15

FINAL BASE CASE COMMUNITY ANALYSIS: INDIAN SPRINGS, NEVADA

DOE/NV/10819--15

For the

Clark County

Socioeconomic Impact Assessment of the Proposed High-Level Nuclear Waste Repository at Yucca Mountain, Nevada

Prepared for the

Clark County

Nuclear Waste Repository Program

Prepared by

IMPACT ASSESSMENT, INC.
330 S. THIRD STREET, SUITE 850
LAS VEGAS, NEVADA 89101

June 18, 1992

MASTER

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DISCLAIMER

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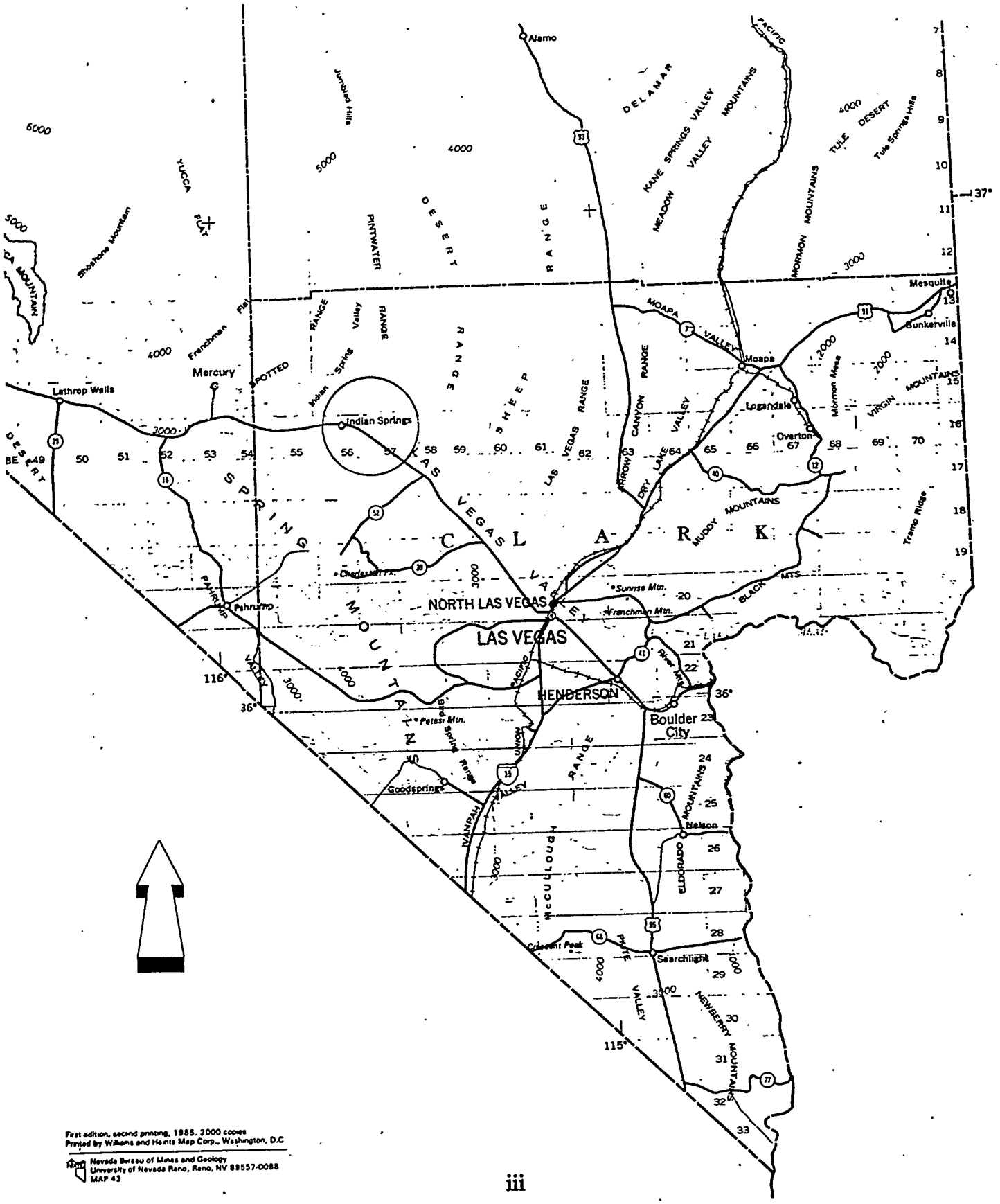
Executive Summary

This document provides a base case description of the rural Clark County community of Indian Springs in anticipation of change associated with the proposed high-level nuclear waste repository at Yucca Mountain. As the community closest to the proposed site, Indian Springs may be seen by site characterization workers, as well as workers associated with later repository phases, as a logical place to live. This report develops and updates information relating to a broad spectrum of socioeconomic variables, thereby providing a "snapshot" or "base case" look at Indian Springs in early 1992. With this as a background, future repository-related developments may be analytically separated from changes brought about by other factors, thus allowing for the assessment of the magnitude of local changes associated with the proposed repository. Given the size of the community, changes that may be considered small in an absolute sense may have relatively large impacts at the local level.

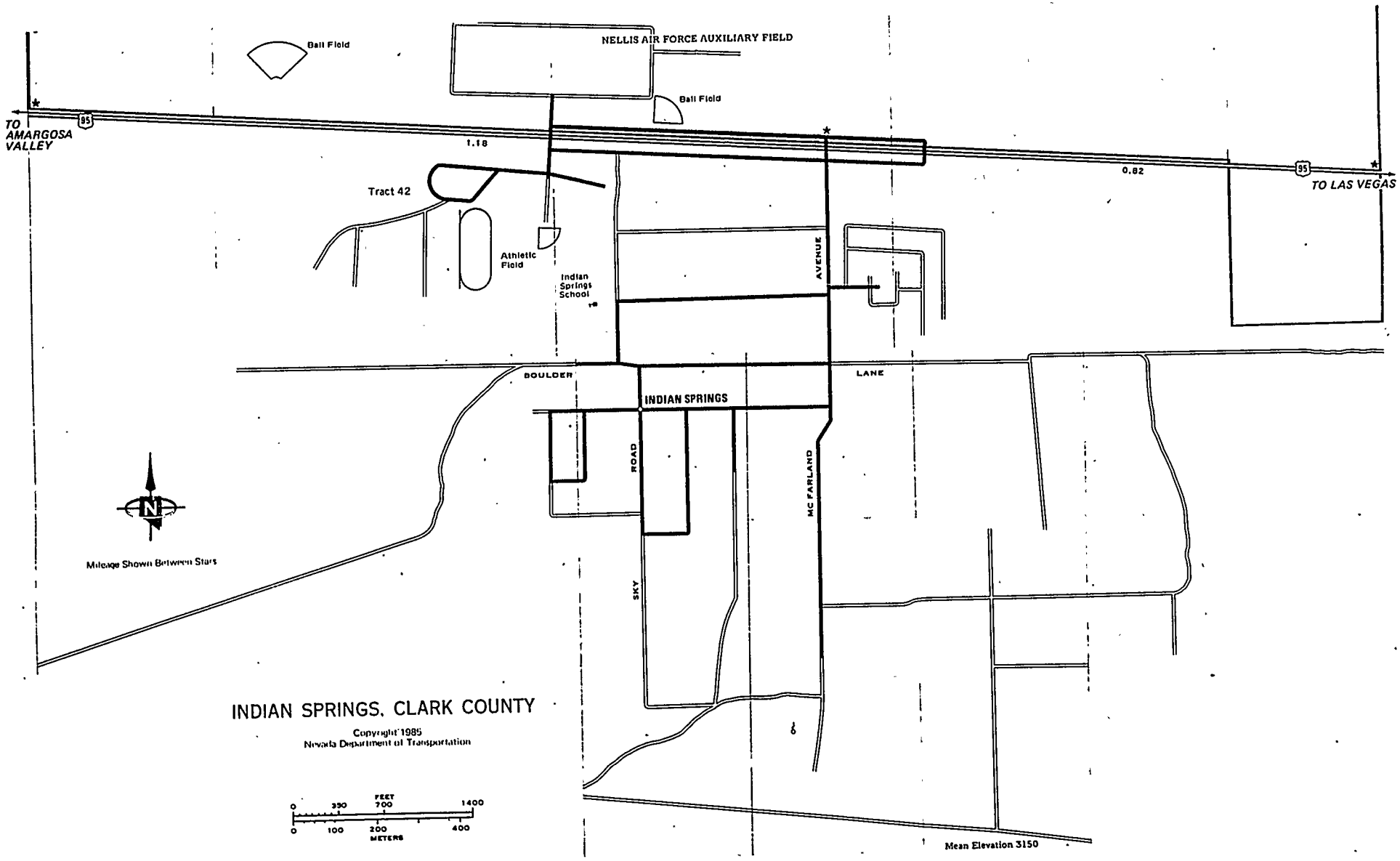
Indian Springs is, in many respects, a unique community and a community of contrasts. An unincorporated town, it is a small yet important enclave of workers on large federal projects and home to employees of small-scale local businesses and services. It is a rural community, but it is also close to the urbanized Las Vegas Valley. It is a desert community, but has good water resources. It is on flat terrain, but it is located within twenty miles of the tallest mountains in Nevada. It is a town in which various interest groups diverge on issues of local importance, but in which a sense of community remains an important feature of life. Finally, it has a socio-demographic history of both surface transience and underlying stability. If local land becomes available, Indian Springs has some room for growth but must first consider the historical effects of growth on the town and its desired direction for the future. Consideration of the community's unique background, the varied perspectives of its citizens, and its overall capability to accommodate growth may combine to renew Indian Springs' history as a desert oasis.

Locator Map: Indian Springs and Southern Nevada



First edition, second printing, 1985. 2000 copies
Printed by Williams and Heintz Map Corp., Washington, D.C

Nevada Bureau of Mines and Geology
University of Nevada Reno, Reno, NV 89557-0088
MAP 43


Ball Field
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Ball Field
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TO LAS VEGAS
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Athletic Field
Indian Springs School
AVENUE
BOULDER
LANE
INDIAN SPRINGS
ROAD
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INDIAN SPRINGS, CLARK COUNTY
Copyright 1985
Nevada Department of Transportation
FEET
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400
METERS
Mean Elevation 3150

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List of Acronyms and Abbreviations

AFDC	Aid to Families with Dependent Children
AG	Assemblies of God
afy	acre feet per year
BLM	Bureau of Land Management, U.S. Department of the Interior
CAC	Citizens Advisory Council
CCBC	Clark County Board of Commissioners
CCDSS	Clark County Department of Social Services
CCFD	Clark County Fire Department
CCHD	Clark County Health District
CCPRD	Clark County Parks and Recreation Department
CCPWD	Clark County Department of Public Works
DCP	Department of Comprehensive Planning, Clark County
EE&G	Edgerton, Germeshausen, and Greer Energy Measurements, Incorporated
EIS	Environmental Impact Statement
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
FSP	Food Stamp Program
HAZMAT	hazardous materials
IAI	Impact Assessment, Incorporated
ISAFAF	Indian Springs Air Force Auxiliary Field
ISS	Indian Springs School
ISSC	Indian Springs Sewer Company
K	kindergarten
LDS	Latter Day Saints, Church of Jesus Christ of
Metro	Las Vegas Metropolitan Police Department
MHz	megahertz
MIS	Las Vegas Metropolitan Police Department (Metro) - Indian Springs
mp	milepost
mph	miles per hour
NAFB	Nellis Air Force Base
NAFR	Nellis Air Force Range
NDE	Nevada Desert Experience
NHP	Nevada Highway Patrol
NIAA	Nevada Interscholastic Activities Association
NTS	Nevada Test Site
PAC	Parent Advisory Council
PTA	Parent Teacher Association
NWPO	State of Nevada Nuclear Waste Projects Office
NWRP	Nuclear Waste Repository Program, Clark County
PSC	Public Service Commission
REECo	Reynolds Electrical and Engineering Company
SDCC	Southern Desert Correctional Center
TAB	Town Advisory Board
US 95	United States Highway 95
USDOE	United States Department of Energy
USDOI	United States Department of the Interior
USDOI/BLM	United States Department of the Interior, Bureau of Land Management
USEPA	United States Environmental Protection Agency
USPS	United States Postal Service
YMP	Yucca Mountain Project

1.0 BACKGROUND AND RESEARCH OBJECTIVES

The Nuclear Waste Policy Act of 1987 authorized affected governments and tribal groups to research the potential social and economic impacts of siting a high-level nuclear waste repository at Yucca Mountain, Nevada. Allocations of funds to Clark County, Nevada for this purpose have resulted in the embodiment of the Clark County Nuclear Waste Repository Program (NWRP) and the entities that oversee and assist its activities -- the Nuclear Waste Steering Committee and the National Peer Review Committee.[1]

The primary mission of the NWRP is to research and monitor the social and economic impacts associated with the proposed repository at Yucca Mountain. Given the wide range and duration of impacts anticipated through the site characterization, construction, operation, closure, and post-closure phases of the project, the NWRP mission is a comprehensive one. Further, since the majority of the Nevadan population lives in the Las Vegas Valley in relatively close proximity to the proposed site of the repository, the NWRP effort is a critical one as a large share of social and economic impacts may thus be felt in Clark County.

Clark County harbors a large urban population yet also contains a vast rural acreage. Rural areas may also be affected by the proposed Yucca Mountain Project (YMP). Those rural communities in the northwestern part of the County within relatively easy commuting distance from Yucca Mountain may be particularly susceptible to change associated with the YMP. Meaningful assessment of repository-associated impacts on these communities will require research strategies that consider the unique aspects of community life in rural Clark County.

As the community closest to the proposed site characterization activities yet within reasonable proximity to the amenities of greater Las Vegas, Indian Springs, Nevada may be seen by site characterization workers, as well as workers associated with later project phases, as an attractive place to live. There is historical evidence for the validity of this supposition, and if it proves to be the case, it is likely that public services will be affected in the community, including education, public health, law enforcement, fire protection, cultural and recreational, and social services. The purpose of this report is to develop and update information for the NWRP relating to these services and to other aspects of life in Indian Springs so that possible repository-related developments may be analytically separated from changes brought about by other factors, thus allowing for the assessment of the magnitude of local changes associated with the repository.

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[1] The Nuclear Waste Steering Committee is comprised of representatives of local governments, tribal representatives, and citizen members of Clark County; its mission is to provide local oversight and direction to the research and monitoring activities of the NWRP. The National Peer Review Committee is comprised of nationally-recognized scholars, academicians, and agency administrators who have expertise in the fields and disciplines relevant to the research and monitoring activities of the NWRP; its mission is to make recommendations to the Steering Committee on the direction and quality of NWRP research and monitoring activities.

The report is thus also intended to provide the NWRP and associated planning entities with a tool for gauging current social and economic conditions in Indian Springs and for assisting in development of plans for change in those conditions over time.

2.0 INTRODUCTION

The community of Indian Springs, Nevada is located along U.S. Highway 95 (US 95, also known as the Tonopah Highway) in Clark County some forty-two miles northwest of Las Vegas and roughly ten miles east of the Nye County line. Its location on relatively flat terrain in the Indian Springs Valley and the existence of productive water sources have long made the area an attractive spot for travelers and settlers.

Indian Springs is a small community, although population size and structure has historically fluctuated in concert with changes in federal government activities at the Indian Springs Air Force Auxiliary Field, an auxiliary facility of Nellis Air Force Base, and at the nearby Nevada Test Site.[2] The U.S. Bureau of the Census enumerated the 1990 population of Indian Springs as 1,164 persons.

To understand potential growth-related impacts to residents of Indian Springs, the capability of the community to handle growth should be assessed and monitored. Recent data covering the broad range of socioeconomic and sociocultural variables potentially affected by future sources of community growth are lacking, however, and prior to developing plans for what the future may bring, new data are needed to define the present conditions in the area and to establish the possible magnitude and extent of potential future impacts. Given that the principal causal factor assumed to affect the future of the community of Indian Springs is increased population, the nucleus of this report will focus on a baseline description of social, economic, cultural, infrastructural, and service demand characteristics for the current population.

In order analyze potential site characterization-related population growth impacts on community social and economic infrastructure, it is also necessary to document the existing demographic composition of Indian Springs. This will entail the development of abbreviated descriptions of current population growth patterns, demography (age, sex, household size, etc.), residence patterns, and associated socioeconomic characteristics. Further, in order to provide sufficient context for current community conditions, sections describing local environmental conditions and the history of the community are also developed.

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[2] The Mercury gate of the Nevada Test Site is located roughly twenty miles northwest of Indian Springs. If the repository is constructed, and barring the construction of other access points, the Mercury gate will be the closest point of approach to the facility from points south including Indian Springs, and towns and cities in the Las Vegas Valley. Although NTS is a Department of Energy facility, residents of Indian Springs employed at the site may also work for one of the DOE subcontractors such as Reynolds Electric and Engineering Company, Inc. (REECo). For the sake of simplicity, however, persons working for agencies or subcontractors at NTS are discussed throughout this document in general terms such as "NTS workers."

This document is thus intended to provide a broad description of the community of Indian Springs, with a particular focus on socioeconomic and sociocultural aspects of life in the community in the early 1990's. Following this introductory section, Section 3.0 reviews the research methods used for the project. Section 4.0 is a comprehensive baseline description of Indian Springs that covers a wide variety of social, economic, and cultural issues and variables and includes brief descriptions of the local environment and local history. A summary and conclusions chapter comprises Section 5.0. Finally, Section 6.0 provides a list of the secondary resources cited in the preceding sections.

3.0 METHODOLOGY

A combination of research methods were used to generate the data which form the baseline description in the main sections of this report. These methods included secondary source research (a "literature review") to compile secondary data, and observation and interviews to compile primary data. This section describe these methods, and the means by which they were implemented in this particular project.

3.1 SECONDARY SOURCE RESEARCH

Since a number of researchers have conducted socioeconomic and other related research in Indian Springs in recent years, secondary source research was one method of data collection that could be efficiently utilized in the development of this report. The review of existing materials, published or unpublished, served a number of purposes. First, the process served to provide researchers with background knowledge of community history and current social issues. This knowledge enabled the researcher to approach the first-hand collection of information in Indian Springs with an understanding of salient issues. Second, the literature review served to identify the kinds of data that have already been collected and/or compiled. This gave the researcher a more comprehensive sense of the kinds of community issues that have been pursued in the past, and from what sources that information was gathered and may possibly be gathered for present purposes. Finally, secondary source research allowed the researcher to judge the value and relevance of existing information for present purposes. This enabled incorporation of what is valuable and relevant into the new work, and identifying those areas where existing data were either missing entirely or in need of clarification, further development, or update during primary data collection efforts.

A number of studies have sought to describe various aspects of life in rural southern Nevada, and a handful have focused on the community of Indian Springs. Skelton (1974) provided a comprehensive human geographical analysis of the town in the mid-seventies. Early investigations of water availability in the community area include studies by Maxey and Jameson (1948), and [no author] (1961). An unpublished water and sewer study was done by VTN Nevada (1970). Community planning studies were done by Eisner-Stewart and Associates (1966), and by the Clark County Department of Comprehensive Planning (1980).

Cultural resource studies have been prepared for the Bureau of Land Management in relation to public works projects undertaken in the Indian Springs area. These include works by Rolf (1975), Martin (1980), Liebhauser (1981), Rafferty (1982), and Zale, *et al.* (1986). Draft and

final documents entitled *Special Nevada Report* (Science Applications Internatioanl Corporation [SAIC] 1990, 1991) review current and proposed defense-related activity in Nevada including activity at the Indian Springs Air Force Auxiliary Field.

Studies considering a variety of socioeconomic and sociocultural variables have been conducted under the U.S. Department of Energy funding umbrella in connection with the proposed nuclear waste repository at nearby Yucca Mountain. These include projects undertaken for the State of Nevada Nuclear Waste Projects Office by Krannich and Little (1987), Endter, *et al.* (1988), and Little and Krannich (1990). Planning Information Corporation has included Indian Springs in its Clark County Local Government Monitoring and Assessment System draft report (1991).

Recent studies of more focused issues not related to the Yucca Mountain Project include a Las Vegas Valley Water District study (CH2M Hill, 1989), an update survey of the Indian Springs Sewage Company (Clark County Sanitation District, 1990), and an update to the Clark County Regional Flood Control District Master Plan for outlying areas (G.C. Wallace, Inc., 1991). A solid waste disposal study conducted for Clark County is currently in process. Finally, the State of Nevada Department of Transportation (1991, 1991) monitors traffic flow, types of vehicles, and kinds and tonnage of commodities including hazardous materials that are transported on Nevada highways. These data are kept for all sections of state roads and highways, including US 95 which passes though Indian Springs.

3.2 OBSERVATION

Once existing literature on the community and environs was compiled, reviewed, and summarized, a staff researcher worked in Indian Springs to compile primary data. These data derived from two data collection means: observation and interviews. Interviews are discussed in the next section (Section 3.3). This section discusses the two main observational techniques used during this research: participant observation and non-reactive observation.

3.2.1 Participant Observation

Participant observation is a standard methodology for social research and was an important part of the primary source research effort for this project. Participant observation requires that the researcher: (1) establish rapport with persons contacted in the community; (2) behave in an interactive but, as far as possible, unobtrusive manner while in the community; and (3) observe and record, from this objective but interactive vantage point, the workings and attributes of the community. Unobtrusive behavior while interacting with persons in the community, purposive observation, and the ability to incorporate observations into a meaningful assessment of the community social context are the main components of participant observation.

For the present report, participant observation was used whenever possible while the researcher was visiting Indian Springs. Formal and informal events and daily activities in the community provided ideal situations for this methodology. In these instances, data collection included observing and recording the number and role of participants in local events and activities, their general categories of age, sex, and ethnicity, the objective of the event or activity, decision-making processes, and social interaction among participants. This research method is particularly useful for contextualizing data gathered through more focussed interview techniques, and for developing an overall sense of community structure.

3.2.2 Non-Reactive Observation

While using non-reactive observational methods the researcher did not interact directly with community residents, but systematically recorded information about observable physical attributes of the community. The advantage of non-reactive observation lies in avoidance of sensitizing or biasing citizens about issues of interest to the researcher through the questioning process. Since the researcher was a direct observer, this technique assured collection of reliable and valid data. For example, non-reactive methods were effective for determining the number, location, and type of dwelling units in the community. This method, of course, is ineffective in determining how citizens feel about their homes, how much rent they pay, how they like their neighbors, and so on. These types of questions are appropriately addressed through directed interview methods.

For the present report, non-reactive observation and secondary source research were used to characterize general, observable aspects of Indian Springs. Perceptually-oriented information was pursued through participant observation and other interactive methods including interviewing methodology.

3.3 INTERVIEWS

Unlike secondary source research and non-reactive observational methods, interviewing methods brought the researcher into direct contact with the community population in ways similar to participant observation. Interviews were conducted concurrently with participant observation, and as a separate effort to collect data. In general, interviews are more focussed than participant observation. It is important to recognize that each of the data collection methods used for this research result in differing types and richness of data, but when combined they result in the collection of data that is seemingly more than the sum of its parts. Further, not only one type of interview was done. From the perspective of Bernard (1988), interviewing methods exist on a continuum of the level of control the interviewer exercises over the responses of the interviewees. At one end of this continuum is *informal interviewing* which involved the researcher in conversation with community residents in the absence of formal structure or control

over the topics or course of the dialogue. This method was desirable at the beginning of the field project as part of a participant observation process and was valuable for developing an understanding of pertinent issues. *Unstructured interviewing* involved somewhat of a structured approach in that both the researcher and the interviewee agree to talk about a specific topic but without a designated protocol or set course of conversation. *Semi-structured interviewing* was valuable when a defined set of information was being pursued from individuals with time constraints (e.g., governmental officials, store owners, etc.). Although the topic is known and defined information was sought, there was not the level of control over the interviewee's responses inherent in the *structured interview.* The structured interview was particularly valuable in situations where the kinds of questions asked needed to be quite similar to generate comparable data from a number of different interview respondents.[3]

For the present purposes, the unstructured and semi-structured interview approaches were utilized by-in-large. The unstructured interview methodology was valuable in collecting information from average citizens considered to be valuable sources for perceptually-oriented information about a number of topics. The semi-structured interview methodology was particularly valuable in pursuing descriptive information relating to local government, community socioeconomics, infrastructure, and similar topics.

Roughly thirty-five interviews of various types were conducted during the course of the fieldwork undertaken to develop this report. The accuracy and reliability of certain information collected was assured through cross-validation or "triangulation" processes, that is, by checking information against numerous sources as well as by multiple research methods, where possible. Sampling techniques were also important in determining the reliability and validity of information gathered through the interview process.

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[3] The type of structured interview methodologies that generate the most directly comparable responses are those that use surveys or questionnaires. These methods were not used to generate primary data for this report. While having some distinct advantages, these methods also have distinct drawbacks in terms of limitation of the range of interviewee responses, among others. Surveys were used, however, in some of the earlier research that provided secondary data for this report.

3.4.1 Interview Sampling

Before the interviewing process was initiated, a process for selecting interviewees -- a sampling strategy -- was addressed. Two basic sampling strategies were used for this project. First, since a number of research projects have been completed in Indian Springs, many persons who have proven to be valuable sources of information were readily identifiable through conversations with researchers and administrators who have previously worked in the community. Second, since the community and supporting governmental structure is relatively small, the identification of leaders and key persons while in the field was an easy task. Contacting local leaders and key persons was also useful for reaching persons considered knowledgeable about specific issues of local importance. By asking a key person in the community who might be a good person or persons to talk with about a specific issue or issues, a name or names were mentioned. These persons could also, in turn, be asked to identify persons considered knowledgeable about the issue at hand. Eventually, this *network* or *snowball* sampling method yielded the person or persons deemed by the community as most knowledgeable on the issue at hand. This kind of strategy was also useful for developing an understanding of social networks in the community. The snowball sampling method was therefore used in the present project to identify individuals knowledgeable of certain topics, and to determine networks of social relations within Indian Springs.

3.4.2 Key Person Interviews

"Key person" or "key informant" interviews can assume any of the interview types outlined above, but are always conducted with individuals in the community who are knowledgeable about key areas of interest. Typically, but not necessarily, these persons are local governmental officials or key business persons, and are easily identified through the snowball sampling method. Depending on the topic of inquiry, they may also be specialists in a given field, or persons who have a unique or in-depth understanding of some aspect of the community.

Since this project is intended to describe current conditions at Indian Springs for basic social and economic variables, much of the information collected is descriptive of structural and functional aspects of community conditions. Key business and governmental workers in the community were clearly the best sources for this kind of information since their relationship with and/or daily tasks in the community demand that they have an intimate knowledge of the local economy, services provided, infrastructure, and so forth. Key persons also typically have a good sense of how the community perceives issues of current interest or importance, and were thus queried on perceptual issues as well. For some specific issues such as the community history of Indian Springs, specialists were also consulted.

4.0 COMMUNITY DESCRIPTION

This section provides, using primary data collected in early 1992, and secondary source information compiled over the preceding four years, a detailed description of the community of Indian Springs. The description makes apparent that even during this brief period in the history of the community, external factors have continually brought change to Indian Springs and its residents. Although some community-related information that was collected in the late 1980's is addressed or incorporated in this report, these data are updated with new information relating to the effects of ongoing external, macro-level (county, state, regional, national) developments on the microcosm of Indian Springs.

