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1.0 Introduction

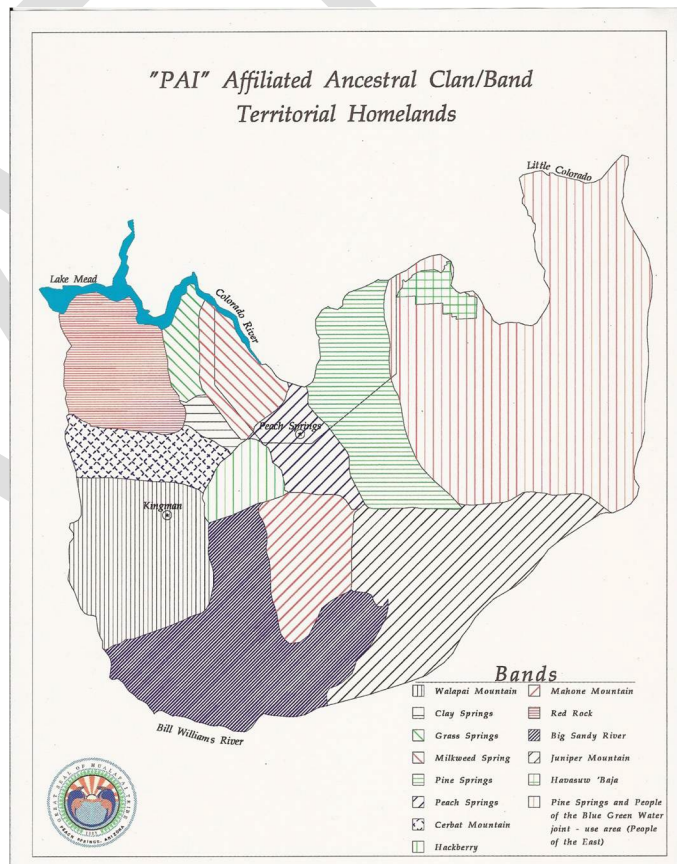
1.1 BACKGROUND FOR PLANNING

The Hualapai Indian Reservation for the Hualapai Tribe was established through an Executive Order in 1883. However, the Hualapai community was established, on the very land they inhabit today, many generations before Federal recognition:

VISION AND VALUES: WE ARE ANCESTORS TO FUTURE GENERATIONS WITH A RESPONSIBILITY TO CARRY ON OUR LANGUAGE, CULTURE, AND TRADITIONS • WE ARE THE PEOPLE OF THE TALL PINES – WE ARE HUALAPAI!

The Hualapai are a native people located in the Southwestern region of the United States. Traditionally, they inhabited an area between five and seven million acres, with archeological evidence dating back to 600 AD near what is now Hoover Dam. Their homeland stretched from the Grand Canyon southward to the Bill Williams and Santa Maria rivers of Arizona, and from the Black Mountains eastward to the pine forests of the San Francisco Peaks located near what is today Flagstaff, Arizona. This geography of tall pines is where the Hualapai derived their name, which means “People of the Tall Pines”.

The Hualapai were primarily nomadic hunter-gatherers, and were organized in bands that occupied defined territory in pursuit of seasonally available wild plants and animals. Farming was undertaken in locations where adequate water was available. Cattle, squash, peaches, corn, and beans were cultivated, as well as walnuts, grapes, acorns, mesquite berries, and vegetable foods from cactus were gathered. Women were primarily the gatherers, while the men and older boys devoted their time to hunting, as the families worked together to meet their needs. There was significant inter-tribal trading between the Hualapai, Mohave, Navajo, and Hopi Indians, as well as occasional interaction with the Paiute and Ute tribes. The Hualapai did not see a European until 1776, when Father



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Francisco Garcés crossed Hualapai territories. The Hualapai traded goods with the Spanish as a result of this encounter.

As the U.S. Government gained control of the Southwest, western style colonization began to take place, and white settlers began to occupy Hualapai territories in search of the silver and gold found in the lower reaches of the Colorado River. Through the Executive Order of 1883, the government established the Hualapai Indian Reservation, which today consists of 1,008,125 acres, including 108 miles of the Colorado River and the Grand Canyon. The railroad was built in 1883, traveling through the Hualapai Indian Reservation, as does present-day State Route 66, the road that, when it was US Route 66, brought thousands west seeking a better life for their families. Construction of Interstate-40, ongoing in the 1960s and 1970s and reaching completion in 1984, bypassed Peach Springs, depriving the Hualapai of the revenue gained through the sale of fuel, lodging, and food for travelers on Route 66.

Today, there are approximately 2,400 enrolled members of the Hualapai Tribe. Of this number, about 1,200 live in Peach Springs, the capital of the Hualapai Indian Reservation many of which are employed in the various economic undertakings of the Hualapai Tribe, including the Grand Canyon West, Hualapai Lodge and River Runners, the latter originating from Peach Springs that provides the only roadway access anywhere in the Canyon from the Rim to the Colorado River, a distance of 19 miles north of Peach Springs.

The Hualapai are governed by the Hualapai Tribal Council, which consists of nine members. Each member serves a four-year, staggered term and council members are limited to serving two consecutive terms.

Hualapai children receive their kindergarten through eighth grade education in Peach Springs. High school students may choose to continue their 9-12 grade education in the Peach Springs Unified School District at the Music Mountain campus or may attend high school in Kingman, AZ, Seligman, AZ, or attend out-of-state boarding schools.

The Hualapai have chosen tourism as their primary revenue source, foregoing on-reservation gaming as many tribes have adopted. The prime example of this focus on tourism is the Skywalk at Grand Canyon West which opened to the public in March of 2007. Word about this magnificent structure has spread around the world, bringing hundreds of thousands of visitors who share the breathtaking views of the Canyon beneath its glass floor.

Currently, the reservation encompasses about 1-million acres along 108 miles of the Grand Canyon. Occupying part of three northern Arizona counties: Coconino, Yavapai, and Mohave, the Reservation's topography varies from rolling grassland, to forest, to rugged canyons. Elevations range from 1,500 feet at the Colorado River, to over 7,300 feet at the highest point of the Aubrey Cliffs, which are located on the eastern portion of the reservation.

The Hualapai's history and bond with the pine-clad southern side of the Grand Canyon is a driving force of their development. There is a central need not only to maintain their connection to the land, but to also improve the lives of each community member through responsible development.

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Over the past 20 years the Hualapai Tribe has developed public and commercial facilities ranging from a Boys & Girls Club to the Grand Canyon Skywalk with that goal in mind.

Balancing the needs of Hualapai's growth, while maintaining a connection to the land, in a gainful and orderly manner, while at the same time maintaining a high quality of life requires a comprehensive statement of community goals and development strategies. What follows is the Hualapai Master Plan which covers the Hualapai Reservation, its trust lands and private property holdings. The purpose of the Hualapai Master Plan is not to act as a super-layer of zoning (land use ordinance) or to recommend specific development projects at precise locations. Rather it is designed to be a statement of community goals and development policies intended to aid decision-making regarding future community growth issues.

1.2 KEY DEVELOPMENT GOALS

Over the past decades the Hualapai Tribe has developed minor strategic plans and stand-alone master plans for specific areas, but is now developing its first Master Plan to focus on its priorities and map its future reservation-wide. The plan integrates: 1) past performance of the Tribe's development efforts, 2) community need assessment surveys, and 3) strategic planning sessions and community meetings which are embodied in the Master Plan, to create Goals, Objectives and Policies to guide development of the Hualapai Indian Reservation over the next 10 to 20 years.

The purpose of the review of past performances was to see where the Hualapai Tribe was in the past, to summarize the accomplishments where the Tribe is currently with economic and community development. The Historic Development Performance Review included analyses of Tribal annual reports, plans, financial statements, studies, as well as codes, ordinances, assessments, and performance reports. The review identified the outputs of Hualapai programs produced over a given time using basic industry standard performance measures. Standard performances measures included, but were not limited to, the following:

- problems solved
- crimes reduced
- tribal members with bachelors' degrees
- tribal members with graduate degrees
- tribal members with high school diplomas
- tribal members enrolled at specific educational level
- tribal members receiving financial assistance
- tribal members holding specific qualifications
- tribal members holding specific positions
- livestock production
- new houses built
- houses rehabilitated
- houses renovated
- miles of roads paved
- streetlights built
- accidents reduced
- patients receiving specific services
- issues reduced
- calls received and attended
- problems reduced
- acre feet water consumption
- number of water wells and well levels
- public transit
- public facilities constructed
- cost reduced
- KW energy consumed
- air quality

For commercial activities, the review looked at historical financial data and measured performances with the following accounting measures:

- Operating revenues
- Operating expenses
- Operating income
- Accounts receivable turnover
- Fixed asset turnover
- Days receivable outstanding
- Net income
- Return on

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- sales
- Return on investment
- Return on assets
- Return on equity
- Total assets turnover
- Inventory turnover

The data required to measure the outputs of the tribe was somewhat limited due to the reporting systems for each program. The tribe's programs were primarily funded by grants and contracts from various federal agencies, state agencies and other private foundations. The reporting system of each program is designed to meet the goals and objectives of the funding agencies and therefore, did not always provide data on total outputs and outcomes. However, the data did clearly indicate the areas where the Hualapai Tribe has been successful at meeting Tribal Member needs and those areas where adjustments to Goals, Policies and Objectives would be necessitated in this Plan.

