



COMMUNITY BASED LAND USE PLAN

TSE DAA KAA N CHAPTER, NAVAJO NATION

Prepared by:
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CONSULTANT



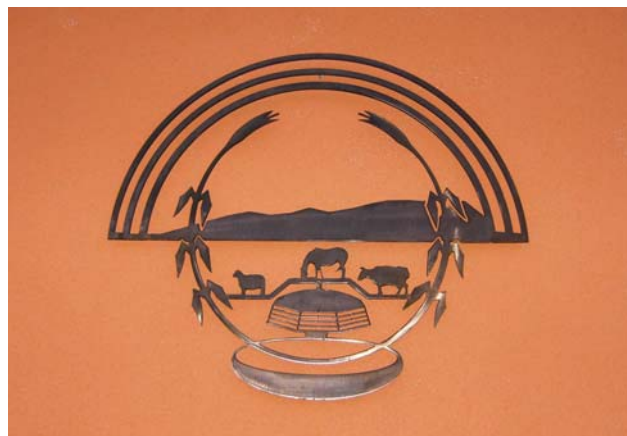
Rez Star Point
SHIPROCK, NAVAJO NATION

**COMMUNITY BASED LAND USE PLAN
TSE DAA KAAK CHAPTER, NAVAJO NATION**

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TSE DAA KAAK CHAPTER, NAVAJO NATION

CHAPTER LAND USE PLAN

CHAPTER 1 – INTRODUCTION



CHAPTER 1: INTRODUCTION

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CHAPTER 1: INTRODUCTION, AUTHORITY, PURPOSE, PROCESS

1.1 Introduction

The Tse Daa Kaan Chapter of the Navajo Nation successfully applied to participate in the NAHASDA Community-based Land Use Plan project under sponsorship of the Office of Navajo Government Development. The firm of *Rez Star Point*, Duane H. Yazzie - Principal, was selected as the consultant, to provide technical services to the Chapter.

The Tse Daa Kaan Chapter and *Rez Star Point* initially began work on the Chapter Community Land Use Plan project in November of 2000. After a series of meetings and fieldwork, the work was completed on the Chapter Community Land Use Plan, specifically on the proposed development sites. The Tse Daa Kaan Chapter leadership retained *Rez Star Point* to do an update of the Land Use Plan in October 2007.

Presented herein is an updated work product that provides a description of the elements that are collectively formulated into the Tse Daa Kaan Community-based Land Use Plan document. This document is to be treated as a general guide and planning tool as the community works toward realizing its goals of community and economic development. The document should provide development guidance over the next five years.

1.2 Background

In response to the request for new housing throughout Indian Country by Native leadership, the U.S. Congress approved the Native American Housing Assistance and Self Determination Act of 1996 (NAHASDA). Although the greater amount of the NAHASDA funds was intended for development of new housing, a significant amount of funding was made available for planning of potential development sites by Navajo Chapters/communities.

The opportunity for communities to learn the planning process for new housing and other elements of community and economic development is a welcome departure from the practice of the central government planning for the communities and thus dictating the manner of development.

This opportunity is consistent with the principles of Self Determination, Self Sufficiency, Self Reliance, Decentralization, Local Empowerment and Local Governance. Further this opportunity is consistent with the time honored and paramount Navajo edict of TAA HO A JI TEEGO or "do for yourself" meaning "achieve success through your own efforts, with initiative and determination."

The Navajo Nation through the Office of Navajo Government Development received NAHASDA grant funds; this grant funded the Chapter Land Use Plan and Housing Planning project. The grant was scheduled to fund the Chapters to work with their consultants to complete their Land Use Plans. The Tse Daa Kaan Chapter was selected to be one of the Chapters in the first year of the project.

1.3 Authority

The Navajo Nation Council through Resolution CAP-34-98 enacted the Navajo Nation Local Governance Act (LGA). The LGA is codified at Title 26, Navajo Nation Code. The LGA confers certain authorities upon Navajo Nation Chapters to engage in a process of local governance, including the authority to conduct all manner of local planning for the community.

The Local Governance Act of 1998 contains explicit authorities scheduled to be granted to governance-certified Navajo Chapters to "do for themselves". These provisions include:

Subchapter 1, B. Purpose

- 1. The purpose of the Local Governance Act is to recognize governance at the local level. Through adoption of this Act, the Navajo Nation Council delegates to Chapters governmental authority with respect to local matters consistent with Navajo law, including custom and tradition.*
- 2. Enactment of the Local Governance Act allows Chapters to make decisions over local matters. This authority, in the long run, will improve community decision making, allow communities to excel and flourish, enable Navajo leaders to lead towards a prosperous future, and improve the strength and sovereignty of the Navajo Nation.*

The LGA provides specific authorities that give governance-certified Chapters the means to exercise decision-making powers on the following elements that pertain to the regulation and planning-in-general of land. The governance-certified Chapters would enact ordinances via Chapter resolution to effect these authorities.

Subchapter 3, Section 103, Chapter Authority

- 1. To issue home and business site leases or permits.*
- 2. To amend the land use plan to meet changing needs of the community.*
- 3. To acquire property by eminent domain.*
- 4. To adopt zoning ordinances consistent with the land use plan.*

The LGA further provides the following authorities for governance-certified Chapters to maintain a Community-based Land Use Plan.

Subsection 7, Section 2004; Zoning, Community-based Land Use Plans, Land Use Variations.

1. *Chapters may enact zoning ordinances.*
2. *Chapters shall enforce zoning ordinances.*
3. *Chapters can approve land use variations.*

The Land Use Plan is developed by the Chapter appointed Community Land Use Planning (CLUP) Committee. The CLUP Committee will recommend the Plan for consideration and adoption by Chapter resolution and prepare for presentation to the Transportation and Community Development Committee (TCDC) of the Navajo Nation Council.

1.4 Purpose

The purpose of developing the Tse Daa Kaan Chapter Land Use Plan is to have in place a document that describes the community's hopes and aspirations for community and economic development based on the vision of the CLUP Committee on behalf of the people. The process used in the development of the plan will result in several benefits for the community, including:

- 1.4.1 To have the CLUP Committee, the Chapter leadership and the community members learn the community land use planning process. A planning process that can be applied to the acquisition of land for other community based planning efforts.
- 1.4.2 To facilitate community capacity building by empowering local Chapter leaders and community members.
- 1.4.3 To generate interest, develop community support and participation of community members in the planning process.
- 1.4.4 To prevent haphazard unregulated community growth.
- 1.4.5 To assure availability of infrastructure systems for anticipated community growth.
- 1.4.6 To insure that future generations have adequate housing and sufficient space to live and grow.
- 1.4.7 To "leverage" the Community-based Land Use Plan in identifying and securing the resources necessary to accomplish the desired development.

1.5 Project Planning Process

The process that was used by *Rez Star Point*, the CLUP Committee and the Tse Daa Kaan Chapter leadership involved a series of meetings including regular CLUP Committee meetings. The list of meetings is attached as **Exhibit 1.9.3**.

In these sessions committee members articulated and defined their goals and aspirations for the Community-based Land Use Plan. There were other meetings held with the intent of developing data for assessments and to address specific needs regarding infrastructure systems. Some of the specific activities included the following:

- 1.5.1 Scoping sessions with the Tse Daa Kaan CLUP Committee, where the group strategized the tasks to develop the Land Use Plan.
- 1.5.2 Conducted community assessments with CLUP Committee members and Chapter Officials to determine the state of the community and the resources that are available.

- 1.5.3 Provided orientation on the community land use planning process elements as a part of the community orientation process.
- 1.5.4 Reviewed developed reports and various project components used in the planning process with the CLUP Committee and leadership to ensure accuracy and to maintain consensus on the process.
- 1.5.5 Held public hearings to inform the community of the planning process and progress thereof.
- 1.5.6 Attended meetings with other agencies to determine the most viable strategies to bring adequate infrastructure systems to the proposed development sites.
- 1.5.7 Reviewed the final report with the community members.

The following **Exhibits 1.9.1** and **1.9.2** pictorially depict the Tse Daa Kaan Chapter Land Use Plan planning process.

Exhibit 1.9.1 General Tse Daa Kaan Chapter Land Use Planning Process

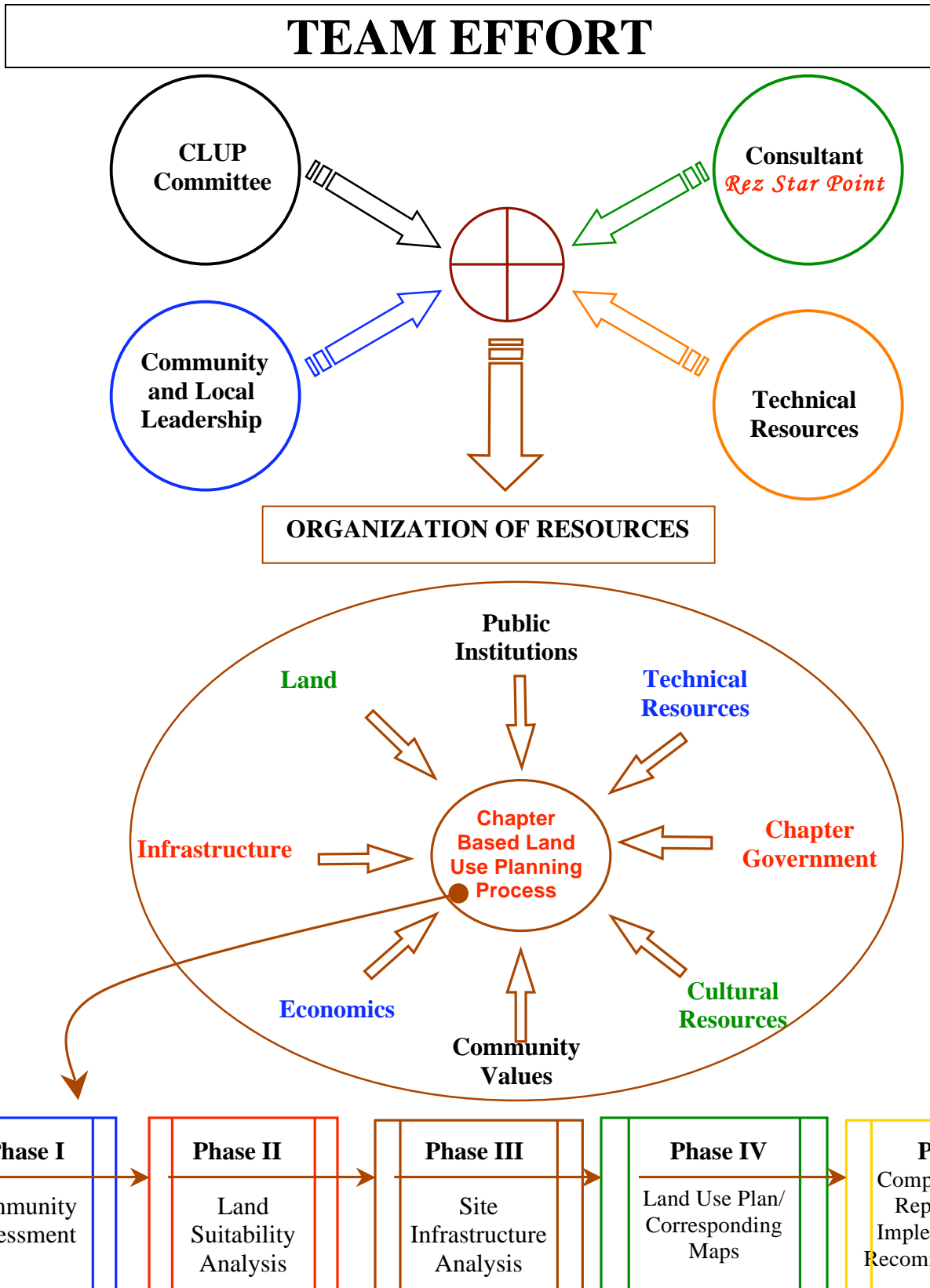
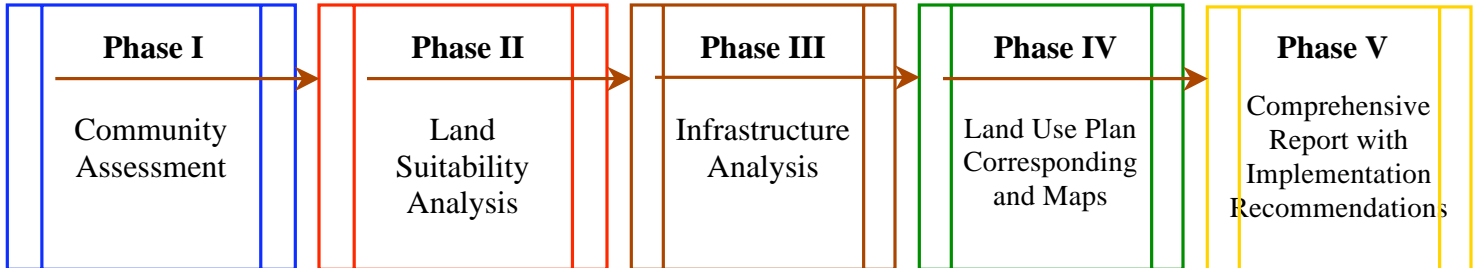
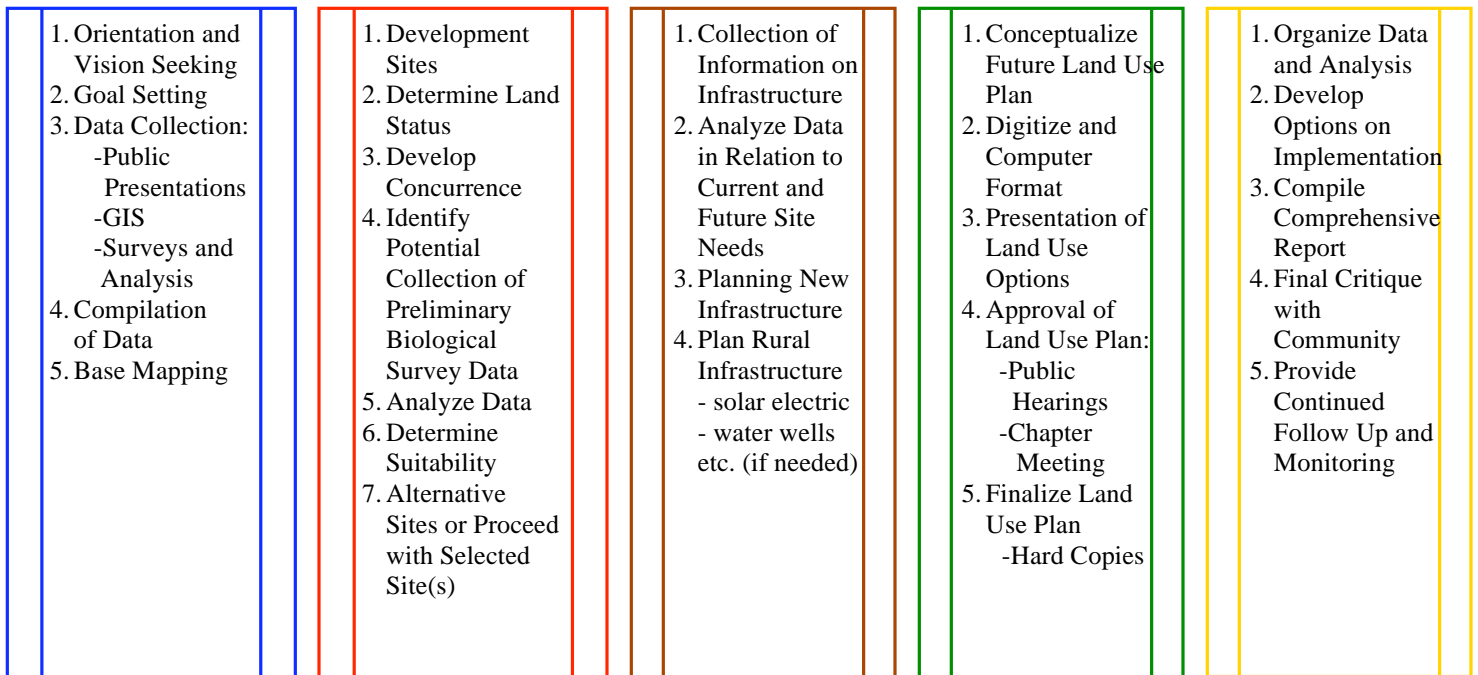


Exhibit 1.9.2 Detailed Tse Daa Kaan Chapter Land Use Planning Process

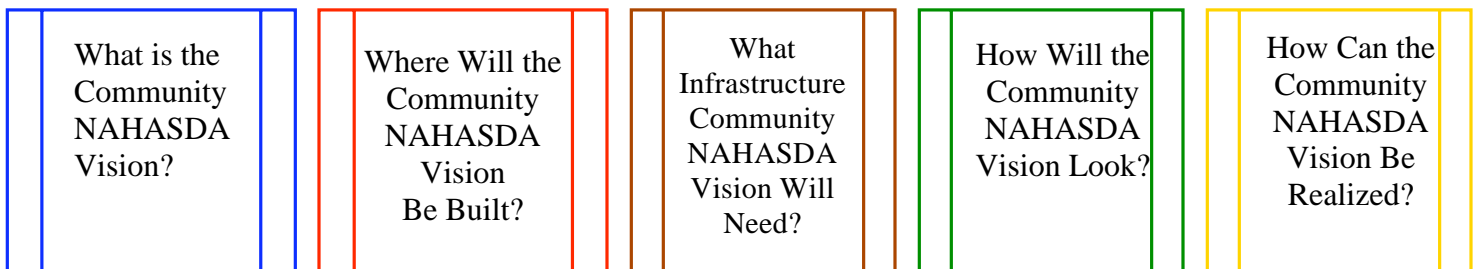
PROJECT APPROACH



PROJECT OBJECTIVES



TO ANSWER THE QUESTIONS OF:



1.6 Community Participation Process

The following articulates the process that was generally followed in the Tse Daa Kaan Community-based Land Use Plan project.

1.6.1 Chapter/community Orientation

At the outset of the project the Consultant began the orientation with the Tse Daa Kaan CLUP Committee on the Chapter Land Use Plan and Housing Planning Project. The five separate components of the project were covered in detail. The five components being the Community Assessment, the Land Suitability Analysis, the Infrastructure Analysis, the Development Sites Land Use Plans and the Final Report with Implementation Recommendations.

The CLUP Committee, Chapter leadership and consultant explained to the community membership the purpose of the project, its history and the expectations of the project sponsors, the Office of Navajo Government Development, the Navajo Housing Authority and appropriate Navajo Nation leadership, respectively.

1.6.2 Identification of Potential Development Sites

The community members who are recognized land users of the potential development sites were consulted when the CLUP Committee and the Consultant commenced with the Phase II portion of the project. There was previous identification of two land sites to be the planning sites for new community housing and other elements of community development.

1.6.3 Cultural Significance and Traditional Sensitivity

During the Land Suitability Analysis Phase, the Consultant had an initial Biological Survey done on the sites. One primary intent of the Biological Survey is to assess the presence of culturally and traditionally significance issues. Culturally significant and traditional sensitivity concerns were determined to not be outstanding issues with the South Tse Daa Kaan Development Site. The South site has not been surveyed for cultural resources.

A Cultural Resources Survey was done on the Chapter House tract development site, from which a Notice to Proceed was issued. A subsequent Biological Survey was performed and Mesa Verde Cacti listed as an endangered specie under the Federal Endangered Species Act were located on the north and northwest areas of the site.

There were not any traditional sensitivity issues that were readily recalled by the CLUP Committee and local leadership that might be prohibitive in determining the suitability for development of the Chapter House tract site. The Cultural Resources survey did note the presence of a burial site; however the remains had been previously exhumed and re-interred at a different location. Thus, it is not considered an outstanding concern as a culturally significant issue.

1.6.4 Development Sites Land Use Plan Concepts

The CLUP Committee deliberated on the basic elements that would be incorporated into the different land use planning designs that were developed by the consultant. The design concepts were presented on digital media to show the proposed housing and other community development plan components.

1.6.5 Comprehensive Report and Implementation Recommendations

The Chapter leadership and the Consultant presented the final comprehensive report to the community members upon the completion on the project. The community members were orientated on the project development process with the project conclusions. With the Implementation Recommendations review, the community understood the steps that need to be proceeded with, in order that the desired planning is realized in a timely manner.

1.7 Conclusion

The Consultant emphasized the importance of having the community members understand the project. This insures that there is support for the effort, it protects the integrity of the project and helps the community to pursue the project. With these elements, the potential of the community achieving the desired results becomes practical and achievable.

1.8 Definitions

- **Clustered Housing:** housing units developed in a “small” subdivision.
- **Chapter Boundary:** the physical geographic outer boundary of the Chapter area as interpreted by the community.
- **Chapter Membership:** for voting purposes and participation in the Chapter government, all members who are registered to vote. Those members who comprise the quorum at Chapter meetings. For purposes of services and benefits, all Tribal members, young and old, who either reside within or are registered with the Chapter.
- **Chapter Officials:** means the following public officials elected by the Chapter membership; Chapter President, Vice President and Secretary/Treasurer.
- **Chapter Land Use Planning Committee (CLUP):** the Committee appointed by Chapter membership in accordance with the LGA to work on governance-certification process including the Chapter land use plan.
- **Comprehensive Land Use Plan:** a document that describes the current and the future land use of lands within the Chapter area. The document should have provisions for community and economic development, infrastructure, open space, zoning and ordinances, illustrating such uses on maps.
- **Cultural and/or Traditional Significance:** elements of cultural and/or traditional Diné value associated with potential development sites, such elements that must be considered in view of various Tribal and Federal laws/regulations intended for historic and cultural preservation.
- **Eminent Domain:** the taking of land used by an individual, or legal person or entity, in which an individual, or legal entity has an interest for a governmental purpose. Just compensation must be paid to the land user for the taking of such land as prescribed by Navajo law.
- **Environmentally Sensitive Areas:** areas that have wetlands, fragile eco-systems, the presence and/or potential presence of “species of concern” as described by the Federal Endangered Species Act and the Navajo Fish and Wildlife Department.
- **Future Land Use Map:** the Land Use Plan maps that describe the proposed uses of land identified for development in the Chapter area.

- **Ground Water:** the water contained in underground aquifers or various geologic formations.
- **Infrastructure:** utilities (water, wastewater, gas, electric, solid waste facilities, telecommunications), drainage systems, streets and roads.
- **Land Use Plan:** the document that identifies the current conditions and needs and the proposed future land use goals, priorities, and vision for the community. The plan serves as a guide for the orderly growth and development of the community, illustrated by map. The plan should also contain recommendations for its implementation. The Land Use Plan must be adopted by Chapter resolution upon CLUP Committee recommendation.
- **Land Use Policies:** a set of policies that forms the basis of pertinent Chapter ordinances that prescribe the Chapter’s “rules and regulations” governing the process and disposition of land use issues and concerns.
- **LGA:** the Navajo Nation Local Governance Act of 1998. This law approved by the Navajo Nation Council through CAP-34-98 grants authority to governance-certified Chapters over local issues. LGA is codified as Title 26 of the Navajo Nation Code.
- **NAHASDA:** the Native American Housing Assistance and Self Determination Act of 1996 recognized the right of Native Nations to self-determination and tribal self-governance by providing the opportunity for Native (Diné) communities to determine for themselves all aspects of planning for housing and the development through the NAHASDA Chapter Land Use Plan and Housing Planning Project.
- **Navajo Nation Law:** means Navajo statutes, administrative regulations and Navajo common law.
- **Open Space:** sectors of community land use planning areas that are left in their natural state, free of any development, thus preserving the aesthetic value of these land areas.
- **Ordinance:** a local law, rule or regulation enacted by the Chapter membership through Chapter resolution pursuant to the LGA.
- **Participation Process:** the process developed by the CLUP Committee and the land use planning Consultant to ensure there is community participation and education during the land use plan preparation process.

- **Planning Process:** the steps involved in preparation of the community land use plan, including
 - **Community Assessment** - the gathering/assessment of community demographics, inventory of facilities and the defining of community needs for housing, economic development and community facilities.
 - **Land Suitability Analysis** – an evaluation of potential development sites to determine if there exist natural, cultural resources and/or environmental constraints to the development process.
 - **Infrastructure Analysis** - the assessment and evaluation of data on the transportation and utilities infrastructure, particularly the utility infrastructure needed for the planned development.
 - **Development Sites Land Use Plan** – the land use plan concepts designed by the CLUP, the community leadership and Consultant. The plans are presented to the Chapter membership in a public hearing process to ascertain their comments, recommendations and approval.

- **Scattered Housing:** housing units that are usually built on family land.

- **Service Area:** the planning/service delivery area of a Chapter, members may live outside of the defined Chapter area and still be eligible for chapter services.

- **Subdivisions:** a contiguous section of a planned housing area that contain any number of housing units and supportive amenities.

- **Surface Water:** the waters that are openly on the surface of the Earth.

- **TAA HO A JI TEEGO:** paramount Dine’ edict meaning to “do for oneself” or “achieve success through your own efforts, with initiative and determination”, consistent with the concepts of Self-Determination, Self-Reliance, Self-Sufficiency, Local Empowerment, “Home Rule” and Local Governance.

- **Withdrawn Land:** land area sites which are withdrawn for specific development purposes which need to have surveys/clearances done such as the legal survey, cultural resources and environmental assessments.

- **Zoning:** the land use planning element that describes areas of planned land use areas for specific uses and purposes. Such zoned lands would have Chapter ordinances that prescribe the intended uses, placement and dimensions of the sites and acceptable buildings, thereon.

Exhibit 1.9.3 List of Meetings

<u>Date</u>	<u>Type of Mtg.</u>	<u>Discussion</u>
November 03, 1999	CLUP Comm.	Orientation of CLUP
November 10, 1999	CLUP Comm.	Vision and Goal Setting
December 07, 1999	CLUP Comm.	Community Orientation
January 05, 2000	Chapter Meeting	Community Assessment Survey
February 02, 2000	CLUP Comm.	Orientation & CA Survey
March 01, 2000	CLUP Comm.	Orientation & Pub. Hear. Prep.
March 26, 2000	Community	Public Hearing
April 05, 2000	CLUP Comm.	Orient. & Complete CA Survey
May 03, 2000	CLUP Comm.	Complete Site Analysis
June 07, 2000	CLUP Comm.	Complete Infrastructure Analysis
July 05, 2000	CLUP Comm.	Seeking Dev. Site
October 25, 2000	CLUP Comm.	Review maps
November 18,20, 2000	Chap. Officials	Discuss status
December 06, 2000	CLUP Comm.	Reviewing all work to date
March 29, 2001	CLUP Comm.	Site Selection
April 18, 2001	CLUP Comm.	Review Status
May 02, 2001	CLUP Comm.	Site Analysis Report
July 24, 2001	Chap. Officials	Regroup
August 24, 2001	Chap. Officials	Prepare Final Report
September 05, 2001	CLUP Meeting	Review Final Report
December 12, 2007	CLUP Meeting	Orientation
January 29, 2008	CLUP Meeting	Roads Inventory/Dev. Sites
February 04, 2008	CLUP Meeting	Begin Survey
February 29, 2008	CLUP Meeting	Review Survey Results
March 27, 2008	CLUP Meeting	Review Draft Final Report
April 14, 2008	CLUP Meeting	Submittal of Final Report
June 08, 2008	Community Mtg.	Public Hearing
August 14, 2008	CLUP Comm.	Final Review of Final Report

Exhibit 1.9.4 Tse Daa Kaan Chapter CLUP Committee Resolution



Resolution of the Tse Dââ K'âân Community Chapter



RESOLUTION OF THE TSE DAA K'AAAN LAND USE PLANNING COMMITTEE

REQUESTING THE TSE DAA K'AAAN COMMUNITY CHAPTER TO APPROVE AND ACCEPT THE COMMUNITY LAND USE PLANNING MANUAL FOR THE PURPOSE OF CERTIFICATION BY THE CHAPTER AND THE NAVAJO NATION COUNCIL TRANSPORTATION COMMUNITY DEVELOPMENT COMMITTEE.

WHEREAS:

1. The Tse Daa K'aaan Community Chapter is Local Governance Certified by the Navajo Nation Transportation and Community Development Committee per Resolution TCDC-16-07 and has the authority to meet the social and economic needs of its community people; AND
2. The Tse Daa k'aaan Community Chapter is authorized with the responsibility to plan, implement and monitor all chapter projects that will benefit the community residents; AND
3. The Tse Daa K'aaan Community Chapter recognized in collaboration with the Community Land Use Planning Committee to have implemented the Community Land Use Plan Manual to be forwarded for certification through the Transportation Community Development Committee of the Navajo Nation Council, AND
4. The Community Land Use Planning Committee conducted a Public Hearing on June 08, 2008 informing the community about the planning document.

NOW, THEREFORE BE IT RESOLVED THAT:

The Tse Daa K'aaan Community Land Use Planning Committee requests the Tse Daa K'aaan Community Chapter to accept and approve the Community Land Use Planning Manual for TCDC Certification.

CERTIFICATION

We hereby certify that the foregoing resolution was concurred at a duly called Community Land Use Planning Committee meeting, where a quorum was present and the motion for approval was made by George Henderson and seconded by Frankie Funston and the same passed by a vote of 5 in favor and 00 opposed and 00 abstained on this 17th day of June, 2008.

