

NEW MEXICO
ENVIRONMENTAL LAW CENTER

2003 AUG -8 AM 9:06

Mitzi A. Young
John T. Hull
Nuclear Regulatory Commission Office of the General Counsel
Mail Stop 0-15-B18
Nuclear Regulatory Commission
Washington, DC 20555

Re: In Re: HRI; Docket No. 40-8968-ML, ASLBP No. 95-706-01-ML; New Information Concerning Sections 8 and 17 of the Crownpoint Uranium Project.

July 31, 2003

Dear Mitzi and John:

I am writing to request that the Nuclear Regulatory Commission Staff ("Staff") undertake to supplement the Final Environmental Impact Statement ("FEIS") for the Crownpoint Uranium Project ("CUP"). Based on information recently obtained by Eastern Navajo Diné Against Uranium Mining and Southwest Research and Information Center (collectively, "Intervenors") concerning a planned housing development near Churchrock, Navajo Nation, New Mexico, I believe the Staff is obliged to supplement the FEIS.

As was mentioned on the June 22, 2003 conference call with Judge Farrar regarding settlement of the Hydro Resources, Inc. ("HRI") matter, there have been numerous suggestions of late that the Ft. Defiance Housing Corporation, in conjunction with the United States Department of Housing and Urban Development ("HUD") and the Navajo Housing Authority ("NHA"), is planning to develop a 1000 unit housing complex, called the Springstead Estates Project, in the vicinity of Springstead, McKinley County, New Mexico, near Churchrock. The planned housing development will eventually have the capacity to house approximately 4000 people. My clients have recently received confirmation that Ft. Defiance Housing Corporation will, in fact, be building up to 1000 housing units on Section 30 of Township 16 North, Range 16 West of the New Mexico Principal Meridian. A full description of the proposed project is provided in the attached Environmental Assessment ("EA"). The EA was produced for the Ft. Defiance Housing Corporation and the NHA by an environmental consultant pursuant to HUD regulations.

OGC-03- 003090

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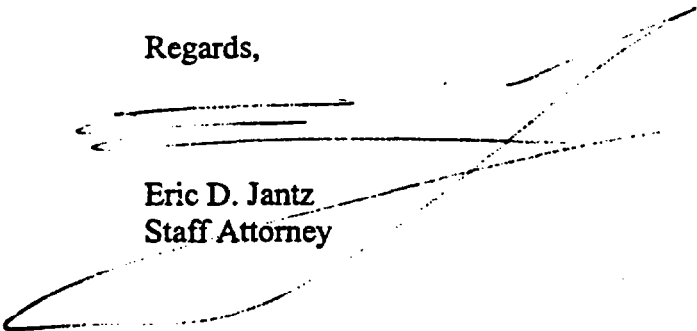
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The primary purpose of NEPA is to prevent or eliminate damage to the environment by focusing government and public attention on the affects of agency action, thereby ensuring that the agency will not act on incomplete information, only to regret its decision after it is too late to correct. Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 371 (1989) (citations omitted). Moreover, federal case law is clear that federal agencies have an ongoing to obligation to consider the environmental impacts of a project. Warm Springs Dam Task Force v. Gribble, 621 F.2d 1017, 1023-24 (9th Cir. 1980). Generally, supplementation of a project's FEIS is required when new information or circumstances that has a significant bearing on a project's impacts arise. See eg., Portland Audubon Society v. Babbitt, 998 F.2d 705, 707 (9th Cir. 1993).

In the case of the CUP, the proposed Springstead Estates Project is a new circumstance that clearly impacts the NRC's ongoing regulatory duty with respect to HRI's materials license. The planned housing development could house up to 4000 individuals, all of whom would be living within approximately two miles of HRI's Church Rock operations, and would be exposed daily to any radioactive air emissions from those operations. Furthermore, water for the development may be pumped from the Westwater Canyon aquifer, which would certainly affect HRI's and the NRC's analyses of underground contaminant transport. Finally, the traffic caused by approximately 4000 additional people in the area would have a bearing on the NRC's analysis of CUP transportation issues for the Church Rock operations.

Given the scale of the Springstead development and its potential effects on the water supply, hydrology, air quality and traffic patterns in the Church Rock area, Intervenor believe that a supplement to the CUP FEIS is warranted. Intervenor ask that the NRC Staff fulfill its duty to the public and take the required hard look at these potential new impacts. Furthermore, because it is Intervenor's understanding that development of Phase I of the Springstead Estates Project is imminent, Intervenor request that the NRC Staff make a determination on supplementation of the CUP EIS within thirty (30) days of receipt of this letter. If you have any questions regarding this matter, please do not hesitate to contact me.

Regards,



Eric D. Jantz
Staff Attorney

cc. David Lashway
Anthony J. Thompson
Samuel Gollis
Diane Curran
Geoffrey Fettus

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**U.S. Department of Housing
and Urban Development
Pacific/Hawaii Office of
Community Planning and Development
Environmental Branch**

Environmental Assessment

(HUD recommended format per
24 CFR 58.36, revised 1/99)

Project Identification: Springstead Estates Project

Preparer: Howard Bitsui, Bitsui Environmental Consultant

Responsible Entity: The Navajo Housing Authority

Month/Year: June 2003

Environmental Assessment

Responsible Entity [24 CFR 58.2(a)(7)]: The Navajo Housing Authority

Certifying Officer [24 CFR 58.2(a)(2)]: Joseph Shirley, Jr., President

Project Name: Springstead Estates Project

Project Location: Springstead, McKinley County, New Mexico

Estimated total project cost:

Grant Recipient [24 CFR 58.2(a)(5)]: Navajo Housing Authority

Recipient Address: P.O. Box 4980, Window Rock, Arizona 86515

Project Representative: Chester Carl, Executive Director

Telephone Number: (520) 871-2600

Conditions for Approval: (List all mitigation measures adopted by the responsible entity to eliminate or minimize adverse environmental impacts. These conditions must be included in project contracts or other relevant documents as requirements). [24 CFR 58.40(d), 40 CFR 1505.2(c)]

None

FINDING: [58.40(g)]

Finding of No Significant Impact
(The project will not result in a significant impact on the quality of the human environment)

Finding of Significant Impact
(The project may significantly affect the quality of the human environment)

Preparer Signature: *Amel Anton*
Title/Agency: EA Technical Consultant, Bitsui Environmental Consultant

Date: 6-02-03

RE Approving Official Signature: _____ **Date:** _____
Title/Agency: Executive Director, The Navajo Housing Authority

Statement of Purpose and Need for the Proposal: [40 CFR 1508.9(b)]

See statements and discussion on page 4 and 5 of Section I, A & B of Purpose and Need.

Description of the Proposal: Include all contemplated actions which logically are either geographically or functionally a composite part of the project, regardless of the source of funding. [24 CFR 58.32, 40 CFR 1508.25]

See statements and discussion on page 4 of Section I, PURPOSE AND NEED.

Existing Conditions and Trends: Describe the existing conditions of the project area and its surroundings, and trends likely to continue in the absence of the project. [24 CFR 58.40(a)]

See statements and discussion from pages 7 through 16 of Section III: DESCRIPTION OF AFFECTED ENVIRONMENT

Statutory Checklist

[24CFR §58.5]

For each listed statute, executive order or regulation, record the determinations made. Note reviews and consultations completed as well as any applicable permits or approvals obtained. Attach evidence that all required actions have been taken. Record any conditions or mitigation measures required. Then, make a determination of compliance or consistency.

Factors	Determinations and Compliance Documentation
Historic Preservation [36 CFR 800]	According to the review of the Archaeological Report # FDHA-03-01, dated March 17, 2003, the Phase 1 Springstead Housing Development will have no significant impact to Traditional Cultural Properties and archaeological sites as determined by the Archaeologist. (See Appendix Section IX, C.1.in Page 27)
Floodplain Management [24 CFR 55, Executive Order 11988]	The subject property is in compliance with the Flood Disaster Protection Act of 1973 and Executive Order 11988. The project site does not involve property acquisition, land management, construction or improvement within a 100-year floodplain (zones A or V) or does not involve a "critical action" (e.g. emergency facility, facility for mobility impaired persons, etc.) within a 100-year floodplain (zone B) as determined by the Navajo Water Management Program. The Floodplain Delineation Project was unable to provide information or lack of available information (see consultation letter in Appendix Section IX.C.2. in page 28).
Wetlands Protection [Executive Order 11990]	The proposed undertaking will not involve new construction within jurisdictional wetlands or adjacent drainages. The proposed development will not have an effect on wetlands, riparian areas, flood plains or other sensitive areas. This is in compliance with Executive Order 11990, Protection of Wetlands, pursuant to consultation with the Water Quality Program of the Navajo Environmental Protection Agency (see consultation letter in Appendix Section IX.C.3. in page 29).
Coastal Zone Management Act [Sections 307(c),(d)]	The proposed action does not involve the placement, erection or removal of materials, nor increase the intensity of use in any coastal zone. This factor is not applicable anywhere within the state, Navajo Nation and the region.
Sole Source Aquifers [40 CFR 149]	There has not been official designation of any sole source aquifers (SSA) on the Navajo Nation Pubic Water Systems Supervision Program (PWSSP) or the United States Environmental Protection Agency (USEPA). Currently, the Navajo Nation has not officially designated any aquifers as a SSA; however, as the NNEPA is further established this may change. In order for an aquifer to be considered as a designated SSA, the aquifer must meet two criteria: (1) it must supply more than 50% of a community drinking water; and (2) it must be the only available local or regional source of drinking water (see consultation letter in Appendix Section IX.C.4. in page 30).
Endangered Species Act [50 CFR 402]	Endangered Species may require biological assessment of the entire Section 30. Initial field visit of Phase I portion of the project site does not appears to support Endangered Species. (See letter from Natural Heritage of NF&WD, dated 09-12-2002, in Appendix Section IX, C.5. in page 31).

Wild and Scenic Rivers Act [Sections 7 (b), (c)]	The proposed action is in compliance with the Wild and Scenic Rivers Act of 1968 (sec.7). The project site is not located within one mile of a listed Wild or Scenic River and the project will not have an effect on the natural, free flowing or scenic qualities of a river in the Natural Wild and Scenic Rivers system as determined by field investigation and research. No impact is anticipated.
Air Quality [Clean Air Act, Sections 176 (c) and (d), and 40 CFR 6, 51, 93]	The project is located within the boundaries of the Navajo Nation and therefore subject to the jurisdiction of the Navajo Air Quality Control Program of the NNEPA for the purpose of air quality regulation. The proposed project is located in areas of attainment and would not appear to significantly impact the NAAQs for the area (see consultation letter in Appendix Section IX.C.6. in page 32).
Farmland Protection Policy Act [7 CFR 658]	The site location does not include prime or unique farmlands, or other farmlands of statewide or local importance as determined through field investigations and research. The proposed undertaking complies with the Farmland Protection Policy Act (FPPA) of 1981 (Subtitle 1 of the Agricultural and Food Act of 1981). No unnecessary or irreversible commitment of farmlands to nonagricultural uses will occur. No impact is anticipated. (See Consultation Letter in Appendix IX.C.7. in page 33).
Environmental Justice [Executive Order 12898]	Project is in compliance with Executive Order 12898. See statement in EA report on page 16, Section III, V.

HUD Environmental Standards

Determinations and Compliance Documentation

Noise Abatement and Control [24 CFR 51 B]	<p>The proposed action is in compliance with 24 CFR parts 51B & 58.5 and HUD "Noise Assessment Guidelines". The project site does not involve development of noise sensitive uses, or the project site is not within line-of-sight of an arterial roadway or railroad. Ambient noise levels will be about 65 LDN or lower. The use of heavy equipment for site preparation will constitute less than 15% of the project duration for the project site. Noise generating activities shall be limited to the hours of 8AM to 5PM.</p> <p>Furthermore, primarily traveling automobiles on highways causes ambient noise near the project site. Noise levels were not measured at the project site; however, considering the population and development pattern in the vicinity of the project site, the noise levels are probably in the range of about 35-40 decibels on the A-weighted sound measurement scale (dBA).</p>
	<p>Proposed project is in compliance with 24 CFR 51B&58.5 and HUD "Noise Assessment Guidelines" and EPA. (See statements and table on page 11, Section III, P.)</p>

Toxic or Hazardous Substances and Radioactive Materials
 [HUD Notice 79-33]

The former Foutz #3, mined by Foutz & Company during the early 1950's, is located approximately two miles southeast from the proposed Phase 1 housing development. Although the former mine was reclaimed, there exists the potential for the former mine site to release radioactive particles to the drainages that run directly to the within the proposed Springstead housing project area. The drainages are tributaries to the jurisdictional Puerco River.

According to the consultation letter in Appendix Section IX.C.8, the NNEPA is unable to provide a determination stating that the subject property would be free of hazardous materials, contamination, toxic chemicals, gasses and radioactive substances that could affect the health or safety of occupants or conflict with the intended use of the property.

NNEPA goes to advise that: absence a determination that would allow the project to progress in a manner anticipated by the proponents of the project, the developer must proceed to collect relevant information regarding the characteristics of the Springstead site that would further assist in assessing exposure to health hazards.

If additional information determines that the health and safety of the occupants within the Springstead site would be affected or otherwise compromised, then specific mitigation measures must be developed with oversight of relevant oversight agencies before the NNEPA will reconsider addressing the matter of a determination for Toxic Chemicals and Radioactive Materials.

Springstead housing project is in compliance with HUD Notice 79-7, wherein, the project, involving construction of homes for habitation, are not located within one mile of an NPL "superfund" site, not within 2,000 feet of CERLIS site nor adjacent to any other known or suspected sites contaminated with toxic chemicals or radioactive materials as determined by United States Environmental Protection Agency.

Siting of HUD-Assisted Projects near Hazardous Operations [24 CFR 51 C]

Project is not on or near Explosive or Flammable Operation Sites per consultation with Mr. Jimson Joe, Executive Director of Department of Emergency Program of the Navajo Naation on November 18, 2002 at about 1:00PM.

Airport Clear Zones and Accident Potential Zones [24 CFR 51 D]

The proposed action is in compliance with 24 CFR parts 51D & 58.5. The project site is not located within an FAA-designated civilian airport Runway Clear Zone (RCZ) or Accident Potential Zone (APZ) and a safe distance from any known military airfield Clear Zone (CZ) or as determined by the Navajo Nation Department of Transportation. (See Consultation Letter dated 11-18-02 in Appendix Section IX.C.10.in page 36).

Environmental Assessment Checklist

[Environmental Review Guide HUD CPD 782, 24 CFR 58.40; Ref. 40 CFR 1508.8 & 1508.27]

Evaluate the significance of the effects of the proposal on the character, features and resources of the project area. Enter relevant base data and verifiable source documentation to support the finding. Then enter the appropriate impact code from the following list to make a finding of impact. Impact Codes: (1) - No impact anticipated; (2) - Potentially beneficial; (3) - Potentially adverse; (4) - Requires mitigation; (5) - Requires project modification. Note names, dates of contact, telephone numbers and page references. Attach additional materials as needed.

Land Development	Code	Source or Documentation
Conformance with Comprehensive Plans and Zoning	2	Community does not have Zoning nor Comprehensive Land Use Plan.
Compatibility and Urban Impact	2	Proposed project will not alter from the original use of the residential areas, grazing and infrastructures (see statements in EA on page 12, S.1.)
Slope	1	See Topography Section in EA report on page 7, Section III. A.
Erosion	1	See Topography Section in EA report on page 7, Section III, A. Proper erosion control provisions will be provided during construction phase.
Soil Suitability	1	See Soils Section in EA report on page 7, Section III, B. Hendricks Reports of 1985 indicates soil suitability.
Hazards and Nuisances including Site Safety	1	No hazards and/or nuisances are anticipated during construction and operation of the housing project.
Energy Consumption	1	Energy consumption may increase with the addition of new units, but no significant impact is anticipated by electrical supplier, Utilities and propane suppliers. See page 16, Section III, U.8. in EA report.
Noise - Contribution to Community Noise Levels	1	See page 11 of EA Report, Section III, P.
Air Quality Effects of Ambient Air Quality on Project and Contribution to Community Pollution Levels	1	See page 10 of EA Report, Section III, L. See letter from NNEPA-NAQCP in Appendix IX, C.6.
Environmental Design Visual Quality - Coherence, Diversity, Compatible Use and Scale	2	See statement on page 13, Section III, S.2. of EA report.

Socioeconomic	Code	Source or Documentation
Demographic Character Changes	1	See statement on page 13, Section III, T.1. The project will not alter the population growth of the community, tribe, state or national level.
Displacement	1	See statement on page 13, Section III, T.2. There will be no division, relocation, displacement or disruption of families, businesses or the community.
Employment and Income Patterns	1	See statement on page 14, Section III, T.3. concerning the lack of employment and per capita income of the Navajo Nation per 2002-2001 Navajo Nation Overall Economic Development Program Report.

**Community Facilities
and Services**

Code

Source or Documentation

Community Facilities and Services	Code	Source or Documentation
Educational Facilities	1	See page 14, Section III, U.1. Educational Facilities in EA report. According Chapter Image of 1990, most of the area children attend school in Church Rock and Gallup, NM.
Commercial Facilities	1	See page 14, Section III, U.2. Commercial Facilities in EA report. Community consumers patronize Gallup Merchants, because no commercial facilities exist in the community of Springstead.
Health Care	1	See page 15, Section III, U.3. Health and Emergency Medical Care Facilities in EA report. Most or all of health and emergency medicals are either located in Gallup, NM or provided out of Gallup, NM.
Social Services	1	See page 15, Section III, U.4. Social Services in EA report. Most of the social services are provided to low income eligible families. Again most of all are located in Gallup or Crownpoint, NM
Solid Waste	1	See page 15. Section III, U.5. Solid Waste in EA report. Solid waste will be generated, but proper disposal methods will be provided. There are no EPA-certified landfill in the community. Solid wastes collections are contracted out to waste handlers.
Waste Water	1	Waste water system will not be significantly impacted. EPA-approved sewer lagoon will be planned and developed with the capability to process residential waste water.
Storm Water	1	Proper provisions will be made for storm water system, including all run-offs and drainage system.
Water Supply	1	See page 15, Section III, U.8. Public Utilities in the EA report.
Public Safety - Police	1	Police protection is provided by Division of Public Safety out of Crownpoint, NM, the NM State Police of Gallup, McKinley County Sheriff's office out of Gallup, NM.
- Fire	1	Since no fire protection exist in the community, fire and rescue protections are provided out of City of Gallup, McKinley County, and/or the Navajo Nation in Crownpoint.
- Emergency Medical	1	See page 15, Section III, U.3. Health and Emergency Medical Care Facilities in EA report. Most or all of health and emergency medicals are either located in Gallup, NM or provided out of Gallup, NM.

Open Space and Recreation - Open Space	1	See page 15, Section III, U.6. Open Space and Recreation in EA report.
- Recreation	1	See page 15, Section III, U.6. Open Space and Recreation in EA report.
- Cultural Facilities	1	There are no cultural facility located within the community of Springstead. Cultural facility uses are located in Gallup, Window Rock or Crownpoint.
Transportation	1	See page 15, Section III, U.7. Transportation and Transportation Use Networks. No public transportation system exist in the community and there would not be an increase on transportation networks.

Natural Features	Source or Documentation	
Water Resources	1	See page 8, Section III, D. Water in EA report. Community potable water are piped in from wells from various sources in the area or region.
Surface Water	1	See page 8, Section III, D. Water in EA report. There are no standing water, rivers or streams on or near the project site.
Unique Natural Features and Agricultural Lands	1	See page 12, Section III, S.2. Environmental Design in the EA report. Development will present a positive contribution to the visual setting of the Springstead community. There are no Agricultural Lands located on or near the project site per letter from Navajo Department of Agriculture, dated 12-5-02.
Vegetation and Wildlife	1	See page 8, Section III, G. of EA report. No vegetation exist on the project site, other then weeds, some grasses and trees. No wildlife exist on the project site other then small birds, dogs and small rodents.

Other Factors	Source or Documentation	

NOTE: The Responsible Entity must additionally document and ensure compliance with 24 CFR §58.6 in the ERR, particularly with the Flood Insurance requirements of the Flood Disaster Protection Act and the Buyer Disclosure requirements of the HUD Airport Runway Clear Zone/Clear Zone regulation at 24 CFR 51 Subpart D.

Summary of Findings and Conclusions

See Summary of Findings and Conclusions on page 19, Section V.

ALTERNATIVES TO THE PROPOSED ACTION

~~Alternatives and Project Modifications Considered [24 CFR 58.40(e); Ref. 40 CFR 1508.9]~~
 (Identify other reasonable courses of action that were considered and not selected, such as other sites, design modifications, or other uses of the subject site. Describe the benefits and adverse impacts to the human environment of each alternative and the reasons for rejecting it.)

See statement and discussion on page 6, Section II: Alternatives 1 and 2.

No Action Alternative [24 CFR 58.40(e)]

(Discuss the benefits and adverse impacts to the human environment of not implementing the preferred alternative).

See statement and discussion on page 6, Section II: No Action Alternative.

Mitigation Measures Recommended [24 CFR 58.40(d), 40 CFR 1508.20]

(Recommend feasible ways in which the proposal or external factors relating to the proposal should be modified in order to eliminate or minimize adverse environmental impacts.)

See statement and discussion on page 17 and 18, Section IV Concerning Mitigations.

Additional Studies Performed

(Attach studies or summaries)

None

List of Sources, Agencies and Persons Consulted [40 CFR 1508.9(b)]

See page 20 and 21, Section VI: Consultation and Coordination.

See Page 22, Section VI: Bibliography.

PROPOSED ACTION

The proposed action is the construction of up to 1,000 single-family housing units, apartments, townhouses and duplexes within the Springstead Estates Project located within the ±640 acres of private/deeded land. Residential development would consist of three and four bedroom single-family units and split-levels, off-site, on-site improvements and related construction activities in Springstead, McKinley County, New Mexico.

TYPE OF STATEMENT

Environmental Assessment

ABSTRACT

The Fort Defiance Housing Corporation (FDHC) proposes to construct up to 1,000 new single-family housing units, apartments, townhouses and duplexes as part of Springstead Estates Project located within ±640 acres of private and deeded land in vicinity of Springstead, McKinley County, New Mexico. On-site and off-site construction will consist of streets, curbs, gutters, sidewalks, fence, egress, ingress and landscape. There will be construction of water lines and sewer systems, drainage provisions and electrical lines. Primary funding will come from Native American Housing Assistance and Self-Determination Act of 1996 of Department of Housing and Urban Development.

PREPARED FOR

Fort Defiance Housing Corporation (FDHC)
P.O. Box 579
Window Rock, Arizona 86515
(520) 729-5210

PREPARED BY

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Bitsui Environmental Consultant
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DATE PREPARED:

June 01, 2003

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SECTION I: PURPOSE AND NEED [40 CFR 1502.13]

Due to the unique land status of the Checkerboard lands in New Mexico also known as Indian Country, the execution and approval of federal funding for housing developments on private (deeded) land will require the approval of Department of Housing Urban Development. This approval is regarded as a federal action, subject to applicable environmental assessment as provided by statutes, laws, and regulations.

