate adjacent to communications towers. The impacts on recreational visitors will further compound the impacts on such visitors from the paved roads and development that Tusayan seeks to approve.

As such, a cumulative impacts analysis must evaluate the impacts of newly constructed wireless communications towers on the surrounding region and on visitor experiences in conjunction with the additional impacts of increased visitation to the region that will result from the proposed easements and connected developments.

11. Grand Canyon Backcountry Management Plan

Grand Canyon National Park is updating its Backcountry Management Plan and preparing an Environmental Impact Statement to analyze management strategy impacts. The plan will set out new management strategies that comply with National Park Service laws and policies and the Park's more recent General Management Plan completed in 1995. Management strategies seek to protect park resources and values while providing diverse backcountry experiences for park visitors.⁴²⁰

⁴¹⁵ Forest Service project overview and planning documents for the Tusayan East Wireless Communication Sites Project, available at: <http://www.fs.usda.gov/project/?project=46212> (last visited June 1, 2015).

⁴¹⁶ Letter of A. Gitlin, Sierra Club, Comments re: Tusayan East Wireless Communication Sites Project at 2 (Feb. 27, 2015), attached as Ex. 106.

⁴¹⁷ Id.

⁴¹⁸ See supra at IV.C.5.I.

⁴¹⁹ Letter of A. Gitlin, Sierra Club (Feb. 27, 2015) (Ex. 106) at 2.

⁴²⁰ See National Park Service, Grand Canyon National Park, Backcountry Management Plan, available at: <http://www.nps.gov/grca/learn/management/bmp.htm> (last visited June 1, 2015). A map of the Park's proposed wilderness is available at http://www.nps.gov/grca/learn/management/upload/GRCA_Wilderness_Map.pdf (last visited June 1, 2015).

Conservation group comments from 2011 supported a Backcountry Management Plan that implements strategies that protect the National Park's unique and critical ecosystems and improve visitor experiences for future generations.⁴²¹ Of critical importance is the development of strategies to maintain species survival by maintaining connectivity between Grand Canyon National Park and other protected lands where migration and other movement is uninhibited.⁴²² A management plan should implement a landscape scale conservation strategy to address the magnitude of the challenges and threats facing the park, including regional development and climate disruption. A large ecosystem preservation approach is crucial for species movement and survival.⁴²³

The Plan must include special management to protect the Colorado River corridor and the suite of habitats, wildlife and natural processes it supports.⁴²⁴ This urgently demands watershed and water supply protections for creeks, springs and aquifers that fuel the Colorado River but that are threatened outside the park boundaries by development and other industrial and human activities.⁴²⁵ A Plan must consider supporting and advocating for Wild and Scenic River designation to maintain and enhance the long term protection of the Colorado River in Grand Canyon and especially for its tributaries, some of which are already threatened by activities such as well drilling and development.⁴²⁶

The Plan also must include long range planning to reintroduce species missing from the park outside the river corridor, including the gray wolf, jaguar, and yerba mansa, and develop a strategy for recovery of the wolf and engage in current Mexican Wolf Recovery planning.⁴²⁷ A Plan must develop a strategy to remove bison hybrids from the park and ultimately from the entire Kaibab Plateau.⁴²⁸

To protect the extensive wilderness areas of the park's backcountry, a Plan must responsibly limit user experience with group size and group number limitations accessing certain wilderness areas or zones at one time. Wilderness protection must include active monitoring of the zones to evaluate impacts.⁴²⁹ The Plan must develop vegetative recovery strategies for roads not used for vehicle service, as well as plans to convert those roads to trails.⁴³⁰

⁴²¹ Letter of K. Crumbo et al. to D. Uberuaga (June 27, 2011), attached as Ex. 107.

⁴²² Id. at 4.

⁴²³ Id. at 4-5.

⁴²⁴ Id. at 9.

⁴²⁵ Id. at 21-24.

⁴²⁶ Id.

⁴²⁷ Id. at 9, 15.

⁴²⁸ Id. at 12-13.

⁴²⁹ Id. at 15-16.

⁴³⁰ Id. at 18-20.

It is critical that the Forest Service's cumulative impacts analysis for the proposed easements and connected developments take into account the integrity of this national, treasured icon, including its extensive wilderness system and other aesthetic and ecological attributes. Increased impacts from the proposed easements and connected developments along with other development projects and industrial activities will adversely affect the park, interfere with the Park's ability to protect its backcountry resources and must be evaluated together in an EIS.

12. *Four Forest Restoration Initiative*

The Forest Service is engaged in a landscape-scale initiative designed to restore fire-adapted ecosystems in the region, including in the Kaibab, Coconino, Apache-Sitgreaves and Tonto National Forests. The initiative focuses on landscape-scale restoration of the ponderosa pine forests in northern Arizona. The goal of the initiative "is to restore structure, pattern, composition, and health of fire-adapted ponderosa pine ecosystems; reduce fuels and the risk of unnaturally severe wildfires; and provide for wildlife and plant diversity."⁴³¹

While some conservation groups support the goals of the Initiative, they have expressed concerns about the Forest Service's strategies to achieve restoration and activities that will continue to adversely impact the forest ecosystems.⁴³² These impacts must be considered in a cumulative impacts analysis of the proposed easements through the national forest and connected developments.

In particular, livestock grazing that will be allowed to continue under the restoration plan will contribute to unnatural fire hazard, impair soil productivity, alter plant composition, and facilitate the spread of exotic plants.⁴³³ Livestock grazing is detrimental to large tree regeneration including regeneration of Aspen stands and old growth forests that are the preferred habitat of many threatened and sensitive wildlife species and provide a host of ecological services including watershed function, clean water, soil retention and storage of greenhouse gasses.⁴³⁴

Under the Initiative there is no plan to omit grazing pre- and post- fire to ensure full restoration of the ecosystems. Nor has there been a full analysis of the potential impacts of the interactions between mechanical vegetation treatment, prescribed fire, climate trends, and livestock grazing.⁴³⁵ The cumulative impacts of grazing as one of the root causes of forest degradation in combination with restorative treatments must be evaluated in conjunction with the impacts of the

⁴³¹ See National Forest Service, Four Forest Restoration Initiative, available at: <http://www.fs.usda.gov/4fri> (last visited June 1, 2015)

⁴³² For information about adverse impacts to the forests under the Restoration Initiative, see letter of J. Lininger, CBD *et al.* to H. Provencio, Forest Service (May 29, 2013) (commenting on 4FRI Draft EIS) attached as Ex. 108; letter of S. Bahr, Sierra Club to C. Joyner, Forest Service (Jan. 20, 2015) ("4FRI Objection Letter"), attached as Ex. 109.

⁴³³ See 4FRI Objection Letter (Ex. 108) at 2.

⁴³⁴ *Id.* at 3-4.

⁴³⁵ *Id.* at 4-6.

proposed easements through the National Forest and impacts to the forest that will occur from increased visitation resulting from the associated Tusayan developments.

Tusayan's easements and Stilo's development are likely to increase the wildland urban interface in the Forest and Forest visitors, the potential for human-caused fires, and the spread of exotic invasive species, which are also likely to spread fire. The Forest Service's analysis of the easement application must address such impacts together with those of the Forest Restoration Initiative.

E. The Forest Service must prepare an EIS because the direct, indirect, and cumulative effects — including impacts of Stilo's development — on the environment will indisputably be “significant.”

An EIS is required if, considering the context of the action and the intensity of its effects, ‘substantial questions are raised as to whether a project . . . may cause significant degradation of some human environmental factor.’⁴³⁶ Any massive, high-density development — such as that to be enabled by granting the easements in this case — will significantly affect the environment.⁴³⁷ To conclude that Stilo's development would not significantly affect any “human environment factor” would defy common sense. This development, which may increase the population of the Town of Tusayan tenfold, will have substantial impacts on traffic, air quality, noise, water demand, effluent, wildlife, socioeconomics, and other environmental concerns. These effects will occur in and adjacent to, and severely impact, the iconic Grand Canyon. At the very least, “substantial questions” have been raised as to whether the development will significantly affect the environment, necessitating preparation of an EIS.⁴³⁸

But even if the Forest Service does not conclude that the development will, by its very nature, significantly affect the environment, several of CEQ's significance factors apply and establish that the development will, much less may, significantly affect the environment.⁴³⁹ “[O]ne of these factors may be sufficient to require preparation of an EIS in appropriate circumstances.⁴⁴⁰ But even if these are not the “appropriate circumstances” in which one factor is sufficient, the fact that most of the factors apply to the proposed action strongly indicates the action is likely to significantly affect the environment. Accordingly, the Forest Service must analyze and disclose the possible environmental effects of granting the easements in an EIS.

⁴³⁶ Blue Mountains Biodiversity Project v. Blackwood, 161 F.3d 1208, 1212 (9th Cir. 1998) (quoting Idaho Sporting Cong. v. Thomas, 137 F.3d 1146, 1149 (9th Cir. 1998)).

⁴³⁷ See, e.g., Mullin v. Skinner, 756 F. Supp. 904, 923 (E.D.N.C. 1990) (concluding effects from “high-density development . . . will be ‘significant’ as contemplated by 40 C.F.R. § 1508.27, in terms of both context and intensity”).

⁴³⁸ Blue Mountains Biodiversity Project, 161 F.3d at 1212.

⁴³⁹ E.g., 40 C.F.R. § 1508.27(b)(2), (3), (4), (5), (8), (9), (10).

⁴⁴⁰ Ocean Advocates v. U.S. Army Corps of Eng'rs, 402 F.3d 846, 865 (9th Cir. 2005).

1. *The area impacted includes Grand Canyon National Park and other areas with unique characteristics.*

One of NEPA's factors for determining significance is the degree to which the action or its impacts may involve an area with "unique characteristics . . . such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas."⁴⁴¹ Because the proposed development will degrade the values of Grand Canyon National Park and other nearby areas with unique characteristics, the impacts of the proposed easements will be significant.

a. Grand Canyon

The unique characteristics of Grand Canyon cannot be disputed. It is an iconic natural landmark and one of the most visited National Parks in the country. It is a symbol of beauty and wildness to millions in the United States and around the globe. Grand Canyon is a UNESCO World Heritage site, and one of the seven wonders of the natural world. It is the symbol of the State of Arizona. It is home to the largest bird in North America. Within its gorge is one of the last rivers to be traveled from source to ocean, and some of the oldest exposed rocks on the planet. It is the ancestral home and a place of vast spiritual and cultural importance to numerous American Indian peoples.