Sheila Jim, CLUP President

James Pioche, CLUP Secretary

Kenneth Johnson, CLUP Vice-President

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Email: hogback@navajochapters.org

Exhibit 1.9.5 Tse Daa Kaan Chapter Resolution



**Resolution of the
Tse Dââ K'âân Community Chapter**



TDK 0806-06

**APPROVING THE COMMUNITY BASED LAND USE PLAN AND RECOMMEND TO THE
TRANSPORTATION COMMUNITY DEVELOPMENT COMMITTEE FOR CERTIFICATION.**

WHEREAS:

1. The Tse Daa Kaan Community Chapter is Local Governance Certified by the Navajo Nation Transportation and Community Development Committee per Resolution TCDCJN-16-07 and has the authority to enact upon The Navajo Nation Local Governance Act, 26 N.N.C. § 102 et.seq. and has the authority to meet the social and economic needs of its community people; AND
2. The Tse Daa K'âan Community is authorized with the responsibility to plan, implement and monitor all chapter community projects that will benefit the community residents; AND
3. The Tse Daa K'âan Community Chapter in pursuant to the Local Governance Act, chapters shall develop and implement a community based land use plan pursuant to 26 N.N.C. Subsection 2004; AND
4. The Tse Daa K'âan Community Chapter has completed the development of the community based land plan and has presented the document before the community through public hearings. Attached hereto as Exhibit "A".

NOW, THEREFORE BE IT RESOLVED THAT:

The Tse Daa K'âan Community Chapter hereby approves the Community Based Land Use Plan in accordance with the requirements of the Local Governance Act N.N.C. 26, Subsection 2004.

C E R T I F I C A T I O N

We, hereby certify that the foregoing resolution was concurred at a duly called chapter meeting held at the Tse Daa K'âan Community Chapter, where a quorum was present and a motion for approval was made by James Pioche and second by Evelyn John and the same was passed by a vote of 26 in favor 00 opposed, and 00 abstained on this 17th day of June 2008.

Charlie Jones Jr., President

Frankie Funston, Vice-President

Carmelita Nelson, Secretary/Treasurer

Ervin Keeswood Sr., Council Delegate

Exhibit 1.9.6 Transportation and Community Development Committee Resolution

TSE DAA KAAK CHAPTER, NAVAJO NATION

CHAPTER LAND USE PLAN

CHAPTER 2 - COMMUNITY ASSESSMENT



CHAPTER 2 – COMMUNITY ASSESSMENT

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- 2.9 Exhibits**

2.1 Vision Statement

To promote and enhance local economic, social, education standards and a healthy environment to achieve a high quality of life by preserving our culture and traditions through collaborative approaches with leadership, community participation, technology and resource networks.



2.1.1 Tse Daa Kaan Chapter Land Use Planning (CLUP) Committee

November 1999

Charlie Jones, Jr., President
Frankie Funston, Vice President
Martha Coolidge, Secretary/Treasurer
Ervin Keeswood, Sr., Council Delegate
Harrison Jim, Sr., Grazing Committee
Thomas Johnson, Land Board Member
Anita Hayes, Chapter Coordinator

October 2007

Sheila Jim, President
Kenneth Johnson, Vice President
James Pioche, Secretary/Treasurer
Charlie Jones, Jr., Member
Frankie Funston, Member
John Pettigrew, Member
George Henderson, Member

Tse Daa Kaan Chapter Officials

August 2001

Charlie Jones, Jr., President
Harrison Jim, Sr., Vice President
Sheila Jim, Secretary
Ervin Keeswood, Sr., Council Delegate
Kenneth Johnson, Grazing Committee
Eva Benally, Land Board Member
Anita Hayes, Chapter Coordinator

October 2007 – Chapter Officials

Charlie Jones, Jr., President
Frankie Funston, Vice President
Carmelita Nelson, Secretary/Treasurer
Ervin Keeswood, Sr., Council Delegate
George Henderson, Grazing Committee
John Pettigrew, Land Board Member
Anita Hayes, Chapter Manager

2.1.2 General Chapter Information

The Tse Daa Kaan Chapter was certified by the Navajo Tribal Council on April 27, 1978 through CAP-32-78. The community of Tse Daa Kaan seceded from the Shiprock Chapter. The Tse Daa Kaan Chapter is within the District 12 Land Management District.

The Chapter is the northeastern most Navajo Nation Chapter located adjacent to and east of Shiprock, the Northern Navajo Agency headquarters. The nearest major commercial center is Farmington 25 miles east of the Chapter House. The community is located along U.S. Highway 64, a four-lane highway going east and west.

2.1.3 Brief Overview of Chapter

The former community name of Hogback was taken after the nearby natural geological formation, a column of sandstone pinnacles ranging about 700 feet high running north and south. The ridge forms a “hogback”. A segment of the ridge from the north intersects into the San Juan River. The southern segment of the ridge resumes south of the river and continues for another 12 miles. The name Tse Daa Kaan means “rock grounded into the water”, which is an inference to the gap created by the river dissecting the hogback.

Early Navajo settlement in the area as well as along the “San Juan greenbelt” has always involved farming due to the abundant water supply. Farming skills were acquired from the Pueblos through trade and commerce, especially from the *Dinetah* age period.

Although the chapter does not have established boundaries, the approximate shape of the chapter is elongated, running south and north, with its eastern boundary determined mostly by the hogbacks. The mid-section of the chapter is the San Juan River, the greenbelt portion, an intermediate, but cultivable level. Most of the northern and southern segment land areas are plateau and arid.

The chapter compound has experienced problems with soil shifting; this affected and damaged the original chapter house. A new chapter house had to be built as a result. In 1992 a modular pre-school building was built with steel foundation on cement to compensate for any soil shifting.

2.2 Existing Land Status

According to the Chapter Images, 1996 issue, the Chapter has approximately 60,362 acres. The figure will likely change with the updated delineation of the Tse Daa Kaan Chapter boundary line, in accordance with the boundary line as perceived by the Chapter leadership the acreage could be as much as 1,006,503 acres.

When the Tse Daa Kaan Chapter was being planned, the local leadership established the Chapter boundary line through a survey and registration of prospective members with the new Chapter. With the registration of the prospective membership, the land areas used for livestock grazing by the registered families were generally used to establish the Tse Daa Kaan Chapter boundary line.

There was not a deliberate collaborative process with neighboring Chapters to establish Chapter boundary lines. Thus, there are overlaps of claimed land jurisdiction between Tse Daa Kaan and Shiprock and to some extent with the Sanostee Chapter.

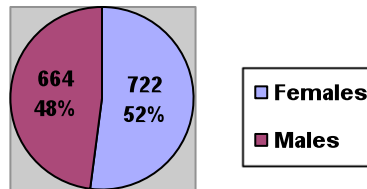
With the acknowledgement that there are boundary overlaps between the Tse Daa Kaan Chapter and its neighbors, it is generally understood that the boundary line discrepancies will need to be addressed by the affected Chapters.

2.3 Demographic Data

The Consultant and CLUP Committee members circulated a survey throughout the community to ascertain data to develop a description of the community demographics. The completed surveys revealed the following information, which are interspersed with the 2000 Census data.

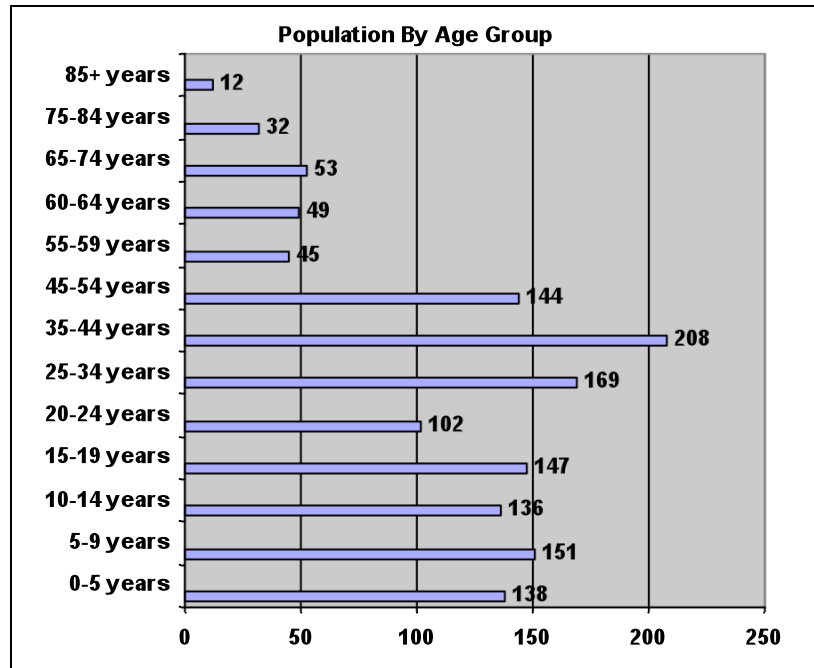
2.3.1 Population

According to the 2000 Census count the Tse Daa Kaan population is 1,386. There are 664 males or 48% and 722 females for a 52% gender representation.



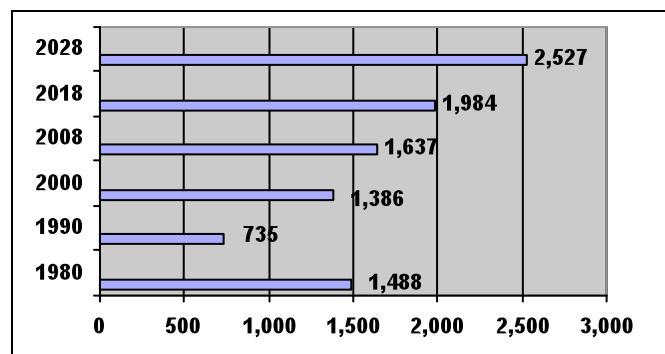
2.3.2 Chapter Population by Age Group

The 2000 Census reports the Tse Daa Kaan community population segregated by age group.



2.3.3 Population by Decades and Projection

The population count reported in Chapter Images 2004 for 1980 was 1,488, in 1990 it was 735, and in the 2000 Census the population was at 1,377, however the 1,386 total is used for consistency. It is projected that by the year 2018 the population count will be at 1,984 and the projected population by 2028 is 2,527. The population growth rate calculation is based on an annual growth rate of 2.5%.

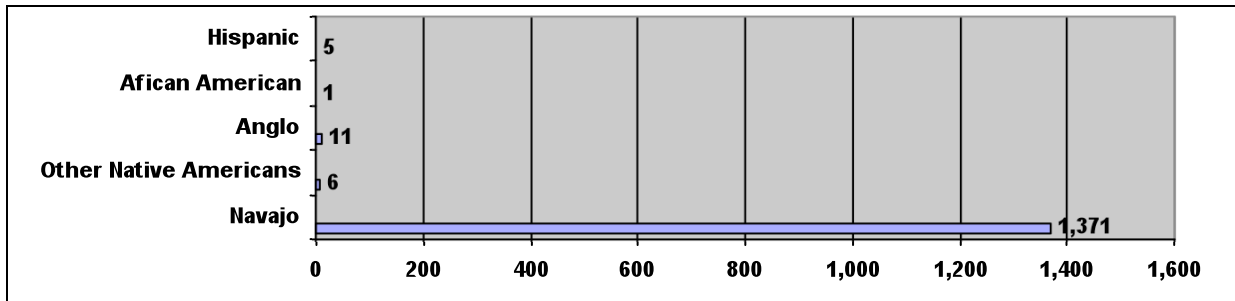


2.3.4 Median Age

The Census count reported that the median age of the members of the households surveyed is 26.4 years of age.

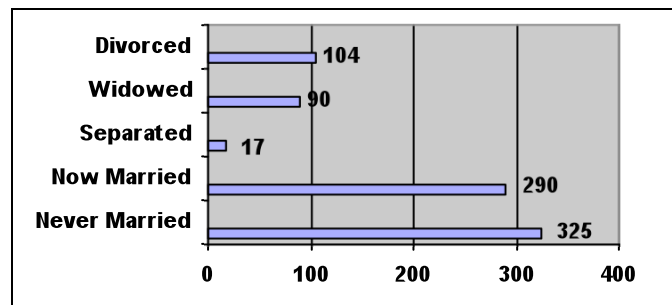
2.3.5 Chapter Population by Ethnic Group

The 2000 Census reports that of the 1,386 persons that are counted in the Tse Daa Kaan Chapter area 1,371 are Navajo, 6 are other Native American Tribal descent, 11 Anglos, 1 African American, and 5 Hispanics.



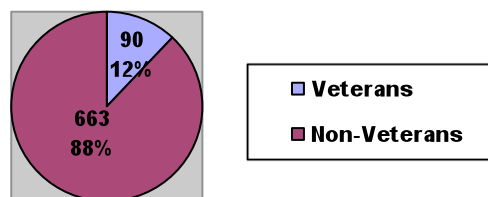
2.3.6 Marital Status

Chapter Images data reports there are 826 individuals over the age of 15 years and of that number, 325 were never married, 290 are now married, 17 are separated, 90 are widowed and 104 are divorced.



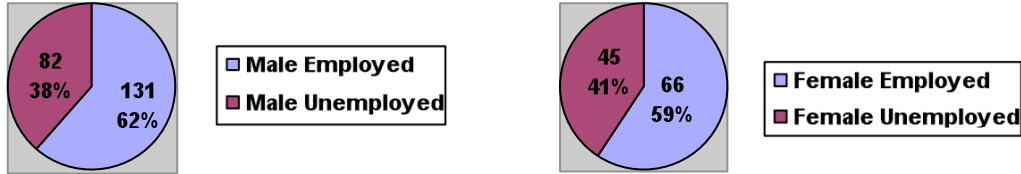
2.3.7 Veterans

The Census reported that of the 753 eligible civilian population over the age of 18, there are 90 civilian Veterans for 12% compared to 663 non-Veteran civilians for 88%. The 2000 Census count does not appear to account for active military personnel.



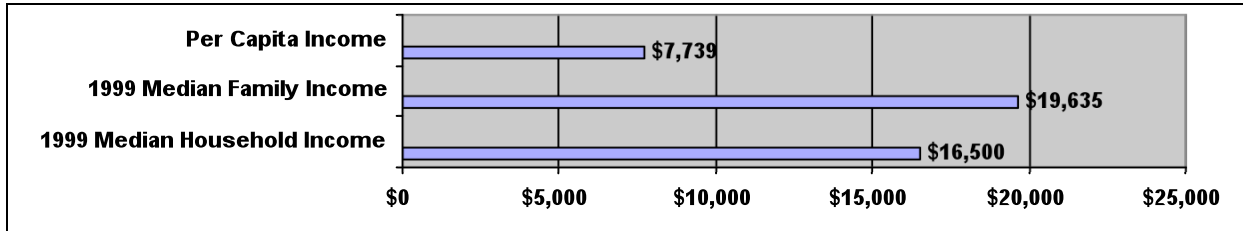
2.3.8 Employment/Unemployed

The 2000 Census Employment and Labor Force data are compiled on 815 Tse Daa Kaan Chapter members over the age of 16 years that are deemed employable. The first chart is of 381 males of whom 222 are in the labor force, of that number 131 are employed, and 82 are not. The second chart is of 434 females of whom 111 are in the labor force, of these 66 are employed and 45 are not.



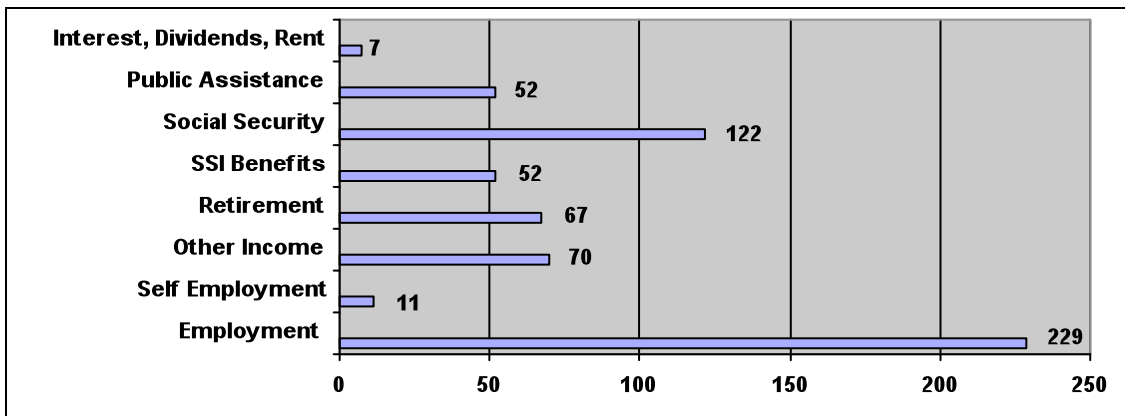
2.3.9 Income

The 2000 Census compiled data reflects that the Per Capita Income for the Tse Daa Kaan Chapter is \$7,739, that the median family income for 1999 was at \$19,635 and finally that the median household income for the year 1999 was \$16,500.



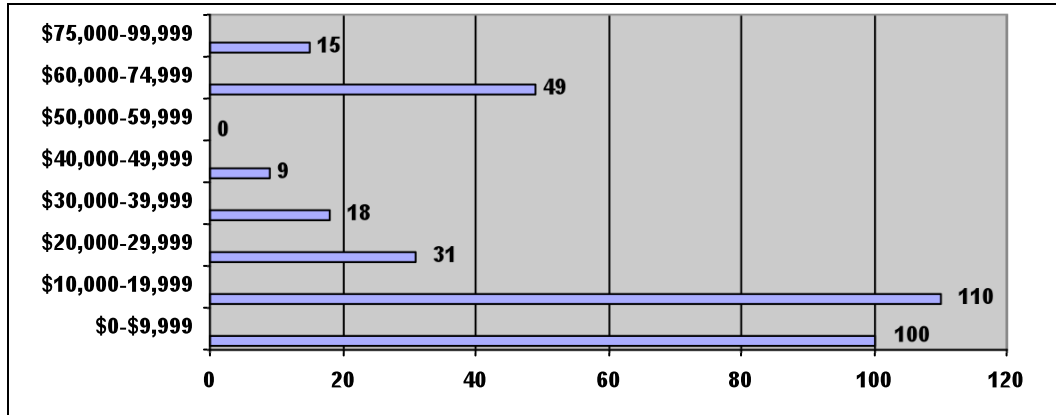
2.3.10 Sources of Income

The Census report provides Sources of Income data for 332 workers including wage employment, self-employed, retirement, social security, SSI benefits, public assistance and interest/dividends/rent.



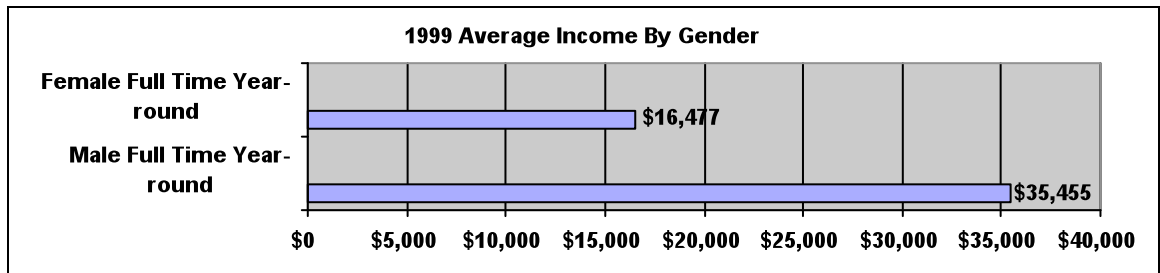
2.3.11 Household Income Levels

The 2000 Census data on the household income levels of 332 Tse Daa Kaan community households is provided as follows.



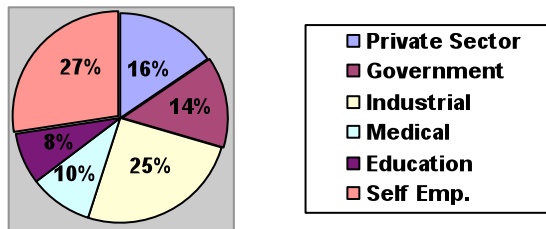
2.3.12 Average Full Time Employment Income By Gender

The 2000 Census gives the average year-round income of the female and male work force of the Tse Daa Kaan Chapter members.



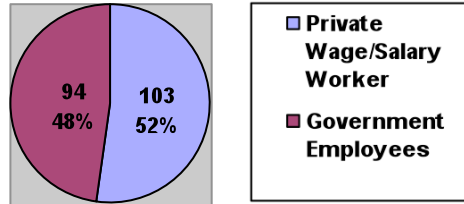
2.3.13 Job Categories of Employed

Of the surveyed homes, the community members who said that they were employed work at a variety of job categories that include 16% in the private sector, 14% in government, 25% in the industrial field, 08% in education, 10% in the medical field and 27% self employed. The Chapter Images report documents that the major employer in the community is the Navajo Nation second with 15 employees.



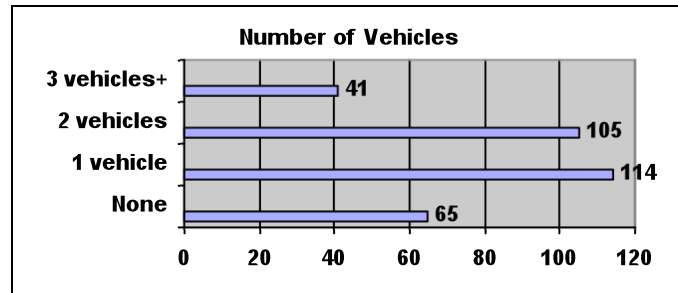
2.3.14 Class of Worker

The Chapter Images 2004 data shows that of the 197 employed, 103 for 52% are private wage/salary workers and 94 or 48% are government employees. The Chapter Images does not list class of worker for self employed or unpaid family members.



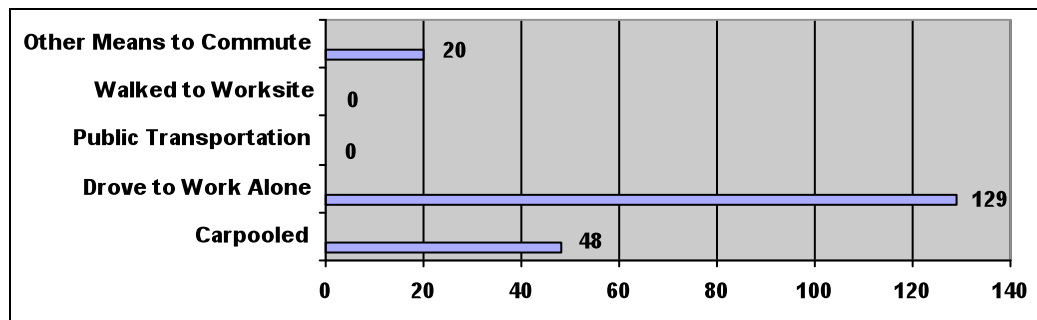
2.3.15 Number of Vehicles Available

The 2000 Census survey information shows that of 325 households there were 41 households that had 3 vehicles available or more, 105 households that had 2 vehicles available, 114 had 1 vehicle available and 65 households had none.



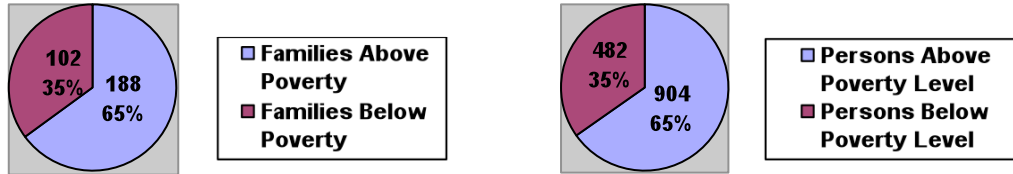
2.3.16 Commuting to Work

The Chapter Images 2004 reports that of the 197 workers who are 16 years of age and older, 129 drove alone to work, 48 carpooled, 0 used public transportation, 0 walked to their worksites, and 20 used other means to get to work. The average travel time to work in terms of minutes was 22.8 minutes.



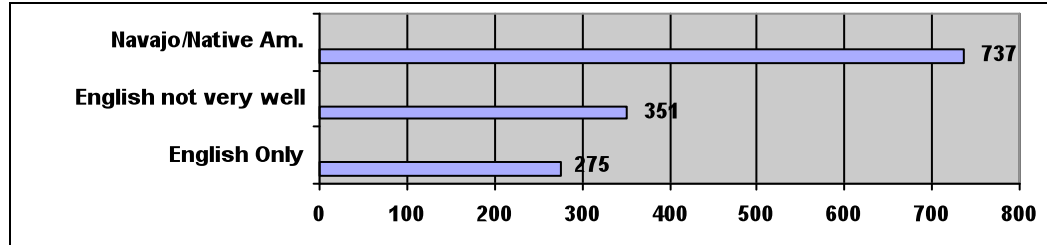
2.3.17 Poverty Level

The 2000 Census finding on the level of poverty in the Tse Daa Kaan community is that of 290 families there are 102 or 35% are below the poverty level and 188 families are above the poverty level. Further of the 1,386 community members considered, there were 482 or 35% determined to be living below the poverty level and 904 individuals are above the poverty level.



2.3.18 Language at Home

The Chapter Images 2004 data on the primary language spoken in the Tse Daa Kaan homes uses a base figure of 1,012 of the population 5 years and older. Of that number, 275 or 27% speak English only at home, 737 for 73% speak Navajo/Native American, and 351 or 35% do not speak English very well.



2.4 Housing Data

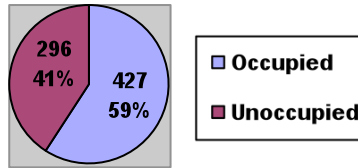
According to the 2000 Census data, the estimated number of households is 356 households. The number of completed surveys is 76, which is approximately 21% of the community households. This base number of 76 surveyed homes is used in the following data tabulations.

2.4.1 Household Members

The Chapter Images 2004 reports the average household size is 3.89 and the average family size is 4.40 persons.

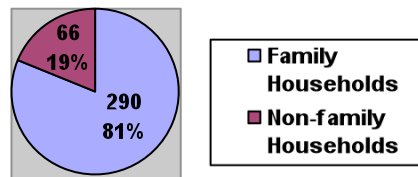
2.4.2 Houses Occupied and Unoccupied

The Census count shows that of the 403 houses there are 100 vacant leaving 303 occupied households in the Tse Daa Kaan area. Chapter Images 2004 shows 356 households are occupied.



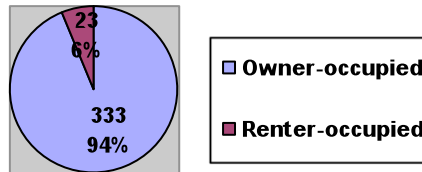
2.4.3 Household by Type

The Chapter Images 2004 shows that of the 356 households, 290 or 81% are family households and 66 or 19% are non-family households.



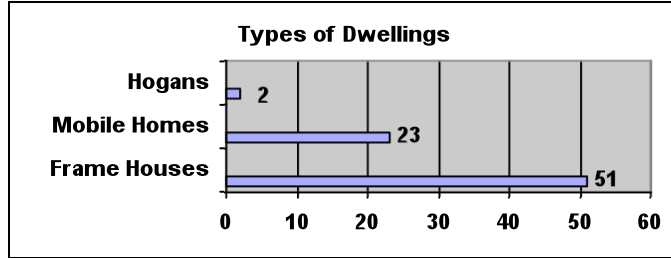
2.4.4 Housing Tenure

The Chapter Images 2004 further states that of the 356 households that 333 are owner-occupied households for 94% and 23 are renter-occupied for 6%.



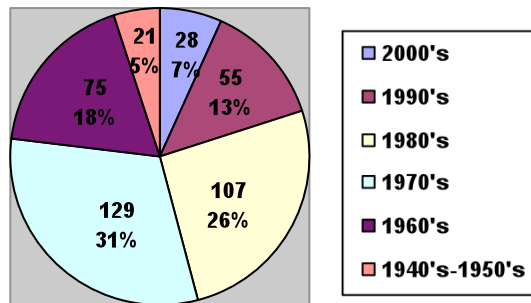
2.4.5 Types of Dwellings

Of the surveyed households, 02 or .03 % of the homes are hogans, 23 or 30% are mobile homes and 51 or 67% are frame houses.



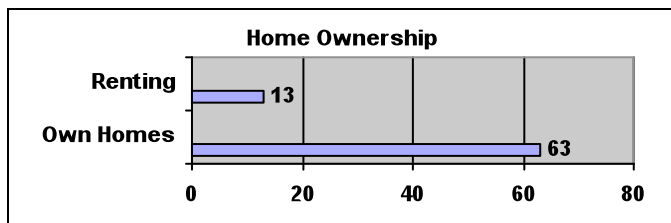
2.4.6 Years of Construction

Of the 403 total number of homes according to Chapter Images 2004, 16 of the houses were constructed in the year 2000 and from the community survey it was found there were 12 homes built since then, those are added to the 16 to make 28 or 07% of the total as reflected in the graph. There were 55 or 13% were built in the 1990`s, there are 107 or 26% of the homes that were built in the 1980`s. There are 129 or 31% of the houses that were constructed in the 1970`s, there are 75 or 18% of the dwellings that were built in the 1960`s and there are 21 or 5% of the houses that were built in the 1940`s and 1950`s.



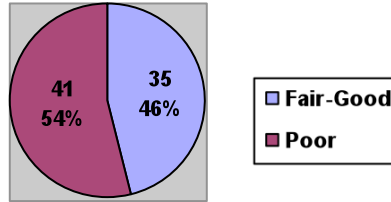
2.4.7 Home Ownership

The majority of residents stated they own their home which is 63 for a total of 83% and there are 13 or 17% that are renting.



2.4.8 Condition of Dwellings

There are 35 residents or 46% of the 76 said their houses were in fair condition, but needed some minor repair. Most of the homes in this category are houses built between the 1970 and the year 2000.