1.3 COMMUNITY NEEDS ASSESSMENTS

Step Two in the Planning process includes Community Needs Assessments. The purpose of this activity was to solicit input from Tribal members and to incorporate their needs, wants, and wishes into the Plan. The Hualapai Tribe, like many communities, is in a continual state of change through births and deaths of Tribal members, through in and out migration, and through the natural growth and development of each Tribal member over time.

The character of the Hualapai community can make many shifts as a result of the interplay of social, cultural, and economic changes. Therefore, it is important for the Hualapai Tribe to adjust to these changing demographic needs and wants. The needs of different groups of individuals in a community are difficult to identify and frequently interrelated. Tribal members often do not express their attitudes and feelings openly. Often, community needs are not revealed until a crisis occurs.

A Community Needs Assessment was therefore conducted to find out what Tribal members are thinking and how they feel. The Assessment performed the following functions:

- Gathered information about Tribal member attitudes and opinions regarding precisely defined issues, problems or opportunities.
- Allowed Tribal members to rank issues, problems and opportunities in order of importance and urgency.
- Has been incorporated into the Goals, Objectives and Policies to give Tribal Members a further voice in determining priorities.
- Identified needs for new or expanded public and community services.
- It also served to increase Tribal Members' awareness of community planning.

The Community Needs Assessment was based on a Community-wide written survey that included a variety of questions addressing:

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- A. Family and Tradition
- B. Community Development
- C. Safety
- D. Health
- E. Housing
- F. Transportation
- G. Public Works
- H. Education
- I. Income and Employment
- J. Commerce and Economic Development

Items on the original survey from 2007 were based on input provided by the Hualapai Master Plan Committee and are also adapted from several Native American community needs assessment surveys. The survey consisted of 122 questions, including several open-ended questions to allow respondents to write in their concerns, comments, and suggestions. The Tribe's Health Impact Assessment of 2016 asked a dozen questions related to the tribe's recreational facilities and the important role they play in combating obesity, diabetes, heart disease and hypertension. Of the 61 responding, a majority sought more activities to do for all age groups, better maintained facilities and the need to integrate Hualapai culture into the design. The Planning Department conducted a follow-up to the 2007 Needs Assessment in 2017 which 30 respondents showed that barriers to employment, housing and transportation still exist. These include lack of education/driver's license, not enough homes which causes overcrowded living condition (2+ families per home) and Hualapai Transits limited time of operation and number of bus routes, respectively. The 2018 Housing Survey, part of the master planning process for the Truxton Triangle Master Plan adopted in 2019, also revealed a housing need for single people, elderly and for large families. Nearly 60% of the 52 respondents planned to move in the near future to find adequate which included moving off of the reservation.

The Hualapai Master Plan Committee consists of 16 tribal members, and include employees of the tribe, Grand Canyon Resort Corporation, Mohave Community College, private enterprise outside of the reservation, ranchers, Tribal Environmental Review Commission, Housing Board, Soil and Water Conservation District members and elders. In addition to conducting 13 committee meetings, the committee held three public meetings to gather input on creating goals for the plan.

The results of the Community Needs Assessments, together with the previously performed Historical Development Performance Review, have been utilized as a portion of the basis for this Plan.

1.4 CRITICAL SITUATIONS AND RESPONSES

The Historical Development Performance Review and the Community Needs Assessments identified a variety of situations that can be described as in critical need of attention/corrective action. In the following paragraphs, Critical Situations are named and responses, activities and policy measures are suggested for each. These serve as an executive summary with the

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background information, goals, objectives and policies contained in the appropriate sections of the Master Plan.

1.4.1 High Unemployment

Critical Response – Creation of jobs and employment opportunities through economic development activities that will enhance existing Reservation business operations and enterprises, attract new businesses and industries to the reservation, and increase tribal revenues from business that will in-turn create additional employment opportunities in tribal government and businesses. This is further detailed in the Economic Development Element (Section 5).

Activities:

Establish regular monitoring programs to evaluate employment growth, by job type and location, and the jobs-to-resident worker ratio for the Reservation.

Develop periodic outreach to businesses on the Reservation to identify skill gaps, training opportunities and skill deficiencies in the existing workforce.

Identify jobs that match the abilities of the underemployed.

Identify and study barriers to business development on the Hualapai Reservation and develop responses in policy.

Study Hualapai natural resources to determine sustainable development activities and Natural Resource Development Plan.

Create and implement a Comprehensive Economic Development Plan to serve as a guide to sustainable business development in all appropriate land use areas.

Policy – Develop business ordinance(s) to establish business relationship parameters.

1.4.2 Lack of Business Opportunity

Critical Response - Creation of self-employment opportunities through economic development activities that will enhance existing Reservation business operations and enterprises, attract new businesses and industries to the Reservation. New economic activities will expand opportunities for small tribal member-owned businesses such as trucking, construction sub-contracting, and support services.

Activities:

Support the small business incubator office established in 2023, in cooperation with Mohave Community College, to provide business planning and small business incubator education and support services including a small business revolving loan fund and/or a community development financial institution to make small business loans to qualified tribal entrepreneurs.

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Study small business development opportunities relative to existing programs and projects and new opportunities from future economic and community development activities.

Policy – Create and support a small business policy and update the tribe’s existing business license ordinance that clarifies guidelines for small business activities and relationships with the tribal government.

1.4.3 Overcrowded Housing

Critical Response – Expand housing construction financing mechanisms such as low income housing tax credit financing (LIHTC), Title-6 loan guarantee program, and Section 184 loan guarantee program to enhance the current NAHASDA based new home construction activities. Renovation of boarded up homes and construction of new single-family and multi-family units under Title-6 and LIHTC financing will provide housing for qualified low-income families.

Over income and employee housing can be developed under the Section 184 program. Development of a Section 184 program will assist individual tribal members to get guaranteed bank financing for their own homes on and off of the Reservation. Creation of new housing subdivisions at Box Canyon and Grand Canyon West are essential to the development of new housing. The identified growth areas are further detailed in the Housing Element (Section 3), along with existing housing plans and goals, objectives and policies.

Activities:

Conduct housing needs assessment, including employee housing and housing for over-income tribal members, and necessary support infrastructure.

Study of financing mechanisms and the requirements for qualifying for guaranteed loan programs and policy requirements for tax credit financing.

Create and implement a Comprehensive Housing Plan to start a housing construction program through the Housing Department.

Policy – Develop required policies and ordinances to support housing finance programs and projects.

1.4.4 Poverty

Critical Response – The development of new job opportunities and a sustainable tribal economy is the best response to poverty as further discussed in Section 5. The availability of jobs and housing will relieve the overcrowding in tribal homes and generally improve individual household economics. Improved educational attainment will also improve the employment opportunities for tribal members and qualify them for better-paying positions in new businesses or the tribal government.

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Activities – The above Economic Development and Housing activities will create an appropriate response to alleviating poverty. Increased revenues from new business activities, subject to the tribe’s Conservation Sales Tax and Possessory Interest Tax, will support tribally-funded service programs for the poor.

1.4.5 Low Educational Attainment

Critical Response – Enhancement of tribal education programs and support for programs in schools aimed at improving scholastic achievement, graduation rates, alternative education opportunities, secondary education, and vocational training. This requires funding from as many sources as possible. Revenues from new business enterprises, in form of tribal taxes, can be used to enhance education programs. Private Foundation grant funding is a potential source of funding to supplement existing federal and state funding. Improved educational attainment will enhance the quality of the Hualapai workforce and create new employment opportunities for Hualapai workers.

Activities:

Provide opportunities for continuing education for current workers by partnering with employers and community colleges.

Help local schools and other youth oriented programs on the Reservation to develop “culturally safe” environments for adult education to occur.

Study education needs for all Hualapai people from pre-school through college and adult vocational training. Identify barriers to educational attainment and craft responses.

Establish programs with business developers, and local education institutions to support and ensure success of Hualapai learners.

Policy – Periodically review existing education policies and programs. Create and implement a Comprehensive Education Plan through the Hualapai Education & Training Department.

1.4.6 Insufficient Government Resources to Meet Needs

Critical Response - Increased revenue flows from new businesses and industries, via tribal taxes, will improve the tribal government’s ability to meet the needs of the community in all areas such as social services, police and fire protection, language and cultural preservation, and education.

Activities:

The above Economic Development and Housing activities will increase revenues flowing to the tribal government.

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Examine the efficiency of tribal programs and make adjustments to reduce waste and make government spending as efficient as possible.

Policy – As part of annual retreat, tribal council shall discuss the Master Plan’s implementation and prioritization of goals in the forthcoming year. Annual retreats should be led by a third-party facilitator trained in strategic planning.

1.4.7 Infrastructure is dated and needs improvements

Critical Response - Enhancement of existing Public Works and Hualapai Tribal Utility Authority (HTUA) programs and projects will ensure the improvement and maintenance of the new and existing roadway network, water and wastewater systems, electrical power distribution grid and telecommunications network. The Infrastructure Element (Section 6) and Transportation Elements (Section 8) of this Plan detail current conditions and goals for the future.