Every federal agency has a duty to uphold the United States' commitments under the World Heritage Convention. This includes a commitment to protect Grand Canyon in perpetuity. The World Heritage Committee has expressed concerns that the proposed development could harm Grand Canyon and has requested that potential impacts to the Outstanding Universal Value of Grand Canyon be considered in any environmental review.⁴⁴² The Forest Service has a duty to ensure that the proposed action will not undermine Grand Canyon's Outstanding Universal Values in any way. Accordingly, this factor weighs heavily in favor of requiring the Forest Service to prepare an EIS. Grand Canyon's incredibly important national and international stature and values, and the threat posed by Tusayan's application to those values, should make this factor sufficient on its own to require an EIS.

b. Colorado River

The Grand Canyon may be the area's most iconic feature, but it is not the only unique feature. The Colorado River — the most significant river in the Southwest — could be affected by the proposed action.⁴⁴³ The Colorado is home to four species of endangered fish and is the sole water source for millions of people. The River already is under severe stress, owing to ever increasing demands for its flows and compounded by climate change. Any adverse effects on the Colorado River necessarily will be "significant" because of the River's importance and stressed state. The possibility that the proposed action will affect the Colorado River weighs in favor of promulgating an EIS.

⁴⁴¹ 40 C.F.R. § 1508.27(b)(3).

⁴⁴² See Letter from Michael J. Bean (May 11, 2015) (Ex. 16).

⁴⁴³ See sections IV.C.5.b.ii.1, IV.C.5.b.ii.2.

c. Wetlands/unique springs

Flow from many of the South Rim's seeps and springs create small, pristine wetlands and riparian oases. These wetlands provide crucial habitat to hundreds of plant and animal species, many of which are endemic and would not exist but for spring-fed wetlands.⁴⁴⁴ Adverse effects on these springs and affiliate wetlands from the project's potential groundwater pumping would be "significant." The springs' importance and the threat posed by groundwater pumping weigh heavily in favor of promulgating an EIS.

d. Historic and cultural resources

An earlier cultural resource inventory of the Coconino Plateau located thousands of historic and cultural resources in the area, and indicated that many other such resources remained undiscovered.⁴⁴⁵ The inventory noted that "[h]istoric resources are present in higher density here," compared with other nearby areas.⁴⁴⁶ The Forest Service cannot know the full extent of historic and cultural resources that could be affected by the proposed action without conducting a detailed inventory of the affected area. But the previously identified resources in the area indicate that a substantial number of historic and cultural resources could be adversely affected by the proposed action. This factor weighs in favor of preparing an EIS.

2. *The impacts of granting the easements are likely to be highly controversial.*

Another factor that agencies weigh in determining significance is "the degree to which the effects on the quality of the human environment are likely to be highly controversial."⁴⁴⁷ A federal action is controversial "when substantial questions are raised as to whether a project . . . may cause significant degradation of some human environment factor, or there is a substantial dispute [about] the size, nature, or effect of the major Federal action."⁴⁴⁸ Effects are controversial when evidence or experts "cast serious doubt upon the reasonableness of an agency's conclusions."⁴⁴⁹ Likewise, critical comments and concerns from other federal agencies are indicative that effects are highly controversial.⁴⁵⁰

The project's effects on water — whether it be groundwater or Colorado River water — already are highly controversial. The National Park Service's concerns that groundwater pumping would deplete the South Rim's irreplaceable springs and seeps cast serious doubt on the reasonableness

⁴⁴⁴ See supra sections IV.C.5.b.ii.1, IV.C.5.g.ii.

⁴⁴⁵ See supra sections IV.C.5.r, IV.C.5.s.

⁴⁴⁶ Mineral Withdrawal Cultural Resource Inventory (Ex. 83) at 142.

⁴⁴⁷ 40 C.F.R. § 1508.27(b)(4).

⁴⁴⁸ Nat'l Parks & Conservation Ass'n v. Babbitt, 241 F.3d 722, 736 (9th Cir. 2001) (alterations in original) (citations and internal quotation marks omitted).

⁴⁴⁹ Id.; Blue Mountains Biodiversity Project v. Blackwood, 161 F.3d 1208, 1212 (9th Cir. 1998).

⁴⁵⁰ Sierra Club v. Bosworth, 510 F.3d 1016, 1031–32 (9th Cir. 2007).

of any decision to allow such pumping.⁴⁵¹ And considering the existing demands on Colorado River water and the likelihood that the availability of such water is likely to continue declining as a result of drought and climate change,⁴⁵² a decision that would enable a foreign developer to jump ahead of farmers and municipalities to use critical Colorado River water to supply a megaresort at Grand Canyon's front steps is virtually certain to be highly controversial and called into doubt.

Approving a project that will have harmful effects on Grand Canyon National Park also will be highly controversial. The proposed project threatens to put substantial pressure on the Park's already strained infrastructure.⁴⁵³ It likely will diminish the visitor experience by increasing vehicle and pedestrian traffic, noise, and light pollution, and by lessening the relatively remote and primitive nature of the area.⁴⁵⁴ The proposed project likely will adversely impact wildlife that inhabit and migrate through the Park, and, if the development pumps groundwater, will decimate the South Rim's fragile, biodiverse springs and seeps.⁴⁵⁵ The National Park Service has expressed serious concerns about the effects the development would have on its infrastructure, ecosystems, and visitor experiences.⁴⁵⁶ Hundreds of thousands of Americans also have written to the Forest Service expressing their fears that the proposed development would permanently mar Grand Canyon. The proposed action's possible effects on Grand Canyon are highly controversial, necessitating preparation of an EIS.

3. *The proposed action involves some highly uncertain impacts and unique or unknown risks.*

A third factor agencies address when determining whether an agency's action will likely have significant effects is the degree to which "the possible effects on the human environment are highly uncertain or involve unique or unknown risks."⁴⁵⁷

If substantial questions are raised whether a project may have a significant effect upon the human environment, an EIS must be prepared."⁴⁵⁸ "Preparation of an EIS is mandated where uncertainty may be resolved by further collection of data, or where the collection of such data may prevent 'speculation on potential . . . effects.'"⁴⁵⁹ An agency's "lack of knowledge does not excuse the preparation of an EIS; rather it requires the [agency] to do the necessary work to

⁴⁵¹ See supra sections III.A, IV.C.5.b.ii.1.

⁴⁵² See supra section IV.C.5.b.ii.2.

⁴⁵³ See supra section IV.C.5.m.i.

⁴⁵⁴ See supra sections IV.C.5.m.i-iii, IV.C.5.n, IV.C.5.o.

⁴⁵⁵ See supra sections IV.C.5.b.ii.1, IV.C.5.g.ii.

⁴⁵⁶ See supra sections III.A, IV.C.5.m.

⁴⁵⁷ 40 C.F.R. § 1508.27(b)(5).

⁴⁵⁸ Sierra Club v. U.S. Forest Serv., 843 F.2d 1190, 1193 (9th Cir. 1988).

⁴⁵⁹ Nat'l Parks & Conservation Ass'n v. Babbitt, 241 F.3d 722, 732 (9th Cir. 2001) (alteration in original) (citations omitted) (quoting Sierra Club, 843 F.2d at 1195).

obtain it.”⁴⁶⁰ An agency cannot simply rely on an applicant’s “unsupported assertions” to resolve any uncertainty; the agency must gather the necessary data to adequately analyze the action’s environmental effects.⁴⁶¹

As described above, Tusayan and Stilo have disclosed little information about their precise development plans. All that is known is that a massive residential and commercial development is planned; development on a scale that will affect many facets of the natural and human environment, almost certainly in significant ways. But without knowing the precise development plans, “substantial questions” exist as to the project’s specific effects. The lack of knowledge “requires the [Forest Service] to do the necessary work to obtain it.”⁴⁶² The Forest Service can resolve much of the uncertainty surrounding the development and its effects by obtaining further information from Tusayan and Stilo about their plans and collecting additional data on the affected environment and the possible effects from development. Such additional information is necessary to prevent speculation on the action’s effects. Because the specific environmental effects likely to result from the proposed action are uncertain and the risks are unknown, the Forest Service has a duty to conduct a full environmental analysis and collect additional data so as not to speculate on potential effects. An EIS is necessary.

4. *The proposed action may impact important cultural and historical resources.*

CEQ regulations define significance to include the “the degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.”⁴⁶³ The action threatens to adversely affect a number of significant scientific, cultural, and historic resources, including some that are listed or eligible for listing in the National Register of Historic Places.⁴⁶⁴ Insofar as many culturally significant resources likely exist in and near the project area but have not yet been identified, the Forest Service should conduct an inventory for such resources as required by the NHPA.⁴⁶⁵

The springs and seeps on Grand Canyon’s South Rim are scientifically significant for the unique ecosystems and biodiversity they create. Seep and spring ecosystems likely support many as-yet unidentified species; for example, two springs are home to “the only known white-flowering redbud trees,” and other springs “host myriad butterflies previously unknown in Grand Canyon.”⁴⁶⁶ Groundwater pumping from the development would reduce spring and seep flows,

⁴⁶⁰ Id. at 733.

⁴⁶¹ Ocean Advocates v. U.S. Army Corps of Eng’rs, 402 F.3d 846, 871 (9th Cir. 2004).

⁴⁶² Babbitt, 241 F.3d at 733.

⁴⁶³ 40 C.F.R. § 1508.27(b)(8).

⁴⁶⁴ See Nat’l Park Serv., Spreadsheet of listed properties on the National Register, http://www.nps.gov/nr/research/data_downloads/nrhp_links.xlsx (last visited May 30, 2015).

⁴⁶⁵ See supra sections IV.C.5.r, IV.C.5.s.