The proposed federal action addressed by this environmental assessment (EA) is Department of Housing and Urban Development approval of Native American Housing and Self-Determination Act funding for Fort Defiance Housing Corporation (FDHC) proposal to construct up to 1,000 new housing units within the Springstead Estates Project. The overall plans would consist of single-family housing units, apartments and duplexes and related on-site and off-site improvements to be constructed within Section 30 of Church Rock Quadrangle. Infrastructures, housing and other support facilities will be developed in phases over a period of funding period with the initial proposed action encompassing about 83 single-family units under Tract 1 (Phase 1) development.

A. Project Description

Fort Defiance Housing Corporation (FDHC) proposes to construct up to 1,000 single-family units, apartment buildings and townhouses within Springstead Estates Project situated within ± 640 acres (Section 30) of private/deeded land in Springstead, McKinley County, New Mexico. The proposed project will involve grubbing, site clearing, preparation of building pads and construction of housing units. Street improvements will consist of egress and ingress provisions, asphalt pavements, curbs and gutters, sidewalks, speed bumps, signage; surface drainage system, landscaping and fences. Utility improvements will consist of new water lines and waste water system, gas and electrical lines. Improvements will also include spaces for management office, storage and various functions and auxiliary support service provisions.

The FDHC, as the housing provider, contributes administrative and technical assistance to qualified families for the construction of new homes. The homes are being provided on a grant basis for low and very low-income families who otherwise would remain without decent, safe and sanitary shelter.

B. Purpose and Need

The purpose and need for the proposed construction of up to 1,000 single-family housing units, apartments, townhouse and complexes is to provide much needed decent, safe and sanitary housing units for low-income families of the area surrounding Springstead community in McKinley County.

According to the "1990 Census: Population and Housing Characteristics of the area" and "Taking Stock of Rural Poverty and Housing for the 1990", unemployment, underemployment, poverty and the shortage of housing continues to plague the area residents. As we enter the 21st Century, these problems are expected to increase in magnitude and detriment.

Development of self-confidence and self-esteem necessary to sustain growth and prosperity begin in and with the family home. The objective of the proposed action is to enhance the quality of life for the indigent people and ensure the opportunity to prosper for the area.

C. Location

The subject property is located in McKinley County New Mexico. More specifically it occupies Section 30 of Township 16 North, Range 16 West, of the New Mexico Principal Meridian. This area is identified on the 1978 *Church Rock* quadrangle of the USGS 7.5-minute map series. This quadrangle encompasses the area between 108° 30' 00" and 108° 37' 30" longitude, 35° 30' 00" and 35° 37' 30" latitude.

The subject property is located within the ±640.0 acres of private land situated in Section 30 of a community known as Springstead, McKinley County, New Mexico.

The subject property is located about five miles north of Church Rock, Santa Fe-Topeka Rail and Historic US Route 66 and Interstate 40 freeway. Pinedale community is located north. City of Gallup is located about ten miles southwest and the former Fort Wingate Army Depot is located about ten miles southeast of the project site. (Site-specific map location is in *Appendix Section IX.A.*)

D. In-Use Facilities and Conductions

The entire ±640-acre (Section 30) is largely undeveloped. The most prominent element of the built landscape is a portion of New Mexico State Highway 566, which trends NNE-SSW from the approximate middle of the northern property boundary to the southwest corner of the study area. Sited along this route is a convenience store and associated lots occupying two acres of the property. Also visible from the highway is a complex of abandoned buildings identified as the Springstead Store, including a residence, barn, and outbuildings. Springstead Road is a dirt road that flanks the major arroyo at the foot of the bluff and connects the highway with Uphill Road along the south edge of the property.

A number of small, unmaintained dirt roads extend access to areas broken by the arroyo system. A number of abandoned mobile home spaces along the ridges and arroyo margins are accessible from these roads. The abandoned spaces include utility hookups, some concrete pads, landscaping, fill, and trash scatters. Somewhat less visible is a group of abandoned sewage treatment features including ponds, settling tanks, and piping, all of which are sited along the major arroyo between the bluff and Springstead Road. The crest of the mesa supports a pair of steel, large-capacity reservoir tanks and a wellhead. These are connected with the former mobile home lots by a 4-inch PVC pipeline buried within a dirt access road, which is largely impassable. There is also a number of trenches or pits excavated at seemingly random locations on the bluff, near the abandoned Springstead Store, and behind the Mustang Store. The purpose of these excavations is unclear, although the one near the abandoned Springstead Store contains a moderate amount of trash. The others are empty.

SECTION II: ALTERNATIVES [40 CFR 1502.14]

A. Alternative 1 - No Action

Under this alternative, the Fort Defiance Housing Corporation would not construct up to 1,000 single-family units, apartment and townhouses to be known as referred to as Springstead Estates Project in Springstead community, New Mexico. Construction provisions for new streets, on-site and off-site improvements will not be achieved.

No families would benefit from decent, safe and sanitary homes. Families would continue to live in overcrowded, dilapidated, and substandard conditions. This alternative does not address the needs of the area people or the desire of the indigent people for housing.

B. Alternative 2 - Relocate the Project

Under this alternative, the FDHC has not considered relocating to other locations peripheral to the geographic area currently proposed.

This alternative was evaluated for feasibility, cost and safety. Preliminary site investigations were conducted by the project consultants and determined that area residents do deserve quality-housing standards.

C. Alternative 3 - Proposed Action

Under this alternative, the FDHC would proceed to plan the construction of housing project of the planned 1,000 single-family units and apartment complexes within Section 30 of the Springstead Estates Project.

This proposed action is the preferred alternative of FDHC. Construction of new housing units is the most feasible option available. Preliminary site investigations determined that project site has complete access to power, water, sewer and other accessibility already existing on site. The project site will establish subdivision housing and related site improvements. This alternative addresses the need for housing in Springstead community within the Indian Country.

SECTION III: DESCRIPTION OF AFFECTED ENVIRONMENT [40 CFR 1502.15]

A. Topography

The subject property lies within the Colorado Plateau Geomorphic at an elevation between 6720 and 7010 feet above mean sea level. Steep walled sandstone mesas, deep canyons, with intermittent streams, and few perennial flows, characterize the Colorado Plateau. The mountains to the north support pine forests while the mesas are topped with sparse woodlands of pinon pine and juniper. Mesas and the lower elevations support sparse grassland and sage scrub communities. Most of the region is dry, although the higher elevations tend toward more reliable water availability. The lower elevations experience long, dry spring and early summer seasons broken by heavy thunderstorms. Summers are hot and winters are cold and accompanied by snow at all elevations (Woolbury 1979:25).

Major river systems drain the Colorado Plateau. From the north of the study area to the San Juan River, to the east is the Rio Grande and to the southwest is the Little Colorado River. Closer to the study area are tributaries of the Little Colorado River including the Rio Puerco (west), and the tributaries of the Chaco River and Rio San Jose.

B. Soils (HUD Environmental Factor)

Thick colluvium deposits are commonly found forming a mantle on steep slopes surrounding sandstone mesas and cuestas. By contrast, Quaternary alluvium is found on the valley floors of the region. These deposits consist of fine sand, silt, and clay derived from the weathering of sandstone, siltstone, and mudstone exposed at the surface. Alluvial deposits generally are thin but are known to exceed a thickness of 30 feet in larger valleys. To the south, Mesic arid soils are common consisting of shallow to deep, moderately fine-to fine texture, moderately sloping to very steep soils consisting of the Badland-Torriotments-Torrifluvents Association (Hendricks, 1985). This association is found on eroded uplands and nearly level plains, with annual soil temperature from 51 to 59 degrees F. The association consists of Badlands and shallow, well drained soils formed on shale and sandstone and deep well drained soil formed in recent alluvium derived from sedimentary rocks.

C. Geology (HUD Environmental Factor)

The subject property is located northeast of the Zuni Uplift on the Chaco Slope structural subdivision of the San Juan Basin. The San Juan Basin is a structural depression occupying a major portion of the southeastern Colorado Plateau physiographic province (Hunt 1974). The plateau encompasses much of western Colorado, eastern Utah, northeastern Arizona, and northwestern New Mexico. The San Juan Basin is underlain by up to 10,000 feet of sedimentary strata, which generally dip gently from the margins toward the center of the basin. The margins of the basin are characterized by relatively small elongate domes, uplifts, and synclinal depressions.

The stratigraphic sequence in the San Juan Basin is composed of units ranging from Precambrian to the Holocene age. The Morrison Formation is composed of the Recapture, Westwater Canyon, and Brushy Basin Members. It consists of blocks of horizontal, or nearly horizontal, sedimentary rocks underlain by Precambrian granite and gneiss. The

unconsolidated deposits are of relatively minor importance in this region with the exception of sand and gravel located in various areas of the project site.

The area is documented as having Quaternary alluvium, associated with the Rio Puerco wash, resting on a sandy member of the Crevasse Canyon Formation.

D. Water (HUD Environmental Factors)

With the exception of Hydro Resources, Inc.-owned wells in the area, there are no wells on or near the project site. The site is some distance from towns, and any operating private wells in the area are widely dispersed. The nearest operating private well is located northeast of the project is in the Dakota Sandstone. There are no other wells within one mile of the site.

The area's water supply fits the definition of a "public water system," and the Westwater Canyon Member and the Dakota Sandstone fit the definition of "underground sources of drinking water" in the *EPA's National Primary Drinking Water*. Water quality in the Westwater Canyon beneath the project site is considered good and usually meets New Mexico drinking water quality standards.

Western New Mexico's semiarid climate gives the project area characteristically high surface evaporation rates. Significant runoff is rarely observed on or near the project site because most of the runoff collects, infiltrates the ground, or evaporates locally. The average annual pan evaporation rate for Gallup is 75 inches. Information on pond evaporation rates varies, but the average is approximately 86 inches per year.

E. Floodplains (HUD Compliance Factor)

The subject property is in compliance with *the Flood Disaster Protection Act of 1973 and Executive Order 11988*. The project site does not involve property acquisition, land management, construction or improvement within a 100-year floodplain (zones A or V) or does not involve a "critical action" (e.g. emergency facility, facility for mobility impaired persons, etc.) within a 100-year floodplain (zone B) as determined by the Navajo Water Management Program. The Floodplain Delineation Project was unable to provide information or lack of available information (*see consultation letter in Appendix Section IX.C.2.*).

F. Wetlands (HUD Compliance Factor)

The proposed undertaking will not involve new construction within jurisdictional wetlands or adjacent drainages. The proposed development will not have an effect on wetlands, riparian areas, flood plains or other sensitive areas. This is in compliance with *Executive Order 11990, Protection of Wetlands*, pursuant to consultation with the Water Quality Program of the Navajo Environmental Protection Agency (*see consultation letter in Appendix Section IX.C.3.*).

G. Vegetation (HUD Environmental Factors)

The project site lies within the Great Basin Scrubland Formation associated with the Colorado Plateau. Sagebrush-grasslands predominate up to elevation of 6900 feet. Vegetation patterns have been greatly influenced by overgrazing, primarily by sheep, cattle, goats and horses. At most locations all palatable plant species have been cropped close to the ground and completely eliminated in many areas. Large patches of bare ground are common, and many areas are severely eroded. Conversely, unpalatable subshrubs and shrubs, principally snakewood (*Gutierrezia spp.*) and slenderleaf rabbitbrush (*Chrysothamnus Greenei var. filifolius*), are abundant. The vegetative cover generally ranges from 2 to 20 percent, sporadically reaching 40 percent.

H. Coastal Zones

The proposed action does not involve the placement, erection or removal of materials, nor increase the intensity of use in any coastal zone. This factor is not applicable anywhere within the state, Navajo Nation and the region.

I. Sole Source Aquifers (HUD Environmental Factor)

There has not been official designation of any sole source aquifers (SSA) on the Navajo Nation Public Water Systems Supervision Program (PWSSP) or the United States Environmental Protection Agency (USEPA). Currently, the Navajo Nation has not *officially* designated any aquifers as a SSA; however, as the NNEPA is further established this may change. In order for an aquifer to be considered as a designated SSA, the aquifer must meet two criteria: (1) it must supply more than 50% of a community drinking water; and (2) it must be the only available local or regional source of drinking water (see *consultation letter in Appendix Section IX.C.4.*).

J. Wild and Scenic Rivers (HUD Environmental Factor)

The proposed action is in compliance with the *Wild and Scenic Rivers Act of 1968 (sec. 7)*. The project site is not located within one mile of a listed Wild or Scenic River and the project will not have an effect on the natural, free flowing or scenic qualities of a river in the Natural Wild and Scenic Rivers system as determined by field investigation and research. No impact is anticipated.

K. Threatened or Endangered Species (HUD Environmental Factor)

The Phase I portion of the Springstead Estates Project (proposed action) is situated within an area heavily impacted by previously disturbed conditions; in essence, the Phase I portion of the project may not affect Federally or tribally listed threatened and endangered species. However, a complete biological assessment needs to be undertaken of the entire Section 30 (640 acres) to determine if any of the threatened and endangered species listed in the attached list will be adversely impacted or their critical habitats. Navajo Nation Natural Heritage Program of the Navajo Fish & Wildlife Department (NFWD) provided T&E list, which can be found in *Appendix Section IX.C.5.* of this report.

L. Air Quality (HUD Environmental Factor)

The project is located within the boundaries of the Navajo Nation and therefore subject to the jurisdiction of the Navajo Air Quality Control Program of the NNEPA for the purpose of air quality regulation. The proposed project is located in areas of attainment and would not appear to significantly impact the NAAQs for the area (*see consultation letter in Appendix Section IX.C.6.*).

The proposed action is also in compliance with the *Four Corners Regional and Navajo Nation Clean Air Act*. The construction of houses and related improvements will not result in any permanent decrease in the quality of the air or visibility. The project site is not located in the vicinity of heavy industry or near an area where air quality violations have been registered. Project users are not particularly sensitive to existing or projected air pollution levels.

M. Historic Preservation (HUD Compliance Factor)

A cultural resources inventory (*Project No. FDHA-03-01*) was conducted of the proposed Springstead Estates Project during March of 2003 by Russell O. Collett, Project Archaeologist (*See Cultural Resource Survey Report in Appendix Section IX.C.1.*).

The field survey identified a total of 27 cultural resources. Two are abandoned Navajo habitation locations. Two are religious or spiritual observance locations. 21 of the cultural resources are habitation locales attributed to the Anasazi occupation of the area. One is a lithic scatter also attributed to the Anasazi. One of the cultural resources is a complex of building as the Springstead Store, which does not meet NRHP criteria and is not considered to be a historic property under the NHPA. The surveyed property is divided into three planning tracts. Tract 1 is 128.06 acres and occupies the northwest corner of the property between the boundary and State Highway 566. Tract 2 is 360.11 acres and includes the eastern half of the property. Tract 3 is 101.60 acres on the south boundary and fills the area between State Highway 566 at the west and Tract 2 at the east. Cultural resources are present in each of the three tracts. Each resource was assigned a temporary designation during the field investigation. Anasazi structures are present in each planning tract.

Impacts to buildings, structures, and archaeological remains that are identified as TCPs or historic properties are considered to be significant impacts. One of the goals of the cultural resource investigation of the subject property was to obtain data that will guide project development and avoid significant impacts to historic properties and TCPs.

N. Explosive or Flammable Operations (HUD Compliance Factor)

The proposed action is in compliance with *24 CFR parts 51C&58.5*. The project site is located at an Acceptable Separation Distance (ASD) from any known aboveground explosive or flammable fuels or chemicals. The project will expose neither people nor

buildings to hazards as determined by the Navajo Nation Emergency Management Department. (*Appendix Section IX.C.9.*)

O. Toxic Chemicals & Radioactive Materials (HUD Compliance Factor)

The former Foutz #3, mined by Foutz & Company during the early 1950's, is located approximately two miles southeast from the area proposed Phase 1 housing development. Although the former mine was reclaimed, there exists the potential for the former mine site to release radioactive particles to the drainages that run directly to the within the proposed Springstead housing project area. The drainages are tributaries to the jurisdictional Puerco River.

According to the *consultation letter in Appendix Section IX.C.8*, the NNEPA is unable to provide a determination stating that the subject property would be free of hazardous materials, contamination, toxic chemicals, gasses and radioactive substances that could affect the health or safety of occupants or conflict with the intended use of the property.

NNEPA goes to advise that: absence a determination that would allow the project to progress in a manner anticipated by the proponents of the project, the developer must proceed to collect relevant information regarding the characteristics of the Springstead site that would further assist in assessing exposure to health hazards.

If additional information determines that the health and safety of the occupants within the Springstead site would be affected or otherwise compromised, then specific mitigation measures must be developed with oversight of relevant oversight agencies before the NNEPA will reconsider addressing the matter of a determination for Toxic Chemicals and Radioactive Materials.

Springstead housing project is in compliance with *HUD Notice 79-7*, wherein, the project, involving construction of homes for habitation, are not located within one mile of an *NPL "superfund"* site, not within 2,000 feet of *CERLIS* site nor adjacent to any other known or suspected sites contaminated with toxic chemicals or radioactive materials as determined by United States Environmental Protection Agency.

P. Noise (HUD Compliance Factor)

The proposed action is in compliance with *24 CFR parts 51B & 58.5 and HUD "Noise Assessment Guidelines"*. The project site does not involve development of noise sensitive uses, or the project site is not within line-of-sight of an arterial roadway or railroad. Ambient noise levels will be about 65 LDN or lower. The use of heavy equipment for site preparation will constitute less than 15% of the project duration for the project site. Noise generating activities shall be limited to the hours of 8AM to 5PM.

Furthermore, primarily traveling automobiles on highway may causes ambient noise near the project site. Noise levels were not measured at the project site; however, considering the population and development pattern in the vicinity of the project site, the noise levels are probably in the range of about 35-40 decibels on the A-weighted sound measurement scale (dBA).

The following table is a U.S. Environmental Protection Agency description of environmental sound. It is the average of daytime and nighttime A-weighted energy-equivalent sound levels with nighttime sound given a penalty of 10 decibels (dBA).

<u>Land Use</u>	<u>Population Density (People Per Sq. Mile)</u>	<u>Decibels</u>
Rural, undeveloped	20	35
Rural, partially developed	60	40
Quiet suburban	200	45
Normal suburban	600	50
Urban	2000	55
Noisy urban	6000	60
Very noisy urban	20,000	65

Q. Airport Clear Zones & Accident Potential Zones (HUD Compliance Factor)

The proposed action is in compliance with 24 CFR parts 51D & 58.5. The project site is not located within an FAA-designated civilian airport Runway Clear Zone (RCZ) or Accident Potential Zone (APZ) and a safe distance from any known military airfield Clear Zone (CZ) or as determined by the Navajo Nation Department of Transportation. (See Consultation Letter in Appendix Section IX.C.10.).

R. Farmlands (HUD Environmental Factor)

The site location does not include prime or unique farmlands, or other farmlands of statewide or local importance as determined through field investigations and research. The proposed undertaking complies with the *Farmland Protection Policy Act (FPPA) of 1981 (Subtitle 1 of the Agricultural and Food Act of 1981)*. No unnecessary or irreversible commitment of farmlands to nonagricultural uses will occur. No impact is anticipated. (See Consultation Letter in Appendix IX.C.7.).

S. Land Development

1. Conformance with Comprehensive Plans and Zoning

The subject property has been used for residential, commercial, infrastructures and grazing. Under the current plans, there are provisions for new and upscale residential subdivision.

The owners of the property is working with the area communities in developing a plan which will ensure that land uses in the community would be compatible with development activities and would be free of major constraints. Land use plans may be needed to reserve adequate space within the area to meet future proposed development as well as to minimize the potential for future incompatible uses of off-site land. The safety and welfare of people and animals are not threatened by the proposed developments.

No significant impact is anticipated, simply because the land use for the project site conforms with the laws, rules and regulations.

2. Environmental Design (Visual Quality - Coherence, Diversity, Compatible Use and Scale)

"Landscape which is unique - that is, different from others or uncommon - has more significance to society than which is common. The unique qualities which enhance its value to society are those which have some aesthetic, scenic or human interest connotation" Luna B. Leopold

The visual resources of an area closely linked to peoples' concern for the area. Because of the importance of the visual senses, aesthetics are closely related to other human-interest values. Public enjoyment of recreational, historical and cultural resources is enhanced by aesthetic quality.

Development of improved homes within a designated tract of land will assist area resident with better homes and well-maintained infrastructure. Paved streets, concrete curbs, gutters, landscape, fence, and related improvements will be a positive contribution to the visual setting of the community.

T. Socioeconomic

1. Demographics and Trends

According to *U.S. Census Bureau Profile of General Demographic Characteristics for the Year 2000*, McKinley County had a population of 74,798, which is a substantial increase from 60,686 in 1990. Native Americans accounted for 74.7% of the population. McKinley County's population growth rate between 1990 and 2000 was 23.3% and is projected to be about 1.2 percent 2000 and 2005. This compares to the State of New Mexico's population growth of 1.5% and 1.3 over the same periods (University of New Mexico).

The population of the community of Church Rock is estimated at about 2,802. Pinedale Chapter, which is located north and adjacent the Section 30, has a population of 1,129. Both populations of the area are increasing at an annual rate of about 1.5%. The population increase rate does not compare favorably with the Navajo Nation population increase rate of approximately 2.0%.

The Navajo Nation population growth is roughly exponential. Housing and office space/business rental spaces are quite scarce. The number of persons per household according to *1990 U.S. Census Population and Housing Characteristics of the Navajo Nation* is approximately 4.55%.

The socioeconomic characteristics of the studies also indicate that the area population is very young. Approximately half of the population is 24 years old or younger and only about 8% of the population is over 65 years old. Also, the median and average age of this area population is significantly lower than those of both New Mexico the United States. In addition, income for this population

continues to lag both New Mexico and the national average. The growth rates for the various income categories are, however, at a comparable level with that of both New Mexico and the United States.

The proposed Springstead Housing project will not likely have direct impacts on the community population growth and trends.

2. Social Displacement

The principal social impacts to be considered in the environmental assessments are those associated with displacements, relocation, division or other community disruption, which may be caused by the proposed action. The land to be used for the development would not require relocation or displacement. There would be no division of established communities as a result of the proposed action.

3. Employments and Income:

According to the *2001-2002 Navajo Nation Overall Economic Development Program Report issued by Navajo Nation Division of Economic Development*, the per capita income for Navajo area is about \$6,606. This figure is considered at or below the poverty level.

Personal incomes are currently generated through employment with Navajo tribal programs, federal, state, some industries and private businesses. Other incomes are generated from livestock and farming, arts and crafts, off-reservation employment, etc. Some retail and service businesses serve the area, but majority of the local people rely on the border town businesses for their household needs.