While some of Section 4.0 depends upon an "etic" approach to community description, that is, a description based on the observations and perceptions of a non-resident researcher rather than one written by community residents themselves, primary consideration is given to the topical knowledge and perceptions of key individuals in Indian Springs and in Clark County government. A general investigation of local perceptions and attitudes was also developed and was particularly valuable in describing and explaining the way in which the community sees the effect of external change on daily life in the town, and the potential for further change in the near and distant future.

A wide variety of issues and variables are explored in the text that follows. The goal of Section 4.0 is to provide a comprehensive picture of community life. Certain issues are of relatively greater import to the community than others, and are therefore more descriptive detail is provided for these than for other topics.

The first subsection (Section 4.1) begins with a description of environmental aspects of the community and region. This is followed by a chronology of settlement in Indian Springs with a focus on the key events that constitute the human history of the area (Section 4.2). A broad array of issues are considered and described in their current context in the final subsection (Section 4.3); this forms the nucleus of the report. Issues reviewed here include: demographics, governmental structure and intergovernmental relations, government facilities and services, public facilities and services, infrastructure and resources, private facilities and services, and economic, social, and cultural characteristics of the town. Section 4.3 concludes with a summarization of currently important community issues (Section 4.3.8).

Figure 1. Southwest Indian Springs (above) and **Figure 2. The Springs** (below)

4.1 PHYSICAL AND BIOLOGICAL ENVIRONMENT

Throughout the history of Southern Nevada, the natural environment has shaped human activities. The arid climate, rough terrain, unique floral and faunal species, and other environmental factors have influenced the form of the human effort to settle in the area. This section provides a brief description of the physical and biotic landscape of Indian Springs and of the general region of Southern Nevada. The description is not intended to be exhaustive; it is provided as a simple characterization of the local environment in which residents live, work, play, and travel, and as context for subsequent sections of the report that describe the social, economic and other parameters of the community. It is also intended to assist community assessment and planning efforts that utilize basic environmental description. An at least minimal understanding of environmental conditions is important since such variables as soil types, local vegetation, and climate can influence the desirability of a community for residence, the kinds of structures that can be built and the methods needed to build them, the probable levels of energy consumption required for comfortable living, and so on. Natural resource availability is also an important consideration for planning and monitoring concerns given the potential economic impact of developing these resources in a small community.

This section begins with an overview of climate (Section 4.1.1), topography and hydrology (Section 4.1.2), and soil types (Section 4.1.3). Plant and wildlife habitat and species are discussed in the succeeding sections (Sections 4.1.4 and 4.1.5, respectively). Attention is given to plant and animal species endemic to the Indian Springs area since these have been historically important to the community and since some may eventually join the current list of threatened and endangered species. A number of threatened and endangered species are endemic to Indian Springs; these and others have increasingly become development-limiting factors across the southwest and the nation and should therefore be considered by those evaluating and monitoring the potential for and effects of local growth. A discussion of natural resource availability is also presented (Section 4.1.6), focussing on mineral and water resources, as both have been of considerable value in shaping the present community.

This section concludes with discussions of two environmentally-related issues of stated importance to residents of the community: air quality (Section 4.1.6) and noise levels (Section 4.1.7). Although disposal of solid waste was also mentioned as an issue of environmental concern, a County study of this issue was recently developed but results are not yet forthcoming. Please refer to subsection 4.3.4.3 Solid Waste Disposal for an abbreviated discussion of the matter.

4.1.1 Climate

The climate of the Southern Nevada region is characteristically hot and arid in summer and cool and dry in winter. These conditions vary with change in elevation, however, and while summer temperatures in the Las Vegas Valley are often in the 100 degree Fahrenheit range, temperatures above the 8,000 foot level rarely exceed the eighty-five degree mark. Similarly, winter weather in the Valley is moderate with snowfall a rarity, while in the mountains winter usually brings a heavy snowpack and below-freezing temperatures (Clark County Comprehensive Planning, 1982:12).

Since it is located at an elevation of 3,123 feet, Indian Springs is situated just about 1,000 feet higher than Las Vegas, and temperatures are on average slightly cooler during both winter and summer months. Tables 4.1-1 and 4.1-2 provide climatic summaries for Indian Springs for mean monthly precipitation and mean monthly temperatures, respectively. Unfortunately, data for wind speed and direction is not collected for the Indian Springs area although residents report that the town has fewer days of high winds than do communities in the Las Vegas Valley.

Table 4.1-1
Indian Springs Monthly Precipitation (in inches)

MONTH	MEAN PRECIPITATION	MEAN SNOWFALL
January	0.36	1.8
February	0.32	0.2
March	0.38	0.1
April	0.33	Trace
May	0.13	-
June	0.16	-
July	0.33	-
August	0.50	-
September	0.32	-
October	0.30	Trace
November	0.47	Trace
December	0.36	0.3

Source: Nellis Air Force Base, 1992

Table 4.1-2
Indian Springs Monthly Temperatures and Relative Humidity

MONTH	EXTREME LOW	MEAN LOW	MEAN HIGH	EXTREME HIGH	MEAN RELATIVE HUMIDITY %
January	-3	29	57	80	52
February	3	32	63	82	49
March	13	36	68	91	48
April	21	44	76	97	31
May	26	51	86	108	26
June	36	60	96	118	24
July	43	67	102	116	33
August	42	66	100	114	24
September	31	57	93	117	24
October	19	47	81	100	32
November	8	36	66	86	48
December	3	29	58	79	50

Source: Nellis Air Force Base, 1992

4.1.2 Topography and Hydrology

The community of Indian Springs is located in Indian Springs Valley just north of Indian Ridge, a northerly extension of the Spring Mountains. The Spotted Range lies to the north-northwest; the Pintwater Range is located north-northeast. The physiography of these ranges is typical of mountains in Clark County -- they are steep, bare of all but the hardiest vegetation, and are cut by deep canyons and ravines (Longwell, *et al.*, 1965). The topography of the community itself is rather flat with some minor slope downward from the foothills on the south side of town. US 95 provides a barrier to runoff generated along this slope. The Clark County Regional Flood Control District is planning an effort to mitigate flooding on the north side of town (G.C. Wallace, Inc., 1991:1).

The Indian Springs Valley is known as an enclosed basin as are several others in Clark County, including the Eldorado and Dry Lake Valleys and the Upper Las Vegas Valley. Unlike the larger Muddy and Virgin Valleys which drain into the Colorado River, the enclosed basin of Indian Springs Valley is underlaid by stream and lacustrine deposits, indicative of its geologic

history as a basin between mountain ranges. Since wells in the Las Vegas and Indian Springs Valleys are charged by transfer of precipitation and snow melt in the mountain ranges to underground aquifers, the location of Indian Springs in the midst of the Spring Mountain and Pintwater Ranges, and the existence of a network of confined aquifers in the area combine as factors to give the community a relatively productive water source.

The historically valuable springs in what is now the community of Indian Springs are located at the foot of the hills on the west side of town at the "ranch." Water flows from the aquifer through highly permeable Pennsylvanian epoch carbonate rocks, although this flow has been dammed over the years to create a series of ponds (Figure 2). A variety of floral species grow in this spot, tapping the spring water.

The springs remain a source of use and enjoyment for persons living adjacent to them, but most citizens now get their water from the source wells owned by the Indian Springs Sewage Company (ISSC), or from the approximately eighty private wells in the community (CH2M Hill, 1989). According to Maxey and Jameson (1948) recharge to the local aquifer is in the 500 acre feet per year (afy) range. Water quality has historically met state drinking water requirements, but regulations resulting from 1986 amendments to the Federal Safe Water Drinking Act of 1974 may eventually require disinfection of water at area wells (CH2M Hill, 1989:2-2).

4.1.3 Soil Types

The soil around the Indian Springs area is of three basic types. Stream-borne or downslope (alluvial) sediments make up a shallow layer on the fans originating at the foothills and mountains to the southwest of town. Regionally, deeper layers of alluvial sediments are found in dry lakebeds and valley bottoms indicating a long history of downslope deposition. Most of the steeper mountain slopes in the area are characterized by exposed bedrock.

Alluvial sediments in the region are primarily composed of light-colored clay and silt. More technically, area soils are deeply deposited loamy-skeletal, carbonic, thermic, well drained, very gravelly fine sandy loams and silty gravels. Rooting depths are often over sixty inches with gradients of four to eight percent (USDOI/BLM, 1979:11).

Hazards resulting from erosion in the area are slight since nearby slopes are minimal and already highly eroded, and because the gravelly soil efficiently contains the alluvial deposits. The soil is highly corrosive to untreated steel and moderately corrosive to untreated concrete. As noted by Skelton (1974:41), there is some variability in the types of soil found in different sections of town; these can range from the typical gravelly sandy loam to very sandy to hardpan within a small area.

Local soils have been characterized as unsuitable for cultivation as based on a number of factors including high concentration of gravel, and low available surface water capacity (USDOI/BLM, 1979:11). Yet, some area residents, including the Southern Paiutes of antiquity and more recent settlers, have successfully cultivated crops in the vicinity of the springs which currently flow on the west side the community. Because soils in the area of the springs have been enriched by the plant and animal life attracted to the water source, and because the course of the springs has changed over the years, enriched soils are found in various locations throughout the community.

4.1.4 Vegetative Habitats and Plant Species

According to the U.S. Department of the Interior, Bureau of Land Management (1989:3-4) ten vegetative communities have been identified in the region adjacent to Indian Springs. These are: (1) Saltbush; (2) Creosote Bush Scrub; (3) Mixed Mojave; (4) Blackbrush; (5) Sagebrush; (6) Pinyon-Juniper; (7) Pinyon; (8) Mountain Mahogany; (9) White Fir; and (10) Riparian Vegetative. The community of Indian Springs itself is within the Saltbush and Creosote Bush Scrub Community regions; these are drought resistant and amenable to the local porous soils. This regime is considerably altered in some areas of the community but still provides a valid characterization of the local flora.

4.1.4.1 Common Endemic Plant Species

With respect to individual species, Table 4.1 provides a list of endemic plant types, i.e., shrubs, forbs, and grasses identified in an environmental impact statement (EIS) completed for Indian Springs in 1979. The EIS was written amidst the controversial planned siting of a state correctional facility in or near the community.[4] Although the identifications are dated, the list of species is likely still accurate since growth in the community since 1979 has been minimal.

Two key persons knowledgeable of animal and plant species were also consulted in an effort to describe the plant species endemic to the community. These persons identified the following (mostly by common name): *Yucca brevifolia* or Joshua tree; Spanish Giant sage; Mesquite; Fremont poplar (near the springs); Agave *spp.*; Horehound (recognized as not truly endemic); Beavertail, Prickly pear, and Barrel cacti; Desert primrose; Three-wing saltbush; Ephedra *spp.*; *Datura latvia* or Jimsonweed; Saltcedar (recognized as not truly endemic and as a cause of some local allergic reactions); Chulla *spp.*; and Russian thistle.

[4] The facility, named the Southern Desert Correctional Facility, was ultimately located nine miles southeast of the community.

Table 4.1-3
Endemic Shrub, Forb and Grass Species: Indian Springs

COMMON NAME	SCIENTIFIC NAME
Creosote bush	*Larrea tridentata*
White bursage	*Ambrosia dumosa*
Burrobrush	*Hymenoclea salsola*
–	*Opunta spp.*
Yucca	*Yucca spp.*
–	*Dalea fremontii*
Range ratancy	*Krameria parvifolia*
Four-wing salt bush	*Atriplex canescens*
Shadscale	*Atriplex confertifolia*
Broom snakeweed	*Gutierrezia sarothrae*
Globe mellow	*Spaheralcea spp.*
Buckwheat	*Eriogonum spp.*
Desert marigold	*Baileya multiradiata*
Russian thistle	*Salsola kali*
Galleta	*Hilaria jamesii*
Red threeawn	*Aristida jamesii*
Six week's threeawn	*Aristida adscensionis*
Foxtail chess	*Bromus rubens*
Needle grass	*Stipa spp.*
Fluffgrass	*Tridens pulchella*
Six week's fescue	*Festuca octoflora*

Source: U.S. Department of the Interior, BLM, 1979

4.1.4.2 Threatened or Endangered Plant Species

Two plant species thought to be growing in the vicinity of Indian Springs were on endangered/threatened species lists at the time of the 1979 EIS. *Astragalus nyensis* or Nye milkvetch was on both the State of Nevada endangered species list and the federal threatened species list. According to the U.S. Department of the Interior, Bureau of Land Management (1979:14), this annual was seen in the Indian Springs area in 1906 and again in 1941. The plant was not located during the EIS investigations, but it was thought to still be growing in the area at the time. *Astragalus nyensis* has since been found to be more common than previously believed and has been reclassified to a lower priority status (Nature Conservancy, 1992). *Arctomecon merriami* or the White bearpoppy was proposed for listing on the federal threatened species list in 1979 and remains as a Category II candidate species (Nevada Natural Heritage Program, 1992). Category II candidate status means that there is some evidence that the plant is vulnerable to extinction but no decision has yet been made since evidence is incomplete. This perennial is usually associated with the Creosote vegetative regime.

More recently, another plant type, *Astralagus mohavensis var. hemigyrus* or Halfring milkvetch became a Category II candidate species on the federal listing. This plant is found on both Forest Service and BLM land around the Cold Creek area and in the vicinity of the foothills behind Indian Springs (Nature Conservancy, 1992, and Nevada Natural Heritage Foundation, 1992).

4.1.5 Wildlife Habitat and Species

A wide variety of mammal, reptile, and bird species inhabit or visit the Indian Springs area. Most species are well-adapted to the desert climate and can readily adapt to conditions in and around the community. Many, however, are species that stop over on their seasonal migrations and use the spring for a source of water or to prey on other creatures using the water source.

4.1.5.1 Common Endemic and Migratory Wildlife Species

Table 4.2 displays the common and scientific names of the wildlife species that inhabit or frequent Indian Springs. The source for the identifications is the 1979 EIS which relied on both formal investigation and sightings by local citizens.

Table 4.1-4
Endemic and Migratory Wildlife Species: Indian Springs

COMMON NAME	SCIENTIFIC NAME
Roundtail ground squirrel	*Citellus tereticaudus*
Whitetail antelope squirrel	*Amospermophilus leucurus*
Merriam kangaroo rat	*Dipodomys merriami*
Desert kangaroo rat	*Dipodomys deserti*
Longtail pocket mouse	*Perognathus longimembris*
Little pocket mouse	*Perognathus formosus*
Cactus mouse	*Peromyscus eremicus*
Desert woodrat	*Neotama lepida*
Southern grasshopper mouse	*Onychomys toridus*
Blacktail jackrabbit	*Lepus californicus*
Desert cottontail	*Sylvilagus auduboni*
Coyote	*Canis latrans*
Kit fox	*Vulpes macrotis*
Badger	*Taxidea taxus*
Bobcat	*Lynx rufus*
Feral burro	*Equus asinus*
Feral horse	*Equus caballus*
Loggerhead shrike	*Lanius ludovicianus*
Horned lark	*Eremophila alpestris*
Raven	*Corvus corax*
Cactus wren	*Camphylorhynchus brunneicapillus*
Rock wren	*Salpinctes obsoletus*
LeConte's thrasher	*Toxostoma lecontei*
Black-throated sparrow	*Amphispiza bilineata*
Brewer's sparrow	*Spizella breweri*
Mourning dove	*Zenaidura macroura*
Sage sparrow	*Amphispiza belli*
Rufous hummingbird	*Selasphorus rufus*

Endemic and Migratory Wildlife Species: Indian Springs (continued)	
Side-blotched lizard	*Uta stansburiana*
Western whiptail	*Cnemidophorus tigris*
Zebra-tailed lizard	*Callisaurus draconoides*
Desert horned lizard	*Phrynosoma platyrhinos*
Desert iguana	*Dipsosaurus dorsalis*
Desert spiny lizard	*Sceloporus magister*
Leopard lizard	*Crotaphytus wislizenii*
Desert tortoise	*Gopherus agassizi*
Gopher snake	*Pituophis melanoleucus*
Coachwhip	*Masticophis flagellum*
Glossy snake	*Arizona elegans*
Sidewinder	*Crotalus cerastes*
Speckled rattlesnake	*Crotalus mitchelli*
Source: U.S. Department of the Interior, BLM, 1979	

In addition to the species listed above, a number of bird and reptile species have been sighted in recent years. These include: roadrunners, vultures, Redtail hawks, Snowy egrets, American egrets, Scott's orioles, Boattailed grackles, coots, mudhens, owls, poor-wills, starlings, robins, flickers, and Phainopepla (typically associated with the Mesquite biotic regime); and gechos, King snakes, and Red Racers.

4.1.5.2 Threatened or Endangered Wildlife Species

A number of threatened or endangered wildlife species make their home in or pass through the Indian Springs area. The Desert tortoise (*Gopherus agassizii*) is on the federal threatened species list. This species has become part of a controversy in Southern Nevada since land use by cattle ranchers is increasingly restricted as a result of the fact that cattle can damage the tortoise and its habitat. This species, and the Chuckwalla or *Sauromalus obesus*, a new (November 1991) Category II candidate, may have habitat in the Indian Springs area (Nevada Natural Heritage Program, 1992). The Desert Pupfish (*Cyprinodon diabolis*), and Pahrump Killifish (*Enpetrichthys latos*) while not residents, are nevertheless potentially affected by human activity since their aquatic habitats at Devil's Hole thirty miles south, and at Corn Creek Springs thirteen miles east of Indian Springs, respectively, may be affected by regional pumping of

groundwater (USDOI/BLM, 1979:15). Given the relatively productive water source in the immediate area of Indian Springs, intense usage of this source would have to occur to reduce water levels in outlying areas. Yet, the integrity of the local system of aquifers and the potential for increased water resource utilization in coming years are factors which call for planning and monitoring strategies which consider the potential threat of groundwater reduction to sensitive plant and animal species.

With regard to threatened or endangered bird species, the Peregrine falcon (*Falco peregrinus*) is an endangered species that has possibly been sighted in the community (informants were uncertain). This raptor does inhabit certain areas in the region of Indian Springs Valley as do a few candidates for federal listing. These include the Ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsoni*), Mountain plover (*Chadrius montanus*), Western snowy plover (*Chadrius alexandrus*), White-faced ibis (*Plegadis chihi*), and the Long-billed curlew (*Numenius americanus*) (USDOI/BLM, 1989:3-7).

4.1.6 Natural Resource Availability

Natural resource availability often determines the economic origin and subsequent evolution of a community. Many cities have prospered as a direct result of the local availability and regional or national marketability of minerals, fossil fuels, timber, and other natural resources. Some desert and mountain communities in Nevada have a history of success in mining ventures, but most of these have been short-lived; the many ghost towns in rural Nevada are examples of the temporary nature of mining operations. The following briefly describes two of the natural resources with commercial economic potential in the Indian Springs area: minerals and water.

4.1.6.1 Mineral Deposits

As indicated in the 1979 EIS conducted in Indian Springs (USDOI/BLM, 1979:3-2), there is no historical background of mineral deposit extraction in the immediate area. There is, however, a potential for such industry since mineral commodities found in the adjacent Nellis Air Force Range include "gold, silver, copper, lead, zinc, mercury, tungsten, turquoise, sand, gravel, limestone, sodium, potassium, alunite, and potash" (U.S. Department of the Interior, 1989:3-2). Given the natural alluvial deposition in the area, there is considerable potential for extraction and processing of sand and gravel.

4.1.6.2 Water Resources

Although the history of Indian Springs is intimately linked to the water resources that enabled the local population to survive and grow, only in recent years have these become valued by regional consumers or potential consumers. A rapidly increasing urban population in the Las Vegas Valley has begun to strain water supplies in the desert environment of the Las Vegas Valley and further growth in the region could eventually strain water sources in rural areas of Clark County.

As noted in Section 4.1.2, the Indian Springs area is blessed with favorable hydrogeologic conditions and considerable amounts of good quality drinking water. The local water utility, for example, is authorized to withdraw about 250 million gallons per annum -- well above current demand. The utility's two large capacity wells are capable of pumping 1,100 gallons per minute (gpm) each.

Like mineral and other natural resources, water is a finite commodity. Water is perhaps even more precious than other extractable resources in that it is basic to the survival of a community, especially a desert community. Thus, although Indian Springs is located above considerable amounts of a resource now seen as economically valuable to the region, it remains an empirical question whether the resource is sufficiently abundant to augment regional supplies while sustaining local growth potential.

Water is an issue of ongoing importance to the community of Indian Springs. Discussions of water-related issues and references are interspersed throughout this document in the following sections and subsections: 3.1 Secondary Source Research, 4.1.3 Soil Types, 4.1.5 Wildlife Habitat and Species, 4.1.5.2 Threatened or Endangered Species, 4.2.1 Prehistoric Overview, 4.2.2 Historic Overview, 4.3.2.2 County Government Institutions and County Districts, 4.3.3.2 Senior Citizen Center, 4.3.4.2 Water and Sewer Service, 4.3.8 Current Community Issues, and 5.0 Summary and Conclusions.

4.1.7 Air Quality

Although the small population of Indian Springs helps to minimize major air pollution problems, a number of situations can bring polluted air to the area. One threat of air quality problems results from the town's proximity to the expansive urban area of the Las Vegas Valley. Indian Springs' situation some 1,000 feet above Las Vegas near the terminus of a topographic "funnel" between major mountain ranges is a factor that can aid the movement of airborne pollutants from the Las Vegas Valley into the atmosphere over the town. This situation, however, requires an upper airflow moving from southeast to northwest, and/or surface winds from the southeast

move polluted air towards Indian Springs -- conditions which, according to local residents, occur only infrequently.

Smoke from wood-burning stoves and fireplaces has also been cited as a cause of concern for local air quality. This is a seasonal situation, of course, and is dependent on climatic conditions which prevent smoke from dispersing -- also an infrequent condition.

Although traffic flow on US 95 cannot be considered of massive volume (please refer to Section 4.3.4.1 Transportation), the highway's partial passage through the community does mean truck and auto fumes reach some of the population on a regular basis. Since most persons live on the southeast side of the highway, winds blowing from the northwest cause the worst conditions in this respect for the populace.. A significant increase in traffic flow on the highway would obviously worsen this situation.

Air quality can also be affected by fixed wing and helicopter aircraft emissions resulting from operations at Indian Springs Air Force Auxiliary Field (ISAFAF). Although the pattern of dispersion of these emissions in the Indian Springs area depends on upper air and surface flow directions and speeds, frequent overflight can detrimentally affect local air quality. According to an assessment of activities at the ISAFAF (SAIC, 1990:2-17-19), atmospheric emissions at ISAFAF ground facilities "result primarily from aircraft ground maintenance operations, ordnance drops, and weapons testing (USDOI/BLM, 1981)." Emissions reaching the Indian Springs populace may also result from particulate matter, namely fugitive dust, released by military vehicles travelling on unpaved roads at the ISAFAF, and possibly from particulate matter released from chaff flares.[5]

4.1.8 Noise Levels

The relatively remote desert location of Indian Springs serves to minimize noise levels in the community, but its proximity to US 95 and flight operations at the ISAFAF can create noise problems for some residents. Increased traffic flow on the highway and/or increased levels of operations at ISAFAF would increase this problem.

Since the community occupies more space perpendicular to the highway than it does along its axis, the noise generated by passing vehicles is minimized in terms of the number of people affected. Service roads and business fronts also buffer the residential area of the community from highway noise.

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[5] Chaff flares are used in simulation training exercises as an intense infrared source which draws heat-seeking missiles away from aircraft.

ISAFAF-generated noise is more pervasive than highway noise, and although operations at the base have been cut back in recent years, flight training continues to create overhead noise. ISAFAF provides training airspace for the famed *Thunderbirds* which, as the name implies, generate intense overflight acoustic vibrations. Many residents report that they have grown accustomed to this source of noise, although it continues to irritate some and must seem onerous to new residents beginning their period of adjustment.

As indicated in the *Special Nevada Report* (SAIC, 1991:1-10), the United States Air Force appears to recognize the problems associated with aircraft-generated noise:

> It is recognized that sudden occurrences of high noise levels and sonic boom occurrences can induce reactions other than annoyance to humans. There is, however, insufficient research at present to predict such effects in a quantitative manner for analysis of conditions in Nevada or elsewhere. Impacts such as startle, sleep disturbance, and effects on wildlife are therefore possible under subsonic flight paths and airspace authorized for supersonic flight. Such airspaces are therefore located, as much as is possible, above land areas with low population densities and to minimize other impacts.

Noise-producing training airspaces may indeed be located in remote areas, but the noise generated by the *Thunderbirds* which often train at ISAFAF is currently perceived as a nuisance to some residents of Indian Springs. Other residents perceive the noise as a minor inconvenience that should be tolerated for patriotic reasons.

4.2 COMMUNITY CHRONOLOGY

Indian Springs, like the Western United States in general, has experienced a relatively brief period of historic occupation. Prehistoric tribal groups, however, visited and inhabited the region and immediate area of Indian Springs for millennia. During the mid- to late nineteenth century, the springs and local environment encouraged the development of a small local economy based on farming, ranching, and tourism. Since the beginning of World War II and continuing through the Cold War to the present, the local economy has been largely dependent on defense-related activities at what are now known as the Nevada Test Site and ISAFAF. This section reviews the prehistory and history of the area and delineates some of the effects of external forces on the evolution and present composition of the local community.

4.2.1 Prehistoric Overview

Archaeological research in the region of Indian Springs suggests that the area has been a locus of human activity for at least 10,000 years. The region may actually have been occupied during the earlier Pleistocene era when climatic conditions were favorable for big-game species (Shutler, 1967). Arid conditions have been the norm since the end of this early period, presenting formidable challenges to human groups seeking food, shelter, and water in this harsh desert regime. Artifacts from the Pinto/Gypsum phase (5,000 to 2,000 years before present) have been found at several sites in the region and speak to the ability of inhabitants to maintain a subsistence economy and area presence despite a relative shortage of natural resources. The existence of an active underground aquifer, and the plant and animal resources it attracted, may have been factors in the success of seasonal or permanent aboriginal settlements in the immediate Indian Springs area.

Skelton (1974) outlines the general prehistory of Southern Nevada, and reviews temporal and cultural aspects of human occupation in the immediate area of what is now called Indian Springs. Clearly, the source of water for which Indian Springs is named has lured human groups to use the area for eons. Skelton (p.79) notes that:

> Hundreds of points, scrapers, knives, skinners, and choppers have been found and are in private collections . . . There seems to be representative points from many time periods and cultures here . . . No evidence of Pueblo homes has been found there but it is known that they used the springs for temporary camping sites while hunting or traveling through the region, for pieces of their pottery have been found there . . .

According to Myhrer (1991:4-5), the cultural horizons of the Southern Nevada region following the Pinto/Gypsum phase include the Late Archaic phase (2000 to 850 years before present) and the Protohistoric phase (850 to 100 years before present). Human groups inhabiting the area during these periods include the Archaic hunter-gatherers, Virgin Anasazi farmers, and lower Colorado farmers/hunter-gatherers such as the Mojave and the Paiute, respectively.

The Southern Paiute were possibly the first aboriginal group to inhabit the area and to truly exploit the local environment by hunting small game species, gathering plant foods, and even farming around the springs. The Paiute were eventually displaced by white settlers who began to settle the area in 1855 (after Skelton, 1974:xvii).