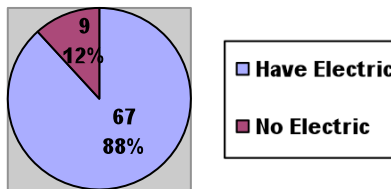


There were 41 households or 54% stated their houses were in poor condition, they specify a number of problems they have with their homes. Many of the households report conditions that aren't conducive to a comfortable home environment. Some of the reported conditions include; leaking roofs, deteriorating floors and walls, broken doors and windows, water pipes breaking down, houses being too small, and various stages of dilapidation and disrepair.

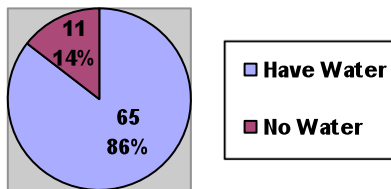
2.4.9 Utilities of Dwellings

The immediate community area is served by water that is developed from wells maintained by the NTUA. The NTUA also maintains the electrical systems. There are no gas lines installed to serve the Chapter area. The community is served with a telephone system that is operated and maintained by the Navajo Communications Co. The following utility data was generated through the survey:

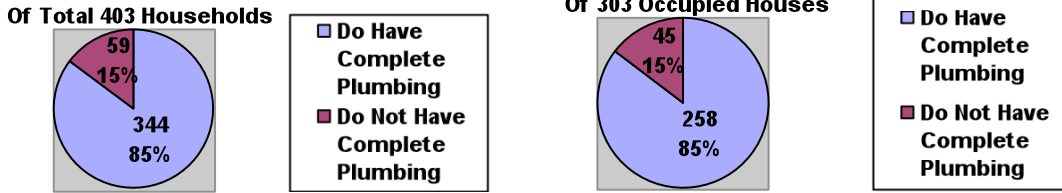
2.4.9.1 Electricity - 67 or 88% of the dwellings have electricity and there are 9 or 12% of the homes without electricity.



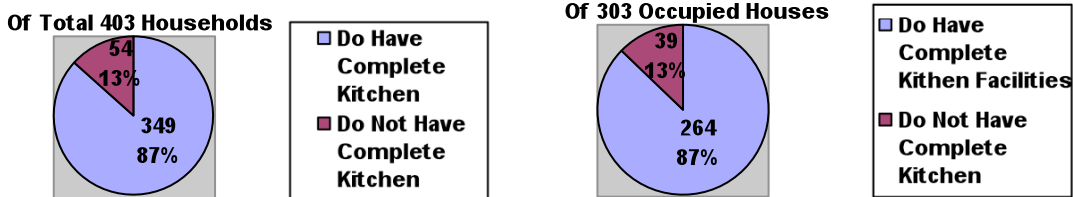
2.4.9.2 Water - There are 65 or 86% of the homes that have domestic running water and 11 or 14% without water.



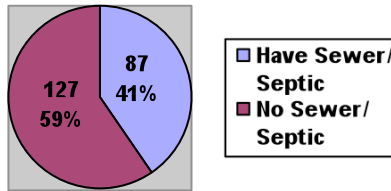
The 2000 Census data states that 344 of the total 403 households have complete plumbing facilities for 85%; this suggests that 59 homes do not have complete plumbing facilities or 34%. This translates to 258 of the occupied 303 houses that do not have complete plumbing facilities and 45 that do have plumbing facilities.



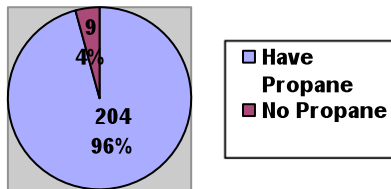
The 2000 Census finds 54 homes or 31% do not have complete kitchen facilities, this means 349 of the total 403 households have kitchen facilities for 87%. Thus 39 of the occupied 303 houses do not have complete kitchen facilities and 264 do have kitchen facilities.



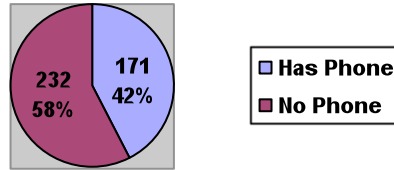
2.4.9.3 Sewer/Septic - 62 or 82% of the homes have septic service and 14 or 18% are without septic systems.



2.4.9.4 Gas/Propane - There are 49 or 64% of the dwellings that use a propane system and 27 or 36% are without propane for heating and cooking. These latter households would rely on wood/coal burning stoves and/or electric.



2.4.9.5 Telephone - The 2000 Census data states that 171 of the 403 households have telephones for 42%; this suggests that 342 or 58% do not have telephones. The households with phones may include cell phones.



2.4.9.6 Solid Waste – At the present time there is no landfill or transfer station in the community. The Chapter hauls the solid waste from the Chapter, the Headstart Center and the Senior Citizen Center to the Shiprock Solid Waste Transfer Station or the one located in Waterflow which is a distance of 10 miles to the east.

2.4.10 Homesite Leases and Scattered Housing Sites

Of the 76 households, 60 or 79% had approved homesite leases and 16 households or 21% did not have homesite leases.

2.4.11 Demand for Housing

2.4.11.1 Background

The Tse Daa Kaan Chapter has a serious housing need; there are too many families that live in housing with dilapidated conditions. The Chapter and pertinent Tribal programs have limited resources that can be used to help the families with the resources needed to build new homes or to substantially improve their existing housing.

2.4.11.2 Consequences

Due in part to these conditions, community members find their family members relocating to areas away from the community, where the family members have more access to resources, including employment, schools and housing. This is detrimental to the close-knit Navajo family that is accustomed to living close to each other for family support, family togetherness and the building on, of traditional familial values. This phenomenon of families moving away, in part because of the lack of housing is contributing to a breakdown of the Navajo family unit.

In these "modern" times, it is also a disturbing trend that families who live in overcrowded and dilapidated housing conditions experience a high incidence of social ills, including exposure to alcoholism, family abuse and violence. Some of the resulting psychological and physical damage is devastatingly permanent.

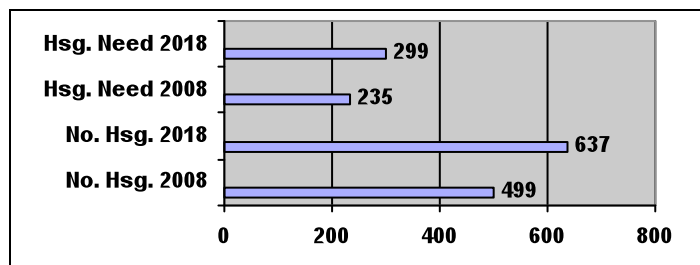
It is essential that families, particularly growing children have adequate living space, they all need their own space. The families who have to live in houses with dilapidated and overcrowded conditions suffer in terms of the impact the poor housing has on their self-esteem. The younger school age family members would suffer more, perhaps from ridicule and embarrassment.

2.4.11.3 The Housing Need

The Tse Daa Kaan Chapter housing need situation is calculated based on the community survey wherein 47% of the surveyed households stated a critical housing need. The calculation translates into 105 families who need new houses and 130 families who need substantial renovation or additions to their existing homes. Thus, 235 families are in need of immediate housing assistance out of the total 2008 estimated 499 households.

This number is high considering that the reported number of total households in the Tse Daa Kaan Chapter area is estimated to be 499 for the year 2008. The total number of families needing housing assistance in relation to the total number of households, show that approximately 47% of the community are in need of housing.

The estimated number of households in 10 years or the year 2018 is 637. If the housing needs are not effectively addressed, there could be as many as 299 families in dire need of housing by 2018.



2.5 Grazing and Agricultural Information

2.5.1 Background

The Tse Daa Kaan community has natural resources that include coal, oil, farming land, water and grazing land. Prior to the advent of the large industrial coal mining activity in the area, the Tse Daa Kaan Community was host to a number of underground coalmines along the Tse Daa Kaan ridge. Navajo people from near and far came to get coal fuel from these mines for their homes. With the advent of the huge coal strip mining activity to the immediate east, these mines are no longer in use and have been sealed up.

There continues to be some oil development activity in the northeast sector of the Tse Daa Kaan Chapter area. This crude oil production has been on going for decades and the pertinent land areas are under long-term lease to oil companies, the mineral leases were put in place long before the creation of the Tse Daa Kaan Chapter.

The primary beneficial uses from the readily accessible resources include agriculture, the use of San Juan River water thereof, and the grazing of animals on the open range.

2.5.2 Land Status

The 60,362 as recorded by the Navajo Land Department or the calculated 1,006,503 acres based on the re-delineated Chapter planning area that the Tse Daa Kaan Chapter claims is Navajo Trust land. The land straddles the mighty San Juan River. The Tse Daa Kaan Chapter is bordered by the Shiprock Chapter in the northeast section, a Navajo Eastern Agency allotment, state/county/private land to the east, San Juan Chapter on the southeast side along the river, Nenahnezad Chapter on the southeast corner, Sanostee Chapter on the southern boundary and the Shiprock Chapter on the west side.

Much of the land adjacent to the San Juan River with access to the river water for irrigation is utilized for agricultural purposes. These areas have rich soil and are conducive to farming. The remaining Chapter lands are mostly of clay soil type. These lands are used primarily for grazing.

2.5.3 Water

The perennial San Juan River flows through the Tse Daa Kaan Chapter Community. The farming community is the prime beneficiary of the river. Because of the immediate availability of the river, there has not been the perceived need to develop other sources of water such as wells. There are a limited number of wells, windmills and manmade dam structures. They are situated mostly in the outlying range areas.

2.5.4 Agriculture

The Tse Daa Kaan Community has a considerable expanse of land along the San Juan River that is dedicated to agricultural activity. The Tse Daa Kaan Community is renown in its own right as having a history of farming, growing a wide variety of crops for family consumption, to market and for exhibition at various Fairs throughout the region.

This agricultural activity has provided the means for a subsistence living for many families throughout the years. It is calculated that the Tse Daa Kaan Community utilizes approximately 22,000 acre-feet of water annually to irrigate its 3000 acres of farmland.

The headworks of the Tse Daa Kaan Irrigation Canal System are situated at the eastern most point of the Tse Daa Kaan Chapter, along the river. The canal system is a system that had its beginnings back in the 1920`s and was steadily built upon, into the 1940`s. It is an extensive system of main water delivery canals, a network of secondary delivery laterals and a system of irrigation water drainage systems.

Part of the system in Tse Daa Kaan are the “A and B Pumps” that provide irrigation water to the mesa portion of the Tse Daa Kaan farming community. For many years the community struggled with problems with this portion of the system. Only in the very recent years were there substantial improvements to the “A and B Pumps” to accommodate the Tse Daa Kaan farmers on the farming area north of Highway 64.

A total of 452 farmers are reported to use the “Hogback” Irrigation System that includes the Tse Daa Kaan and Shiprock Chapters. The system covers an area 8,869 acres; 7,795 acres of which are cultivated for annual crop production. About 337 of the farmers are estimated to be part of the Shiprock Chapter leaving an estimated number of 115 family farms in the Tse Daa Kaan Chapter area.

2.5.5 Grazing

The Tse Daa Kaan Chapter has about 50,000 acres that are used for grazing purposes by the families who continue the time-honored tradition of livestock raising. For a number of reasons livestock raising is not as strong an industry as in previous years, however the families continue to tenaciously retain and maintain their family grazing territories.

The reasons for the decrease in grazing activity include; the present sparseness of natural vegetation, the market price of livestock, the lack of interest of younger family members and the periodic periods of drought experienced by the ranching community.

Grazing and Agricultural Information summary survey data appended as **Exhibit 2.9.2**.

2.6 Community and Public Facilities Information

2.6.1 Background

The Tse Daa Kaan Community is generally undeveloped in terms of community and public facilities development. This may be true because of the community's proximity to its neighbor to the west, the Shiprock Community. Tse Daa Kaan was politically a part of the Shiprock Chapter up until 1978. As such, Tse Daa Kaan has been traditionally a part of Shiprock and thus, has relied on the community and public facilities of Shiprock.

2.6.2 Public Facilities Inventory

As a result of the above stated condition, the Tse Daa Kaan Community has only the basic and essential community facilities, from which services are provided to the Chapter membership. There are five public community facilities including;

- The Chapter House that provides the local government function of providing information, dispensing of various resources available from the central government, providing a forum for political discussion and planning activities.
- The Tse Daa Kaan community has a Headstart program to provide for the educational needs of its pre-school children.
- The Tse Daa Kaan Day Care Center provides daytime care for children of working parents.
- The Tse Daa Kaan Senior Citizens Center is a community-gathering place for elders where they partake of a nutritious noon meal, as they benefit from the socializing opportunity that is provided.
- The Tse Daa Kaan Chapter has a storage warehouse that is used to store farming equipment, materials and other equipment necessary for the Chapter House operation.

2.6.3 Streets - Pavement

The only pavement that exists in the Tse Daa Kaan Chapter area is the Highway 64 less than 1/2 mile south of the Chapter House. The Community does not have formally recognized streets, although there are a series of dirt roads intersecting the Community providing access to the homes.

Because of their undeveloped state, these dirt roads are not considered “streets”. The Chapter leadership does plan to obtain the resources necessary to pave the road to the Chapter House and some of the more heavily used roads by the community residents. This plan for paving would include the Chapter House parking lot.

2.6.4 Landfill/Transfer Station

The Tse Daa Kaan Community had open trash dumping areas for many years, but in recent years they have been closed and cleaned up by the Navajo Nation Solid Waste Program. There has never been an organized landfill made available for community use. The Tse Daa Kaan residents currently have access to the Shiprock Regional Solid Waste Transfer Station, which is located approximately 5 miles west of the Tse Daa Kaan Chapter House. The community also has access to another San Juan County operated Transfer Station in Waterflow, 10 miles to the east.

2.6.5 Police Station/Fire Station

The need for a Tse Daa Kaan Police and Fire Sub Stations has not been justified, primarily because of the close proximity to the community of Shiprock. With the growing Tse Daa Kaan population, it would be reasonable to consider Police and Fire Sub-stations in the next 5 years.

2.6.6 Health/Medical Facilities

The Tse Daa Kaan Community is one community that has clear and demonstrated “ownership” of the Northern Navajo Medical Center (NNMC) situated in Shiprock. Again, due to the proximity to the Shiprock Community, rapid access and the immediate availability of NNMC, it is advantageously beneficial to the Tse Daa Kaan Community citizens. There are families who do utilize other regional health facilities or see private physicians off reservation.

2.6.7 Schools

The Navajo Nation Headstart Program operates a Headstart Center in Tse Daa Kaan. It is available to children of pre-school age in providing the foundations of a structured academic program fused with significant elements of teaching that are based in Navajo culture and teachings, including the Navajo language. This is the only school Tse Daa Kaan has at this time.

2.6.8 Planned Construction

The Community of Tse Daa Kaan and the local leadership do not have any plans presently that would necessitate new construction, other than the need to pave the road to the Chapter House and the parking lot, as well as some of the other more used community dirt roads.

Community and Public Facilities Information summary survey data appended as **Exhibit 2.9.3**.

2.7 Commercial and Industrial Development Information

2.7.1 Background

The Tse Daa Kaan Chapter Community as a community has not had the direct need to develop various services and commercial offerings, due to its closeness to Shiprock. Resultantly the community does not have any formal commercial or industrial developments.

2.7.2 Existing Businesses Inventory

Although there are no formal businesses in the Chapter area, there are some small home based businesses. Formal business is meant in terms of an entrepreneur having obtained a business site lease through the Navajo Division of Economic Development Regional Business Development Office. The three non-formal home-based businesses include two tire repair shops and an auto body repair shop.

In addition to these, there are numerous other homebased “cottage” industries that make any variation of arts and crafts and other hand made items, food stuff and farm produce. This type of cottage industry is very substantial and does provide for a significant portion of subsistence earnings for families involved with these activities.

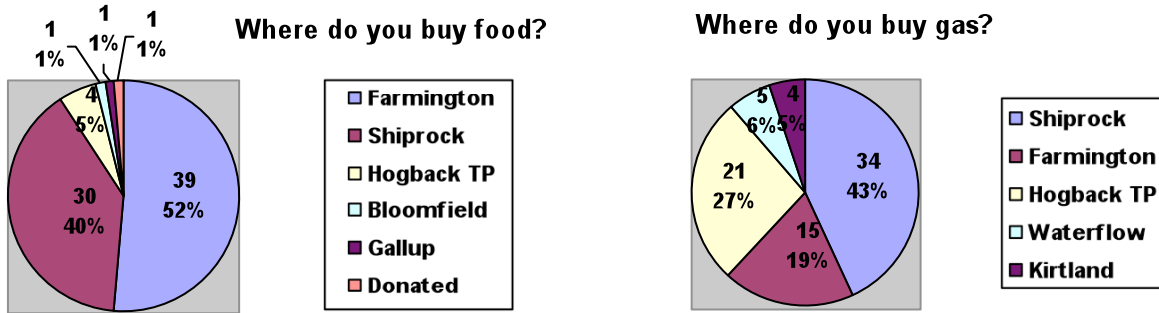
2.7.3 Proposed New Businesses

The Tse Daa Kaan Chapter Community members and the Chapter leadership currently do not have immediate plans for development of new commercial and/or industrial development.

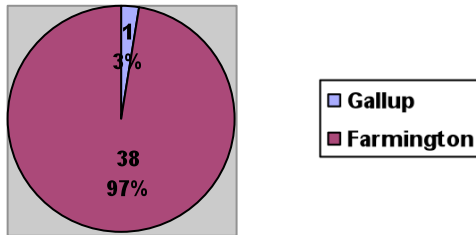
The Chapter Community also does not have any formal business leases withdrawn for commercial or industrial development purposes.

Commercial and Industrial Development Information summary survey data appended as **Exhibit 2.9.4**.

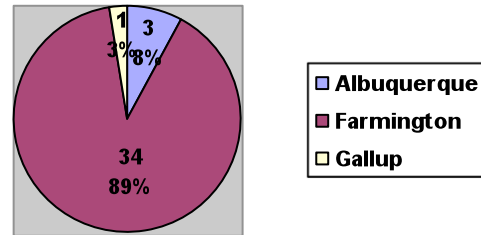
The survey of the 76 households recognized the buying trends of the community as the residents described their preferences on where they buy certain items.



Where do you buy clothes?



Where do you buy vehicles?



2.8 Conclusion

The Tse Daa Kaan Chapter community has elected to develop plans on the future uses of Chapter lands on an as-need-basis in the future. The Chapter leadership has articulated plans on the two development sites that include the south Tse Daa Kaan proposed residential development site and the Chapter House tract.

The need to develop new economic development opportunities in the Tse Daa Kaan Chapter community is very apparent. The community's families deserve to have public facilities and commercial outlets for purchase of basic goods and services and for the provision of some employment.

Exhibit 2.9.1 Community Assessment Survey Instrument

NAHASDA Chapter Land Use Plan Project

Phase 1-Community Assessment

No: _____

Survey Instrument- Tse Daa Kaan

Date: _____

Interviewer: _____ Location of Residence: _____

No.	AGE	M	F	TRIBE	RACE	EDUC.	IN-SCHOOL	VETERAN		EMPLOYED		OCCUPATION/ SKILLS	REGIS.		CHAPTER
								Y	N	Y	N		N	S	
1.															
2.															
3.															
4.															
5.															
6.															
7.															
8.															
9.															
10.															

NO.	AGE	M	F	CEN.		EDUC.	IN-SCH.	VETERAN		E.M.P		OCCUP. SKILLS	LIVE WHERE	REGIS		CHAPTER
				Y	N			Y	N	Y	N			N	S	
1.																
2.																
3.																
4.																

- A. Where employed? _____ B. How long? _____
 C. Total household annual income? _____ D. Source of income? _____
 E. Type of home? _____ F. Year built? _____ G. Own or rent? _____
 H. Type of exterior wall? _____ I. Problems with dwelling? _____
 J. Electricity? _____ K. Water? _____ L. Sewer? _____ M. Gas? _____ N. Phone? _____
 O. Grazing permit? _____ P. Land use permit? _____ Q. How many vehicles? _____
 R. Where does family buy food? _____
 S. Where does family buy gas? _____
 T. Where does family buy clothes? _____
 U. Where does family buy vehicles? _____
 V. Where does family go for medical care? _____
 W. Do family members attend Chapter meetings? _____ X. Civic organizations? _____
 Y. If you were to get a new house, where would you want it? _____
 Z. What do you feel are your greatest needs? _____

NOTES: _____

Exhibit 2.9.2 Grazing and Agricultural Information

Natural Resources Inventory:

Type of Nat. Resource	Description	Land Status	Location
1. Oil	Crude Production	Mineral Lease	NE of Chapter
2. Agriculture	Farming	Tribal Trust	Tse Daa Kaan area
3. Water	San Juan River	Federal Trust	South of Chapter
4. Grazing	Range Forage	Tribal Trust	Tse Daa Kaan area

Land Status:

- Amount of Acreage in Chapter area? 60,362 according to Navajo Land Development
- Legal Classification of Land? Tribal Trust, Allotments
- Soil Type by Percentage? 10% Sandy Loam, 20% Blue Shale, 70% clay
- Are any Chapter land areas under lease to Navajo Nation or other? None

Water:

- What is the Community water source? Farmington Municipal System and San Juan River
- Does Community claim any water rights? Yes
- Are there any natural springs? Yes
- Are there Wells developed? Yes
- How Many? 6
- How many windmills are there? 4
- How many are not working? 2
- Are there any solar powered windmills? No
- Are there manmade dams/reservoirs in Chapter area? None developed
- How many livestock ponds are there in Chapter area? 8
- How many need repair? 4

Agriculture:

- How many acres are reserved for agriculture? 3500
- How many are under production? 3000
- How many families have Land Use Permits? 115
- Does the Chapter assist the farmers? Yes
- What different crops are planted and harvested? Corn, melons, squash, table crops, alfalfa, oats
- Is there a farming cooperative? No
- Source of water for irrigation? San Juan River
- Approximate number of acre feet used annually? 22,000
- What method of irrigation is used by percentage? 95% flood irrigation, 5% sprinkler
- Are all farms served by the community irrigation canal system? Yes
- Miles of System? Approximately 25 miles
- When was system constructed? 1920`s, 1930`s
- Problems with the system? Pump break downs, low river flow

Grazing:

- How many acres are reserved for grazing? Approximately 50,000
- Are these grazing acres actively used? Yes
- How many families have Grazing Permits? 68
- Does the Chapter assist the permittees? Yes
- Approximate number of sheep in Chapter area? 670 Goats? 231 Cattle? 235 Horses? 34
- Is there a ranching cooperative? No
- Source of water for livestock? River, shallow wells, water hauling
- Source of feed? Natural feed, buy hay
- Primary problems experienced by permittees? Drought conditions, livestock prices, lack of range feed

Exhibit 2.9.3 Community and Public Facilities Information

Public Facilities Inventory:

<u>Facility</u>	<u>Yr. Built</u>	<u>Yr. Renov.</u>	<u>Blgd. Comp.</u>	<u>Stage of Comp.</u>
1. Chapter House	1975	1996	Yes	100%
2. Pre-School	1991		Yes - Mod Bldg	100%
3. Day Care	1999		Yes - Mod Bldg	100%
4. Senior Citizens Center	1978	1999	New facility being const	75%
5. Storage/Warehouse (Ag)	1976		Yes	100%

Streets - Pavement:

- Is the road to the Chapter House paved? No
- If no, how far to nearest paved road? 1/4 mile
- Is Chapter parking lot paved? No
- Does Community have streets? No
- Are streets named? No
- Are the streets paved? No
- Are there plans to pave streets? Yes

Landfill/Transfer Station:

- Is there a community landfill? No
- Does community have access to transfer station? Yes
- If yes, where is station? Shiprock, Waterflow
- Who maintains station? San Juan County
- How often are transfers made? Twice weekly
- Is there fee for using station? No

Police Station/Fire Station:

- Is there police station in community? No
- If no, where is nearest station? Shiprock
- How far is the nearest station? 5 miles
- Is there a fire station in the community? No
- If no, where is nearest Station? Shiprock

Health/Medical Facilities:

- Is there a health/medical facility in the community? No
- If no, where is the nearest facility? Shiprock

Schools:

<u>Name of School</u>	<u>Type of School</u>	<u>Gr. Level</u>	<u>Sq. Ft.</u>
1. Tse Daa Kaan Headstart	Navajo Tribe	Age 3 - 4	1380

Exhibit 2.9.4 Commercial and Industrial Development Information

Existing Businesses Inventory:

Name of Business	Year Started	Year Lease up	No. of Acres	Nav Own	No. of Employ.	Business Propose
1. Jim`s Tire Repair	1994	N/A	1/2	Yes	2	Tire Repair
2. NJ`s Auto Body Shop				Yes		Auto Body
3. Nelson`s Tire Shop				Yes		Tire Repair