Activities:

Create and implement a Comprehensive Reservation Infrastructure Plan with prioritized improvements and funding strategy through the Public Works Department and the HTUA.

Policy – To ensure the improvement and maintenance of facilities and infrastructure, the Tribe should develop and maintain a Comprehensive Reservation Infrastructure Plan with prioritized improvements and funding strategies for water, wastewater, solid waste, flood control/drainage, electrification and transportation system facility master plans for urban and suburban development areas.

1.4.8 Community Facilities are Inadequate and in Need of Improvements

Critical Response – Increased revenues from economic development activities will support improvements to community facilities.

Activities:

Conduct a Community Facilities assessment to determine priorities and funding plan for new facilities and improvements and determine needs for facility programs and maintenance.

Identify new community facilities funding sources and financing mechanisms such as foundation grants and bonding.

Establish and implement a Comprehensive Community Facilities Plan.

Policy - Establish necessary ordinances to support community facilities financing and on-going programs.

1.5 PRIORITY PROJECTS AND OBJECTIVES:

In this sub-section, the above critical situations and responses are interpreted relative to the various Planning Areas described in Section 2 – Land Use Element. The intention is to synthesize the various responses to the need for jobs, housing, infrastructure, and economic development activity into a prioritized set of Objectives and potential projects appropriate to each Planning Area.

1.5.1 Peach Springs

The key goal for the Peach Springs area is to provide a safe and livable housing area, with appropriate Tribal services combined into a walk-able personal-scale core. The primary goal for the Peach Springs commercial area, located along State Route 66, is to provide a variety of businesses, commercial opportunities and profitable enterprises that serve both Hualapai Tribal Members and the public traveling the highway.

Activities:

Business Plan – Identify financial resources and develop a strategy for financing the necessary improvements.

Establish a facilities improvement and economic development plan to establish tribally controlled businesses and attract new private businesses, including Hualapai Tribal member entrepreneurs. Enhance with compatible activities including a museum and library.

Infrastructure Plan – To determine roads, power, water, wastewater, gas, and telecommunications needs and a strategy for financing and construction.

Housing Plan - To meet employee housing and new housing needs through the renovation of existing homes and construction of new housing construction, including in-fill housing.

1.5.2 Grand Canyon West:

Tribal development goals for the GCW community include developing a sustainable, planned community firmly grounded in the desire to conserve both water and the natural beauty of this location on the rim of the Grand Canyon. While commercial expansion is ongoing, adequate water, wastewater, power, and telecommunications infrastructure to serve the existing venues must be accomplished before a future resort hotel and other tourist attractions can be developed. Currently the most important need is the development of sufficient employee housing to accommodate the growing need for workers. Commercial support facilities such as a convenience store, gas/service station, grocery store, and restaurants, are also needed in the area and are an essential aspect of supporting the resident workforce.

Activities:

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Business Plan – To determine the best types of new business developments and strategic business arrangements that are both profitable and honor Hualapai values.

Infrastructure Plan – To determine roads, power, water, wastewater, gas, and telecommunications needs and a strategy for financing and construction.

Housing Plan – To establish a strategy for financing and building employee housing to accommodate the growing need for workers.

1.5.3 Diamond Creek:

Development goals for this area include the establishment of an expanded recreational area including park development on the lands above the Colorado River. The planned development will include the development of tourist-oriented facilities related to eco-tourism and the previously established rafting operations. This park would be similar to a State or National Park with camping, hiking, trail riding, etc. available on an entry fee basis to non-Tribal visitors. Limited commercial activities would be provided, typical of those associated with similar parks developed outside of the reservation.

Activities:

Business Plan – To determine the best types of new developments and strategic business arrangements as applicable to the recreational area that are both profitable and honor Hualapai values along with the natural beauty and resources of the Grand Canyon.

Infrastructure Plan – To improve Diamond Creek Road to decrease travel time between Peach Springs and the Colorado River. To determine additional infrastructure improvements such as power, water, wastewater, and telecommunications needs and a strategy for financing their construction.

1.5.4 Buck and Doe:

Development goals for the area include expansion of residential development along Buck and Doe Road as far north as Mud Tank Road and west on Route 66 almost as far as the Music Mountain Junior/Senior High School. In addition, goals include development of commercial services along Route 66 at the Reservation boundary serving travelers and moderate industrial developments.

Activities:

Business Plan – To determine the best types of new business developments and strategic business arrangements that are both profitable and honor Hualapai values.

Infrastructure Plan – To determine roads, power, water, wastewater, gas, and telecommunications needs, plan, and strategy for financing and construction.

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Housing Plan – To establish a strategy to continue to finance and build homes in the Box Canyon Subdivision and other in-fill lots.

1.5.5 Truxton Triangle

The development goal for this new acquired 142 acres of trust land is for a master planned community with space for housing, businesses, public facilities and open space for recreation.

Business Plan – Identify businesses to place in the 3.5 acre site designed to serve the 142-acre development, the Truxton community and motorists travelling State Route 66 as well as determine the level of amenities to include in the design of the 13-acre RV Park.

Infrastructure Plan – Provide roadways, water, sewer, electricity and telecommunications through combination of tribal Transportation Improvement Program funds, HUD grants and LIHTC financing

Housing Plan – Construct sixty nine single family homes on one half acre and one acre lots, 5.5 acres for multiple-family and senior housing units with a combination of tribal funds, HUD grant funds and LIHTC financing.

1.5.6 Frazier Wells:

Goals for the Frazier Wells Planning Area include further development of the Youth Camp, establishing commercial activities oriented toward travelers on IR-18, and implementing employee housing to support the area. Included in area development would be various hiking and equestrian trails, a shuttle service and other services oriented toward minimal-impact outdoor activities in a natural pine-forested environment.

The Hualapai Youth Camp, located in the eastern portion of the Reservation, north of the intersection of State Route 66 and Indian Route 18, is a tribal recreational/educational site for the Hualapai Indian Tribe. Planned and necessary improvements to the area will support camping, hunting, and recreation, all of which may become a commercial venture after restrictions on the HUD grant funding utilized to construct the Youth Camp are lifted in the fourth quarter of 2025.

Business Plan – To determine the best types of new business developments and strategic business arrangements that are both profitable and honor Hualapai values.

Infrastructure Plan – Pave Youth Camp Road, extend power, treat water to a potable standard, expand wastewater system plus install broadband via a new strategy for financing and construction for such improvements.

1.5.7 Valentine:

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Goals for the Area include preserving the unique character, maintaining the feeling of an isolated and close-knit community, and improving the infrastructure. The Valentine area also has the goal of developing a small local-and-tourist oriented store along State Route 66.

Business Plan – To determine the best types of new business developments and strategic business arrangements that are both profitable and honor Hualapai values.

Infrastructure Plan – To determine roads, power, water, wastewater, and telecommunications needs and a strategy for financing and construction.

Housing Plan – To establish a strategy for financing and building homes, renovating existing homes and construction of in-fill housing.

1.5.8 Clay Springs:

The area consists of ten sections of land interlaced with BLM holdings lying between the southwesterly boundary of the reservation and Antares Road where Clay Springs Road intersects and provides access to Buck and Doe Road. The area is also traversed by the Arizona Public Service Company's Four Corners-Moenkopi-Eldorado 500kV interstate transmission line. The transmission line has been seen as a possible link to convey renewable energy generated on tribal lands to the regional grid and the California market, the latter seeking additional energy from renewable sources to fulfil its state requirement to have 100-percent of its power derived from non-fossil fuel sources by 2050. Section 31, the nearest to Antares Road, has been identified in previous renewable energy feasibility studies as having the best potential for solar development. However, such development, requiring the clearing of the landscape is not in harmony with Hualapai tradition and values.

1.5.9 Hunt Ranch

Five parcels, containing 440 acres, another addition to tribal trust courtesy of the water rights settlement, are scattered along the southwest boundary of the reservation and generally southeasterly of the Clay Springs sections. These have historically served as the Hunt Ranch's base of operations for cattle ranching and will continue to so in the foreseeable future.

1.5.10 Cholla Ranch

Goals for the Cholla Ranch Planning Area include developing a water source and adding necessary infrastructure to improve the current ranch, enhance the cultural areas and possibly add commercial activities oriented toward minimal-impact outdoor activities. Possible commercial activities to be considered for the Cholla Ranch include camping sites with various hiking and equestrian trails and also for agri-business such as hemp farming camp sites as well as various hiking and equestrian trails. The tribe's current use of the ranch and any plans for greater usage, are under threat by a potential lithium mine located on adjoining public lands, for which exploratory drilling is underway by a third-party developer to prove the richness of the lithium ore.

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Business Plan – To determine the best types of new business developments and strategic business arrangements that are both profitable and honor Hualapai values.

Infrastructure Plan – Work with Mohave County Public Works Department to improve county-maintained access roads to the property, work with Mohave Electric Cooperative on upgrading electrical power to the site, develop a potable water supply in conjunction with USDA and Indian Health Services, improve wastewater system, and provide telecommunications needs via the creation a strategy for financing and construction.

1.5.11 Tribal Lands in Big Sandy Valley

A 60-acre portion of the reservation is located in the Big Sandy Valley, east of US Highway 93 with access from Upper Trout Creek Road. An 80-acre allotment held by tribal members is adjacent to the west of this part of the reservation. An additional 570 acres of Hualapai allotment lands are less than mile to the northwest. These parcels are undeveloped and likely to remain so until Mohave County improves road access to the sites.