⁴⁶⁶ Nat’l Park Serv., A Study of Seeps and Springs – Grand Canyon National Park, www.nps.gov/grca/learn/nature/seepspringstudy.htm (visited May 22, 2015).

threatening the loss or destruction of these unique ecosystems and the species that depend on them.

Havasupai Springs has particularly important cultural and religious significance to the Havasupai people.⁴⁶⁷ The proposed action may cause the loss or destruction of this significant resource.

As explained in section IV.C.5.r, the area in and near the proposed easements and development falls within the traditional use areas of the Southern Paiute, Hualapai, Havasupai, Hopi, Navajo, Yavapai, and Pueblo of Zuni.⁴⁶⁸ It is highly likely that culturally and historically significant artifacts from these peoples are located throughout the area affected by the project. Accordingly, it is highly likely that the proposed action may cause loss or destruction of these artifacts. The Forest Service should perform the requisite inventory under the NHPA to locate eligible artifacts that could be damaged or destroyed by the proposed project. In addition, the project may affect tribal members' abilities to access and use nearby culturally or religiously significant sites without interruption. The Forest Service should consult with the tribes whose traditional use areas overlap with the project area to ensure that the proposed action does not adversely affect culturally significant sites. These concerns weigh heavily in favor of performing a full environmental review and promulgating an EIS.

5. *The easements likely will impair public health and safety.*

Another factor that the law requires the Forest Service to weigh to determine significance is "the degree to which the proposed action affects public health or safety."⁴⁶⁹ The proposed development could threaten public health and safety in various ways. Local air quality could be impacted by additional traffic, surface disturbing activities, and new fueling stations.⁴⁷⁰ Some of the worst traffic-related air quality impacts may occur near the new school, where they can cause asthma and other breathing problems for the school's children.⁴⁷¹

The increased vehicular traffic also raises the risk of vehicle-pedestrian collisions in Tusayan. This risk is particularly great near the school, where children may be playing or crossing the street without looking.⁴⁷²

The new development will put an immense strain on existing emergency services.⁴⁷³ Without significant upgrades to Tusayan's emergency service system, public safety could be at risk from inadequate emergency responses.

⁴⁶⁷ See letter of M. Vick, attorney for Havasupai Tribe, to N. Larson, Kaibab NF (Ex. 20) at 4; Bureau of Reclamation, North Central Arizona Water Supply Study (Ex. 17) at 17.

⁴⁶⁸ See Mineral Withdrawal EIS (Ex. 42) at 3-214.

⁴⁶⁹ 40 C.F.R. § 1508.27(b)(2).

⁴⁷⁰ See *supra* sections IV.C.2.a, IV.C.5.e.

⁴⁷¹ See *supra* sections IV.C.2.a, IV.C.5.e, IV.C.5.p.

⁴⁷² See *supra* section IV.C.5.p.

⁴⁷³ See *supra* section IV.C.5.u.

Spring flow declines at South Rim springs and seeps also may pose a serious safety threat to hikers and backpackers in Grand Canyon who depend on those flows for drinking water. If groundwater pumping curtails those flows, the dehydration threat faced by hikers and backpackers will increase substantially.⁴⁷⁴

6. *The easement application threatens to violate Federal laws and requirements meant to protect of the environment.*

Another factor used to determine significance is “[w]hether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.”⁴⁷⁵ Because the easement applications threaten to cause violations of the Kaibab National Forest Plan and laws and regulations meant to protect Grand Canyon National Park, this factor is clearly met.

a. The proposed action threatens violations of the Kaibab National Forest Plan.

The National Forest Management Act (NFMA) requires each National Forest to establish a land and resource management plan (forest plan) that binds future management decisions.⁴⁷⁶ Once the plan is in place, “all management activities undertaken by the Forest Service must comply with the forest plan, which in turn must comply with the Forest Act.”⁴⁷⁷ The forest plan and NFMA restrict the Forest Service’s permissible “site specific” actions, such as special use authorizations, to those that “ensure that the action is consistent with the forest plan.”⁴⁷⁸ Thus, failure to demonstrate consistency with a forest plan would threaten a violation of NFMA.

Approving the easement is likely to result in undercutting or violating the Land and Resource Management Plan for the Kaibab National Forest (Forest Plan). Because Tusayan’s requested easements may prevent the Forest Service from achieving the objectives, standards, and guidelines outlined in the Forest Plan, the application may violate the Plan and, accordingly, NFMA. This threatened violation of federal law and requirements necessitates preparation of an EIS.

i. The Forest Plan

The Forest Plan’s standards and guidelines provide action directives for future management decisions.⁴⁷⁹ The standards and guidelines are designed to achieve certain desired conditions,

⁴⁷⁴ See *supra* section IV.5.b.ii.1.

⁴⁷⁵ 40 C.F.R. § 1508.27(b)(10).

⁴⁷⁶ 16 U.S.C. § 1604 (i) (“Resource plans and permits, contracts, and other instruments for the use and occupancy of National Forest System lands shall be consistent with the land management plans.”).

⁴⁷⁷ *Idaho Sporting Cong., Inc. v. Rittenhouse*, 305 F.3d 957, 962 (9th Cir. 2002).

⁴⁷⁸ *Id.* (citing *Inland Empire Pub. Lands Council v. U.S. Forest Serv.*, 88 F.3d 754, 757 (9th Cir.1996)).

⁴⁷⁹ Forest Plan at 5.

which represent the goals for the Forest Plan and “have been written with enough specificity to allow for determining progress toward their achievement.”⁴⁸⁰

The Forest Plan was developed in accordance with the “all lands” Planning Rule,⁴⁸¹ which required the Kaibab National Forest to take into account “[c]ontributions of the plan area to ecological conditions within the broader landscape influenced by the plan area.”⁴⁸² So the Forest Plan’s guidelines and standards necessarily apply to ecological conditions beyond the Forest boundary that the Kaibab National Forest may influence through its management actions.

The easements and the development they will enable likely will prevent the Forest Service from achieving standards, guidelines, and the Plan’s intent in four main areas: wildlife, ecosystems, traditional / cultural use, and special management areas. The proposed action thus threatens a violation of the Forest Plan.

ii. Wildlife

The Forest Plan includes special protections against detrimental impacts for three primary categories of wildlife: raptors; threatened, endangered, and sensitive species; and rare and narrow endemic species.

For raptors, the Forest Plan includes species-specific guidelines as well as a general raptor nest buffer zone.⁴⁸³ Northern goshawk, golden eagle, and American peregrine falcon may be found throughout most of the project area.⁴⁸⁴ The inholdings’ development would require construction in the area and could bring more people in the vicinity of nests, making it more difficult to implement the Forest Plan’s mandated raptor protections. Without further information on raptor presence in and around the project site, the Forest Service cannot reasonably determine that the project will be consistent with the plan.

The Plan requires protection of sensitive species’ refugia and critical life cycle needs.⁴⁸⁵ Several sensitive species inhabit the area and could be harmed by the development.⁴⁸⁶ The Forest Service has given no indication that these species’ refugia or critical live cycle needs will not be impaired by the proposed action; it has not established that it can protect the species’ refugia and life cycle needs if it enables development.

⁴⁸⁰ Id.

⁴⁸¹ Id. at 6.

⁴⁸² 36 C.F.R. § 219.8(a)(2).

⁴⁸³ Forest Plan at 49–52; see supra text accompanying notes 286–289.

⁴⁸⁴ See HabiMaps (Ex. 37) at 3 (golden eagle map), 8 (northern goshawk map), 9 (peregrine falcon map).

⁴⁸⁵ Forest Plan at 51.

⁴⁸⁶ See supra section IV.C.5.g.ii & Table 1.

Projects also must be designed to protect and preserve rare and narrow endemic species “where they are likely to occur,” including in or near springs.⁴⁸⁷ The Kaibab National Forest’s Species Diversity Report lists species with restricted distributions that qualify as narrow endemics.⁴⁸⁸ If any of the listed species could be negatively impacted by the development, the easements would be inconsistent with the Forest Plan.

The Forest Plan establishes an affirmative stewardship duty on the Forest Service for these wildlife species. Because Tusayan’s proposal threatens to undermine the Forest Plan’s wildlife protection mandates, the impacts of the easements are significant and require preparation of an EIS.

iii. Ecosystems

The 2014 Forest Plan revision was intended to improve how Kaibab National Forest addresses priority needs, including protecting natural waters.⁴⁸⁹ The desired conditions include that “[f]looding maintains normal stream characteristics (e.g., water transport, sediment, woody material) and dimensions (e.g., bankfull width, depth, slope, and sinuosity)” and that floodplains are functioning.⁴⁹⁰ It also requires that projects “include design features to protect and improve watershed condition.”⁴⁹¹ Parts of the easements and development would occur in and directly adjacent to a special flood hazard area near Coconino Wash.⁴⁹² The Forest Plan lists Coconino Wash as a priority watershed for recovery.⁴⁹³ To the extent that development would impair floodplain function, prevent normal stream characteristics, or hamper efforts to improve the Coconino Wash watershed condition, the easements are inconsistent with the Forest Plan.

Given that part of the proposed development would occur in or immediately adjacent to Coconino Wash, development in the area threatens to undermine recovery of the Coconino Wash watershed, making the project potentially inconsistent with the plan.

The Forest Plan also protects springs because they “are frequently more stable ecologically than surrounding upland ecosystems in arid regions, and may offer biological refugia for some species, particularly those that are narrowly endemic.”⁴⁹⁴ Forest Plan guidelines specify that “[s]pring source areas should be preferentially protected” and “[t]he impacts of management

⁴⁸⁷ Forest Plan at 45 (highlighting that springs “may offer biological refugia for some springs, particularly those that are narrowly endemic”), 52.

⁴⁸⁸ Mikele Painter & Valerie Stein Foster, U.S. Forest Service, Ecological Sustainability Analysis of the Kaibab National Forest: Species Diversity Report 24-25 (2008), attached as Ex. 110.

⁴⁸⁹ Forest Plan at 3.

⁴⁹⁰ Id. at 44.

⁴⁹¹ Id.