The proposed action could create positive impact on the community, thereby creating some opportunities for employment in the area.

U. Community Facilities and Services

1. Educational Facilities: According to *Chapter Image of 1990, Published by the Navajo Nation Division of Community Development*, the area community's total enrollment during the Fall of 2000 showed the area school enrollment of about 400 students while head start center had an enrollment of about 100 pre-school aged children. As is the case in the community, most of the students from the community attend Church Rock and Gallup McKinley School District, in Gallup, New Mexico.

No significant impact is foreseen as a result of the proposed action.

2. Commercial Facilities: Springstead's Convenience Store (Mustang) and Liquor is the only commercial facility located within the Springstead community, which offers fast food, limited groceries and general merchandise. Since there is limited commercial facility, the community members rely on Gallup commercial outlets for their daily needs.

No impact is anticipated as a result of the proposed action.

3. Health and Emergency Medical Care Facilities: Gallup Indian Medical Center, a free medical services for the low income people of the Springstead community, is located about ten miles west in Gallup, New Mexico. Since there are no medical clinics available within the Springstead community, the medical attentions, including emergency services, ambulatory and dental clinics are provided by the Indian Health Service, although other private and state medical services are available in Gallup.

No impact is anticipated as a result of medical facilities.

4. Social Services: Service providers are located in Church Rock consisting of: the Navajo Nation Division of Social Services which provides subsidy program for low income residents, including Women Infant & Children, Unemployment, Social Security Income, Food Stamp and etc.; and State of New Mexico provides similar program to the eligible area residents; however, the New Mexico offices are located in Crownpoint and Gallup as do some of the offices of Navajo Nation Social Services.

No impact is foreseen as a result of the proposed action.

5. Solid Waste: The Springstead community does not have an EPA-certified landfill for waste disposal. However, provisions will be made for collection of solid waste at a transfer station where all the refuse, waste and other debris will be collected. Waste management service providers will be contracted to collect waste from the transfer station and transported to EPA-certified landfills for proper disposals.

6. Open Space and Recreation (Open Space, Recreation, Cultural Facilities):

No recreational activities, including outdoor activities occur on or near the project site. Recreational activities, including water sport, hunting, and athletic activities are available in the city and elsewhere in the counties. However, some sports enthusiast participates in hiking, horseback riding, and cross-country within the community. Rodeos, concerts, carnivals and other entertainment are offered at the Red Rock State Park, owned and operated jointly by the City of Gallup and McKinley County Government. No impacts are anticipated.

7. Transportation and Transportation Use Networks: Private vehicle is by far the major means of transportation in the community. No public Transit System serves the community; however, social service providers, including Safe-Rides provides daily transportation services to various communities, border towns and other destinations.

Navajo Route 566 runs north through the community from its junction with US Historic 66. U.S. Historic 66 runs east and west parallel the Interstate 40

freeway, all located to the south of Springstead community. Santa Fe/Topeka Railroad system runs east and west parallel the Historic Route 66.

No impact is anticipated are a result of the proposed action.

8. Public Utilities: Electricity is supplied either by the Gallup Joint Utilities of McKinley County, New Mexico and the Continental Cooperative power suppliers. Navajo Tribal Utility Authority (NTUA) maintains water and sewer and Natural Gas supplied by Public Service Company of New Mexico to various chapters and communities within the area.

No significant impact is foreseen with regards to energy and water consumption, generation and discharge of wastewater.

V. Environmental Justice

The approval of the proposed housing development project may be considered as an action which is in conformance with the intent of *Executive Order 12898 of February 11, 1994, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. The action will benefit a Native American population by providing an opportunity to develop housing units, which will provide decent and sanitary homes lacking in the community of Springstead. The proposed action will have positive social and economic impacts on the Springstead community and its Native American population.

**SECTION IV: ENVIRONMENTAL CONSEQUENCES AND MITIGATION
40 CFR 1502.16**

A. Biological Impacts

The proposed action will disturb portions of the existing environment. Any known species, which have existed on the project site, appears to have been displaced.

Mitigation measures:

1. Construction activities shall be confined within the project boundaries.
2. Ground disturbance shall be minimized to the extent possible.
3. Disturbed soils shall be stockpiled for final site grading.
4. The site shall be landscaped and/or re-vegetated.

B. Threatened and Endangered Species Impacts

Depending on the land status of Section 30, a separate biological assessment may be required of the entire Section 30 to determine potential impacts to threatened and endangered species or their habitats, displacement or lost due to construction activities. Mitigations may be necessary depending on the results of the survey.

C. Physical Impacts

Grading and clearing for site preparation will be employed. Mobilization of construction equipment and crews will increase traffic and noise levels while decreasing air quality. Waste related to construction activities will be generated.

Mitigation measures:

1. Construction debris shall be stockpiled in 30-40 cubic yard bins.
2. Liquid waste such as oil, lubricants and paint thinner shall be stored in separate sealed containers in compliance with the Navajo Nation Solid Waste Code and/or New Mexico State Waste Disposal System.
3. Solid waste shall be disposed of at a registered landfill.
4. Noise generating activities shall be between the hours of 8AM to 5PM.
5. Frequent applications of water to the soil will reduce dust.

D. Cultural Resource Impacts

Depending on the land status of Section 30, a testing and if necessary, a data recovery plan could be developed and implemented in consultation with NNHPD. If such a plan is implemented, the plan must be consistent with the Navajo Nation policies and procedures and it must be approved by the Navajo Nation Historic Preservation Department for the eligible sites listed in the Cultural Resource Survey and Assessment Report.

Recommendations concerning the historic properties and TCPs in the study area is that TCPs and Anasazi sites should have buffer zones sufficient to satisfy the Navajo

community that these locales are being avoided. Consultation with appropriate representatives of the Navajo community to obtain their input is likely to be of great value in finalizing these issues. The buffers indicated during the field investigation are identified for planning purposes and reflect only the buffer area necessary to avoid significant impacts to archaeological deposits. Traditional Navajo considerations may warrant expanding the archaeological buffers farther from the TCPs and historic properties. If so, there will be no need for additional archaeological evaluation of such actions.

In the event of a discovery ("*discovery*" means any previously unidentified or incorrectly identified cultural resources including but not limited to archaeological deposits, human remains, or location reportedly associated with Native American religious and traditional beliefs or practices), all operations in the immediate vicinity of the discovery must cease and the Navajo Nation Historic Preservation Department must be notified.

As of this writing, a Cultural Resources Compliance Form (CRCF) has not been issued by the Navajo Nation Historic Preservation. When issued, CRCF may require management and mitigations of various archaeological findings, including recommendations to proceed or not-to- proceed with the project.

E. Water Resource Impacts

No areas of the project site comprise of any aquifers that have been designated as a *Sole Source Aquifer* (SSA). The community obtains their water from various alluvial aquifers. FDHC shall insure that no potential contamination from the construction of housing units will detrimentally affect any waters supplies and sources.

Mitigation measures:

1. The project Architect shall conduct a drainage study and potential flooding, in order to minimize contamination of any alluvial aquifers from run-off. Results of the study shall be incorporated into the final site grading specifications.
2. Any discharge of liquid waste (oil spills, etc.) on-site shall be reported to the NNEPA and proper recovery strategies implemented.
3. Solid waste shall be disposed of in accordance with Waste Standards.
4. Housing clients shall be informed of proper waste disposal requirements.
5. Sewer disposal system shall meet or exceed Federal, Indian Health Service, NTUA, State and County standards.
6. Water and sewer system shall be monitored to maintain proper operation.
7. The proposed Springstead Estate Project construction activity may disturb more then five (5) acres of land and the developers may be required to prepare and submit to Environmental Protection Agency a *Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity Under a National Pollutant Discharge Elimination System (NPDES) 40 CFR Part 122.26 Storm Water Discharges.*
8. The developer will be required to prepare a *Storm Water Pollution Prevention Plan for the Construction Activity* of the project site.

SECTION V: CONCLUSIONS REGARDING SIGNIFICANCE

The proposed undertaking has been evaluated with regard to the natural, physical and cultural environments. FDHC, a public housing provider, is subject to comply with 40 CFR parts 1500 & 1508, 24 CFR part 58 and all supporting laws, regulations, executive orders and statutes. The FDHC has requested that a Finding of No Significant Impact (FONSI) be issued for the proposed project.

The construction of single-family units is considered a positive step in solving the housing needs of the community and the Navajo Nation.

SECTION VI: CONSULTATION AND COORDINATION

A. Consultations and Coordination:

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- U.S. Department of the Interior - Geological Survey, Reston, Virginia. 1968. Reprinted 1977 - W77003.

SECTION VIII. DOCUMENT PREPARER'S SIGNATURE

I hereby certify that, to the best of my knowledge and based on the best information available, the contents of this document are true and accurate.

Howard Bitsui, Environmental Consultant
Bitsui Environmental Consultant
P.O. Box 2250
Window Rock, Arizona 86515

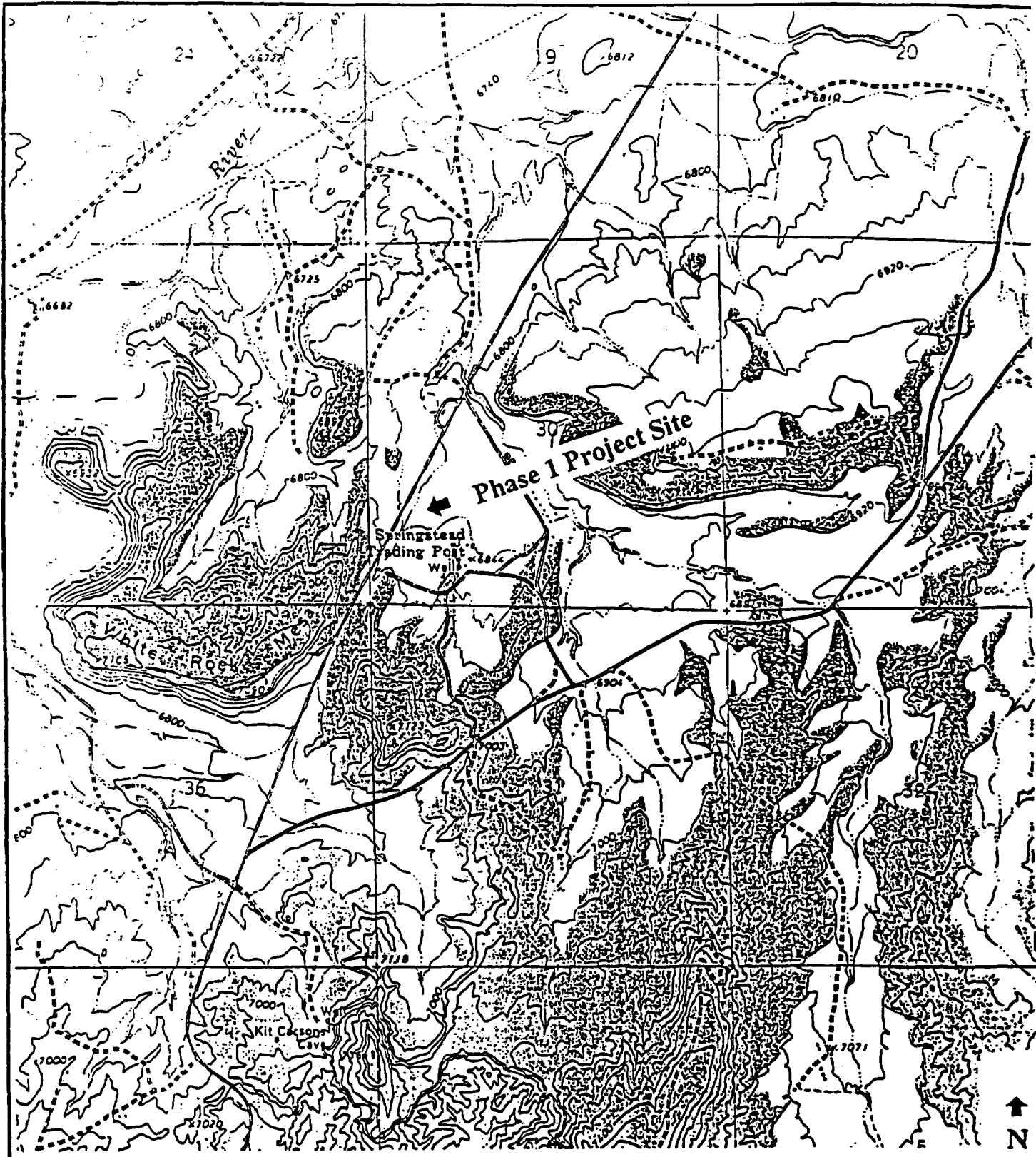
Date

SECTION IX. APPENDICES AND SUPPORTING DOCUMENTS

- A. Location/Vicinity Map**
- B. Survey and Tract Description**
- C. Consultation Letters (Documentation) Concerning:**
 - C.1. Historic Preservation**
 - C.2. Floodplain Management**
 - C.3. Wetlands Protection**
 - C.4. Sole Source Aquifers**
 - C.5. Endangered Species Act**
 - C.6. Air Quality**
 - C.7. Farmland Protection Policy Act**
 - C.8. Toxic or Hazardous Substances and Radioactive Materials**
 - C.9. Explosive and Flammable Sites**
 - C.10. Airport Clear Zones and Accident Potential Zones**
- D. Housing Development Plans**
- E. Ownership Documents Pertaining to Section 30**

A.

**LOCATION/VICINITY MAP
OF PROJECT SITE**



BEC
 BITSUI ENVIRONMENTAL CONSULTANT
 WINDOW ROCK, ARIZONA 86515
 928 729-2561

LOCATION/VICINITY MAP
 U.S.G.S. 7.5-Minute Series
 Church Rock, N.M. Quadrangle
 Sec. 30, T16N, R16W, N.M.P.M.
 Springstead, McKinley County, NM

Drawn by:
 USGS
 Date:
 1979

B.

SURVEY AND TRACT DESCRIPTION

C.1.

**CULTURAL RESOURCE SURVEY AND
ASSESSMENT REPORT FOR THE PROPOSED
SPRINGSTEAD ESTATES PROJECT
HISTORIC PRESERVATION
[36 CFR 800]**

CULTURAL RESOURCES COMPLIANCE FORM
HISTORIC PRESERVATION DEPARTMENT
PO BOX 4950
WINDOW ROCK, ARIZONA 86515

ROUTING: COPIES TO

Fort Defiance Housing Authority

NNHPD NO. HPD-03-593
OTHER PROJECT NO. _____

PROJECT TITLE: Cultural Resource Survey and Assessment For The Proposed Springstead Estates Project, McKinley County, New Mexico.

LEAD AGENCY: HUD

SPONSOR: Fort Defiance Housing Corporation, P. O. Box 579, Window Rock, Arizona, 86515

PROJECT DESCRIPTION: The proposed undertaking will involve the development of the Springstead Estates for housing with associated facilities within the area. Ground disturbance will be intensive and extensive with the use of heavy equipment.

LAND STATUS: Private (Located within the Exterior Boundaries of the Navajo Nation)

CHAPTERS: Church Rock, New Mexico

LOCATION: T30N, R16W, Sec. 30; Church Rock, McKinley County, New Mexico NMPM

PROJECT ARCHAEOLOGIST: Russell O. Collett

NAVAJO ANTIQUITIES PERMIT NO.: NA

DATE INSPECTED: 3-2-03 thru 3-8-03

DATE OF REPORT: 3-17-03

TOTAL ACREAGE INSPECTED: 590.31ac

METHOD OF INVESTIGATION: Class III pedestrian inventory with transects spaced 12-15 m apart.

LIST OF CULTURAL RESOURCES FOUND:

25 Sites, NM-Q-29-131, NM-Q-29-132, NM-Q-29-133, NM-Q-29-134, NM-Q-29-135, NM-Q-29-136, NM-Q-29-137, NM-Q-29-138, NM-Q-29-139, NM-Q-29-140,

NM-Q-29-141, NM-Q-29-142, NM-Q-29-143, NM-Q-29-144, NM-Q-29-145, NM-Q-29-146, NM-Q-29-147, NM-Q-29-148, NM-Q-29-149, NM-Q-29-150, NM-Q-29-151, NM-Q-29-152, NM-Q-29-153, NM-Q-29-154, NM-Q-29-155, NM-29-156

LIST OF ELIGIBLE PROPERTIES: NM-Q-29-131, NM-Q-29-132, NM-Q-29-133, NM-Q-29-134, NM-Q-29-135, NM-Q-29-136, NM-Q-29-137, NM-Q-29-138, NM-Q-29-139, NM-Q-29-140, NM-Q-29-141, NM-Q-29-142, NM-Q-29-143, NM-Q-29-144, NM-Q-29-145, NM-Q-29-146, NM-Q-29-147, NM-Q-29-148, NM-Q-29-149, NM-Q-29-150, NM-Q-29-151, NM-Q-29-152, NM-Q-29-153, NM-Q-29-154, NM-Q-29-155, NM-29-156

LIST OF NON-ELIGIBLE PROPERTIES:

2 TCPs

LIST OF ARCHAEOLOGICAL RESOURCES:

NM-Q-29-131, NM-Q-29-132, NM-Q-29-133, NM-Q-29-134, NM-Q-29-135, NM-Q-29-136, NM-Q-29-137, NM-Q-29-138, NM-Q-29-139, NM-Q-29-140, NM-Q-29-141, NM-Q-29-142, NM-Q-29-143, NM-Q-29-144, NM-Q-29-145, NM-Q-29-146, NM-Q-29-147, NM-Q-29-148, NM-Q-29-149, NM-Q-29-150, NM-Q-29-151, NM-Q-29-152, NM-Q-29-153, NM-Q-29-154, NM-Q-29-155, NM-29-156

EFFECT/CONDITIONS OF COMPLIANCE: No historic properties affected with the following conditions:

NM-Q-29-131 (Anasazi Habitation)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

NM-Q-29-132 (Anasazi Habitation)

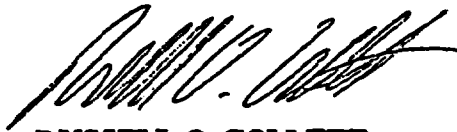
1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

**CULTURAL RESOURCE SURVEY AND ASSESSMENT
FOR THE PROPOSED SPRINGSTEAD ESTATES PROJECT,
MCKINLEY COUNTY, NEW MEXICO.**

Prepared for

**BILL AUBREY
FORT DEFLANCE HOUSING AUTHORITY
P.O. BOX 8000-191
MESQUITE, NV**

Prepared by



**RUSSELL O. COLLETT
PROJECT ARCHAEOLOGIST**

**Project No. FDHA-03-01
March 17, 2003**

Introduction

The following report summarizes a cultural resource investigation conducted under contract with the Fort Defiance Housing Authority of Mesquite, Nevada. The investigation consisted of building and structure assessments as well as reconnaissance and intensive surveys for archaeological remains on property owned by the Fort Defiance Housing Authority. The subject property consists of Section 30, Township 16 North, Range 16 West, of the New Mexico Principal Meridian, in McKinley County, New Mexico. The property is proposed for development as Springstead Estates. The proposed development would result in approximately 850 single-family homes. The community will be supported with school, entertainment, shopping, and service businesses, also proposed for future development on the property.

Navajo Tribal Trust lands bound the property on each side. The archaeological investigation was conducted following the guidelines recommended by the U.S. Secretary of the Interior, and in compliance with the National Environmental Policy Act (NEPA). Under NEPA, archaeological investigations are conducted in accordance with the provisions of the National Historic Preservation Act (NHPA), specifically Section 106 of the Act. Under Section 106 of the NHPA, buildings, structures, and archaeological remains are evaluated for their eligibility for nomination to the National Register of Historic Places (NRHP). Resources that are listed, found eligible for listing, or have not been evaluated for eligibility are identified as historic properties under Section 106. Resources that have not been evaluated are treated as historic properties as a default preservation measure.

Impacts to buildings, structures, and archaeological remains that are identified as historic properties are considered to be significant impacts. One of the goals of the cultural resource investigation of the subject property was to obtain data that will guide project development and avoid significant impacts to historic properties. This goal has been achieved.

A total of 27 cultural resource sites are present on the subject property. Modern (since 1953) use of the property has generated an additional set of refuse scatters, buildings, and associated features. Although these are defined as cultural resources, their modern timeframe does not bring them within the scope of the NHPA without extenuating circumstances, which are not present or applicable for the study area. Of the 27 cultural resources on the subject property, one is associated with historic-era (prior to 1953) use of the property, four are Navajo sites, and 22 are Anasazi sites.

22 prehistoric cultural sites on the property are associated with prehistoric Anasazi occupation. Each of these is set aside within a buffer zone to protect these as yet unevaluated historic properties from impacts that may occur as a result of project implementation. The Anasazi sites include dwellings, scattered refuse, and stone tool maintenance areas. The individual ruins, ruin clusters, and one lithic chipping station associated with the Anasazi occupation were assessed at the survey level of investigation. The conclusion is that these prehistoric locales meet Criterion D of the NRHP. In other words they are understood to retain data that may be of scientific research value.

Four locales associated with the Navajo occupation of the area are also being buffered from development. These locales are not attributed to early Navajo settlement, and are not expected to yield important data from archaeological contexts that cannot be obtained through ethnographic or historical documents. However, they represent a continuation of traditional Navajo cultural practices into recent times and meet the definition of Traditional Cultural Properties (TCPs) under the NHPA. The proposed development plan incorporates an awareness of these traditional values by diverting development to avoid these areas. Buffering these locales avoids impacts to archaeological data sets and is consistent with the traditional views of the population for whom the proposed development is being undertaken.

One site consists of a complex of mid 20th century buildings, structures and related features. Modern and historic-era features related to Anglo-American ownership and use of the area are also considered under the NRHP program. The features consist of refuse scatters, structures, and buildings associated with mid-to-late 20th century use of the property. Although the subject property has been under private ownership since the mid-1860s, physical remains datable prior to WWII are absent. The complex of buildings and structures identified as "the Springstead Store" include numerous indications of having been constructed after 1944. These features do not retain architectural or archaeological data sets representative of late 19th century and early 20th century enterprises of the kind anecdotally suggested for the property. Earlier buildings and structures, if previously sited on the property, are no longer extant. The architectural composition of the residence, store, and outbuildings do not satisfy NRHP criteria. Archaeological deposits older than circa 1940 are not present at the Springstead Store site. More recent archaeological deposits at the site do not meet NRHP criteria.

Two treatments are proposed for the cultural resources on the subject property. One is to set the Anasazi and Navajo cultural resources apart from proposed development areas. The Navajo habitation locations and the religious/spiritual observance locations are identified as Traditional Cultural Properties. The Anasazi habitation sites and the lithic scatter are assessed as historic properties as a default preservation measure. Proposed development will not include areas identified as TCPs or as historic properties as defined in the NHPA. As a result, there will be no significant impact to TCPs or historic properties as a result of project implementation.