A. Are there undeveloped leased business sites? No

B. Does Chapter have land withdrawn for business or industrial development? No

Exhibit 2.9.5 Land Status Map - DRG

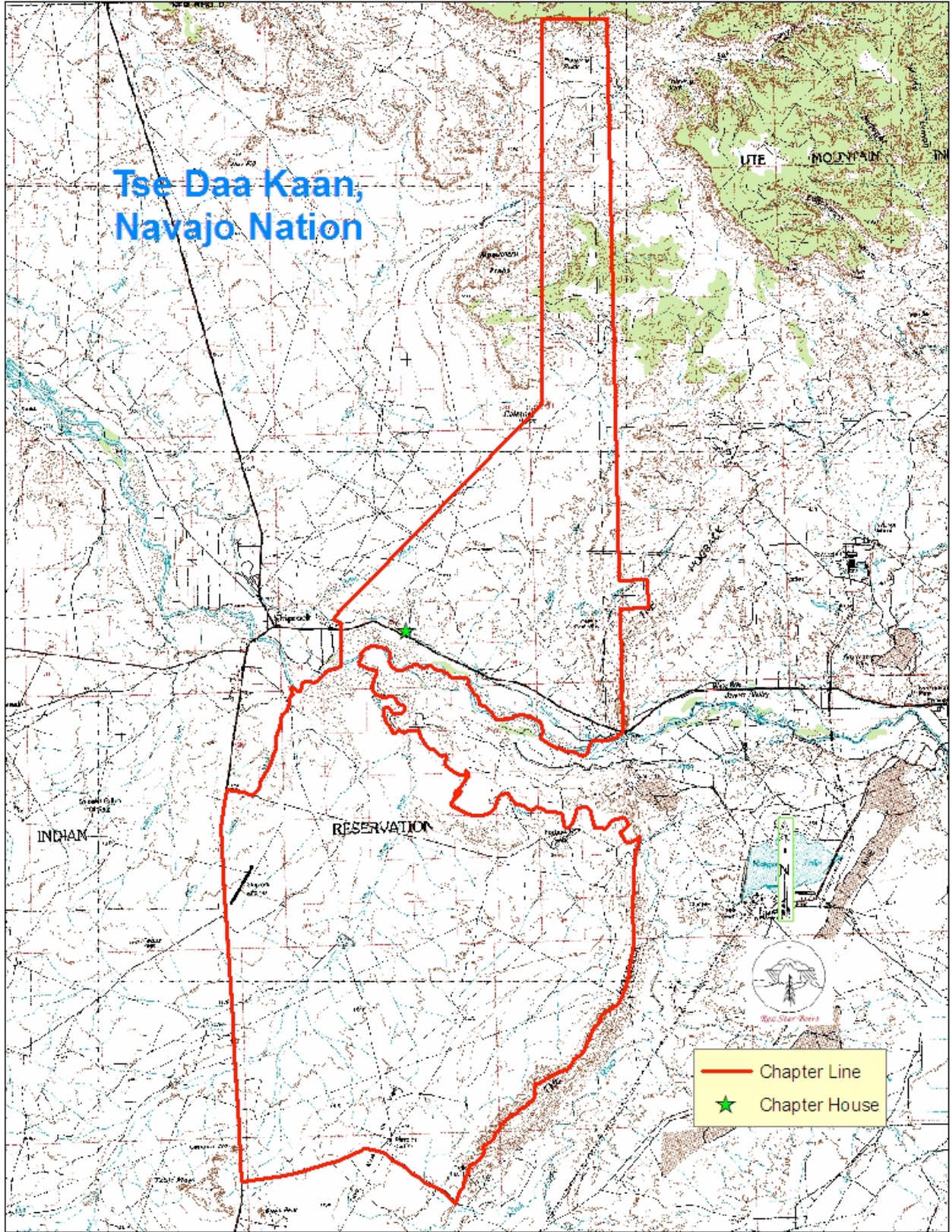


Exhibit 2.9.6 Land Status Mosaic Map 1

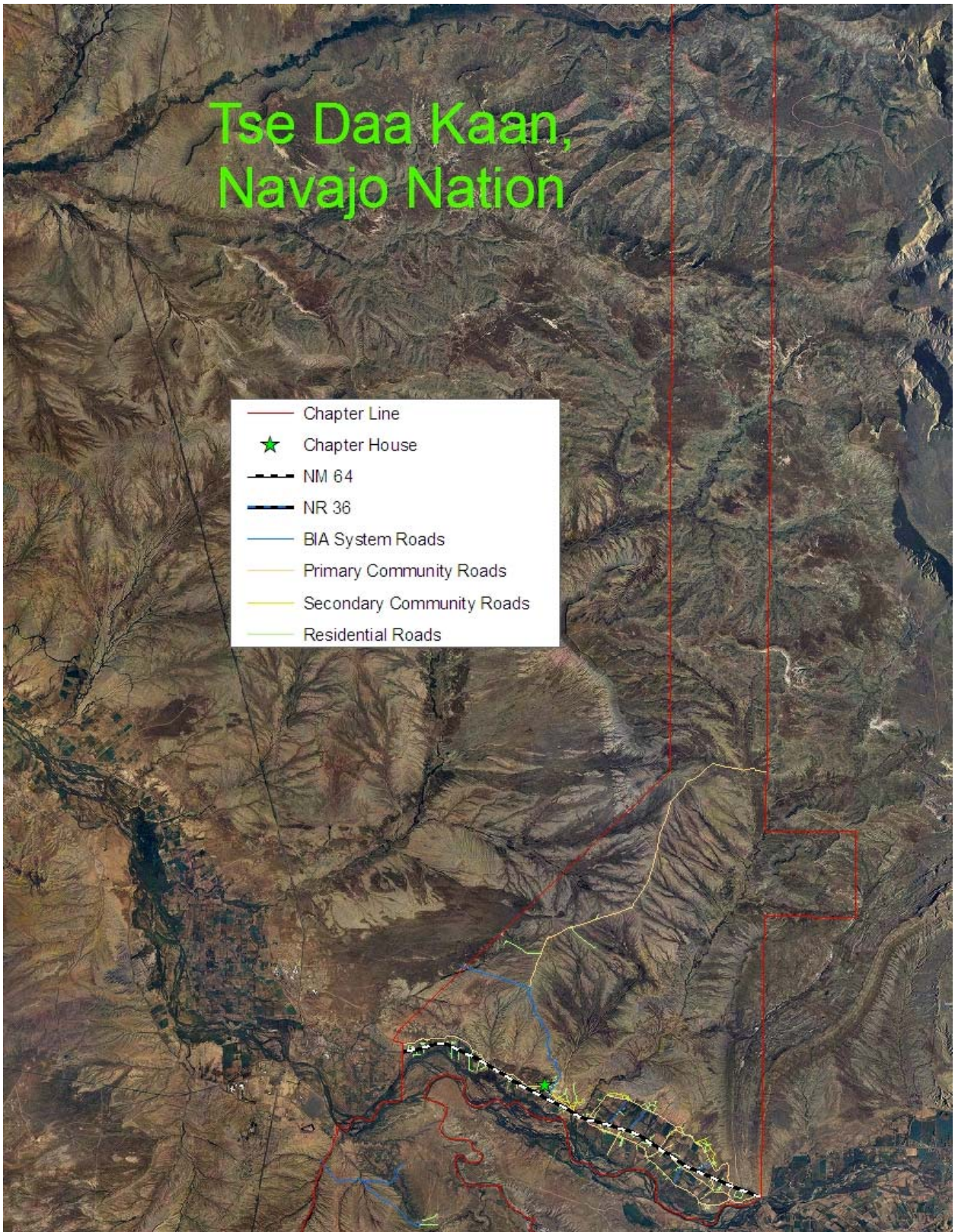
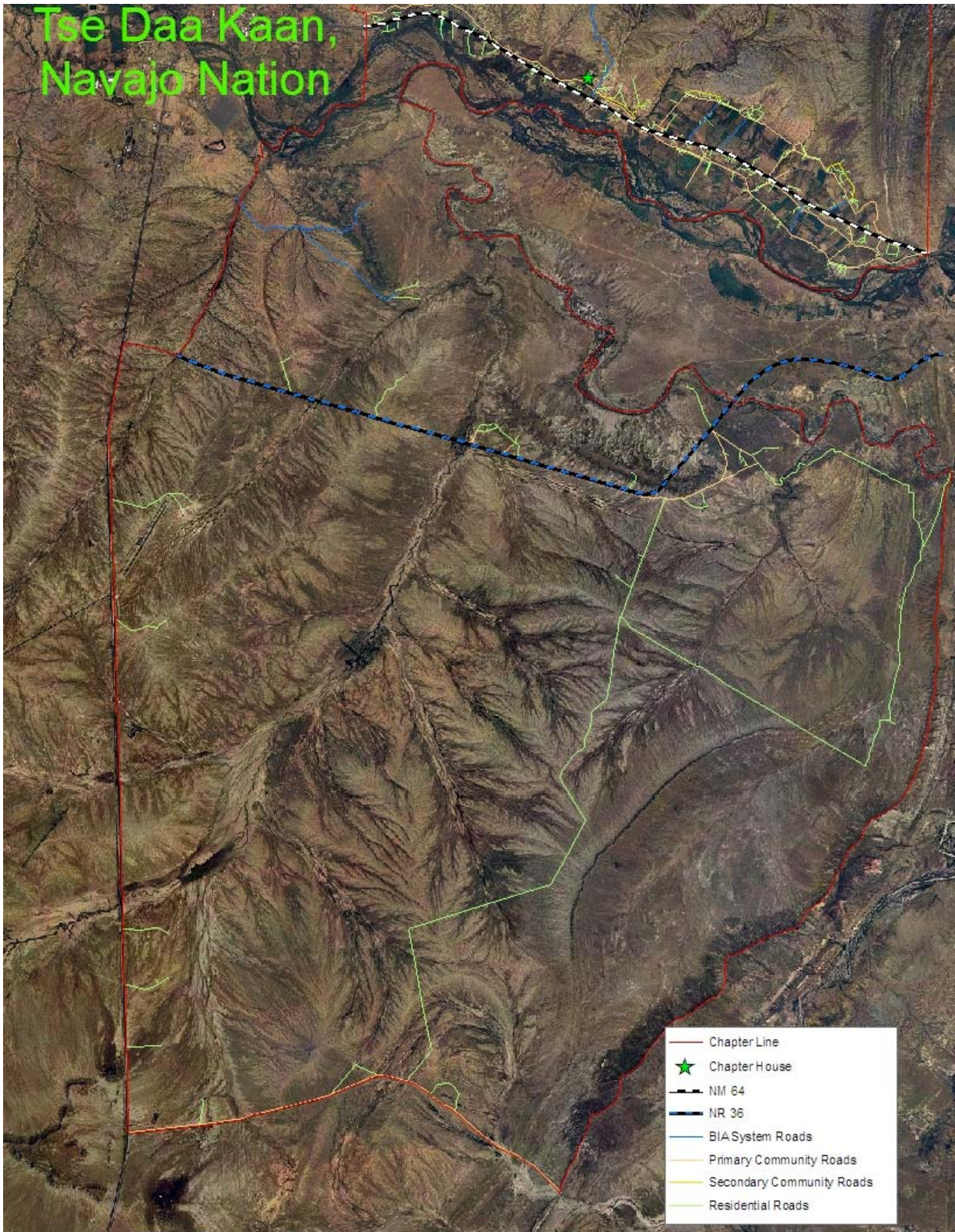


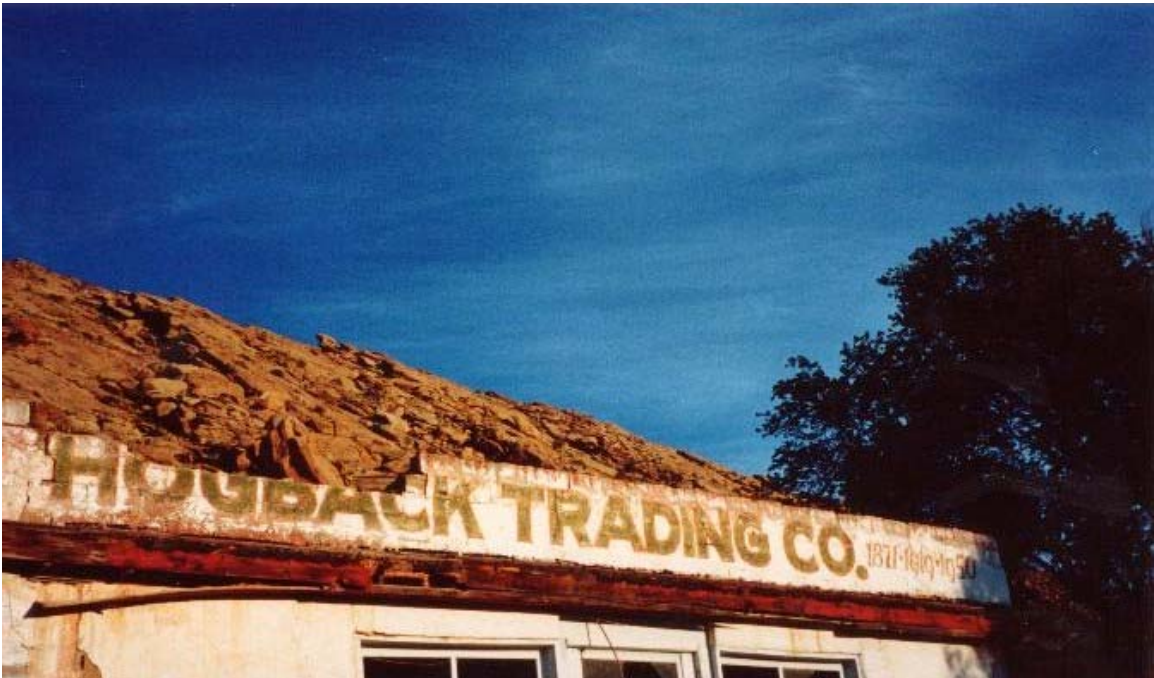
Exhibit 2.9.7 Land Status Mosaic Map 2



TSE DAA KAAK CHAPTER, NAVAJO NATION

CHAPTER LAND USE PLAN

CHAPTER 3 - LAND SUITABILITY ANALYSIS



CHAPTER 3 - LAND SUITABILITY ANALYSIS

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CHAPTER 3 - LAND SUITABILITY ANALYSIS – SITE 1

3.1 Background – South Tse Daa Kaan Development Site

The Tse Daa Kaan Chapter had originally selected a site for planning new development for the community. This site which is 2 miles east of the Chapter House had approximately 40 acres. The Consultant and Mr. Arnold Clifford of Carrizo Mountain Consulting performed a preliminary Biological Survey of this site and found that the site was unsuitable for development, due to two primary reasons.

These reasons include the fact that the site is in a “bowl shape” which could lead to problems with drainage. Also there is the presence of a Burrowing Owl, a registered “species of concern” with the Navajo Nation Department of Fish and Wildlife. Due to these findings, the Consultant advised the community to identify an alternative site. The South Development site was then identified and is reported on herein.

The Tse Daa Kaan Chapter leadership on March 29, 2001 advised the Consultant to proceed with the Site Analysis of the 10-acre site, consistent with Phase II of the NAHASDA Chapter Land Use Plan and Housing Planning Project. The site is located approximately 5 miles south of the Chapter House across the San Juan River and along Navajo Route 36. the Development Site Map is shown at **Exhibit 3.8.2**.

3.2 Physical Characteristics of Site 1

3.2.1 Climate

The Tse Daa Kaan Chapter community is situated at approximately 5200 feet elevation. Climatic conditions are that of a semi-arid desert environment. Temperatures of 100 degrees (F) occur during the hottest part of summer. Sub-zero temperatures are occasionally noted during cold winters.

The monthly mean annual temperature in the region ranges from 51-53 degrees (F). Precipitation occurs as rain and snow primarily during two periods in the year from middle summer to early fall and from middle to late winter, with the summer precipitation exceeding the winter months. The mean annual rainfall is 6-7 inches. The prevailing winds blow from the southwest.

3.2.2 Geology

The proposed project area is located on weathered Upper Cretaceous Mancos Shale Formation. The surrounding landforms are vast erosional plains that are shallow sloped towards the Dead Man's Wash. Remnants of riverine terrace benches are located to the northeast far from the surveyed tract. Paleo San Juan River drainage has cut a series of terrace benches and mesas as the river meandered and down cut the surrounding erosional plains.

Nearby terrace benches and mesas are covered with gravel to small boulder size riverine terrace glacial outwash deposits that overlie Cretaceous Mancos Shale. Two to three different levels of terrace deposits of middle to late Pleistocene age are exposed to the north of the project area. Several miles to the east is the Tse Daa Kaan monoclinical ridge that exposes Cretaceous Age stratigraphic layers that dip eastward. The structural feature is considered the west boundary of the San Juan structural Basin.

3.3 Site Analysis Elements

3.3.1 Hydrologic Features

Emphemeral Streams: No surface flowing streams are located within the boundaries of the project area. The Dead Man's Wash drainage channel is located about 250 to 300 feet east of the survey boundary. Channel dimensions are 25 to 30 feet wide by 10 feet deep with rounded side banks. The Channel bottom is moist to saturated with minor areas having shallow standing water. The moisture is derived from a groundwater source south of Navajo Route N36.

Riverine Corridor: The San Juan River corridor approximately 3 miles to the north is a perennial flowing river with an estimated average annual discharge of 2,194,800 acre feet of water measured at the Shiprock Gauging Station. River discharge levels are highest during the months of May and June during snowmelt runoff from the San Juan and La Plata Mountains located about 70 miles to the northeast. The San Juan River is far enough from the proposed site that the proposed development project will not adversely affect biotic or sensitive wildlife and aquatic habitats.

Groundwater: Water bearing characteristics of the Mancos Shale Formation is generally considered poor in shale beds and the formation serves as an aquiclude preventing groundwater from flowing between water bearing formations and non-water bearing strata of the Mancos shale. Groundwater wells within the immediate region of the study area appear to be shallow and are possibly artesian in nature. There is a well (spring) south of the highway that flows out into two small ponds.

3.3.2 Soils Information

The proposed development site is located in mainly one soil type complex known as the Littlehat-Persayo-Badlands complex. On-site observation of generalized soils type indicates that Littlehat and Persayo types are prevalent throughout the study area. Littlehat and Persayo type soils are siltyclay to clayey. The soil types are mixed with aluvial deposited soils throughout the surveyed tract. Soils in the Dead Man's Wash drainage channel are moist to saturated and are gleyed with dark grayish colors indicative of hydrophytic conditions.

The conclusion of the Consultant is that this soil type, commonly referred to, as clay soils in laymen terms, will present some concerns with the proposed development of the 10-acre site. The community and the developers will need to have geo-technical assessments performed for the formulation of strategies that could be utilized prior to proceeding with development in this soil type.

3.3.3 Topography

The project area is located on weathered Mancos Shale about 4 miles east of the intersection of Navajo Route N36 and US Highway 491, along the north side of N36. The surveyed area is situated on a gentle eastward sloping hillside and swale that continues east to the drainage.

The eastern boundary is about 250 to 300 feet away from Dead Man's Wash drainage. The boundary was arbitrarily set to provide an adequate buffer zone for wildlife that inhabit the drainage channel bottom and also to provide sufficient width for any possible lowland flooding along the areas adjacent to the drainage channel. The southern edge is bordered by Navajo Route N36 highway right-of-way fenceline and highway.

The conclusion of the Consultant is that the slope and general topography of the area is conducive to housing development; the general slope of 1-2% is excellent.

3.3.4 Vegetation and Wildlife

3.3.4.1 Vegetation

Vegetation community cover types were determined by visual observation of existing flora throughout the project area. Dominant and co-dominant plant species, associated plant species and estimated total percent plant cover were all determined during the survey. The flora listing of the approximate 54 different plants is at **Exhibit 3.8.7**.

Pseudo-Riparian - Plant community associated with the moist Dead Man's Wash drainage channel include the plant species assemblage of Salt Cedar, Broad-leaved Cattail, Common Reed and Common Threesquare. Total Vegetative cover ranges from 65 to 90%.

The moist channel is a direct result of the ground water development south of Navajo Route N36 where groundwater has been tapped into and water is freely flowing out of pipes. The water drains down the channel and provides moisture throughout the year.

Salt Desert Scrub - Co-dominant or dominant shrub species consists of Castle Valley Saltbush and New Mexico Saltbush. Associate grass species include an occasional Alkali sacaton and Galleta. Total native vegetative plant cover range from 4 to 8%. The uplands immediately adjacent to the drainage channel are dominated by New Mexico Saltbush and Alkali Sacaton. Vegetation cover type is found on shallow sloped eroded Mancos Shale covered by alluvium.

Areas with less than 5% total vegetative cover consists of monocultural Mat Saltbush and no grass cover. The majority of the project area falls within this plant community cover type. Vegetation cover type is found on eroded Mancos shale ridges and extended lobate fingers.

3.3.4.2 Wildlife

Wildlife field data was developed based on field observation of wildlife tracks, droppings, special habitat inventory, animal occurrence and other life forms analysis. See **Exhibit 3.8.8** for species list.

Rodents: Several small active prairie dog colonies are located on shallow sloped swales in the extreme northwestern portion of the project area. The prairie dog colonies are located on an estimated 1-2 acre area with about 10-15 individual burrows. Other small rodent activity noted throughout the project area include, evidence of field mice droppings and possible kangaroo rat tracks.

Carnivores: Signs of carnivore activity observed during the survey include, a single mature Red Fox was observed being chased off by two Northern Harriers along the Dead Man's Wash drainage channel east of the survey area. There are several possible Red Fox den entrances located along the drainage channel.

Also observed were Coyote tracks and droppings. Historically, other carnivores that have been documented include Gray Wolf, Bobcat and several weasel species. However, it is very unlikely any of these species reside in or near the study area at the present time.

Raptors: Bird species of interest found near the study area include, two Northern Harriers hovering within the immediate vicinity of Dead Man's Wash drainage east of the study area. One raptor was mature and the other a juvenile. The pair of raptors have a nest within the moist drainage channel bottom and were quite vocal diving down on a Red Fox, chasing it away.

Minor potential habitat exists for Burrowing Owls in active prairie dog colonies, however the colonies are too small and very scattered to provide suitable habitat within the surveyed tract. No raptors of concern nesting or utility sites are found within the study area.

Potential nesting sites for raptors exist several miles to the east along the Tse Daa Kaan Monocline and along the San Juan River corridor to the north. Bald Eagles and Golden Eagles use the San Juan River corridor for nesting, mating and rearing young eaglets during the winter months.

The proposed housing development project will have significant impact on wildlife inhabiting the area. However, these impacts should be limited to small rodents, reptiles and small prairie dog colonies scattered within the central portion of the project area.

Evidence of domestic and/or feral animal activity within the study area include, tracks made by cattle, sheep, horse and feral dogs.

The conclusion of the Consultant is that development of the 10 acres is very feasible, in consideration of the absence of federally protected listed vegetation and wildlife and the limited impacts as presented herein.

3.3.5 Culturally Significant Areas

Through a review of archeological records with the Navajo Historic Preservation Department for the specific site and vicinity, there were not any files found pertinent to the study area.

Thus, the recommendation of the Consultant is that the community will need to have a Cultural Resources Survey and Environmental Assessment completed for the proposed development site to assure that there are no cultural resources or environmental issues that need to be considered within or adjacent to the development site.

3.3.6 Traditionally Sensitive Areas

Through interviews with the Chapter leadership, the Consultant ascertained that there are no significant traditionally sensitive areas in the vicinity of the proposed development site. There have been no traditional ceremonies performed there in recent memory. The Consultant concludes that there are no traditionally sensitive areas that will hinder the proposed developed.

3.3.7 Environmentally Sensitive Areas - (Endangered, Threatened and Sensitive Flora)

Federally funded agencies are prohibited from authorizing or carrying out any development projects or activities that may jeopardize the existence of any federal listed species under the Endangered Species Act of 1973. Therefore it is necessary to inventory plants and animals that are Endangered, Threatened and Sensitive before any construction activities are planned.

3.3.7.1 Discussion on Endangered, Threatened and Sensitive Flora in the region.

Federally protected plants found growing in this habitat type near the project area are; *Sclerocactus mesa-verdae* (Mesa Verde Cactus), *Astragalus humillimus* (Mancos Milkvetch) and *Astragalus tortipes* (Sleeping Ute Mountain Milkvetch).

Two Sensitive species *Proatriplex pleiantha* (Four Corners Orach) and *Astragalus cronquistii* (Cronquist's Milkvetch) are known to grow in similar habitat types, but was not observed in the study area. Minor tracts of land within the study area can be considered potential habitat for Mesa Verde Cactus.

- *Sclerocactus mesa-verdae* (Mesa Verde Cactus)

Federal Status: Listed Threatened

Description: Stems mainly solitary but may form clusters of up to 15 stems, oval to depressed globose stems 3-11 cm (1.25-3.5 inches) tall; central spines none or rarely 1, radial spines 8-11, 6-13 mm long; flowers cream to pink, 2 cm in diameter; fruit green turning tan; flowering period late April to early May.

Known Distribution: San Juan County, New Mexico and Montezuma County, Colorado.

Habitat: Salt desert scrub communities at 1,485-1,820 m (4,900-6,000 feet). Restricted to the Mancos Shale and Fruitland Formations. The Cactus is often found growing on the tops of weathered adobe hills and benches.

Remarks: No Mesa Verde Cacti were found growing within the study area. Potential habitat encountered was surveyed extensively with no reported populations of this rare cactus. Immediate threats include illegal collecting and habitat destruction caused by off road vehicles, Oil - Gas development and Economic and Urban development.

- *Astragalus humillimus* (Mancos Milkvetch)

Federal Status: Listed Endangered

Description: Perennial plant with stems forming clumps up to 30 cm across, spiny leaf stalks persistent; leaves with 7-11 oval leaflets; flower branches short, 1-4 flowered, petals lavender to purplish; flowering late April and early May.

Known Distribution: San Juan County, New Mexico and Montezuma County, Colorado.

Habitat: Grows in joint fractures and shallow depressions on rimrock of Point lookout Sandstone Member of the Mesa Verde Group at 1500-2000 m (5000-6500 feet).

Remarks: The Mancos milkvetch grows on ledges and mesa tops in slickrock habitat of the Mesa Verde Group. No sandstone habitat was found within the study area. The nearest known location of the Mancos milkvetch is along the western flanks of the Tse Daa Kaan monocline, several miles to the northeast.

- *Astragalus tortipes* (Sleeping Ute Mountain Milkvetch)

Federal Status: Proposed listing

Description: Stems few, usually 1-6 from a subterranean root crown, white strigose pubescent throughout; leaves 8-18 cm (3.25-7.5 inches) long, linear; flowers pale yellow; pedicels recurved during late anthesis; pods hyperflexed; flowers in May.

Known Distribution: Ute Mountain Ute Indian Reservation, Montezuma County, Colorado. Known only from the southern foothills of the Sleeping Ute Mountains.

Habitat: Salt desert scrub plant communities on weathered Mancos Shale overlain by pediment gravel at 1725 m (5,700 feet).

Remarks: A newly described species discovered during surveys conducted for seismic line and irrigation canal system for the Southern Ute Tribe in southwest Colorado. This new species exists within the region and may occur in New Mexico.

- **Proatriplex pleiantha** (Four Corners Orach)

Federal Status: Candidate threatened

Description: Annual forb, ascending stems 0.5-1.5 dm (2-6 inches) tall, succulent, glabrous to sparingly scurfy; leaves alternate to subopposite, petiolate, leaf blades are 5-15 mm long and about as wide, ovate to suborbicular; flowers unisexual, monoecious; flowering period occurs in May.

Known Distribution: San Juan County, New Mexico; Montezuma County, Co. and San Juan County, Utah.

Habitat: The Four Corners Orach grows on barren desert badlands often devoid of any vegetation. It grows on Mancos Shale and Fruitland Shale formations at 1500-1650 m (5000-5500 feet) elevation.

Remarks: Most sightings in New Mexico occur south of Fruitland, New Mexico on Navajo Tribal Lands leased to BHP Minerals. Populations in Colorado are on the Ute Mountain Ute Indian Reservation. Potential habitat exists within the study area but no plants were discovered.

- **Astragalus cronquistii** (Cronquist's Milkvetch)

Federal Status: Candidate threatened

Description: Perennial herb, caulescent stems 1.5-4 dm (6-24 inches) tall; leaves 1.5-4.5 cm (0.75-1.75 inches) long, yellow green leaflets 6-25 mm (0.125-1 inch) long; flowers dull pink-purple, flowering during May; fruits linear-elliptic, sessile, declined pendulous.

Known Distribution: San Juan County, Utah and Montezuma County, Colorado.

Habitat: Rocky benches, ridges and sandy washes in salt desert scrub and blackbrush communities on Cutler, Morrison and Mancos Shale Formations at 1450-1500 m (4750-5000 feet) elevation.

Remarks: Potential habitat exists for this rare milkvetch within the proposed project area, however no plants were found during the field survey. Cronquist's milkvetch is known only from Comb's wash area in San Juan County, Utah and in the southern foothills of the Sleeping Ute Mountains, Montezuma County, Colorado.

3.3.7.2 Endangered, Threatened and Sensitive Fauna

Animals of concern found in or near the proposed project area San Juan County, New Mexico include: *Aquila chrysaetos* (Golden Eagle), *Haliaeetus leucocephalus* (Bald Eagle), *Falco peregrinus* (Peregrine Falcon), *Buteo regalis* (Ferruginous Hawk), *Buteo lagopus* (Rough-legged Hawk), *Buteo swainsoni* (Swainson's Hawk) and *Asio flammous* (Burrowing Owl).

- *Aquila chrysaetos* (Golden Eagle)

Federal Status: Federal Sensitive Species

Remarks: Golden Eagles winter along the San Juan River and may nest and breed along the river corridor. The development project should have no effect on the eagles or their habitat.

- *Haliaeetus leucocephalus* (Bald Eagle)

Federal Status: Listed Endangered

Remarks: Bald Eagles have been observed along the San Juan River corridor and occasionally winter along the river. Some Bald Eagles are observed during the summer months. The project should have no effect on the birds.

- **Falco peregrinus** (Peregrine Falcon)

Federal Status: Federally protected

Remarks: No potential nesting sites were noted within the immediate area of the study area. These raptors are occasionally reported passing through the area.

- **Buteo regalis** (Ferruginous Hawk)

Federal Status: Federal Candidate Species

Remarks: Ferruginous Hawks inhabit dry, open country, often perching on trees, utility poles and on the ground. No Ferruginous Hawks were observed during the survey.

- **Buteo lagopus** (Rough-legged Hawk)

Federal Status: Sensitive Species

Remarks: One single Rough-legged Hawk was observed hovering above the clayey knolls about 1 mile north of the study tract. No nest or potential nesting sites are reported from the immediate area.

- **Buteo swainsoni** (Swainson's Hawk)

Federal Status: Sensitive Species

Remarks: Swainson's Hawk are occasionally reported in cottonwood groves along the upper San Juan River corridor near Navajo Dam area. These raptors may occasionally fly down the San Juan River.

- **Asio flammous** (Burrowing Owl)

Federal Status: None
(Navajo Tribal Species of Concern)

Remarks: One burrowing Owl was observed for several hours among active prairie dog colonies located in the central portion of the study tract.

3.3.7.3 Summary of Survey Results

Upon the completion of rare plants and cactus inventory, no plant species of concern were reported occupying the survey tract. The study area was determined to have poor habitat for any flora of concern.

Two raptors currently reside and nest within 250 feet east of the eastern survey boundary. There is also within the confines of the drainage channel, a Red Fox den. The Red Fox is a Navajo Nation animal species of concern.

The upland swale area surveyed provides an excellent area on which to build the proposed development. The buffer zone established along the eastern edge may need to be increased to provide a larger habitat zone for wildlife that currently inhabit the narrow drainage channel corridor.

3.4 Compilation of Field Data and Methodology

The field survey was conducted on approximately 10-12 acres. The field survey was completed on June 24, 2001, with one field surveyor conducting the groundwork. Field survey methodology consists of walking out the entire survey boundary in small manageable blocks of 1-2 acres, traversing the 1-2 acres block back and forth to ensure 90% total ground cover was achieved. A 50-foot buffer zone was also surveyed beyond the required survey boundary.

Raptor surveys were conducted by visual surveys of all powerline poles, fencelines and any protruding high areas with the aid of binoculars and field spotting scopes.

3.5 Accessibility

The proposed development site selected by the Tse Daa Kaan Chapter is located approximately 4 miles east of U.S. Highway 491, along the heavily traveled Navajo Route 36. The site is on the north side of NR 36 towards the San Juan River. The site has excellent access.

3.6 Conclusion

The Consultant concludes that this site is a good development site. The positive attributes that the site has to offer, is that there are no federally listed species of concern, no cultural or traditional sensitive areas and has the concurrence of the grazing permittees for the initial assessments. It is understood that the decision of whether to build on the site will be a matter to be decided upon at a later time.

The accessing of utility infrastructure would not be difficult as electrical and water lines are in reasonable close proximity of the site.

The issues of concern include the soil type wherein there would need to be geo-technical assessments done to determine the suitability of the soil and to determine what remedial measures may be necessary to prepare the soil for development. The site has good topography with a gentle slope to the east at approximately 1-2%, providing for good drainage.

Another item to be addressed by the community is that the archeological survey will need to be done to determine if there are any cultural resources that need to be considered and addressed prior to any development. The required environmental assessment will also need to be done.

The last issue of concern is regarding the presence of a Navajo Nation listed “species of concern” – the Red Fox. The Navajo Nation Department of Fish and Wildlife will need to provide advisement on how to treat this issue. With these items addressed in due course, the Tse Daa Kaan community would be well served in developing this proposed development site.

3.7 Consultation Coordination

The Consultant credits Mr. Arnold Clifford, Botanist-Geologist, Carrizo Mountain Consulting of Beclabito, Navajo Nation for the commendable fieldwork performed on the Vegetation, Wildlife and Environmentally Sensitive Area elements of this Phase II Land Suitability Analysis on the 10 acres identified for development purposes by the Tse Daa Kaan community.