Prehistoric visitors and settlers left behind evidence of their activity in the vicinity of Indian Springs. Myhrer (1991:18) notes that three prehistoric rockshelters, twenty-one campsites, one prehistoric shelter, three rock/ring features, and eight isolated artifacts or groups of artifacts

have been recovered in the area. Only 5,999 acres of the 425,000 acres comprising the Indian Springs Valley has been surveyed, and much of what has been surveyed is restricted to highway rights-of-way zones.

4.2.2 Historic Overview

Historic settlements in Southern Nevada were associated with the pioneering travel routes established in the mid-nineteenth century. Known as the Old Spanish Trail and the Mormon Road, these key routes linking historically important regions of the southwest passed through the Las Vegas Valley (see Myhrer *et al.*, 1990). The availability of water in the Las Vegas Springs area eventually encouraged settlement and development along the Mormon road. As mail, freight, and travellers increasingly passed through the area en route to California, development increased proportionately. Construction of a railroad in Southern Nevada further bolstered the regional economy as did highway construction and the introduction of gaming in the 1940's.

With Las Vegas as a small center for trade and supplies, cattlemen, farmers, and miners were able to settle areas surrounding the Las Vegas Valley. Charles Towner began to work the land around Indian Springs in 1867. As his farming operation grew, trade with the fledgling community of Las Vegas, located some forty-two miles to the southeast, increased and a trail linking the two areas was worn in the desert. These early economic interactions between Indian Springs and Las Vegas were the first in a series which continue to date. Although economic interaction between the community of Indian Springs and the City of Las Vegas is now obviously of little significance to Las Vegas, Indian Springs remains highly dependent upon the services and goods available in the city.

The Towner era was followed by the MacFarland period (Skelton, 1974:269) which lasted from 1910 to 1940. The MacFarland family was able to develop a successful farm economy and eventually an attractive though small-scale tourist destination. These ventures preceded related economic developments in the area such as a gas station, cafe, and tourist cabins which were opened along the "highway" from Las Vegas. The importance of the farming economy was eventually shadowed by outside sources of revenue, i.e., from visiting Las Vegans. A critical factor in the development of the community during this era was the earlier established (1906) Las Vegas Tonopah rail line which passed though Indian Springs on the shipping route between Las Vegas and Beatty.

As it did for the rest of the nation, World War II brought change to the small community of Indian Springs. In 1942, a training camp was established at Indian Springs to facilitate air-to-air gunnery training for Army Air Corps aircrews. This camp was part of the Las Vegas Bombing

and Gunnery Range, now known as Nellis Air Force Range,[6] established in 1940. The training camp, located immediately adjacent to the community, was responsible for a significant but short-lived increase in population. Activity at the camp was drastically reduced after the war, but the military retained a presence and maintained the basic infrastructure of the facility. This facility was named Indian Springs Air Force Auxiliary Field (ISAFAF) in the early 1960s.

The community's trend of dependence on external sources of revenue was fully rooted when the Nevada Proving Grounds initiated weapons testing in 1951, drawing residents to live in Indian Springs and work at this new facility. The air force base fully supported operations at the proving grounds. Renamed the Nevada Test Site (NTS) in 1955, research and development activities here were instrumental in the growth of the local population from fifteen persons in 1951 to 2,100 persons in 1970 (Skelton, 1974:xvii).[7] Most working-age male residents of Indian Springs continue to work at the NTS. Activity at the NTS has evidently fluctuated in recent years as reflected in ongoing changes in the local population size and structure (please refer to Section 4.3.1.1 Population History).

The level of operations at ISAFAF increased again during the 1970's and 1980's following the post-World War II hiatus, and the facility eventually became an integral part of the community. Most personnel lived on the base but when operations reached their peak, many families were situated in housing available in the town. This changed in 1987 when aerospace operations, formerly a direct federal government undertaking, were assumed by a civilian contractor and all but a few commanding officers were transferred to other air force installations around the country.

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[6] While the official name of the range is "Nellis Air Force Base Bombing and Gunnery Range," it is commonly known in the area as "Nellis Air Force Range" (NAFR). For the sake of brevity, and to remain consistent with local usage, the it will be referred to as "Nellis Air Force Range" in this document. In actuality, NAFR has multiple uses, as reflected in area designations. The Nevada Test Site was formed from NAFR land transferred via Public Order to the Atomic Energy Commission (later USDOE). A portion of land near the northwest corner of NAFR known as the Tonopah Test Range was permitted to USDOE; Pahute Mesa, northwest of the Nevada Test Site, was delegated to the USDOE via a Memorandum of Understanding (SAIC 1990:2-2). A significant portion of the North Range, the major portion of NAFR to the north and west of the Nevada Test Site, encompasses the Nevada Wild Horse Range. The South Range, the major portion of NAFR to the east of the Nevada Test Site, extensively overlaps the Desert National Wildlife Range, established in 1936 to protect bighorn sheep and wild horses. In order to protect these resources, the Air Force, the U.S. Bureau of Land Management, and the U.S. Fish and Wildlife Service have entered into Memoranda of Understanding (SAIC 1990:2-1). NAFR occupies significant area in Clark, Lincoln, and Nye counties.

[7] This figure is significantly higher than that estimated by the Clark County Regional Planning Council during the same time period -- 995 persons. Krannich and Little (1987) state that both figures should be interpreted cautiously but note that Skelton's is given credence by a report that the Indian Springs School enrollment peaked in 1970 at some 450 students.

The change in operations at the ISAFAF was a major event in the history of Indian Springs. The social structure of the community was altered as friends parted, as ethnic diversity waned, and as many of the recreational opportunities which formerly brought the community together were terminated. Moreover, the change at the air base generated a general perception that the community was no longer what it had been. This perception was summarily expressed in the words of an elderly citizen:

> The base had become sort of hometown for us . . . we could go over there and feel right at home; they were an important part of the community.

In sum, the history of Indian Springs reveals both the suitability of its natural environment for independent settlement and a local lack of employment, goods, and services which required dependence on externally produced goods and services, and external institutions to provide local employment. This characterization continues to apply to the community as indicated in the following section that reviews, in some detail, contemporary Indian Springs.

Figure 3. Local Trailer Park (above) and **Figure 4. Indian Springs School Logo** (below)

4.3 CURRENT CONDITIONS

This section describes selected aspects of life in Indian Springs during early 1992. The description will primarily focus on current socioeconomic and sociocultural conditions in the community. Yet, because current conditions in Indian Springs are so much a result of forces or institutions external to the community (i.e., Clark County government, dependence on urban Las Vegas Valley, and changes in the government programs upon which residents depend for employment), historical aspects of these factors and local perceptions about the effects of these on the town and its future are also considered.

A variety of issues are explored in this subsection. These include: demographic characteristics of the town including a brief history of the local population (Section 4.3.1), locally active governmental institutions (Section 4.3.2), public facilities and services (Section 4.3.3), infrastructure and resources (Section 4.3.4), private facilities and services (Section 4.3.5), economic characteristics (Section 4.3.6), social and cultural characteristics (Section 4.3.7), and a summary of current community issues (Section 4.3.8) for the community of Indian Springs.

4.3.1 Demographic Characteristics

Critical factors in the analysis of any community include population size and structure, variables which are, in the case of Indian Springs, continually influenced by factors external to the community itself. In Indian Springs, the location of the ISAFAF adjacent to the town boundaries and the proximity of the NTS have created a close relationship between community residents and these government programs/installations. While the size of the community has remained fairly stable overall in recent years, its structure has changed -- sometimes dramatically -- primarily a result of operational and programmatic changes at the ISAFAF and at the NTS. Accurate time-series data covering these changes are incomplete, however, since fluctuations have not been limited to the ten year interval coverage of U.S. Census. Furthermore, although census data for the area is available for 1980, it is aggregated much differently than in 1990. Actually, 1990 was the first year that the U.S. Census treated the community of Indian Springs as a unit distinct from the rest of the county, a fact that precludes accurate comparisons of historic and current demographic attributes of the town based on federal census figures.

Secondary sources other than the U.S. Census reveal that the local population has undergone a series of population changes in its roughly century-long history; a brief summary of this history follows in the next subsection. Qualitative description and comparison of local and county-wide demographics is presented to assist in the analysis of recent trends. Recent population change and current characteristics are reviewed in Section 4.3.1.2.

4.3.1.1 Population History

Indian Springs over the past 120 years has experienced a series of population fluctuations. Table 4.3-1 provides local population figures and data sources for those years in which formal counts or apparently accurate estimates were taken. The first known population restructuring during the historical period resulted as the indigenous Southern Paiute were displaced by Euro-American settlers in the mid- and late nineteenth century. This was followed by slow and moderate expansion associated with establishment of the Las Vegas and Tonopah Railroad between Las Vegas and Beatty in 1906, and the increasing popularity of Indian Springs as a resort. The reputation of Indian Springs as a desert oasis kept population stable despite abandonment of the railroad after World War I (Skelton, 1974).

World War II brought change to Indian Springs as military personnel and support staff and their families came to the newly established Army Air Corps training camp (see Section 4.3.2.4). When military operations were scaled back after the war, the local population receded to pre-war levels. The base infrastructure was left intact, however -- a supportive factor in subsequent episodes of population increase.

It was the Cold War and the military build-up and weapons development programs associated with the perceived Soviet threat that brought truly significant population change to the area. Although NTS activities were initiated in 1951, according to Krannich and Little (1987:6) it was the period 1956-1958 that brought many new residents and associated infrastructure to Indian Springs.

Skelton (1974:191) notes that by 1960 the community population was approximately 1,400, and most residents worked at the NTS. A shift in the mid-sixties from above-ground to underground weapons testing generated further growth and further development of the community infrastructure (Krannich and Little, 1987:7). The local population reached its peak around 1970 with 2,100 persons (Skelton, 1974:xvii). This figure should be interpreted with some caution (please refer to the footnote in Section 4.2.2).

Periodic fluctuation characterized population size and structure in Indian Springs during the 1970's, but the overall trend of the decade was a slow, steady decline in size. A minimal level of growth was evident in the early part of the 1980's while a state correctional facility was being constructed roughly nine miles southeast of the community.

Table 4.3-1
Population History: Indian Springs

Year	Population	Source/Comments
1873	18	Skelton (1974:126)[8] cites a census taken by John Wesley Powell in 1873
1900	30	Skelton (1974:148) -- this figure represents the population of the entire Las Vegas and Indian Springs Valleys including residents of Indian Springs but not including the local Native American population
1950	15	Skelton (1974:270)
1960	1,400	Skelton (1974:191)
1970	855 2,100	Clark County Regional Planning Council (1976) Skelton, 1974
1973	900	Clark County Regional Planning Council (1976)
1974	900	Clark County Regional Planning Council (1976)
1975	900	Clark County Regional Planning Council (1976)
1979	918	Clark County Department of Comprehensive Planning
1980	955 1,446	U.S. Bureau of the Census Planning Information Corporation (baseline estimates as noted in Krannich and Little, 1987:10)
1986	1,200	Krannich and Little (1987:10) -- the authors cite estimates made by local informants; this estimate does not include the 600-700 military personnel then stationed in base housing at ISAFAF
1986	1,618	Planning Information Corporation (as noted in Krannich and Little, 1987:10)
1987	1,646	Planning Information Corporation (as noted in Krannich and Little, 1987:10)
1990	1,164	U.S. Bureau of the Census
1992	<1,164	Impact Assessment, Inc. -- a number of valid indicators suggest the local population is now smaller than the 1990 U.S. Bureau of the Census estimate

[8] It should be noted that in the absence of formal census data, Skelton relied upon a combination of historical and key informant sources to calculate population figures.

Perhaps the most dramatic population shift began to occur around 1986 as operations at ISAFAF were gradually turned over to the civilian contractor Ford Aerospace (now Loral Aerospace). By 1987, all military residing at the base or in community housing were, with the exception of a few commanding officers, moved to other installations around the country. This change generated major impacts to the community since it had become accustomed to the social structure and services supported by the presence of the military. Although some of this population was eventually replaced by a civilian counterpart, the demographic composition of the community was altered drastically, and the size of the local population has since been on the decline. Part of this decline is also related to changing activities at NTS, fluctuations which continue to present.

Although changes in the *size* of the local population are captured in the table above -- albeit with some discrepancies -- changes in population *structure* are not. Given that the primary employment and earnings sources for the community have been programs at the NTS and the ISAFAF and that these facilities often require(d) that employees work for short to moderate terms, population figures may not reflect the changing structure of the local population. This is particularly the case for the military sector, since programs may remain stable while the personnel involved in those programs typically move on in two- and four-year cycles. Description of local population characteristics must depend therefore, upon both quantitative and *qualitative* information. Qualitative description of the nature and effects of structural change in the Indian Springs population is interspersed throughout this report (for example, see Section 4.3.3.9 Educational Facilities and Services).

4.3.1.2 Recent and Current Population Characteristics

This subsection reviews selected demographic characteristics for the community of Indian Springs as researched by the U.S. Bureau of the Census in 1990. As noted earlier, 1990 was the first year the Bureau of the Census treated Indian Springs as a discrete unit. Accurate time-series description for all of the variables described below is therefore precluded. Table 4.3-2 is intended to provide a tabular summary of the most recent census figures for Indian Springs and a source for comparison between the community and the County as a whole. The table depicts U.S. Bureau of the Census population figures for both the community and the County thus allowing meaningful and accurate comparison between the two for overall population and other demographic variables.

Total Population

According to 1990 census figures (U.S. Bureau of the Census), the population of Indian Springs was 1,164 although a number of indicators including school enrollment, trailer park rentals, volume of sales at local business establishments, and the perceptions of long-time residents suggest that a decline in the local population has occurred since the 1990 count. The total population of Clark County in 1990 was 741,459 (U.S. Census figures). Most of these citizens reside in the Las Vegas Valley; the vast rural acreage of Clark County is largely uninhabited.

Age/Gender

Per the 1990 census, the gender breakdown in Indian Springs was 594 males to 570 females or 51.1% male and 48.9% female. Meanwhile, the gender ratio in the County was 376,108 males to 365,351 females or 50.7% male and 49.3% female.

The median age across both sexes in Indian Springs was 32.7; it was 33.1 years for the County overall. Three hundred seventy-one or 31.9% of the total population of the community was under eighteen years of age -- somewhat higher than the overall County figure of 24.5%. The percentage of the community over the age of sixty-five was, at 7.4%, lower than the County figure of 10.5%. The greatest percentage of persons residing in Indian Springs are at or approaching middle age -- 342 persons or roughly twenty-nine percent of the total population are between twenty-five and forty-four years of age. This figure is also lower than the percentage of the counterpart County sector -- 34.3%.

Household Information

In 1990, the community of Indian Springs contained a total of 417 households, 318 of which were family households. Of these, 258 or 61.9% of the total were married-couple households. This is significantly higher than the County figure which reveals that only half of all County households were maintained by married couples. There were a considerable number of single-parent family households in Indian Springs with sixty or fourteen percent of the total. Of these, nineteen were male family householders and forty-one were female. These figures closely approximate the County as a whole.

There were an additional ninety-nine non-family households or 23.7% of the total household figure in Indian Springs. This is a significantly smaller percentage than the percentage of non-family households in Clark County overall; 34.2% of the households in the County fell into this category. Eighty of these non-family householders were persons living alone in the community.

The average household size in Indian Springs across all household types was 2.71 persons. A total of thirty-three persons were housed in group quarters; none of these persons were housed in institutional quarters.

Ethnicity

In 1990, the ethnic composition of Indian Springs was somewhat less diversified than the County population overall -- a situation that continues to date. The local population was predominately Caucasian[9] with 1,045 persons or 89.9% of the total. The County population was 81.3% Caucasian in 1990. In Indian Springs, eighty persons or 6.9% of the total population were persons of Hispanic origin. There were twenty-five African-Americans living in the community in 1990 or 2.1% of the total community population. Thirty individuals, or 2.6% of the population, were Native American -- most of these persons are Southern Paiute -- descendants of the peoples who inhabited the area at the beginning of the historical period. Thirteen persons or 1.1% of the total population were Asians or Pacific Islanders.

The County population, meanwhile, has considerably higher percentages of African-Americans and citizens of Hispanic origin. The Asian or Pacific Islander population percentage is slightly lower locally than in the County overall while the percentage of Native Americans living in Indian Springs is slightly higher that of the County (see table for percentages).

Summary of Local and County Population Comparisons

In summary, the demographic structure of the community of Indian Springs is in many ways similar to the County as a whole. The community is somewhat less ethnically diverse than the County overall, but this may expected given the history of many rural Southwest communities and the significant size of the urban Las Vegas Valley component of Clark County. Indian Springs has a higher percentage of married couple families and a lower percentage of non-family households -- a fact that speaks to the relative importance of the family unit in the community. With respect to age, Indian Springs has a higher percentage of youth than the County as a whole and a lower percentage of persons at or approaching middle age. The high percentage of youth in Indian Springs is socially significant in this community which is strongly focussed on its children and school.

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[9] The term "Caucasian" is used throughout this document rather than the more cumbersome, but more technically accurate term "Euro-North American." This usage is employed for the sake of brevity and for consistency with U.S. Census categories.

Table 4.3-2
1990 Population Characteristics: Clark County/Indian Springs

VARIABLE	CLARK COUNTY	INDIAN SPRINGS
Total Population	741,459	1,164
Sex Ratio (male/female)	376,108/365,351	594/570
Median Age (across both sexes)	33.1	32.7
% under 18 years of age	24.5	31.9
% between 25 and 44 years	34.3	29.0
% over 65 years of age	10.5	7.4
% Married Couple Households	50	61.9
% Male Householder Families	4.6	4.5
% Female Householder Families	11.2	9.8
% Non-Family Households	34.2	23.7
% Native Americans	0.9	2.6
% African-Americans	9.5	2.1
% Hispanic Origin	11.2	6.9
% Asians or Pacific Islanders	3.5	1.1
% Caucasians	81.3	89.8

Source: U.S. Bureau of the Census, 1990

4.3.2 Locally Active Governmental Institutions

The relatively small population and associated tax base of Indian Springs have been factors in its ongoing status as an unincorporated town. As an unincorporated town Indian Springs is governed directly by the Clark County Board of Commissioners, the ultimate decision-making body for the community. Local representation to the Commissioners is achieved through a town advisory board, and the activities of a community/County liaison who facilitates transferral of local concerns to the Board of Commissioners.

Basic services for the community are also provided by the County; most of these are discussed in 4.3.3 Public Facilities and Services. Services provided by the County include: supervision and support for fire suppression, emergency medical services, and rescue activities; law enforcement services, general government services, social services, judicial services, library and educational services, parks and recreation services, and public works services.

The State of Nevada has five agencies in some manner involved or based in Indian Springs. A Department of Transportation facility is based in Indian Springs but is primarily used to house equipment designated for maintenance of state roads in the region and employs few if any residents of the community. The Department of Motor Vehicles, Highway Patrol Division has two personnel based in the town. This agency is described in Section 4.3.3 Public Facilities and Services. The State Division for Aging Services has an active program at the Indian Springs Community Center and is also described in Section 4.3.3 under subsection 4.3.3.2 Senior Citizen Center. The State Welfare Division has personnel assigned to implement programs in Indian Springs from remote locations; this situation is described in 4.3.6.3 Summary of Economic/Employment Status. Finally, the Department of Prisons currently (April 1992) employs fifteen residents of the community at the Southern Desert Correctional Facility which is located nine miles southeast of Indian Springs.

At the federal level, the U.S. Department of Defense, through Nellis Air Force Base, maintains the large Indian Springs Air Force Auxiliary Field immediately adjacent to the town, as noted earlier. A local U.S. Post Office provides postal services to the community. Finally, the U.S. Department of Energy currently employs the majority of male working-age Indian Springs residents at the Nevada Test Site.

The following subsections describe the government institutions which are located within town boundaries or which play an important role in the life of the community from a remote location. As noted above, some of the agencies are described in subsequent sections in keeping with the logical framework of the current report.

4.3.2.1 Local Government Institutions

The only "local" government institution in Indian Springs is the Town Advisory Board. As noted in the following sections, this Board is not, in fact, a governing institution, but rather an advisory body. Local governmental budget fiscal trends are also discussed in this section.

Indian Springs Town Advisory Board

With respect to formal local governance, Indian Springs has a unique and relatively brief history. For most of its history the community relied upon informal mechanisms of governance; isolation demanded that citizens take care of their own. The Indian Springs Civic Association provided an informal government structure and a forum and means of representation and transferral of local concerns to County government until the eventual establishment of the more formalized Town Advisory Board (TAB) in 1977. From World War II until 1987 when operations were turned over to a civilian contractor, the community received governing assistance and services in the form of social control and emergency response services from the Indian Springs Air Force Auxiliary Field complex.

In May 1967, the community of Indian Springs decreed itself an incorporated town but was formally denied this status a month later. In October of the same year, a petition to incorporate the town was also denied. On March 11, 1977, Clark County Ordinance 524 gave Indian Springs the status of unincorporated town. This ordinance was subsequently amended by Ordinance 666 which delineated town boundaries and instituted the Town Advisory Board.

Indian Springs is one of the thirteen recognized unincorporated towns in Clark County;[10] some slightly larger communities have achieved incorporated city status. The City of Mesquite, for instance, has a current (1990) population of just under 2,000 but has been incorporated since 1984. Actually, it is not population that determines whether a town can incorporate but rather the ability or perceived ability of the community to pay for development of the infrastructure and services required for official incorporation.

For a community like Indian Springs, incorporation represents a double-edged sword of benefit and drawback. As aforementioned, the town is currently governed by the Clark County Board of Commissioners (CCBC) which, in turn, is advised by the local TAB. If the town *were* to incorporate, it would gain an opportunity like other incorporated communities in the County to more directly effect, within the parameters of the overarching County political and administrative framework, what it sees as needed change. Fiscal planning and expenditures, local policy, and

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[10] Indian Springs is one of thirteen unincorporated towns in Clark County each of which has a town advisory board. These include both rural and urban towns: Bunkerville, East Las Vegas, Moapa, Moapa Valley, Mt. Charleston, Paradise, Glendale, Indian Springs, Laughlin, Searchlight, Spring Valley, Sunrise Manor, and Winchester. There are, additionally, six defined areas with Citizen Advisory Councils (CACs): Enterprise, Lone Mountain, Goodsprings, Mountain Springs, Red Rock, and Sandy Valley. CACs are thus unique to areas which do not have defined town boundaries but the populations of which are considered to require representation to the County Board of Commissioners. CACs are further differentiated from TABs in that the communities represented by the latter can be taxed for provision of local services at a higher rate than the CACs. Rural County areas, however, typically receive high service provision in relation to tax dollars generated (Clark County Department of Comprehensive Planning, 1992).

local services could be developed and controlled on a more localized basis but with the continued assistance and oversight of the County. Such benefits are weighted by terms of cost though, and a substantial tax base is necessary to meet the fiscal, service provision, and infrastructural requirements of incorporating.

Since residents of Indian Springs continue to be dependent on federal agencies as their primary sources of employment and earnings, the potential for fluctuation in these programs adds an element of risk to the process of incorporation. If, for instance, the community had incorporated in 1967 when its population appeared to be stable or growing and while a relatively substantial tax base made the process feasible, subsequent decline in NTS and Air Force activities would have strained the resources of local taxpayers maintaining local services and infrastructure through tax dollars. Given indications that the local population size is currently declining, the feasibility of incorporation is diminishing.

Authorization of the TAB is provided in NRS 269.500-269.625. The TAB is a locally-elected five-member board that advises the Clark County Board of Commissioners in matters related to local governance, fiscal planning, zoning, provision of services, and other issues of concern to the community. Board members serve two-year terms. A secretary is contracted by the board. A community/County liaison is provided by the Clark County Manager's Office (Administrative Services).

The TAB is currently active in its role to relay community concerns and decisions to the CCBC. Meetings are held at the Indian Springs Community Center, and are scheduled monthly. Meeting agendas are posted at key points in the community and public attendance is welcome. Although a number of "hot" issues have generated considerable participation at recent TAB meetings, this is not always the case and the TAB does not meet some months for lack of agenda items.

The County/community liaison fulfills a vital function for the community. The liaison attends the TAB meetings and answers questions regarding County policy and ordinances, and will research issues as necessary. The TAB makes recommendations based upon the collective agreement of involved citizens; these are recorded in meeting minutes. Since only major issues actually reach the CCBC, the liaison routes most requests via the TAB minutes to the CCBC Planning Commission and/or to the appropriate county agency which can fulfill the request. TAB decisions regarding zoning, for instance, are forwarded to the Clark County Zoning Department. CCBC Planning Commission meetings involving agenda items of importance to Indian Springs residents are sometimes attended by involved residents who may vocalize their perspectives.

Town Budget and Fiscal Trends

According to the Department of Comprehensive Planning (1980:2), the fiscal year 1979-1980 town budget was listed at $3,854, with an assessed valuation of $1,488,042, all of which was derived from non-property tax sources. For fiscal year 1991-1992 (July through June) the budget was listed at $1,100; $400 of this was designated for expenditures and $700 was designated for Town Advisory Board secretarial payments. The town was valuated during fiscal year 1991-1992 at $2,987,380.

The town budgets listed above represent monies designated solely for holding Town Advisory Board meetings and associated record-keeping and supplies. Numerous other sources of County funds support the infrastructure of and services provided in Indian Springs. For example, funds for the maintenance and operation of the town's Community Center, town roads, law enforcement services, fire protection services, and other services are provided by the County through the relevant departments. Planning Information Corporation (1991:35) estimated that for fiscal year 1988 Clark County expended $641,400 for provision of services in Indian Springs. Meanwhile, the Clark County School District expended an estimated $1,189,300 for maintenance, operation and related costs at the Indian Springs School in 1988.

4.3.2.2 County Government Institutions and County Districts

A number of county government institutions and county districts are active in Indian Springs. These include the Clark County Board of Commissioners and the associated Planning Commission, the Clark County Department of Comprehensive Planning, the District and Justice Courts, and the Clark County Health District.

Clark County Board of Commissioners and Planning Commission

The Clark County Board of Commissioners (CCBC) provide the formal mode of government and policy-making body for Clark County. The CCBC is a seven-member board that chooses a Chairman from its ranks and implements policy through the County Manager.

The CCBC meets four times a month for decision-making purposes regarding zoning matters, ordinances and resolutions, and County law. Public attendance is a critical aspect of the democratic CCBC process. Pending issues and decisions which may impact the public are published in local newspapers. Special meetings may also be held to review and decide issues of special importance to the County and its citizens; an announcement regarding the nature of these meetings is made three days in advance.

The CCBC Planning Commission, which is comprised of seven members appointed by the Board of County Commissioners, plays an important part in the governance of rural areas in the County. As aforementioned, the Indian Springs TAB advises the CCBC on issues of local importance through the liaison and the TAB minutes. The broad policy decisions which affect planning considerations in Indian Springs are ultimately decided by the Planning Commission.

Clark County Department of Comprehensive Planning

Planning programs and services in Clark County are *implemented* by the Department of Comprehensive Planning (DCP) which is under the supervision of the Clark County Manager. DCP provides comprehensive planning services to the urban and rural communities in Clark County.