The second proposed treatment addresses the historic-era cultural resources on the subject property. Under the NRHP any building, structure, object, or site 50 years old or older is a component of the historic-era. The historic-era resources on the subject property do not retain the types of data that meaningfully contribute to our understanding of their context or their period of significance, as defined in the NRHP program and called for under Section 106 of the NHPA. The buildings, structures, refuse deposits, and other features that comprise the Anglo occupation of the property do not meet NRHP criteria and are not considered to be historic properties under the NHPA. Impacts to these elements will not constitute a significant impact on the environment under NEPA.

The following additional recommendations are offered concerning the historic-era buildings, TCPs, and historic properties in the study area. The TCPs and Anasazi sites should have buffer zones sufficient to satisfy the Navajo community that these locales are being avoided. Consultation with appropriate representatives of the Navajo community to obtain their input is likely to be of great value in finalizing these issues. The buffers indicated during the field investigation are identified for planning purposes and reflect *only* the buffer area necessary to avoid significant impacts to the archaeological deposits. Traditional Navajo considerations may warrant expanding the archaeological buffers farther from the TCPs and historic properties. If so, there will be no need for additional archaeological evaluation of such actions. Expanding the archaeological buffers to accommodate Navajo recommendations must be decided between the project proponent and the Navajo community. In no circumstance should the buffers of the historic properties be contracted without additional evaluation of the archaeological presence in these areas. For example, some historic properties are adjacent to erosional cuts. Continued erosion may require adjusting a buffer area to allow stabilizing the cut. An assessment of the archaeological deposit potentially impacted by the action must be made prior to adjusting the buffer area.

The Springstead Store complex does not meet the eligibility criteria for nomination to the NRHP. However, it may be possible to stabilize and rehabilitate the store and the residence for new uses. Their construction using native materials is not unique, nor are they outstanding examples of masonry technique or methods. At this time there is no plan to convert their location to housing or other uses. Currently the buildings are being vandalized and have become unsafe. They will need to be demolished or rehabilitated eventually. Demolition will be the most effective treatment for each of the non-masonry buildings of the complex. The masonry buildings may offer appropriate locations for post office, community library, a natural history and/or cultural interpretive center, urgent care facilities, or other facilities that will be needed to support the immediate community. Small-scale facilities of the type suggested above would fit best within the scale of the masonry buildings at the location. Adapting them for grocery or convenience store uses may require extensive additions of storage rooms and coolers that would not be feasible if constructed using matching stone masonry and would look out of place if constructed from other materials. The Springstead Store is not architecturally important. Yet, the masonry buildings provide a connection with the recent past and are examples of an older style that is common, but not commonly incorporated into new communities.

Impact on the Environment

The Springstead Estates project is proposed to occupy approximately 640 acres of privately owned land in McKinley County New Mexico. This location is bounded by Navajo Tribal Trust Lands. An archaeological and architectural survey and assessment was made of the property. A total of 27 cultural resources were identified. One is a complex of buildings, structures, and related features. This complex, identified as the Springstead Store complex, was assessed for its architectural and archaeological significance under the NRHP. The store complex does not satisfy the criteria for eligibility for nomination to the NRHP and is not considered a historic property under Section 106 of the NHPA. Impacts to the Springstead Store complex resulting from project implementation will not have a significant effect on the environment as defined under NEPA. Four of the 27 cultural resources are Traditional Cultural Properties. These are defined under the NHPA. Current project plans call for each TCP to be protected from development within a buffer zone. Avoiding the TCPs will have no significant effect on the environment as defined under NEPA. The remaining 22 of the 27 cultural resources are attributed to the Anasazi occupation of the subject property. Each of these 22 resources was identified during the field investigation and provided with preliminary or

default assessments of significance. The assessed status of the Anasazi sites is that they meet Criterion D of the NRHP and are considered to be historic properties under the NHPA. Current project plans call for each of the historic properties in the study area to be protected from development within a buffer zone. Avoiding the historic properties will have no significant effect on the environment as defined under NEPA. In summary, avoidance of the TCPs and historic properties on the subject property will avoid significant impacts to these properties. Therefore, the proposed Springstead Estates development will have no significant effect on the environment as defined under NEPA.

Terminology

The terminology used to describe the cultural resources on the subject property is defined in this section for clarification.

Traditional Cultural Property (TCP) A TCP is a property that is associated with cultural practices or beliefs of a living community that 1) are rooted in that community's history and 2) are important in maintaining the continuing cultural identity of the community (Hardesty and Little 2000:41-42). Its importance is derived from the role the property plays in a community's historically rooted beliefs, customs, and practices.

Religious or spiritual observance location These are locations where the physical materials present at the location indicate it was or is used for religious or spiritual purposes. These can include traditional treatment of the dead, observance of religious cycles, reverence for elements of a spirit realm, and physical representations of concepts or patterns attributed to a spiritual realm. Locations of this nature are considered TCPs because of the strong traditional attitudes pervasive in the Navajo community concerning death and spiritual power.

Habitation Habitations are represented by a set of architectural, artifactual, or otherwise physical remains (e.g., anthropogenic soils or developed refuse middens) that are indicative of activity localized to the site where a group stayed on-site for longer than a few days. Specific examples from the current study include the collapsed architectural remains of stone dwellings attributed to the Anasazi. It is possible that the construction of masonry structures may be accomplished for short-term benefit. However, the working hypothesis regarding such constructions is that they are intended for use as long-term dwelling areas with greater durability than open-air campsites. As such, materials would be brought to the habitation. In contrast, campsites would tend to be sited in areas offering convenient access to resources. Habitations differ from locations of short-term activities such as hunting blinds, caches, or activity areas outside the main camp or habitation locale in that the latter tend to focus on one or a very few activities. The products of the activity being transported to another location for further processing, use, storage or consumption.

Site This term refers to a specific location of cultural activity that can be demonstrated as being older than 50 years. Recent refuse deposits and house pads are not identified as sites although they are the remains of cultural activity. There are instances where recent locations are considered to be cultural resource sites (e.g., missile development facilities evaluated under the NRHP criteria within the context of the Cold War period). However, considerations of this sort are not applicable to the current investigation.

Scatter An area containing dispersed cultural material. Often these lack direct association with features or intrasite patterns. Scatters are typically a surface manifestation of localized cultural activity. For example, the spread of refuse adjacent to a dwelling. Scatters are also subject to the effects of erosion, which can transport cultural material away from the source area. Transport of greater distance is usually equated with reduced strength when making inferences from the data offered by the material. For example, a fish bone washed far down slope from a habitation cannot be treated with the same strength of association as can fish bone recovered from the habitation floor.

Lithic scatter and artifact scatter Lithic scatters are composed of chipped stone artifacts. The variety of items can include completed, discarded, incomplete, or broken artifacts formed by flaking or chipping stone. Typically the range of items includes cores from which flakes are removed, percussion tools (i.e., hammers) for reducing cores into tools or removing flakes from tools for further processing, utilized or modified flakes. The former show indications of use without further modification. The latter include modification for use, with or without use damage. Other items can include a wide range of flaked artifacts including projectile points, scrapers, or chopping tools. Lithic scatters do not include ceramics, food refuse, milling tools (i.e., manos [hand stones] or metates [slab or basin platforms]), or worked bone or shell artifacts. A lithic scatter found to also include items of these kinds would then be identified as an artifact scatter. The function of either site would be determined through examination of its content.

Seasonal This refers to activities that are cyclical or are limited to specific periods during the year. An example would be sites formed during the collection of a specific plant seed. The life cycle of the plant determines the availability of the targeted seed. Sites occupied during the collection period would be considered seasonal. Those sites occupied more than once would be seasonally occupied. It is also possible that a single site may be occupied multiple times during a year, but with each occupation focused on a different seasonally available resource.

Setting

The intent of this section is to provide the reader with a basic overview of the study area. The following brief discussions of the settings associated with the subject property are not comprehensive. Comprehensive discussions of natural and cultural backgrounds are outside the scope of the current investigation and are available in published sources discussing regional patterns that encompass the study area.

The subject property is located in McKinley County New Mexico. More specifically it occupies Section 30 of Township 16 North, Range 16 West, of the New Mexico Principal Meridian. This area is identified on the 1978 Church Rock quadrangle of the USGS 7.5 minute topographic map series. This quadrangle encompasses the area between 108° 30' 00" and 108° 37' 30" longitude, 35° 30' 00" and 35° 37' 30" latitude.

Natural Setting

The subject property lies within the Colorado Plateau Geomorphic Province at an elevation between 6720 and 7010 feet above mean sea level. Steep walled sandstone mesas, deep canyons, with intermittent streams, and few perennial flows, characterize the Colorado Plateau. The mountains support pine forests while the mesas are topped with sparse woodlands of piñon pine and juniper. Mesas and the lower elevations support sparse grassland and sage scrub communities. Most of the region is dry, although the higher elevations tend toward more reliable water availability. The lower elevations experience long, dry spring and early summer seasons broken by heavy thundershowers. Summers are hot and the winters are cold and accompanied by snow at all elevations (Woodbury 1979:25).

Major river systems drain the Colorado Plateau. From north of the study area is the San Juan River, to the east is the Rio Grande and to the southwest is the Little Colorado River. Closer to the study area are tributaries of the Little Colorado River including the Rio Puerco (west), and tributaries of the Chaco River and Rio San Jose.

Existing Conditions

The 640-acre study area is largely undeveloped. Natural areas dominate the landscape as described above. The most prominent element of the built landscape is a portion of New Mexico State Highway 566, which trends NNE-SSW from the approximate middle of the northern property boundary to the southwest corner of the study area. Sited along this route is a convenience store and associated lots occupying two acres of the property. Also visible from the highway is a complex of abandoned buildings identified as the Springstead Store, including a residence, barn, and outbuildings. Springstead Road is a dirt road that flanks the major arroyo at the foot of the bluff and connects the highway with Uphill Road along the south edge of the property. A number of small, un-maintained dirt roads extend access to areas broken by the arroyo system. A number of mobile home spaces along the ridges and arroyo margins are accessible from these roads. The spaces include utility hookups, concrete pads, landscaping, fill, and trash scatters. Somewhat less visible is a group of sewage treatment features including ponds, settling tanks, and piping, all of which are sited along the major arroyo between the bluff and Springstead Road. The crest of the mesa supports a pair of steel, large-capacity reservoir tanks and a wellhead. These are connected with the mobile home areas by a 4" PVC pipeline buried within a dirt access road, which is largely impassable. There is also a number of trenches or pits excavated at seemingly random locations on the bluff, near the Springstead Store, and behind the Mustang Store. The purpose of these excavations is unclear, although the one nearest the Springstead Store contains a moderate amount of recent trash. The others are empty.

Conditions Affecting Visibility

The current investigation consisted of a reconnaissance survey of the 640-acre property. Paved, unsafe, and inaccessible areas were not included and reduce the total acreage inspected to less than 640-acres.

Highway 566 covers approximately 50 acres within the subject property. This right-of-way combined with the paved road leading from the highway to the Springstead Store obscured direct observations of the ground surface in these areas. Slab foundations, pads, soil stockpiles, and building debris were not moved aside, but comprise a minimal hindrance to the survey. Dangerous areas were not inspected and include accumulations of debris more than ankle deep and sewage ponds. Scree slopes and loose boulder accumulations were avoided as hazards. Although the exposed faces of the bluff were inspected for petroglyphs and pictographs, physical access to all portions of the face was not possible.

Highly disturbed areas were inspected as they sometimes reveal materials that can be obscured by natural processes. These included road cuts, berms adjacent to roads, animal burrows, erosional cuts, and excavations such as the pits and trenches identified above.

Vegetation cover varied from approximately 5% to 50%. Snow cover was minimal and was restricted to the sheltered sides of a few buildings and large rock outcrops. The processes that obscure archaeological materials play an equal role in exposing such material. For example, ceramic sherds displaced by slope wash and erosion are often exposed within the rivulets carrying them. Also, surface artifacts tend to appear in scatters rather than as individual isolated items. This tendency increases the visibility of such deposits by multiplying the number of artifacts that can be observed when crossing a deposit. Additionally, the majority of the artifacts discarded in the study area tend to contrast in color and shape with the natural landscape. This increases the visibility of archaeological deposits as well.

Cultural Setting

The cultural history of the subject property extends back through time as much as 8000 years or more. The groups using the area include Paleo-Indian and Archaic groups, the Anasazi, the Navajo, and Anglo residents and workers. The patterns described below comprise a brief summary of events and practices expected in an archaeological context. More complete discussions can be found in published sources and should be consulted for more detail. Currently the study area offers open grazing for neighboring Navajo families, supports a convenience store, and is bisected by a portion of New Mexico State Highway 566.

The Springstead Years

The Springstead family has owned the property since 1868. At that time it was acquired from the federal Government as withdrawn reservation land (Beth Cascaddan, personal communication 2003). During the Springstead ownership a two-acre parcel adjacent to Highway 566 was leased to build and operate the Mustang Convenience Store. Another portion of the property was developed as a complex of mobile home facilities. These facilities were home to workers, their families, and temporary residence for travelers and vacationers. Evidence of this occupation includes trailer pads, hookups, and refuse scatters found along the ridges overlooking the major arroyo. Electricity and sewage connections were available, and are also discernable as a series of related features.

Springstead also operated a store on the property and maintained a residence adjacent to the store. The store served the residents and visitors of the mobile home neighborhood as well as the area's Navajo residents. During the decades prior to the development of the mobile home facilities, trade with the surrounding community of Navajo people supported the store. Local Navajo residents obtained supplies in exchange for materials and products brought to the store. Although the subject property was under private ownership, there is archaeological evidence that Navajos were living in two areas on the property. These home sites are relatively recent and would have been occupied while Springstead was operating the store and possibly the mobile home park.

The operation of a store and continuing trade with residents and visitors can be documented since ca. 1943. Outbuildings near the Springstead Store and residence are constructed using dated ammunition boxes. The condition of the boxes suggests that they were not exposed to weathering for an extended period after being discarded. Other details of construction and similarities with the store building and residence suggest a circa 1940 construction date for these buildings as well. In fact, refuse and building materials that predate 1940 are not present on the property. The implication is that the Springstead ownership did not develop into a commercial retail operation until after 1940. No physical evidence is present to demonstrate that the property was used or developed between 1940 and when it was acquired for private ownership circa 1868.

American Territory

The property was acquired from the Federal Government for private ownership in 1868. During that time the region was undergoing changes analogous to other areas of the American southwest. Rural areas were being settled and exploited for their agricultural, mineral, and timber resources. Towns and communities were appearing along existing travel and trade routes, along rail corridors, and near discoveries of mineral and chemical resources. These towns and communities multiplied Anglo-American models of town and community development common to the period of the late 19th century. Economic, social, religious, and political institutions were applied as a means of creating communities much like those left behind.

The trading post represents a unique institution established at this time in the southwest. It found its most identifiable expression on the Navajo reservation. These community focal points played a major role in the growth and change of the Navajo people after 1867. Traders lived within the community and played an important part in exposing the Navajo to events and trends beyond the reservation. In addition to supplying goods, buying products, and promoting markets for crafts, traders performed a variety of services in dealing with the government and within the community (Roessel 1983:520). The trading post system on the Navajo reservation came about in the 1880s. The post at Round Rock was established in 1885 and is among the first. Well-known traders such as Lorenzo Hubbell were engaged in the business prior to this, but had not yet established permanent posts on the reservation (Roessel 1983:520-521).

Although the region was developing its American Period character, the subject property remained much as it had during the previous centuries. The territory was acquired by the United States from Mexico under the treaty of Guadalupe Hidalgo in 1848. The region was virtually uncharted until the late 19th century. Informal grazing was probably the only use of the area until the construction of the Springstead Store.

Mexican and Spanish Lands

Prior to American control the area was a part of Mexico (1821-1848) and a part of New Spain (1598-1821). Vast areas of open land served as a resource base supplying the needs of daily life to persons living far from towns or farms. Pastoral agriculture was suited to areas such as the subject property where open grassland and sage scrub communities offered adequate forage for sheep, cattle, and horses. Yet this pattern also tended to express itself at the margins of settled areas. The subject property would have been far from areas used by either the Spanish or Mexicans for maintaining herds. At this time the Navajo were in control physically, if not politically.

Navajo Heritage

Navajo occupation of the area began possibly as early as 1000 years ago (Brugge 1983:489). During these early years the social unit was comprised of bands and movement into the area was from the north. The subsistence strategy focused on hunting, fishing and gathering. The toolkit consisted of sinew-backed bows, side-notched arrow points, one-piece arrow shafts, and harpoons. Clothing was made using dressed skins. They made twined and flat, coiled baskets, but no pottery. Dwellings were conical and varied in composition and construction detail according to the local conditions. Dogs and snowshoes were used to aid transportation tasks. (Brugge 1983:498-490). As the early Navajo expanded beyond the areas vacated by the declining Anasazi they continued into the region surrounding the study area. Settlement in the region would remain fairly consistent until the arrival of Spanish explorers.

When the Spanish arrived in the region they found that the Pueblo settlements were surrounded by Athapaskan groups. Eventually the Spanish began to refer to all Athapaskan groups as Apaches with regional identifiers, including the *Apaches de Nabajo*. At the time of contact, the Navajo were practicing agriculture in areas formerly occupied by the Anasazi. Early Spanish accounts of Navajo culture indicate a semi-sedentary people who planted a variety of crops, but moved from their agricultural areas for hunting. They traded meat, hides and salt with the Pueblo groups. Pit houses or early hogans were built, as were storage structures (Brugge 1983:491). Later developments associated with close contact with Pueblo groups following the revolt of 1680 found Navajo ceramic styles going beyond the characteristic Dinétah Utility ware forms to incorporate Pueblo traits.

Anasazi Heritage

The chronological background of the Anasazi area begins with Basketmaker phases followed by the Pueblo phases. Dates of the various phases are generally distinguished as follows: Basketmaker II from 1 to 500 A.D., Basketmaker III from 500 to 700, Pueblo I from 700 to 900, Pueblo II from 900 to 1100, Pueblo III

from 1100 to 1300, and Pueblo IV from 1300 to Spanish conquest ca. 1540. The defining traits of the various phases are not expressed uniformly over the region. Some areas lack indications of a particular phase, such as Basketmaker II, which is not represented in the study region. Some phases are represented incompletely across regions as distance increases from the core areas.

A few traits are common to all of the phases represented for the greater Anasazi area. Including an increased sedentism exemplified by the formation of villages with communal structures or plaza areas. Ceremonial areas were also represented and appear set apart from daily activity areas and dwellings. The agricultural resource base continues to be developed along with the tools to plant, harvest, process, and store the products. Structure forms were also developing from less elaborate forms with minimal masonry to highly complex forms dominated by masonry (Cordell 1979, Plogg 1979, Wormington 1975).

The earliest occupation or use of the study area during the Anasazi period was likely to be during Basketmaker III times. In this period the San Juan river drainage was occupied and yields evidence of villages and settlements dated to this period. Material culture includes a shift to arrows instead of darts, gray ware ceramics, and shallow pit houses with numerous associated storage pits. Characteristics of the pit houses of this period and area would not be discernable at the survey level. However, the collapsed remains of this style of house and patterns of clustering would be expected to remain visible. Under these circumstances the ceramic wares would offer the best indication of settlement of the study area by Basketmaker III groups.

Pueblo I settlement is less represented in the study region. Sites of this period are best identified by the type and arrangement of above ground storage rooms, pit houses, and kivas. Ceramic inventories include: brownwares, Lino and Kana's Gray wares, as well as Rosa Black-on-white, Kiatuthulanna Black-on-white, Abajo Red-on-orange and La Plata Black-on-red painted wares (Cordell 1979:136-137).

Pueblo II evidence includes pit house and surface structures, banded ceramic vessels and corrugated wares. Red Mesa Black-on-white is a distinctive ware type found in many Pueblo II sites (Cordell 1979:136). The range of sites of this period is not well represented in the study region, but as an outlying area there may be associations that do not reflect the norm during the Pueblo II phase.

The Pueblo III period represents dominance by events at Chaco Canyon (Cordell 1979:137). Ceramic varieties increased and include expanded use of corrugated utilitarian wares. Additionally specific ceramic types such as Chaco Corrugated, Gallup Black-on-white and Chaco Black-on-white become common during this period. Ware types from the Mesa Verde area and copies of these also make their way into the San Juan drainage. Building forms increase in complexity and size at this time. Massive masonry construction incorporating kivas, apartments, antechambers, and storage rooms become the norm in the cultural center. Outlying areas, while closely associated with cultural centers, are less apt to include extreme forms of construction. Other material goods would be expected and include a variety of pipes, bone tools, stone and shell ornaments.

Pueblo IV represents the final phase of the continuum in the Anasazi culture area. This period saw the abandonment of the northern margins of the culture area in favor of centralization along the Rio Grande (Cordell 1979:145). For the most part the events and developments of the Pueblo IV period bypassed the study region and had no influence on the archaeological record of the study area.

Archaic and Paleo-Indian Periods

Portions of the Colorado plateau were also occupied in ancient times. Archaeological deposits greater than 9,500 years old are absent from the southwest. However, the Paleo-Indian period begins at about this time and several big-game oriented subsistence strategies are represented. For the greater study region these include Folsom, Clovis, and later on Cody archaeological signatures. The material remains of sites formed during these periods include fluted base projectile points, scraping tools, and knives. Sites focus on the actions and availability of game animals and often overlook water sources and travel routes.

Archaic cultures are characterized by a more eclectic subsistence strategy (Irwin-Williams 1979:32). Among these, the Oshara tradition extends across northwestern New Mexico. This area was one of the last to be abandoned by big game hunting groups represented by the Cody complex and probably continued until about 8000 years ago (Irwin-Williams 1979:35). Oshara sites are placed chronologically between approximately 7500 and 1600 years old. The tradition is in turn subdivided into phases, the Jay (7500-6800 years old) and the Bajada phase (6800-5300 years old). Jay phase sites include base camps and small,

specialized activity sites. Base camps are situated at the heads of canyons while activity sites are located relative to the task performed. The lithic tool kit includes large slightly shouldered projectile points, bifacial knives, and side-struck scrapers. Bajada phase sites reflect adaptation to drier climatic conditions, but with similar selection of base camp locations as during the Jay phase. Projectile points become shorter and have better developed shoulders and basal thinning. Side scrapers and bifacial knives continue to be made and are supplemented with large chopping tools and flake-based side scrapers (Irwin-Williams 1979:36-37).

Research Design

The current investigation was guided by a fundamental question. What types of cultural resources are present in the study area? Research methods developed in the post-processual climate of archaeology direct research to testing hypotheses that are likely to be answered with a dataset obtainable with the study. Having only the most basic information available regarding early historic and prehistoric periods hampers the current study in applying such approaches. However, basic hypotheses were proposed and proved testable with the available dataset.