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Exhibit 3.8.2 Development Sites Map

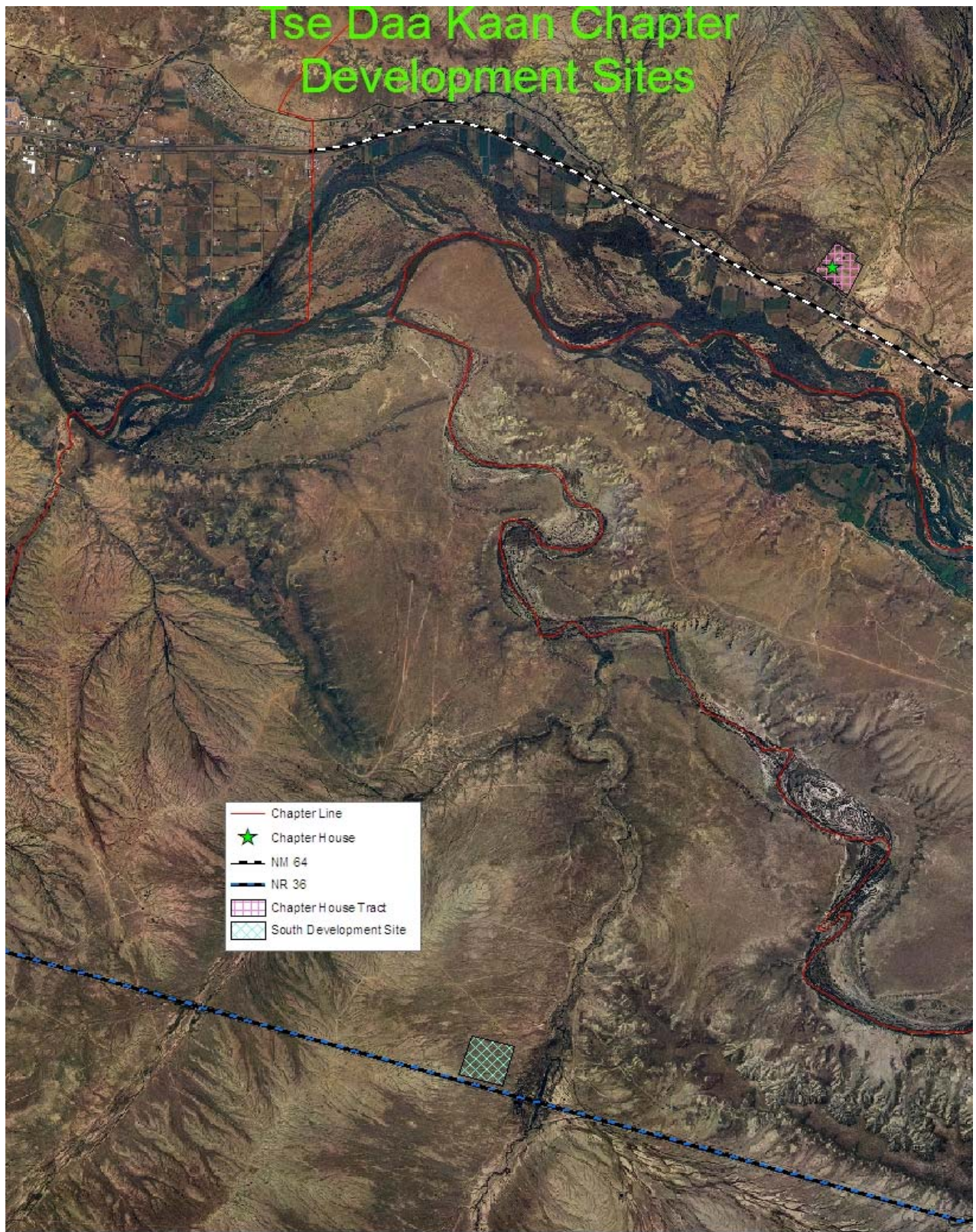


Exhibit 3.8.3 South Tse Daa Kaan Development Site Soils Data Map Legend

1. 113 – Gyptur Complex

Map Unit Setting

Elevation: 5,000 to 5,600 feet
 Mean annual precipitation: 5 to 8 inches
 Mean annual air temperature: 52 to 54 degrees F

Map Unit Composition

Gyptur and similar soils: 85%
 Gypsum content: 25%
 Frost-free period: 140 to 160 days

Description of Gyptur

Slope: 0 to 3%
 Drainage class: Well drained
 Permeability: Very low to moderately high

Typical Profile

0 to 2 inches: Very fine sandy loam
 2 to 5 inches: Silty clay loam
 5 to 17 inches: Gypsiferous material
 17 to 46 inches: Loam
 46 to 56 inches: Bedrock

Suitability for Small Building Construction – Somewhat limited

Volume of All Vegetation Growth in Normal Conditions – 400 lbs. per acre per year

2. 250 – Littlehat-Persayo-Nataani Complex

Map Unit Setting

Elevation: 4,900 to 6,300 feet
 Mean annual precipitation: 5 to 8 inches
 Mean annual air temperature 52 to 54 degrees F
 Frost-free period: 140 to 160 days

Map Unit Composition

Littlehat and similar soils: 35%
 Pesayo and similar soils: 30%
 Nataani and similar soils: 20%

Description of Littlehat

Slope: 1 to 15%
 Drainage class: Well drained
 Permeability: Very low to mod high

Description of Persayo

1 to 5%
 Well drained
 Very low to mod high

Description of Nataani

1 to 3%
 Somewhat excessive drained
 Very low to mod high

Typical Profile

0 to 2 inches: Silty loam	0 to 2 inches: Very fine loam	0 to 3 inches: Fine sandy loam
2 to 31 inches: Silty loam	2 to 15 inches: Clay loam	3 to 12 inches: Fine sandy loam
31 to 41 inches: Bedrock	15 to 30 inches: Sandy clay loam	12 to 20 inches: Fine sandy loam
		20 to 28 inches: Sandy loam

113 - Suitability for Small Building Construction – Very Limited

Volume of All Vegetation Growth in Normal Conditions – 500 lbs. per acre per year

250 - Suitability for Small Building Construction – Somewhat Limited

Volume of All Vegetation Growth in Normal Conditions – 335 lbs. per acre per year

Exhibit 3.8.4 South Tse Daa Kaan Development Site Soils Data Map

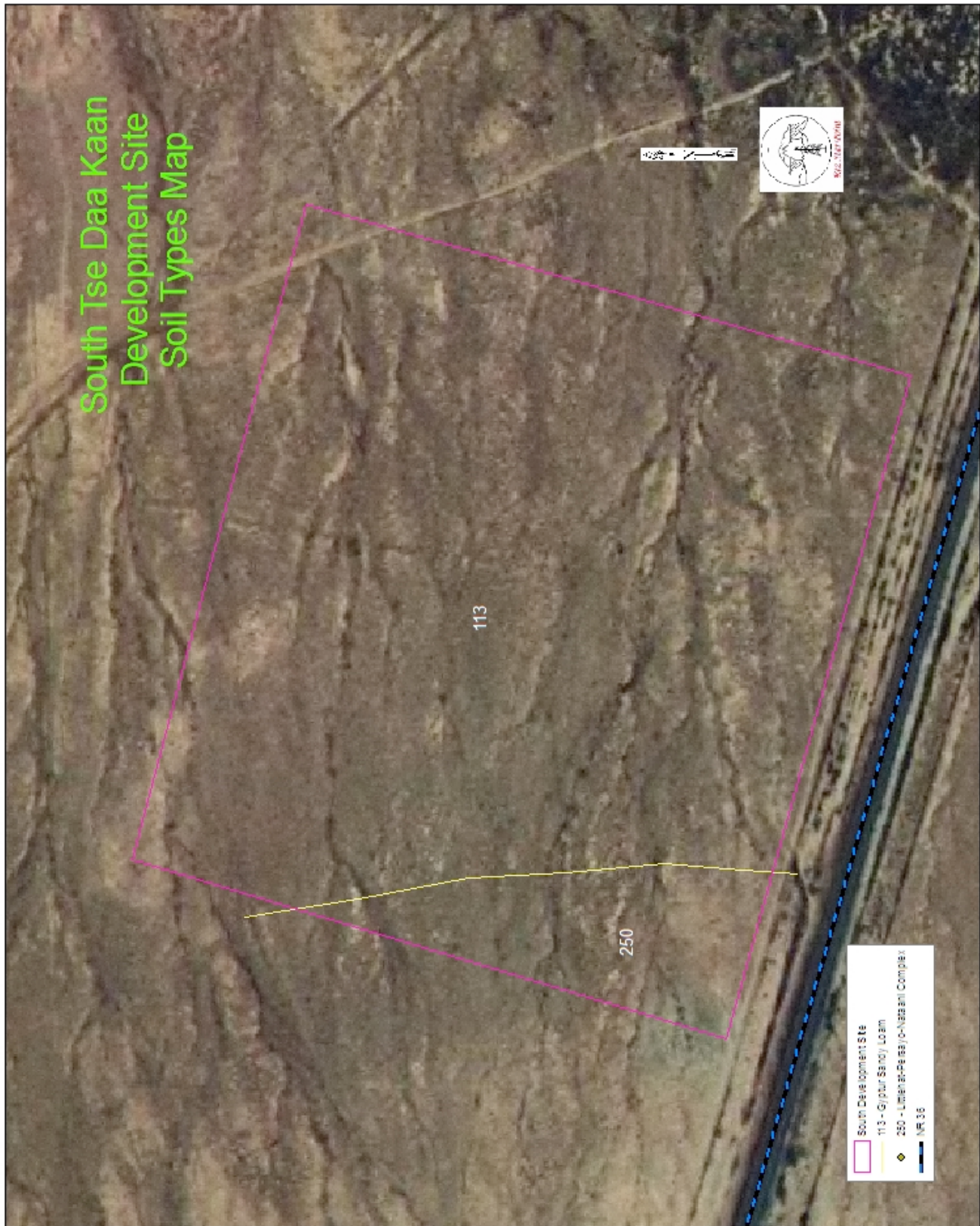


Exhibit 3.8.5 Tse Daa Kaan Chapter Tract Development Site Soils Data Legend

1. 102 – Blackston-Camac-Rock Outcrop Complex

Map Unit Setting

Elevation: 4,600 to 9,800 feet
Mean annual precipitation: 5 to 8 inches
Mean annual air temperature: 52 to 54 degrees F

Description of Blackston

Slope: 0 to 2%
Drainage class: Well drained
Permeability: Moderately high to high

Typical Profile

0 to 3 inches: Gravelly sandy loam
3 to 9 inches: Sandy loam
9 to 15 inches: Gravelly sandy clay loam

Suitability for Small Building Construction – Not limited

Volume of All Vegetation Growth in Normal Conditions – 353 lbs. per acre per year

Map Unit Composition

Blackston and similar soils: 55%
Camac and similar soils: 20%
Rock Outcrop: 15%
Frost-free period: 140 to 160 days

15 to 35 inches: Very gravelly coarse sandy loam
35 to 70 inches: Very cobbly loamy coarse loam

2. 200 –Tocito Silt Loam

Map Unit Setting

Elevation: 4,800 to 5,300 feet
Mean annual precipitation: 5 to 8 inches
Mean annual air temperature 52 to 54 degrees F

Description of Tocito

Slope: 1 to 3%
Drainage class: Well drained
Permeability: Moderately high

Typical Profile

0 to 6 inches: Silty loam
6 to 12 inches: Clay loam
12 to 16 inches: Silty clay loam

Suitability for Small Building Construction – Not Limited

Volume of All Vegetation Growth in Normal Conditions – 500 lbs. per acre per year

Map Unit Composition

Tocito and similar soils: 85%
Frost-free period: 140 to 160 days

16 to 28 inches: Silt loam
28 to 70 inches: Clay loam, silty clay loam

3. 265 – Camac-Kimbeto-Badlands Complex

Map Unit Setting

Elevation: 4,600 to 6,100 feet
Mean annual precipitation: 5 to 8 inches
Mean annual air temperature 52 to 54 degrees F
Frost-free period: 140 to 160 days

Description of Camac

Slope: 15 to 50%
Drainage class: Well drained
Permeability: Very low to mod high

Description of Kimbeto

0 to 5%
Well drained
Mod high to high

Map Unit Composition

Kimbeto and similar soils: 35%
Camac and similar soils: 35%
Badland: 15%

Description of Badland

8 to 20%
Well drained
Very low to mod high

Typical Profile

0 to 3 inches: Very cobbly fine sandy loam	0 to 2 inches: Fine sandy loam	0 to 60 inches: Bedrock
3 to 16 inches: Gravel sandy loam	2 to 10 inches: Loam	
34 to 38 inches: Bedrock	10 to 54 inches: Loam	
	54 to 66 inches: Cobbly clay loam	

Suitability for Small Building Construction – Very Limited

Volume of All Vegetation Growth in Normal Conditions – 329 lbs. per acre per year

Exhibit 3.8.6 Tse Daa Kaan Chapter Tract Development Site Soils Data Map



Exhibit 3.8.7 Environmental Sensitive Areas Map

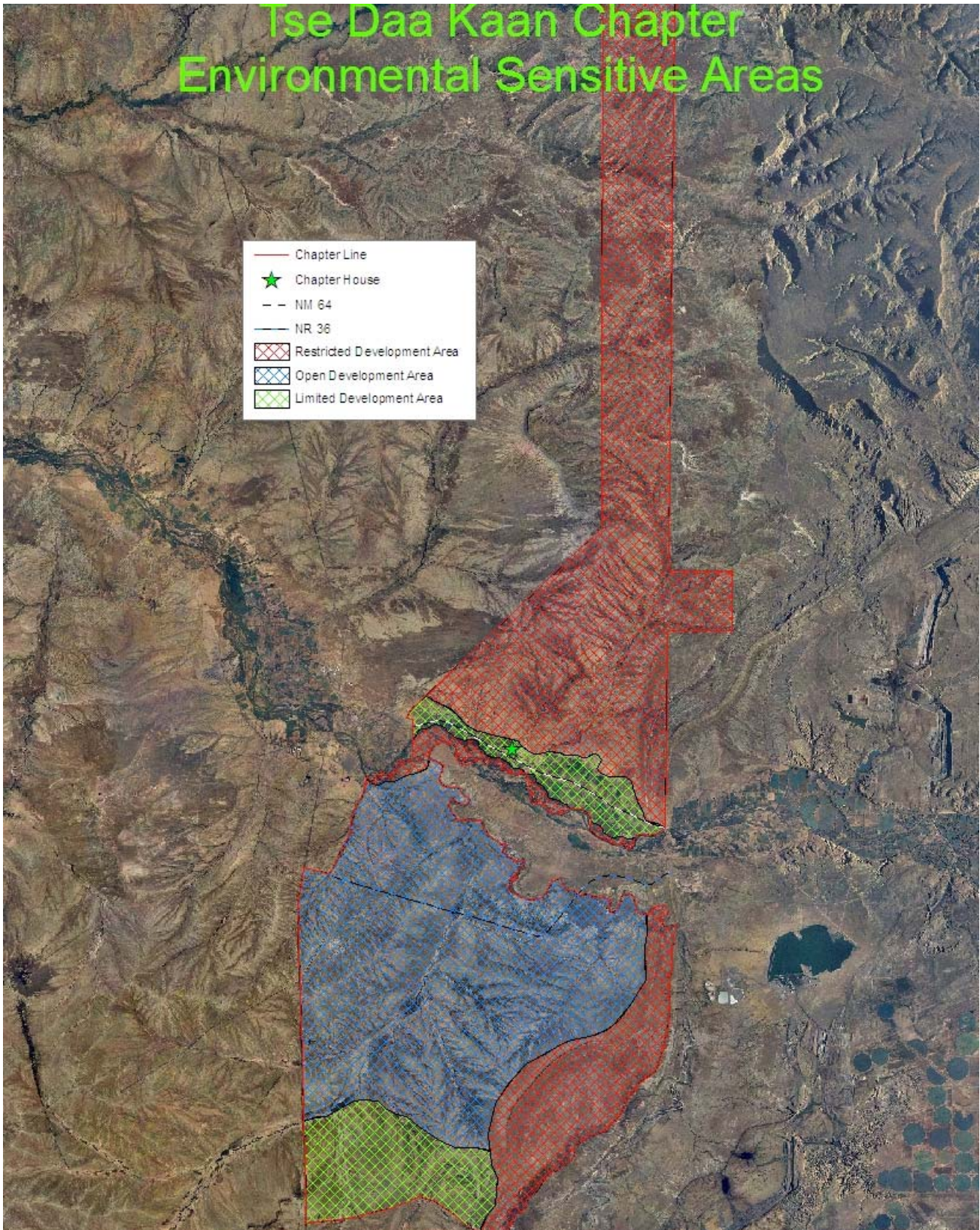


Exhibit 3.8.8 Photos of Proposed Tse Daa Kaan South Development Site



PHOTO 1 - Taken from west-central location of site



PHOTO 2 - Taken from south-central location of site

Exhibit 3.8.9 Flora of the Proposed Tse Daa Kaan South Development Site

APIACEAE - Parsley Family

Cymopterus bulbosus A. Nels.

Onion Spring Parsley

ASTERACEAE - Sunflower Family

Artemisia spinescens D.C. Eaton in Wats.

Budsage

Chrysothamnus nauseosus (Pallas) Britt.

Rubber Rabbitbrush

Grindelia squarrosa (Pursh) Dunal

Curly Gumweed

Lactuca serriola L.

Prickly Lettuce

Leucelene ericoides (Torr.) Greene

Rose-heath

Townsendia annua Beaman

Tragopogon dubius Scop.

Salsify

BORAGINACEAE - Borage Family

Lappula occidentalis (Wats.) Greene

Western Stickseed

BRASSICACEAE - Mustard Family

Descurainia pinnata (Walter) Britt.

Pinnate Tansy Mustard

var. *osmiarum* (Cockerell) Shinn.

Malcolmia africana R. Br. in Ait.

African Mustard

Sisymbrium altissimum L.

Tumbling Mustard

Streptanthella longirostris (Wats.) Rydb.

CAPPARACEAE - Caper Family

Cleome lutea Hook.

Yellow Beeplant

Cleomella palmeriana Jones

CHENOPODIACEAE - Goosefoot Family

Atriplex confertifolia (Torr. & Frem.) Wats.

Shadscale

Atriplex gardneri (Moq.) D. Dietr.

Castle Valley Saltbush

var. *cuneata* (A. Nels.) Welsh

Atriplex obovata Moq.

New Mexico Saltbush

Atriplex powellii Wats.

Powell Orach

Atriplex saccaria Wats.

Stalked Orach

Atriplex sp. nov.

Bassia hyssopifolia (Pallas) Kuntze

Halogeton glomeratus (Bieb.) C.A. Mey.
Kochia scoparia (L.) Schrader
Salsola iberica Sennen & Pau

Halogeton
Summer Cypress
Tumbleweed

CYPERACEAE - Sedge Family

Cyperus sp.
Eleocharis palustris (L.) R. & S.
Scirpus pungens Vahl.

Creeping Spikerush
Common Threesquare

FABACEAE - Pea Family

Astragalus nuttallianus A. DC.

Small-flowered milkvetch

GERANIACEAE - Geranium Family

Erodium cicutarium (L.) L'Her.

Storksbill

HYDROPHYLLACEAE - Waterleaf Family

Phacelia sp.

JUNCACEAE - Rush Family

Juncus balticus Willd.

Wiregrass

LILIACEAE - Lily Family

Androstephium breviflorum Wats.

MALVACEAE - Mallow Family

Sphaeralcea fendleri
Sphaeralcea parvifolia A Nels.

Nelson Globemallow

PLANTAGINACEAE - Plantain Family

Plantago lanceolata L.
Plantago patagonica Jacq.

Narrowleaf Plantain
Woolly Plantain

POACEAE - Grass Family

<i>Bromus tectorum</i> L.	Cheatgrass
<i>Elymus smithii</i> (Rydb.) Gould	Western Wheatgrass
<i>Eremopyrum triticeum</i> (Gaertn.) Nevski	Annual Wheatgrass
<i>Festuca octoflora</i> Walter	Sixweeks Fescue
<i>Hilaria jamesii</i> (Torr.) Benth.	Galleta
<i>Hordeum jubatum</i> L.	Foxtail Barley
<i>Oryzopsis hymenoides</i> (R. & S.) Ricker	Indian Ricegrass
<i>Phragmites australis</i> (Cav.) Trin. ex Steudel	Common Reed
<i>Polypogon monspeliensis</i> (L.) Desf.	Rabbitfoot Grass
<i>Puccinellia nuttalliana</i> (Schultes) A.S. Hitchc.	Nuttall Alkaligrass
<i>Sitanion hystrix</i> (Nutt.) J.G. sm.	Squirreltail Grass
<i>Sporobolus airoides</i> (Torr.) Torr.	Alkali Saccaton

POLYGONACEAE - Buckwheat Family

<i>Eriogonum divaricatum</i> Hook.	Spreading Buckwheat
<i>Eriogonum gordonii</i> Benth. in DC.	Gordon Buckwheat
<i>Eriogonum salsuginosum</i> (Nutt.) Hook.	Smooth Buckwheat

TAMARICACEAE - Tamarisk Family

<i>Tamarix ramosissima</i> Ledeb.	Salt Cedar
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TYPHACEAE - Cattail Family

<i>Typha latifolia</i> L.	Broad-leaved Cattail
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Exhibit 3.8.10 Fauna of the Proposed Tse Daa Kaan South Development Site

Mammals

Bovis sp.

Canis domesticus

Canis latrans

Cynomys gunnisoni

Equus sp.

Ovis sp.

Cattle

Feral Dog

Coyote

Gunnison Prairie dog

Horse

Sheep

Birds

Agelaius phoeniceus

Cathartes aura

Circus cyaneus

Corvus corax

Falco sparverius

Eremophila alpestris

Hirundo pyrrhonota

Sturnella neglecta

Red-winged Blackbird

Turkey Vulture

Northern Harrier

Common Raven

American Kestrel

Horned Lark

Cliff Swallow

Western Meadowlark

LAND SUITABILITY ANALYSIS – SITE 2

3.9 Background – Chapter House Tract Development Site

The Tse Daa Kaan Chapter selected two sites as potential areas for the planning of new development. The second identified site is the area encompassed within the Tse Daa Kaan Chapter House withdrawn tract and the Land Suitability Analysis of the site is reported on herein. The site is the 15-acre tract that the Chapter House and a number of other community facilities are situated on located 1/4 mile north of NM 64 along NR5031. Development Site Maps are shown at **Exhibits 3.8.2**.

The site was surveyed for Cultural Resources on May 18, 1992 by Denise R. E. Copeland, M.A., Archeologist III of the Navajo Capital Improvement Development Department, the conclusion of the survey was that there were no eligible properties or archeological resources found. A Notification to Proceed was issued on September 02, 1992 by the Navajo Nation Historic Preservation Office.

The Rez Star Consultant in updating the Land Use Plan engaged Mr. Arnold Clifford to conduct a pedestrian review of the Chapter House Tract site on February 21, 2008 to determine the information deemed to be lacking in the Cultural Resources Survey report.

The Biologic Assessment (BA) provides biologic baseline information derived from field analysis of the proposed Community Development Project Area. The information helps to determine potential environmental effects that the proposed project would have on federally listed Endangered, Threatened and Sensitive species that may occur within the project site. Endangered, Threatened and Sensitive species are regulated and protected under the Endangered Species Act (ESA) of 1973 (PL 93-205, as amended). The ESA requires all federal funded agencies and proposed projects that are implemented not to jeopardize, destroy or modify any designated critical habitat or populations of any species listed.

The Biologic Assessment is a way to analyze, review and document effects on federal listed species as a result of the proposed development project. The biologic field survey provides an analysis of the project area and the potential effects of project implementation would have on plants and animal federally listed as Endangered, Threatened or Sensitive. Below are three possible determinations to be chosen for listed species based on field data, scientific literature and professional judgment of the biologists that completed the field evaluation. The three determinations area as follows:

- “No effect” – No effect expected

- “May effect, not likely to adversely effect” – Effects are expected to be insignificant or discountable: and
- “May effect, likely to adversely effect” – effects are expected to be adverse or detrimental.

3.9.1 Description of Proposed Action

Tse Daa Kaan Chapter is proposing to develop its current fenced off portion of the chapter house complex. Approximately 10-12 acres were surveyed. On site are located the current chapter house, pre-school, senior citizens center, metal storage sheds, equipment yard and a large open area that has been leveled and graded. The proposed Action Area is located at Tse Daa Kaan Chapter complex, Tse Daa Kaan, San Juan Co., New Mexico. The Chapter House is on the Navajo Indian Reservation, within land base administered by Tse Daa Kaan Chapter. The site can be located on Farmington, New Mexico-Colorado, 1:100 000 scale, metric series, U.S. Geologic Survey topographic map, 1980. Legal land description: T30N, R17W, S35 NW.

3.9.2 Description of Proposed Action Area

The environmental component of the proposed action area with potential to be impacted is described here in this section. Detail physical and biological description of the proposed action area is provided with a focus on species listed under the Endangered Species Act.

3.10 Physical Characteristics of Site 2

3.10.1 Climate

The proposed action area is in a semi-arid climate and is classified as Arid Continental (BLM 2003). The yearlong climate in Tse Daa Kaan community experiences warm to hot, dry summers and cool dry winters. Average annual temperatures range mid 50’s, with summer temperature from mid 60’s to low 90’s and winter temperatures ranging low 20’s to low 40’s (Western Regional Climate Center 2006). Precipitation occurs during two periods, late July to October as summer monsoons and December to February during the winter. The mean annual precipitation in Tse Daa Kaan is about 7.0 inches (Western Regional Climate Center 2006).

3.10.2 Geology

The proposed action area is located on Four Corners Platform, San Juan Basin (Woodward, et al 1977). The San Juan Basin is an asymmetrical synclinal trough bounded by hogback ridges along the east and western edges. The hogback limbs dip inward towards the center of the San Juan Basin. Lithologic rock units exposed on site consist of upper Mancos Shale of Upper Cretaceous Age.

The proposed action area is located mainly on alluvium derived from weathered Mancos Shale and the northwest corner of the proposed action area, is covered by glacial outwash deposits. Mancos Shale provides habitat for numerous rare and endemic plants species throughout southwestern United States. In Four Corners area Mancos Shale hosts about a dozen plant species considered rare. Two rare plant species with potential habitat within the proposed site is addressed in the Endangered, Threatened and Sensitive Flora section of this report.

3.11 Site Analysis Elements

3.11.1 Hydrologic Features

The project area lies within San Juan River drainage watershed. The San Juan River is located about 1.5 miles south of the proposed action area. An irrigation ditch transverses the southern edge of the site immediately beyond the chapter house fenced boundary. The ditch parallels a dirt access road. The ditch provides water for farmers that live and farm within Tse Daa Kaan (Hogback) community. Shiprock and Hogback region is part of the San Juan Hydrologic Basin (Cooley, et al. 1969).

3.11.2 Soils Information

Soils texture, structure and composition are based on field observation of soils within the proposed action area. Generalized field analysis indicates that soil texture ranges from clay in the disturbed flat section of the proposed action area. Its origin derived from locally weathered Mancos Shale deposited by alluvial processes. The undisturbed section along the northern section has soils that are clay mixed with river cobbles and small rounded boulders in texture. The steep footslopes and side slopes are mainly covered in glacial outwash boulders. The terrace tops have sandy soils derived from ancient river sand bars.

3.11.3 Topography

The proposed action area changes abruptly from an elevated river terrace from the northwest corner that continues east along the northern edge. This section of the site represents an old abandoned river channel terrace that was deposited as glacial outwash. The terrace is elevated about 100-125 feet above the chapter house complex. The chapter house complex is located on a flat graded area. The terrace is flat topped and abruptly slopes south 35 degrees near the top.

Towards the bottom slopes taper to 15 degrees before the footslope had been modified at the base in order to form a platform. The slope cut was made to accommodate a pre-school, senior citizens center and a metal shed that is used to store the chapter equipment. The chapter is located at in the flat portion of the site. The eastern half of the site is a graded, flatted section that is used for outdoor social functions and activities. An existing irrigation ditch parallels the southern fence boundary.

3.11.4 Vegetation and Wildlife

3.11.4.1 Vegetation community type was determined by visual observation of the existing flora and plant assemblage within the proposed action area. Dominant and/or co-dominant plant species, associate plant species and estimated total vegetation cover were all determined during the biologic field survey. Brief descriptions of soil textures were obtained from field observation. Vegetation community cover types within the proposed site consist of three different cover types: Salt Desert Scrub, Pseudo-riparian and Agricultural. A complete list of vascular plant species observed within the proposed project area can be found in **Exhibit 3.15.3**.

Salt Desert Scrub

Vegetation community type is characterized by cover of co-dominant saltbush species that include Castle Valley saltbush (*Atriplex gardneri* var. *cuneata*) and mat saltbush (*Atriplex corrugata*). Sparse grass cover includes alkali saccaton (*Sporobolus airoides*) and annual wheatgrass (*Eremopyrum triticium*).

Annual forbs associated with this cover type include: onion spring parsley (*Cymopterus bulbosus*), dwarf false gilia (*Ipomopsis pumila*), morning lily (*Oenothera caespitosa*), stevia dustymaiden (*Chaenactis stevioides*), stalked orach (*Atriplex saccaria*), prince's plume (*Stanleya pinnata*), pepperweed (*Lepidium sp.*), large-flower onion (*Allium macropetalum*), and corrugate phacelia (*Phacelia crenulata* var. *corrugata*).

Total vegetation cover ranges 5-15%. Soils are derived from weathered Mancos Shale bedrock with a texture and composition of clay soils plus fragmented platy shale. This cover type is observed on low to moderately sloped adobe shale ridges, benches, and knolls along the northwestern corner of the proposed action area. Salt desert scrub communities provide habitat for several plants recognized as rare and sensitive, they include Mesa Verde cactus (*Sclerocactus mesae-verdae*), Comb Wash buckwheat (*Eriogonum clavellatum*), Sleeping Ute milkvetch (*Astragalus tortipes*) and Cronquist's milkvetch (*Astragalus cronquistii*).