A comprehensive plan was developed for Indian Springs in 1980 following a petition from the residents and TAB to update the existing land use plan. According to DCP (1980:1), a community's Comprehensive Plan is:

> intended to act as guide to the community and public administrators as to what the community will be in the future. By providing direction, the plan becomes an aid to developing the kind of community the residents desire for the future.

Since prior work had been done locally to develop alternative land use scenarios and related zoning issues, in 1979 the community requested that DCP review these efforts. DCP undertook fieldwork and considered the needs of the community to develop a formal plan to address "the sometimes spotty, sometimes inappropriate" land use that currently existed (DCP, 1980:6). The plan allocated highway frontage, generally provided for an increase in commercial development, and increased the planned acreage for public facilities since existing public facilities were, at the time, often improperly located on land zoned for other uses. The plan also sought to balance the disproportionately large number of high-density zoning areas to offer a better mix of low- to moderate-density zoning.

In 1980, DCP estimated the Indian Springs population to be around 925 persons and projected a small growth increase to 995 persons by 1990. The projection has proven to be fairly accurate although the population has undoubtedly fluctuated through the 1980's.

Following the completion of numerous land use plans in rural parts of the County in the early 1980's, the DCP began to focus its attention on the development of land use plans in the Las Vegas Valley. By 1990, as DCP staff worked on draft plans for numerous communities in Clark County, new plans or revisions were being requested from other rural and urban communities including Indian Springs. In addition to its primary purpose as a NWRP monitoring and

planning tool, the current report will provide preliminary community-level information to the DCP in anticipation of DCP efforts to revise the Comprehensive Plan developed for Indian Springs in 1980.

District and Justice Courts

In Clark County, judicial responsibilities are administered by one of three courts depending on the type of crime or infraction involved and the location in which that crime or infraction occurred. Processing of traffic and misdemeanor violations occurring in the City of Las Vegas, for instance, is the responsibility of the Municipal Court of the City of Las Vegas.

Traffic and misdemeanor violations occurring in Clark County but not in Las Vegas, or any of the other municipalities in the County which have municipal courts, are handled by the Clark County Justice Court. With the exception of the Justices of the Peace who are elected by citizens of the County to lead the Justice Court and fulfill the same duties as judges of higher courts, employees of the Justice Court are County employees hired through normal county hiring processes. The Justices, though elected, are also paid by the County. The Justice Court system in Clark County is divided into eleven courts all but one of which (Boulder City Justice Court) administers to townships. The Las Vegas Justice Court administers the Las Vegas Township which includes Indian Springs. In addition to traffic and misdemeanors, the Justice Court also tries small claims cases.

In Nevada, the eight District Courts try appeals from the Justice Courts and felony cases. Each of the eight counties in Nevada has a District Court; these are analogous to Superior Courts in other states. District Court judges, though elected by citizens of the counties they serve, are paid by the State. Each District Court judge selects a County-paid staff consisting of a Secretary, a Bailiff, and a Law Clerk. The jurisdiction of each District Court is that of the boundaries of the County it serves. Thus, since Indian Springs is in Clark County and Clark County is served by the Eighth Judicial District Court, felonies occurring in Indian Springs and appeals of Justice Court cases occurring in Indian Springs are tried by the Eighth Judicial District Court.

Clark County Health District

Although the Clark County Health District (CCHD) is funded through County sales tax, the CCHD is a political subdivision with its own governing board distinct from County government. The CCHD does not maintain a physical presence in Indian Springs but does implement a variety of programs in this and other rural areas of the County. These programs are basically extensions of urban programs; there is no distinct rural agenda.

CCHD activities in Indian Springs are primarily related to inspection programs. The exception is the Child Care and Immunization clinic administered at the Indian Springs High School. This program involves a twice-yearly visit by a District nurse to provide immunizations and basic health assessment services to infants and children. CCHD inspection programs active in Indian Springs include food and beverage establishment inspections, public swimming pool inspections, public school inspections, mobile home park inspections, water supply inspections, public sewer facility inspections, private sewer facility inspections, and hazardous and toxic waste site inspections. Each of these programs generally rely upon a small number of specialists who conduct inspections in all areas of the County including rural areas such as Indian Springs.

The CCHD also coordinates training of volunteer Emergency Medical Technicians in the unincorporated areas of the county, and provides a number of support services to County and local emergency response departments during emergency events. The Clark County Health District employed a total of 244 full-time and eight part-time personnel in October 1991.

4.3.2.3 State Government Institutions

The State of Nevada is represented by several institutions active at the community level in Indian Springs. These are the Nevada Department of Prisons, the Nevada Highway Patrol, and the Nevada Division for Aging Services.

Nevada Department of Prisons, Southern Desert Correctional Center

The Nevada Department of Prisons maintains a large correctional facility about nine miles south of Indian Springs just off of US 95. (US 95 runs northwest-southeast in this area; the correctional facility is on the southwest side of the highway.) In 1980, during the siting process, there was a good chance that the correctional facility would be located within or very close to town boundaries. Considerable opposition to the project, along with controversy about the actual level of opposition, created an atmosphere of division within the community. These, among other factors, retarded the siting process, and for a number of reasons the correctional facility, known as the Southern Desert Correctional Center (SDCC), was eventually constructed at an

appreciable distance from town. Interestingly, many local residents correct outsiders who mistakenly (and frequently) refer to the correctional facility as "Indian Springs Prison." Apparently, one of the perceptions that originally fueled opposition to the proposed location of the facility, namely, that it would give the town a reputation as a dangerous or risky place to visit, continues to date.

The SDCC holds between 1,720 to 1,800 inmates in four facilities. The main facility is a medium security unit that holds most of the inmates. A DUI (driving under the influence of alcohol) center and "boot camp" for juvenile offenders hold temporary detainees, and a minimum security unit holds minimum-risk inmates.

Although the SDCC is relatively close to the community of Indian Springs, most correctional facility employees commute from Las Vegas. In early 1992, the facility employed fifteen individuals from Indian Springs, most of whom are caseworkers. The majority of persons at the facility, of course, are inmates and don't commute at all, nor do they interact in any way with the community.

Nevada Highway Patrol

Please refer to Section 4.3.3.5 Law Enforcement Facilities and Services for a description of the resident NHP force in Indian Springs.

Division for Aging Services

Please refer to Section 4.3.3.2 Senior Citizen Center for description of the programs provided to Indian Springs through the State of Nevada Division for Aging Services.

4.3.2.4 Federal Government Institutions

There are several federal government institutions active on the local level in Indian Springs. These are the Department of Defense, the Department of Energy, and the United States Postal Service.

Department of Defense, Indian Springs Air Force Auxiliary Field

The ISAFAF is currently an auxiliary field for Nellis Air Force Base (NAFB), located on the northeast edge of metropolitan Las Vegas. ISAFAF is encompassed within the Nellis Air Force Range (NAFR), which is geographically distinct from NAFB itself.[11] Specifically, the ISAFAF complex lies on the southern boundary of the South Range of NAFR. The facility provides maintenance and emergency recovery support and an occasional weather diversion base for NAFR, and also serves as a training facility for fighter pilots and other airborne personnel. The field and its facilities were established in 1942 as a training camp for Army Air Corps air-to-air gunnery crews likely to fight overseas. The area became a part of Tactical Air Command in 1961 and was redesignated as Indian Springs Air Force Auxiliary Field (ISAFAF) in 1964 (USDOI/BLM, 1981).

The ISAFAF has long been an important element of life in Indian Springs. Until the curtailment of air force-operated activity in the late eighties, the installation employed a relatively stable number of military personnel who made the Indian Springs area their home. Most of these employees and their families were housed on the base but when base housing was at capacity, local trailer parks would accommodate the spillover. Just before the gradual change from military to civilian operations was initiated in the mid-1980s, some 243 personnel with locally resident families were assigned permanent duty at ISAFAF.

ISAFAF was thus once an integral part of the community. Although policy varied over the years with periodic change in command personnel and structure, civilian residents generally benefitted from the presence of military personnel stationed at the installation for terms of moderate length. For instance, roughly one-third of the students at Indian Springs School were children from military families during the peak of military-employed ISAFAF operations. According to administrators at Indian Springs School, military families and students brought cultural diversity to the town and the school -- something that was missed after 1987 when a civilian contractor assumed operations of the installation. The Air Force complex also provided basic medical and emergency services to the adjacent community and allowed the local populace to use its recreational facilities. Community athletic teams and recreational groups were often largely comprised of military personnel or members of their families. When the facility changed operations, teams and groups found it difficult to continue their sports programs.

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[11] Nellis Air Force Base operations are by no means contained to a single, contiguous land area. In addition to NAFB proper (which itself is comprised of three areas known as Areas I, II, and III) and the lands associated with NAFR, NAFB has utilizes another area of land approximately three miles north of the base. 10,760 acres in area, this land is designated as the NAFB Small Arms Range.

The current status of ISAFAF as a training area and support facility for Nellis means that military personnel circulate through town on short-term missions, with two week stints being typical. At present, only the base commander is resident. The civilian contractor Ford Aerospace which assumed base operations in 1987 was able to maintain the same level of operations as the Air Force had previously, but with fewer personnel. This contract has since been assumed by Loral Aerospace. Approximately twenty-five of the estimated 100 or more ISAFAF Loral workers and thirty ISAFAF food service contractor employees are said to live in Indian Springs; the rest commute from the Las Vegas metropolitan area. The Department of Defense (DOD) does employ some personnel who are local residents; these include six police personnel and ten firefighters.[12]

The ISAFAF encompasses some 2,300 acres directly adjacent to Indian Springs and can accommodate twenty-four deployed aircraft (SAIC, 1990:2-9). The ISAFAF mission involves activities which give the community of Indian Springs a heightened chance of involvement in aircraft-related mishap that would not otherwise exist if the air base was not in such close proximity. According to the *Special Nevada Report* (SAIC, 1990:2-9) the mission of the ISAFAF is to:

> recover aircraft with emergencies or hung ordnance . . . The *Thunderbirds* use airspace around Indian Springs AFAF to practice and perfect aerial maneuvers. The average number of daily operations was approximately 270 departures and arrivals during the period January through March 1986 . . .

The ISAFAF Fire Department does maintain a mutual aid agreement with the Indian Springs Volunteer Fire Department. Since the Indian Springs Volunteer Fire Department is on duty only between five o'clock p.m. and eight o'clock a.m., the ISAFAF fire department plays a vital role in protecting the Indian Springs' citizenry and property. This service is particularly valuable since there is reportedly an insufficient number of water hydrants in the community and the ISAFAF tankers have relatively high water and foam capacities. Brief descriptions of the ISAFAF Fire and Military Police Departments are provided in subsections 4.3.3.5 Law Enforcement Facilities and Services and 4.3.3.6 Fire and Emergency Medical Facilities and Services.

Although some citizens complain of overflight noise and fear of flight training-related disaster, particularly if it were to involve the Indian Springs School, many also reveal their sense of awe of the power and beauty of the *Thunderbirds* in flight. Some residents also reveal their feelings of patriotism in relation to the Air Force facility and its mission, and relate their opinion that

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[12] Estimates for the number of civilian employees at ISAFAF are based on a report by a DOD employee at the base -- the aerospace contractor's figures for the size of the workforce at the base were not made available.

the noise and risk is worth the end product, i.e., skilled fighter pilots. Yet local fears about the possibility of a crash are not unfounded since a major crash occurred not far from town some years ago.

In summary, although the ISAFAF continues to be an important element of the NAFR mission, since 1987 the level of integration of its workers into the community has diminished considerably. Military personnel now generally contribute to an atmosphere of transiency in the community; the typical term of duty is two weeks. This is unlike the situation of past in which military personnel were often stationed at the base for two-year or longer terms and thus were an important part of the community for at least this length of time. Furthermore, although military personnel retain a local presence and local businesses benefit from this regular source of revenue, these personnel have no real ties to the community and therefore may not treat it as they might a home. The civilian personnel employed by the aerospace and food service contractors and the Department of Defense do have a share in community affairs, but the duration of the current civilian contracts is uncertain; rumors are afoot that another shift back toward primarily military operation of the base is forthcoming. In consideration of these factors and with respect to the past impacts of military personnel withdrawal and the ongoing sensitivity of some citizens to overflight, the ISAFAF presents a continually changing source of impact to the community of Indian Springs.

Department of Energy, Nevada Test Site

The NTS facilities are operated under the purview of the U.S. Department of Energy (USDOE) and occupy parts of 1,350 square miles of land sixty-five miles northwest of Las Vegas in Nye County, with a small portion extending into Lincoln County. Some of the land currently used for NTS operations is claimed by the Western Shoshone Nation by virtue of the 1863 Treaty of Ruby Valley (Western Shoshone National Council; 1991).

Research and testing activities began at the Nevada Proving Ground in 1951 after the area was designated a continental nuclear testing ground in December, 1950. The name of the testing area was changed to the Nevada Test Site in 1955. Factors leading to the designation of the Nye County desert area as NTS land included low population density, favorable geology, favorable climatic conditions, and ease in securing the area. The combined 5,470 square-mile area of the NTS and the adjacent Nellis Air Force Range comprise the largest contiguous area of withdrawn military land in the United States.

Although various nuclear-related research projects are conducted at the NTS, the site is particularly well-known for its nuclear weapons tests. Since the first weapons test in 1951, almost 1,000 weapons have been exploded at the site including over 200 atmospheric explosions, all of which took place prior to 1963. Although the U.S. Government currently spends nearly two billion dollars annually on nuclear weapons testing, recent changes in U.S. relations with

republics that formerly comprised the Soviet Union may indicate future cutbacks. This situation may ultimately have an impact on the communities from which NTS workers are drawn.

The NTS plays a critical role in the life of the community of Indian Springs. A large percentage of the population is employed at the facility; a generalized description of the NTS workforce residing in Indian Springs is provided in Section 4.3.6. Further, the long history of Indian Springs' association with the NTS and its programs lends to a unique set of local dispositions toward the NTS and toward the Yucca Mountain Project; a discussion of trends in NTS programs and the YMP as issues of importance to the community is provided in Section 4.3.8 Current Community Issues.

United States Postal Service

The United States Postal Service (USPS) provides services as well as some local employment in Indian Springs. The USPS maintains a small post office located on US 95 in the community. Postal customers pick up their mail at the post office which houses over 600 mail boxes. During the early part of 1992, the post office reported the number of box-users fluctuated between 550 and 575. The USPS does not provide doorstep mail delivery in Indian Springs, since most of the dwellings in the community have never been assigned street addresses.

The local post office employs one full-time clerk/manager, and two part-time clerks. The facility is typically crowded in the late afternoons and early evenings since residents usually pick up their mail after work.

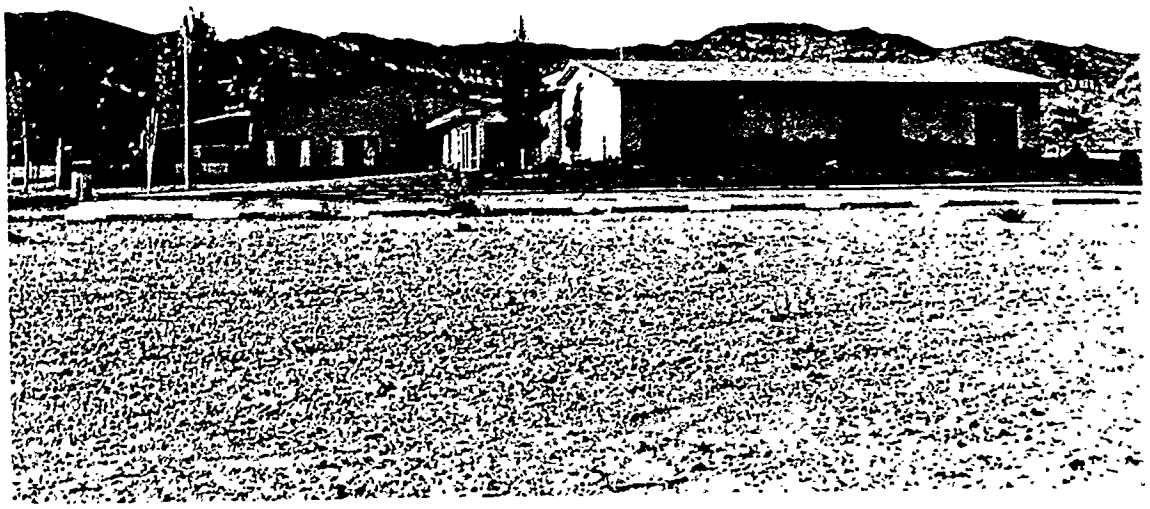

Figure 5. Community Center (above) and **Figure 6. Elementary School** (below)

4.3.3 Public Facilities and Services

Indian Springs benefits from a number of locally-based public facilities, most of which are owned, operated, and maintained by Clark County. This section describes these facilities and factors such as facility staffing, and levels and trends of facility and service usage by the community. Facilities covered in this section include the community center, the senior citizen center, the library, recreational facilities, law enforcement, fire service, and emergency medical service facilities, public works, social service, and educational facilities, as well as cultural facilities.

4.3.3.1 Indian Springs Community Center

The Indian Springs Community Center (Figure 5) is located at the corner of Helen and Gretta Streets in Indian Springs. The Community Center is a hub of the community and provides a meeting place for most organized community functions. The 7,994 square-foot building houses the senior citizen center, the community library, and the Volunteer Fire Department. It is outfitted with a complete commercial kitchen facility and multi-purpose meeting room.

The multi-purpose meeting room in the Community Center is generally used for Town Advisory Board meetings, special community events, and youth group meetings. Private functions such as family reunions and weddings are also held here. Volunteer-administered activities such as teen dances, exercise classes and children's programs are also held at the facility.

4.3.3.2 Indian Springs Senior Citizen Center

The Indian Springs Senior Citizen Center (Senior Center) provides valuable services to elderly residents of the community. Two Senior Center programs are funded by federal grant monies which pass through the State of Nevada Division for Aging Services. The federal funds are generated through the Older Americans Act Titles B and C. Title B provides monies for state social services programs for the elderly, while Title C provides the same for nutritional service programs.

With state oversight, the Indian Springs Senior Center thus provides two programs for its elderly (classified as fifty-five and over); residents over sixty-five are given additional benefits. The transportation program provides an invaluable transportation shuttle to Las Vegas. Elderly persons who do not drive find this service particularly useful for getting to the bank, to the doctor, or to the supermarket. Trips require prior appointment and fee payment of six dollars per trip. The Senior Center owns and maintains a 1990 Dodge Caravan for the purpose of transporting active members to the city.

The nutritional program, which operates at and from the Community Center, provides three meals per week to seniors over sixty-five for a nominal fee of $1.50. Persons between fifty-five and sixty-four pay a slightly higher fee. The Senior Center staff also provides a meal delivery service, called the "Homebound Program," to the homes of residents unable to reach the Community Center. These include persons who can no longer drive or who are sick or frail. Menus must be approved by an approved nutritionist in Reno before the meals are prepared and served to Senior Center participants.

The Senior Center is staffed by four employees: the director and driver generally work full-time, and the cook and kitchen helper work part of the work week. The director is primarily involved in administrative duties and interaction with the State Division for Aging Services, but also assists in delivering and preparing meals. The van driver makes an average of twenty-two trips per month to Las Vegas, and also delivers meals for the Homebound Program.

While the seniors who use the Senior Center programs do so regularly, attendance at the meal program and at other Senior Center functions has dropped from an average of thirty-three to twenty-five users per day. The meal program has been cut from five to three meals per week; service is now three nights per week: Tuesday, Wednesday, and Thursday. The center director attributes this decline to: (1) a general decrease in the number of surviving elderly in the community, this despite factors which are said to make the community a nice place to retire, e.g., safety, clean air and water; (2) an increase in the number of seniors who are no longer able to drive to the center, and (3) an unwillingness on the part of persons in the community who really need assistance to admit that they could use help and that they are indeed "elderly." The trend of decreasing program usage is worrisome to the director who believes that funds which are already threatened by an expanding federal emphasis on *urban* elderly programs may be further jeopardized as a result of the local situation. The director also says the refusal of the national executive leadership to emphasize domestic programs is a causal factor in what she sees as inadequate social service delivery to the elderly in rural areas across the nation.

Despite perceived problems with federal assistance to rural areas, state and County assistance to the Senior Center is seen as effective. According to the program director, the County has taken an active and effective role in recent years in assisting the program.

4.3.3.3 Library Facilities and Services

The Indian Springs library shares space with the Senior Citizens Center and the Volunteer Fire Department in the Indian Springs Community Center. The library is an extension of the Las Vegas/Clark County Library District, the administrative offices of which are located at 833 Las Vegas Boulevard in Las Vegas.

Although the Indian Springs library is small by urban Las Vegas standards with 1,200 square feet of space, it fulfills a number of vital cultural functions in the community. First, it provides a place where children and adults can come to find and use reference materials and books. Since the library is an extension of the Clark County Library District, any material kept in County libraries in the Las Vegas Valley, or any material the District can acquire through inter-library loan can also be acquired through request at the Indian Springs Branch. Second, the library is an ideal study area; young students frequently come in the afternoons to do their homework, or to pleasure-read. The Indian Springs extension administrator warns that the facility is typically "swamped" with children after school lets out since the school library has restricted hours. The school library is reportedly somewhat under-funded -- a situation reflected in its availability to students. Finally, the Indian Springs library is a cultural center for the youth of the community; youth programs are implemented by the library administrator and assistant. A "story-hour" program is held in the storage area of the library for youth five years and older, and for children under five accompanied by an adult. Craft activities and filmstrips are also part of this program.

The library administrator perceives that the Indian Springs extension is of satisfactory size at present, though an increase in community population would "definitely" require expansion. The extension library currently (early 1992) employs the full-time administrator, part-time assistant, and a student intern page. The library has some 7,000 volumes organized in reference, children, adult, and music sections. These are catalogued by a computer that is linked by modem to the central library in Las Vegas. A facsimile machine also links the extension to the main. Las Vegas newspapers are available although the facility is open just four days/thirty hours per week: Monday, Wednesday, and Thursday from eleven a.m. to seven p.m., and from nine a.m. to three p.m. on Saturday. A limited collection of magazines and periodicals are also available. A small but efficient photocopy machine is available for copy services for ten cents a page.

As one in frequent contact with some of the youth in the community, i.e., the literary-oriented, the extension administrator offers an informed opinion that children in Indian Springs need more places to go during free-time, and more [beneficial] activities to get involved in than presently exist in the community. Citing a perception that urban youth have more available to them in the way of activities and recreational programs, the administrator believes that a teen center would be an asset to the community.

4.3.3.4 Recreational Facilities and Services

There are currently a number of recreational facilities available for use by community residents. The community center is a hub of recreational activities, but a new ball field and the Indian Springs Park also provide meeting and activity locales.

The twelve acre Indian Springs Park, adjacent to the high school, is owned and maintained by the Clark County Parks and Recreation Department (CCPRD). The facility is available after school hours on a "first come, first served" basis, and is frequently used for picnics and family gatherings on the weekends. Children and teenagers from the nearby neighborhood also hang around the park and find various things to do there. More formal community activities and Clark County Parks and Recreation-sponsored events are also held on park land.

The community swimming pool, also adjacent to the high school and owned by the CCPRD, is maintained and used by the Clark County School District while school is in session as outlined in the 1964 Joint Use Agreement. The CCPRD runs the pool in the summer months; a nominal admission fee helps offset maintenance costs.

The CCPRD also conducts a summer recreation program at Indian Springs high school through the Joint Use Agreement. This program generally runs from eight to ten weeks in the summer. Free to the public, activities are targeted to attract children and teens six to eighteen years of age.

Construction of a new ball field was recently initiated on CCPRD land acquired from the Bureau of Land Management. A key figure in the effort is a long-time resident of Indian Springs and a retiree of the USDOE subcontracting firm REECo. Construction was begun with the cooperation of USDOE personnel and a building contractor in the community who lent earthmoving and compaction equipment, and with the help of numerous volunteers from the community. Clark County donated lighting fixtures and landscaping for the project. Unfortunately, the cost of electrical and other installation has been prohibitive and the project remains incomplete in early 1992. General residents and ball players have previously used, with permission, the small Indian Springs High School and Elementary School ball field.

The County-owned recreational facilities in Indian Springs are maintained and supervised by a full-time CCPRD Maintenance Worker I, and a part-time assistant. Two part-time leaders are hired to run the recreation program in the summer. These workers, a manager, and two lifeguards who operate the swimming pool, are directed by the CCPRD maintenance worker.

With respect to cultural events, the CCPRD conducts several events throughout the year. Recent and current events include a puppet theater, "Family Western Night," and a "Theaterworks" presentation. The Cultural Division coordinates with the CCPRD maintenance worker to produce these programs.

4.3.3.5 Law Enforcement Facilities and Services

Although the unincorporated town of Indian Springs does not have a local police department, it is served by resident officers from the Metropolitan Police Department and the State of Nevada Highway Patrol (NHP). While each local facility has two officers, communication linkages can bring assistance from the larger respective forces fairly quickly.

Las Vegas Metropolitan Police Department

The Las Vegas Metropolitan Police Department ("Metro") provides law enforcement services to Clark County and the City of Las Vegas. In Indian Springs, Metro administers law enforcement and related services through an outlying areas program that, for the purpose of administrative efficiency, divides the county into three geographic zones (southern, eastern, and northern) and places an appropriate number of resident officers in the rural communities. Laughlin and Searchlight are included in the southern section; the northern section is administered by resident officers in the Bunkerville and Overton area; the western section is covered by resident officers in the Mount Charleston and Indian Springs areas. Since effective law enforcement in these relatively remote areas is difficult or impossible to implement from Las Vegas, the resident officer strategy enables a small number of police personnel to manage crime and emergency response from on-site offices (or from their local residences) while receiving assistance from Las Vegas as needed.

The resident Las Vegas Metropolitan Police force in Indian Springs (Metro-Indian Springs or MIS) provides law enforcement services within the immediate town area, and also patrols the Corn Creek and Cold Creek communities and provides back-up for the Mount Charleston Metro officers. The Mount Charleston squad reciprocates this assistance as needed. There is also close cooperation between MIS officers and the resident NHP personnel, particularly regarding traffic-related incidents. Further, MIS may assist military police based at ISAFAF in major crime scene situations and ISAFAF police may reciprocate in those instances in which policy allows. The official service area of the MIS extends north to the Lincoln County line, south to the junction of State Road 156 and US 95, east to the Sheep Mountain Range, and west to the Nye County line and Wheeler Pass (Las Vegas Metropolitan Police, 1992a). The MIS office is located in the 600 block of McFarland, approximately one-half mile south of US 95.

Crime levels in Indian Springs are relatively "minor league" compared to levels in urban Las Vegas Valley; MIS responded to thirty-eight local calls for service in January 1992. Although this number can vary by season, this approximates the average of local service calls per month during 1991 (Las Vegas Metropolitan Police, 1992b). A wide variety of incidents are responded to, although most are minor disturbances. Typical incidents include juvenile disturbances, adult drinking problems, and domestic incidents. The theft and robbery rate is reportedly significantly

less of a problem than it is in the urban areas of Las Vegas Valley -- a reason many residents cite for continuing residence in Indian Springs. Public calls for service are made through a local number, or through a toll-free 800 number in Las Vegas when personnel are in the field or off-duty. In the latter case, the Metro dispatch center in Las Vegas relays the call to the mobile unit or beeper via a radio frequency or tone boosted by a repeater on Angel Peak. MIS radios are programmed for a wide range of frequencies enabling communication with multiple law enforcement and emergency response agencies. All MIS radio transmissions are monitored by central dispatch in Las Vegas.