⁴⁹² See U.S. Forest Serv., Kotzin Ranch Access (Ex. 39); Kotzin Ranch, Applicant’s Narrative Report, Planned Community District Zoning Submittal to Town of Tusayan Arizona (Ex. 46) at 26; TenX Ranch, Applicant’s Narrative Report, Planned Community District Zoning Submittal to Town of Tusayan Arizona (Ex. 47) at 27.

⁴⁹³ Forest Plan at 45.

⁴⁹⁴ Id.

activities on springs, streams, and wetlands should be evaluated and minimized.”⁴⁹⁵ The proposed action may impair spring source areas and alter flow patterns, thereby undercutting the Forest Plan’s spring protection conditions and guidelines.

Further, groundwater depletion would adversely affect multiple springs in the surrounding area. The Forest Service has a duty to consider “[o]pportunities to coordinate with neighboring landowners to link open spaces and take into account joint management objectives where feasible and appropriate.”⁴⁹⁶ Grand Canyon National Park and the Havasupai Tribe are both neighboring landowners with a shared a management objective of protecting precious natural springs in the area. Approving the proposed use without coordinating with Grand Canyon National Park and the Havasupai Tribe on maintaining spring flows would run afoul of the Forest Plan and Planning Rule.

iv. Traditional and Cultural Uses

The Forest Plan seeks to ensure that “[t]raditionally used resources are not depleted and are available for future generations” and that “[t]ribal members have access to sacred sites for individual and group prayer and traditional ceremonies and rituals.”⁴⁹⁷ Plan guidelines require activities and uses to “be administered in a manner that is sensitive to traditional American Indian beliefs and cultural practices.”⁴⁹⁸ The guidelines further require that “[i]mportant traditionally used resources are managed to ensure healthy, sustainable plant populations for traditional uses.”⁴⁹⁹ The proposed use threatens to hinder tribal member use of sacred sites and to deplete traditionally used resources; namely Havasu Springs.⁵⁰⁰ Allowing such a proposed use would be inconsistent with the Forest Plan’s traditional and cultural use requirements.

v. Arizona National Scenic Trail

The Arizona National Scenic Trail is a special management area within the Kaibab National Forest.⁵⁰¹ The Plan guidelines require that “[p]rojects should preserve the recreation opportunity setting for any affected segments, particularly within ½ mile of the Arizona National Scenic Trail.”⁵⁰² The Forest Plan requires that projects preserve the “mainly remote and primitive settings representative of the dramatic natural landscapes and varied vegetation of Arizona” within a half mile of the Trail” so that the Trail continues to provide “nonmotorized recreation opportunities in mainly remote and primitive settings.”⁵⁰³

⁴⁹⁵ Id. at 47.

⁴⁹⁶ 36 C.F.R. § 219.10.

⁴⁹⁷ Forest Plan at 67.

⁴⁹⁸ Id. at 68.

⁴⁹⁹ Id.

⁵⁰⁰ See supra section IV.C.5.b.ii.1.

⁵⁰¹ Forest Plan at 93.

⁵⁰² Id. at 94.

⁵⁰³ Id.

The Trail passes within a half mile of FR302 for up to a mile.⁵⁰⁴ Changing FR 302 from an unpaved, limited-access road to a heavily used paved road with a utility corridor and a bike path certainly would change the scenic and remote values of that Trail stretch. Because the road modifications and subsequent use will interfere with the Forest Plan's visual quality guideline, the proposed action threatens a violation of the Forest Plan.⁵⁰⁵

Any one of the inconsistencies with Forest Plan — with wildlife, ecosystem, traditional / cultural use, or special management area requirements — that approving the easement and development will cause demonstrates the significant impacts such approval will have. The combination of multiple inconsistencies only emphasizes the need to reject the application. The Forest Plan places an affirmative duty on the Forest Service to ensure that the proposed use will not impede compliance with the Plan's standards and guidelines. Because Tusayan's application threatens multiple violations of the Plan, the Forest Service must prepare an environmental impact statement.

- b. The proposed action threatens a violation of Grand Canyon National Park Management Plans and the National Park Service Organic Act.

The National Park Service's Organic Act provides that the National Park Service "shall promote and regulate the use of the Federal areas known as national parks . . . by such means and measures as conform to the fundamental purpose of the said parks, . . . which purpose is to conserve the scenery and the natural and historic objects and the wild life 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."⁵⁰⁶ Further, Congress required that "the protection, management, and administration of these areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established."⁵⁰⁷ A project threatens a violation of the National Park Service Organic Act if it will undermine the purpose of a national park as embodied in a park's general management plan and / or foundation statement.⁵⁰⁸

Courts and the Department of the Interior have concluded that Park Service's non-impairment duty and other laws give the Department the authority to address and regulate threats outside of

⁵⁰⁴ Earthjustice, Map, Arizona National Scenic Trail and Tusayan Easements (June 1, 2015), attached as Ex. 79.

⁵⁰⁵ Cf. *W. Montana Cmty. Partners, Inc. v. Austin*, No. CV 13-282-M-DWM, 2015 WL 2207943, at *13 (D. Mont. May 11, 2015) (upholding a Forest Service denial that was "both well-reasoned and logical" because "the ski lifts and ski runs would not conform to the 'semi-primitive setting' envisioned for" the management area).

⁵⁰⁶ 54 U.S.C. § 100101(a).

⁵⁰⁷ *Id.* § 100101(b)(2).

⁵⁰⁸ See Nat'l Park Serv., General Management Planning Dynamic Sourcebook 6-2 (Dec. 2009), available at http://parkplanning.nps.gov/files/GMPSourcebook/GMPSourcebook_Dec2009ver2.2.pdf (last visited June 1, 2015).

land managed by the Park Service.⁵⁰⁹ Additionally, the Park Service has authority to enforce its regulations against actors who are located outside of the Parks outer limits.⁵¹⁰

Because the Park Service's authority extends beyond the boundaries of Grand Canyon National Park itself, and the Park Service has the ability to enforce Park regulations to protect the Park, a decision to approve Tusayan's easement applications implicates, and may interfere with, the Park Service's duty to preserve Park lands for future generations. By threatening to impair the resources of Grand Canyon National Park, the easement application thus threatens a violation of Grand Canyon National Park's General Management Plan (GMP), which requires the protection of those resources.

i. Extraordinary scientific and natural values

Grand Canyon National Park's Foundation Statement lists "[p]rotect[ing] and interpret[ing] Grand Canyon's extraordinary scientific and natural values" as one of the fundamental purposes of the Park.⁵¹¹ Because "[w]ater is Grand Canyon's lifeblood,"⁵¹² the GMP's objectives include "[p]reserv[ing] natural spring and stream flows and water quality."⁵¹³ This objective is reaffirmed in the Resource Management Plan's (RMP) objectives, which include "protect[ing] and conserv[ing] sources and quality of natural water resources."⁵¹⁴ The RMP requires the Park to "maintain, rehabilitate, and perpetuate the inherent integrity of water resources and aquatic ecosystems."⁵¹⁵ It also reports that human domestic water supplying developments outside the Park are one of the key threats to the Park's successful protection of its water resources.⁵¹⁶ So it directs the Park to "[e]nsure that human water supply developments do not degrade natural conditions"⁵¹⁷ The GMP also provides that "measures," including water rights adjudications, settlement talks, and claims for injunctive relief, "will be taken to ensure that well drilling or other outside water uses do not adversely affect park water resources."⁵¹⁸

⁵⁰⁹ Memorandum to Secretary, Dep't of the Interior, from Solicitor, Dep't of the Interior 22 (April 16, 1998) (stating that the text of the 1978 amendments to the Organic Act of 1966 "and other legal considerations. . . support the conclusion that the Organic Act. . . [has] application to the Secretary's exercise of his authorities over activities taking place outside the boundaries of the park units."), attached as Ex. 111; see also cases cited therein.

⁵¹⁰ See Free Enter. Canoe Renters Ass'n of Mo. v. Watt, 711 F.2d 852, 856-58 (8th Cir. 1983) (holding that the National Park Service had authority to promulgate a regulation requiring businesses located outside of park boundaries to obtain a permit to use non-federal lands located within park boundaries and to issue criminal citations for violations of the regulation).

⁵¹¹ Grand Canyon Nat'l Park, Foundation Statement 1 (2010) [hereinafter Foundation Statement], available at <http://www.nps.gov/grca/learn/management/upload/grca-foundation20100414.pdf>.

⁵¹² Id. at 8.

⁵¹³ GCNP GMP (Ex. 57) at 12.

⁵¹⁴ GCNP RMP (Ex. 58) at 3-50.

⁵¹⁵ Id. at 3-83.

⁵¹⁶ Id. at 3-83 to -84.

⁵¹⁷ Id. at 3-87.

⁵¹⁸ GCNP GMP (Ex. 57) at 23 (emphasis added).

Withdrawing groundwater to supply the proposed development would endanger important water resources within the Park.⁵¹⁹ The Park would be forced to either expend substantial resources to counteract the development's effects on its springs or face the springs' destruction. Given how essential water resources are to the Park's scientific and natural values, the water impacts from Stilo's development would make it extremely difficult for the Park to maintain those two values for the benefit of future generations, threatening a violation of the Park's purpose.

ii. Unique geologic, paleontologic, and other natural and cultural features

The Foundation Statement provides that another purpose of the Park is to “[p]reserve and protect Grand Canyon’s unique geologic, paleontologic, and other natural and cultural features for the benefit and enjoyment of the visiting public.”⁵²⁰ The GMP requires the Park to “[p]reserve, protect, and interpret the park's natural and scenic resources and values, and its ecological processes.”⁵²¹ The undeveloped areas along the South Rim and the Havasupai Use Lands are part of the “natural zone,” in which the GMP requires that lands and waters “be managed to conserve natural resources and ecological processes and to provide for their use and enjoyment by the public in ways that do not adversely affect these resources and processes.”⁵²² The RMP further requires the Park to “[m]anage ecosystems to preserve critical processes and linkages that ensure the preservation of rare, endemic, and specially protected (threatened/endangered) plant and animal species.”⁵²³ The RMP also provides for vegetation protections to perpetuate native plant life in the park.⁵²⁴ Damage to seeps and springs, adverse effects on plants and wildlife, and an increased risk of nonnative plant invasion caused by the easements and their associated development⁵²⁵ could make it impossible for the Park to protect its ecological features as required by its Management Plans, thereby threatening a violation of those plans.

iii. Natural quiet and scenic vistas

Grand Canyon National Park’s purposes include “[p]rovid[ing] the public opportunity to experience Grand Canyon’s outstanding natural and cultural features, including natural quiet and exceptional scenic vistas.”⁵²⁶ The GMP requires the Park to “[p]rotect the natural quiet and solitude of the park, and mitigate or eliminate the effects of activities causing excessive or unnecessary noise in, over, or adjacent to the park.”⁵²⁷ Southwest of Hermits Rest, the General Management requires the Park to “preserve and maintain a wilderness experience or, where an

⁵¹⁹ See supra section IV.C.5.b.ii.1.