H1. Evidence of prehistoric occupation of the area will be present in association with the bluff margin.

The hypothesis is supported to the extent that prehistoric sites are found in association with the bluff margin. Where this is not found to be true, the hypothesis is not supported. The proposition is made based on the regional tendency to place habitation areas in defensible locales, usually along cliff edges or the bases of cliffs under overhangs.

H2. Historic-era activities will be centralized, with a focus on the Springstead Store complex.

These material remains are expected to indicate occupation of the area beginning circa 1860. Key indicators will include manganese clarified glass, selenium clarified glass, solder top and hole-in-cap cans, bottles that show hand finishing, hand lipping, and early molding techniques, as well as a range of more recent packaging materials. Ceramics are also expected to reflect a range of production dates from the late 19th century onward. Building materials are expected to include a combination of older full-dimension lumber along with intermediate and modern lumber sizes. Fasteners will reflect when certain additions, improvements, or repairs were made to existing buildings and structures. The range of items will be clustered according to their application or function. Building material indicators will be clustered among the existing buildings, abandoned foundations, and with limited presence in refuse dumps or ash heaps. Consumer items and breakable household items will be best represented in refuse dumps and scatters. Each of the discard areas is expected to be proximal to the existing store complex. Greater distance is assumed to reflect greater separation from the Springstead Store complex spatially and socially.

Previous Investigations in the Study Area

No prior formal investigations of the study area are reported. Such studies would be on record with responsible agencies and made available as part of the property transfer. Additionally, the Navajo Nation Historic Preservation Department, Bureau of Indian Affairs, and other state and federal offices contacted by the current property owner indicated they have no record of previous investigations for archaeological or historical resources on the property (Beth Cascaddan personal communication, 2003).

The absence of prior investigations does not hinder the effectiveness of studies conducted at any subsequent stage of the review process. Prior investigations, if conducted, can provide valuable guidance for a subsequent study. They may also identify specific research issues that could not be addressed fully in earlier efforts. Yet without such studies the current investigation would be guided by general knowledge of the setting and available information regarding the historical uses of the subject property. Without indications of what already has been identified on the property the field investigation must obtain a baseline record of the archaeological and architectural content of the study area.

Goals of the Survey and Methods

The field investigation was conducted between March 2 and March 8, 2003. The field team consisted of Russell Collett and Kenneth Merryboy. Mr. Merryboy is a Medicine Man and member of the Navajo Tribal Council. His participation included in-field survey and oversight concerning issues of importance for the Navajo community as the American Indian observer on this project. Mr. Collett is the Project Archaeologist and is responsible for documenting and evaluating cultural resources on the property and reporting the

results of the investigation. Mr. Collett was selected by the project proponent and approved by the Navajo Historic Preservation Department for the current investigation.

The primary goal of the current investigation was to obtain a baseline record of the archaeological and architectural content of the subject property. This was accomplished through pedestrian, or on-foot coverage of all accessible areas of the subject property. In the balance of the study area the pedestrian survey was accomplished through a combination of intersecting and meandering transects. A two-person team began the survey and focused on broad areas of open terrain more effectively inspected by more than one person. The remaining areas of broken ground, arroyo margins, bluff margins, and ridges were inspected by the author using intersecting and meandering transects.

Evidence of human activity is detectable in the landscape. Depending on the nature of the landscape and the types of activity engaged in, this task ranged from easy to nearly impossible. The current study area provides an excellent example of how this task can be easily accomplished. In the study area the ground surface visibility is high; leaf duff cover is minimal, low-growing plants dominate and are spaced between 0.5 and 1.0 meters apart; pedologic and geologic processes are gentle, runoff and slope wash are generally moderate, but vary across the study area. The placement of geologic formations is regular, alluvial and colluvial sedimentary deposits are dominated by medium to fine grained materials, usually with well developed rounding.

Against this backdrop the remnants of human activity stand out clearly. For example, locally produced and discarded ceramic wares are often painted and often fire with a white or pale gray color. Angular sherds of these materials stand out clearly against the range of natural soil colors. Excavated areas, roads, and paths do not heal quickly and remain visible for decades. Dumps and other accumulations of material are also very visible compared with natural patterns in the study area. Direct observation of natural conditions across the study area made discerning the evidence of human activity more effective, consistent, and efficient.

The subject property is divided into three planning tracts. The field investigation extended through all three of these tracts to accomplish full coverage of the study area. Although the three tracts are subject to specific planning decisions under the proposed development plan, the cultural resource investigation was consistently applied for the entire property. Applying the same field program for the full extent of the property was the best way to achieve the goal of baseline cultural resource data for the subject property. Additionally, variation in the distribution of cultural resources across the property could be identified and considered in the planning and design aspects of the proposed project.

Detailed information regarding the size, shape, and composition of each historic property was not accomplished. Such detail could not be effectively obtained within the scope of the present field effort. This is due to the need for obtaining a baseline record of the archaeological and architectural content of the entire subject property to guide planning decisions through avoidance. The proposed project will provide buffers around the archaeological remains on the subject property. Establishing buffers for these locations will protect them from direct project impacts, while maintaining their accessibility for future investigations.

An intensive level of survey was undertaken on the ridge supporting the Springstead Store. This area exhibited a surface scatter of prehistoric ceramic sherds, but no ruin or accumulation of prehistoric building materials. The location is situated between two identified Anasazi ruins, and is similar in setting to several other ruin locations. Because of the historic-era activity on the landform at this location it was hypothesized that a ruin or other deposit of prehistoric materials could lie buried here, obscured by subsequent activity associated with the store and residence. Intensive survey techniques, in this instance, involved placing a series of postholes along the ridge. The volume of material excavated at any single posthole location does not represent a detrimental impact to buried resources, if present. However, the advantage to a posthole series is the ability to risk minimal impact to buried deposits while increasing their visibility. This is accomplished when obscured anthropogenic soils and site materials (ash, sherds, food refuse, etc.) are exposed in the excavated soil. Indications of buried deposits can then be identified across the landform by arraying the postholes to cover a large area. Because of the sparse surface scatter here, it was reasonable to conclude that a thin soil layer would obscure potentially intact deposits since some items remained visible at the surface. Postholes were excavated to a minimum of 50-cm below the surface. The presence of surface artifacts and the content of each posthole were noted in the project logbook. A total of 26 postholes were arrayed along the ridge in two parallel rows. Each row was spaced approximately 10 to 15 meters apart. Similar spacing was maintained between postholes along each row. Spacing varied to avoid obstacles such as trees or concrete.

The second goal of the investigation is to provide the property owner with data that can be used in project planning. The intent is to avoid significant impacts to historic properties from proposed development of the property. To accomplish this goal it was necessary to determine the NRHP eligibility of each cultural resource identified during the survey. Anasazi habitation sites and activity areas were preemptively assessed as being eligible for nomination to the NRHP under Criterion D. Abandoned Navajo habitation sites and spiritual practice locations constitute Traditional Cultural Properties (TCPs) and are also subject to consideration under Section 106 of the NHPA. The buildings and structures that comprise the Springstead Store complex were also evaluated for their eligibility for nomination to the NRHP. For the store complex the considerations were Criteria A, B, C and D of the NRHP. Each criterion was applied in evaluating each building or structure, as well as for the complex of related features. Additionally, all other historic-era cultural resources on the subject property were also considered for their potential NRHP eligibility.

A brief summary of the NRHP criteria and their application is presented for reference. A thorough presentation of the NRHP program is outside the scope of the current discussion and should be obtained from published sources. The National Park Service maintains the National Register and offers print and web-based materials about the NRHP and its role in historic preservation.

As stated by the NPS, "the quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or

B. That are associated with the lives of persons significant in our past; or

C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. That have yielded or may be likely to yield, information important in prehistory or history.

Eligibility for nomination to the NRHP is determined for cultural resources that meet one or more of the criteria in addition to satisfying the conditions of integrity of location, design, setting, materials, workmanship, feeling, and association. These considerations are made within a context and period of significance. The period of significance is the historical time that a resource best represents for its context. For the Anasazi sites on the property they retain their integrity of location, setting, materials, feeling and association in addition to their potential to yield information important in prehistory. As such they are appropriately considered to be eligible for the NRHP, based on archaeological rather than architectural considerations. Individually they may eventually be found ineligible, however, as a group of potentially related sites they offer insights on Anasazi occupation of open slope landscapes between 500 and 1500 years ago.

Results of the Surveys

Reconnaissance Survey Results

The field survey identified a total of 27 cultural resources. Two are abandoned Navajo habitation locations. Two are religious or spiritual observance locations. 21 of the cultural resources are habitation locales attributed to the Anasazi occupation of the area. One is a lithic scatter also attributed to the Anasazi. One of the cultural resources is a complex of buildings identified as the Springstead Store. A variety of recent refuse scatters, building pads, and excavations are also present on the property.

The subject property is divided into three planning tracts. Tract 1 is 128.06 acres and occupies the northwest corner of the property between the boundary and State Highway 566. Tract 2 is 360.11 acres and includes the eastern half of the property. Tract 3 is 101.60 acres on the south boundary and fills the area between State Highway 566 at the west and Tract 2 at the east. Cultural resources are present in each of the three tracts. Each resource was assigned a temporary designation during the field investigation. Table 1 summarizes the relationship of each cultural resource to these planning tracts.

TABLE 1
DISTRIBUTION OF CULTURAL RESOURCES BY TRACT

Tract	Resource Type and Composition	Field Number
1	Lithic scatter. Flakes, angular waste and a projectile point.	18
1	Anasazi habitation. Collapsed masonry and artifact scatter.	19
1	Anasazi habitation. Collapsed masonry and artifact scatter.	20
1	Anasazi habitation. Collapsed masonry and artifact scatter.	21
1	Anasazi habitation. Collapsed masonry and artifact scatter.	22
2	Navajo religious or spiritual observance location.	1
2	Anasazi habitation. Collapsed masonry and artifact scatter.	3
2	Anasazi habitation. Collapsed masonry and artifact scatter.	4
2	Anasazi habitation. Collapsed masonry and artifact scatter.	6
2	Anasazi habitation. Collapsed masonry and artifact scatter.	7
2	Artifact scatter. Ceramic sherds.	8
2	Anasazi habitation. Collapsed masonry and artifact scatter.	9
2	Anasazi habitation. Collapsed masonry and artifact scatter.	10
2	Anasazi habitation. Collapsed masonry and artifact scatter.	11
2	Navajo habitation location and Navajo religious or spiritual observance location.	12
2	Anasazi habitation. Collapsed masonry and artifact scatter.	13
2	Anasazi habitation. Collapsed masonry and artifact scatter.	14
2	Anasazi habitation. Collapsed masonry and artifact scatter.	15
2	Anasazi habitation. Collapsed masonry and artifact scatter.	16
2	Anasazi habitation. Collapsed masonry and artifact scatter.	17
2	Anasazi habitation. Collapsed masonry and artifact scatter.	23
2	Navajo habitation location.	24
2	Anasazi habitation. Collapsed masonry and artifact scatter.	25
2	Navajo religious or spiritual observance location.	27
3	Anasazi habitation. Collapsed masonry and artifact scatter.	2
3	Springstead Store. Complex of buildings, surface trash. Anasazi artifact scatter displaced from adjacent site Nos. 2 and 26.	5
3	Anasazi habitation. Collapsed masonry and artifact scatter.	26

Anasazi structures are present in each planning tract. Mounds or compilations of stone were identified as Anasazi structures. These compilations differ from natural outcrops by their association with the surrounding landscape. Specifically, if no native rock was typical for a specific location, the presence of a cluster or mound composed of rocks was subject to additional inspection. If the sizes, shapes and types of rock comprising the mound or cluster were consistent with other groupings with more identifiable characteristics then the conclusion was that they were more likely to be cultural than natural. Among the considerations is the approximate shape of the mound, cluster, or remnant structure. Typically these appeared as crescent-shaped compilations. Occasionally a platform or pad-like cluster was present and accompanied by some standing stacked rocks of cobble size or larger. Also noted were increases or decreases in the amount of material in the cluster or mound. Specifically where these compilations retained a lesser amount of rubble at the eastern portion of a shaped mound there was additional indication of cultural origin. In unusual cases aligned stones appeared to be set on edge, placed in circular or nearly circular alignments, or clusters surrounded a single flat stone. At this level of investigation it was not possible to clear the overburden away in order to confirm these preliminary observations. Finally, the

presence of ceramic sherds consistent in ware type with Anasazi forms served as clear indication of a relationship between compilations of stone and an Anasazi occupation of the site.

Three types of Anasazi ceramic wares were identified during the survey. These include Black-on-White, Black-on-Red, and Corrugated wares. Black-on-White sherds exhibited a variety of line and block sizes and shapes, all within the range of examples attributed to the Chaco Canyon wares of the Pueblo III period (ca. 1100 to 1300 A.D.). A more detailed typology could not be established within the context of the current investigation given the range of sherds available. However, it is likely that the range includes examples of Chaco Corrugated Ware, Chaco Black-on-White Ware, Gallup Black-on-White Ware and potentially some copies of the Chaco and Gallup wares. Identifiable Black-on-White vessel forms include a jug, bowls, and a variety of indistinct pots and similar container forms. Red-on-Black sherds were less represented in the surface expression of the various deposits on the property. These tended to include lines and blocks of black paint applied over the background red color. Vessel forms were indeterminate from the Black-on-Red sherds, although the concave surfaces exhibit the decoration. Corrugated Ware includes a variety of surface texture treatments. Among these are true corrugations, pinching, flattened rolls, impressed designs, scoring, and scalloping. Corrugated wares served as utilitarian and cooking implements where soot or other stains were not likely to mar the decoration. Painted wares filled the need for a variety of containers and implements, but would only rarely have been used for food preparation.

Also present at some of the Anasazi sites (Nos. 14, 20, 22, and 26) are ground stone implements. These include complete manos, mano fragments, and metate fragments. The materials used to form these implements include granites and sandstones. No sources of granite material are present on the subject property. The dominant geologic pattern is sedimentary and the potential for granitic outcrops in the immediate area is unlikely. The sandstone examples also appear to be imported, although probably from nearby outcrops that yield fine-grained, well-cemented reddish stone. The metate fragments identified exhibit unifacial use and little or no shaping at the margins. Manos include a range of shaped and unshaped unifacial, bifacial, and multi-facial examples. One mano identified in the surface scatter above Site No. 5 is of the latter type having four slightly convex faces exhibiting polish, and truncated ends that exhibit use as crushing or mauling surfaces.

The preferred material for flaking is cryptocrystalline silicate, or CCS. This family of stones includes chert, chalcedony, petrified wood, and flint. Common to all of these materials are a high percentage of silica and the absence of a dominant crystalline structure. These characteristics impart greater workability to the material and allow the stone worker to more reliably predict the outcome of applied blows. Additionally, CCS tends to be brittle. Heat treating the stone can reduce the tendency to shatter and adds greater control to the flaking process. Intentionally flaked CCS exhibits characteristic flake scar attributes. These are byproducts of conchoidal fracture, which is a property common to lithic materials with greater homogeneity. The classic example of this is found in obsidian, i.e., volcanic glass, where the attributes of conchoidal fracture are easily observed. All of the CCS identified at the various sites was derived from sedimentary sources.

The projectile point at Site No. 18 is made on a flake of CCS. The coloration is yellowish brown with fine lines of darker brown extending in all directions through the material. It has a bifurcated base with shallow side notches. One of the lobes formed by the bifurcation is broken off. The point measures 35-mm long by 22-mm wide by 5-mm thick and weighs 3.6 grams. From the basal concavity to the tip is 29-mm. The base is concave and the lateral margins are convex, slightly asymmetrical, and exhibit notching just above the basal concavity. The width within the notches is 19-mm. The margins are bifacially worked using pressure flaking techniques. The original flake appears to have been generated with a soft-hammer flaking technique.

Navajo religious and spiritual observance locations were identified and confirmed through consultation with the American Indian observer for the project. The locations of abandoned Navajo habitations were identified based on the configuration of archaeological remains, as no standing structures were present. In each of the two sites identified as Navajo habitations the presence of a depressed area approximately eight or ten feet in diameter served as a focal point for defining associated features. Discarded building materials accompany the depressions. These include concrete poured in place and composite roof shingles. Nearby areas exhibit trampling consistent with long-term use as a pen to retain animals, refuse scatters, and pathways connecting task areas with the home. Site 12 includes a religious or spiritual observance locale at the site. Site No. 24 is approximately 400 feet from a set of features similar to those present at Site No. 12 and identified as religious or spiritual.

Intensive Survey Results

An intensive survey for buried deposits was undertaken at Site No. 5. This site is identified as the Springstead Store. Two separate deposits were sought with the addition of subsurface probes. One anticipated refuse deposit is attributed to early 20th and late 19th century occupation of the property. Anecdotal evidence for early occupation of the property attributes a late 19th century origin to the complex of buildings here. The other refuse deposit sought is attributed to Anasazi activity. Ceramic sherds are found sparsely (1/64m²) scattered across the ridge behind the store. Stone artifacts were also present in reduced numbers (1/2000m³).

No surface indications of historic deposits that predate the ca. 1940 construction dates for the standing buildings are present. It was assumed that if such deposits were present they might be located in areas near the store that offer ready access but minimal direct visibility. The ridgeline behind the store complex was considered to be the primary candidate for meeting these conditions. Additionally, none of the areas down slope from the store included refuse from a period prior to ca. 1940. Inspection of these areas included numerous eroded slopes, rivulets, and areas of slope wash, excavated pits, cleared areas, areas consistently trampled by livestock, and road margins. The expectation being that a buried deposit may be revealed by soil displacement. No indication of refuse deposits from early periods is present. The area of highest potential was the ridgeline above the store.

Anasazi ceramic sherds are present at the surface on the ridgeline above the store. However, this area lacks a focus for the scatter and there are no habitation remains visible at the surface. Two Anasazi habitation sites are located at opposite ends of the landform, which would place the area behind the store approximately midway between the two. The level of activity at the store and among the outbuildings was seen as having the potential to obscure stone groupings or to disperse sherds over a wider area.

The goal of the intensive survey was to probe the upper soil stratum along the ridge in search of obscured deposits related to occupations prior to ca. 1940. These were expected in the form of ash lenses, fragmented glass or ceramics, accumulations of stone, metal, fragments, or other evidence of refuse dumping or habitation debris. A series of 26 postholes was placed along the ridge and slope behind the store. These probes confirmed the absence of subsurface deposits in this area. No evidence of a late 19th or early 20th century refuse deposit is present. No evidence of Anasazi habitation is present, nor is there subsurface evidence of a source of the materials visible at the surface.

Discussion

Two basic hypotheses were posed for the current investigation. One stated that prehistoric living areas would be found in close association with the bluff margin. The other addressed the potential antiquity of the Springstead Store complex by anticipating refuse and building materials datable to the decades adjacent to 1900. The former hypothesis was supported, although a much larger range of site placements was found than was hypothesized. The latter hypothesis could not be supported as the entire property lacks indications of late 19th and early 20th century refuse and building materials.

Prehistoric occupation of the area was found in association with the bluff margin. Four habitations were identified in this setting, with three at the base and one at the top rim. Those at the base were sited away from the scree slope and were not associated with undercut areas of the escarpment as these are too small for habitation. None of the examples identified suggested the use of extensive masonry. Those at the base of the bluff included a higher percentage of stone in a mound of collapsed materials, but there was no indication of stacked rock more than a half meter above ground.

Other prehistoric sites were identified on ridges and shallow slopes. The remains of these habitation areas are consistent with those found in association with the bluff. However, their placement in fairly open settings was not anticipated. The ceramics at each of these sites is consistent with those produced, obtained or copied from wares at Chaco Canyon. The sites in the study area exhibit material culture traits consistent with Chaco Canyon occupations between 1100 and 1300 A.D. although the construction methods have more in common with older periods (Woodbury and Zubrow 1979:56; Plogg 1979:114-115; Cordell 1979:134). This mixture of components is not unusual for outlying areas associated with cultural centers (Wormington 1975:61).

The Springstead Store complex was expected to exhibit refuse and building episodes as old as 1868. Evidence of this nature would argue that the complex represents one of the early trading posts established on the Navajo reservation. In fact, no indication of construction or use of the area prior to 1940 could be found. The buildings and refuse deposits lack diagnostic elements from earlier periods. Instead, there is an

abundance of diagnostic materials and items from more recent periods. In this case the hypothesis was not supported by the data. The conclusion is that the Springstead Store complex was constructed after 1940. Any earlier trading post facility that may have been present on the property has been removed, rather completely, from the landscape.

A total of 27 cultural resources are present on the subject property. Four of these (Site Nos. 1, 12, 24, and 27) are recognized under the NHPA as Traditional Cultural Properties. Sites Nos. 2, 3, 4, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, and 26 are identified as historic properties under the NHPA. The Springstead Store (Site No. 5) does not meet NRHP criteria and is not considered to be a historic property under the NHPA.

Traditional Cultural Properties possess continuing importance to an ethnic, folk, or religious community or that expresses a continuation of traditional customs and practices. Four sites on the subject property are identified as places where traditional Navajo practices recently played a significant role in their formation. Two of the sites, Site No. 24 and a portion of Site No. 12, are abandoned residence locations. They exhibit no indication of seasonal abandonment and reuse. Instead, they appear to have been left to weather away for a number of years without the intent to reuse the locations. Navajo tradition calls for places associated with death to be avoided. Following the death of the resident the home is closed, left alone, and avoided. Although no information regarding the reason for abandonment was obtained during the current investigation, the pervasive attitude among Navajo people makes such inquiries inappropriate. Regardless of the reasons for abandonment, the two sites are not being reused as habitations, revisited for other functions, or adapted to another use. This is evidence that ongoing traditional practice governs the actions of the community where these two sites are concerned. For these reasons Site Nos. 12 and 24 meet the definition of TCP under the NHPA.

Site No. 27 and a portion of Site No. 12 represent locations of religious or spiritual observance. These locations contain evidence of traditional religious practice concerning cosmology, the supernatural and the spirit realm. As locations where an aspect of the traditional belief system among Navajos is manifest, they also meet the definition of TCP under the NHPA.

Site No. 1 also meets the definition of TCP under the NHPA. This site is recognized as an offering location. Such locations are made identifiable in the landscape for the benefit of those who would prefer to avoid them. As with Site Nos. 12, 24, and 27, this site represents another example of continued practice historical Navajo tradition.

The 22 Anasazi sites are identified as historic properties under the NHPA. This assessment is made under Criterion D of the NRHP, which recognizes the potential of archaeological deposits to yield information important to our understanding of prehistory. None of the 22 Anasazi sites was fully evaluated through an archaeological program. Such evaluations are outside the scope of the current investigation. The assessment of potential eligibility for each of the 22 sites is made as a default assessment. In other words, because it is not known that important data *are not* present in these sites, it must therefore be assumed that such data are present, making them potentially eligible for nomination to the NRHP.