With respect to MIS response time to crime and emergency incidents in the Indian Springs area, response can be effected fairly quickly within the immediate vicinity of the town. Response to outlying areas naturally takes longer. In January 1992, the average MIS response time was ten minutes (Las Vegas Metropolitan Police Department, 1992a). In both local and distant emergency situations, response time is dependent on such factors as weather and road conditions, and whether or not a unit has to respond to more than one call at once. The latter factor can be a problem in that although two Metro personnel are typically sufficient in this small town, a situation of multiple calls occurring simultaneously is not unheard of. In these cases, the cooperative assistance of NHP and the ISAFAF military police is valued.

As noted above, MIS employs two resident officers. These personnel stagger two eight-hour shifts per day, and, while always prepared to come on duty, work five days a week. This is unlike the urban Metro officers who work four ten-hour shifts per week. Each MIS officer is equipped with a 4X4 Blazer or Suburban patrol vehicle and basic police weaponry and apparatus. In addition to the normal training procedures given to urban Metro officers, MIS and other officers in the outlying areas program are specially trained in the areas of search and rescue management, criminalistics, firearms, and traffic incident mitigation.

Resident Nevada Highway Patrol

The Nevada Highway Patrol (NHP) provides statewide law enforcement services and has statutory responsibility for state roads, US highways, and interstate highways in Nevada. Clark, Nye, Lincoln, and Esmeralda Counties are within NHP Region I. Like Metro, the NHP Las Vegas District uses the resident officer strategy to implement it services in the outlying areas of the region.

Nevada Highway Patrol maintains a small station in Indian Springs at the corner of McFarland Avenue and Fisher Street not far from the MIS station. Two officers are resident in the community. Duty typically involves a great deal of patrol activity and response to traffic accidents which means that the station is frequently unoccupied.

During hazardous materials (HAZMAT) incidents occurring on state roads and US and interstate highways, the NHP will assume incident command while requesting the assistance of local and other resources as necessary to restore the roadway to safety. Additionally, the NHP will respond to HAZMAT incidents on any roadway to assist or to assume incident command as requested by the agency having jurisdiction over the affected roadway, e.g., a County roadway (Clark County Emergency Planning District, 1989:3-9).

With respect to interaction with the MIS, the NHP will assist as needed in the kinds of response calls typically handled by MIS. If the MIS is in pursuit of a vehicle, a request must be made to NHP before the NHP will assist. NHP will also assist the military police at ISAFAF if asked although these occasions are reportedly a rarity.

The locally resident NHP personnel maintain Metro Police radios in their trucks thus enabling continual monitoring of MIS frequencies. NHP is also in constant communication with district NHP offices and dispatch in Las Vegas. The force is somewhat restricted in its capability to communicate with other agencies though, since it uses, unlike most area law enforcement agencies, primarily VHF low-band frequencies in the 42.0 megahertz (MHz) range. The advantage of using low band lies in the ability to transmit over long distances; this is, of course, particularly desirable for officers who patrol remote stretches of state highway. NHP hand-held radios do have the capability to transmit over the State Mutual Aid frequency. While this offers an additional link to area agencies for patrol officers, the frequency is kept only on the hand-held radios and not on mobile radios or at dispatch.

ISAFAF Military Police

There is currently some potential for emergency response interaction between the MIS, NHP and the military police employed at the ISAFAF. As aforementioned, according to the resident NHP personnel, the NHP will assist the ISAFAF military police if requested and the ISAFAF will reciprocate inasmuch as policy will allow. The same situation applies with assistance to and from MIS. According to the ISAFAF military police, however, this is a rare occurrence since, unlike the mutual aid agreement between Clark County and the ISAFAF Fire Department, Clark County does not maintain an agreement for law enforcement emergency assistance with the military police at the ISAFAF. The duties of this force are rather primarily related to base-specific security, social control, and emergency management.

As of April, 1992, the ISAFAF military police force included eighteen personnel. All are civilian employees of the Department of Defense. Six of the eighteen are currently residents of Indian Springs; the remaining twelve commute from residences in the Las Vegas Valley.

4.3.3.6 Fire and Emergency Medical Facilities and Services

Fire, rescue, and emergency medical services in Indian Springs are provided by the Indian Springs Volunteer Fire Department and the Indian Springs Air Force Auxiliary Field Fire Department. These two departments, unlike their law enforcement counterparts, frequently work together.

Indian Springs Volunteer Fire Department

Local fire suppression, rescue, and emergency medical services are provided by the Indian Springs Volunteer Fire Department (ISVFD) which is located at the Indian Springs Community Center, 715 West Gretta Lane. The ISVFD is comprised entirely of volunteers, but is a well-trained and highly organized department. Equipment is provided and maintained by Clark County; supplemental equipment and programs rely upon donations from the community.

The ISVFD coverage area includes all of Indian Springs, the area from mile markers 100 to 130 along US 95, and the community of Corn Creek (visible on the right hand side of the highway northbound about twenty miles south of Indian Springs). The department also provides support to the Cold Creek Volunteer Fire Department. Cold Creek lies some eight miles southwest at a higher elevation.

The most frequent calls for ISVFD service involve a need for medical assistance; small household accidents and traffic accidents are most common. Vehicle fires are commonly the subject of response for the fire suppression detail. The ISVFD also commits a vehicle for presence at area sporting events. The fire department has an average incident response time of five minutes for the immediate Indian Springs area; outlying areas naturally take considerably longer to reach. Response times are measured from the time the call is received at the station to on-scene arrival. According to the Fire Chief, Corn Creek is particularly vulnerable to fires since it has no fire department and is some twenty miles distant.

Emergency medical service (EMS) transport time takes an average of thirty minutes although this figure fluctuates with weather, road, and traffic conditions. Unless the patient requests otherwise, he or she will be transported to University Medical Center since this is the County facility. If a situation is or becomes time-critical or presents need for a special medical response, the Valley Medical Center Flight for Life helicopter may be dispatched to the community, or a rescue vehicle with specialized equipment may meet the ISVFD ambulance half- or part-way to Las Vegas.

Calls for service are made by the public through a well-advertised toll-free number to the joint Clark County/Las Vegas/North Las Vegas Fire Alarm Office (FAO). Calls are then relayed by tone and radio transmission via a repeater at Angel Peak back to ISVFD in Indian Springs. ISVFD officers have radios in their vehicles, and radio communications are also received and transmitted from the base station/emergency operations center at in the ISVFD area of the Community Center. The ISVFD receiving frequency is 154.300; the transmitting frequency is 153.340. Non-officers are notified through the tone-activated beeper system. Although this system of notification is somewhat slower than it might be if calls for service were routed directly through to the ISVFD base station, it assures that the FAO and urban fire departments in the Las Vegas Valley area are made aware of incidents occurring in the distant Indian Springs community. Such notification may be particularly valuable during situations in which multiple incidents or a single incident exceed(s) the capacity of the ISVFD to effect an adequate response.

In early 1992, the ISVFD was operating with between twenty-five and thirty volunteers; the figure fluctuates with the availability of personnel who must meet the duties of their regular employment. The department actually relies on the assistance of the ISAFAF fire department to provide service from eight o'clock a.m. to five o'clock p.m. during the week since ISVFD personnel are unable to respond to incidents as they are typically employed at a considerable distance from Indian Springs.

The field-ready administrative ISVFD staff includes a Fire Chief and Assistant Fire Chief, a Fire Captain, an EMS Captain, and Training Officers. Other administrative staff include a Treasurer and an Administrative Assistant.

As regards equipment, the ISVFD currently has a 1974 Ford Bordman Tanker with 500 gallon capacity, a 1976 3/4-ton four-wheel-drive Fast Attack vehicle, and a 1985 Ford ambulance which can comfortably accommodate four patients. While the fire tanker and ambulance are considered to be safe and effective vehicles, the Tanker is reportedly is in need of repainting, and the Fast Attack vehicle is seen as needing replacement.

A number of in-house training programs for fire suppression, rescue, and EMS are supplemented by programs administered by the Clark County Fire Department (CCFD). All personnel are trained for basic emergency medical and fire suppression response. EMS-dedicated personnel are also certified at the EMT Intermediate Defibulator level. Some personnel have received specialized training such as avalanche rescue and mountain search and rescue methods. Everyone on the squad has also received radiological training from REECo (a USDOE subcontractor), and Level I Hazardous Materials training.

Table-top and field exercise training with other fire departments operating in the rural northwest area of the county has not been a frequent ISVFD activity although this would surely increase efficiency in real-time situations calling for multiple agency interaction. Reportedly, the geographic/logistical problems inherent in coordinating with distant entities make routine training interaction difficult.

According to the ISVFD Fire Chief, relations between the ISVFD and the CCFD have been good. For instance, ISVFD EMS personnel have been invited to observe CCFD EMS personnel during some of their urban runs, and equipment maintenance is now provided from a mobile Clark County unit. In the past, the ISVFD had to transport their vehicles into Las Vegas for service. The County has also been helpful in responding to equipment requests, and ISVFD is anticipating the arrival of a new fire tender later this year. Other County departments are also interacting with the ISVFD. The Clark County Office of Emergency Management, for example, is installing a Civil Defense frequency radio at the ISVFD.

ISVFD interaction with the ISAFAF fire and police forces has changed considerably over the years. The Air Force actually provided all emergency services for the community until 1983 when the community was notified of a pending curtailment of services thus requiring Indian Springs to develop, in concert with the County, its own fire and emergency medical services. The ISVFD was officially instituted in June of 1984. Although the level of interaction between the community fire department and the air force fire department is somewhat limited by policy restraints placed on the air force department, the two do maintain a mutual aid agreement for structural fire suppression. This is a boon to the ISVFD and the community given the scarcity of fire hydrants in the community, the limited water capacity of its tanker, and the fact that the volunteer personnel are not normally available during the day Monday through Friday.

ISAFAF Fire Department

The ISAFAF Fire Department maintains a mutual aid agreement with the Indian Springs Volunteer Fire Department. Given that the ISVFD are not available for service during weekday daytime hours (8:00 a.m. to 5:00 p.m.), the air base fire department plays a key role in protecting Indian Springs from fire and other emergency situations.

The ISAFAF fire department is particularly valuable to the safety of the community since there is a local concern that the community has a shortage of fire hydrants and since the air base tankers have considerable capacities to hold water and foam. Actually, fire hydrants are available, but only in certain parts of the community, potentially leaving other parts of the community in jeopardy in the event a fire exceeds the response capabilities of the ISVFD tanker. The foam capacity of the ISAFAF tanker is of particular value given the frequency of hazardous materials transported through the community on US 95 (please refer to Section 4.3.2.1).

As of April 1992, the base fire department was utilizing the services of thirty-three civilian employees of the Department of Defense. Of these workers, ten are residents of Indian Springs.

4.3.3.7 Public Works Facilities and Services

Public works services within the unincorporated areas of Clark County are provided by the Clark County Public Works Department (CCPWD). For the community of Indian Springs these services include maintenance of county-owned rights-of-ways and public utilities.

During states of emergency, the Clark County Public Works Department is responsible for the following tasks (Clark County Fire Department 1986:3-3) within the county's geographic limits and including the Indian Springs area:

- heavy equipment rescue
- emergency flood control work
- debris clearance
- county road and bridge repair
- damage assessment
- animal control
- coordination for restoration of utilities

The most common utilization of CCPWD emergency services is during flood situations. Floods may require departmental service in terms of water level monitoring, direct assistance, traffic control, and repair of infrastructural damage.

The department maintains a variety of equipment including a fleet of trucks, front-end loaders, caterpillars, backhoes, and paving operations equipment. Most equipment is housed at the Maintenance Management Facility at 5825 East Flamingo Road. This is the headquarters of field operations for traffic control, road maintenance, and construction. CCPWD also uses administrative and other facilities in Las Vegas at 6655 West Sahara, 401 South 4th Street, and 4800 South Dewey (Dewey Animal Shelter-Animal Control).

4.3.3.8 Social Service Facilities and Services

The Clark County Department of Social Services (CCDSS) is the agency responsible for the delivery of social services to county, including the community of Indian Springs. According to CCDSS, the agency has historically provided a minimal level of social service to Indian Springs, and there are currently no services being provided to the community. The CCDSS implements an outreach program to rural areas of the county. This program provides a means of transportation for residents to get to the CCDSS office in Las Vegas, but there are currently no program users in Indian Springs.

4.3.3.9 Educational Facilities and Services

Educational services in the community of Indian Springs are provided by the Clark County School District-administered Indian Springs School (ISS). The ISS is a kindergarten through twelfth grade facility that also offers a special education curriculum for all grade levels. In early 1992, 162 students were enrolled in grades kindergarten through six and 179 were enrolled in grades seven through twelve for a total enrollment of 341. This number represents essentially all of the school-age youth in the community since reportedly no students commute to school in the Las Vegas Valley, and because the dropout rates are very low. Enrollment tends to fluctuate -- ostensibly due to fluctuations in NTS and ISAFAF programs and workforces. Planning Information Corporation (1991), for instance, reports that in 1987-88 total enrollment was 348 but reached about 400 in 1990 (and, as noted above, is now back down to 341 students).

The ISS staff currently (early 1992) includes fourteen teachers and one aid at the kindergarten through six level, and nineteen teachers and two aids at the seven through twelve level. The school also employs eight administrative assistants, a counselor, a dean/disciplinarian, and a principal. A building engineer, a head custodian, and three additional custodians maintain the school buildings and grounds. Class size fluctuates but the teacher-per-student ratio remains high with between eight and twenty-one students per class. Specialized courses may offer even smaller classes; a high school physics course has only four students. Grades four through six have the lowest numbers of teachers per students while grades kindergarten through three have the highest ratio.

The small size of the community, its relative lack of amenities, its history of close association with the ISAFAF, and its economic base in federal defense-related employment combine to give the school a unique character. The school is clearly a central focus for the community since for nine months out of the year it in some manner involves virtually everyone in town for some period of time. In the words of the ISS administration "the school is the one constant [variable] in this community." School provides *the* local social network for all of the community's youth since there are no alternative educational institutions, few opportunities for outside organized activities, and because the next closest community is some eight miles southwest. Further, the school is the location of the primary athletic facilities in the town and the home of the Indian Springs *Thunderbirds* sports teams, the events of which often involve many parents.

Regarding parental involvement in educational issues at the ISS, the school sponsors a Parent Advisory Council (PAC) which meets every two months to provide a forum between parents and the ISS administration regarding parental concerns and ISS programs. The school has advocated the development of a local Parent Teacher Association (PTA) and some parents have expressed interest in this possibility although no local PTA has been instituted to date. State-level PTA administrators claim that public schools generally enjoy greater benefits through PTAs since this structure allows local schools to enter the state, and national PTA network.[13] According to the state PTA office, one possible reason for lack of interest in the PTA in this generally "pro-nuclear" community is that the PTA has publicly advanced its position against the Yucca Mountain Project.

Attrition rates at ISS are low, a fact attributable to a concerted and directed effort to keep older children in school regardless of academic or personal difficulties. Formalized programs designed to reach this same goal are operative in Las Vegas (e.g., the Horizon School and Costar Program) but these are too distant for students in Indian Springs to take advantage of. A lack of other options, and the fact that whatever local friends a student are probably enrolled at ISS, may also serve to keep teens in school.

While ISS students on average perform below many of their counterparts statewide on standardized achievement tests, they score consistently above their own projected median. In other words, the student population as a whole tests at lower than the state average, but as individuals they may be considered over-achievers based on performance above expected achievement levels established through other testing criteria. A number of ISS students have been successful in the academic realm and have gone through college. One former ISS student recently completed study at the Naval Academy in Annapolis; another is a University professor

[13] The PTA has seven million members nationally and 150 urban and rural units (local associations) in Nevada. An autonomous organization, the PTA develops its own state and national guidelines. The PTA works at various levels to advocate quality public education for children.

in Texas; a third is a high-level city government official in Boston. These kinds of successes are a source of great pride for the community.

The socio-demographic situation of many students may be partially causal for performance levels on achievement tests, including factors associated with community employment patterns. The working/parental population of the community is, for the most part, trade-oriented rather than academically oriented in their employment, and this orientation may carry over to the school-aged population. Additionally, NTS, as noted elsewhere, provides a significant amount of employment in the community and most NTS workers work long shifts. Further, since many spouses of NTS workers are employed locally on rotating shifts, parents in these families may have only a limited amount of time to spend with their children on a regular basis. Moreover, a significant number of children in Indian Springs are being raised in single-parent households, which also limits the time available for parents to spend with their children. All of these situations have the potential to make academic/educational support for young students more difficult at the family level. At the community level, the Indian Springs School, like other small schools, is faced with the challenge of educating students with special needs without the benefit of continuing access to the type of specialized programs found in urban schools. Having limited resources to respond to a wide range of student needs is seen as particularly challenging by local administrators and staff.

Despite the local conditions which may impinge upon student performance, the ISS has been successful in developing a setting in which students feel a sense of belonging and in which they can strive for success. Computer science courses, lots of opportunity to work at computer stations, an advanced physics course, and a special education and diversified student curriculum are some of the scholastic opportunities offered by the school. Further, although a number of ethnic backgrounds are represented in the school populace including African-American, Native American (Southern Paiute), Asian, and Caucasian, there has reportedly never been any tension between these groups. Interestingly, school administrators report that they miss the presence of military children who brought a more significant level of cultural diversity to the school during the height of military-operated ISAFAF programs.

An active athletic program also serves to bring students together, and students who might not be able to stand out on the large Las Vegas Valley school teams get a great opportunity for experience through participation in the ISS athletic program. ISS sports teams, however, must often travel to distant locations in northern Nevada and California to compete with teams from similarly-sized schools. Athletic opportunities are offered in Nevada Interscholastic Activities Association (NIAA) programs for boys in football and wrestling, and for girls and boys in volleyball, baseball, cross-country, basketball, and track.

Geographic/logistic problems for the ISS are not restricted to athletic events. It has reportedly been difficult at times, for instance, for the ISS administration to receive rapid assistance from the Clark County School District. Some requests for assistance from the District are apparently

slowed by the distances and bureaucratic procedures involved in service delivery, a situation that can frustrate ISS staff and teachers who perceive a need for priority response. This is not to say that assistance does not eventually arrive; rather, the temporal element is criticized. Actually, the County has been forthcoming on a large scale with the recent completion of a new gymnasium. Meanwhile, the County-constructed and maintained community center has taken some of the strain from the school's recreational facilities which were once the only such facilities in town. Furthermore, geographic/logistic problems are recognized by the District, and the ISS is given flexibility to adapt District guidelines to fit the unique characteristics of this rural and relatively isolated community.

Geographic isolation between School District offices in Las Vegas and the Indian Springs School is also ameliorated by a mainframe computer linkage. Although this has created more work for at least one individual on the ISS end in that memos which were once sent from Las Vegas directly to individuals by mail are now the responsibility of the E-Mail operator, the mainframe streamlines aspects of administration and brings the ISS and its District into quicker and perhaps closer contact. For instance, the Online Absence Reporting System reduces the paperwork involved in personnel payroll management. Budget inquiries are also quickened by orders of magnitude, and requests for assistance from the ISS are more easily and quickly routed to the appropriate personnel at District headquarters.

The ISS has always been partially dependent on and influenced by the activities of County, state, and federal government entities. The State of Nevada implements the accrediting process that guides Clark County School District policies. The federal government provides funds for a number of ISS programs. But perhaps the most crucial issues for the history of the school and the community as a whole have been changes in the federal governmental programs through which the community is indirectly sustained. When the ISAFAF turned most of its operation over to civilian contractors in 1987, the social organization of the community and school underwent drastic change. Before the change, the school had a maximum of 450 students, some thirty percent of whom were from military families. While much of this enrollment has gradually been replaced by children of new families who have come to work at the NTS and to a lesser extent by children of civilian employees at the ISAFAF, the cultural diversity instilled by the presence of the military students was perceived as a loss after their departure. After 1987, the whole atmosphere of the community is said to have changed following the operational and policy changes at the ISAFAF, since the installment was once considered an important part of the town, and its presence was seen as contributing to a "down-home atmosphere."

The ISAFAF also once contributed to structural aspects of the Indian Springs School. Medical services, for instance, were administered from the base prior to 1987. Emergency medical assistance at ISS is now provided by the Indian Springs Volunteer Fire Department; an in-house health aid also serves the student "body." The Clark County School District sends a nurse to ISS once a week for routine check-ups and similar duties. The Clark County Health District

also sends a nurse to the town twice a year to provide immunizations and basic health assessment services for children and infants.

In summary, the ISS provides a focus of activity for the town's youth and their parents alike. Between scholastic, athletic, and other extra-curricular events, everyone in Indian Springs is attentive to activities at the school. The school provides a source of community cohesion and opportunities for the town's youth. Given the importance of the school to the community, ISS should be given high priority consideration in efforts to monitor change in or plan for the future of Indian Springs.

4.3.3.10 Cultural Facilities

Although cultural programs are administered by the Indian Springs Library, the Indian Springs School, the Clark County Parks and Recreation Department, and the State Division for Aging Services, there are currently (early 1992) no local public or private facilities designated solely for cultural activities. Community residents generally travel to Las Vegas to attend major theater and music presentations and the other types of cultural events available in the city. The lack of cultural amenities is an oft-cited deficiency of community life in Indian Springs and is an important analytical consideration since many residents accept the idea of local growth inasmuch as it would bring a theater, a teen center, and other such cultural facilities to the town.

4.3.4 Infrastructure

Communities of all sizes are invariably dependent on the efficient functioning of local utilities and services. Residents, local businesses, local and regional governments, and local and regional service providers all depend on adequate community infrastructure; community growth is often constrained by antiquated infrastructure. This section is intended to provide a description of the basic utilities and facilities which service Indian Springs and includes coverage of transportation, water and sewer services, solid waste disposal, energy services, telephone services, and land use patterns and categories.

4.3.4.1 Transportation

Transportation is a crucial aspect of life in Indian Springs for reasons related to the behaviors of both local residents who must travel frequently from town to acquire goods and services in the Las Vegas Valley, and to non-residents who travel through Indian Springs on US 95 en route to points north or south. This subsection describes transportation-related issues to provide the reader with a sense of the current importance of travel to, from, and through the community.

Motives for and Means of Travel

The relative lack of services and activities in Indian Springs encourages or requires most residents to venture into Las Vegas on a regular basis. Grocery shopping is perhaps the most frequent mission although medical needs, banking needs, and other necessities motivate residents to make the eighty-six mile round-trip excursion. Cultural, entertainment, and other needs which cannot be met in Indian Springs also require that local residents travel into the Las Vegas Valley. According to two of the community's mobile home park owners, a small number of renters commute to jobs in Las Vegas on a daily basis. Many of the teachers and administrators at the ISS also commute to and from Indian Springs. Interestingly, the Internal Revenue Service allows a mileage deduction for Indian Springs residents who must commute long distances for employment; this is a boon to the few residents who commute to jobs in the Las Vegas Valley and to the many NTS commuters.

There are few options for public transportation and no free public transportation between Indian Springs and points in the Las Vegas Valley. Moreover, the Senior Center shuttle is restricted to use by the elderly, and the bussing services provided by the NTS are designated for NTS workers and generally stop only at designated spots. The Greyhound-contracted KT Services bus makes two northbound and two southbound stops in the town -- one-way fare is $5.75; round-trip fare is $10.95. Southbound departures to Las Vegas are at 4:25 a.m. arriving in Las Vegas at 5:15 a.m., and at 4:55 p.m. arriving in Las Vegas at 5:40 p.m. Northbound

departures *from* Las Vegas are scheduled at 7:45 a.m. arriving in Indian Springs at 8:35 a.m., and at 10:20 p.m. arriving in Indian Springs at 11:10 p.m.

Given the cost, potential scheduling problems, and restrictions associated with bus and shuttle travel, most persons use their own vehicles for the trip into the Las Vegas Valley. Since the ethos of automobile dependence seems to be accepted by residents of Indian Springs, it is likely that autos would remain the primary mode of transportation into the urban valley regardless of the existence of other options. Travel to the NTS may be an exception: sixty percent of the surveyed NTS workforce residing in Indian Springs in 1988 (N=106) used the NTS bus shuttle to get to work (Planning Information Corporation, 1989:39).

Road Quality

US 95, also known as the Tonopah Highway, is a divided four-lane highway that provides a direct and well-maintained route to Las Vegas. Roads within Indian Springs are generally in passable shape but many sections remain unpaved packed gravel or dirt. Persons living outside of trailer parks generally have dirt roads leading up to their residences. This is not always objectionable to residents since many do not mind the "rural feel" of dirt roads. Roads to the communities of Mount Charleston, Kyle Canyon, and Cold Creek suffer somewhat from the higher elevations and associated weather conditions; Mount Charleston roads, particularly State Road 158, are occasionally impassable in winter.

Speeding and other Traffic Problems

Heavy traffic flow is rare in this part of Southern Nevada although major traffic accidents can cause delays along US 95. According to the resident NHP officers, accidents are not infrequent in the area. The speed limit along the highway is reduced to thirty-five miles per hour (mph) within town limits, but vehicles accustomed to travelling fifty-five mph or faster en route to or from Las Vegas frequently fail to check their speed. The danger of this situation is compounded by the fact that the service or frontage roads that run parallel and on both sides of the highway meet with access roads which run perpendicular to the highway at a four way intersection; to cross from one side of the town to another motorists must cross two two-lane frontage roads and the four lane highway. Since a casino, restaurant, hotel, gas station, laundromat, post office, recreational vehicle park, and the main gate to the ISAFAF are located on the most *sparsely* populated side of the highway, local traffic across US 95 to the highly populated residential part of the community is relatively heavy.

Another hazardous situation is feared by some residents. This involves a reported increase in the number of drunken drivers who mistake the first two lanes of the divided highway as a two-

way road and travel either north or south into oncoming traffic. A significant increase in local population might eventually call for a traffic light at the four-way intersection or some other traffic reconfiguration which would reduce the chance of accidents.

Traffic Flow and Vehicle Classification

Traffic flow information for the Indian Springs link of US 95 for the years 1982, 1987, and 1991 are provided in Table 4.3-3. These data are based on yearly traffic counts taken at locations north and south of Indian Springs. Counts are taken four times per year for sixteen hour intervals excluding the period ten p.m. to six a.m. Given the importance of the Nevada Test Site and transportation of hazardous materials through the town on US 95 en route to the NTS, data from counting stations at the on- and off-ramps of the Mercury entrance gate to the NTS are also included.

Station 374 is located south of town 5.9 miles north of State Road 156. Counts taken from that station thus include traffic inbound and outbound from both the Southern Desert Correctional Center and the small community of Cold Creek in addition to traffic going to and coming from Indian Springs and points north. This situation, combined with the fact that for many northbound vehicles Indian Springs is the termination point of travel, probably accounts for much of the difference in flow between counting stations 374 and 375. Station 375 is located .1 mile north of milepost 129 just north of Indian Springs.