⁵²⁰ Id.

⁵²¹ GCNP GMP (Ex. 57) at 12.

⁵²² Id. at 19.

⁵²³ GCNP RMP (Ex. 58) at 3-50.

⁵²⁴ Id. at 3-97.

⁵²⁵ See supra sections IV.C.5.b.ii.1, IV.C.5.g, IV.C.5.h, IV.C.5.i.

⁵²⁶ Foundation Statement at 1.

⁵²⁷ GCNP GMP (Ex. 57) at 12.

area is not proposed for wilderness, a primitive experience.”⁵²⁸ Proposed wilderness areas extend southeast from Hermit’s Rest to the Park boundary near Tusayan.⁵²⁹ The increase in human activity at Kotzin Ranch likely will threaten the Park’s primitive character and likely would prevent the Park from protecting proposed wilderness. The proposed easements and development they will enable threaten to defeat the Park’s purpose of providing “natural quiet and exceptional scenic vistas” for its visitors and threaten a violation of the Park’s Management Plans.

The development for which the easements are sought will hinder — and may prevent — Grand Canyon National Park from achieving three of its fundamental purposes and the associated Management Plan requirements. So the requested easements threaten the Parks Service’s ability to comply with its Organic Act, amplifying the need for an EIS.

- c. The proposed action threatens to violate Grand Canyon National Park’s federal reserved water rights.

The proposed action also threatens to violate the National Park Service’s federal reserved water rights for Grand Canyon National Park. The Supreme Court explained the federal reserved water rights doctrine in Cappaert v. United States:

This Court has long held that when the Federal Government withdraws its lands from the public domain and reserves it for a federal purpose, the Government, by implication, reserves appurtenant water then unappropriated to the extent needed to accomplish the purpose of the reservation. In so doing the United States acquires a reserved water right in the unappropriated water which vests on the date of the reservation and is superior to the rights of future appropriators.⁵³⁰

The purpose of reserving lands for National Parks “is 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.”⁵³¹

Grand Canyon National Park’s reserved water rights necessarily include water necessary to maintain its seeps and springs. Seeps and springs are some of the Park’s rare natural objects. They contribute to the Park’s scenery and support a disproportionate amount of the Park’s wildlife. Groundwater pumping from the proposed development would impair these Park purposes by substantially reducing or eliminating flow from South Rim springs and seeps.⁵³²

⁵²⁸ Id. at 16.

⁵²⁹ See GCNP RMP (Ex. 58) at 1-3; see also supra notes 312-313 and accompanying text.

⁵³⁰ 426 U.S. 128, 138 (1976) (emphasis added).

⁵³¹ 54 U.S.C.A. § 100101.

⁵³² See supra section IV.C.5.b.ii.1. One court already has concluded that development outside Grand Canyon National Park may threaten the Park’s reserved water rights. *Sierra Club v. Andrus*, 487 F. Supp. 443, 448 (D.D.C. 1980) (“Thus, it seems clear that in the event of a real and immediate water supply threat to the scenic, natural, historic or biotic resource values of . . . the Grand Canyon National Park, the Secretary must take appropriate action

Therefore, the proposed action threatens a violation of Grand Canyon National Park's reserved water rights, further elevating the need for an EIS.

- d. The proposed action threatens to violate the Grand Canyon School District's property rights.

Granting a road and utility easements to Tusayan also threatens to violate the Grand Canyon School District's property rights under state law. The Forest Service deeded a parcel of its land to the School District in October 2006 under the Education Land Grant Act.⁵³³ The Forest Service reserved five easements, including an 80-foot wide easement for the portion of FR605C (Long Jim Loop Road) where it crosses the deeded parcel.⁵³⁴ The easement was reserved "for the reconstruction, maintenance, and full, free, and quiet use and enjoyment of the existing roads as they are presently located and in place."⁵³⁵

Tusayan has requested the Forest Service to grant it rights to widen and repave that roadway section and to add a bike lane, utility corridors, border areas, and space for grade adjustments to connect to the Kotzin Ranch South access route.⁵³⁶ The Forest Service's reserved easement does not include the rights Tusayan requests. The easement does not include a right to lay utility lines. Nor does it include a right to construct a bike path. It gives the Forest Service only the right to certain activities involving "the existing roads" as they were located at the time the easement was reserved.⁵³⁷ And the deed's language may limit traffic on the road to that existing at the time the deed was recorded,⁵³⁸ it likely does not permit the high volume of traffic that would travel to and from Kotzin Ranch.

If the Forest Service grants Tusayan the easement requested across the deeded parcel, it would be granting rights it does not have the right to grant; it would be giving Tusayan the School District's rights. Accordingly, the proposed action threatens a violation of the School District's property rights, further necessitating preparation of an EIS.

7. *The proposed action may adversely affect endangered or threatened species and their habitats.*

Another factor to determine significance is "[t]he degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical

[to protect the Park's reserved water rights]."), aff'd sub nom. Sierra Club v. Watt, 659 F.2d 203 (D.C. Cir. 1981). It does not matter whether the threat is from groundwater pumping or surface water withdrawals. Cappaert, 426 U.S. at 143.

⁵³³ 16 U.S.C. § 479a; Quitclaim Deed between United States of America and Grand Canyon Unified School District #4 (Apr. 8, 2008) (hereinafter Quitclaim Deed), attached as Ex. 112.

⁵³⁴ Quitclaim Deed (Ex. 112) at 2, 5.

⁵³⁵ Id. at 2 (emphasis added).

⁵³⁶ Tusayan Application (Ex. 1) at 3–4.

⁵³⁷ Quitclaim Deed (Ex. 112) at 2.

⁵³⁸ See id. (reserving "quiet use and enjoyment" of the road in reference to its "present[]" state).

under the Endangered Species Act of 1973.”⁵³⁹ Unlike the Endangered Species Act’s “jeopardy” standard, “a project need not jeopardize the continued existence of a threatened or endangered species to have a ‘significant’ effect” for the purposes of NEPA.⁵⁴⁰ The action only must have some “adverse effect” to engage this factor.

The project area overlaps with the range of the endangered California condor.⁵⁴¹ The project threatens to adversely affect the wildlife that form the condor’s prey base.⁵⁴² And groundwater pumping threatens Grand Canyon’s springs and seeps on which the condor depends.⁵⁴³ It is possible that the proposed action will adversely affect the California condor. The Forest Service should use a full environmental review process to determine the degree to which the condor will be adversely affected.

A petition recently has been filed to list two species that are endemic to and depend upon South Rim springs and seeps.⁵⁴⁴ Any groundwater pumping would adversely affect these species by reducing and possibly eliminating spring and seep flows.⁵⁴⁵ The Forest Service should consider the possible adverse effects to these species in an EIS.

The proposed project also may adversely affect endangered fish species in the Colorado River by reducing spring flows to the River in Grand Canyon, or by withdrawing water from some downstream location.⁵⁴⁶ The Forest Service should determine whether the development’s water needs may adversely affect listed fish. This consideration weighs in favor of promulgating an EIS.

8. *Conclusion: multiple factors require a determination that the proposed action’s environmental effects may be significant, necessitating preparation of a full EIS.*

Because of the scale of proposed development the easements are designed to enable, it is entirely reasonable for the Forest Service to conclude the proposed action will have substantial adverse effects on the environment, Grand Canyon National Park, and the Park’s visitors; even without specifically analyzing each effect. In addition, several of CEQ’s significance factors apply and establish that the development will, much less may, significantly affect the environment. The

⁵³⁹ 40 C.F.R. § 1508.27(b)(9).

⁵⁴⁰ *Cascadia Wildlands v. U.S. Forest Serv.*, 937 F.Supp.2d 1271, 1282 (D. Or. 2013).

⁵⁴¹ HabiMaps, produced with Ariz. Game & Fish Dep’t HabiMap software (Ex. 37) at 10 (California condor map).

⁵⁴² See *supra* section IV.C.5.i.

⁵⁴³ See Nat’l Park Serv., A Study of Seeps and Springs – Grand Canyon National Park (Ex. 59).

⁵⁴⁴ Ctr. for Biological Diversity, Emergency Petition to List the Arizona Wetsalts Tiger Beetle (*Cicindela haemorrhagica arizonae*) and the MacDougal’s Yellowtops (*Flaveria macdougalii*) as Endangered or Threatened Under the Endangered Species Act (Ex. 60).

⁵⁴⁵ See *supra* section IV.C.5.b.ii.1, IV.C.5.g.ii.

⁵⁴⁶ See *supra* section IV.C.5.b.ii.2, IV.C.5.g.ii.

combination of these factors requires that the Forest Service collect the necessary data — which may require modeling and / or on-the-ground surveys — and prepare an EIS.