3.11.4.2 Pseudo-riparian

The vegetation community is mostly along the irrigation canal where moist soils host a diversity of plants. These riparian plants include grass-like forbs such as broadleaf cattail (*Typha latifolia*), common threesquare (*Scirpus pungens*) and alkali bulrush (*Scirpus maritimus*). Grasses include scratchgrass (*Muhlenbergia asperifolia*), foxtail barley (*Hordeum jubatum*), common reed (*Phragmites australis*), barnyard grass (*Echinochloa crus-galli*), and alkali saccaton (*Sporobolus airoides*). Total vegetation cover ranges 60-90%. Soils are siltyclay to clay in texture.

3.11.4.3 Agriculture

Agricultural lands include irrigated field, pastures and dry-land farms located along San Juan River valley, floodplain, and gravel terrace benches. Important cash crops grown in San Juan River valley include alfalfa (*Medicago sativa*), corn (*Zea mays*), watermelon (*Citrullus lanatus*), cantaloupe (*Cucumis melo*), and fall squash (*Cucurbita maxima*).

Other vegetables and fruit trees produced and cultivated by individual families, mainly for personal consumption include potato (*Solanum tuberosum*), radish (*Raphanus sativus*), tomato (*Lycopersicon esculentum*) and carrot (*Daucus carota*). Fruit trees vary between peaches (*Prunus persica*), apricot (*Prunus armeniaca*), common apple (*Malus pumila*), and pears (*Pyrus communis*).

Numerous other crops are grown based on individual family preference or farmers experimenting with new crops that might be of economic or nutritious value. Agricultural crops provide a means of sustenance for farmers who sell, trade or barter with others for livestock, skilled labor, timber products, hand made turquoise–silver jewelry, gifts or the crops maybe donated for ceremonial purposes. This community type occurs throughout the valley that surrounds the chapter house.

3.11.4.4 Wildlife

Wildlife Occurrences

The proposed action area supports an area of previously disturbed bladed and graded area. The native plant community is not diverse within the proposed project site. Variable landforms and diverse vegetation community influence the abundance and type of wildlife that may inhabit a region. Wildlife documented within the proposed project site area including the adjacent farmland, are adapted to the dry climatic condition, limited vegetation cover and ephemeral water source.

The irrigation canal bordering the southern edge of the site provides additional habitat for water dependent species such as migratory songbirds and amphibians. Some species many feed in upland regions but require riparian vegetation for protection, cover and breeding. Wildlife field data was developed based on field observation of wildlife tracks, droppings, habitat inventory, animal occurrence and other life form analysis. See **Exhibit 3.15.4** for a complete species list. The proposed action area does not support habitat for any species listed under Endangered Species Act.

The conclusion of the Consultant is that development of 85% of the 15 acres is very feasible, in consideration of the absence of federally protected listed vegetation and wildlife and the limited impacts thereon. The remaining 15% on the northwest corner and along the northern boundary of the property does have a population of the Mesa Verde Cacti and would require transplanting by the Navajo Fish and Wildlife Department should the Chapter decide to do any type of development in that area.

3.11.5 Culturally Significant Areas

The Cultural Resources Survey and the EA have been done for the Site 2 and the findings stated that there were no significant findings and that development could proceed for the area. However, through the Biological Survey performed of the site by the Consultant and associate Arnold Clifford, a substantial population of Mesa Verde Cacti was found on the northwest corner of the site and along the northern border of the site. The Cultural Resources Survey also noted that there was a previous burial site located immediately south of the Chapter House, the remains have been exhumed and re-interred at a different location, prior to development of the site.

Thus, the recommendation of the Consultant is that the community should proceed with development on the land areas that are free of the Mesa Verde Cacti as a Notice to Proceed has been issued by the Navajo Nation for the area. For any development to occur in the northwest portion of the Chapter House tract and/or along the northern boundary fence, it is necessary that the Mesa Verde Cacti be transplanted by the Navajo Fish and Wildlife. It is further recommended that a buffer zone be established for the site identified as the former burial site.

3.11.6 Traditionally Sensitive Areas

Through interviews with the Chapter leadership, the Consultant ascertained that there are no significant traditionally sensitive areas in the vicinity of the proposed development site. There have been no traditional ceremonies performed there in recent memory. The Consultant concludes that there are no traditionally sensitive areas that will hinder the proposed developed.

3.11.7 Environmentally Sensitive Areas - Endangered, Threatened, Sensitive Flora

Plants listed Endangered, Threatened or Sensitive by U.S. Fish and Wildlife and Navajo Natural Heritage Program with potential to grow on the proposed Tse Daa Kaan Chapter Community Development Project, Tse Daa Kaan. Chapter house, San Juan Co., New Mexico includes: *Astragalus tortipes* (Sleeping Ute milkvetch), *Puccinellia parishii* (Parish's alkali-grass) and *Sclerocactus mesa-verdae* (Mesa Verde cactus).

Description of Endangered, Threatened and Sensitive Species

Federal funded agencies are prohibited from authorizing and carrying out any development projects or activities that may jeopardize or alter the habitat and existence of any Federal listed species under the Endangered Species Act of 1973 (as amended). This prohibition also extends to those species listed by the Navajo Fish and Wildlife Department. Therefore it is important to inventory habitat of plants and animals that are listed as Endangered, Threatened and Sensitive before any construction activities are proposed or implemented.

- *Astragalus tortipes* J. L. Anderson & J. M. Porter

Family: FABACEAE (LEGUMINOSAE) - Bean Family

Common Name: Sleeping Ute Milkvetch

Federal/Navajo Nation Status: Candidate/NESL Group 4

Description: Perennial plant, 2-6 ascending stems from a subterranean taproot; Short white hairs cover stem and leaflets; Leaves are odd pinnate, 8-18 cm, sparsely scattered linear leaflets; Flowers in a raceme, banner, wing and keel are pale yellow; Fruits oblong pods, 15-25 mm, at the end of hyperflexed, recurved pedicels; Flowering mostly the month of May.

Known Distribution: Ute Mountain Ute Indian Reservation, Montezuma Co., Colorado. Sleeping Ute Mountain Endemic.

Habitat: Salt desert scrub and Juniper savanna grassland communities on weathered Mancos Shale Formation overlain by pediment gravels derived from Ute Mountain.

Geologic Substrate: Dakota Sandstone gravels overlying Mancos Shale bedrock.

Remarks: An extremely rare plant described in 1994. The plant was first discovered 1987 from southern foothills of Sleeping Ute Mountain, by John Anderson and Rich Fleming, field botanist consulting with Ecosphere Environmental Services. The plant is not likely to occur in the project area.

- ***Puccinellia parishii*** A. S. Hitchcock

Family: POACEAE (GRAMINAE) – Grass Family

Common Name: Parish's alkali-grass

Federal/Navajo Nation Status: None/NESL Group 4

Description: Annual grass with culms up to 15 cm; Leaf blades flat, moderately involute or curled along the edge; Flower spikelets a narrow panicle, each spike 3-5 mm; Glumes broad, strongly nerved and scarious margin; Lemmas pubescent on the nerves, shredded tips; Flowering May to June.

Known Distribution: Catron, Grant, Hildago, McKinley, Sandoval and San Juan Counties, New Mexico, Apache and Navajo Counties, Arizona, and California.

Habitat: Alkaline seeps, springs, cienegas and drainages with alkaline moist soils.

Geologic Substrate: Quaternary age deposited, moist alkaline soils.

Remarks: Uncommon. The plant was first described in 1890 and it was previously proposed for Federal listing as Endangered. The Parish's alkali-grass was taken off consideration for Federal listing due to many new populations discovered since the early 1990's. This species has been extirpated from California. On the Navajo Nation the plant is known to grow in and around the vicinities of the Beclabito Dome and Two Gray Hills in San Juan County, New Mexico, northeast of the Carrizo Mountains, north of Comb Ridge and in the Tuba City area, Apache and Navajo Counties, Arizona. There are no alkaline seeps, springs or ciegnas occurring in the project area and thus no potential habitat exists.

- *Sclerocactus mesae-verdae* (Boiss. ex Hill & Salisb.) L. Benson

Family: CACTACEAE - Cactus Family

Common Name: Mesa Verde cactus

Federal/Navajo Nation Status: Listed Threatened/NESL Group 2

Description: Mainly solitary stems, may form clusters of 10 stems or more; Stems oval to globose, 3-11 cm; Spines, 10-13 mm, 8-11 radial spines, central spine none to rarely 1; Flowers cream to pale yellow green, 2 cm in diameter; Fruit a cylindrical capsule, green turning tan; Flowering late April to early May.

Known Distribution: San Juan Co., New Mexico; and Montezuma, Co., Colorado.

Habitat: Salt desert scrub community.

Geologic Substrate: Mancos Shale and Fruitland Formations.

Remarks: San Juan Basin Endemic. Rare cactus that has experienced nearly 90 percent mortality rate of the overall cactus population due to drought related conditions in early 2000's. This cactus is restricted to nearly barren slopes, knoll, ridges and benches on weathered Mancos Shale and Fruitland Shale outcrops. Several scattered populations were documented within the northwestern corner of the Tse Daa Kaan Chapter fenced boundary. They occur in river gravels, which is highly unusual for the species. This is not the normal habitat for the species.

3.11.8 Endangered, Threatened and Sensitive Fauna

Fauna listed Endangered, Threatened or Sensitive by U.S. Fish and Wildlife and Navajo Natural Heritage Program with potential to inhabit the proposed. Tse Daa Kaan Chapter Community Development Project, Tse Daa Kaan Chapter House, San Juan Co., New Mexico, Navajo Nation include;

Raptors and Birds: *Aquila chrysaetos* (golden eagle), *Atene cunicularia* (burrowing owl), *Buteo regalis* (ferruginous hawk), *Cinclus mexicanus* (American dipper), *Empidonax trailii extimus* (southwestern willow flycatcher), and *Haliaeetus leucocephalus* (bald eagle).

Mammals: *Mustela nigripes* (black-footed ferret) and *Vulpes macrotis* (kit fox).

Fishes: *Catostomus discobolus* (bluehead sucker), *Cottus bairdi* (mottled sculpin), *Gila robusta* (roundtail chub), and *Ptychocheilus lucius* (Colorado pikeminnow).

3.11.8.1 Raptors and Birds

- *Aquila chrysaetos*

Common Name: golden eagle

Federal/Navajo Nation Status: Sensitive; MBTA, EPA/NESL Group 3

Remarks: Protected under the Migratory Bird Treaty Act and Eagle Protection Act. Golden eagles prefer remote terrain with vertical cliffs up to 100 feet. Nesting sites are next to open desert scrub and grassland communities where they forage and prey on small mammals/reptiles. They are reported throughout Navajo Nation. During the winter, they are reported from the general area and they may utilize large cottonwood trees along San Juan River. No golden eagles were observed within the proposed site.

- *Atene cunicularia*

Common Name: burrowing owl

Federal/Navajo Nation Status: MBTA/NESL Group 4

Remarks: Burrowing owls occupy old, abandoned prairie dog burrows. The burrows are used as dens. They live among active prairie dog colonies in grasslands and desert scrub communities. No potential habitat exists for these small owls.

- *Buteo regalis*

Common Name: ferruginous hawk

Federal/Navajo Nation Status: Sensitive, MBTA/NESL Group 3

Remarks: Protected under the Migratory Bird Treaty Act. Ferruginous hawks are inhabitants around open prairie grasslands and extensive badland topography with numerous isolated, scattered rock columns, hoodoos and small buttes. They nest in trees, in large stick nests, on rocky ledges, rocky overhangs, potholes, and even on the ground. They have been reported from the Chinle Valley, Dilkon area and into the badlands of New Mexico. No ferruginous hawk habitat occurs in and around the project area.

- *Cinclus mexicanus*

Common Name: American dipper

Federal / Navajo Nation Status: MBTA / NESL Group 3

Remarks: Protected under the Migratory Bird Treaty Act. Preferred habitats of the bird occur along perennial mountain streams with clear running water and small pools where feed on insects that inhabit riparian settings. They have been reported from Chuska Mountains, Lukachukai Mountains, upper Canyon de Chelly, Little Colorado River canyon and Piute canyon. No habitat occurs.

- *Empidonax trailii extimus*

Common Name: southwestern willow flycatcher

Federal/Navajo Nation Status: Listed Endangered; ESA, MBTA/ NESL Group 2

Remarks: Protected under the Endangered Species Act and the Migratory Bird Treaty Act. Suitable habitat requires riparian settings along rivers, perennial streams and wetlands with dense growth of willows, other shrubs and small trees. Flycatchers feed on insects that inhabit riparian settings. These birds have been reported from San Juan River and Colorado River. No habitat suitable occurs.

- *Haliaeetus leucocephalus*

Common Name: bald eagle

Federal/Navajo Nation Status: Listed Threatened; ESA, MBTA, BEPA/NESL Sensitive

Remarks: Bald eagles require tall trees and cliffs near perennial water source with abundant fish. During the winter bald eagles are reported from San Juan River corridor from Gad i ahi Chapter to Tse Daa Kaan Chapter. They utilize large cottonwood trees along San Juan River. No potential habitat exists.

3.11.8.2 Mammals

- *Mustela nigripes*

Common Name: black-footed ferret

Federal/Navajo Nation Status: Listed Endangered/NESL Group 2

Remarks: Black-footed ferrets are carnivores included in the weasel family. They inhabit grasslands, desert grasslands and desert scrub plant communities next to large extensive prairie dog colonies. Ferrets use abandoned prairie dog burrows for dens and they feed on prairie dog as their primary food source. Navajo Nation historical documented populations were from Mexican Springs, New Mexico and Keams Canyon, Oraibi, Howell Mesa, Arizona (Mikesic et al. 2005). No habitat for black-footed ferret.

- *Vulpes macrotis*

Common Name: kit fox

Federal/Navajo Nation Status: None/NESL Group 4

Remarks: Small canine with pale grayish coat, large ears and black-tipped tail. Kit fox den in soft clay alluvium and sandy soils associated with desert scrub, saltbush, and greasewood communities. Den entrances are keyhole shaped.

Known to live around the Navajo Nation from east Chuska Mountains, the Chinle Valley and all desertlands on Navajo Nation (Mikesic et al. 2005). No habitat exists for kit fox in and around the project area.

3.11.8.3 Fishes

- ***Catostomus discobolus***

Common Name: bluehead sucker

Federal/Navajo Status: None/NESL Group 4

Remarks: Bluehead sucker are silvery blue, grow to 45 cm long. They have fleshy lips and protractile mouths. Bluehead sucker prefer slow to swift flowing water. They are known from San Juan River including its major tributaries. In Chuska Mountains they are known from Whiskey creek, Wheatfields Lake and Tsaile creek (Mikesic et al. 2005). No potential habitat.

- ***Cottus bairdi***

Common Name: mottled sculpin

Federal/Navajo Nation Status: None/NESL Group 4

Remarks: Long bodied fish with large flat head, eyes located on the upper surface of the head. Adults prefer coarse gravel bars, lag deposits and river boulders fields. Young fish use shallow intermittent channels and shorelines. Mottled sculpin are known only in San Juan River, New Mexico section (Mikesic et al. 2005). No habitat. San Juan River is located 1.0 mile to the south.

- ***Gila robusta***

Common Name: roundtail chub

Federal/Navajo Status: None/NESL Group 2

Remarks: A native fish of Colorado and San Juan Rivers. Adults inhabit perennial waters by pools and eddies next to rapid flowing sections of the river to spawn and feed. Juveniles prefer water margins and back waters (Mikesic et al. 2005).

On the Navajo Nation, chubs are restricted to the San Juan River and the reaches of Mancos Creek. There is no habitat for the roundtail chub. It is not likely to be impacted by development.

- *Ptychocheilus lucius*

Common Name: Colorado pikeminnow

Federal/Navajo Status: Listed Endangered/NESL Group 2

Remarks: A large minnow 1-2 meters long, adults use backwaters, flooded riparian during spring runoffs and spawn in gravel bars. On Navajo Nation Colorado pikeminnow is known from San Juan River. Adults use the river downstream of Shiprock to near Four Corners (Mikesic et al. 2005). No habitat for pikeminnow.

3.11.9 ESA Listed Species Listed From Further Evaluation

Due to lack of habitat for ESA listed species with potential to occur in the proposed area, the following listed species are eliminated from further determination for impact. Except for Mesa Verde cactus, which is federal listed as Threatened needs to be further addressed.

SPECIES	STATUS	HABITAT	DETERMINATION OF EFFECT
PLANTS			
<i>Sclerocactus mesa-verdae</i> (Mesa Verde cactus)	Listed Threatened; ESA NESL Group 2	Salt desert scrub on Mancos Shale. No potential habitat.	May Effect, likely to adversely effect; about 60 individual cactus were found.
BIRDS			
<i>Empidonax trailii extimus</i> (Southwestern Willow Flycatcher)	Listed Endangered; ESA, MBTA NESL Group 2	Riparian areas with abundant willow cover and other shrubs.	No Effect, no willows or salt cedar exists, no habitat.
RAPTORS			
<i>Haliaeetus leucocephalus</i> (Bald Eagle)	Listed Threatened; ESA, MBTA, BEPA NESL Group 2	Perennial water source with cliffs and large trees. No potential habitat within the surveyed site.	No Effect, bald eagles are seldom reported from San Juan river corridor.
MAMMALS			
<i>Mustela nigripes</i> (Black-footed Ferret)	Listed Endangered; ESA NESL Group 2	Open grasslands with extensive prairie dog colonies.	No Effect, No large prairie dog colonies occur on site.
FISHES			
<i>Ptychocheilus lucius</i> (Colorado Pikeminnow)	Listed Endangered; ESA NESL Group 2	Major river systems of the Colorado and San Juan Rivers.	No Effect, San Juan River is located about 1.0 mile to the south.

Table ESA listed species with potential to occur in San Juan County, New Mexico.

3.11.9.1 Mesa Verde Cactus Determination and Conservation

The Mesa Verde Cacti population occurs in the northwest corner of the site as well as on a narrow strip along the northern edge of the site. The Navajo Fish and Wildlife has an agreement with chapters including Shiprock, Gad i ahi and Tse Daa Kaan Chapters in a land exchange for all certain designated areas within the chapter boundaries to be excluded from conducting Biologic Assessments. The land exchange was to provide several conservation areas for Mesa Verde Cactus refugia sites.

The conservation sites are to be set aside and restricted from further development in order to ensure the long-term survival of the rare cactus species that is unique to the San Juan Basin. The Navajo Tribal Botanist has requested that the cactus be marked, counted and documented.

The Navajo Nation will accept the responsibility to transplant and remove all Mesa Verde cacti from the proposed development site. This will guarantee that the cactus will be rescued and that in the future no further biologic investigation will be necessary. The Navajo Nation will incur all costs associated with removal of the cactus.

3.11.9.2 Noxious Weed Species Inventory

Weed species have no economic, agricultural or nutritious value. Non-native species were introduced to western US by early settlers. The following plants located during the survey are considered invasive, noxious and poisonous. Although other troublesome weeds occur, these are classified as noxious by some western states.

States with Noxious Weed Laws require documentation, monitoring, control and eradication of noxious weeds that infest areas of federal, tribal, public and private lands. The Navajo Nation does not have any Noxious Weed Laws.

Large areas of Navajo rangeland have become infested with noxious weeds and the efforts to eradicate or control such infested areas have not been implemented. As decades pass infested areas increase in acreage and the process continues on undisturbed rangelands adjacent to infested areas, which in turn become infested by weeds that readily adapt to any ecologic habitat.

Within the proposed action area it is recommended that in order to prevent the spread of Noxious Weeds, minimal ground disturbance couple with fencing off infested areas this will deter weeds from spreading as rapidly.

Weed infestation treatment options include mechanical, chemical and possibly biologic. However, the cost of such treatments can deter such efforts. From personal research and experience the flora of San Juan Basin drainage area consists of approximately 2500 different vascular plant species. Non-native weeds comprise approximately 20-25% of the total San Juan Basin flora, roughly 500 plus species. This indicates that numerous weeds are well on their way to invading and overtaking undisturbed rangelands in the west.

- *Asclepias subverticillata* (A. Gray) Vail

Family: ASCLEPIDIACEAE - Milkweed Family
Status: None

Common Name: Whorled milkweed, poison milkweed, horsetail milkweed

Description: Slender perennial, from horizontal rhizomes that branch from a woody root; Stems branch below ground, ascend 25 cm; Leaves numerous, 2-10 cm long, 1-3 mm wide, whorled, opposite at the nodes; plants glabrous to minutely puberulent; Inflorescences solitary umbel-like clusters of numerous white flowers; Petals rotate, reflexed, lobes 3-4 mm; Fruit cigar shape follicle on erect pedicels, 4-8 cm long, 6-8 mm broad; Flowering May to September.

Remarks: Whorled milkweed is distributed over much of the western US; it is widely established in San Juan County, NM. A native species that overtakes disturbed sites particularly roadsides, farmlands and irrigation ditches; the plant is poisonous to livestock, especially sheep. This species is found scattered along the irrigation canal and in a few isolated locations south of the Chapter House.

- ***Centaurea repens* L.** Synonym: ***Acroptilon repens* (L.) DC.**

Family: ASTERACEAE (COMPOSITAE) - Sunflower Family

Common Name: Russian knapweed, Russian cornflower

Status: Class B

Description: Perennial herb, numerous stems ascending from deep rooted rhizomes; Stems 3-8 dm, tomentose, becoming glabrous; Leaves in basal rosette and along stems, basal leaves withering by flowering period; Leaves entire, serrate, 1-5 cm long, 2-12 mm wide; Flowers terminate; 9-15 mm high, 5-12 mm wide, cone shaped; Floral bracts papery white, opaque margins; Flowers pink to purple-pink; Fruit pappus bristles; Flowering June to September

Remarks: Introduced from Eurasia late 1890's, now widely established in United States. Russian knapweed is the most common knapweed in San Juan Basin. This highly aggressive species forms extensive colonies on old farmlands, pastures, along pipelines, well sites and roadsides. Knapweed has invaded and overtaken large areas of understory along San Juan River, is known to be poisonous to animals. There are several small isolated patches along the irrigation ditch

- ***Convolvulus arvensis* L.**

Family: CONVULVACEAE - Morning Glory Family

Common Name: Field bindweed, field morning glory

Status: Class C

Description: Deep rooted perennial from rhizomes; Stems decumbent, trailing, 1 m or more; Leaves elliptic to ovate, two lobes at base resembling an arrowhead; Flowers solitary, end of peduncles; Flowers funnel shaped, white to pink, 1.5-2 cm; Fruit a capsule, 2-4 seeds; Flowering May to October.

Remarks: Introduced from Eurasia. Wide spread in United States. A common agricultural weed of dry farmlands, pastures, gardens, roadsides, and other disturbed sites. This species is very difficult to eradicate due to its extensive root system. Small populations occur within south of the chapter house, along the irrigation canal and disturbed open lots.

- ***Elaeagnus angustifolia* L.**

Family: ELAEAGNACEAE - Oleaster Family

Common Name: Russian olive, monkey eggs

Status: None

Description: Small tree, 2-12 m, reddish brown trunks, grayish foliage; Several trunks ascend and branch above, trunks, branch armed with thorns, 2-5 cm; Leaves lanceolate to elliptic, 2-8 cm long, 5-30 mm wide, silvery gray with small scales, bicolored; Flowers in clusters, pale yellow, fragrant; Fruits small, round, olive-like, silvery turning brown and glabrous; Flowering June to September.

Remarks: Introduced from Europe, widely established in United States. This small tree is cultivated as an ornamental its fast growing habit, silvery foliage and fragrant flowers make this species desirable for gardens, shade trees and wind breaks along field edges. This species out compete native trees, shrubs and grasses along rivers, waterways, riparian areas and moist seeps in San Juan Basin.

Once established in native plant communities, it is difficult to eradicate. This species is found scattered south of the chapter house and along the irrigation canal.

- *Halogeton glomeratus* (Bieb.) C. A. Meyer

Family: CHENOPODIACEAE – Goosefoot Family

Common Name: Halogeton

Status: Class A

Description: Succulent annual, 3-40 cm, decumbent to ascending stems branch; Leaves fleshy, sausage-like, 3-12 mm long, 1-2 mm wide, terminated by a small spine; Flowers minute, 0.25 mm, Fruit oval to obovate, 1-1.5 mm; Flowering June to October.

Remarks: Introduced to Nevada in 1930's from Russia and China. Wide spread in western US. Halogeton is highly toxic to livestock, especially sheep. This species is often found on arid alkaline clay soils invading undisturbed, native rangelands throughout the west. This poisonous plant is scattered throughout proposed area.

- *Tamarix chinensis* Lour. Synonyms: *Tamarix gallica*, *Tamarix ramosissima* Ledeb, and *Tamarix pentandra*

Family: TAMARICACEAE - Tamarisk Family

Common Name: Salt cedar, tamarisk, tamarik

Status: None

Description: Perennial shrub to small trees up to 8 m; Trunk, branches dark brown to reddish brown, highly branched slender stems; Leaves scale-like, sessile; Flowers numerous, small, 1-2 mm, pink to white; Flowering June to October.

Remarks: Introduced from Eurasia in early 1900's and is widely established in United States. In San Juan Basin, saltcedar has invaded undisturbed riparian areas, stock ponds and the river systems.

This shrub was introduced for erosion control along eroded, dry stream channels and has now become a nuisance to native plant communities in the southwest. This species is rapidly displacing native cottonwoods, willows and other native riparian vegetation.

Saltcedar uptakes several hundreds of gallons of water per day per plant which often accelerates drying up of springs, seeps, and ponds. Saltcedar is found along riverside banks, riparian areas, springs, seeps, ciegnas, stock ponds and lake shorelines. This shrub is very difficult to eradicate and control due to its deep roots and extended year round flowering period. This species is found scattered south of the chapter house and along the irrigation canal.

3.11.10 Effects of the Proposed Action

The anticipated impacts to biologic resources as a result of the proposed Tse Daa Kaan Chapter Community Development Project will result in permanent ground and vegetation disturbance of approximately 10-12 acres. The site has been disturbed by as indicated by the ground having been terraced and leveled. Impacts to wildlife that inhabit the site should be minimal. One federal listed Endangered, Threatened or Sensitive species was located within the proposed project site.

Anticipated wildlife impacts include lost of habitat and modification of movement route and patterns. The impacts will be gradual and ongoing. However the impacts should be limited to small rodents and reptiles. No bird or raptor nests were located and it is believed that none are within the proposed project site. Large cottonwood trees utilized by raptors are located mainly to the south.

Excessive noise levels associated with the construction project may potential impact raptors and other small birds during roosting, breeding and nesting season. Depending upon the wildlife species, some animals may avoid the region. Small mammals may be impacted by increase noise, by not detecting predators that prey on these small mammals. Peak noise level is expected during construction; however noise will have no impact on the site.

Human effects will include increase noise level, slight increase in air borne dust as well as temporary increase in vehicular travel. The construction may lasts up to several months and during this time frame several homesites located across the irrigation canal may experience all the impact factors mention.

However, most of the people that reside nearby are far enough away that the impacts should be minimal. The Mesa Verde Cactus populations need to be conserved and rescued before construction is initiated. The Navajo Nation Fish and Wildlife will transplant and remove all cacti that are located within the project site area. The chapter needs to inform the Fish and Wildlife of the target date for construction so that the cactus will be removed before any construction begins. This cactus is a rare species still protected under the Endangered Species Act.

3.12 Compilation of Field Data and Methodology

The field survey was conducted on approximately 15-17 acres. The field survey was completed on February 21, 2008 with one field surveyor conducting the groundwork. Field survey methodology consists of walking out the entire survey boundary in small manageable blocks of 1-2 acres, traversing the 1-2 acres block back and forth to ensure 90% total ground cover was achieved. A 50-foot buffer zone was also surveyed beyond the required survey boundary.

Raptor surveys were conducted by visual surveys of all powerline poles, fencelines and any protruding high areas with the aid of binoculars and field spotting scopes.

3.13 Accessibility

The development site selected by the Tse Daa Kaan Chapter is located approximately 1/4 mile north of U.S. Highway 491, along the heavily traveled Navajo Route 5031. The site is 1 mile north of the San Juan River.

3.14 Conclusion

The Consultant concludes that this site is a good development site. The positive attributes that the site has to offer, are that there are no existing cultural or traditional sensitive areas of concern and has the legal survey, the Cultural Resources survey and the Environmental Assessment with the Notice to Proceed. The accessing of utility infrastructure would not be an issue as electrical, water lines and wastewater systems are all on-site.

There are two issues of concern concerns include the presence of the Mesa Verde Cacti in the northwest sector of the Chapter House tract and along the northern perimeter. The Cacti populations have been identified and flagged. The Navajo Nation Department Fish and Wildlife will need to be notified if the community proposes any type of development in these areas. The Fish and Wildlife will transplant the Cacti that are in the vicinity of the proposed developments.

The second issue is the Cultural Resource that is identified immediately to the south of the Chapter House that hosted the burial site of a community member. The community did exhume and re-interred the remains at a different location and it is recommended that the community consider establishing a structure that ensures non-development of the specific so as to render respect for the deceased community member and family.

With these items addressed, the Tse Daa Kaan community would be well served in further developing the proposed community development site.