Accurate interpretation of vehicle origins and destinations derived from traffic counts is difficult since the counting mechanism counts traffic going both in both directions and without gathering qualitative information about the flow. Table 4.3-3 reveals, however, that in the last ten years, traffic flow through Indian Springs has increased and that traffic to and from the NTS has fluctuated.

A vehicle *classification* effort undertaken every few years provides qualitative information about the types of vehicles passing along this stretch of the highway as shown in Table 4.3-4. Table 4.3-4 thus represents a categorization of the kinds of trucks that comprised the total vehicle flow for that year. Fifteen percent of the total were trucks. Another standardized research effort was undertaken in 1989 to query drivers of the contents of their loads on the transportation link between station 374 to the Mercury gate (link fifty-three). An annual daily average of seventeen trucks (4.3% of the total) transported hazardous materials through Indian Springs along US 95. Results of this survey are depicted in Table 4.3-5.

Table 4.3-3
Traffic Counts: US 95 Indian Springs/Mercury Areas (all vehicles)

YEAR	STATION/LOCATION	COUNT
1982	Station 374 (Charleston Rd., just S of Indian Springs)	3,030
	Station 375 (.1 mile N of mp 129 just N of Indian Springs)	2,820
	Vehicles Northbound offramp to Mercury from points south	555
	Vehicles Southbound onramp from Mercury to points south	555
	Vehicles Southbound offramp to Mercury from points north	125
	Vehicles Northbound onramp from Mercury to points north	125
	Station 12 (just north of Mercury)	1,785
1987	Station 374	4,100
	Station 375	3,400
	Vehicles Northbound offramp to Mercury from points south	700
	Vehicles Southbound onramp from Mercury to points south	690
	Vehicles Southbound offramp to Mercury from points north	150
	Vehicles Northbound onramp from Mercury to points north	160
	Station 12	2,125
1991	Station 374	4,185
	Station 375	3,400
	Vehicles Northbound offramp to Mercury from points south	605
	Vehicles Southbound onramp from Mercury to points south	610
	Vehicles Southbound offramp to Mercury from points north	165
	Vehicles Northbound onramp from Mercury to points north	160
	Station 12	2,535

Source: Nevada Department of Transportation, 1992a

Table 4.3-4
1989 Manual Classification Count: US 95 through Indian Springs

TYPE OF TRUCK (Trucks= fifteen percent of 4,380 annual daily average all vehicles)	PERCENTAGE OF TOTAL TRUCKS
Motor Home	16.2
Bus	25.5
2-axle, single unit with dual tires	16.3
3-axle, multi-unit, single trailer	00.4
4-axle multi-unit, single trailer	00.3
5-axle multi-unit, single trailer	30.7
6-axle multi-unit, single trailer	00.4
5-axle multi-unit, multi-trailer	02.6
6-axle multi-unit, multi-trailer	00.8
7-axle multi-unit, multi-trailer	04.7
8 or more axle, multi-unit, multi-trailer	02.1
TOTAL	100

Source: Nevada Department of Transportation, 1992c

Table 4.3-5
HAZMAT on US 95 through Indian Springs: 1989*

CLASS AND DESCRIPTION		PERCENTAGE
Class I	Explosives	06.3
Class II	Gases	06.3
Class III	Flammable Liquids	50.0
Class IV	Flammable Solids; Spontaneously Combustible Materials; Materials Dangerous when Wet	06.3
Class V	Oxidizers and Organic Peroxides	00.0
Class VI	Poisonous and Etiologic (infectious) Materials	00.0
Class VII	Radioactive Materials	06.3
Class VIII	Corrosives	25.0
Class VIII	Miscellaneous Hazardous Materials	00.0
TOTAL		100.0

*(Assessment based on total of all commodity-carrying trucks carrying hazardous materials through Indian Springs – 3.9% or seventeen per day, annual daily average)

Source: Nevada Department of Transportation, Special Studies Section, 1992b

Table 4.3-6
Average Daily Tonnage by Commodity: US 95 through Indian Springs

COMMODITY	TONNAGE
Farm Products	628.61
Metallic Ore	21.58
Crude Petroleum, Natural Gas	22.30
Non-metallic Minerals, except fuels	196.99
Ordnance and other Explosives	27.29
Food Products	820.57
Textile Products	83.40
Wood Products, except furniture	845.43
Furniture and Fixtures	133.68
Pulp and Paper	171.69
Printed Matter	115.39
Chemicals	408.21
Petroleum and Coal Products	230.22
Rubber and Plastic Products	310.47
Stone, Clay, and Gas Products	328.33
Primary Metal Products	195.70
Fabricated Metal Products	175.51
Machinery	164.18
Electrical Machinery	261.79
Transportation Equipment	415.21
Waste and Scrap Metals	28.41
Shipping Containers Returned Empty	4.25
General Freight	346.27
TOTAL	5988.83

Source: Adapted from State of Nevada Department of Transportation, 1991b

Summary of Transportation Issues

In summary, the community of Indian Springs is heavily reliant on automotive travel to the Las Vegas Valley for acquisition of goods, services, entertainment, and other needs. Although travel is generally accomplished on adequately maintained roads, some local roads are in need of repair or upgrade. There is a problem with speeding through the town and some residents perceive a threat from drunk drivers -- situations compounded by the fact that US 95 effectively bisects two important sectors of town requiring local flow of traffic across the highway. Finally, there is a considerable and increasing flow of commercial and non-commercial traffic along US 95 and through the town. This flow includes an annual daily average of seventeen vehicles that transport hazardous materials through the community. These materials involve primarily flammable and corrosive materials but also include explosives, radioactive materials, solid flammables, and gases. As depicted in Table 4.3-6, other commodities typically shipped through town include farm, food, wood, transportation equipment, and chemical products. Given: (1) the location of Indian Springs between the Las Vegas Valley (and other points south), and the NTS Mercury gate and ISAFAF; (2) the current flow of commercial and non-commercial traffic through the community along US 95; (3) the local problems of speeding and other traffic violations; and (4) the current layout and condition of some local roads; traffic and transportation issues should be closely monitored. This need is magnified in light of potential changes in the level and type of traffic flow associated with activities at the NTS and at Yucca Mountain in particular.

4.3.4.2 Water and Sewer Services

Water and sewer system services are not operated by public utilities in Indian Springs. This fact has significant implications for future infrastructure of the community.

Systems Description

The Indian Springs water and sewer utilities are owned by the Indian Springs Sewer Company (ISSC) which provides service to a twelve square-mile area. Indian Springs, as noted earlier, is a natural oasis. The water in Indian Springs is sweet -- an unusual situation for a desert community.

The ISSC water system consists of a distribution network fed by two large capacity wells drilled to 600 feet, and a third smaller well. The deep wells have cement liners for the first seventy-five feet of depth. A fourth well is being considered for development and will also have a drilled depth to 600 feet. Pump depth for the existing system is 350 feet.

Local water is not currently treated, but treatment may ultimately be required to meet U.S. Environmental Protection Agency (USEPA) standards. Water is distributed hydropneumatically using a 10,000 gallon pressure tank and submersible pumps that are used to force water through the system mains. The water utility is authorized to withdraw about 250 million gallons per annum. This volume exceeds current demand by a considerable volume.

The sewer system involves natural treatment in a system of lagoons which processes the waste in an oxygen environment through aerobic bacterial action. There is no chemical treatment. A central lift station is located one mile east of the town. The ISAFAF initiated an effort to connect with the system but when the base changed its operational structure in the late 1980s this idea was abandoned (Clark County Sanitation District, 1989).

System Ownership

The water and sewer utilities are owned and operated by the privately-held ISSC. The president of the company manages the utility. Although the ISSC has no other full-time employees, an individual is contracted on a monthly fee basis to provide maintenance service for the system. Regulations of the State of Nevada Public Service Commission (PSC) apply to the utility. The utility owner holds a PCS-issued certificate of public convenience and necessity to supply water and sewer services to the community. As aforementioned, the Environmental Protection Agency may eventually require disinfection of local water through chlorination; most users oppose this possibility.

System Capacity

The two large-capacity wells currently in use are capable of pumping 1,100 gallons per minute (gpm) each. Under conditions of a conflagration, water flow will fall to 700-750 gpm per well. The water utility system uses eight-inch water lines on the perimeter and six-inch lines on the interior sections. As noted above, the utility has water withdrawal capabilities (and rights) that exceed demand.

Sewer lines range from eight to eighteen inches in diameter. Although the population of Indian Springs currently appears to be in decline, a cell was recently added to the existing lagoon at a cost of about $25,000. Future growth would require similar expansion of the lagoon system thus probably increasing service rates. According to the system owner/operator, user population could otherwise double without straining the sewer line network. The master system plans for the entire area were originally designed to accommodate 13,000 persons.

System Users

The ISSC water distribution system is currently utilized by between 1,000 to 1,100 residential users; private wells serve the remainder of the population. The system provides service to one motel, nine trailer courts, and the 341 pupils and fifty-two staff at the Indian Springs School. There are currently no industrial users. As of January 1991, there were 128 domestic and 449 commercial meters or units served by the sewer system and 111 domestic and 314 commercial meters or units served by the water system.

Water service rates (mid-year 1991) include a monthly base charge of $9.60 for 3.4 inch meters and $12.35 for one inch meters plus a use charge of $0.45 per unit (1,000 gallons). Sewer rates are $7.50 per month for residential users.

The developer provides funds under the main extension rule for hook-ups but regains twenty-five percent of the cost over twenty months. Lot buyers must pay for the cost of linking to the system.

With respect to the ISSC budget, total revenues decreased from about $134 thousand in 1989 to $125 thousand in 1990; a six percent decrease. Total operating expenses, including depreciation but excluding interest payments, increased from about $94 thousand to $112 thousand or twenty percent over the period. Much of the increased expense is attributable to maintenance of the sewer system. A small net operating loss was indicated in 1990 for the combined financial operations of ISSC.

4.3.4.3 Solid Waste Disposal

Solid waste disposal is currently a topic of debate for the community. Residents historically used a local dump to dispose of their waste but recent burning problems and associated hazards may have strengthened the likelihood that trash will be picked up at curbside at a cost to citizens. A study was conducted by a County sub-contractor during early 1992 to assess the situation; the report is being reviewed by the County Board of Commissioners at the time of this writing.

4.3.4.4 Energy/Telephone

Nevada Power currently provides energy to the community of Indian Springs. The service includes distribution of electrical power and propane fuel. Natural gas is not provided. Some residents relate a desire to incorporate solar energy into the current system since they perceive the community to be in an excellent climatic and geographical location for receiving sunshine.

Phone service is provided by Nevada Bell. Interestingly, and to the distress of citizens who must pay long-distance rates for most calls into Las Vegas; Indian Springs is included as the southernmost town in the northern Nevada service sector.

4.3.4.5 Land Use Patterns

Land ownership patterns and land use patterns are significant issues in the future of Indian Springs, given the shortage of privately-held land in the community. Hazard areas and visual considerations, both factors to be considered in future development, are discussed in this section as well.

Land Ownership

Private land in Indian Springs is owned by a minority of residents and is rarely made available for purchase. This situation has served to inflate property values; when land does come up for sale it is expensive even by urban Las Vegas standards. According to Endter (1988:21) and a number of recently contacted informants, there is a desire among non-landowners to see Bureau of Land Management (BLM) land surrounding the community opened up for development. Until and if the BLM releases land, it will remain difficult for potential buyers to purchase lots in the community. An alternative that would allow growth without expanding the town boundaries could be implemented if landowners subdivided their property. Yet intense subdivision is a questionable eventuality since landowners often express their desire to keep community growth within levels that would not sacrifice the community's small-town atmosphere. There is also a tendency on the part of landowners to "sit" on their property until values increase further, this despite the fact that the price of land in the community already approximates that of many prime areas in Las Vegas.

The Bureau of Land Management and Department of Defense (through ISAFAF) own all of the land surrounding Indian Springs. The ISAFAF property abuts the community on the northwestern end of town and on both sides of the highway. Clark County owns the lands upon which the public facilities are located.

Zoning and Land Use

Table 4.3-7 summarizes land use zoning in the community based on the land use plan completed in 1980 and on the 1979 zoning map for Indian Springs. The table arbitrarily divides the town into areas north and south of US 95 and further subdivides the southern portion into four sectors. Table 4.3-7 details the zoning categories and associated descriptions currently used by the Clark County Department of Comprehensive Planning.

As seen in Table 4.3-7, the highest percentage of land in the community is located north of the highway. Although this is the location of the town's primary commercial complex (the casino, restaurant, hotel, etc.) and the main gate of the ISAFAF, there is relatively little residential land here.

The greatest percentage of land in the community, 36.6%, is zoned for mobile home usage. Residential-agricultural usage is designated for 27.26% of the community. With respect to actual land usage in 1980, 92.7 acres were rural density residential lands; 34.7 acres were medium density residential lands; 23.59 acres were commercial lands; one acre was light industrial land; 49.94 acres were public facility lands; and 419.08 acres were agricultural or vacant lands.

Table 4.3-7
Indian Springs Land Use Patterns: 1980
(in Thousands of Square Feet)

Zoning Code	North of US 95	South of US 95 (divided into 4 areas)				Total Square Feet	
		US 95 to Boulder Lane	Boulder Lane to Gretta Lane	Gretta Lane to Raleigh Lane	Raleigh Lane to Southern end of town		
C-2	472.50	67.50	90.00	90.00	0.00	720.00	2.75%
H-1	135.00	–	–	–	–	35.00	0.52%
H-2	–	1,383.75	–	–	–	1,383.75	5.29%
PF	–	1,625.63	371.25	84.38	–	2,081.26	7.96%
R-1	–	1,417.50	5.63	–	–	1,423.13	5.44%
R-3	–	–	22.50	–	–	22.50	0.09%
RA	–	–	2,340.00	2,874.38	1,912.50	7,126.88	27.26%
RT	–	2,902.50	2,025.00	1,580.63	3,060.00	9,568.13	36.60%
TC	–	3,031.88	596.25	–	–	3,628.13	13.88%
C-1	–	33.75	22.50	–	–	56.25	0.22%
Totals	607.50	10,462.51	5,473.13	4,629.39	4,972.50	26,145.03	100.01

Source: Clark County Zoning Department Map, 11-19-79 Updated Version

Table 4.3-8
Clark County Land Use Categories

TYPE	DEFINITION
RR-Residential Rural (less than 1 dwelling unit (du) per acre)	Designates areas where the predominant land uses are agriculture/open space. Single-family detached dwellings generally occupy lots of at least one acre and have limited access to services and facilities. Septic tank an well usage is common. Multi-family dwellings are not appropriate, but single-family dwellings may be clustered to retain open space and agricultural uses.
RS-Residential Suburban (up to 2 du/acre)	Designates areas where the predominant housing type is detached single-family developed at very low densities. Septic tank and well usage is not uncommon. Multi-family dwellings are not appropriate, but single-family dwellings may be clustered.
RL-Residential Low (up to 8 du/acre)	Designates areas where the predominant housing type is multi-family developed at medium densities. Building heights generally do not exceed 2 stories (35 feet).
RT-Mobile Home District (.5-2 du/acre)	Designates areas where the predominant housing types are mobile homes/trailers.
RH-Residential High (up to 32 du/acre)	Designates areas where the predominant housing type is multi-family developed at high densities. Building heights generally do not exceed 4 stories (50 feet).
PF-Public Facility	Designates areas where the predominant land uses are public and quasi-public services and facilities, including: park and recreation, school, hospital, church, police, fire, cemetery, library, and other public facilities.
CL-Commercial Low (office/professional)	Designates areas where the predominant land uses are low intensity business and professional services. Typical uses include: the offices where medical, legal, financial, and other business and professional services are performed. Retail sales as a primary use is not appropriate. This designation provides area for professional centers and acts as a buffer between more intense commercial uses and residential areas. Building heights generally do not exceed 2 stories.
CG-Commercial General	Designates areas where the predominant land use is low to medium intensity mixed commercial intended to serve neighborhood and community needs. Typical uses include: general retail sales; business, financial and professional services; eating and drinking places; indoor amusements and recreation; mini-warehouses; motels 3 stories or less in height and large office buildings. Building heights for neighborhood commercial do not exceed 2 stories, while community-serving commercial buildings may be up to 9 stories in height.
CT-Commercial Tourist	Designates areas for commercial establishments that primarily cater to tourists. The predominant land uses include casinos, resorts, hotels, motels taller than 3 stories, recreational vehicle parks, and theme parks.
MD-Designed Manufacturing	Designates areas where the predominant land uses are commercial, professional, or industrial, located and designed to assure an orderly grouping of buildings and uses through adherence to a site development plan. The site plan must take into consideration adjacent neighborhoods and developments.
IND-Industrial	Designates areas where the predominant land uses are medium to high intensity assembly, fabrication, manufacturing and warehousing. Typical uses include: machine shops, vehicle repair shops, storage warehouses and yards, assembly plants, wholesale sales and storage, utility stations or plants, laboratories, and plants producing or using hazardous materials.
ME-Mineral Extraction	Designates areas where the predominant land uses are the mining of minerals and similar types of resource production.

Source: Clark County Department of Comprehensive Planning, 1990:11

Hazard Areas

With respect to natural and man-made hazards, there are a few which present a risk to the community. For instance, there is some threat from flooding on the north side of the highway although plans are underway to reduce the potential impacts of this hazard (G.C. Wallace, Inc., 1991).

Another natural hazard is the local potential for seismic activity. Indian Springs virtually straddles the Las Vegas Valley Shear Zone and is in close proximity to various other fault zones (Longwell, *et al.*, 1965). Although residents report that earthquakes are rare in the area, the author experienced the effects of a minor quake while working in the community; the epicenter of this quake was quite distant.

Activities at ISAFAF present sources of hazard to the community given the kinds of potentially dangerous flight training activities that occur at the base. Moreover, in addition to a variety of hazardous materials, the base stores fuel in 100 and 500 gallon tanks (SAIC, 1991).

US 95 should also be considered a hazard area. Factors such as high-speed traffic and transportation of hazardous materials present risks to the adjacent community and should be considered in future planning and monitoring activities (please refer to subsection 4.3.4.1 Transportation).

Visual Considerations

Scenic vistas are currently available throughout Indian Springs. The slightly higher elevation on the southeast end of town augments a panorama toward the Las Vegas Valley. Views of the Pintwater and Spring Mountain ranges are available from throughout town; the Spring Mountains are typically snow-capped in winter. To date these vistas remain largely unobstructed -- no non-public buildings within community boundaries have been built over the two-story limit. Nevada Power uses telephone poles rather than an underground wiring system; these do obstruct the view in some areas. The importance of visual pleasures for local residents should not be underestimated given the vast and scenic desert and mountain vistas available, and the local importance of outdoor activities.

4.3.5 Private Sector Services and Facilities

Because of the unincorporated status of Indian Springs, most services and facilities available in the community are provided by the County. Housing is a major exception since the great majority of citizens live in either rented or privately-owned mobile homes in mobile home parks. A small number of persons live in privately-owned permanent structures. With respect to local services, there are a few small businesses including two restaurants, two gas station/mini-marts, and a casino. A few other small business enterprises also serve the community. This section describes the local housing situation and the few private sector services and facilities.

4.3.5.1 Housing

As noted in subsection 4.3.4.5, land ownership in Indian Springs is restricted to a relative minority of the population. This is intuitive in that community housing is composed almost entirely of mobile homes situated in mobile home parks. According to 1990 census figures, 465 of the total 510 housing structures in town were mobile homes. Of the 45 permanent housing structures all but three were single-unit houses; two were single-unit attached dwellings and one was a multiple-unit dwelling with between two and four sub-units. This information is presented in tabular form in Table 4.3-9.

Table 4.3-9
Indian Springs Housing Types: 1990

Housing Type	Number
Mobile Homes	465
Single Unit Houses	42
Single Unit Attached Dwellings	2
Multiple Unit Dwellings, 2-4 Subunits	1
Total Housing Units	510

Source: U.S. Census, 1990

In early 1992, all of the major mobile home park owners in town reported that business was down from years past. Most parks have a combination of rental homes and rental spaces for occupancy by individuals who own their mobile homes. The latter are typically used by workers who are accustomed to moving their homes around the state and/or country.

According to the U.S. Bureau of the Census (1990) there were 417 occupied housing units in Indian Springs in 1990. Of these, 60.9% were owner-occupied. Ninety-three units were unoccupied at the time of the count. The rental vacancy rate was 21.6%.

With respect to housing and rental costs, the median cost of owner-occupied units was $95,300 (N=23, most of which are apparently permanent structures). Of these, twelve were in the $50,000 to $99,000 range and nine were in the $100,000 to $149,000 range. Rental costs generally fall into the $250 to $499 bracket. The homes of 130 of the 158 persons who responded to this section of the census fell into this category of rental payment values. The median rental rate was $331.

According to a 1988 survey of 106 NTS workers residing in Indian Springs (Planning Information Corporation, 1989:39), only eleven percent of these workers used workweek housing at the NTS. When compared to the 21.2% of total NTS workers who used workweek housing, the local percentage of housing users underscores the importance of Indian Springs as a residential base from which NTS workers commute to their jobs at the site.

An average of 2.64 persons occupied each owner-occupied unit which suggests households slightly larger than the national average. The average renter-occupied unit was occupied by an even higher average of 2.83 persons.

In sum, analysis of 1990 census housing figures for Indian Springs suggests that the community is prone to transiency. Forty percent of the heads of households surveyed for the census were mobile home *renters*. Additionally, the vast majority of home *owners* are mobile home owners who rent spaces in mobile home parks. In contrast to the high percentage of the population which either rents or owns mobile homes, a small percentage of citizens reside in permanent structures. Given the data collected in early 1992 which indicates that the local population is currently shrinking, the 1990 census-determined rental vacancy rate of 21.6% is now undoubtedly higher.

4.3.5.2 Service-Oriented Businesses

There are a number of privately owned, service oriented businesses in Indian Springs. In the following discussion, they are classified as medical and health services, food services, lodging services, trade services, and miscellaneous services.

Medical and Health Services

There are currently (early 1992) no dedicated medical or health care facilities in Indian Springs and residents must travel to the metropolitan Las Vegas area for general health and medical care. Students at Indian Springs School are served by a local health aid, and nurses from Clark County School and Health Districts. The school district nurse visits the school once a week while the Health District nurse visits twice a year to provide immunizations. The Indian Springs Volunteer Fire Department provides ambulance services and Valley Medical Center provides helicopter medical evacuation ("medivac") services in severe emergency situations.

Food Services

There are two types of food service-oriented businesses in Indian Springs: grocery retailers and restaurants.

Grocery Retailers

A frequently cited need of Indian Springs residents is a grocery store that could provide the full range of items available to persons living in the more urbanized areas of Nevada. At present, residents must make the eighty-five mile-plus round trip to the Las Vegas area to buy such basic items as vegetables and meat. There are two "mini-marts" in town that provide some canned goods, juice, sodas, a limited supply of fruit and dairy items and the other goods typically sold at these kinds of establishments. Limited groceries are also available locally at a combination bar/restaurant that sells white bread, milk and eggs.

Restaurants

The largest private business in town, and the first commercial establishment visible from the highway when northbound, is a corporate-owned commercial complex that includes a casino, bar, restaurant, hotel, mini-mart, and gas station. This complex employs sixty-five persons most of whom are female residents of the community. The restaurant in this complex is the largest

in town and seats roughly seventy-five persons. The establishment serves breakfast, lunch, and dinner. Many patrons are local residents but a large part of the clientele are truckers and others travelling along US 95. The restaurant is located in the same building as the casino and bar providing an atmosphere not unlike many similarly-sized gaming establishments in Las Vegas.

The other restaurant facility is located on the residential (northwest) side of town and is frequented by both military personnel and local residents. In addition to a small restaurant, the facility contains a bar and pool room. The restaurant has a limited menu but offers an alternative to at-home meals. For residents and military personnel training at ISAFAF who don't mind the smoky environment, the bar offers roughly sixty feet of bar space, thirteen "draw poker" slot machines, three pool tables, a dart board, and a "fooseball" table. The bar is similar to many drinking establishments located near military communities as evidenced by its extensive display of bumper stickers, posters, hats, and other displays which reveal a strong pro-military sentiment. Other displays are indicative of a loyalty to the Nevada Test Site and Department of Energy activities. For example, an actual "radioactive" placard, local electrical and other union patches and stickers, and bumper stickers with messages such as "Study Yucca Mountain for a Mountain of Reasons -- Safety, Jobs, Labor," also decorate the bar walls.

Lodging Services

The town's single hotel is located in the casino complex. The facility offers comfortable and modern accommodations in approximately forty-three rooms. Most patrons are highway travellers who stop short of Las Vegas but the hotel also periodically houses certain military groups scheduled to train at the ISAFAF. Since air base housing no longer functions at capacity, the hotel is made available to accommodate these training groups. This situation often means that the facility is fully booked for long periods of time.

Trade Services

Several trade service oriented businesses are operated in Indian Springs. These include automotive services and general maintenance services.

Automotive

A long-standing and profitable business in Indian Springs is the local automotive repair service. This business is located just off the highway on the residential side of town. The service does primarily mechanical repair work but also offers paint and body service. Given the need for local residents to travel to the NTS or other locations for employment and to the Las Vegas area for supplies and other tasks, a well-maintained auto is critical. The owners of the garage

estimate that seventy to seventy-five percent of business is local Indian Springs business or business generated from Las Vegas resident NTS workers who drop their cars off on their way to the NTS and pick them up in the evening. Fifteen to twenty percent of business results from cars breaking down on US 95. Owners note that they are typically busy throughout the year but that business has not recently been as extensive as in years past.

General Maintenance

There is a small group of local entrepreneurs who provide basic house repair and other services to the community of Indian Springs. These include painters, carpenters, plumbers, and so on. Most of these workers do not confine their services to Indian Springs and will take jobs wherever they can get them including Las Vegas Valley and rural areas in the northwest sector of the County. These persons may also trade or barter their services within the community.

Since many residents of Indian Springs live in rented mobile homes, the responsibility for maintenance falls on the landlord in many cases. While mobile home park owners are generally able to maintain and repair their properties through their own skills, some tasks require service from companies in Las Vegas. Private mobile home and permanent structure homeowners may also choose repair companies based in the Las Vegas Valley.

Miscellaneous Services

In addition to the larger businesses described above, a small hair salon and a laundromat serve the community. These are small establishments but do a reasonable volume of business since there is no local competition.

Summary of Private Sector Services and Facilities

This section has made clear the fact that the Indian Springs enjoys few amenities. As noted throughout this document, this situation has generated a reliance on travel to urban Las Vegas Valley, and a desire on the part of many for a level of local growth that would allow development of such basic private facilities as a good grocery store, a hardware store, and a movie theater. Past movements toward such development have been viewed with mixed reaction since some existing local business owners have historically had a powerful voice in the community and reportedly perceive(d) a competitive threat to their own enterprises. Further, many respondents worry that the population growth that could bring such amenities would be accompanied by a loss of the "laid-back, relatively crime-free, country" atmosphere of which they are so fond. Another factor in the relative lack of development in the private business sector of the community is a perception on the part of prospective outside businesses that Indian

Springs does not present a high probability for a consistently high volume of business. A fast food franchise, for instance, decided not to open a restaurant in town for fear of meager volume of business.