F. The Forest Service must consider a range of reasonable alternatives and mitigation measures.

1. NEPA mandates that agencies evaluate all reasonable alternatives.

NEPA requires agencies to “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternatives uses of available resources.”⁵⁴⁷

NEPA regulations describe the alternatives analysis as “the heart of the environmental impact statement.”⁵⁴⁸ The analysis “present[s] the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public.”⁵⁴⁹ In the EIS, the agency must “[r]igorously explore and objectively evaluate all reasonable alternatives” in response to a “specif[ie]d] ... purpose and need.”⁵⁵⁰

Without substantive, comparative environmental impact information regarding other possible courses of action, the ability of an EIS to inform agency deliberation and facilitate public involvement would be greatly degraded.⁵⁵¹ NEPA “does not require the consideration of alternatives whose effect cannot be reasonably ascertained, and whose implementation is deemed remote and speculative.”⁵⁵²

While an agency has some discretion in fashioning an action’s purpose and need, agencies may not constrain the range of alternatives by “defin[ing] its objectives in unreasonably narrow terms.”⁵⁵³

⁵⁴⁷ 42 U.S.C. § 4332(2)(E), (2)(C).

⁵⁴⁸ 40 C.F.R. § 1502.14.

⁵⁴⁹ *Id.*; see also League of Wilderness Defenders-Blue Mountains Biodiversity Project v. U.S. Forest Serv., 689 F.3d 1060, 1069 (9th Cir. 2012) (quoting CEQ regulations).

⁵⁵⁰ 40 C.F.R. § 1502.14(a) (emphasis added); see also *id.* § 1502.13; Sierra Forest Legacy v. Rey, 577 F.3d 1015, 1021-1022 (9th Cir. 2009) (quoting 40 C.F.R. § 1502.14)).

⁵⁵¹ See Baltimore Gas & Elec. Co. v. Natural Res. Defense Council, 462 U.S. 87, 97 (1983).

⁵⁵² See Alaska Conservation Council v. Fed’l Highway Admin., 649 F.3d 1050, 1059 (9th Cir. 2011) (citation omitted).

⁵⁵³ City of Carmel-by-the-Sea v. United States Dept. of Transp., 123 F.3d 1142, 1155 (9th Cir. 1997).

2. *NEPA mandates that agencies analyze potential mitigation measures.*

NEPA's statutory language also implicitly charges agencies with mitigating the adverse environmental impacts of their actions.⁵⁵⁴ Mitigation measures are required by NEPA's implementing regulations.⁵⁵⁵

The CEQ also has stated: "All relevant, reasonable mitigation measures that could improve the project are to be identified, even if they are outside the jurisdiction of the lead agency or the cooperation agencies"⁵⁵⁶ According to the CEQ, "[a]ny such measures that are adopted must be explained and committed in the ROD."⁵⁵⁷

Mitigation "must be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated."⁵⁵⁸ "[O]mission of a reasonably complete discussion of possible mitigation measures would undermine the 'action-forcing' function of NEPA. Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects."⁵⁵⁹ "A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA."⁵⁶⁰ Similarly, a "perfunctory description," of mitigation, without supporting analytical data analyzing their efficacy, is inadequate to satisfy NEPA's requirements that an agency take a "hard look" at possible mitigating measures.⁵⁶¹ An agency's "broad generalizations and vague references to mitigation measures ... do not constitute the detail as to mitigation measures that would be undertaken, and their effectiveness, that the Forest Service is required to provide."⁵⁶²

Moreover, in its final decision documents, an agency must "[s]tate whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not."⁵⁶³

Further, regulations governing the management of special uses specifically provide the Forest Service with the authority to impose mitigation measures. Subpart B defines special uses as

⁵⁵⁴ Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 351-52 (1989).

⁵⁵⁵ 40 C.F.R. §§ 1502.14(f), 1502.16(h).

⁵⁵⁶ Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, 46 Fed. Reg. 18026, 18031 (March 23, 1981).

⁵⁵⁷ Id. at 18036.

⁵⁵⁸ Neighbors of Cuddy Mountain v. U.S. Forest Serv., 137 F.3d 1372, 1380 (9th Cir. 1998) (citation & quotations omitted).

⁵⁵⁹ Robertson, 490 U.S. at 352.

⁵⁶⁰ Nw. Indian Cemetery Protective Ass'n. v. Peterson, 795 F.2d 688, 697 (9th Cir. 1986), rev'd on other grounds, 485 U.S. 439 (1988).

⁵⁶¹ Neighbors of Cuddy Mountain, 137 F.3d at 1380.

⁵⁶² Id. at 1381; see also Idaho Sporting Congress v. Thomas, 137 F.3d 1146, 1151 (9th Cir. 1988) ("Without analytical data to support the proposed mitigation measures, we are not persuaded that they amount to anything more than a 'mere listing' of good management practices.").

⁵⁶³ 40 C.F.R. § 1505.2(c).

including easements, for which the agency “specifies the terms and conditions under which the use or occupancy [of national Forest land] may occur.”⁵⁶⁴ Further, “[e]ach special use authorization must contain ... [t]erms and conditions which will.”

(i)(B) Minimize damage to scenic and esthetic values and fish and wildlife habitat and otherwise protect the environment;

(C) Require compliance with applicable air and water quality standards established by or pursuant to applicable Federal or State law; and

(D) Require compliance with State standards for public health and safety, environmental protection, and siting, construction, operation, and maintenance if those standards are more stringent than applicable Federal standards.

(ii) Such terms and conditions as the authorized officer deems necessary to:

(A) Protect Federal property and economic interests;

(B) Manage efficiently the lands subject to the use and adjacent thereto;

(C) Protect other lawful users of the lands adjacent to or occupied by such use;

(D) Protect lives and property;

(E) Protect the interests of individuals living in the general area of the use who rely on the fish, wildlife, and other biotic resources of the area for subsistence purposes;

(F) Require siting to cause the least damage to the environment, taking into consideration feasibility and other relevant factors; and

(G) Otherwise protect the public interest⁵⁶⁵

Thus the Forest Service can and must consider measures to protect both Forest Service lands and adjacent lands from the damage an easement may cause.

3. *The Forest Service must analyze alternatives and mitigation measures that limit the damage of the easements and proposed development.*

The range of alternatives to be evaluated is constrained by the project’s purpose and need. The Forest Service’s notice fails to identify the project’s purpose.⁵⁶⁶ However, the purpose is presumably to respond to the Town of Tusayan’s and Stilo’s application. The Forest Service

⁵⁶⁴ 36 C.F.R. § 251.51.

⁵⁶⁵ Id. § 251.56(a) (emphases added).

⁵⁶⁶ See Kaibab Nat’l Forest, letter to Interested Party (Ex. 12) at 3.

defines the need as “to improve access to the private land holding properties located within the incorporated limits of the Town.”⁵⁶⁷

We note that the Forest Service considered in detail eight alternatives in its Tusayan Growth final EIS (for Canyon Forest Village), which addressed a similar effort by Tusayan and Stilo to promote commercial and residential development in the general area.⁵⁶⁸ That EIS considered a no action alternative; two variants of the proposed action; and competing development proposals. The alternatives analyzed development at multiple locations and at different intensities.

We therefore request that the Forest Service consider the following alternatives that address the purpose and need:

- A purchase alternative. One alternative to respond to Tusayan’s application would be to consider the impacts and expense of the Forest Service purchasing one or both of the Kotzin or TenX parcels. This would have impacts similar to the “no action” alternative, except that it would have permanent beneficial impacts, whereas the impacts of a one-time denial of Tusayan’s application would likely be that Stilo would return with another proposal within months or years. Funds for the purchase could be provided by the federal land and water conservation fund. See Muckleshoot Indian Tribe v. U.S. Forest Serv., 177 F.3d 800, 814 (9th Cir. 1999) (setting aside Forest Service EIS where it failed to disclose the impact of land purchase as an alternative to land exchange).
- One parcel alternative(s). Although Stilo and Tusayan would like to develop both the Kotzin and TenX parcels, the Forest Service must consider alternatives that would approve access to one but not the other. This would allow Tusayan to achieve approximately half of Stilo’s purpose, and permit the agency to better understand the trade-offs involved in development of each parcel. For example, road access and sewer lines may be more problematic at one parcel than the other. Wildlife values may be more important at the TenX site than at Kotzin.
- Park infrastructure protection alternative. Development of the two parcels will threaten Grand Canyon National Park resources in a variety of ways, including overwhelming Park Service built infrastructure. The purpose of this alternative would be to permit only such access to the private parcels as could be occur without significantly undermining protection of the Park by reducing the intensity of development and limiting threats to South Rim springs. The Forest Service therefore should consider an alternative that, as a condition of the easement, the property owners must:
 - o provide a set amount of land – say 50 acres – to the National Park Service for a bus transport hub or other amenities to reduce congestion into the Park;

⁵⁶⁷ Id.

⁵⁶⁸ See Tusayan Growth EIS (Ex. 21).

- adopt deed restrictions that limit development of housing units and commercial space to a set amount (say, 20%-50% of that proposed by the property owner);
 - adopt deed restrictions that prohibit the use of water from the R-M aquifer for the parcels, or the drilling of groundwater wells; and
 - adopt deed restrictions that require implementation of best practices for landscaping and construction to minimize harm to night skies, minimize water use, limit wildfire risks, reduce air pollution, etc.
- One road to Kotzin alternative. The Town of Tusayan's application provides for easements over two routes to the Kotzin parcel. One of these routes requires new construction and will exacerbate traffic congestion at Grand Canyon National Park's south entrance. The other requires access over property owned by the Tusayan School District and may pose a safety threat to school children. The application does not make clear why two routes are necessary. The Forest Service should therefore consider an alternative that provides only one access route – either the route to the north or the route to the south. It also should consider modifications to the proposed routes that would relieve the problems each poses.
- Mitigate infrastructure impacts. The Forest Service should consider an alternative or mitigation measures that:
- Address and eliminate any potential traffic congestion likely to be caused on SR64 caused by conflict between traffic backed up at the Park's South Rim entrance and traffic turning from the highway to the Kotzin parcel, in coordination with ADOT.
 - Address and eliminate concerns by the Tusayan Sanitary District concerning: 1) new demands on wastewater and reclaimed water infrastructure; 2) siting of wastewater and reclaimed water lines; 3) use and maintenance of Long Jim Loop Road; and 4) routing traffic near sensitive properties (e.g., school, town park, mobile home park, etc.).
 - Address and eliminate conflicts with the Tusayan School District.