1.5.12 Properties Owned in Fee

In addition to those lands held in trust for the Hualapai Tribe, the tribe also has title to fee-simple ownership of scattered parcels in Mohave County and Yavapai County. These lands are remote and have little development potential.

1.5.13 Truckee Property

Donated to the tribe in 1993, the two parcels comprising 203 Acres, are within the Town Truckee, California, and contain the historic airport site, a flat piece of land between Interstate-80 and the Truckee River. The town's General Plan assigns the property a Resource Conservation/Open Space land use designation which allows for outdoor recreational activities and open space uses. This land use category is designed to conserve significant natural resources including the Truckee River and associated wetlands and wildlife corridors. The City of Truckee will rezone land, but only to conform to the City's underlying General Plan land use designations. In March of 2004, the tribe requested a commercial land use designation for the property that would allow rezone to a commercial use such as truck stop/RV Park but was denied in a 10-0 vote during the meeting of the town council and the planning commission.

In 2017, the Town of Truckee approved Resolution No. 2017-58 which established the goal to achieve 100% renewable electricity town-wide by 2023. Referring back to the land uses restrictions on the tribe's property, "electric utility facilities" may be allowed with a Use Permit which not require rezoning the property. It is recommended the tribe select a development option which reflects Hualapai values, requires the fewest number of Truckee Development Code steps, and consumes the least amount of Tribal resources on obtaining town permits and environmental reviews performed by third-party consultants.

1.6 MASTER PLAN INTENT

This Master Plan, funded by a Rural Housing and Economic Development (RHED) Program, the Flinn Foundation and tribal funds identifies sustainable economic development goals and objectives; incorporates strategic planning to meet the objectives and includes a system of balancing housing and employment locations.¹

The Master Plan is a statement of community values and aspirations, written as goals, objectives and policies, and shown on maps and diagrams, which aim to preserve the natural environment and enhance the built environment. The Master Plan provides the basis to guide the Interdisciplinary Team, Tribal Environmental Review Commission and Tribal Council when making land use and related decisions. The Master Plan is a tool for managing community change to achieve the desired quality of life. The plan includes the following elements:

- **Land Use Element:** A description of the overall Land Use Diagram; Land Use Issues; Planning Areas; and Land Use plans by Area.
- **Housing Element:** Incorporation of the Indian Housing Plan (IHP) and descriptions of Major Issues; Growth Areas; Strategic Planning; and Goals, Objectives & Policies.
- **Public Facilities:** A description of Current Conditions; Major Issues; Strategic Planning; and Goals, Objectives & Policies.
- **Economic Development:** A description of Economics Development Areas; Other Economic Activities; Major Issues; Strategic Planning; and Goals, Objectives & Policies.
- **Infrastructure:** A description of Current Conditions on the reservation, including Grand Canyon West; Major Issues; Review of energy related and broadband feasibility studies, and Goals, Objectives & Policies.
- **Ranching, Forestry and Mining:** A description of Range and Forestry Areas; Major Issues; Strategic Planning; and Goals, Objectives & Policies.
- **Transportation:** A description of Current Existing & Planned Systems; Future Roadway Corridors; Major Issues; Strategic Planning; and Goals, Objectives & Policies.
- **Environmental:** A description of Major Issues; Energy Development, Water/ Wastewater Development; Solid Waste; Conservation Measures; and Goals, Objectives & Policies.
- **Strategic Planning:** A description of the strategic planning process, its importance and how to keep the Master Plan relevant to decision-makers through Goals, Objectives & Policies.

¹ In 2009, Stantec was hired by the tribe to take the lead on the Master Plan. This relationship ended in 2012.

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2.0 Land Use Element

2.1 INTRODUCTION

The Hualapai Reservation lands are primarily located in a relatively remote area in northwest Arizona, where the Tribe has a total of approximately 1,008,125 acres in Coconino, Yavapai, and Mohave Counties. The tribe has also brought into trust 963 acres of land in Mohave County since 2016. The Hualapai have an additional 203 acres held in fee in the Town Truckee, California.

Hualapai Reservation and Trust Lands											
Tracts	100 - Valentine	103 - East Side	104 - Big Sandy	105 - Clay Springs	107 - West Side	109 - Valentine Cemetery	110 - Truxton Triangle	113 - Hunt Ranch Parcels 1-4	111 - Hunt ranch Parcel 5	112 - Cholla Ranch	Total
Acres	782.0	573,989.0	60.0	6,381.5	434,135.6	20.0	142.0	160.0	280.0	360.0	1,015,528.2

The following items are addressed in the Land Use Element of the Master Plan:

- Designates the proposed general distribution and location and extent of such uses of land for housing, business, industry, agriculture, recreation, education, public buildings and grounds, open space and other categories of public and private uses of land as may be appropriate to the municipality.
- Includes a statement of the standards of population density and building intensity recommended for the various land use categories covered by the plan.
- Identifies specific programs and policies that the Tribe may use to promote infill or compact-form development activity and locations where those development patterns should be encouraged.
- Includes consideration of air quality and access to incident solar energy for all general categories of land use.
- Includes policies that address maintaining a broad variety of land uses including the range of uses existing in Peach Springs when the plan is adopted, readopted or amended.

2.2 HUALAPAI RESERVATION – OVERALL LAND USE DIAGRAM

2.2.1 Purpose and Function of the Land Use Diagram

The projected land uses, as shown on the Land Use Diagrams, designate the proposed general distribution, location and extent of such uses of land for housing, business, industry, agricultural, recreation, public uses, and open space.

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The Land Use Diagram and the Land Use Element both function as a guide for all implementation strategies for development including zoning. However, they do not have the effect of rezoning any property. The diagrams give an indication of the existing and possible future land uses within a given area. The Land Use Element indicates a range of residential densities, which already exist or may be possible in the future in a certain area. However, a particular land use projection by the Land Use Diagrams does not automatically guarantee a specific zoning will be approved on a specific site. The Tribal Council, on advice from IDT and TERC can consider rezoning requests in terms of available infrastructure and access when determining the proper zoning. The Land Use Diagrams are also not static in that they may be amended by the Planning and Economic Development Department, after a Tribal Council resolution, when conditions warrant. However, the Land Use Diagrams should not be viewed as a super-layer of zoning subject to monthly revisions and changes.

Land Use Areas have been based on the constraints of topography, the potential of successful infrastructure development, and an assessment regarding accessibility. The need to incorporate existing areas dedicated to forestry and ranching has been incorporated, as has the need to preserve substantial portions of the Reservation undisturbed for future generations of Hualapai.

The boundaries of each Land Use Area establish the limits of the area designated to allow development and do not indicate that any resulting development will continuously sprawl to consume the designated area.

2.2.2 Land Use Categories

Land uses within the Reservation are designated as Residential, Commercial, Industrial, Recreation, Agricultural, Historical, or Undeveloped Open Space. There are also four combination land use categories including Agricultural/Residential, Agricultural Business, Tribal Government/Commercial, and Commercial/Industrial.

It is recommended that additional land use categories be researched and eventually included such as Mixed Use to allow for sustainable urbanization to be established in strategic locations on the Reservation.

Residential Land Uses are divided into four separate categories that are characterized in terms of density, and which specify a number range of dwelling units per acre (du/ac) as follows:

- Rural Density – 1 dwelling per one acre +
- Low Density – 1-2 dwelling units per acre
- Medium Density - 3-8 dwelling units per acre
- Intermediate Density - 9-16 dwelling units per acre

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The density of housing is always a fundamental decision in community design. Costs of services are closely linked with residential densities. Density provides a benchmark from which the amount and type of public services that must be furnished can be measured.

The majority of housing on the Reservation comprises single-family homes in residential densities primarily within the Rural, Low and Medium Density categories. The specific types of dwellings are determined by the uses permitted in each zoning district. However, the number of dwelling units per acre gives an indication of the type of residential development that may occur. Rural, Low and Medium Density Residential Areas are generally characterized by single-family homes that are either site-built or are manufactured. Intermediate Residential Areas are generally characterized by duplexes, triplexes and larger apartment complexes, depending on the size of the individual property and the needs of the area that is served.

Tribal members with existing home site leases may apply to expand their existing land areas to fit the range of acreage sizes allowed by underlying land use designations but not shall exceed the acreage limit prescribed in the latest version of the Home Site Lease Ordinance.

Commercial Land Uses include those serving the Tribal community, regional tourist attractions, and services along the major roadways including State Route 66 and BIA Route 18.

Commercial land uses serving the Tribal community are found dispersed throughout Peach Springs and other residential communities on the Reservation. Commercial land uses can usually be found along major roadways in order to manage projected increases in traffic flows. Development criteria for the community commercial land uses demand that property development standards ensure compatibility with adjacent non-commercial land uses.

Regional tourist attractions include existing and future commercial development that is designated at specific central locations at Grand Canyon West (GCW) and Peach Springs. Regional commercial uses shall be designated in areas that are in or near adequate infrastructure and are accessible to a large population base that would be necessary to support such commercial centers usually located along major arterials.