Exhibit 3.15.1 Selected References

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Exhibit 3.15.2 Photos of Chapter House Tract Development Site



Photo 1 – Taken from east side of Chapter House Tract Development Site



Photo 2 – Taken from south side of Chapter House Tract Development Site

Exhibit 3.15.3 Flora of the Tse Daa Kaan Chapter House Tract Development Site

AMARANTHACEAE – Amaranth Family

<i>Amaranthus blitoides</i> S. Wats.	Prostrate pigweed
<i>Amaranthus retroflexus</i> L.	Redroot pigweed

APIACEAE (UMBELLIFERAE) – Parsley Family

<i>Cymopterus bulbosus</i> A. Nels.	Onion spring parsley
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ASCLEPIDIACEAE – Milkweed Family

<i>Asclepias subverticillata</i> (A. Gray) Vail	Whorled milkweed
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ASTERACEAE (COMPOSITAE) – Sunflower Family

<i>Centaurea repens</i> L.	Russian knapweed
<i>Chrysothamnus nauseosus</i> (Pallas) E. L. Greene var. <i>graveolens</i> (A. Gray) Hall	Rubber rabbitbrush
<i>Conyza canadensis</i> (L.) Cronq.	Horseweed
<i>Grindelia squarrosa</i> (Pursh) Dunal	Curly-leaf gumweed
<i>Lactuca serriola</i> L.	Prickly lettuce
<i>Senecio douglasii</i> DC. var. <i>longilobus</i> (Benth.) L. Benson	Douglas' groundsel
<i>Townsendia annua</i> Beaman	Annual townsendia
<i>Tragopogon dubius</i> Scop.	Yellow salsify
<i>Xanthium strumarium</i> L.	Cocklebur

BRASSICACEAE (CRUCIFERAE) – Mustard Family

<i>Descurainia pinnata</i> (Walter) Britt.	Pinnate tansymustard
<i>Descurainia sophia</i> (L.) Webb. ex Prantl.	Flixweed
<i>Malcomia africana</i> R. Br. in Ait.	African mustard
<i>Sisymbrium altissimum</i> L.	Tumbling mustard

CACTACEAE – Cactus Family

<i>Opuntia polyacantha</i> Haw.	Plains prickly pear
<i>Sclerocactus mesa-verdae</i> (Boiss. ex Hill & Salis.)	Mesa Verdae Cactus

CHENOPODIACEAE – Goosefoot Family

<i>Atriplex canescens</i> (Pursh) Nutt.	Four winged saltbush
<i>Atriplex gardneri</i> (Moq.) D. Dietr. var. <i>cuneata</i> (A. Nels.) Welsh	Castle Valley saltbush
<i>Atriplex obovata</i> Moq.	New Mexico saltbush
<i>Atriplex powellii</i> S. Wats.	Powell's orach
<i>Atriplex saccaria</i> S. Wats.	Stalked orach
<i>Bassia hyssopifolia</i> (Pallas) Kuntze	Fivehook smotherweed
<i>Halogeton glomeratus</i> (Bieb.) C. A. Mey	Halogeton
<i>Kochia scoparia</i> (L.) Schrader	Summer cypress
<i>Salsola tragus</i> L.	Russian thistle

CONVOLVULACEAE – Morning Glory Family

<i>Convolvulus arvensis</i> L.	Field bindweed
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ELAEAGNACEAE – Oleaster Family

<i>Elaeagnus angustifolia</i> L.	Russian olive
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EUPHORBIACEAE – Spurge Family

<i>Chamaesyce glyptosperma</i> (Engelm.) Small	Ridge seeded spurge
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FABACEAE (LEGUMINOSAE) – Bean Family

<i>Medicago sativa</i> L.	Alfalfa
<i>Melilotus albus</i> Desr. ex Lam.	White sweetclover

MALVACEAE – Mallow Family

<i>Sphaeralcea coccinea</i> (Nutt.) Rydb.	Common globemallow
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ONAGRACEAE – Evening Primrose Family

<i>Oenothera caespitosa</i> Nutt.	Morning lily
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PLANTAGINACEAE – Plantain Family

<i>Plantago patagonica</i> Jacq.	Woolly plantain
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POACEAE (GRAMINAE) – Grass Family

<i>Bouteloua barbata</i> Lag.	Sixweeks grama
<i>Bromus tectorum</i> L.	Cheatgrass
<i>Distichlis spicata</i> (L.) E. L. Greene	Desert saltgrass
<i>Eremopyrum triticeum</i> (Gaertn.) Nevski	Annual wheatgrass
<i>Erioneuron pulchellum</i> (H. B. K.) Tateoka	Fluffgrass
<i>Hilaria jamesii</i> (Torr.) Benth.	Galleta
<i>Hordeum jubatum</i> L.	Foxtail barley
<i>Muhlenbergia asperifolia</i> (Nees & Mey.) Parodi	Scratchgrass
<i>Munroa squarrosa</i> (Nutt.) Torr.	False buffalograss
<i>Sporobolus airoides</i> (Torr.) Torr.	Alkali sacaton
<i>Sporobolus cryptandrus</i> (Torr.) A. Gray	Sand dropseed

POLYGONACEAE – Buckwheat Family

<i>Eriogonum gordonii</i> Benthg. in DC.	Gordon's buckwheat
<i>Polygonum aviculare</i> L.	Knotweed

SALICACEAE – Willow Family

<i>Populus deltoides</i> H. Marshall	Cottonwood
ssp. <i>wislizeni</i> (S. Wats.) Eckenwalder	
<i>Salix exigua</i> Nutt.	Coyote willow

TAMARICACEAE – Tamarisk Family

<i>Tamarix chinensis</i> Lour.	Saltcedar
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ULMACEAE – Elm Family

<i>Ulmus pumila</i> L.	Chinese elm
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Exhibit 3.15.4 Fauna of the Tse Daa Kaan Chapter House Tract Development Site

Mammals

<i>Canis domesticus</i>	Feral dog
<i>Canis latrans</i>	Coyote
<i>Lepus californicus</i>	Blacktail jackrabbit
<i>Peromyscus maniculatus</i>	Deer mouse

Birds and Raptors

<i>Carpodacus mexicanus</i>	House finch
<i>Colaptes auratus</i>	Northern flicker
<i>Corvus corax</i>	Common raven
<i>Zenaida macroura</i>	Morning dove

TSE DAA KAAK CHAPTER, NAVAJO NATION

CHAPTER LAND USE PLAN

CHAPTER 4-INFRASTRUCTURE ANALYSIS



CHAPTER 4 - INFRASTRUCTURE ANALYSIS

TABLE OF CONTENTS

- 4.1 Background**
- 4.2 Infrastructure Analysis Elements**
- 4.3 Conclusion**
- 4.4 Exhibits**

CHAPTER 4 - INFRASTRUCTURE ANALYSIS

4.1 Background

The Tse Daa Kaan Chapter has designated two proposed development sites; one is 10 acres in the south part of the Chapter located 5 miles south of the Tse Daa Kaan Chapter House complex across the San Juan River and along Navajo Route 36 approximately 4 miles east of the U.S. 491. The second development site is within the confines of the 15-acre Chapter House tract. The areas are reserved for commercial and community development, including housing and other needed community facilities.

The consultant and associate Geo-Botanist performed a site analysis of the areas and has determined that the sites are well suited for development. The consultant concludes that the sites are good to excellent for development considering all elements analyzed in the Land Suitability Analysis.

4.2 Infrastructure Analysis Elements

4.2.1 Electric

Site 1 – The Navajo Tribal Utility Authority and the Tse Daa Kaan Chapter plan to extend the electrical power system from the east to the general area of the south Tse Daa Kaan project site. The proposed electric line will continue on to the west to serve the homes in the area. Ultimately the new power line will border the project site area along NR 36. This will easily accommodate the project site and the cost to bring electrical power to the site should be approximately \$5,000 at a minimum.

Site 2 – The community electrical system serves the Chapter House compound. This line will be tapped to serve the new development at a cost of \$5,000.00 at a maximum.

The calculations are based on the formula that is generally used by the NTUA wherein the cost to extend a powerline is \$2,500.00 per pole with the standard distance between electrical power poles being 350 feet.

The conclusion of the consultant is that the source for adequate electrical power is accessible to the two sites and the cost to obtain electrical power is reasonable.

4.2.2 Water

Site 1 – The piping of water to the site will not be too burdensome; there is a domestic water system that can be accessed, about 1/2 mile to the east. The estimated cost of bringing the water to the site will be approximately \$25,000.00. This cost is dependent on other variables that will be considered at the time of construction.

Site 2 - The site is served by the community water system and the calculation to serve the new developments will be about \$4,500.00.

These calculations are based on the formula that is generally used by the IHS Office of Environmental Health wherein the cost to extend a 6” waterline is \$8.50 per foot.

4.2.4 Wastewater

Site 1 – The Office of Environmental Health has advised that since the Tse Daa Kaan Chapter is planning for 12 housing units the project would need to utilize a septic system. OEH and the NTUA do not consider the installation of a sewer system to tie into the community system or a lagoon sewer system unless there is a minimum of 20 houses being developed.

Site 2 - With the extent of anticipated future development of the area, the site will require the expansion of sewage lagoon system. It would be advisable to put in two-cell lagoons for the site. The approximate cost on a two-cell lagoon would be \$500,000.00.

4.2.3 Gas

Site 1 - There is a commercial gas line located approximately 4.3 miles west of the development site. NTUA stated that the tapping into of this line to provide natural gas service to the proposed site would be feasible. The estimate cost to run the gas line to the site will be in the approximate amount of \$312,970.00. This cost will include the gas distribution regulator station and the gas main.

Site 2 - There is no commercially available gas line in the immediate Tse Daa Kaan community area and there are no immediate plans for the development of a commercial gas line. Thus, the community will have to contend with the use of butane propane to provide the necessary utility for heating and cooking in the facilities that are planned for the development sites.

4.2.5 Telecommunications

Site 1 – The telephone line that would be tapped for service for the site is approximately 4.4 miles to the west. With the electric power line that will be constructed, the Navajo/Frontier Communications, Co. would be able to string a telephone cable on the electric power poles, thus securing telephone service will not be a great problem.

Site 2 – The Chapter House compound is already served by Navajo/Frontier Communications Co. and the company will not have a problem extending service to any new facilities on the site.

4.2.6 Solid Waste

Site 1 – The proposed development site is approximately 9 miles from the Shiprock Regional Transfer Station that is operated by San Juan County. The agreement between San Juan County, New Mexico and the Navajo Nation is the Shiprock Regional Solid Waste Transfer Station will be available to all San Juan County/Northern Navajo Nation communities, including the Tse Daa Kaan Chapter.

The Tse Daa Kaan Chapter and the eventual housing manager will have the option to contract with a solid waste disposal company who can haul the solid waste from collection bins located on site to the Regional Solid Waste Station.

Site 2 – There is not an organized landfill made available for community use. The Chapter House complex program as well as the Tse Daa Kaan residents currently have access to the Shiprock Regional Solid Waste Transfer Station, which is located approximately 5 miles west of the Tse Daa Kaan Chapter House. The community also has access to another San Juan County operated Transfer Station in Waterflow, 10 miles to the east.

4.3 Conclusion

The conclusion of the consultant is that the two proposed development tracts can both be served with all manner of utility infrastructure without too much complication including electrical power, water, wastewater service, gas and telecommunications. The chapter officials will need to continue a close collaborative relationship with the Office of Environmental Health, the Navajo Tribal Utility Authority and the Navajo Frontier Telecommunications Co. in order that the utility infrastructures are brought to the fruition in a timely manner.

Exhibit 4.4.1 Tse Daa Kaan Chapter Infrastructure System

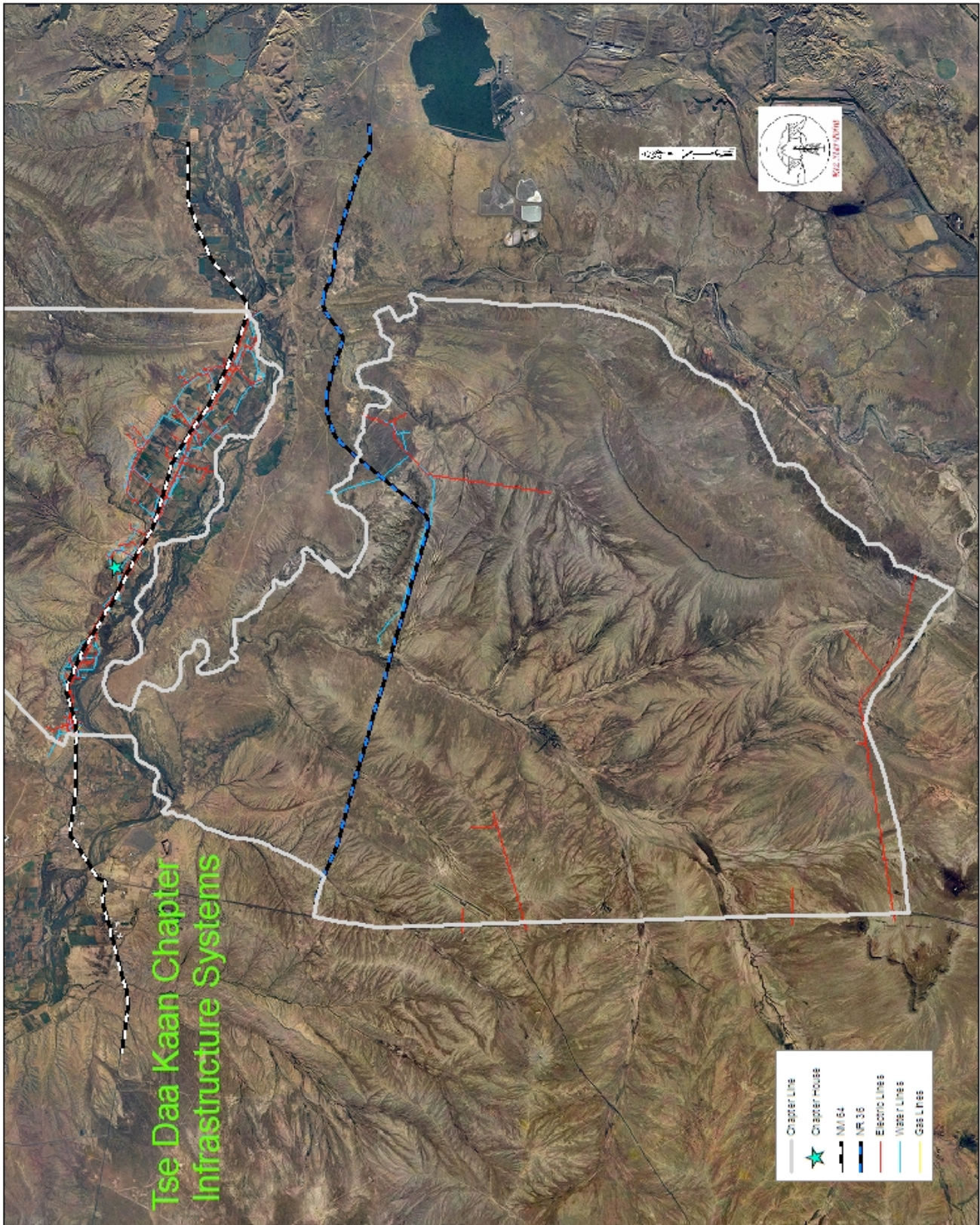


Exhibit 4.4.2 Tse Daa Kaan Chapter Community Infrastructure System Map 1

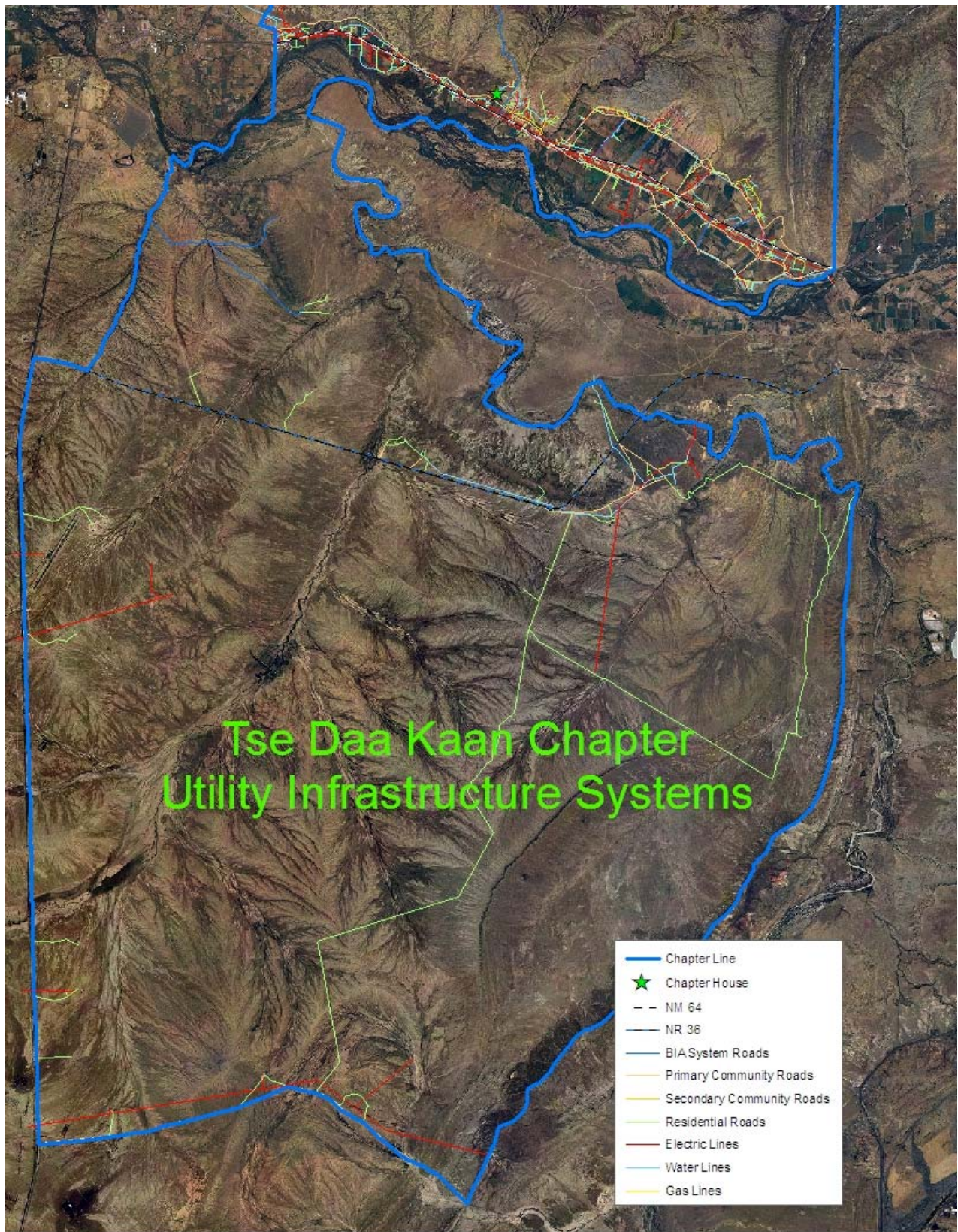
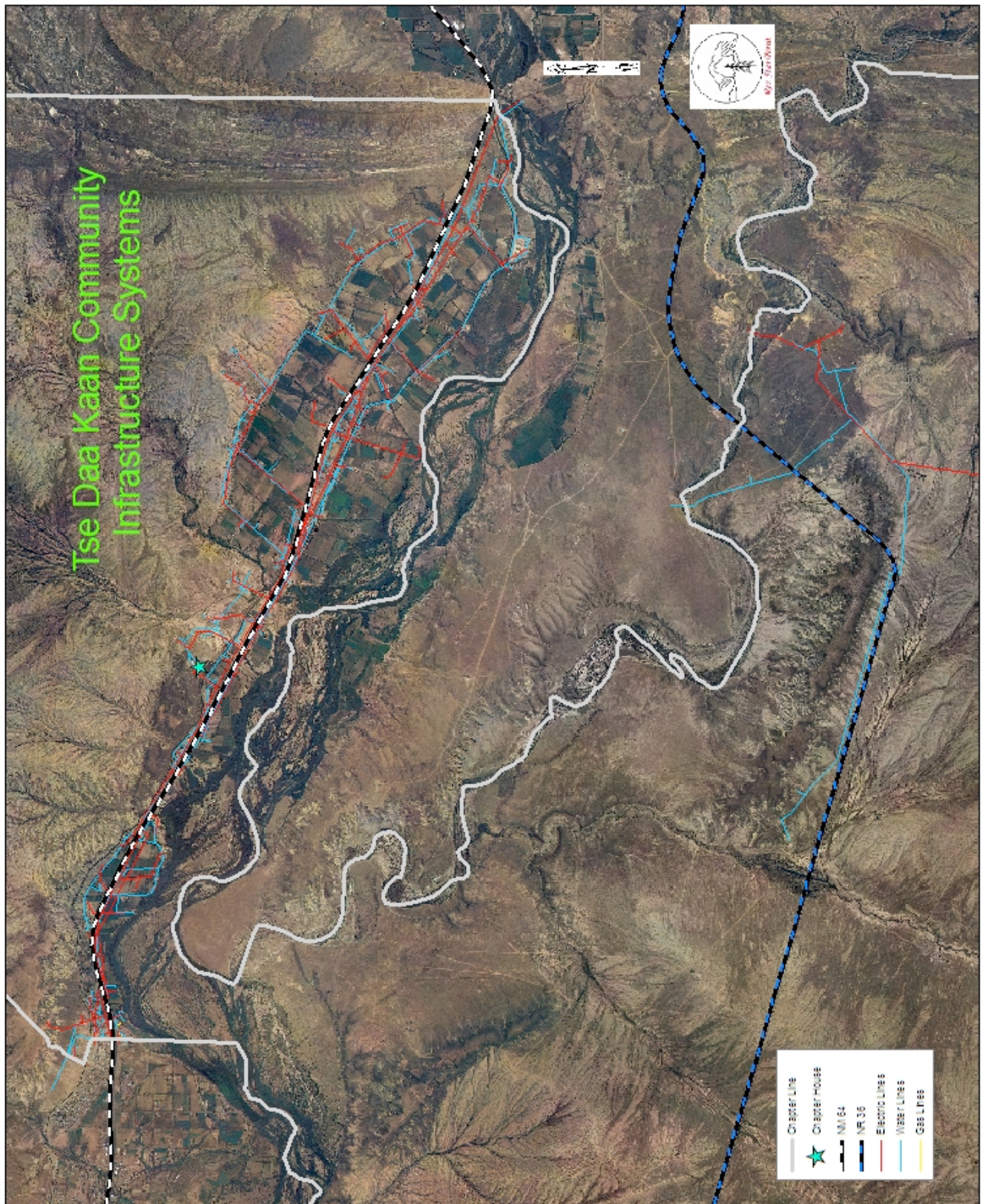


Exhibit 4.4.3 Tse Daa Kaan Chapter Community Infrastructure System Map 2



TSE DAA KAAK CHAPTER, NAVAJO NATION

CHAPTER LAND USE PLAN

CHAPTER 5 – DEVELOPMENT SITES LAND USE PLANS



CHAPTER 5 – DEVELOPMENT SITES LAND USE PLANS

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- 5.2 Site Access**
- 5.3 Site Related Elements**
- 5.4 Description of Development Site 1 Land Use Plan**
- 5.5 Description of Development Site 2 Land Use Plan**
- 5.6 Conclusion**
- 5.7 Exhibits**

CHAPTER 5 – DEVELOPMENT SITES LAND USE SITE PLANS

5.1 Background

The consultant has performed the Land Suitability Analysis and the Infrastructure Analysis and now herewith presents the Chapter Land Use Site Plans (shown at **Exhibits 5.6.1** and **5.6.2**) and narrative of the 10-acre and the 15-acre development sites.

The conclusions of the Land Suitability and Infrastructure Analyses lend to the viability of the potential development sites and thus substantiate the formulation of the Chapter Land Use Plans.

5.2 Site Access

The proposed Development Site 1 is approximately 5 miles south of the Tse Daa Kaan Chapter House along Navajo Route 36. The NR 36 is a primary highway utilized by Tse Daa Kaan community members, area residents and many regional travelers in the south Tse Daa Kaan sector. The proposed site is 4.4 miles east from the highway intersection of NR 36 and U.S. Highway 491; as such the site is immediately and easily accessible from the east and west via NR 36.

The second identified site is the area encompassed within the Tse Daa Kaan Chapter House withdrawn tract. This site is the 15-acre tract that the Chapter House and a number of other community facilities are situated on located 1/4 mile north of NM 64 along NR5031.

5.3 Site Related Elements

5.3.1 Manmade Improvement Structures

Site 1 - There are no existing structures or improvements of any kind on the 10-acre site.

5.3.1.1 Utilities

The electrical powerline, the natural gasline and the telecommunications (telephone cable and fiber optics line) infrastructure are located approximately 4.5 miles to the west, along Highway 491. Domestic water will be available from the east side of the wash less than 1 mile away. Waste water facilities will require a sewage lagoon system.

Site 2 - There are numbers of existing structures and improvements on the 15-acre site as it serves as the government center and location of other community activity, principally the Senior Citizens Center and the Headstart School facility.

5.3.1.2 Utilities

The conclusion of the consultant is that the development of the site will not be impeded by any existing improvements and that the proposed new development will be incorporated to beneficially coexist with established facilities. Further all utility infrastructures are on-site such that the proposed development of the site is feasible.

5.3.2 Contamination

There has not been any type of activity within the two development site area that would have used contaminants or other hazardous materials of any kind. As such, there is no presence or potential presence of contaminants in the area.

5.3.3 Environmental Assessment

Site 1 – The Cultural Resources (archeological) Survey and the Environmental Assessment (EA) have not been done to comply with the Navajo Nation and the BIA requirements for Site 1. However, an initial Biological Survey has been performed of the site, primarily to identify the vegetation and wildlife. The data collected through the Biological Survey can be referenced when the Environmental Assessment and clearance surveys are being performed.

A primary objective of the Biological Survey was to determine if there are any vegetation or wildlife that would be Species of Concern considering the dictates of the Federal Endangered Species Act (ESA) and the Navajo Fish and Wildlife requirements. There were no findings that qualify for consideration under the ESA.

The community is advised by the consultant that as the community continues with planning the development of the 10-acre site, the EA and other relevant surveys and studies will need to be completed. This would include securing the Finding of No Significant Impact (FONSI) statement, the Archeological Survey, as well as completing the land withdrawal process for the 10 acres if the community indeed decides to build there.

Site 2 – The Cultural Resources Survey and the EA have been done for the Site 2 and the findings stated that there were no significant findings. However, through the Biological Survey performed of the site by the consultant and associate Arnold Clifford, a substantial population of Mesa Verde Cacti was found on the northwest corner of the site and along the northern border of the site.

It will be incumbent upon the Tse Daa Kaan Chapter to notify the Department of Navajo Fish and Wildlife in the event that any type of development is proposed on or near the locations of the identified Mesa Verde Cacti. The Navajo Fish and Wildlife is obligated to transplant cacti plants that would be impacted by any development.

5.4 Development Site 1 Proposed Land Use Plan

5.4.1 Housing Subdivision

The planned housing subdivision is on approximately 6 acres of land in the northern sector of the 10-acre development site. There are 12 housing unit lots that are planned and provided for. The lots are a minimum of 1/3 acre in size, with the range from .35 acre to .40 acre each. These lots are consistent with the 2.5 housing units per acre formula used by the NHA.

5.4.2 Park Area

There is a .4-acre lot of land reserved in the center of the housing subdivision for the development of a community park area. The park area should eventually have various components intended to provide for the recreational needs of the children and all residents.

A playground area will include all manner of playground equipment and other elements of recreation such as basketball courts, horseshoe tossing pits, etc. There would also be a picnic area complete with gazebos, bar-be-que grills and tables. There could also be a veranda (shade house) for meetings and other family functions.

5.4.3 Multi-use Area

There are 1.96 acres provided for the development of a community multi-use area that could include a multi-purpose facility. The multi-purpose center would house a variety of recreation facilities and athletic equipment. The center could also have meeting rooms and other space for community functions.

5.4.4 Commercial

The lots reserved for commercial purposes total approximately 1.75 acres. The community leadership does not intend, that the lots would be host to singular commercial activities, rather that the lots would be sub-divided into smaller units to accommodate several different and separate businesses.

The community wishes to host the development of a convenience store and gas station business enterprise, as well as other business development possibilities. The areas identified herein would provide excellent locations for these proposed businesses as they are along the highway frontage.

5.4.5 Streets

In addition to the various components of the Chapter Land Use Plan discussed, there are also the basic elements of the streets, sidewalks, landscaping and access to the different parts of the development area accounted for.

5.5 Development Site 2 Proposed Land Use Plan

5.5.1 Senior Citizens Independent Living Apartments

One of the greatest needs that the community wants to address is the unfortunate institutionalization of elderly in elderly nursing homes outside of the community area. The CLUP Committee and the Chapter leadership want to develop Senior Citizens Independent Living Apartments where the community and the families will be able to take care of its own elderly.

5.5.2 Park Area

A .05-acre lot of land will be reserved in the southwest portion of the Chapter tract for the development of a community park area. The park area should eventually have various components intended to provide for the recreational needs of the children and all residents.

A playground area will include all manner of playground equipment and other elements of recreation such as basketball courts, horseshoe tossing pits, etc. There would also be a picnic area complete with gazebos, bar-be-que grills and tables. There could also be a veranda (shade house) for meetings and other family functions.

5.5.3 Multi-use Area

There are 1.50 acres provided for the development of a community multi-use area that could include a multi-purpose facility. The multi-purpose center would house a variety of recreation facilities and athletic equipment. The center would have meeting rooms and other space for community functions.

5.5.4 Commercial

The lots reserved for commercial purposes total approximately 1 acre. The community leadership does not intend, that the lots would be host to singular commercial activities, rather that the lots would be sub-divided into smaller units to accommodate several different businesses.

The community wishes to host the development of a convenience store and other business development possibilities. The area identified herein would provide excellent locations for these proposed businesses as they are at the community center.