V. THE FOREST SERVICE SHOULD CONSULT WITH, AND INVITE AS COOPERATING AGENCIES, POTENTIALLY IMPACTED AMERICAN INDIAN TRIBES AND AGENCIES.

Regulations implementing NEPA anticipate that lead agencies shall consult and cooperate with other agencies and with native sovereign nations, and shall invite that participation as early in the process as possible. For example, 40 C.F.R. § 1501.2(d)(2) anticipates that the lead agency will work with other interested agencies to expedite the NEPA process: “The Federal agency [should] consult[] early with appropriate State and local agencies and Indian tribes and with interested private persons and organizations when its own involvement is reasonably

foreseeable.” Regulations also require that “[a]s part of the scoping process the lead agency shall . . . [i]nvite the participation of affected Federal, State, and local agencies, any affected Indian tribe, the proponent of the action, and other interested persons”⁵⁶⁹

To fulfill this NEPA mandate, we urge the Forest Service to invite the following agencies to become cooperating agencies throughout the NEPA process:

- All potentially impacted American Indian nations, including but not limited to the Havasupai Tribe, the Hopi Tribe, the Hualapai Tribe, the Navajo Nation, and the Southern Paiute Tribe.
- Grand Canyon National Park and the National Park Service. We understand from press reports that the Park Service may have already requested and been granted cooperator status.
- The U.S. Geological Survey, due to that agency’s expertise in studying the ramifications of impacts to groundwater or whatever other water source Stilo and Tusayan ultimately identify.
- Coconino County, because Stilo’s development plans may place burden on County infrastructure, may impact the County economically, and because of the County’s role in enforcing floodplain and other relevant regulations.

VI. CONCLUSION

For the reasons set forth above, we urge the Forest Service to reject the Town of Tusayan’s application. If the Forest Service nonetheless decides to pursue the NEPA process, the agency must prepare a full environmental impact statement.

Thank you for the opportunity to comment. Please contact us at 303-623-9466 or at ceaton@earthjustice.org, tzukoski@earthjustice.org, or rcooley@earthjustice.org if you have any questions about this matter.

⁵⁶⁹ 40 C.F.R. § 1501.7(a)(1). See also 40 C.F.R. § 1501.6 (“Upon request of the lead agency, any other Federal agency which has jurisdiction by law shall be a cooperating agency. In addition any other Federal agency which has special expertise with respect to any environmental issue, which should be addressed in the statement may be a cooperating agency upon request of the lead agency.”).

Sincerely,



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cc: The Hon. Rex Tilousi, Chairman, Havasupai Tribe
The Hon. Ann Kirkpatrick, U.S. House of Representatives
The Hon. Sally Jewell, Secretary, Department of the Interior
Mr. Michael Bean, Principal Ass't Sect'y for Fish, Wildlife and Parks, Dep't of the Interior
Mr. Jonathan Jarvis, Director, National Park Service
Ms. Sue Masica, Regional Director, Intermountain Region, National Park Service
Mr. David Uberuaga, Superintendent, Grand Canyon National Park
Mr. Robert Bonnie, Under Secretary for Natural Resources & Environment, U.S. Dep't of Agriculture
Mr. Tom Tidwell, Chief, U.S. Forest Service
Mr. Cal Joyner, Regional Forester, Southwest Region, U.S. Forest Service
Mr. Art Babbott, Coconino County Board of Supervisors
Mr. Greg Bryan, Mayor, Town of Tusayan
Ms. Margaret J. Vick, General Counsel, Havasupai Tribe

INDEX OF EXHIBITS

Exhibit #	Description
1	Town of Tusayan, Application For Transportation And Utility Systems And Facilities On Federal Lands (June 5, 2014)
2	First Amendment to Pre-Annexation and Development Agreement, Agreement No. 2011-11-02, Between the Town of Tusayan, an Arizona municipal corporation, and Stilo Development Group USA, LP 2 (Jan. 22, 2014)
3	L. Valdez, “Grand Canyon: Two developments pose risks,” Arizona Republic (May 12, 2015)
4	Letter from Nicholas Larson, District Ranger to Thomas De Paolo, Stilo (Jan. 30, 2013)
5	Town of Tusayan, Tusayan General Plan 2024 (Apr. 16, 2014)
6	Grand Canyon National Park, Issues and Concerns Regarding Proposed Groundwater Developments Near the South Rim, Grand Canyon National Park (June 6, 2012)
7	Gruppo Stilo USA, Under Development United States, Grand Canyon, Arizona USA, available at http://www.gruppostilousa.it/UNITED_STATES.html
8	J. Cart, “National Park Service calls development plans a threat to Grand Canyon,” Los Angeles Times (July 6, 2014)
9	A. Nagourney, “Where 2 Rivers Meet, Visions for Grand Canyon Clash,” New York Times (Dec. 3, 2014)
10	E. Betz, “Park Service to Tusayan: Where is the water?,” Arizona Daily Sun (Feb. 28, 2014)
11	Forest Service, Tusayan Roadway Easements, Forest Service Decision Framework (May 2015)
12	Kaibab Nat’l Forest, letter to Interested Party (Apr. 24, 2015)
13	Emery Cowan, Road decision determines fate of Tusayan development, Ariz. Daily Sun (May 3, 2015)
14	Leslie MacMillan, Everyone Wants a Piece of the Grand Canyon, But at What Cost, <u>Esquire</u> (Aug. 29, 2013)
15	Errol L. Montgomery & Assocs., Supplemental Assessment of Hydrogeologic Conditions and Potential Effects of Proposed Groundwater Withdrawal, Coconino Plateau Groundwater Subbasin, Coconino County, Arizona (1999)
16	Michael J. Bean, Principal Deputy Assistant Secretary for Fish, Wildlife and Parks, U.S. Dep’t of the Interior to Robert Bonnie, Undersecretary for Natural Resources and Environment, U.S. Dep’t of Agriculture (May 11, 2015)
17	Bureau of Reclamation, North Central Arizona Water Supply Study (2006)
18	Remarks by Superintendent David V. Uberuaga, Grand Canyon National Park, presented to the Tusayan Town Council (Oct. 26, 2011)

Exhibit #	Description
19	D. Roberts, "Who Can Save the Grand Canyon?" Smithsonian Magazine (Mar. 2015)
20	Letter of M. Vick, attorney for Havasupai Tribe, to N. Larson, Kaibab NF (Mar. 13, 2013)
21	U.S. Forest Service, Final EIS for Tusayan Growth (Aug. 6, 1999) (excerpts)
22	City Council of the City of Flagstaff, Resolution No. 2015-08 (Mar. 10, 2015)
23	E. Cowan, Water concerns loom over proposed Tusayan project, Arizona Daily Sun (May 22, 2015)
24	Letter from Pete Shearer, Chairman, South Grand Canyon Sanitary District Board of Directors, to Arizona Corporation Commission, Re: Tusayan Ventures Application for a CC&N, Docket No. W-20828A-11-0475 (Oct. 10, 2012)
25	Letter from Steve Wene, attorney for the South Grand Canyon Sanitary District, to James Simino, Tusayan District Ranger, and Will Wright, Town of Tusayan Manager, Re: Utility Easement on Forest Land (Apr. 8, 2015)
26	Letter of S. Martin to M. Williams, Forest Service (May 6, 2015)
27	Letter of C. Taylor, Grand Canyon is in peril, Arizona Daily Sun (May 13, 2015)
28	Stilo Development Group USA, LP, Camper Village, Applicant's Narrative Report, Planned Community District Zoning Submittal to Town of Tusayan Arizona (Aug. 1, 2011)
29	Loretta Yerian, Stilo shares concept plans for future development of Camper Village, Grand Canyon News (Mar. 31, 2015)
30	Pre-Annexation and Development Agreement Between the Town of Tusayan, an Arizona municipal corporation, and Stilo Development Group USA, LP (Oct. 31, 2011)
31	Letter of C. Richmond, Supervisor, GMUG National Forest to T. Mueller, Pres., Crested Butte LLC (Nov. 5, 2009)
32	Gregg Garfin, et al., eds., <u>Assessment of Climate Change in the Southwest United States: A Report Prepared for the National Climate Assessment</u> (2013)
33	T. Ault, Assessing the Risk of Persistent Drought Using Climate Model Simulations and Paleoclimate Data, <i>Jl. of Climate</i> (Oct, 15, 2014)
34	EPA website, Climate Change, Southwest, available at www.epa.gov/climatechange/impacts-adaptation/southwest.html (last viewed June 1, 2015)
35	U.S. Fish & Wildlife Serv., Ecological Effects of Ground Disturbance and Roads on Plants and Recommended Buffer Distances, with Emphasis on Uinta Basin, Utah (Mar. 6, 2014)
36	Brockton J. Hefflin, et al., Surveillance for Dust Storms and Respiratory Diseases in Washington State, 1991, 49 <i>Archives of Envtl. Health</i> 170 (1994)
37	HabiMaps, produced with Ariz. Game & Fish Dep't HabiMap software on May 27, 2015