4.3.6 Economic Characteristics

This section briefly reviews the economic characteristics of Indian Springs noting the sources of employment for community residents and general issues related to the local economy. Although most male residents of working age are employed in the public sector and comprise the community's largest group of wage earners, there is also a locally-based economy involving a few small businesses and entrepreneurial enterprises. Most of the persons employed in this workforce are relatively lower-paid females who contribute to the dual income enjoyed by many local families.

4.3.6.1 Public Sector Sources of Employment

The public sector provides sources of employment for Indian Springs residents at the federal, state, and county level. At the federal level, the Nevada Test Site and the Indian Springs Air Force Auxiliary Field complex provide local employment. The state, through the Department of Prisons, is responsible for some local employment as well; at the county level, the Indian Springs School provides job opportunities in the community.

Nevada Test Site

As repeatedly noted throughout this document, a great percentage of persons residing in Indian Springs are employed at the NTS. An accurate count of the number of NTS workers currently residing in Indian Springs is not available, although key informants estimate that between fifty and sixty percent of the community's workforce are employed at the site. The following paragraphs provide a now somewhat outdated characterization of this workforce extracted from an NTS workforce survey conducted in 1988.

Over the past decades, the NTS has been a source of employment for many thousands of Southern Nevadans. In 1988 the USDOE estimated the NTS workforce to be 4,869 persons; Planning Information Corporation (1989:5) estimated 4,190 persons during the same year. A survey effort (Planning Information Corporation, 1989) that involved the participation of between 71.3% and 82.8% of persons working at the NTS during a specific period in 1988 received 106 completed questionnaires from NTS workers then living in Indian Springs.

Of the surveyed persons then residing in Indian Springs almost eighty-one percent were union employees. Roughly 9.6% were non-exempt employees, and another 9.6% were exempt employees. NTS union employees were typically craftsman; seventy-three percent of the total (N=3,470) were skilled union workers. Of the total NTS non-exempt workforce, forty-five percent and thirty-two percent were technical and clerical workers, respectively. The exempt category was constituted of primarily managerial and engineering staff with a combined percentage of sixty-six percent.

Almost sixty-eight percent of the sampled Indian Springs workforce migrated from other areas to work at their job at the NTS; most of these -- thirty-seven percent -- were hired in the period 1981-1984. Only thirteen percent of these persons were hired in the period 1985-1988.

Although the survey data described above are now somewhat outdated and probably missed a number of NTS employees then residing in Indian Springs, they provide a profile of the kind of NTS worker that typically makes Indian Springs a short- or moderate-term home. It should be noted, however, that some NTS employment is long-term; a few families have been around for the duration of NTS activities. Variables related to NTS-worker income historically have not been investigated, but would provide a good indicator of the economic status of the community.

Indian Springs Air Force Auxiliary Field

As aforementioned, although the Air Force complex in Indian Springs was once a primary source of employment for the community, its importance in this regard is now considerably lessened. If rumors of impending increased activity at the site come to fruition, the installation may again contribute more significantly to the local economy. At present, the ISAFAF does contribute to the local economic base in that a number of civilian support personnel live in the community. This number includes six of the eighteen military police, ten of the thirty-three base firemen, roughly twenty-five of the civilian aerospace employees, and about thirty food service employees. Moreover, military personnel stationed at the base for short periods patronize local businesses as do many of the non-resident aerospace workers. The fact that housing at the complex itself cannot currently accommodate the full range of personnel who visit the base has been a boon to the town's only hotel.

Southern Desert Correctional Center

Although the correctional center is located nine miles southeast of the community, most facility employees commute from Las Vegas. Apparently, these employees enjoy the urban atmosphere of the Las Vegas Valley and don't mind the roughly thirty-two mile one-way commute. In 1992, the facility employed fifteen individuals from Indian Springs, mostly caseworkers.

Indian Springs School

ISS is another important source of public sector employment for Indian Springs residents. ISS employs fourteen teachers and one aide at the kindergarten through six level, and nineteen teachers and two aides at the seven through twelve level. The school also employs eight administrative assistants, a counselor, a dean/disciplinarian, and a principal. A building engineer, a head custodian, and three additional custodians are employed to maintain the school buildings and grounds. It should be noted that of these fifty employees, only twenty-three live in the community. Many of the teachers and most of the administrators commute to school from their homes in the Las Vegas Valley.

4.3.6.2 Private Sector Sources of Employment

The local business establishments employ a small percentage of the total population. Many of these workers are females who supplement the income of their spouses. The hotel/ restaurant/casino complex employs sixty-five persons -- undoubtedly the largest percentage of the local private sector workforce. The smaller restaurant, the mini-marts, and the automotive service station employ small staffs who share rotating shift duties. Finally, a small number of persons generate income through ownership of mobile home parks. A number of miscellaneous entrepreneurial business enterprises also contribute to the local economy.

4.3.6.3 Summary of Economic/Employment Status and Indicators of Local Economic Status

In summary, Indian Springs continues to be highly dependent on employment at the NTS. The possibility of NTS cutbacks obviously threatens the economic welfare of the town since most incomes are NTS-payrolled and because local businesses are dependent on the presence of NTS workers. Some residents believe that NTS programmatic cutbacks are partly responsible for a recent decline in local population. Population has historically fluctuated, however, and the trend of decline may not last. Cutbacks in training at the ISAFAF would also threaten the viability of local businesses since trainees typically visit local establishments during their stays. A transfer back to military operation of the ISAFAF would also impact the local economy in that civilian employees for Loral Aerospace, the ISAFAF food service company, and the Department of Defense could be replaced by military personnel. As noted, the presence of military personnel in the community for moderate- to long-terms has historically generated its own local economic impacts. A fair number of residents also work at local businesses. Meanwhile, it is unclear how many persons currently commute from Indian Springs to work in Las Vegas; mobile home park owners perceive the number to be minimal but increasing.

Due to the sensitive nature of the subject and the difficulty of acquiring information describing average personal incomes, these data have not been gathered though they would obviously provide the ideal indicator for the economic status of the community. Earnings data from the 1990 census had not yet been released at the time of this writing.

Some residents perceive that in addition to a recent decline in population there is also a growing population sector that is dependent upon welfare payments, that is, Aid to Families with Dependent Children (AFDC) payments. Since the State of Nevada Welfare Division does not keep statistics on AFDC payments by individual community, these cannot be used as indicators of the socioeconomic status of the community.

The Food Stamp Program (FSP) does administer aid and maintain information on a community-level basis and can thus be used as one indicator of the general economic state of the community. The FSP is also part of the State Welfare Division the activities of which are given oversight by the U.S. Department of Agriculture Food and Nutrition Service. According to FSP personnel who administer the program for Indian Springs, there has been a recent increase in the number of local food stamp recipients; this is attributed by those personnel to diminishing employment opportunities in the area. There are currently at least fifty families receiving assistance in the form of food stamps although this is a conservative estimate. Interestingly, despite the number of families receiving food stamps, reportedly none are receiving assistance from the Clark County Department of Social Services.

4.3.7 Social and Cultural Characteristics

The social and cultural characteristics of Indian Springs are intimately linked to the town's history as a community supporting defense-related federal government projects. Although some citizens have a longer family history of residence, most have come to work at the NTS since its inception in 1951. Over the years the community has seen persons and families come and go on a regular basis; a mobile home community with few services, amenities, or available land cannot be expected to sustain large numbers of devoted "locals" for a sustained period. Yet, despite a notable level of surface transience, the community does harbor a population that has remained in the community for many years; families in this segment of the population own most of the land and important businesses in the community and thus have a vested interest in the community's future. This section reviews some basic sociocultural variables traditionally used to describe rural communities but in this case are used in a context of fluctuating population size and unique social structure. Community lifeways, religious organizations, service organizations and clubs, and local social structure and social cohesion are explored.

An holistic community profile should also include an assessment of issues of historic and current importance to community residents and of relevance to daily life in the community. The previous sections have highlighted some community issues of historic and current importance

to the town. This section is followed by review of some of the major issues of concern to the local population and seeks to provide a preliminary assessment of the ways in which these are shaping contemporary life in Indian Springs and perceptions about its future (Section 3.8).

4.3.7.1 General Socioeconomic Description

As described previously, the demographic structure of the community of Indian Springs is in many ways similar to the County as a whole but with a smaller degree of ethnic diversity. Although population structure and size may have shifted somewhat in the last two years, in 1990 the community was comprised almost entirely Caucasians (1,045 out of 1,164 persons). Eighty persons or 6.9% of the total population were of Hispanic origin. There were twenty-five African-Americans living in the community or 2.1% of the total population, and despite the close proximity of the community to the Las Vegas Paiute Indian Reservation, only thirty or 2.6% of the population were Native Americans. Finally, thirteen persons or 1.1% of the total population were of Asian or Pacific Island descent.

Indian Springs has a significantly higher percentage of married couple families and a lower percentage of non-family households than the County analyzed as a whole -- a fact that speaks to the relative importance of the family unit in the community. There is nevertheless a considerable number of single-parent family households in Indian Springs at fourteen percent of the total, and non-family households at 23.7% of the total household figure. These statistics represent conditions which may have social consequences for the community. Children who have single parents, for instance, may not receive the time and attention that might otherwise be afforded them in a married-couple family, and persons living alone may not less integrated into the social networks of the community.

As regards age distribution, Indian Springs has a higher percentage of youth than the County as a whole and a lower percentage of persons at or approaching middle age. The relatively high percentage of youth is socially significant in this community and reflected in the strong focus on its children and school.

Only two current and direct indicators are available to assist in describing the degree of economic hardship being experienced in the community, and these are somewhat contradictory. The State of Nevada Division of Welfare reports that over fifty families in Indian Springs are receiving food stamps and that this number has increased in the last two years. Other forms of federal welfare assistance are provided to the community but statistics for these are not kept in a manner that would allow isolation of Indian Springs as an analytical unit. Meanwhile, the Clark County Department of Social Services reports that no service is currently provided to residents of Indian Springs.

One indirect indicator of the economic status of the community is captured in census-generated housing and rental trends. Land ownership in Indian Springs is restricted to a small minority of the population and housing is primarily composed of mobile home structures; 465 of the total 510 housing structures are mobile homes. Further, of the 417 occupied housing units in Indian Springs in 1990, only 60.9% were owner occupied. Since this figure represents a large number of owned mobile homes and not houses, it is clear that if housing type is a good indicator of individual or collective economic status, the community and its residents are not exceedingly affluent. Rental costs generally fall into the $250 to $499 range, and the median rental rate was $331. Housing and rental trends as indicators of economic status must be interpreted cautiously, however, since low rental payments or mobile home ownership may merely mean that a family does not prioritize ownership of a permanent structure and/or that land ownership is not possible given the scarcity of available land. Indeed, families may be able to accumulate significant savings under these conditions. These points are supported by findings developed through fieldwork in the community. One key informant warned, for instance, that a passerby might assume that the community is impoverished when, in reality, many trailer homes are occupied by relatively affluent dual-income families that cannot acquire land because it is unavailable and so cannot buy or build a house.

Despite the possibility that the average resident may be more financially secure than appears, there are indications that some families in the community are having trouble financially and that the community can be characterized as being somewhat socially stratified. When compared to the local median cost of owner-occupied units which was $95,300 (N=23, most of which are apparently permanent structures), some level of stratification is indicated in terms of property ownership and the status typically associated with land or home ownership. This disparity is notable between permanent structure owners and the rest of the community and certainly between land/home owners and those dependent upon welfare payments. Of the owned-homes, twelve were self-valuated in the $50,000 to $99,000 range and nine were in the $100,000 to $149,000 range. This situation, combined with the fact that such a small minority of residents own land, suggests that the majority of people who reside in Indian Springs will never attain the same property-owning status as the minority of land and house-owners. This may contribute to differences in the ways residents perceive issues of local importance -- discussed briefly in the following section, and possibly to the general transient nature of the community since persons who wish to own may ultimately move on for lack of available land.

There also appears to be considerable variation in levels of education across the employed sector of the community. For instance, a 1988 NTS workforce survey (Planning Information Corporation, 1989) showed that of the 106 NTS workers residing in Indian Springs who completed the survey, almost eighty-one percent were union employees. Roughly 9.6% were non-exempt employees, and another 9.6% were exempt employees. NTS *union* employees were characteristically male craftsman who have a limited educational background -- 72.9% of the total had a twelve year or less education. The characteristics of union employees thus lie in contrast to non-exempt status workers (technical and clerical workers) who typically had college-

level backgrounds, and exempt or managerial or engineering personnel -- typically males with college- and graduate-level educations. Meanwhile, most of the teachers and administrators at Indian Springs School, one of the largest locally-based sources of employment, are highly educated although only a minority of these persons reside in Indian Springs.

Finally, the community can be analyzed in terms of differences between the activities of women and men. Males in the community are typically employed in positions which bring the greatest amount of income to the family unit. Using the NTS as an example, only 3.2 percent of all workers surveyed in the 1988 NTS (Planning Information Corporation, 1989) workforce survey were exempt-status female; 23.3% were exempt-status male. Meanwhile, 7.7% were female non-exempt workers as compared to 13.9% male non-exempt workers. Finally, the vast percentage of the entire workforce were union-status males -- 48.1%. Only 3.7% were union-status females. Although some resident females do have jobs which bring good earnings, at the Indian Springs School for instance, most women who work locally are employed in food service-oriented positions not usually associated with high earnings. Many of these workers find themselves in the dual-role of wage-earner and mother/homemaker. A large percentage of women residents, however, maintain the household but are not employed in paid positions. A local lack of institutionalized child care and pre-school services may keep many women with young children out of the paid workforce.

In summary, Indian Springs can be characterized as ethnically non-diverse and as somewhat socially stratified. There is a relatively high percentage of youth in the community and while family life is important, there are significant numbers of single- and non-family households. According to a somewhat dated survey, the level of education of the NTS workforce living in the community is characteristically twelve years or less, although smaller numbers of NTS workers do have college and graduate educations. This situation characterizes the distribution of educational levels in the community as a whole. The community is not atypical of contemporary rural communities in the United States in its sexual division of labor; men comprise the large majority of wage-earners and the fewer numbers of women who are wage-earners earn on the average significantly less than employed males. According to key persons interviewed in the community, the majority of women who have paid employment are second wage earners in dual income households; most working age women in Indian Springs fill roles of both wage earner and homemaker or are solely involved in maintaining the household. A small minority of persons own land and permanent homes in the community; the vast majority of the local population live in mobile homes and of these a large percentage are rented. The community may actually be significantly more prosperous than its appearance as a mobile home community would suggest, although there are indications that some local families are having financial difficulties.

4.3.7.2 Sociocultural Aspects of the Community

This section provides a general overview of the sociocultural aspects of Indian Springs. Topics covered here include discussions of lifeways, organized religion and churches in the community, and service organizations and clubs, and a summary treatment of social structure and social cohesion.

Lifeways

Despite a history of population transience and some degree of social stratification, residents of Indian Springs nevertheless assert that community life is important to them. This sense of community is supported by the fact that so many residents share, if only for a while, a single source of employment and earnings in the NTS. Another, perhaps more pervasive factor that reifies a sense of community, is the importance attached to the community's youth and the Indian Springs School and its associated activities. In the words of one key individual "the school is the one constant in this community." Interesting in terms of the value residents place on community stability is the fact that, although many students have relatively short stays in Indian Springs, the school annually honors those students who have gone through the entire kindergarten through twelfth grade program.[14]

Daily life in Indian Springs is probably not atypical of life in most small rural communities in the desert southwest. Work during the week is the primary agenda for adults; school keeps children occupied until it lets out at 2:30 p.m., at which point entertainment is found in the many things children can find to do. Adults have considerably less free time; shifts at the NTS, for instance, are typically long, as is commuting time. The community is probably at its busiest very early in the morning and early evening hours when the local roads are alive with commuters. Children on foot and on bicycles fill the streets around the school before the school day commences and after it is finished.

A few of the youth in the community have reportedly developed problems associated with alcohol and drug abuse -- not an unusual situation in contemporary times. Key persons in the community suggest that alcohol abuse is also a problem among some of the adults and are upset to hear of the presence of drugs in this sector of the population as well. An urban-influenced

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[14] In 1991, three of the twenty-one graduating students had gone through the entire program. Five of the twenty graduating students this year (1992) have done so. By way of comparison, administrators at Virgin Valley High School in the rural northeast Clark County community of Mesquite (which albeit has a small percentage of students who commute from outlying communities) report that the vast majority of the graduating class each year has gone through the entire kindergarten through twelfth grade program (the program was a combined K-12 program until last year).

gang trend was started among one school age cohort in 1991 but evidently faltered before any real damage was done. Many of the parents in the community desire additional opportunities for the youth; the need for a teen center was repeatedly mentioned.

From the perspective of local youth, one stated alternative to living in the community is to do well in school and go to college. This is, of course, an option for the good students; other student-age youth often consider employment opportunities in Las Vegas or do not give the future much thought as many youth are wont to do.

For the average resident of Indian Springs, weekends typically mean travel to the metropolitan Las Vegas area to pick up supplies, to see the doctor, to go to the bank, and to do whatever other tasks cannot be managed in Indian Springs. Since there is little in the way of entertainment in town, the trip to the city may also satisfy these desires. The necessity for travel to Las Vegas is an ongoing reality for residents. Many long-time residents dislike the commute having travelled the route for so long. Others seem to have resigned to this fact of life and note that the commute is actually getting shorter as the boundaries of Las Vegas and North Las Vegas expand northward.

Viewing television is a popular pastime in this community devoid of many cultural facilities and opportunities found elsewhere. Some residents will eat at one of the two restaurants on occasion, thus avoiding the meal preparation routine. Those of drinking age may patronize one of the two local bars or the casino; these can be fairly crowded on certain nights. Live music is a frequent attraction at the casino. Ball games and other group events and activities at the Indian Springs School are quite popular for children and parents alike.

Many Indian Springs residents also enjoy the surrounding desert and mountains and may spend their free time out-of-doors. Horseback riding is popular and a number of local landowners keep horses on their "spreads." There are some equestrian-related programs and opportunities in the area. Hiking is popular, and there are trails worn in the surrounding desert and hills outside of town from this activity and from off-road vehicles such as dirt-bikes. Skiing in the nearby Spring Mountains is popular in the winter and hunting and shooting are popular throughout much of the year. The favorable local climate (except during the mid-summer heat), good water, typically clean air, and outdoor recreational possibilities are frequently cited as incentives for living in the community.

A minority of local residents are involved in organized religious activities and other local organizations. Brief descriptions of these groups and organizations follow.

Religion/churches

There are four active religious groups of various sizes in Indian Springs. Although participation in organized religion is not a critical feature of life to the majority of residents in the community, analysis of these groups provides insight into the town's sociocultural climate. A variety of employment and ideological backgrounds are represented in the church congregations.

Assemblies of God

The Assemblies of God church (AG) currently holds services in the Community Center in Indian Springs. As part of the Southern California/Nevada Region of the AG church, the Indian Springs branch is given support by the AG Las Vegas District.

The church is new to the area having been re-instituted in September of 1991. A previous effort to institute an AG assembly in the community failed for lack of active membership. Given the recency of its re-introduction, the church has not yet developed any community or other programs; activities are currently limited to Sunday services. Active membership in the new AG church is small and currently includes just twelve persons. This membership includes an NTS worker, a correctional facility guard, and an electrician and their families.

The AG church in Indian Springs hopes to expand both its membership and facilities in the near future. The pastor, however, recognizes the challenges in recruiting churchgoers in this community which is not overly involved in matters of organized religion. A two-acre plot has, nevertheless, been purchased in anticipation of an expanding congregation and funding for construction of a church. The land was released by the Bureau of Land Management (BLM) for use by a non-profit entity.

Church of Jesus Christ of Latter Day Saints

The Church of Jesus Christ of Latter Day Saints in Indian Springs (LDS-IS), is located in a modern facility on Gretta Lane. With a current membership of 116 members in fifty-three families, the LDS is a socially significant organization in that its members comprise some ten percent of the local population. Relative to other LDS congregations, however, the LDS church at Indian Springs is quite small. It is too small, in fact, to be classified as a ward and is rather termed a "branch," that is, a branch of the Las Vegas ward of the LDS.

Since only wards are led by "bishops," the leader of the LDS-IS branch is termed "president." The current president has served for six years. Neither presidents nor bishops are paid for their service but rather consider the work and their length of term as part of their "calling," and

typically make a living in regular jobs not associated with the church. Church leaders consider the spiritual health of the congregation their primary responsibility.

Although a relatively small church in a regional sense, the LDS-IS is supported by the national and international network of the LDS and adheres to the principles and guidelines of the denomination. The LDS is increasingly using modern technology to spread its message and to maintain the cohesion of its churches. The LDS-IS, for instance, is linked to the national and international network of LDS churches through a satellite dish.

Everyone in the LDS church has a "calling" and performs some type of service within the local, national, or international community of Mormons. Locally, the church provides a framework for cooperative behavior that nurtures a sense of community among members of the congregation. For instance, the local group of the LDS "Relief Society," which has a 150-year history in the LDS denomination, has recently provided assistance for three families within the congregation whose primary wage earners were laid off from their jobs at the NTS. The LDS-IS also sponsors a number of recreational activities and advocates the participation of all church members. Like the community of Indian Springs itself, the LDS-IS is especially focused on its youth and implements of number of youth programs.

Over one-half of the working-age members of the LDS-IS congregation are currently employed at the NTS and therefore support the continuance of NTS operations. There is thus some concern within the LDS-IS for the future of its members and for its own welfare. The church lost roughly one-half of its congregation and many of its leaders following the operational changes at the ISAFAF in 1987 and fears similar effects if the NTS were to undergo cutbacks in its operations. As aforementioned, a small number of families in the congregation have already experienced loss of employment at the NTS, a situation that gives empirical weight to such fears. This situation, on the other hand, has generated a milieu of support for the Yucca Mountain Project within the church since so many of its members would possibly qualify for jobs during the construction phases of the proposed project.

First Baptist

The First Baptist congregation in Indian Springs is just slightly larger than the Assemblies of God church with fifteen active members. The congregation was larger a couple of years ago when as many as sixty people attended following an effort by the current pastor to increase local participation. Interest has since declined. The movement to increase local participation will be renewed in the near future when the Red Rocks Southern Baptist Church outside of Las Vegas will designate a full-time pastor for the church. The current pastor is "bi-vocational," that is, he is paid a nominal salary for duties as pastor he but also pursues another career.

The First Baptist Church, which is located on McFarland Avenue, has seen ongoing change since its institution in the community at the ISAFAF in the mid-sixties. The current pastor reports that the congregation has had twenty-six pastors in twenty-seven years. Nevertheless, at least part of the congregation has been around for a while. One person has been a member for twenty-five years, one for twelve to thirteen years, two for seven years, and two for three years; the remaining are relatively new to the church and town. All but two of the active congregation are NTS workers.

Despite the community's relative disinterest in participating in organized religion -- an estimated three hundred of the town's roughly 1,100 population attend Sunday services -- there *is* a concern among many residents that children get involved in some kind of organized religious activities. A summer bible school held by the Baptist church, for instance, was attended by over one-hundred of the town's youth and the church was full at commencement. Many children also reportedly attend Sunday school classes but not Sunday services.

Echoes of Faith Non-Denominational Church

The Echoes of Faith Non-Denominational Church (Echoes of Faith) is a relatively sizeable and active church that is based in a building on the grounds of the ISAFAF. The church accepts practitioners of all faiths but presents a "full-gospel" service to its congregation on Sundays. The size of the congregation may vary with the number of ISAFAF trainees who wish to worship but there is a core congregation of "thirty to thirty-five adults and sixty kids." This core is comprised of persons with a variety of employment backgrounds including NTS workers, civilian aerospace workers, ISAFAF security personnel, correctional facility workers, and some retired persons. Seventy-five persons are currently (April 1992) enrolled in the Sunday School Program.

As a licensed branch of the non-profit Echoes of Faith Church in Las Vegas, the Indian Springs branch receives direction from the main church. The church is directed by a resident husband and wife team one of whom receives a pastoral allowance for fulfillment of duties; the other is bi-vocational and is not reimbursed.

Echoes of Faith was instituted in Las Vegas and is now a nationwide church with missions in other countries as well. The local branch was initiated in 1987 just after the military ceded operation of the ISAFAF to the civilian contractor. The building currently used by the church under contract with the ISAFAF was previously used by the Air Force chaplain.

The church sponsors a variety of service-oriented programs including a Christian twelve-step program for addictions, a food bank (children bring food, canned goods, etc. for the needy and earn "points"), and a Christian Library. Plans are also underway to institute a "clothes closet," and a child-care program.

Summary of Local Organized Religion

Organized religion is not currently an overriding concern to the majority of the population of Indian Springs. To those who do participate it can provide an organized framework for worship, social interaction, and altruism. Analysis of local religious groups suggests that this may be a good arena within which to monitor change in the community over time since the employment backgrounds and ideologies of active church members are fairly representative of the community as a whole. Interestingly, ideological differences between religious groups are said to underlay some of the disagreement within the community over important issues. A more accurate explanation of the place of religious affiliation in local tensions is that while possibly a contributing factor, it is subsidiary to other factors such as affiliation with one or other of the groups in town competing for economic or other reasons. Religious groups in Indian Springs appear to contribute to the town's welfare in their efforts to assist the needy. Yet, efforts in this regard appear to be somewhat restricted to persons active within the respective congregations or to persons passing through the community. Whether the ideals of positive human relationships espoused by the churches serve to integrate the community remains an empirical question.

Clubs and Service Organizations

There are basically four active secular voluntary associational groups in Indian Springs that could be classified as clubs or service organizations. These are the Indian Springs Volunteer Fire Department, the Thunderbirds Booster Club, a local Masonic Lodge, and the Purgatory Plainsmen blackpowder shooting club. A fifth organization, local a Veterans of Foreign Wars post, was formerly in the community but has disbanded for lack of membership.

Indian Springs Volunteer Fire Department

As noted in the discussion in Section 4.3.3.6, the Indian Springs Volunteer Fire Department is an active local volunteer service organization whose members provide the community with an invaluable service. With twenty-five to thirty active members, this organization is important for its social dimensions as well as its previously discussed emergency response capabilities. Offering a wide variety of training, the ISVFD provides members an opportunity to gain (unpaid) professional expertise while serving their community. The rank structure of the department also provides incentive for individual achievement. Like other rural volunteer fire and EMS services, the ISVFD provides an outlet for active individuals to serve their community in a unambiguously positive manner, and fosters the ideals of service to community above self. It also fosters friendships within the community, a sense of social integration, and an *esprit de*

corps that comes with a group of individuals working together as team to perform a potentially dangerous job.

The time commitment required of members of the ISVFD is considerable. Training is held once per month for Emergency Medical Technicians (EMTs) on the department, and once per month for firefighters. Since all but five firefighters on the department are also EMTs, this means that the large majority of members train twice per month. This continuing monthly training is in addition to a significant amount of time committed to entry level training (e.g., the initial certification course for EMTs is 120 hours long and meets from January through May). Departmental activities include fund-raising events that are also activities enjoyed by the community at large. For example, bake sales in the past have been used as fund-raisers, and the department has sponsored Fourth of July community activities; this year (1992) the department is planning to host an Octoberfest.

Thunderbirds Booster Club

The Thunderbirds Booster Club is a non-profit group organized to: (1) support the athletic, academic, and cultural programs and activities [of Indian Springs School], and (2) to promote goodwill and understanding between the student body, the faculty, and the community (Indian Springs School, n.d.). Membership in the club is not restricted to parents of students.