Site No. 5 is the Springstead Store complex and represents the only site with clear ties to the historic period. However, these extend only to circa 1940. Anecdotal evidence for an earlier construction date and occupation could not be supported with artifactual or architectural evidence. No refuse deposits that predate 1940 are present on the property. The two principal buildings are the store and the residence. Other than the stone, the construction materials used in these two buildings are consistent with those available after circa 1940. These details include the nails used, lumber sizes and lumber milling techniques. Masonry techniques appear to be fundamental and are therefore just as likely to be of considerable age as they are to be post-war. However, certain components set into the upper courses of each of these buildings are inconsistent with greater age. Specifically these are the window and door lintels of both buildings and the roof beams of the store. While these may have been replaced circa 1940 or after, the masonry is consistent throughout the fabric of each wall where alterations would have been made. Even an extremely skilled mason is challenged when making replacements that appear seamless with older work. The weathering and patina of the stone must be matched and the sizes of stones used in the replacement must coordinate to maintain a consistent appearance. Each of the masonry buildings at the store site exhibits a consistent wall appearance and composition. However, it is not likely that this result reflects the efforts of highly skilled masons employed for making repairs.

It is possible that the more easily deteriorated portions of older buildings were replaced. It is also possible that great care was taken in rebuilding the masonry portions of the buildings. If these two possibilities are true, then what portion of the buildings is representative of late 19th or early 20th century rural architecture?

The absence of evidence for early development of the property as a trading post and/or residence argues against the ability of the Springstead Store complex to address important questions about rural vernacular or trading post architecture during this period.

Recommendations

Impacts to buildings, structures, and archaeological remains that are identified as TCPs or historic properties are considered to be significant impacts. One of the goals of the cultural resource investigation of the subject property was to obtain data that will guide project development and avoid significant impacts to historic properties and TCPs. This goal has been achieved.

A total of 27 cultural resource sites are present on the subject property. Modern (since 1953) use of the property has generated an additional set of refuse scatters, buildings, and associated features. Although these are defined as cultural resources, their modern timeframe does not bring them within the scope of the NHPA without extenuating circumstances, which are not present or applicable for the study area. Of the 27 cultural resources on the subject property, one is associated with historic-era (prior to 1953) use of the property, four are Navajo sites, and 22 are Anasazi sites.

22 prehistoric cultural sites on the property are associated with prehistoric Anasazi occupation. Each of these is set aside within a buffer zone to protect these as yet unevaluated historic properties from impacts that may occur as a result of project implementation. The Anasazi sites include dwellings, scattered refuse, and stone tool maintenance areas. The individual ruins, ruin clusters, and one lithic chipping station associated with the Anasazi occupation were assessed at the survey level of investigation. The conclusion is that these prehistoric locales satisfy Criterion D of the NRHP. In other words they are understood to retain data that may be of scientific research value.

Four locales associated with the Navajo occupation of the area are also being buffered from development. These locales are not attributed to early Navajo settlement, and are not expected to yield important data from archaeological contexts that cannot be obtained through ethnographic or historical documents. However, they represent a continuation of traditional Navajo cultural practices into recent times and meet the definition of Traditional Cultural Properties (TCPs) under the NHPA. The proposed development plan incorporates an awareness of these traditional values by diverting development to avoid these areas. Buffering these locales avoids impacts to archaeological data sets and is consistent with the traditional views of the population for whom the proposed development is being undertaken.

One site consists of a complex of mid 20th century buildings, structures and related features. Modern and historic-era features related to Anglo-American ownership and use of the area were evaluated under the NRHP program. These features consist of refuse scatters, structures, and buildings associated with mid-to-late 20th century use of the property. Although the subject property has been under private ownership since ca. 1868, physical remains datable prior to WWII are absent. The complex of buildings and structures identified as "the Springstead Store" include numerous indications of having been constructed after 1944. These features do not retain architectural or archaeological data sets representative of late 19th century and early 20th century enterprises of the kind anecdotally suggested for the property. Earlier buildings and structures, if previously sited on the property, are no longer extant. The architectural composition of the residence, store, and outbuildings do not satisfy NRHP criteria. Archaeological deposits older than circa 1940 are not present at the Springstead Store site. More recent deposits at the site do not meet NRHP criteria.

Two treatments are proposed for the cultural resources on the subject property. One is to set the Anasazi and Navajo cultural resources apart from proposed development areas. The Navajo habitation locations and the religious/spiritual observance locations are identified as Traditional Cultural Properties. The Anasazi habitation sites and the lithic scatter are assessed as historic properties as a default preservation measure under Section 106 of the NHPA. Proposed development will not include areas identified as TCPs or historic properties as defined in the NHPA. As a result, there will be no significant impact to TCPs or historic properties as a result of project implementation.

The second proposed treatment addresses the historic-era cultural resources on the subject property. Under the NRHP any building, structure, object, or site 50 years old or older is a component of the historic-era. The historic-era resources on the subject property do not retain the types of data that meaningfully contribute to our understanding of their context or their period of significance, as called for under Section 106 of the NHPA. The buildings, structures, refuse deposits, and other features that comprise the Anglo occupation of the property do not meet NRHP criteria and are not considered to be historic properties under

the NHPA. Impacts to these elements will not constitute a significant impact on the environment under NEPA.

The following additional recommendations are offered concerning the historic-era buildings, TCPs, and historic properties in the study area. The TCPs and Anasazi sites should have buffer zones sufficient to satisfy the Navajo community that these locales are being avoided. Consultation with appropriate representatives of the Navajo community to obtain their input is likely to be of great value in finalizing these issues. The buffers indicated during the field investigation are identified for planning purposes and reflect *only* the buffer area necessary to avoid significant impacts to archaeological deposits. Traditional Navajo considerations may warrant expanding the archaeological buffers farther from the TCPs and historic properties. If so, there will be no need for additional archaeological evaluation of such actions. Expanding the archaeological buffers to accommodate Navajo recommendations must be decided between the project proponent and the Navajo community. In no circumstance should the buffers of the historic properties be contracted without additional evaluation of the archaeological presence in these areas. For example, some historic properties are adjacent to erosional cuts. Continued erosion may require adjusting a buffer area to allow stabilizing the cut. An assessment of the archaeological deposit potentially impacted by the action must be made prior to adjusting the buffer area.

The Springstead Store complex does not meet the eligibility criteria for nomination to the NRHP. However, it may be possible to stabilize and rehabilitate the store and the residence for new uses. Their construction using native materials is not unique, nor are they outstanding examples of masonry technique or methods. At this time there is no plan to convert their location to housing or other uses. Currently the buildings are being vandalized and have become unsafe. They will need to be demolished or rehabilitated eventually. Demolition will be the most effective treatment for each of the non-masonry buildings of the complex. The masonry buildings may offer appropriate locations for post office, community library, a natural history and/or cultural interpretive center, urgent care facilities, or other facilities that will be needed to support the immediate community. Small-scale facilities of the type suggested above would fit best within the scale of the masonry buildings at the location. Adapting them for grocery or convenience store uses may require extensive additions of storage rooms and coolers that would not be feasible if constructed using matching stone masonry and would look out of place if constructed from other materials. The Springstead Store is not architecturally important. Yet, the masonry buildings provide a connection with the recent past and are examples of an older style that is common, but not commonly incorporated into new communities.

Impact on the Environment

The Springstead Estates project is proposed to occupy approximately 640 acres of privately owned land in McKinley County New Mexico. This location is bounded on each side by Navajo Tribal Trust Lands. An archaeological and architectural survey and assessment was made of the property. A total of 27 cultural resources were identified. One is a complex of buildings, structures, and related features. This complex, identified as the Springstead Store complex, was assessed for its architectural and archaeological significance under the NRHP. The store complex does not satisfy the criteria for eligibility for nomination to the NRHP and is not considered a historic property under Section 106 of the NHPA. Impacts to the Springstead Store complex resulting from project implementation will not have a significant effect on the environment as defined under NEPA. Four of the 27 cultural resources are Traditional Cultural Properties. These are defined under the NHPA. Current project plans call for each TCP to be protected from development within a buffer zone. Avoiding the TCPs will have no significant effect on the environment as defined under NEPA. The remaining 22 of the 27 cultural resources are attributed to the Anasazi occupation of the subject property. Each of these 21 resources was identified during the field investigation and provided with preliminary or default assessments of significance. The assessed status of the Anasazi sites is that they satisfy Criterion D of the NRHP and are considered to be historic properties under the NHPA. Current project plans call for each of the historic properties in the study area to be protected from development within a buffer zone. Avoiding the historic properties will have no significant effect on the environment as defined under NEPA. In summary, avoidance of the TCPs and historic properties on the subject property will avoid significant impacts to these cultural resources. Therefore, the proposed Springstead Estates development will have no significant effect on the environment as defined under NEPA.

References Cited

- Brugge, David M.
1983 Navajo Prehistory and History to 1850 in *Handbook of North American Indians*, Volume 10, Southwest. Smithsonian Institution, Washington D.C.
- Cordell, Linda S.
1979 Prehistory: Eastern Anasazi in *Handbook of North American Indians*, Volume 9, Southwest. Smithsonian Institution, Washington D.C.
- Kantner, John. "Sipapu--Map of Chaco Anasazi Outliers." [<http://sipapu.gsu.edu/outliers/map.html>]: 3/10/03.
- Hardesty, Donald L. and Barbara J. Little
2000 *Assessing Site Significance, a Guide for Archaeologists and Historians*. Alta Mira Press, Walnut Creek, California.
- Irwin-Williams, Cynthia
1979 Post-Pleistocene Archaeology in *Handbook of North American Indians*, Volume 9, Southwest. Smithsonian Institution, Washington D.C.
- Plogg, Fred
1979 Prehistory: Westgern Anasazi in *Handbook of North American Indians*, Volume 9, Southwest. Smithsonian Institution, Washington D.C.
- Roessel, Robert
1983 Navajo History, 1850-1923 in *Handbook of North American Indians*, Volume 10, Southwest. Smithsonian Institution, Washington D.C.
- Woodbury, Richard B.
1979 Prehistory: Introduction in *Handbook of North American Indians*, Volume 9, Southwest. Smithsonian Institution, Washington D.C.
- Woodbury, Richard B. and Ezra B.W. Zubrow
1979 Agricultural Beginnings, 2000 B.C. - A.D. 500 in *Handbook of North American Indians*, Volume 9, Southwest. Smithsonian Institution, Washington D.C.
- Wormington, H.M.
1975 *Prehistoric Indians of the Southwest*. Denver Museum of natural History.

NM-Q-29-148 (Anasazi Habitation)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

NM-Q-29-149 (Anasazi Habitation)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

NM-Q-29-150 (Anasazi Habitation)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

NM-Q-29-151 (Anasazi Habitation)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

NM-Q-29-152 (Anasazi Habitation)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

NM-Q-29-153 (Anasazi Habitation)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

NM-Q-29-154 (Anasazi Habitation)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

NM-Q-29-155 (Anasazi Habitation)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

The Fort Defiance Housing Corporation will provide a Preservation Plan (within 90 day s of receiving this document) to the Navajo Nation Historic Preservation Department, for the long term management of the cultural resources.

TCP's must be avoided by all construction by a minimum of 50 ft.

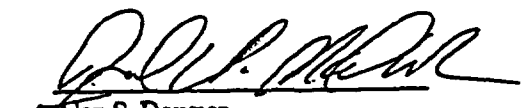
In the event of a discovery ["discovery" means any previously unidentified or incorrectly identified cultural resources including but not limited to archaeological deposits, human remains, or locations reportedly associated with Native American religious/traditional beliefs or practices], all operations in the immediate vicinity of the discovery must cease, and the Navajo Nation Historic Preservation Department must be notified at (928) 871-7132.

FORM PREPARED BY: Ronald P. Maldonado
FINALIZED: July 1, 2003

Notification to

Proceed Recommended: Yes XX No

Conditions: Yes XX No


Alan S. Downer
Navajo Nation Historic Preservation Officer

7-1-03
Date

NM-Q-29-133 (Anasazi Habitation)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

NM-Q-29-134 (Anasazi Habitation)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

NM-Q-29-135 (Springstead Store)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.
3. A site map mapped to scale will be provided.
4. Additional photo documentation on a HABS level 3 scale.

NM-Q-29-136 (Anasazi Habitation)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

NM-Q-29-137 (Anasazi Habitation)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

NM-Q-29-138 (Anasazi Habitation)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

NM-Q-29-139 (Anasazi Habitation)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

NM-Q-29-140 (Anasazi Habitation)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

NM-Q-29-141 (Anasazi Habitation)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

NM-Q-29-142 (Anasazi Habitation)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

NM-Q-29-143 (Anasazi Habitation)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

NM-Q-29-144 (Anasazi Habitation)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

NM-Q-29-145 (Anasazi Habitation)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

NM-Q-29-146 (Anasazi Habitation)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

NM-Q-29-147 (Anasazi Habitation)

1. The site will be avoided by 50-ft. from the site boundaries & fenced.
2. The construction of the fence will be monitored by a qualified permitted archaeologist.

C.2.

**CONSULTATION LETTER CONCERNING
FLOODPLAIN MANAGEMENT
[24 CFR 55, EXECUTIVE ORDER 11988]**



**THE NAVAJO NATION
DEPARTMENT OF WATER RESOURCES
WATER MANAGEMENT BRANCH**

POST OFFICE DRAWER 678 * FORT DEFIANCE, ARIZONA 86504 * (520)729-4004 * FAX (520)729-4126

Kelsey A. Begaye
PRESIDENT

Dr. Taylor McKenzie
VICE PRESIDENT

November 21, 2002

Bernadette Tsosie, Hydrologist II
Floodplain Section
Water Management Branch

Mr. Robert Bitsui, EA Consultant
Bitsui Environmental Consultant
PO Box 2250
Window Rock, AZ 86515
Telephone (928) 729-2561
Fax (928) 729-5895

Dear Mr. Bitsui,

This letter is in response to your request for floodplain information for the environmental assessment on Fort Defiance Housing Corporation's Proposal to build in the vicinity of Springstead, NM - McKinley County. After researching the flood plain document resources here at The Water Management Branch Library, we have found studies that have been conducted in the area, did not include the Springstead area.

We cannot advise on current/proposed building locations or specifications. We may only provide existing floodplain information - noting its limitations. It must be understood that the party fulfilling their regulatory obligations assumes responsibility for all determinations and resulting actions based on the information we supply. Should you require more detailed information, most civil engineering firms in this area can delineate a 100 year floodplain. The cost for such delineations is variable, depending on the level of detail required. A listing of those firms is attached.

If you have any further questions regarding this information, feel free to contact our office.

Sincerely,

A handwritten signature in cursive script that reads "Bernadette Tsosie".

Bernadette Tsosie, Hydrologist II
Floodplain Section



**THE NAVAJO NATION
DEPARTMENT OF WATER-RESOURCES
WATER MANAGEMENT BRANCH**

POST OFFICE DRAWER 678 * FORT DEFIANCE, ARIZONA 86504 * (520)729-4004 * FAX (520)729-4126

KELSEY A. BEGAYE

DR. TAYLOR MCKENZIE

PRESIDENT

VICE PRESIDENT

February 9, 2001

Subject: Floodplain Studies and Flood Protection Consultants

To Whom it may concern,

The Navajo Nation Department of Water Resources collects and provides information on floodplain delineation studies. Many areas of the Reservation have inadequate or non-existent flood information to satisfy the applicable federal requirements and qualify for flood insurance programs. In the next few years U.S. Army Corps of Engineers will conduct a comprehensive floodplain delineation study for the entire reservation. In the mean time, there are several civil engineering firms that can delineate floodplains, design flood protection structures, and advise on obtaining proper compliance with federal regulations and flood insurance programs. The following is a short list of such firms:

Civil Engineering Consulting Firms in Albuquerque, NM

Boyle Engineering Corp
6400 Uptown Blvd NE # 600e
Albuquerque, NM 87110
(505) 883-7700

Urs Greiner- Woodward Clyde
5971 Jefferson St NE # 101
Albuquerque, NM
(505) 345-3999

HDR Engineering Inc
2155 Louisiana Blvd NE #8500
Albuquerque, NM 87110
(505) 884-6065

Civil Engineering Consulting Firms in Flagstaff, AZ

Arizona Engineering Company
419 N San Francisco St
Flagstaff, AZ 86001
(520) 774-7179

Woodson Engineering and Surveying
124 N Elden St # 100
Flagstaff, AZ 86001
(520) 774-4636

Shepard Wesnitzer Engineering
110 W. Dale Av. Suite 1
Flagstaff, AZ 86001
520-773-0354

C.3.

**CONSULTATION LETTER CONCERNING
WETLANDS PROTECTION
[EXECUTIVE ORDER 11990]**



NAVAJO NATION ENVIRONMENTAL PROTECTION AGENCY

Post Office-Box 339

Window Rock, Arizona 86515

Telephone: (520) 871-7692

Fax: (520) 871-7996



February 12, 2002

Howard Bitsui, EA Consultant
Bitsui Environmental Consultant
P.O. Box 2250
Window Rock, Arizona 86515

**RE: Determination for Wetlands, Sole Source Aquifer, Toxic Chemicals and Radioactive Material and, Air Quality
Springstead Housing Development Project – Springstead, McKinley County, New Mexico**

Dear Mr. Bitsui:

The Navajo Nation Environmental Protection Agency (NNEPA) received a request from Bitsui Environmental Consultant for compliance documentation in fulfilling 24 CFR §58.5 for the development of the Springstead Housing Development Project within the vicinity of Springstead, McKinley County, New Mexico.

The project can be spatially examined on the USGS quadrangle map for Churchrock, New Mexico. Development within an area encompassing approximately 640 acres will entail the construction of single-family and apartments, with related infrastructure, including water, sewer, gas and electrical line extensions.

The determinations of the NNEPA are as follows:

1. **Wetlands Protection.** The proposed undertaking will not involve new construction within jurisdictional wetlands or adjacent drainages. The proposed development will not have an effect on wetlands, riparian areas, flood plains or other sensitive areas.
2. **Sole Source Aquifers.** There has not been official designation of any sole source aquifers (SSA) on the Navajo Nation by the NNEPA Public Water Systems Supervision Program (PWSSP) or the United States Environmental Protection Agency (USEPA). Currently, the Navajo Nation has not *officially* designated any aquifers as a SSA; however, as the NNEPA is further established this will change. In order for an aquifer to be considered as a designated SSA, the aquifer must meet two criteria: (1) it must supply more

than 50% of a community's drinking water; and (2) it must be the only available local or regional source of drinking water.

This section on Sole Source Aquifers shall not be used to fulfill the SSA requirements for other proposed activities, projects or otherwise.

3. Air Quality. The project is located within the boundaries of the Navajo Nation and therefore subject to the jurisdiction of the Navajo Air Quality Control Program of the NNEPA for the purpose of air quality regulation. The proposed project is located in areas of attainment and would not appear to significantly impact the NAAQS for the area.
4. Toxic Chemicals and Radioactive Materials. The former Foutz #3, mined by Foutz & Co. during the early 1950's, is located approximately 1-1/4 air miles southeast from the area proposed for development. The map that accompanied the request for determinations did not provide the perimeter of the proposed development; therefore, the estimation of 1-1/4 air miles was derived from the point of the arrow designating "Housing Project Area". Designation of the exterior boundary of the development area could reduce the estimated air miles to less than 1-1/4 miles. Although the former mine was reclaimed, there exists the potential for the former mine site to release radioactive particles to the drainages that run directly to and within the proposed Springstead housing area. The drainages are tributaries to the jurisdictional Puerco River.

At this time, the NNEPA is unable to provide a determination stating that the subject property would be free of hazardous materials, contamination, toxic chemicals, gasses and radioactive substances that could affect the health or safety of occupants or conflict with the intended use of the property.

Absent a determination that would allow the project to progress in a manner anticipated by the proponents of the project, the developer must proceed to collect relevant information regarding the characteristics of the Springstead site that would further assist in assessing exposure to health hazards.


If additional information determines that the health and safety of the occupants within the Springstead site would be affected or otherwise compromised, then specific mitigation measures must be developed with oversight of relevant oversight agencies before the NNEPA will reconsider addressing the matter of a determination for Toxic Chemicals and Radioactive Materials.

Lastly, the NNEPA requests and advises that thorough consultation commence and continue to occur for those aspects of the planned development pertaining to topics such as water quality, water usage, CWA determinations and/or permitting, etc., that are

typically addressed within an environmental assessment. To date, the NNEPA has not been contacted on any EA topics in conjunction with the proposed Springstead project.

We hope this information is helpful to your organization. If you have any questions you may contact me at 928-871-7800. Thank you.

Sincerely,

A handwritten signature in cursive script, appearing to read "Eugenia Quintana".

Eugenia Quintana, Senior Environmental Specialist
Navajo Nation Environmental Protection Agency

C.4.

**CONSULTATION LETTER CONCERNING
SOLE SOURCE AQUIFERS
40 CFR 149]**



NAVAJO NATION ENVIRONMENTAL PROTECTION AGENCY

Post Office-Box 339

Window Rock, Arizona 86515

Telephone: (520) 871-7692

Fax: (520) 871-7996



February 12, 2002

Howard Bitsui, EA Consultant
Bitsui Environmental Consultant
P.O. Box 2250
Window Rock, Arizona 86515

**RE: Determination for Wetlands, Sole Source Aquifer, Toxic Chemicals and Radioactive Material and, Air Quality
Springstead Housing Development Project – Springstead, McKinley County, New Mexico**

Dear Mr. Bitsui:

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The project can be spatially examined on the USGS quadrangle map for Churchrock, New Mexico. Development within an area encompassing approximately 640 acres will entail the construction of single-family and apartments, with related infrastructure, including water, sewer, gas and electrical line extensions.

The determinations of the NNEPA are as follows:

1. **Wetlands Protection.** The proposed undertaking will not involve new construction within jurisdictional wetlands or adjacent drainages. The proposed development will not have an effect on wetlands, riparian areas, flood plains or other sensitive areas.
2. **Sole Source Aquifers.** There has not been official designation of any sole source aquifers (SSA) on the Navajo Nation by the NNEPA Public Water Systems Supervision Program (PWSSP) or the United States Environmental Protection Agency (USEPA). Currently, the Navajo Nation has not *officially* designated any aquifers as a SSA; however, as the NNEPA is further established this will change. In order for an aquifer to be considered as a designated SSA, the aquifer must meet two criteria: (1) it must supply more

than 50% of a community's drinking water; and (2) it must be the only available local or regional source of drinking water.

This section on Sole Source Aquifers shall not be used to fulfill the SSA requirements for other proposed activities, projects or otherwise.