Commercial services along State Route 66 and BIA Route 18 provide for traveler-oriented establishments such as truck stops, hotels, motels, RV Parks and full-service automotive gas stations.

Industrial Land Uses provide for the development of industrial areas in suitable locations and are broken down into two categories:

- **Light Industrial:** These areas will accommodate industrial business activities that are not offensive to nearby commercial and residential uses. Development of such designated lands would be limited to uses such as light manufacturing, assembly, research and development, wholesale distribution (warehousing), construction, other types of low-intensity industrial activities.

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- **Manufacturing Industrial:** These areas are characterized by industrial businesses and uses having more intensive types of industrial processes such as mechanical and/or chemical processing, extractive uses, materials transfer, multiple-shift operations, and large structures. However, development in regards to major source polluters which emit 100 tons or more of criteria pollutants such as sulfur dioxide should be discouraged.

Recreational Land Uses include developed recreational areas such as public parks, as well as lands that are held for, or identified for, recreational use. These include recreational properties that will have public access (non-Tribal-Member) on a fee-paid basis, due the underlying nature of the land use.

Agricultural Land Uses include land developed for forestry, ranching or farming purposes as well as lands that are held for, or identified for, ranching or farming purposes.

Historical Land Uses includes land set aside for the preservation of land and buildings historically used by the Tribe for religious and/or cultural purposes. This includes but is not limited to the historical school facilities located in Valentine.

Undeveloped Open Space Land Uses include lands that are held for, or identified for, preservation. This includes areas that are preserved due to cultural sensitivity or preservation of the natural environment. Open Spaces also include areas that are not likely to be developed due to topography, which may include hilltops, washes, and canyons, etc. Areas that are not accessible by vehicles or that cannot support infrastructure development are also included in this category. This land use accounts for approximately 307,000 acres of land on the reservation and on trust properties.

Combination Land Uses include land best suited for a combination of land uses. These are broken down into four categories:

- **Agricultural/Residential:** These areas will include large acreage residential lots zoned for small scale ranching and/or farming. To allow tribal members maximum flexibility in selecting a home site, this land use designation applies to the balance of those lands on the reservation and in Valentine not designated otherwise, excepting those lands within Grand Canyon West's 9,000 acre development area.
- **Agricultural Business:** This will include the land in the vicinity of the Wildlife Fishery Facility and any other lands suited for similar agricultural business opportunities.
- **Tribal Government/Commercial:** These areas will include existing and proposed Tribal Cultural and Government buildings where community commercial land uses would serve the needs of employees working in these buildings.
- **Commercial/Industrial:** These areas will include portions of the Reservation isolated from residential and community developments through which major roadways run. In such locations a combination of traveler oriented establishments such as truck stops, and full-

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service automotive gas stations along with light industrial land uses would optimize the economic development of the land.

- **Mixed Use:** Reserved for urbanizing areas where land uses have followed an organic pattern of urban development. Disparate land uses may be placed adjacent to one another provided they meet certain design and performance criteria so as not to be nuisance to one another.

2.3 PLANNING AREAS

The Hualapai Reservation encompasses diverse communities and development intensities. The character and needs of the rapidly-developing Grand Canyon West area are distinct from the concerns of the more slowly developing Peach Springs community. The Area Plan process, also referred to as a Master Plan in many cases, provides a mechanism for the Tribe and residents to plan for future growth and development of communities at a greater level of detail than can be accomplished at a Reservation-wide level. The Area Plan process enables the Tribe to refine the policies and Land Use Diagram of the General Plan to tailor the plan to specific needs for each sub-areas within the Reservation. Presently, Area Plans have been developed for the following Planning Areas:

- Grand Canyon West
- Youth Camp
- Valentine
- Truxton Triangle

2.4 SUMMARY OF LAND USE ISSUES BY PLANNING AREA

The following table presents a summary of the Land Use issues associated with the tribe's Planning Areas.

Planning Area	Primary Land Use Issues
Grand Canyon West Community	<ul style="list-style-type: none">• Remote location with limited existing infrastructure and high cost for development.• Shallow bedrock conditions throughout impacts excavations (buried utility lines) and wastewater facilities (drain fields impractical).• Maintaining the area's natural environmental and aesthetic quality.• Need for basic infrastructure improvements to keep pace with growing commercial and housing demands (water, wastewater, power, transportation, etc.).

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	<ul style="list-style-type: none">• Overall Phasing of Community Development.• Funding of Development.
Diamond Creek	<ul style="list-style-type: none">• Development of all-weather accessibility.• Planning of specific park improvements at launch point.• Funding of infrastructure.
Highway 66 & Buck and Doe	<ul style="list-style-type: none">• Convenient location for development, near existing utilities.• Funding of Civil Infrastructure (water, sewer, roads, electric & telecommunication) & Housing Improvements.
Truxton Triangle	<ul style="list-style-type: none">• Extension of Civil Infrastructure
Peach Springs Community	<ul style="list-style-type: none">• Maintaining walkability in the Peach Springs core.• Aging Infrastructure and capacity improvements.• Funding of Civil Infrastructure, Public Facilities & Housing Improvements.
Frazier Wells Youth Camp	<ul style="list-style-type: none">• Plentiful high quality water supply• Maintaining the area's natural environmental quality.• Funding of Civil Infrastructure & Housing Improvements.
Valentine	<ul style="list-style-type: none">• Funding of Civil Infrastructure, Commercial & Housing Improvements
Clay Springs & Hunt Ranch	<ul style="list-style-type: none">• Remote location, sacred sites, historic uses
Cholla Ranch	<ul style="list-style-type: none">• Funding of water source, Civil Infrastructure• Improve traffic access and existing ranch house.• Enhance cultural area and defend against mining
Other Tribal Lands & Fee Lands	<ul style="list-style-type: none">• Remote locations, difficult access, sacred sites
Truckee, California	<ul style="list-style-type: none">• Local regulations prevent highest and best use

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2.5 LAND USE PLANS BY PLANNING AREA

2.5.1 Grand Canyon West Community

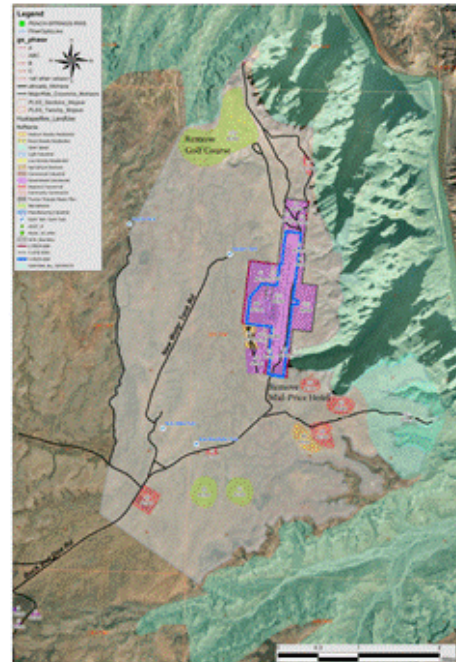
The Grand Canyon West (GCW) community is located on the south rim of the Grand Canyon in the northwest corner of the Hualapai Indian Reservation, approximately 65 miles northwest of Peach Springs, Arizona.

Tribal development goals for the GCW community include developing a sustainable, planned community firmly grounded in the desire to conserve both water and the natural beauty of this location on the rim of the Grand Canyon. To ensure that the seemingly opposing development and preservation needs are met it is important that development meets the tribe's adopted codes and standards.

While commercial expansion is on-going, water, wastewater, power, and telecommunications infrastructure to support expansion is critical. Currently the most important development need in the community is the development of residential capacity, namely employee housing, to accommodate the increasing employment base. Commercial support facilities such as a convenience store, gas/service station, grocery store, and restaurants, are also needed in the area and are an essential aspect of supporting the resident workforce.

In 2011, approximately 500,000 visitors came to GCW by air, bus, or car. This number swelled to over 1,000,000 with the completion of Diamond Bar Road in 2014; however, in 2023 visitation is near 850,000 with the ongoing recovery from the COVID-19 Pandemic. GCW facilities currently include a housing development, airport, the Skywalk, Hualapai Point, three primary viewpoints at the rim of the Grand Canyon, tour related facilities, maintenance operations and road infrastructure. The current workforce of GCW's commercial enterprises is approximately 400 which varies seasonally. This number can be expected to grow as the tribe continues a program of aggressive expansion of its commercial facilities. Housing surveys have demonstrated that there is a substantial and immediate need for additional housing at the GCW community. These issues, as well as designating land for a resort hotel and other tourist attractions were addressed in the 2015 Master Plan but are likely in need of revisiting given that a golf course may consume too much Colorado River under the prolonged drought and the removal of a mid-priced hotel which is not in keeping with the aura of Grand Canyon West.