Exhibit #	Description
38	Ariz. Wildlife Linkages Workgroup, Arizona's Wildlife Linkages Assessment (2006)
39	U.S. Forest Serv., Kotzin Ranch Access (May 2015)
40	Letter from YSMA to Deirdre McLaughlin (May 22, 2015)
41	U.S. Forest Serv., TenX Ranch Access (May 2015)
42	Bureau of Land Mgmt., Northern Arizona Proposed Withdrawal, Final Environmental Impact Statement 3-214 (2011)
43	Ian F. Spellerberg, <u>Ecological Effects of Roads and Traffic: A Literature Review</u> , 7 <u>Global Ecology and Biogeography Letters</u> 317 (1998)
44	AGFD, Wildlife Interactions Along State Route 64, available at http://www.azgfd.gov/w_c/research_wildlife_interactions_sr64.shtml
45	Kaibab Nat'l Forest, Tusayan Proposed Roadway Easements Project and Environmental Analysis, Frequently Asked Questions (May 26, 2015),
46	Stilo Development Group USA, LP, Kotzin Ranch, Applicant's Narrative Report, Planned Community District Zoning Submittal to Town of Tusayan Arizona (as resubmitted Sept. 26, 2011)
47	Stilo Development Group USA, LP, TenX Ranch, Applicant's Narrative Report, Planned Community District Zoning Submittal to Town of Tusayan Arizona (as resubmitted Sept. 26, 2011)
48	Letter from David V. Uberuaga, GCNP Superintendent, to Richard Turner, Tusayan Town Planner (Feb. 24, 2014)
49	Donald J. Bills, Marilyn E. Flynn, and Stephen A. Monroe, U.S. Geol. Survey, Hydrogeology of the Coconino Plateau and Adjacent Areas, Coconino and Yavapai Counties, Arizona (2007)
50	Ctr. for Biological Diversity, Wells on the Coconino Plateau Basin (April 2015)
51	Peter W. Huntoon, <u>Variability of karstic permeability between unconfined and confined aquifers, Grand Canyon region, Arizona</u> , 6 <u>Envtl & Engineering Geoscience</u> (2000)
52	Thomas R. Karl, <u>et al.</u> , eds., U.S. Global Change Research Program, Climate Change Impacts in the United States 15 (2009)
53	Jeremiah S. Kobor, <u>Simulating Water Availability in a Spring-Fed Aquifer with Surface Water/Groundwater Flow Models, Grand Canyon, Arizona</u> (Aug. 2004)
54	D.R. Pool, <u>et al.</u> , U.S. Geological Survey, Regional Groundwater-Flow Model of the Redwall-Muav, Coconino, and Alluvial Basin Aquifer Systems of Northern and Central Arizona 2011
55	Stephen A. Monroe, <u>et al.</u> , U.S. Geological Survey, Chemical Characteristics of Ground-Water Discharge along the South Rim of Grand Canyon in Grand Canyon National Park, Arizona, 2000–2011 (2004)
56	James A. Kessler, <u>Grand Canyon Springs and the Redwall-Muav Aquifer: Comparison of Geologic Framework and Groundwater Flow Models</u> (Dec. 2002) (unpublished M.S. thesis, Northern Arizona University)
57	Grand Canyon Nat'l Park, General Management Plan (Aug. 1995)
58	Grand Canyon Nat'l Park, Resource Management Plan (Jan. 1997)

Exhibit #	Description
59	Nat'l Park Serv., A Study of Seeps and Springs – Grand Canyon National Park, www.nps.gov/grca/learn/nature/seepspringstudy.htm (last visited May 30, 2015)
60	Ctr. for Biological Diversity, Emergency Petition to List the Arizona Wetsalts Tiger Beetle (<i>Cicindela haemorrhagica arizonae</i>) and the MacDougal's Yellowtops (<i>Flaveria macdougalii</i>) as Endangered or Threatened Under the Endangered Species Act (May 1, 2015)
61	L. Yerian, Stilo discusses water options for future development, Arizona Daily Sun (Mar. 31, 2015)
62	Ken Ritter, Associated Press, Feds Project Lake Mead Below Drought Trigger Point in 2017, Arizona Daily Sun (May 19, 2015)
63	Letter from Steve Wene, attorney for the South Grand Canyon Sanitary District, to James Simino, Tusayan District Ranger, and Will Wright, Town of Tusayan Manager, Re: Utility Easement on Forest Land (Sep. 17, 2014)
64	Paul R. Krausman, <u>et al.</u> , Developed Waters for Wildlife: Science, Perception, Values, and Controversy, 34 Wildlife Soc'y Bull. 563 (2006)
65	Neil L. Ingraham, <u>et al.</u> , Application of Stable Isotopes to Identify Problems in Large-Scale Water Transfer in Grand Canyon National Park, 35 Env'tl. Sci. & Tech. 1299 (2001)
66	Kaibab Nat'l Forest, Decision Notice and Finding of No Significant Impact, Tusayan Flood Reduction Project, Tusayan Ranger District (Sep. 7, 2013)
67	Mike Scerbo, Developer that wants to lead Grand Canyon area project cannot figure out how to install a few trailer homes, Grand Canyon Watchdog (June 29, 2013)
68	Vassilios A. Tsihrintzis & Rizwan Hamid, Modeling and Management of Urban Stormwater Runoff Quality: A Review, 11 Water Res. Mgmt. 137 (1997)
69	Chris Kassar & Paul Spitler, Ctr. for Biological Diversity, Fuel to Burn: The Climate and Public Health Implications of Off-road Vehicle Pollution in California (May 2008)
70	Isabel M. Morales Terrés, <u>et al.</u> , Assessing the impact of petrol stations on their immediate surroundings, 91 J. of Env'tl. Mgmt. 2754 (2010)
71	Nat'l Audubon Society, Grand Canyon National Park – Raptor Migration Points (2013)
72	Species list produced by the Arizona Game and Fish Department's Arizona Environmental Online Review Tool Report, on April 23, 2015
73	Joshua B. Johnson, <u>et al.</u> , Distribution and activity of bats at local and landscape scales within a rural-urban gradient, 11 Urban Ecosystems 227 (2008)
74	Mark Hostetler & David Drake, Conservation subdivisions: A wildlife perspective, 90 Landscape & Urban Planning 95, 99 (2009),
75	Andrew J. Hansen, <u>et al.</u> , Effects of Exurban Development on Biodiversity: Patterns, Mechanisms, and Research Needs, 15 Ecological Applications 1893 (2005)
76	Nat'l Park Serv., Nonnative Species – Grand Canyon National Park, http://www.nps.gov/grca/learn/nature/nonnativespecies.htm (last visited May 30, 2015)

Exhibit #	Description
77	U.S. Env'tl. Protection Agency, Waste Transfer Stations: A Manual For Decision-Making (2002)
78	Tusayan Sanitary District, Resolution in Opposition to Proposed Road Siting Along Long Jim Loop Road, Resolution 15-05-13-01 (May 13, 2015) (hereinafter Sanitary District Resolution)
79	Earthjustice, Map, Arizona National Scenic Trail and Tusayan Easements (June 1, 2015)
80	Nat'l Park Serv., NPS Deferred Maintenance by State and by Park (Sept. 30, 2014)
81	Press Release, Nat'l Parks Serv., Grand Canyon to Replace Portion of Trans-Canyon Pipeline at Phantom Ranch (Jan. 23, 2015)
82	Marie Lynn Miranda, et al., A Geospatial Analysis of the Effects of Aviation Gasoline on Childhood Blood Lead Levels, 119 Env'tl. Health Persp. 1513 (2011)
83	SWCA Environmental Consultants, Class I Cultural Resources Overview for the Northern Arizona Proposed Withdrawal on the Bureau of Land Management Arizona Strip District and the Kaibab National Forest, Arizona 138 (Feb. 2011)
84	Press Release, U.S. Forest Serv., Tusayan Ranger District achieves goal of zero human-caused fires (Mar. 18, 2015)
85	Loretta Yerlan, Tusayan Fire asks council for help with budget, Grand Canyon News (Sept. 23, 2014)
86	ENSR Corporation, BART Analysis for the Navajo Generating Station Units 1 – 3 (2007),
87	Press Release, Nat'l Park Serv., Tourism to Grand Canyon National Park Creates \$509 Million in Economic Benefits (Apr. 23, 2015)
88	Letter from Asian Am. Hotel Owners Ass'n to Thomas Tidwell, Chief, U.S. Forest Serv. (Mar. 26, 2015)
89	Ash Patel, Come on, don't turn the Grand Canyon into another mall, Ariz. Republic (May 14, 2015)
90	Tusayan low income housing may face additional challenges, Grand Canyon Watchdog (Apr. 24, 2015)
91	Kaibab Nat'l Forest, South Zone Travel Management Revision Project (May 2014)
92	Letter of K. Davis, CBD et al. to Williams Ranger District, re: South Zone Travel Management Revision Project (May 11, 2015)
93	Kaibab Nat'l Forest, South Zone Grasslands Restoration Management Project (March 2015)
94	Letter of A. Gitlin, Sierra Club et al. to M. Williams, Kaibab NF, re: South Zone Grassland Restoration Management Project (Apr. 22, 2015),
95	Ariz. Dep't of Transp., 2016-2020 Tentative Five-Year Transportation Facilities Construction Program (2015)
96	Arizona Dep't of Transportation, Grand Canyon Airport to receive upgraded terminal (April 4, 2012)
97	Airport Briefing City of Flagstaff Sept 2014
98	Letter of S. Bahr, Sierra Club to State Transportation Board (May 17, 2015)
99	U.S. Forest Service, Final EIS, Canyon Uranium Mine (Aug. 1986)

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100	Letter of S. Bahr, Sierra Club <u>et al.</u> to T. Baggio, ADEQ re: Canyon & Pinenut Mines (July 22, 2009)
101	“Conserving the Grand Canyon Watershed, A Proposal for National Monument Designation”
102	“Threats to Proposed Grand Canyon Watershed National Monument”
103	Tusayan’s Future, Building a Better Tomorrow, “Downtown Tusayan” coming soon (Mar. 2015)
104	Arizona Dep’t of Water Resources, Map, Coconino Plateau Basin Adequacy Determinations Map
105	Letter of A. Gitlin, Sierra Club, Comments re: Tusayan Flood Reduction Project (Aug. 2013)
106	Letter of A. Gitlin, Sierra Club, Comments re: Tusayan East Wireless Communication Sites Project (Feb. 27, 2015)
107	Letter of K. Crumbo <u>et al.</u> to D. Uberuaga (June 27, 2011)
108	Letter of J. Lininger, CBD <u>et al.</u> to H. Provencio, Forest Service (May 29, 2013)
109	Letter of S. Bahr, Sierra Club to C. Joyner, Forest Service (Jan. 20, 2015)
110	Mikele Painter & Valerie Stein Foster, U.S. Forest Service, Ecological Sustainability Analysis of the Kaibab National Forest: Species Diversity Report (2008)
111	Memorandum to Secretary, Dep’t of the Interior, from Solicitor, Dep’t of the Interior (April 16, 1998)
112	Quitclaim Deed between United States of America and Grand Canyon Unified School District #4 (Apr. 8, 2008)