5.5.5 Streets

In addition to the various components of the Chapter Land Use Plan discussed, there are also the basic elements of the streets, sidewalks, landscaping and access to the different parts of the development area accounted for.

5.6 Conclusion

The 15-acre site proposed for the housing subdivision and the different components of community and economic development is a good site aside from the considerations that need to be made for the cultural resource site and the Mesa Verde Cacti population. With the advent of bringing utility infrastructure to the site and the aggressive advocacy for development by the community leadership, coupled with support from the Navajo Nation, the Indian Health Service and the Bureau of Indian Service, the Tse Daa Kaan community can have and experience the positive attributes of development into the future that it deserves.

Exhibit 5.7.1 South Tse Daa Kaan Development Site Proposed Land Use Plan

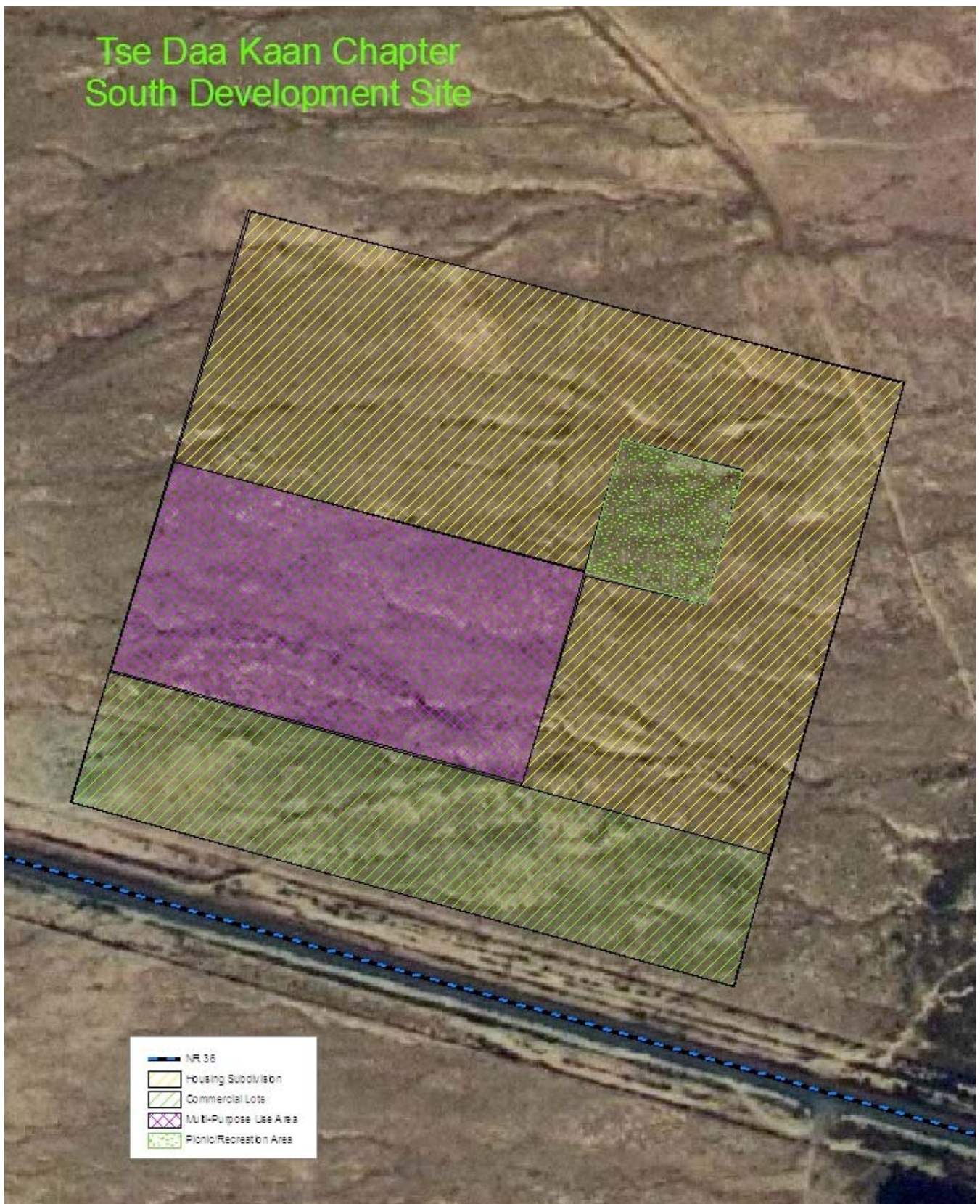


Exhibit 5.7.2 Proposed Land Use Plan for Tse Daa Kaan Chapter Development Site



TSE DAA KAAAN CHAPTER, NAVAJO NATION

CHAPTER LAND USE PLAN

**CHAPTER 6 – OPEN SPACE PLAN &
THOROUGHFARE PLAN**



CHAPTER 6 – OPEN SPACE PLAN & THOROUGHFARE PLAN

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- 6.1 Tse Daa Kaan Chapter Open Space Plan**
- 6.2 Tse Daa Kaan Chapter Thoroughfare Plan**
- 6.3 Exhibits**

CHAPTER 6 – OPEN SPACE PLAN & THOROUGHFARE PLAN

6.1 Tse Daa Kaan Chapter Open Space Plan

The recommendations set forth by the Transportation and Community Development Committee for Navajo Nation Chapters seeking certification of their Chapter Land Use Plan or comprehensive community-based land use plan includes the development of an Open Space Plan.

The definition for Open Space Plan is a plan, which preserves for the community certain areas of land to be retained in its natural state and/or reserved for livestock grazing areas or for development for recreational purposes.

The Tse Daa Kaan Chapter Land Use Planning Committee and Chapter Officials in collaboration with the Consultant have designed the basic model of the Tse Daa Kaan Community Open Space Plan as reflected in **Exhibit 6.3.1**. It is intended that this basic model be further refined by the CLUP Committee and Chapter Officials for finalization of the Chapter Land Use Plan in the preparation for LGA governance-certification consideration by the Transportation and Community Development Committee.

The Open Space Plan includes all the areas outside of the immediate Tse Daa Kaan Community proper, thus the areas that are already developed and/or highly disturbed are not included in the Open Space Plan. The primary areas that are in the Open Space Plan are the grazing areas outside the periphery of the developed community area and along the San Juan River corridor. The other areas in the Open Space Plan include the cliff areas northwest of the community that have high mesas and rough terrain.

The Open Space Plan as preliminarily developed herein is subject to adjustment and refinement as the Chapter and community proceeds with the processes involved with its long-range community development and economic development planning.

6.2 Tse Daa Kaan Chapter Thoroughfare Plan

The recommendations set forth by the Transportation and Community Development Committee for Navajo Nation Chapters seeking certification of their Chapter Land Use Plan or comprehensive community-based land use plan includes the development of a community Thoroughfare Plan.

The definition for a Thoroughfare Plan is a plan that provides a system of and design for major streets, existing and proposed, distinguishing between limited access, primary, and secondary thoroughfares, and relating major thoroughfare to the road network and land use of the surrounding area.

The Tse Daa Kaan Chapter Land Use Planning Committee and Chapter Officials in collaboration with the Consultant have devised the basic model of the Tse Daa Kaan Community Thoroughfare Plan as reflected in **Exhibit 6.3.2**. It is intended that this basic model be further refined by the CLUP Committee and Chapter Officials for finalization of the Chapter Land Use Plan in the preparation for consideration for LGA governance-certification by the Transportation and Community Development Committee.

The Tse Daa Kaan Community Thoroughfare Plan is networked around the major thoroughfare going through the community, the N.M. Highway 64. The primary thoroughfares are those streets that are currently identified as being part of the BIA System Roads, the irrigation canal service road and the NR 36 road that traverses the south portion on the Chapter area.

The secondary thoroughfare streets are those going through the principal housing areas, to the area Churches, and the streets that connect the primary thoroughfares. The limited thoroughfare streets are those that go to the private homes and other areas in the community that are not intended for free access to the general public. The Thoroughfare Plan includes the recommended realignment of existing streets in a manner that would be more conducive to a better flow of traffic, a more systematic design of a street network and the inclusion of areas that are probable for eventual development to become a component of the comprehensive street system.

The Tse Daa Kaan Community Thoroughfare Plan as preliminarily developed herein is subject to adjustment and refinement as the Chapter and community proceeds with the processes involved with its long-range community development and economic development planning.

Exhibit 6.3.1 Tse Daa Kaan Chapter Open Space Plan

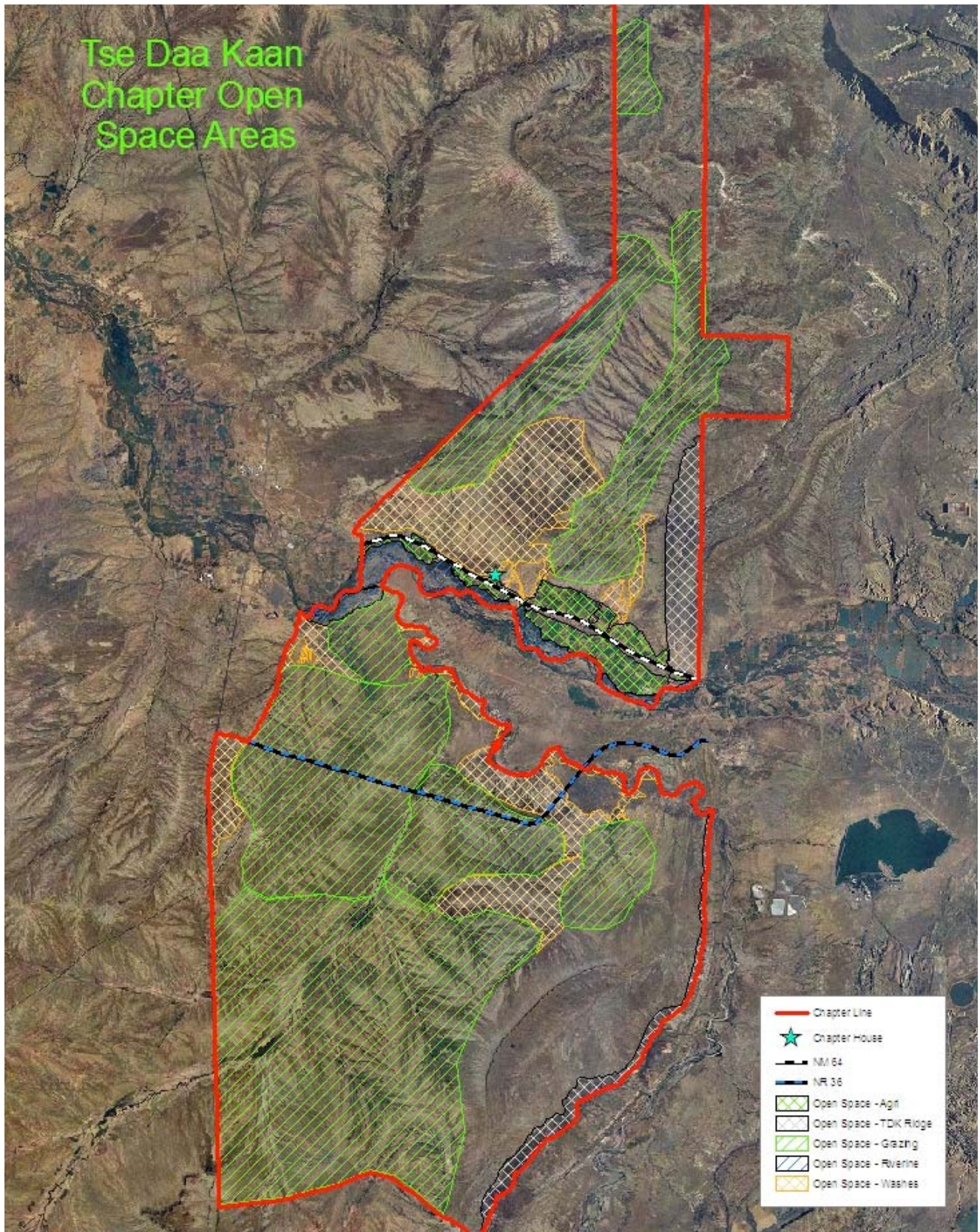
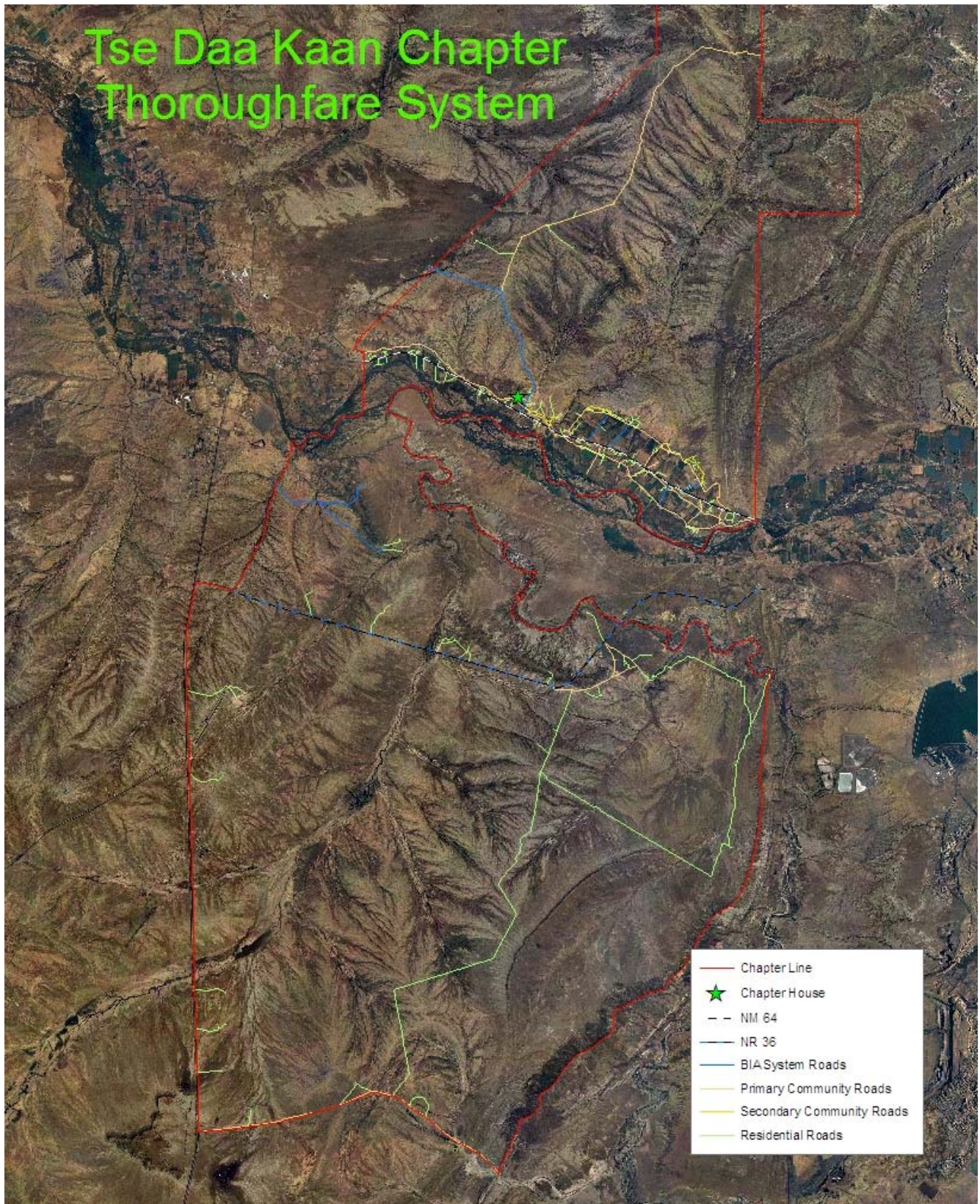


Exhibit 6.3.2 Tse Daa Kaan Chapter Thoroughfare Plan



TSE DAA KAAK CHAPTER, NAVAJO NATION

CHAPTER LAND USE PLAN

**CHAPTER 7 – IMPLEMENTATION
RECOMMENDATIONS**



CHAPTER 7 – IMPLEMENTATION RECOMMENDATIONS

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- 7.2 Additional Implementation Recommendations**
- 7.3 Site Development Requirements**
- 7.4 Legal Considerations**
- 7.5 Conclusions**

CHAPTER 7 – IMPLEMENTATION RECOMMENDATIONS

7.1 Tse Daa Kaan Chapter Recommended Land Use Policies

PREFACE:

These policies describe the internal policies that provide general direction for the Chapter government, as the community proceeds with its plans in the development of the community utilizing this Land Use Plan.

These policies are intended to provide guidance in the most general terms, specific issues not addressed by these policies shall be governed by pertinent existing Navajo Nation laws and regulations. Further those localized issues not provided for herein and not specifically provided for in Navajo law or regulations, shall be subject to the recommendations of the Tse Daa Kaan Chapter leadership for deliberation and decision of the Chapter leadership and community membership.

7.1.1 Chapter Boundary Policy

It is recognized that there are no “official” Chapter boundaries that are formally accepted by the Tse Daa Kaan Chapter, the Navajo Nation and the Bureau of Indian Affairs. The Tse Daa Kaan Chapter has 60,362 acres within its jurisdiction of Trust Land according to the Navajo Land Department. The re-delineated Chapter planning area is calculated at 1,006,503 acres.

There are outstanding Chapter boundary discrepancies with the neighboring Chapters, including Shiprock, San Juan, Nenahnezad, and Sanostee, respectively. The Chapter also shares borders with the Ute Mountain Ute Tribe and San Juan County. Situations where Tse Daa Kaan Chapter members have physical residences in other Chapter areas will be addressed through dialogue with other Chapters to determine Chapter membership/client service areas.

The policy of the Tse Daa Kaan Chapter will be to protect the integrity of the boundary recognized by the Tse Daa Kaan Chapter and to diligently engage in discussions and negotiation with other jurisdictions to conclusively resolve any potential boundary discrepancies.

7.1.2 Cultural and Traditional Resources Preservation Policy

A prerequisite in community and economic development is assessing of the cultural and traditional resources located on and adjacent to the proposed development site(s). The community leadership shall assure that the knowledge of community members of such resources are reported and considered in the predevelopment assessment processes. Cultural resources include areas where there were previous human habitation and funerary sites. Traditional resources include areas currently used for traditional ceremonial activities.

In addition to this responsibility, the Chapter will assure that all relevant laws and regulations are complied with, including but not limited to the Navajo Nation Cultural Resources Preservation Act, the National Historic Preservation Act, Archeological Protection Act and the National American Graves Protection and Repatriation Act.

7.1.3 Environmentally Sensitive Areas Policy

Another prerequisite in the process of community and economic development is the assessing of the environmental conditions and resources located on and adjacent to proposed development site(s). The Chapter leadership will assure that in the assessment of proposed development areas, all relevant laws and regulations are complied with, including but not limited to the Navajo Nation Environmental Protection Act, the Federal Environmental Protection Act, Endangered Species Act and the Clean Water Act.

7.1.4 Grazing and Agricultural Land Management Policy

The prudent practices of land use for livestock grazing and agricultural activities are time-honored activities that the Tse Daa Kaan community members are accustomed to. The regard for the land and the proper care thereof, have been central to traditional livelihood throughout the history of the people and is thus considered a sacred trust and birthright.

The Chapter leadership shall assure the continuance of the proper caring of the land and natural resources by advancing and advocating appropriate land management practices. The policy of the Tse Daa Kaan Chapter shall be to continue traditionally learned land management practices, in addition to referring to and utilizing the dictates of the Navajo Nation Grazing Regulations and other pertinent laws and regulations.

7.1.5 Land Use Approval Policy

The Chapter Land Use Plan as approved by the Chapter membership shall dictate the manner and process of the various land use proposals. The Chapter Land Use Plan is subject to periodic review and amendment by the Chapter membership.

All requests for Chapter land development shall be first presented to the Tse Daa Kaan Chapter Land Use Planning Committee for initial review. The CLUP Committee shall submit their recommendations to the Chapter Planning Committee prior to presentation to the Chapter membership.

The Chapter leadership shall insure that all appropriate information are secured before the land use proposal is forwarded to the Chapter membership. This information shall include verification of land availability, regulatory clearances, development plans and conformance with the Chapter Land Use Plan. Appropriate Tribal and other laws and regulations shall be complied with.

7.1.6 Chapter Land Master Leasing Policy

To expedite the planning and development of land, the policy of the Tse Daa Kaan Chapter shall be to make concerted effort to withdraw large contiguous tracts of land for comprehensive planning for housing, commercial, industrial and other appropriate development. These large withdrawn tracts of Chapter lands shall be surveyed and field cleared in a comprehensive manner to secure all required regulatory clearances.

7.1.7 Chapter Housing Development Policy

With the housing needs of the community delineated, the Chapter leadership in conjunction with various housing providers shall determine a strategy to address the housing need.

The basic considerations in the formulation of the housing development strategy shall include the land areas identified for housing development, required infrastructure systems, funding sources, types of housing development and building materials, housing designs, and long-term maintenance and operation of the projects.

7.1.8 Identification of New Areas for Development Policy

The Tse Daa Kaan Chapter leadership and the Chapter Land Use Planning Committee shall continually assess the need to identify new development areas to meet the anticipated growth of population and community. Areas that are considered for new development shall be assessed for land suitability, including all appropriate surveys and regulatory clearances. Areas that are determined to be available and suitable for future development shall be dedicated as such, with inclusion to the Chapter Land Use Plan.

7.1.9 Infrastructure Needs Policy

The consideration for and identification of new development areas requires that the infrastructure necessary to serve the new areas be analyzed and planned. In addition to the future planning for infrastructure, the Chapter leadership must be cognizant of the condition of existing infrastructure systems with the purpose of assuring the viability of the systems. This function is necessary to determine the portions or components of the systems that need replacement or upgrade to insure that the infrastructure needs of the community membership are satisfied.

7.1.10 Commercial and Industrial Development Policy

The policy of the Tse Daa Kaan Chapter and community will be to encourage local community members and other interested parties to develop commercial/business development. The community would also encourage the establishment of light industrial development to provide employment opportunities. The development of such commercial and industrial interests shall be provided for within the established Chapter Land Use Plan. The community leadership shall do all things necessary to assist the prospective entrepreneurs to establish their business concerns in the community.

7.2 Additional Implementation Recommendations

7.2.1 Learning and Working with Existing Laws and Regulations

The Tse Daa Kaan Chapter leadership and CLUP Committee shall gain familiarity with the intent and enabling authorities of pertinent existing Navajo Nation laws and Bureau of Indian Affairs regulations as they relate to the Tse Daa Kaan development process. Albeit the Local Governance Act of 1998 grants certain authorities to the Chapter government for the planning and regulation of local affairs and issues, there will remain continued oversight of community local governance activities by the central Navajo government and the BIA.

It is therefore incumbent upon the community leadership to understand these pertinent laws and regulations to be able to exercise the greatest measure of local governance autonomy that is feasible. By understanding and working within the parameters of the oversight laws and regulations, the community will be enabled to better achieve its goals and objectives.

7.2.2 Establishment of Chapter Land Development Code

As the Chapter leadership and community membership understand their relationship to existing laws and regulations and understanding the mechanisms in developing and maintaining the Comprehensive Land Use Plan, there will be the need to develop appropriate Land Development Codes to provide additional guidance in the orderly development of the Tse Daa Kaan Chapter and community.

7.2.3 Enforcement of Land Use Development Code

Even the most well-developed and well-intentioned Development Code is not practical, if they lack enforcement procedures. The Tse Daa Kaan Chapter and community will establish appropriate enforcement processes to assure the viable and successful exercise of the Tse Daa Kaan Land Use Development Code.

7.2.4 Zoning

To ensure that the various components of community and economic development occur in a prescribed and orderly fashion, specific sites for these components will be described beforehand using appropriate zoning mechanisms and delineating them in the Chapter Land Use Plan.

The Chapter Leadership and CLUP Committee will require that all development occur in conformity with the zoning policies, except where the community membership makes formal exceptions to the zoning policies. Such exceptions shall be accomplished through Chapter resolution and with appropriate adjustments to the Tse Daa Kaan Chapter Land Use Plan.

7.2.5 Regulatory Clearances

With the provision of land for the proposed development pursuant to the Chapter Land Use Plan and attendant zoning requirements, the Chapter leadership shall assure that there is compliance with all pertinent legal and regulatory clearance requirements.

These include, but are not limited to legal survey, archeological survey, cultural resources assessments with the Finding Of No Significant Impact (FONSI) statement.

7.2.6 Building Code

The Chapter leadership should consider the development of a set of Building Codes to provide guidance on the manner of acceptable construction of public facilities and housing. A set of Building Codes would ensure quality construction and would thus assure the protection of the safety and health of the citizens in this respect.

7.2.7 Community Education

It is incumbent on the Chapter leadership and the CLUP Committee to insure that the community membership understands the purpose and intent of the Tse Daa Kaan Chapter Land Use Plan and all its particulars.

The Chapter leadership and the CLUP Committee shall continue an orientation process on the Land Use Plan to establish ownership and acceptance of the Plan as a guiding tool for the orderly future growth and development of the community.

7.2.8 Review and Update of the Land Use Plan

The Chapter leadership and the CLUP Committee shall continually assess the Chapter Land Use Plan and present recommendations to the Chapter membership on any elements of adjustment and updating that are appropriate and necessary.

The Land Use Plan document will provide reasonable guidance for the community over the next five years. At the end of the five-year period, the Plan should undergo critical review and updating.

7.3 Site Development Requirements

7.3.1 Utility Infrastructure Development

The south tract can be served with all manner of utility infrastructure including adequate electrical power, water, wastewater, gas and telecommunications. The Chapter in close collaborative relationship with the Office of Environmental Health, the Navajo Tribal Utility Authority, the Navajo/Frontier Communications Co. and other appropriate vendors in order that the utility infrastructure are brought to serve the development site in a timely manner.

The Tse Daa Kaan Chapter House tract development has all required infrastructure systems on-site or in close proximity, therefore securing adequate infrastructure for the site is a non-issue.

7.3.2 Environmental Issues

Site 1 - An additional special site development requirement is that, because construction on clay type soil can present stability problems, the community is advised to have geo-technical assessments performed prior to commencement of any development activity. The geo-technical assessments will determine if any remedial measures are necessary for adequate soil preparation to prepare the area for housing and other development.

The community is advised by the Consultant that as the community continues with planning the development of the 10-acre site, the EA and other relevant surveys and studies will need to be completed. This would include securing the land withdrawal process for the 10 acres completing the Cultural Resources Survey, the Environmental Assessment with the Finding of No Significant Impact (FONSI) statement, if the community indeed decides to build there.

Site 2 – The Cultural Resources Survey and the EA have been done for the Site 2 and the findings stated that there were no significant findings and that development could proceed for the area. However, through the Biological Survey performed of the site by the Consultant and associate Arnold Clifford, a substantial population of Mesa Verde Cacti was found on the northwest corner of the site and along the northern border of the site.

The Cultural Resources Survey also noted that there was a previous burial site located immediately south of the Chapter House, the remains have been exhumed and re-interred at a different location, prior to development of the site.

7.4 Legal Considerations

7.4.1 Development Site Land Withdrawal

The land withdrawal for the south 10-acre site will have to be processed through the Navajo Nation and Bureau of Indian Affairs. The Chapter leadership needs to pursue the proper land withdrawal process, once and if the community and land users decide to build on the site.

7.4.2 The Archeological Survey and the Cultural Resources Assessment are outstanding issues that need to be completed with the securing of the Finding Of No Significant Impact (FONSI) statement. The Chapter leadership may request the appropriate Departments of the Navajo Nation, the Bureau of Indian Affairs or services from private firms may be solicited to complete these surveys and assessments.

7.5 Conclusion

The 10-acre site and the 15-acre site proposed for housing and the different components of community and economic development are good sites. The much-needed development planned herein requires the advent of bringing adequate utility infrastructure to the site. With the support of the Navajo Nation, as well as the Indian Health Service and Bureau of Indian Affairs, the Tse Daa Kaan community can enjoy the positive attributes of development on this site into the future.

TSE DAA KAAK CHAPTER, NAVAJO NATION

CHAPTER LAND USE PLAN

CHAPTER 8 – SUMMARY



CHAPTER 8: SUMMARY

The Native American Housing and Self Determination Act has provided the Tse Daa Kaan Chapter and community the unique opportunity to self-reflect in a process of assessing its special inherent qualities. This self-assessment by the community has brought the community and the Chapter leadership to the realization that it has the ability to plan the development of the community and to forge a beginning to a successful future.

The learning that has been collectively realized and the technical assistance imparted by the Consultant and other partners in the planning process have developed an interest in community planning. The Chapter leadership, the CLUP Committee and the community recognize that in spite of the lack of development, that there is potential for the eventual development of the community and Chapter area.

It is understood that the Tse Daa Kaan Land Use Plan document is to be regarded as a tool in the planning and development process of the community. It is understood that the Plan is intended to provide general guidance in the planning process. It is accepted that the Plan is a living document, such that it should not be stagnant, but ever changing and growing as the community continues to refine the document by working with it. It is further accepted that the Plan is intended to provide general community planning and development guidance for five years, at which time there needs to be a critical review and updating of the Plan.

The Tse Daa Kaan Chapter leadership and community membership appreciate that the developed Land Use Plan represents a crucial element in the satisfaction of the requirements to attain certification under the Local Governance Act. The Tse Daa Kaan Chapter leadership and community membership believe that their aspirations and hopes for development and progress has been enhanced through the community capacity building and community empowerment that is made evident through participation in the NAHASDA Chapter Land Use Planning project.

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