Draft Master Plan Land Uses for Grand Canyon West



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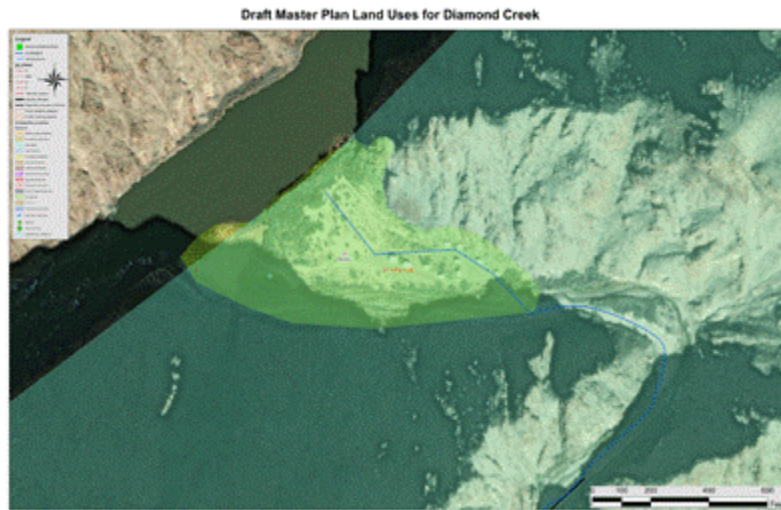
2.5.2 Diamond Creek

The Diamond Creek Area is the site of the existing Diamond Creek helipad and commercial raft put in point for the Hualapai River Runners and take out point for other commercial rafting trips launched at Lee's Ferry.

Development goals for this area include the establishment of an expanded recreational area including park development on the lands above the Colorado River. The

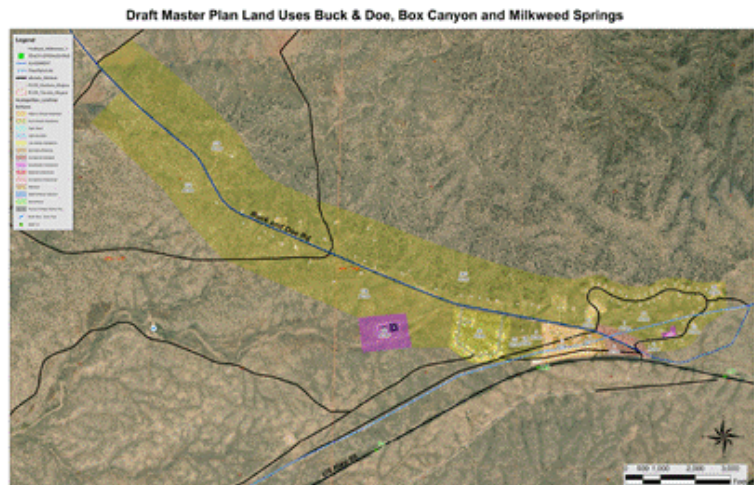
planned development will include the development of tourist-oriented facilities related to eco-tourism and the previously established rafting operations. This park would be similar to a State or National Park with camping, RV hook-up, hiking, trail riding, etc. available on an entry fee basis to non-Tribal visitors. Limited commercial activities would be provided, typical of those associated with similar parks developed outside of the reservation.

It should be noted that Diamond Creek is the preferred diversion point for the tribe's Colorado River allocation. Engineering for this infrastructure must blend with the site's topography and be robust enough to withstand flood events and frequent rock slides.



2.5.3 State Route 66 and Buck and Doe

The State Route 66 and Buck and Doe Area is approximately 4 miles west of Peach Springs at the intersection of State Route 66 and Buck and Doe Road. Existing Buck and Doe and Milkweed subdivisions are located here in addition to Box Canyon subdivision.

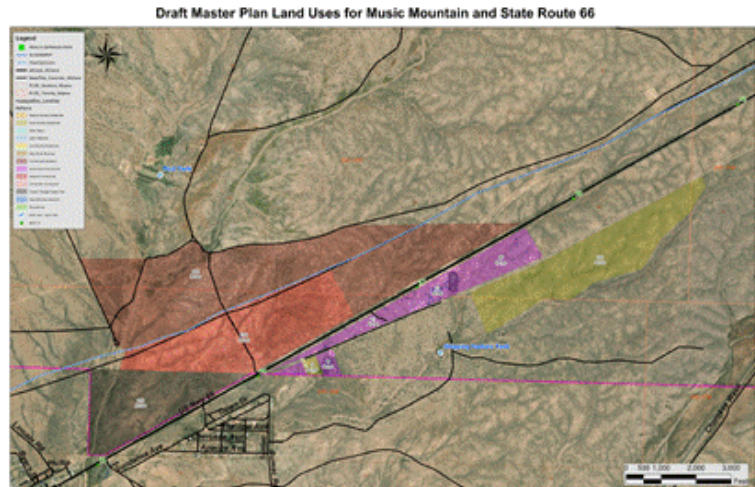


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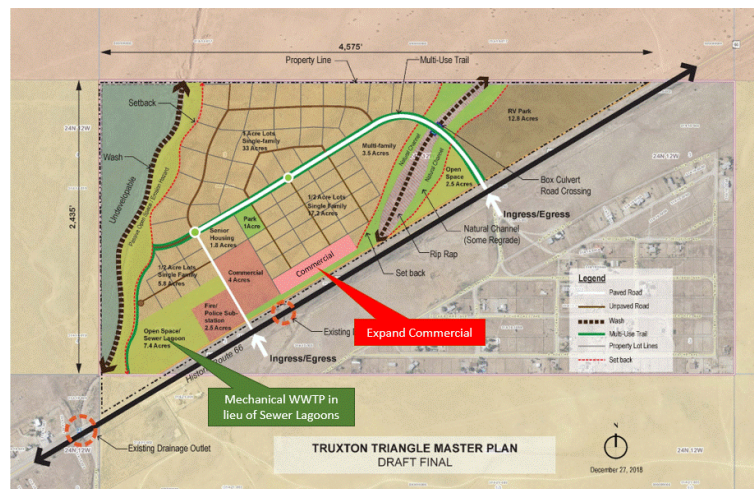
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Development goals for the area include expansion of residential development along Buck and Doe Road as far north as Mud Tank Road intersection and west along the old alignment of US Route 66 almost as far as the Music Mountain Junior/Senior High School. In addition, goals include development of commercial services along State Route 66 at the Reservation boundary serving travelers and commercial/industrial developments.



2.5.4 Truxton Triangle

With the "Truxton Triangle," converted from fee to trust in 2016, the tribe developed a master plan for the 142 acres which includes space for sixty nine single family homes on one half acre and one acre lots, 5.5 acres for multiple-family and senior housing units, a commercial area of 3.5 acres plus a 13-acre RV park along State Route 66 and ample open spaces for passive recreation along the two major drainage ways that cross the property. The Truxton Triangle has also been considered



for a second Low-Income Housing Tax Credit project (see Housing Element). The Master Plan Update Committee recommends expansion of the commercial area along State Route 66 to accommodate additional vendor space and upgrading the waste water treatment from a traditional sewer lagoon system to a mechanical treatment plant.

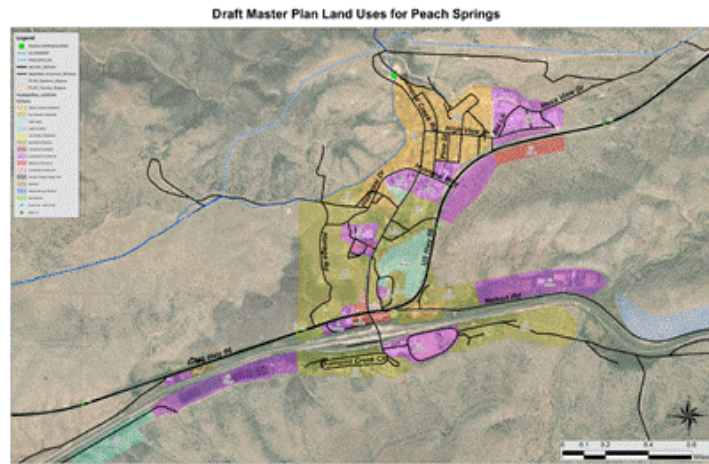
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2.5.5 Peach Springs Community

Peach Springs is the Tribe's principal community and is located in the southern portion of the main reservation along State Route 66, about 50 miles northeast of Kingman, Arizona. Peach Springs is the site of the Tribal offices, and several business and institutional facilities, and is the center of the most densely populated area on the Reservation. Tribal housing is also located off Buck and Doe Road (Indian Route 1), and on scattered sites on the Reservation.



The key goal for the Peach Springs area is to provide a safe, livable housing area, with appropriate Tribal services combined into a pedestrian-friendly, personal-scale core area. The primary goal for the Peach Springs commercial area, located along State Route 66, is to provide a variety of businesses, commercial opportunities and profitable enterprises that support local employment and strengthen and enhance the Hualapai community and its traditions. An additional goal is to preserve the celebrated nature of the Historic Route 66 experience through the Hualapai Reservation and to serve the public traveling the historic route.