3. Air Quality. The project is located within the boundaries of the Navajo Nation and therefore subject to the jurisdiction of the Navajo Air Quality Control Program of the NNEPA for the purpose of air quality regulation. The proposed project is located in areas of attainment and would not appear to significantly impact the NAAQS for the area.
4. Toxic Chemicals and Radioactive Materials. The former Foutz #3, mined by Foutz & Co. during the early 1950's, is located approximately 1-1/4 air miles southeast from the area proposed for development. The map that accompanied the request for determinations did not provide the perimeter of the proposed development; therefore, the estimation of 1-1/4 air miles was derived from the point of the arrow designating "Housing Project Area". Designation of the exterior boundary of the development area could reduce the estimated air miles to less than 1-1/4 miles. Although the former mine was reclaimed, there exists the potential for the former mine site to release radioactive particles to the drainages that run directly to and within the proposed Springstead housing area. The drainages are tributaries to the jurisdictional Puerco River.

At this time, the NNEPA is unable to provide a determination stating that the subject property would be free of hazardous materials, contamination, toxic chemicals, gasses and radioactive substances that could affect the health or safety of occupants or conflict with the intended use of the property.

Absent a determination that would allow the project to progress in a manner anticipated by the proponents of the project, the developer must proceed to collect relevant information regarding the characteristics of the Springstead site that would further assist in assessing exposure to health hazards.

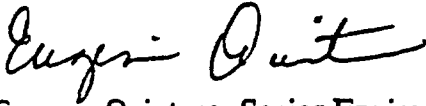
If additional information determines that the health and safety of the occupants within the Springstead site would be affected or otherwise compromised, then specific mitigation measures must be developed with oversight of relevant oversight agencies before the NNEPA will reconsider addressing the matter of a determination for Toxic Chemicals and Radioactive Materials.

Lastly, the NNEPA requests and advises that thorough consultation commence and continue to occur for those aspects of the planned development pertaining to topics such as water quality, water usage, CWA determinations and/or permitting, etc., that are

typically addressed within an environmental assessment. To date, the NNEPA has not been contacted on any EA topics in conjunction with the proposed Springstead project.

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Sincerely,

A handwritten signature in cursive script, appearing to read "Eugenia Quintana".

Eugenia Quintana, Senior Environmental Specialist
Navajo Nation Environmental Protection Agency

C.5.

**CONSULTATION LETTER CONCERNING
ENDANGERED SPECIES ACT
[50 CFR 402]**



THE NAVAJO NATION

DEPARTMENT OF FISH & WILDLIFE, Natural Heritage Program, P.O. Box 1480, Window Rock, AZ 865

KELSEY A. BEGAYE
PRESIDENT

TAYLOR MCKENZIE, M.E.
VICE PRESIDENT

12 September 2002

File#02BEC06

Howard Bitsui, EA Consultant
Bitsui Environmental Consultant
P.O. Box 2250
Window Rock, AZ 86515

SUBJECT: CONSTRUCTION OF HOUSING/APARTMENT UNITS
LOCATED NEAR SPRINGSTEAD TRADING POST, NM

Mr. Bitsui:

The following information on species of concern¹ is provided in response to your 26 August 2002 request concerning the subject project, which consists of the proposed construction of various types of housing and apartment units. The project measures 640.0 acres and is located approximately four miles north of Church Rock community on New Mexico State Route 566 at T16N, R16W, Section 30. The project is sponsored by the Fort Defiance Housing Corporation under the Native American Housing and Self-Determination Act (NAHASDA).

Although the Navajo Fish and Wildlife Department (NFWD) has no record of species of concern occurring on or near the project site(s) at this time, the potential for certain species of concern to occur needs to be evaluated.

Species of concern with potential to occur on the 7.5-minute Church Rock, NM quadrangle(s) containing the project boundaries include the following. Potential is based primarily on quadrangle-wide coarse habitat characteristics and species range information. Your project biologist should determine habitat suitability at the project site(s).

1. *Aquila chrysaetos* (Golden Eagle); NESL group 3; MBTA; EPA.
2. *Empidonax traillii extimus* (Southwestern Willow Flycatcher); NESL group 2; ESA endangered; MBTA.
3. *Falco peregrinus* (Peregrine Falcon); NESL group 4; MBTA.
4. *Mustela nigripes* (Black-footed Ferret); NESL group 2; ESA endangered.
5. *Strix occidentalis lucida* (Mexican Spotted Owl); NESL group 3; ESA threatened; MBTA.
6. *Erigeron acomanus* (Acoma Fleabane); NESL group 3.
7. *Erigeron rhizomatus* (Rhizome Fleabane); NESL group 2; ESA threatened.
8. *Erigeron sivinskii* (Sivinski's Fleabane); NESL group 4.

¹"Species of concern" include protected, candidate, and other rare or otherwise sensitive species, including certain native species and species of economic or cultural significance. For each species, the following tribal and federal statuses are indicated: Navajo Endangered Species List (NESL), federal Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), and Eagle Protection Act (EPA). No legal protection is afforded species with only ESA candidate or NESL group 4 status; please be aware of these species during surveys and inform the NFWD of observations. Documentation that these species are more numerous or widespread than currently known, and addressing these species in project planning and management is important for conservation and may contribute to ensuring they will not be uplisted in the future. Species without ESA or NESL legal protection (e.g., NESL group 4 species) are only included in responses on a regular basis and may not be included in this response. Please refer to the NESL for a list of group 4 species; contact me if you need a copy.

Potential for the black-footed ferret should be evaluated if prairie-dog towns of sufficient size (per NFWD guidelines) occur in the project area.

Potential for Puccinellia parishii should be evaluated if wetland conditions exist that contain white alkaline crusts.

Biological surveys need to be conducted during the appropriate season to ensure they are complete and accurate please refer to NN Species Accounts.⁴ Further questions pertaining to surveys should be referred to Species Account. Surveyors on the Navajo Nation must be permitted by the Director, NFWD. Contact Jeff Cole at (928) 871-7068 for permitting procedures. Questions pertaining to surveys should be directed to the NFWD Zoologist (David Mikesic) for animals at 871-7070, and Botanist (Daniela Roth) for plants at (928) 523-8445. Questions regarding biological evaluation should be directed to John Nystedt (Environmental Reviewer) at 871-7060.

Potential impacts to wetlands should also be evaluated. The U.S. Fish & Wildlife Service's National Wetlands Inventory (NWI) maps should be examined to determine whether areas classified as wetlands are located close enough to the project site(s) to be impacted. In cases where the maps are inconclusive (e.g., due to their small scale), field surveys must be completed. For field surveys, wetlands identification and delineation methodology contained in the "Corps of Engineers Wetlands Delineation Manual" (Technical Report Y-87-1) should be used. When wetlands are present, potential impacts must be addressed in an environmental assessment and the Army Corps of Engineers, Phoenix office, must be contacted. NWI maps are available for examination at the NFWD's Natural Heritage Program (NHP) office, or may be purchased through the U.S. Geological Survey (order forms are available through the NHP). The NHP has complete coverage of the Navajo Nation, excluding Utah, at 1:100,000 scale; and coverage at 1:24,000 scale in the southwestern portion of the Navajo Nation.

The information in this report was identified by the NFWD's biologists and computerized database, and is based on data available at the time of this response. If project planning takes more than two (02) years from the date of this response, verification of the information provided herein is strongly recommended. It should not be regarded as the final statement on the occurrence of any species, nor should it substitute for on-site surveys. Also, because the NFWD's information is continually updated, any given information response is only wholly appropriate for its respective request.

An invoice for this information is forthcoming.

If you have any questions I may be reached at (928) 871-6489.



Sonja Detsoi, Acting Data Manager
Natural Heritage Program
Department of Fish and Wildlife

xc: file/chrono

⁴ Available upon request free of charge by contacting Data Manager at 871-6489

C.6.

CONSULTATION LETTER CONCERNING

AIR QUALITY

[CLEAN AIR ACT, SECTIONS 176(c)

AND (d), AND 40 CFR 6, 51, 93]



NAVAJO NATION ENVIRONMENTAL PROTECTION AGENCY

Post Office Box 339

Window Rock, Arizona 86515

Telephone: (520) 871-7692

Fax: (520) 871-7996



February 12, 2002

Howard Bitsui, EA Consultant
Bitsui Environmental Consultant
P.O. Box 2250
Window Rock, Arizona 86515

**RE: Determination for Wetlands, Sole Source Aquifer, Toxic Chemicals and
Radioactive Material and, Air Quality
Springstead Housing Development Project – Springstead, McKinley County,
New Mexico**

Dear Mr. Bitsui:

The Navajo Nation Environmental Protection Agency (NNEPA) received a request from Bitsui Environmental Consultant for compliance documentation in fulfilling 24 CFR §58.5 for the development of the Springstead Housing Development Project within the vicinity of Springstead, McKinley County, New Mexico.

The project can be spatially examined on the USGS quadrangle map for Churchrock, New Mexico. Development within an area encompassing approximately 640 acres will entail the construction of single-family and apartments, with related infrastructure, including water, sewer, gas and electrical line extensions.

The determinations of the NNEPA are as follows:

1. Wetlands Protection. The proposed undertaking will not involve new construction within jurisdictional wetlands or adjacent drainages. The proposed development will not have an effect on wetlands, riparian areas, flood plains or other sensitive areas.
2. Sole Source Aquifers. There has not been official designation of any sole source aquifers (SSA) on the Navajo Nation by the NNEPA Public Water Systems Supervision Program (PWSSP) or the United States Environmental Protection Agency (USEPA). Currently, the Navajo Nation has not *officially* designated any aquifers as a SSA; however, as the NNEPA is further established this will change. In order for an aquifer to be considered as a designated SSA, the aquifer must meet two criteria: (1) it must supply more

than 50% of a community's drinking water; and (2) it must be the only available local or regional source of drinking water.

This section on Sole Source Aquifers shall not be used to fulfill the SSA requirements for other proposed activities, projects or otherwise.

3. Air Quality. The project is located within the boundaries of the Navajo Nation and therefore subject to the jurisdiction of the Navajo Air Quality Control Program of the NNEPA for the purpose of air quality regulation. The proposed project is located in areas of attainment and would not appear to significantly impact the NAAQS for the area.
4. Toxic Chemicals and Radioactive Materials. The former Foutz #3, mined by Foutz & Co. during the early 1950's, is located approximately 1-1/4 air miles southeast from the area proposed for development. The map that accompanied the request for determinations did not provide the perimeter of the proposed development; therefore, the estimation of 1-1/4 air miles was derived from the point of the arrow designating "Housing Project Area". Designation of the exterior boundary of the development area could reduce the estimated air miles to less than 1-1/4 miles. Although the former mine was reclaimed, there exists the potential for the former mine site to release radioactive particles to the drainages that run directly to and within the proposed Springstead housing area. The drainages are tributaries to the jurisdictional Puerco River.

At this time, the NNEPA is unable to provide a determination stating that the subject property would be free of hazardous materials, contamination, toxic chemicals, gasses and radioactive substances that could affect the health or safety of occupants or conflict with the intended use of the property.

Absent a determination that would allow the project to progress in a manner anticipated by the proponents of the project, the developer must proceed to collect relevant information regarding the characteristics of the Springstead site that would further assist in assessing exposure to health hazards.

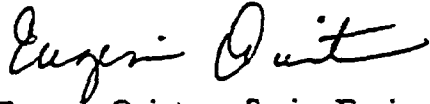
If additional information determines that the health and safety of the occupants within the Springstead site would be affected or otherwise compromised, then specific mitigation measures must be developed with oversight of relevant oversight agencies before the NNEPA will reconsider addressing the matter of a determination for Toxic Chemicals and Radioactive Materials.

Lastly, the NNEPA requests and advises that thorough consultation commence and continue to occur for those aspects of the planned development pertaining to topics such as water quality, water usage, CWA determinations and/or permitting, etc., that are

typically addressed within an environmental assessment. To date, the NNEPA has not been contacted on any EA topics in conjunction with the proposed Springstead project.

We hope this information is helpful to your organization. If you have any questions you may contact me at 928-871-7800. Thank you.

Sincerely,

A handwritten signature in cursive script that reads "Eugenia Quintana".

Eugenia Quintana, Senior Environmental Specialist
Navajo Nation Environmental Protection Agency

C.7.

**CONSULTATION LETTER CONCERNING
FARMLAND PROTECTION POLICY ACT
[7 CFR 658]**



**THE
NAVAJO
NATION**

P. O. BOX 9000 • WINDOW ROCK, ARIZONA 86515 • (520) 871-6000

KELSEY A. BEGAYE
PRESIDENT

TAYLOR MCKENZIE, M.D
VICE PRESIDENT

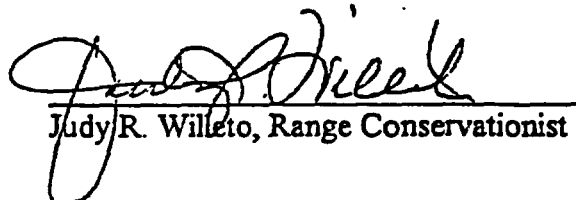
December 5, 2002

Howard Bitsui, EA Consultant
Bitsui Environmental Consultant
P.O. Box 2250
Window Rock, Arizona 86515

Reference: Farmland Protection – [7 CFR 658] Determination for Environmental Review for the Springstead Housing Development in Springstead, New Mexico.

The Navajo Department of Agriculture is in receipt of your letter requesting farmland protection determination the Springstead Housing Development in Springstead, New Mexico. We find there are no prime or unique farmlands or other farmlands of statewide or local importance located in the project location area identified on the attached maps submitted by your office. The Navajo Department of Agriculture thereby makes a “no impact” determination on the farmland clearance requirement under the Farmland Protection [7 CFR 658]. If you need additional information contact this office at (928) 871-7076.

DEPARTMENT OF AGRICULTURE


Judy R. Willetto, Range Conservationist

c: file

C.8.

**CONSULTATION LETTER CONCERNING
TOXIC OR HAZARDOUS SUBSTANCES AND
RADIOACTIVE MATERIALS
[HUD Notice 79-33]**



NAVAJO NATION ENVIRONMENTAL PROTECTION AGENCY

Post Office Box 339

Window Rock, Arizona 86515

Telephone: (520) 871-7692

Fax: (520) 871-7996



February 12, 2002

Howard Bitsui, EA Consultant
Bitsui Environmental Consultant
P.O. Box 2250
Window Rock, Arizona 86515

**RE: Determination for Wetlands, Sole Source Aquifer, Toxic Chemicals and
Radioactive Material and, Air Quality
Springstead Housing Development Project – Springstead, McKinley County,
New Mexico**

Dear Mr. Bitsui:

The Navajo Nation Environmental Protection Agency (NNEPA) received a request from Bitsui Environmental Consultant for compliance documentation in fulfilling 24 CFR §58.5 for the development of the Springstead Housing Development Project within the vicinity of Springstead, McKinley County, New Mexico.

The project can be spatially examined on the USGS quadrangle map for Churchrock, New Mexico. Development within an area encompassing approximately 640 acres will entail the construction of single-family and apartments, with related infrastructure, including water, sewer, gas and electrical line extensions.

The determinations of the NNEPA are as follows:

1. **Wetlands Protection.** The proposed undertaking will not involve new construction within jurisdictional wetlands or adjacent drainages. The proposed development will not have an effect on wetlands, riparian areas, flood plains or other sensitive areas.
2. **Sole Source Aquifers.** There has not been official designation of any sole source aquifers (SSA) on the Navajo Nation by the NNEPA Public Water Systems Supervision Program (PWSSP) or the United States Environmental Protection Agency (USEPA). Currently, the Navajo Nation has not *officially* designated any aquifers as a SSA; however, as the NNEPA is further established this will change. In order for an aquifer to be considered as a designated SSA, the aquifer must meet two criteria: (1) it must supply more

than 50% of a community's drinking water; and (2) it must be the only available local or regional source of drinking water.

This section on Sole Source Aquifers shall not be used to fulfill the SSA requirements for other proposed activities, projects or otherwise.

3. Air Quality. The project is located within the boundaries of the Navajo Nation and therefore subject to the jurisdiction of the Navajo Air Quality Control Program of the NNEPA for the purpose of air quality regulation. The proposed project is located in areas of attainment and would not appear to significantly impact the NAAQS for the area.
4. Toxic Chemicals and Radioactive Materials. The former Foutz #3, mined by Foutz & Co. during the early 1950's, is located approximately 1-1/4 air miles southeast from the area proposed for development. The map that accompanied the request for determinations did not provide the perimeter of the proposed development; therefore, the estimation of 1-1/4 air miles was derived from the point of the arrow designating "Housing Project Area". Designation of the exterior boundary of the development area could reduce the estimated air miles to less than 1-1/4 miles. Although the former mine was reclaimed, there exists the potential for the former mine site to release radioactive particles to the drainages that run directly to and within the proposed Springstead housing area. The drainages are tributaries to the jurisdictional Puerco River.

At this time, the NNEPA is unable to provide a determination stating that the subject property would be free of hazardous materials, contamination, toxic chemicals, gasses and radioactive substances that could affect the health or safety of occupants or conflict with the intended use of the property.

Absent a determination that would allow the project to progress in a manner anticipated by the proponents of the project, the developer must proceed to collect relevant information regarding the characteristics of the Springstead site that would further assist in assessing exposure to health hazards.

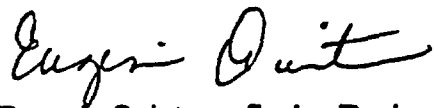
If additional information determines that the health and safety of the occupants within the Springstead site would be affected or otherwise compromised, then specific mitigation measures must be developed with oversight of relevant oversight agencies before the NNEPA will reconsider addressing the matter of a determination for Toxic Chemicals and Radioactive Materials.

Lastly, the NNEPA requests and advises that thorough consultation commence and continue to occur for those aspects of the planned development pertaining to topics such as water quality, water usage, CWA determinations and/or permitting, etc., that are

typically addressed within an environmental assessment. To date, the NNEPA has not been contacted on any EA topics in conjunction with the proposed Springstead project.

We hope this information is helpful to your organization. If you have any questions you may contact me at 928-871-7800. Thank you.

Sincerely,

A handwritten signature in cursive script that reads "Eugenia Quintana". The signature is written in black ink and is positioned above the typed name.

Eugenia Quintana, Senior Environmental Specialist
Navajo Nation Environmental Protection Agency

C.9.

**CONSULTATION LETTER CONCERNING
EXPLOSIVES AND FLAMMABLE SITES
[24 CFR 51 C]**



BITSUI ENVIRONMENTAL CONSULTANT

P.O. Box 2250
Window Rock, Arizona 86515
Tel: (928) 729-2561 • Fax: (928) 729-5895

Note to File and Report

Subject: Consultation with Executive Director of Department of Emergency Management Concerning Explosive or Flammable Operations (HUD Compliance Factor 24 CFR 51C).

This correspondence will serve to justify that on November 18, 2002 at about 1:30 pm, I consulted with Mr. Jimson Joe, Executive Director of Department of Emergency Program of the Navajo Nation *via* telephone concerning our letter pertaining to the subject matter.

We discussed and agreed that the proposed action is in compliance with 24 CFR parts 51C&58.5. The project site is located at an Acceptable Separation Distance (ASD) from any known aboveground explosive or flammable fuels or chemicals. The project will expose neither people nor buildings to hazards as determined by the Navajo Nation Emergency Management Department.

Respectfully,



Howard Bitsui, EA TechCon

BITSUI ENVIRONMENTAL CONSULTANT

P.O. Box 2250
Window Rock, Arizona 86515
Tel: (928) 729-2561 • Fax: (928) 729-5895

November 04, 2002

Jimson Joe, Director
Department of Emergency Management
Navajo Nation Division of Public Safety
P.O. Box 2908
Window Rock, Arizona 86515

RE: Consultation Concerning Explosive or Flammable Operation, 24 CFR 51C for Proposed Springstead Housing Development in Springstead, McKinley County, New Mexico.


Dear Mr. Guerito:

Bitsui Environmental Consultant (BEC) is preparing an environmental assessment (EA) on Fort Defiance Housing Corporation's proposal to build about one thousand (1,000) housing units within Section 30 (640 acres) of deeded (private) property situated within the so-called Indian Country in the vicinity of Springstead, McKinley County, New Mexico. Housing development will consist of construction of single-family and apartment units, street pavements, curbs and gutters, sidewalks, surface drainage provisions, landscape/fence, egress and ingress provisions. Utility improvements will consist of water and sewer system, gas and electrical lines. The EA is scheduled to be complete by the end of November of 2002.

In accordance with the U.S. HUD/NAHASDA environmental review requirements (24CFR Part 58), the sponsor is required to ensure that the HUD-Assisted project site is located within an Acceptable Separation Distance (ASD) from any known aboveground explosive or flammable fuels or chemicals, in accordance with the *Explosive or Flammable Operations [24 CFR 51C]*. Therefore, I am requesting your office for any information that can help to make such a determination.

The area proposed for residential development can be located on the *Church Rock, NM USGS 7.5-minute Quadrangle*. Attached is a copy of this map showing the site location within Springstead community. Thank you in advance for your prompt attention to this matter. If you have any questions, you may reach me at (928) 729-2561.

Sincerely,


Howard Bitsui, EA Consultant

Attachments: USGS Vicinity Map
Project Purpose and Description

cc: Fort Defiance Housing Corporation

C.10.

**CONSULTATION LETTER CONCERNING
AIRPORT CLEAR ZONES AND ACCIDENT
POTENTIAL ZONES
[24 CFR 51 D]**



THE NAVAJO NATION
Department of Transportation

P.O. BOX 4620 • WINDOW ROCK, ARIZONA 86515 • PH: (520) 871-6498 • FAX: (520) 871-798

KELSEY A. BEGAYE
PRESIDENT

November 18, 2002

TAYLOR MCKENZIE, M.J.
VICE-PRESIDENT

Howard Bitsui, EA Consultant
Bitsui Environmental Consultant
PO BOX 2250
Window Rock, Arizona 86515

RE: RESIDENTIAL DEVELOPMENT SPRINGSTEAD, NM, ACCIDENT POTENTIAL REPORT.

Analysis Report for Airport Runway Protection Zone, Military Accident Potential and Accident Potential Zones (24 CFR 51D) for residential development site Springstead, McKinley County, New Mexico.

Results of map analysis: USGS, Church Rock. New Mexico, 7.5' quadrangle map.

- 1.) Runway Protection Zone (RPZ), there is no encroachment of any airport
- 2.) Military Airspace, there is no encroachment or accident potential. The site is inclose proximity to an active military rocket testing facility. Generally permitted individual dwellings inclose proximity to military facility.
- 3.) Accident Potential 24 CFR , there is no hazardous waste accident potential.

Runway Protection Zone is a vertical cone shape airspace beyond the airport surface boundary delineating a aircraft landing flight space. Runway Protection Zones replaced the Clear Zone.

Accident Potential 24 CFR refers to historical storage of hazardous material and future accident potential.

Military Accident Potential refers to accident potential from military active due to encroachment of military airspace.