As of April 1992, the club had a membership of sixty-eight families. Membership dues are five dollars per year per family. Weekly and annual meetings are held to discuss the activities and agenda of the club and to elect officers.

Since there are few businesses in town that can sponsor athletic and other school activities, the Booster Club plays a significant role in this respect. The club also supports a scholarship fund for deserving Indian Springs School seniors who are enrolled for attendance at an institution of higher learning for the following academic year.

Indian Springs Masonic Lodge

The local Masonic Lodge is now a long-standing feature of the community having chartered in 1966. A previous Masonic organization was active in the community under a Las Vegas charter. The Masons meet once a month for ten months out of the year.

The Masons are an all-male "organization of secrets" but activities are based on Old and New Testament writings. Although religious in orientation (and associated with Protestant Christianity in particular), this group is not affiliated with any particular denomination. The credo of this international group is "to make a good man better."

As of April 1992, the local branch of the organization had twenty-five active members who are residents of Indian Springs. Of the 105 total members of the local organization, most have moved away from the community since joining. Active membership is almost entirely composed of NTS workers. The total membership of the local organization is roughly eleven percent of the community's population which, according to a local group official, exceeds the national average of members per community by one percent. The local organization gains one or two persons per year.

Since the Masons are a "secret society," it is difficult to discern the importance of the group to the community. Given the size and structure of the membership, however, along with the group's emphasis on fraternal support and its length of existence in the community, the group undoubtedly has some concerted interest in community affairs.

Purgatory Plainsmen

The Purgatory Plainsmen is a blackpowder shooting club or "clan" that has roughly twenty-five local members and fifteen non-resident members. The group meets once month, although meetings have been somewhat less frequently of late. The club conducts a public demonstration or "shoot" in which members dress in the style of mid-nineteenth century plainsmen and fire muzzle-loading rifles.

The small local membership of the group and its limited activities suggest that it is not a central social organization in the community. Unlike the Masons, for example, the Plainsmen are not a fraternal organization fostering social and employment "networking" between members, etc. Given the relative lack of other organized activities for male adults living in Indian Springs, however, the club does offer an opportunity for social interaction and entertainment. As an organization, the Plainsmen have a recreational rather than an overtly social agenda, but socializing is clearly an integral part of their activities.

Social Structure/Cohesion

From a sociological perspective, Indian Springs is notable for the primary link between employment relationships and other forms of social interaction. As indicated throughout previous sections of this report, the sources of employment for residents provide not only a means for earning a living but are also the primary arenas for sharing ideas, values, and culture generally. In the case of those who work at the NTS, this is inevitable given the amount of time

residents spend working together and commuting together[15] to the site. Indian Springs thus stands in marked contrast to urban, and even most rural, communities in the region. In urban centers, such as Las Vegas, residential proximity does not correspond one-to-one with primary social relations and common employment. In other words, in more "complex" communities, one's social group is not defined by, or contained in, one's neighborhood. Relatively distinct social groups are formed based on workplace relations, recreational associations, volunteer groups, religious affiliation, association with the parents of one's children's peers (which may or may not overlap with residence location), and so on.

In Indian Springs, given the high level of employment at NTS, there is typically a very high degree of overlap between common employment, residential proximity, and primary social relations. This is perhaps the central paradox of Indian Springs from a social organization perspective. While a transient town on the surface, most of its residents have a great deal in common and the social web (albeit based on interaction and not kinship) would appear tighter and more inclusive than most other communities. All employment does not derive from NTS, of course, and not all social groupings reflect employment patterns. There are, however, other strong employment-based social groups in Indian Springs. School teachers and administrators, in a situation similar to that of NTS workers, cannot avoid close and ongoing contact and development of a somewhat distinct social network. This particular situation has been cited as stressful at times, since many school personnel interact not only during the day but also as coaches and leaders of extracurricular activities at night. This can leave little time for interaction with others, and can strain relationships through the sheer amount of time spent with co-workers. Correctional facility workers, local business workers, and ISAFAF employees also find themselves to be part of networks based on a shared source of employment.

Numerous other local social networks are also identifiable, of course, and these serve to cross-cut the employment-based networks to some extent, with the effect of creating more community-based ties. These include, but are not limited to, persons active in church or other formal organizations, such as clubs or service organizations. As noted, however, there is a considerable degree of overlap between some of these organizations and employment networks. Other, more informal social groups may be found among local business owners, landowners, and long-term residents where multiplex relationships have grown over time based on a multiplicity of social ties and common interests, and length of interaction.

In Indian Springs, membership in a social network or group can be seen as influencing perspectives on issues of local importance but it cannot fully explain individual orientations towards such issues. Previous researchers working in Indian Springs and local residents

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[15] The 1988 NTS workforce survey (Planning Information Corporation, 1989) reveals that the average one-way commuting time for test site workers residing in Indian Springs is 1.5 hours. Many test site workers take the NTS shuttle bus to the test site; others may ride in carpools or alone.

themselves have suggested that many persons have tended to align themselves with one or other "economically and politically powerful competing families in town" (Krannich and Little, 1987:19). Yet the tendency of the community to diverge in this manner may actually be more complex since membership in multiple social groups or networks may mean that a person may be pulled in a *number* of directions in their decision-making processes. Moreover, the small number of persons with whom an individual may interact on a continuing basis in Indian Springs, given its size, means that local social networks are likely to be interconnected. This precludes, to some extent, distinct, singular influences. Persons who have lived in the community long enough to become part of multiple networks may be influenced on specific issues by many persons, thus complicating the explanation of social "polarization."

Furthermore, one's personal (as opposed to collective) beliefs and/or desire for economic well-being may mean that an individual will disagree with the perspective of his or her group or groups. For instance, a landowner who is given the opportunity to subdivide and thereby gain economically may ignore his or her fellow landowner's opinions that growth could destroy the "country atmosphere" of the town.

The complexities of local social interaction and individualism notwithstanding, there are broad and notable social structural distinctions across the local population which clearly influence the character of the community. Of these, place of employment is perhaps most influential but length of residence and land ownership are also notable.

Although length of residence is intuitively related to land ownership, some long-term residents have rented for the duration of their stays. Length of residence is a factor that gives persons heightened local prestige, but the combination of long residence *and* land and/or business ownership gives persons considerable clout in the community. A very few families own relatively large plots of land or businesses; these families control the future of the community in terms of growth -- barring the release of land by surrounding federal agencies. New residents may be active in community affairs, but because they typically are not landowners and do not have the same economic stake in the future of the community, the importance of their positions may be subsumed by others of longer standing and/or greater status and influence.

In sum, Indian Springs is not unlike many small communities in which a variety of social groups and networks contribute to the local social fabric. There does appear to be a tendency for the community to diverge on issues of local importance, a situation that is perhaps fueled by what has locally termed as the "strong-willed" nature of local residents and by the way in which the community is stratified in terms of status and clout associated with land ownership and term of residence in the community. Given the juxtaposition of individualism and the social complexity of the community, then, it may be overly simplistic to explain community division in terms of "polarization." More appropriately, local residents tend to disagree or agree on important issues

based upon a process of weighting the importance of network or group affiliation and maintaining personal security, i.e., "watching out for number one."

4.3.8 Current Community Issues

A number of issues locally considered important surfaced during conversations with key and other persons in Indian Springs. This subsection briefly reviews five of these issues: water resources, the NTS, the ISAFAF, population fluctuation, and the Yucca Mountain Project.

4.3.8.1 Water Resources

The often harsh environment of Southern Nevada has presented challenging conditions to human groups for many centuries. Settled areas in this region invariably have had some attribute capable of reducing the level of hardship encountered by settling populations. The most valuable commodity and ameliorating variable for desert life is undoubtedly water. Aboriginal and subsequent settlers alike sought water in the Nevadan landscape. In the desert, water means life. Historically, water enabled the desert dweller to travel and to construct shelter and find food; it replenished livestock; it allowed plants and crops to grow; and it brought animal life utilized as food and clothing.

Today, water is no less important to desert communities. Rapidly expanding urban centers throughout the Southwest are finding that water is often the constraining factor for continued growth. In many cities, this situation is partly the result of a perception that underground aquifers would always be plentiful sources of water. Today, water resources everywhere, and especially in the desert, are considered finite, a factor which requires close consideration issues of population growth vis-a-vis available water resources.

Not all communities in the Southwest are struggling with issues of water availability. Historical events, economic trends, and other factors are responsible for rapid expansion and water availability problems in large metropolitan areas in the Southwest such as Phoenix, Las Vegas, San Diego, and Los Angeles. Yet, water remains abundant in some of the smaller cities and communities in the desert Southwest. Some such communities have both an abundant water supply and a declining, stable, or only slowly expanding population. In these situations, water issues have not historically been a local concern. Such is the case in Indian Springs where contemporary residents are just beginning to realize the long-term value of the springs for which the community is named.

Part of this realization stems from an understanding that as the urban Las Vegas Valley expands and local water resources in the Valley are strained, water resources in rural areas may offer an alternative source to sustain urban growth. Residents of the community are increasingly

aware of the value of the water under their community, and local landowners are perhaps most aware given their vested interest in the future of the town. Although Indian Springs is located over a considerable amounts of a resource that is now seen as economically valuable to the region, it remains an empirical question whether that resource is sufficiently abundant to augment regional supplies while also sustaining local growth potential.

4.3.8.2 Nevada Test Site

Given the historical and ongoing importance of the NTS to Indian Springs, recent local, regional, and national rumors of possible substantial cutbacks in NTS programs give residents of the community fuel for discussion. Actually, cutbacks at the NTS were initiated in 1991 as part of across-the-board reduced funding for USDOE, including support for the Stealth Fighter program (at the Tonopah Test Range on NAFR) and other USDOE programs in the NTS/NAFR area. The 1991 USDOE Nevada Operations Office (Office) employed about 400 persons less than in 1990 -- a fact partially attributable to reduced union hiring and layoffs by EE&G, one of USDOE's primary subcontractors at the test site. The Office dedicates roughly fifty-three percent of its budget for defense programs at NTS (Rogers, 1991). Some of these cutbacks may actually be responsible for the recent decline in the population of Indian Springs as indicated by reduced rentals at local trailer parks, increased rates for water and sewer services, decreased enrollment at Indian Springs School, and a general local perception that the community is losing residents.

The level of nuclear weapons research and other nuclear testing at the NTS is the subject of ongoing political debate in Washington D.C., which has considerable ramifications for the community of Indian Springs. The current administration is supportive of continued weapons testing irrespective of recent changes in the former Soviet Union; this perspective is supported by the USDOE, which sees testing as a vital component of national defense. On the other hand, the chairman of the House Armed Services Committee recently (February, 1992) asserted his perspective that weapons testing programs should be curtailed and a congressional effort is being developed to support this movement (McKinnon, 1992).

Whatever the outcome of political decisions regarding nuclear testing at the NTS, the community of Indian Springs is likely to feel the impact of that decision. NTS cutbacks in the mid-1970's were felt in the town, and persons who were around during that period fear similar effects. Long-term residents, regardless of whether or not they are NTS workers, are more likely to bear the impacts of potential NTS operational reductions since they have developed considerable interpersonal and economic investments in their town. Short- and moderate-term NTS contract workers are less likely to be seriously negatively impacted by program cuts, unless jobs are unavailable elsewhere as well, since transience is typically part of their lifestyle.

Although nuclear weapons testing at the NTS has historically been the mainstay of operations there, other nuclear-related activities have the potential to keep overall operational levels at the NTS stable despite possible weapons testing cutbacks. Whether NTS employees currently residing in Indian Springs qualify for positions in these new areas is unclear. If residents *were* utilized as such, the local economic and other effects of weapons testing cutbacks could be mitigated.

4.3.8.3 Indian Springs Air Force Base Auxiliary Field

Although the importance of the ISAFAF is largely an historical issue for most residents of Indian Springs, recent rumors of increased military presence at the base have generated memories of the community's past and some wishful thinking about the future. Memories aside and despite its operational and structural changes in 1987, ISAFAF operations continue to be an ongoing realistic factor in the lives of many area residents. Military personnel visit the town for training assignments, visit local business establishments, and are generally a visible component of the community. As detailed in previous sections, the base also reportedly employs roughly sixty residents of the community, most of whom are employees of Loral Aerospace and the ISAFAF food service company; sixteen of the sixty are civilian employees of the Department of Defense.

The jet fighter group *Thunderbirds* are also a highly visible and audible factor of day-to-day life of Indian Springs. Overflight noise is an issue of importance for some residents who, though typically willing to tolerate the noise for patriotic reasons, may dislike the overflight vibrations. There is also some fear that an aircraft mishap could endanger the community; a specific fear that an accident could occur at the school was also cited during field interviews.

In summary, Indian Springs benefits from the employment opportunities available at the installation and from the presence of personnel who train at the ISAFAF and patronize local businesses. Most residents are supportive of activities at the ISAFAF inasmuch as these do not endanger the welfare of the local population. Although the pullout of military personnel from the ISAFAF in the late eighties impacted the community in a variety of ways, many residents are eager to see a renewed military presence at the facility and a return of the recreational, cultural, and service opportunities once available there.

4.3.8.4 Population Fluctuation

As a community with a long history of fluctuating population (please refer to Table 4.3-1), if not "boom and bust" cycles, Indian Springs is perhaps better prepared to adapt to future changes in local population than many similarly-sized rural communities. Moreover, the local population is largely composed of persons who are accustomed to working on federal projects or programs

which change in terms of the number and type of personnel needed and are, therefore, typically prepared to "pull up stakes" and find work elsewhere. Indeed, the fact that the town of Indian Springs is basically a "mobile home community" speaks to the contractual nature of the work at the NTS and at the ISAFAF. Many of the working age male local residents, for instance, are NTS union employees who own or rent trailers and thereby simplify and expedite the process of moving. Renting or owning trailers can also help save money and so is economically appealing.

The sector of the local population engaged in contractual employment at the NTS or at the ISAFAF and having the housing arrangements described above can be expected to perceive issues of importance to the future of the community in a different light than persons with a higher likelihood of sustained residence. The knowledge that a change in employment and place of residence is imminent can reduce concern for the future of the community whereas knowing that the future of the community will affect one's person and family clearly increases that concern. Furthermore, the views of active or vocal persons who are new to the community may have less influence or be subsumed by residents whose length of residence and related status is greater. An interesting caveat to this situation is the concern expressed by all types of residents of the study community for the welfare of their children. Although level of concern for the future of the town appears to vary as a function of the degree to which one has a vested interest there, concern that the community and the school are good environments for the development of their children is common across all sectors of the population. This situation thus offers an explanation for the fact that the local youth and their activities provide impetus for social cohesion across dissimilar components of the community. Economic issues may also provide common ground for new and old residents of the community. The imposition of new or increased local taxes, for instance, may generate common perspectives.

As aforementioned, persons who have a long history of residence in Indian Springs have experienced periods of local population increase and decrease and related effects. It should be noted however, that the community has never undergone a true "boom" in which local services and infrastructure were strained beyond capacity. The greatest increase in local population occurred in the 1950's with the blossoming of the NTS. Yet this was in reality the formative period of the town as it currently exists, and though previous to this period the size of the community and local population were insignificant, development did not occur overnight. More significant to long-term residents has been the tendency of local population numbers to decline following programmatic changes at the NTS and especially at the ISAFAF. In other words, the town has more experience with rapid population decline ("bust") than it does with rapid population increase ("boom"). The effects of operational change at the ISAFAF, which involved a shift from large numbers of military personnel to a much smaller number of civilian personnel, had a dramatic social impact on the community as outlined in previous sections of this report. The socioeconomic effects of reductions in military spending on have been felt and studied elsewhere; the case of the ISAFAF is not unique. Udis, for instance, reviewed the effects of reduced military spending at the national level as early as 1973, and Daicoff (1973) focused on

this issue at the community level. As the Soviet threat wanes in the 1990's, cutbacks in military spending can be expected to continue to affect communities across the nation.

Meanwhile, programmatic or contractual changes at the NTS have been more subtle and harder to document. Residents who have been around for a while, however, note that families come and go on a regular basis as dictated by changes in NTS programs and contracts. Levels of hiring have been documented in the 1988 NTS workforce survey (Planning Information Corporation, 1988:38) though "out-migration" from NTS jobs have not; that is, it is not clear how many of new hires are replacements, or are additions to a stable workforce. Among the 106 surveyed NTS workers living in the study community in 1988, 28.33 percent had been hired prior to 1975, 21.67 percent had been hired between 1976 and 1980, 35.94 percent had been hired between 1981-1984, and 13.33 percent had been hired between 1985 and 1988. Recent layoffs among the local population suggest cutbacks at NTS although, again, it is not clear whether these reflect changes in a single project or at the NTS generally.

4.3.8.5 The Yucca Mountain Project

The attributes which give Indian Springs a unique character as a community also serve to influence local perspectives on issues relating to nuclear power, nuclear weapons, and the disposal of nuclear waste. The town began its long history of dependence on defense-related programs as a military installation support community during World War II. When operations at the Nevada Test Site blossomed in the early 1950's, hundreds of persons came to live in Indian Springs to facilitate a short commute to the site. A few of these persons remain to date. Although the community continues as an important NTS-project support community, a significant level of population transience associated with NTS program fluctuations translates to a small number of workers who stay in the community long enough to become an integral part of the social structure of the town.

Residents of Indian Springs are thus accustomed to some of the aspects of defense- and nuclear-related programs that are proving to be controversial for many residents of Nevada, i.e., the hazards associated with nuclear materials and the possibility of negative growth-related impacts. A high percentage of working-age community residents work in nuclear programs at the NTS that bring them into situations others might fear but which they consider relatively safe. The town itself is equipped with a radiological monitoring station situated in a highly visible location near the high school. Most NTS and military workers are also accustomed to short- or moderate-term assignments and often live in a given community for relatively short periods without establishing any deep ties.

All of these factors combine to strengthen a general perception in Indian Springs that the Yucca Mountain Project (YMP) is indeed feasible and may bring benefits to the community, state, and region. This perspective is strongest among those whose employment and educational

backgrounds embrace the opportunities potentially associated with the proposed repository -- typically short- to moderate-term NTS union workers. Persons of this orientation frequently reveal their perspective that since the NTS has seen decades of nuclear testing, Southern Nevada is a logical and appropriate site for disposal of high-level nuclear waste. Some relate their belief that much of the NTS is already highly contaminated and so "hot" in many classified areas that proposed YMP safeguards will far exceed those historically associated with other projects at the NTS.

Among those NTS-workers who have a long family or personal history of NTS employment and local residence, there is a notably stronger level of concern for the overall welfare of the town if the YMP were to go forward than among those without a vested interest in the community. Although most of these persons desire the local development of basic services and amenities that could result if the town were to grow in association with the YMP, this desire is tempered, among the more analytical, by past experience with community growth that has invariably been followed by decline. Furthermore, many long-time residents enjoy the small-town atmosphere of the community and fear excessive growth inasmuch as it threatens the town's traditionally "country" atmosphere. Finally, although most of these persons appear confident that the YMP can be successfully and safely implemented, there is some concern that transportation of high-level nuclear waste along US 95 could present a source of danger to the local population. Despite these concerns, the vast majority of residents accustomed to nuclear issues through employment at the NTS and at other nuclear facilities, support the YMP. This is particularly the case inasmuch as those residents perceive that they will keep their jobs with USDOE or its subcontractors even in the event of cutbacks in NTS nuclear weapons testing.

In addition to an NTS workforce in Indian Springs, there are school employees, local facility and program administrators, and others not affiliated with defense- or nuclear-related facilities and programs. This sector of the population is comprised of both long-term and relatively new residents. In opposition to NTS workers and their families, these persons often reveal a more negative perspective on the YMP. Close affiliation with NTS families and others whose outlooks on the YMP are more positive, however, may tend to temper these attitudes and diminish the vocalization of these opinions. Informants of this ilk tend to perceive that the YMP puts the town at risk in terms of hazards associated with transportation of nuclear waste and the possibility that local groundwater may eventually be contaminated with radiation leaking from the repository. Another fear among some of these persons involves a perception that real estate that will gain in value due to increased local demand for land and housing during the construction phase of the YMP will rapidly devaluate as that phase of the project ends. A related fear is that if the town incorporates in the light of rapid growth, it may be unable, if the local population subsequently declines, to maintain the services and infrastructure initially required for incorporation.

At least one attitude regarding the YMP seems to be common both to persons supporting the project and those opposing it; this relates to the processes which have brought the proposed

repository to the State of Nevada. Since most of the community actually support the YMP, the common attitude of dissatisfaction with the process would appear somewhat contradictory. The most plausible explanation for this discrepancy is that local citizens are strongly oriented toward individualism and self-determination and feel that the process of selecting Nevada as the site of the repository has excluded their input.

In summary, local variation in perspectives on the YMP and on nuclear issues in general are basically attributable to the type of employment in which one is engaged and/or to the degree to which personal concern for the long-term welfare of Indian Springs has developed. NTS workers typically support the project although some long-time community resident NTS workers express some concerns about the possible effects of extensive population growth on their town. Non-NTS workers often discuss a number of potential negative impacts of the project on the town. It should be noted though, that local perspectives on the YMP and other issues are often tempered by other than "group" perspectives. That is, situations which present the possibility for personal economic security or gain may influence one's decision to diverge from the perspective of the group or groups with which one is normally affiliated. Moreover, despite the variety of orientations toward the YMP, it should be noted that many persons have not developed a strong opinion either in support of or in opposition to the YMP and go about their lives with little concern for the future of the town. This is, of course, particularly the case among those who recognize that their stay in the community is likely to be a relatively short one. Still others state that they have resigned to what they consider an imminent project and anticipate inevitable local change.

The unique background of Indian Springs as a military installation and nuclear program support community contributes to local cultural perspectives on the YMP and nuclear issues generally, most of which are positive. A recent incident in which a church pastor gave water to nuclear testing protestors passing through the town in opposition to the will of the congregation exemplifies the common pro-nuclear sentiment in the town. There is notable variation in local perspectives, however, since a minority of key members of the community tend to see nuclear issues and the YMP in a different light. This variation is likely to increase if the YMP goes forward.

5.0 SUMMARY AND CONCLUSIONS

This document has sought to provide, using primary source data collected in early 1992, and various secondary source information, a detailed description of the community of Indian Springs. The description makes clear the fact that factors external to the community have continually spelled change for Indian Springs and its residents.

Indian Springs is a small community with a long history of dependence on goods and services available in Las Vegas and on employment provided through defense-related federal programs. Population size and structure has historically fluctuated with changes in federal government activities at the Indian Springs Air Force Auxiliary Field (ISAFAF, an auxiliary of Nellis Air Force Base) and at the nearby Nevada Test Site. In 1990, the community population was estimated at 1,164 (U.S. Bureau of the Census, 1990), but in early 1992 appears to be in decline as indicated by drops in housing rentals and school enrollment, and a general perception among long-time residents that people are emigrating. This trend may not be permanent or even long-term, however, since local population changes in concert with operational and structural changes in the federal programs. Since the ISAFAF turned most of its operations over to a civilian contractor in 1987, the military sector of the population has been replaced by a civilian sector mainly comprised ISAFAF military replacement and NTS workers. The Nevada Test Site has historically been, and continues to be, the primary employment base for the majority of the population. Interestingly, many of the households of NTS employees enjoy dual income since many spouses of NTS workers have jobs at the local mini-marts, casino complex, and ISAFAF food service. The majority of local business workers are low-wage earning women while most NTS workers are unionized men who reportedly earn good wages. Thus, although this primarily mobile-home town appears to be somewhat impoverished, the average family income may actually be considerable. Since land is not available for purchase, however, those who wish to buy cannot do so and alternately rent or buy mobile homes.

As an unincorporated town, Indian Springs lacks or is perceived by residents to lack the economic base necessary for satisfying the infrastructural and service provision requisites necessary to incorporate. The unincorporated status of the town, an historical background as a quasi-military community, and a heavy reliance upon the Nevada Test Site as an employment source, combine to give Indian Springs a unique character as a rural Nevadan town. Given that the primary employment sources for residents may often involve short- or moderate-term contractual agreements, and that the ISAFAF continuously runs training programs that bring military personnel to the town for short stays, there is a notable transient quality to the community. Yet, this quality is largely offset by the facts that some NTS employment is career-long, some families have been resident since the beginning of local history, and local business opportunities have kept some citizens around for a long time. There are additional opportunities for relatively stable employment at the Southern Desert Correctional Facility.

According to some long-time residents, Indian Springs has always been a small rural town with all of the attributes that phrase can represent. In socio-political terms the town is like many small towns in which everyone knows what everyone else has said about issues of major and

minor importance, and in which interpersonal or interfamilial squabbles give life a bit of spice. In the words of one resident, "the town is often divided on issues, but it's not so much the issues people disagree about as much as it is who is saying what." Fractious issues or politics notwithstanding, the community is characterized by a cohesive quality that often centers around its youth.

With respect to employment opportunities and availability of cultural and recreational activities, and compared to urban Las Vegas, there are clearly fewer opportunities here and fewer cultural activities. Yet it should be kept in mind that people generally *are* Indian Springs residents because of some employment opportunity, be it at the NTS, at the ISAFAF, at Indian Springs School, at a local business, or wherever. In other words, for the vast majority of the community and with the obvious exception of retirees, residency decisions are based largely on employment opportunities. Many residents, however, also find incentive for living in the area in the rural atmosphere of the town and the local availability of outdoor activities such as hunting, dirt-biking, mountain climbing, and nearby skiing. Residents also cite the local lack of crime, and clean air and water as positive reasons for living and retiring in Indian Springs.

Finally, Indian Springs, despite a rather remote location from urban centers, is not truly isolated. Although many residents desire a local level of growth that would allow the development of such basic amenities as a grocery store, it is only a forty minute drive from Indian Springs to one the fastest growing urban centers in the nation, and indisputably one of the most entertaining. Most residents report that they tire of the commute but nevertheless enjoy their proximity to Las Vegas and the amenities available in that urban center and make the trip frequently.

In sum, Indian Springs is a unique community that exhibits a number of paradoxical attributes. It is small, but it is an important enclave of federal project workers and employees of local businesses and services. It is rural, but it is less than an hour drive from urban Las Vegas Valley. It is a desert community, but it has good water resources. It is located on flat terrain, but it is within twenty miles of the tallest mountains in Nevada. It is a town in which various interest groups diverge on issues of local importance, but in which a sense of community remains an important feature of life. Finally, it has a socio-demographic history of both surface transience and underlying stability. If local land becomes available, Indian Springs has some room for growth but it must first consider the historical effects of growth on the town and its desired direction for the coming years. Consideration of the unique background of the community, the varied perspectives of its citizens, and its overall capability to accommodate growth may combine to renew Indian Springs' history as a desert oasis. On the other hand, the economic dependence of Indian Springs on federal programs at the NTS and, to a lesser extent, ISAFAF makes the community vulnerable to federal cutbacks. If operations at ISAFAF are sharply curtailed in parallel with national defense cuts, and testing is suspended at the NTS in response to the changing international context, Indian Springs will be in the position of a community dependent upon a non-renewable resource base whose resource has been depleted. Whether or not these components of the resource base are in fact "renewable" is a function of federal budgetary considerations and national/international policy, factors beyond the control of local residents.

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