2.5.6 Frazier Wells and Youth Camp



The Frazier Wells and Youth Camp Planning Area is located in the northeast portion of the Reservation, generally along BIA Route-18 (IR-18). Included current development areas are the Youth Camp Area, Fish Hatchery facilities, Frazier Wells and the Forestry Service areas. The Youth Camp area is designated as a Tribal facility that can accommodate limited for-rent uses, namely seasonal hunting parties. Full commercialization of the Youth

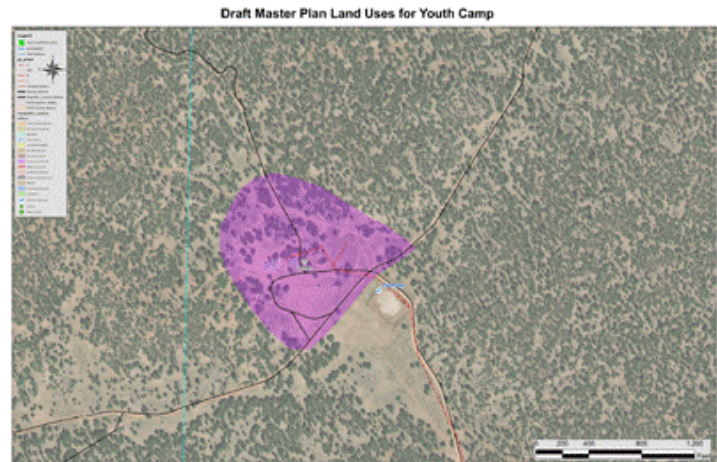
Camp facility may begin after October 1, 2025, with the expiration of the restrictions imposed by the HUD grants that help fund the Youth Camp. All developments are in relatively close proximity and are all served or easily served by the Frazier Well for water supply.

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Goals for the Frazier Wells and Youth Camp Planning Area include further Youth Camp development, establishing commercial activities oriented toward travelers on IR-18, and implementing employee housing to support the area. Included in area development would be various hiking and equestrian trails, a shuttle service and other services oriented toward minimal-impact outdoor activities in a natural pine-forested environment. To preserve the natural beauty of the area it is important to ensure that all development is low impact and reflects the traditional beliefs, values and beauty of the Tribe.



2.5.7 Valentine

Approximately 782 acres of reservation land encompass the community of Valentine, located in Mohave County along State Route 66, about 10 miles southwest of the main reservation. The BIA's Truxton Canyon Field Office and several residences are located in Valentine.



A Visioning Study was completed for the Valentine Planning Area in 2003.² Goals for the Area include preserving the unique character, historic district, and maintaining the feeling of an isolated and close-knit community, and improving the infrastructure. It is also a goal to develop a small local-and-tourist oriented store along State Route 66 for Valentine. In addition, the tribe was able to place 20-acres around the Valentine Cemetery into trust to allow for the expansion given the current area for the cemetery is reaching full capacity.

² Adopted by tribal council via Resolution No. 79-2003

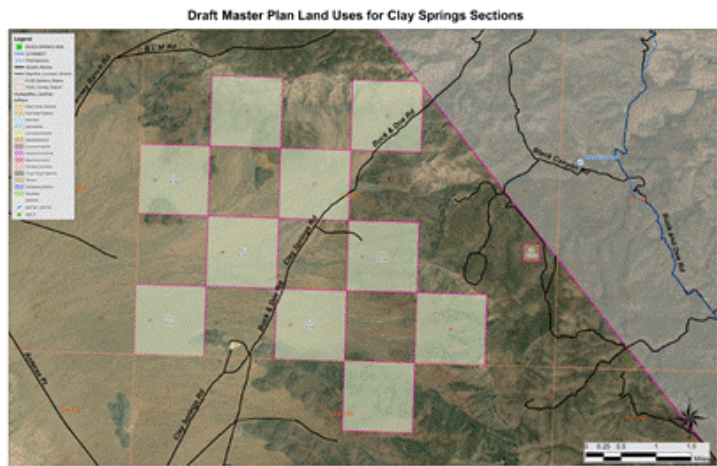
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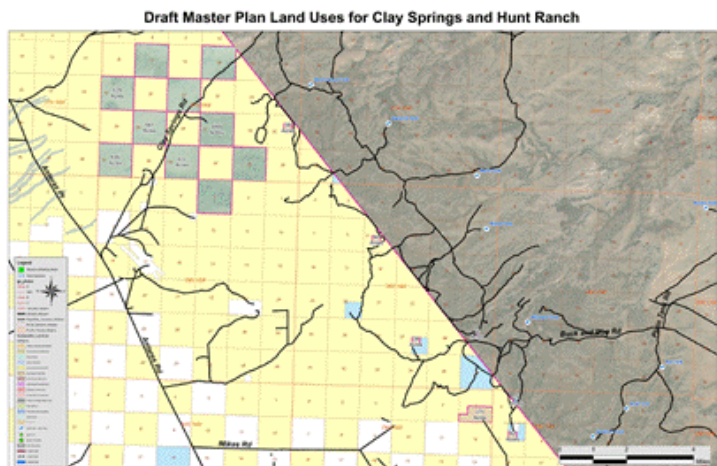
2.5.8 Clay Springs

The area consists of ten sections of land – 6,382 acres - interlaced with BLM holdings lying between the southwesterly boundary of the reservation and Antares Road where Clay Springs Road intersects and provides access to Buck and Doe Road (see map under Hunt Ranch). The area is also traversed by the Arizona Public Service Company's Four Corners-Moenkopi-Eldorado 500kV interstate transmission line. The transmission line has been seen as a possible link to convey renewable energy generated on tribal lands to the regional grid and the California market, the latter seeking additional energy from renewable sources to fulfil its state requirement to have 100-percent of its power derived from non-fossil fuel sources by 2050. Section 31, the nearest to Antares Road, has been identified in previous renewable energy feasibility studies as having the best potential for solar development. However, such development, requiring the clearing of the landscape, is not in harmony with Hualapai tradition and use of the land for agricultural purposes.



2.5.9 Hunt Ranch

Five parcels, containing 440 acres, another addition to the tribal trust, courtesy of the water rights settlement, are scattered along the southwest boundary of the reservation and generally southeasterly of the Clay Springs sections. These lands have historically served as the Hunt Ranch's base of operations for cattle ranching (Agricultural Business) and will continue to do so in the foreseeable future.



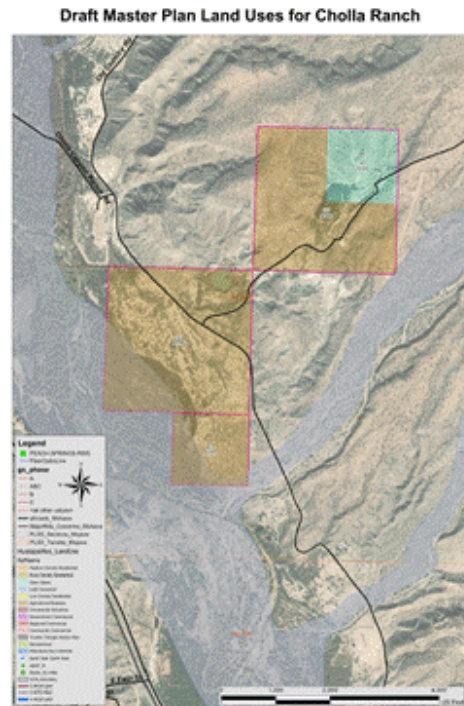
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2.5.10 Cholla Ranch

Cholla Ranch, consisting of 360 acres and, recently achieving trust status with the passage of the tribe's water rights settlement, serves as a special event area for tribal members who use the existing bunkhouse and cultural areas. Goals for the Cholla Ranch Planning Area include developing a water source and adding necessary infrastructure to improve the current ranch, enhance the cultural areas and possibly add recreational activities oriented toward minimal-impact outdoor activities. Possible commercial activities to be considered for the Cholla Ranch include camping sites with various hiking and equestrian trails and also for agri-business such as hemp farming camp sites as well as various hiking and equestrian trails. The tribe's current use of the ranch and any plans for greater usage, are under threat by a potential lithium mine located on adjoining public lands, for which exploratory drilling is underway by a third-party developer to prove the richness of the lithium ore.



2.5.11 Tribal Lands in Big Sandy Valley

A 60-acre portion of the reservation is located in the Big Sandy Valley, east of US Highway 93 with access from Upper Trout Creek Road (see map). An 80-acre allotment held by tribal members is adjacent to the west of this part of the reservation. An additional 570 acres of allotment lands are less than mile to the northwest. These parcels are undeveloped and likely to remain so until Mohave County improves road access to the sites. The private property surrounding these tribal lands hosts an operational ranch which at one time the tribe was considering purchasing.



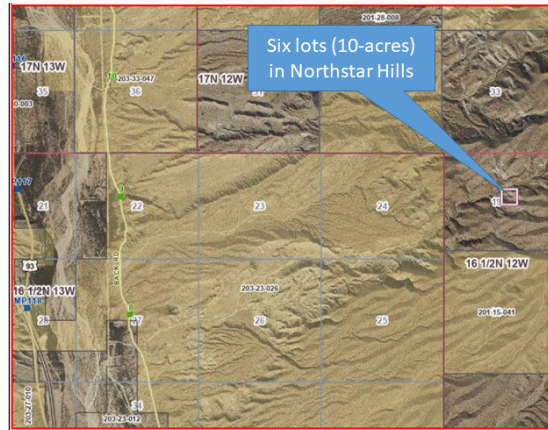
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2.5.12 Properties Owned in Fee

In addition to those lands held in trust for the Hualapai Tribe, the tribe also has title to fee-simple ownership of scattered parcels in Mohave County and Yavapai County as well as in California (see below discussion on Truckee). The 40 acre parcel in the Hualapai Valley contains petroglyphs and should be preserved and monitored by the tribe. The tribe's second land holding is situated some four miles east of US Highway 93 (mile post 117), to the northeast of Wikieup, but does not enjoy access from a Mohave County maintained road and is generally land-locked by public lands. This property consists of four, 1.25 acre and two, 2.5 acre lots within Block 4 of Northstar Hills, a pre-regulation subdivision recorded in 1960. All six are within Mohave County's Rural Development Area and have an Agricultural/Residential zoning designation which allows for single family homes and agricultural pursuits. The most remote parcel owned by the tribe is some 10 miles to the south and west of Ashfork in Yavapai County. The 44.7-acre parcel (Parcel 66 of Juniperwood, Unit 8) was donated to the tribe some 20 years ago. A field trip to the parcel in October of 2017 failed to directly access the property due to terrain issues.