Navajo Nation Code, Title 14, Chapter 3. Section 201 Generally

Controlled zones of 750 feet on both side of the right-of-way of any constructed, maintained, or new proposed roads are established:

The intent of Section 201, Control Zones is to ensure the relative safety of the public in the establishment of control boundary beyond the highway right-of-way. Provision of Control zone was not only to preclude obstructions or construction of potential hazard to highway users, but also to control building construction as a protection from nuisance and hazard to general public.

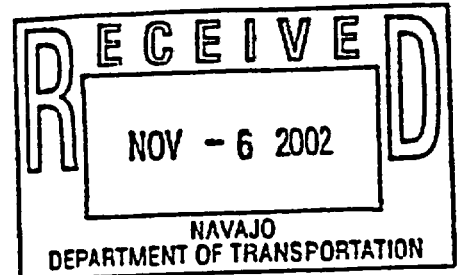
Allen Nakaidinae, Civil Engineer
Navajo Department of Transportation
PO BOX 4620 Window Rock, Arizona 86515

BITSUI ENVIRONMENTAL CONSULTANT

P.O. Box 2250
Window Rock, Arizona 86515
Tel: (928) 729-2561 • Fax: (928) 729-5895

November 04, 2002

Allen Nakaidinae, Civil Engineer
Department of Transportation
THE NAVAJO NATION
P.O. Box 4620
Window Rock, Arizona 86515



RE: Consultation Concerning Airport Clear Zones and Accident Potential Zones [24 CFR 51D] for Springstead Housing Development Project in Springstead, McKinley County, New Mexico.

Dear Mr. Nakaidinae:

Bitsui Environmental Consultant (BEC) is preparing an environmental assessment (EA) on Fort Defiance Housing Corporation's proposal to build about one thousand (1,000) housing units within Section 30 (640 acres) of deeded (private) property situated within the so-called Indian Country in the vicinity of Springstead, McKinley County, New Mexico. Housing development will consist of construction of single-family and apartment units, street pavements, curbs and gutters, sidewalks, surface drainage provisions, landscape/fence, egress and ingress provisions. Utility improvements will consist of water and sewer system, gas and electrical lines. The EA is scheduled to be complete by the end of November of 2002.

In accordance with the U.S. HUD/NAHASDA environmental review requirements (24CFR Part 58), the sponsor is required to ensure that the HUD-Assisted project site is not located in an airport runway clear zone and accidental potential zones and within military airfield clear zone (CZ). Therefore, I am consulting your office for any information that can help to make such a determination.

The area proposed for residential development can be located on the *Church Rock, NM USGS 7.5-minute Quadrangle*. Attached is a copy of this map showing the site location within the Springstead community. Thank you in advance for your prompt attention to this matter. If you have any questions, you may reach me at (928) 729-2561.

Sincerely,



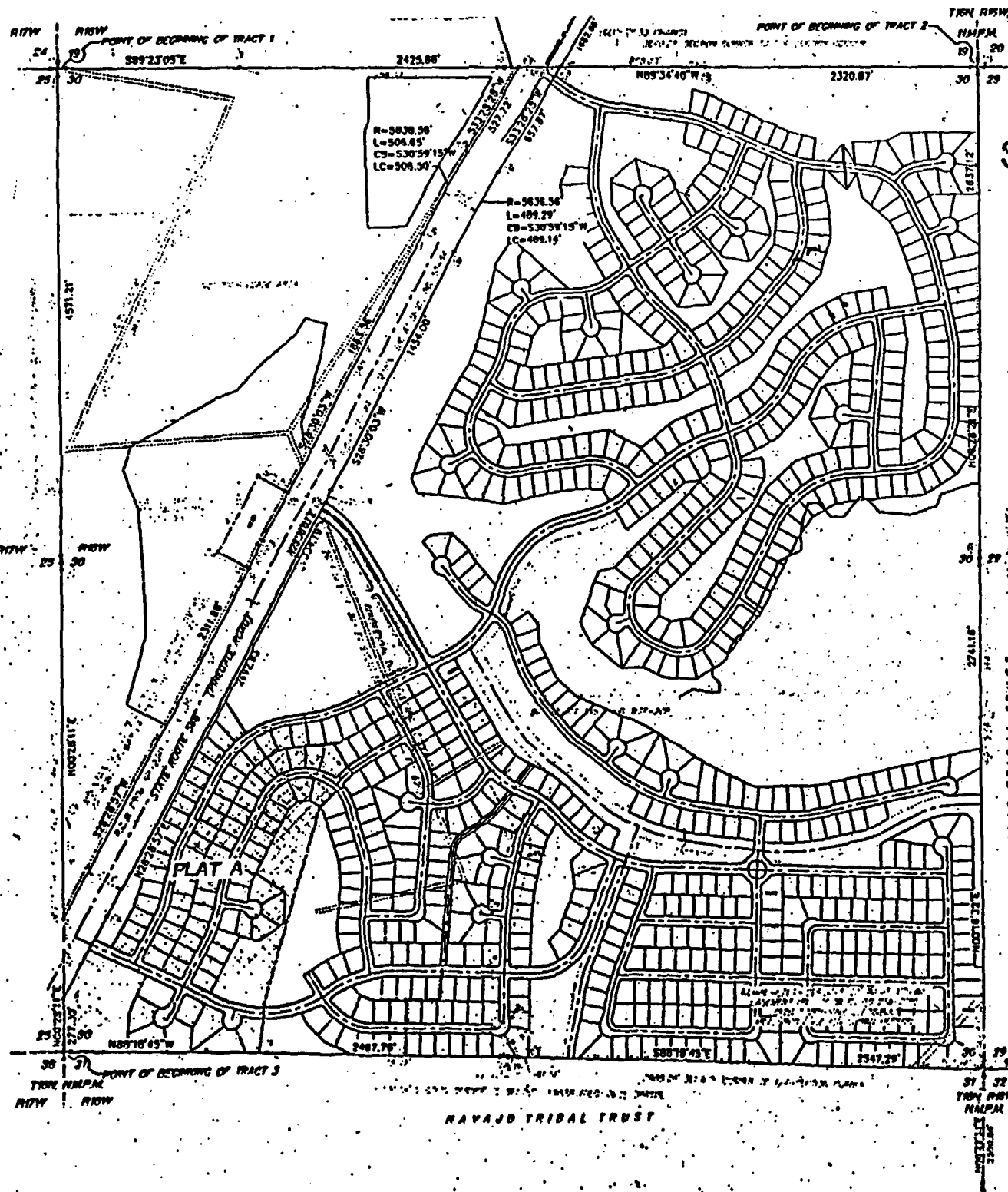
Howard Bitsui, EA Consultant

Attachments: USGS Vicinity Map
Project Purpose and Description

cc: Fort Defiance Housing Corporation

D.

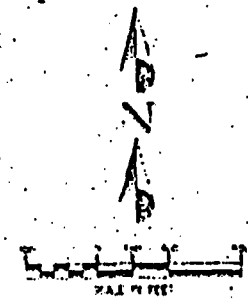
**HOUSING DEVELOPMENT PLANS
FOR
SPRINGSTEAD ESTATES PROJECT**



FINAL MAP OF SPRINGSTEAD ESTATES PHASE 1, PLAT A

LOCATED IN SECTION 30, TOWNSHIP 16 NORTH, RANGE 10
WEST, NALPM, MCKINLEY COUNTY, NEW MEXICO

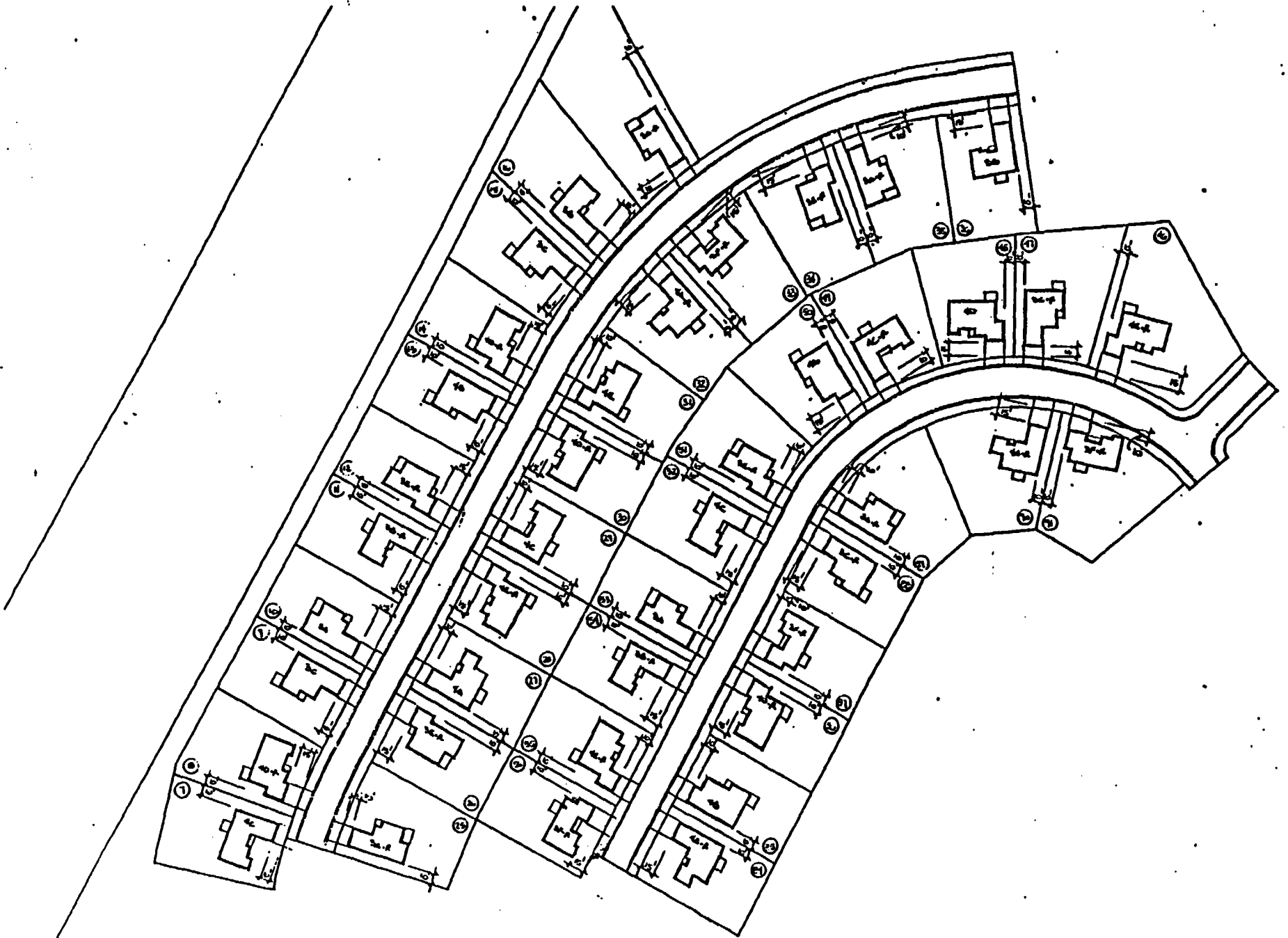
THIS MAP WAS PREPARED BY THE ENGINEER AND REFERENCED TO PROPERTY
OWNERS AND TO RECORDS OF THE PUBLIC RECORDS OF THE COUNTY OF
MCKINLEY, NEW MEXICO. THE ENGINEER HAS BEEN ADVISED BY THE
PROPERTY OWNERS THAT THE PROPERTY IS TO BE USED FOR RESIDENTIAL
PURPOSES.



Prepared by
PEPG ENGINEERING, L.L.C.
1000 N. 10TH ST. SUITE 100 • TUCSON, AZ 85710
PH: (520) 798-8800 • FAX: (520) 798-8801

DATE	BY
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DATE: []	

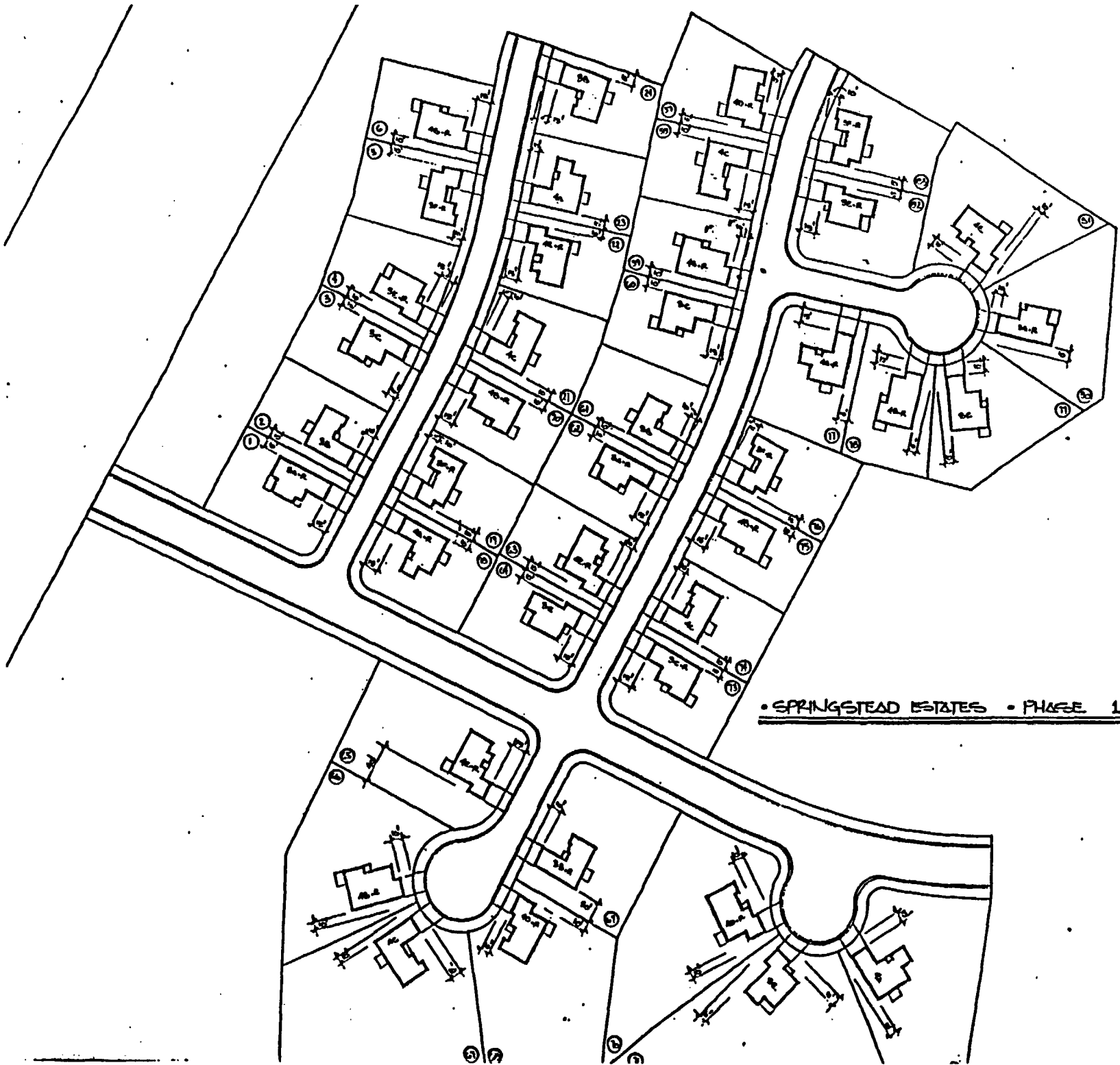
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ELECT 400 2



• SPRINGSTEAD ESTATES • PHASE 1 •



• SCALE : 1" = 50'-0" •



• SPRINGSTEAD ESTATES • PHASE 1 • = SCALE: 1" = 50'-0" •

• (N) NORTH •

E.

**OWNERSHIP DOCUMENTS
PERTAINING TO SECTION 30**

SEP. 18. 2002 10:51AM

NO. 4559 . P. 2/6

ALTA OWNER'S POLICY
(10/1/92)

SCHEDULE A

File Number 01030202

Policy Number: J1104124

Amount of Insurance \$550,000.00

Premium \$2,842.00

Date of Policy: 09/28/2001 at 10:41 A.M.

1. Name of Insured:

WILLIAM H. AUBREY.

2. The estate or interest in the land which is covered by this policy is:

Fee Simple

3. The estate or interest in the land is vested in:

William H. Aubrey, a single man, by virtue of that certain Warranty Deed from Bronson Springstead and Karen Springstead, Trustees of the Bronson Springstead and Karen Springstead Revocable Trust Dated May 14, 1997, Erroyl Terry Springstead, a married man as his sole and separate estate as designated in that certain Sole and Separate Property Agreement and Conveyance recorded September 28, 2001 in Book 17 Comp., page 3438, No. 297,506, and Lora Lynn Dahl, a single woman, dated September 28, 2001 and recorded September 28, 2001 in Book 17 Comp., page 3439, No. 297,507, in the office of the County Clerk of McKinley County, New Mexico.

4. The land referred to in this Policy is described as follows:

All of Section Thirty (30) in
Township Sixteen (16) North, Range Sixteen (16) West, N.M.P.M.
County of McKinley, State of New Mexico

First American Title Insurance Company

G & P Inc., DBA Gallup Title Company
306 South Second Street
Gallup, NM 87301

(505) 722-4313

SEP. 18. 2002 10:52AM

NO. 4559 P. 3/6

ALTA OWNER'S POLICY
(10/17/92)

SCHEDULE B - PART I

File Number: 01030282

Policy No. J1104124

This Policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

PART I

1. Rights or claims of parties in possession not shown by the public records.
2. Easements, or claims of easements, not shown by the public records.
3. Encroachments, overlaps, conflicts in boundary lines, shortages in area, or other matters which would be disclosed by an accurate survey and inspection of the premises.
4. Any lien, claim or right to a lien, for services, labor or material heretofore or hereafter furnished, imposed by law and not shown by the public records.
5. Community property, survivorship, or homestead rights, if any, of any spouse of the insured (or vested in a leasehold or lease policy).
6. Any titles or rights asserted by anyone including, but not limited to, persons, corporations, governments, or other entities, to lands comprising the shores or bottoms of navigable streams, lakes or land beyond the line of the harbor or bulkhead lines established or changed by the United States Government.
7. Unpatented mining claims; reservations or exceptions in patents or in acts authorizing the issuance thereof; water rights, claims or title to water.
8. Taxes or assessments which are not shown as existing liens by the public record.
9. Taxes for the year 2001, and thereafter.
10. Less and except all coal and other minerals together with the rights incident thereto, reserved to the United States of America, by Patent, recorded in Book 6 Deed Records, Page 523.
11. Right of Way Easement granted to the New Mexico State Highway Department dated October 16, 1969 and recorded February 12, 1970 in Book 61 Misc., Page 50.
12. Subject to a Twenty Foot (20') Easement granted to Mountain States Telephone and Telegraph Company dated January 14, 1970 and recorded July 6, 1976 in Book 69 Misc., Page 140, NO. 161,724.

Continued on the following page

First American Title Insurance Company

G & P Inc., DBA Gallup Title Company
306 South Second Street
Gallup, NM 87301

(505) 722-4313

SEP. 18. 2002 10:52AM

NO. 4559 - P. 4/6

ALTA OWNER'S POLICY
(10/17/02)

SCHEDULE B - PART I Continued

File Number: 01030202

Policy No. J1104124

13. Right of Way Easement from Thelma K. Springstead, et al, to U.S. Indian Health Service recorded February 13, 1980 in Book 76 Misc., Pages 218-219, NO. 194,317.
14. Easement Deed from Alan Phillip Springstead to McKinley County recorded April 22, 1987 in Book 90 Misc., Page 907, NO. 228,501.
15. Right of Way Easement from Alan Springstead to Continental Divide Electric Cooperative recorded May 4, 1989 in Book 94 Misc., Page 620, NO. 236,704.
16. Memorandum of Amended Lease from Bronson Springstead and Karen Springstead Revocable Trust, et al, to Thriftway Marketing Corporation recorded May 29, 1998 in Book 12 Comp., Pages 5859-5862, NO. 279,868; said Lease assigned to Giant Four Corners, Inc., by Assignment and Assumption of Amended Lease, recorded June 18, 1998 in Book 12 Comp., Pages 6770-6772, NO. 280,189.
17. Survey of a portion of these premises by Sterling and Mataya Engineers, recorded November 25, 1997 at Reception NO. 277,408 in Plat Cabinet "D", Folio NO. 137.

First American Title Insurance Company

G & P Inc., DBA Gallup Title Company
306 South Second Street
Gallup, NM 87301

(505) 722-4313

SEP. 18. 2002 10:52AM

NO. 4559 P. 5/6

NAMED INSURED ENDORSEMENT

Attached to Policy No. J1104124

Issued by

First American Title Insurance Company



01030202 / Aubrey

Paragraph 1(a) of Conditions and Stipulations is deleted and the following paragraph is substituted in its place:

"insured": the insured named in Schedule A, and, subject to any rights or defenses the Company would have had against the named insured, those who succeed to the interest of the named insured by operation of law as distinguished from purchase including, but not limited to, heirs, distributees, devisees, survivors, personal representatives, next of kin, or corporate, partnership or fiduciary successors, and specifically, without limitation, the following:

- (i) the successors in interest to a corporation, limited liability company or limited liability partnership named as an insured in Schedule A resulting from merger or consolidation or conversion or the distribution of the assets of the corporation or limited liability company or limited liability partnership upon partial or complete liquidation;
- (ii) the successors in interest to a general or limited partnership or limited liability company or limited liability partnership named as an insured in Schedule A which dissolves but does not terminate;
- (iii) the successors in interest to a general or limited partnership named as an insured in Schedule A resulting from the distribution of the assets of the general or limited partnership upon partial or complete liquidation;
- (iv) the successors in interest to a joint venture named as an insured in Schedule A resulting from the distribution of the assets of the joint venture upon partial or complete liquidation;
- (v) the trustee or successor trustee of a written trust instrument established by the insured named in Schedule A for estate planning purposes to whom the title is transferred after the policy date;
- (vi) the successor or substitute trustee(s) of a trustee named in a written trust instrument established by the insured named in Schedule A for estate planning purposes; or
- (vii) the successors in interest to a trustee or trust resulting from the distribution of all or part of the assets of the trust established by the insured named in Schedule A for estate planning purposes to the beneficiaries thereof.

This endorsement is made a part of the policy and is subject to all of the terms and provisions thereof and of any prior endorsements thereto. Except to the extent expressly stated, it neither modifies any of the terms and provisions of the policy and any prior endorsements, nor does it extend the effective date of the policy and any prior endorsements, nor does it increase the face amount thereof.

IN WITNESS WHEREOF, the Company has caused its corporate name and seal to be hereunto affixed by its duly authorized officers.

Dated: October 4, 2001

First American Title Insurance Company

BY Parley S. Kennedy PRESIDENT

BY Philip G. Garcia AUTHORIZED SIGNATORY
Philip G. Garcia