2.5.13 Truckee, California

Donated to the tribe in 1993, the two parcels comprising 203 Acres, are within the Town Truckee, California, and contain the historic airport site, a flat piece of land between Interstate-80 and the Truckee River. The town's General Plan assigns the property a Resource Conservation/Open Space land use designation which allows for outdoor recreational activities and open space uses. This land use category is designed to conserve significant natural resources including the Truckee River and associated wetlands and wildlife corridors. The Truckee Development Code allows for several low intensity uses within the companion Resource Conservation zoning district such as crop production, open space, passive recreation uses (trails and nature reserves), no more than one home per 80 acres, and clustered residential uses.³ These require either a zoning clearance or a development permit which may be processed administratively. Additional development options are available with a Minor Use Permit (MUP) or Use Permits (UP) such as agricultural processing, mining & quarrying, bed and breakfast, campgrounds, churches, golf courses, hunting

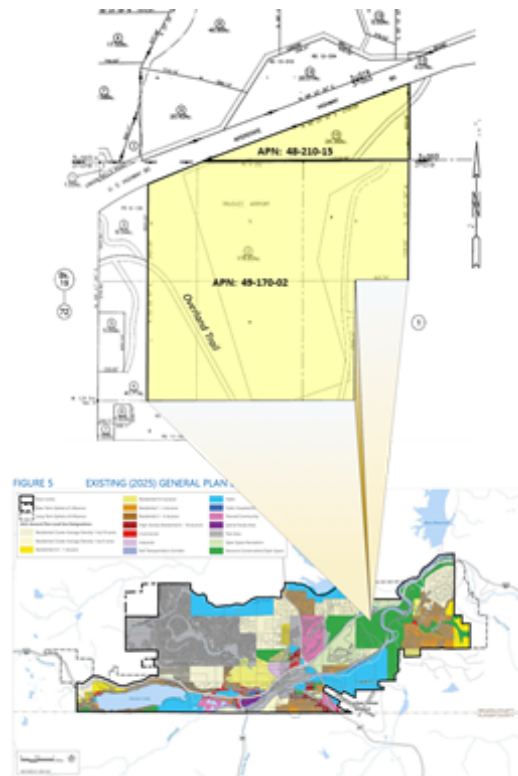
³ Section 18.16.020.B, page II-47, Development Code.

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and fishing clubs, residential care homes and child care homes, and variety of utility facilities.⁴ These require review by the Truckee Planning Commission but not the town council. The property is within 300 feet of the I-80 scenic corridor and all development must adhere to certain design criteria, limit the removal of native vegetation and minimize disruption of scenic vistas.⁵ In addition, All development applications shall be subject to the California Environmental Quality Act (CEQA), to determine whether the proposed project is exempt from the requirements of CEQA or is not a project as defined by CEQA, and whether a Negative Declaration may be issued, or if an Environmental Impact Report (EIR) shall be required. The CEQA process, akin to NEPA, requires an extensive environmental review. Such a review would be an added cost of development for the Tribe beyond the cost of the city's permit.



The City of Truckee will rezone land, but only to conform to the City's underlying General Plan land use designations. In March of 2004, the tribe requested a commercial land use designation for the property that would allow rezone to a commercial use such as truck stop/RV Park but was denied in a 10-0 vote during the meeting of the town council and the planning commission. In 2017, the Town of Truckee approved Resolution No. 2017-58 which established the goal to achieve 100% renewable electricity town-wide by 2023. Referring back to the land uses restrictions on the tribe's property, "electric utility facilities" may be allowed with a Use Permit. It is recommended the tribe, by way of a Special Election, select a development option which reflects Hualapai values, requires the fewest number of Truckee Development Code steps, and consumes the least amount of Tribal resources to obtain municipal permits and environmental reviews performed by third-party consultants.

Land Use Category	Acreage of Master Plan Land Uses														Open Space	Truxton Triangle Master Plan	Total Reservation & Trust lands
	Recreational	Agricultural Business	Agricultural	Agricultural Residential	Community Commercial	Government Commercial	Regional Commercial	Commercial Industrial	Light Industrial	Manufacturing Industrial	Low Density Residential	Medium Density Residential	Rural Density Residential	Historical			
Acres	456.6	1,428.2	6,385.5	694,875.3	22.8	1,171.5	554.7	456.1	240.9	1,124.8	56.7	224.9	1,463.8	5.5	306,913.1	142.0	1,015,522.3

⁴ Table 2-9, page II-50-53, Development Code

⁵ Section 18.46.080, page III-137, Development Code

2.6 MASTER PLAN GOALS, OBJECTIVES AND POLICIES

Goal 1: To recognize the distinct character of planning areas and encourage land use patterns that are consistent with the goals of the Master Plan and each area's own objectives.

Objectives

- 1.1 Locate future urban development, where practical, within or adjacent to existing urban areas in order to eliminate sprawl and strip development, to assure the provision of adequate urban services, to preserve agriculture, forestry and open space land uses, and to maximize the use of funds invested in public facilities and services.
- 1.2 Establish diverse, compatible, and functional land use patterns and, when necessary, amend the existing land use pattern to prevent built environment decay.
- 1.3 Identify and implement a functional balance between employment opportunities and available housing.
- 1.4 Create quality residential areas which function as integral neighborhood units with schools, parks and other community service facilities as their centers.
- 1.5 Create adequate regional, community and neighborhood commercial facilities that are compatible with adjoining land uses.
- 1.6 Design commercial and industrial development to provide an attractive safe and healthy environment which does not have an adverse impact upon the surrounding areas.

Policies

- 2.1 The Tribe shall use Area Plans to establish any additional special goals and policies necessary to reflect and enhance the character of outlying communities and other designated urban and suburban areas. These Area Plans shall be adopted as an amendment to the Hualapai Tribe Master Plan.
- 2.2 For those areas of the Reservation with approved Area Plans, the goals and policies of these plans shall apply. Modifications to existing area plans shall comply with the current Master Plan policies.
- 2.3 The Land Use Diagram contained in each Area Plan shall be interpreted according to the policies set forth in the Land Use Element of this Master Plan.

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- 2.4 Any proposed change to the Master Plan or Area Plans should be developed through a process including:
- a) Re-analysis of natural resources, existing land use, population and economic characteristics, community character and design, existing and planned public facilities and services, community preservation goals, and development trends;
 - b) A current consideration of possible alternatives for area development and selection of a preferred alternative;
 - c) An examination of the definition of goals, objectives, policies, maps and implementation measures appropriate for the area and consistent with Tribal policies and community goals;
 - d) Public involvement throughout the proposed amended plan's development process; and
 - e) Public hearings and tribal council adoption of the Area Plan as a Master Plan amendment.
 - f) An examination of environmental modifications including climate change, drought, etc. and the implementation of adaptation strategies.

Area Plans may provide more detailed goals and policies for issues addressed in this Master Plan, including (but not limited to) natural resources, land use, community design, housing, economic development, parks and recreation, public services, water, wastewater and transportation.

- 2.5 The Tribe shall adopt or modify the Master Plan and Area Plans with the participation of residents and with the involvement of other community organizations or interest groups the Tribe determines will be affected by any alteration to the Area Plan.
- 2.6 The Tribe shall modify the Master Plan and Area Plans in response to the general state of the community when necessary to encourage hope and movement in a positive direction to maintain a thriving and vibrant community moving toward sustainability.
- 2.7 Area Plans shall be reviewed at a minimum every two years to gauge progress toward stated goals and to address challenges.
- 2.8 In reviewing home site lease proposals, the tribe shall consider issues of community character, compatibility of use, environmental impact, resident security and safety, and provision of public services.

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2.7 CONCLUSION

Each planning area offers a unique set of circumstances requiring critical responses and activities to ensure each community's traditional land use pattern allows for continued progressive development which provides adequate infrastructure, such as roadways and utilities, and support services and facilities to provide for the needs of tribal members and visitors.

The Master Plan Goals, Objectives and Policies apply to alterations to the designated land use patterns on the Hualapai Indian Reservation and the character of those land uses. Later segments in the Master Plan detail goals and policies applying to elements of individual and general project development within the designated Land Use Areas.

3.0 Housing Element

3.1 INTRODUCTION

This section addresses concerns related specifically to housing on the Hualapai Indian Reservation. Housing is administered by the Hualapai Housing Department, which is operated under the authority of the Hualapai Tribal Council. Each year the Housing Department develops and submits an Indian Housing Plan (IHP) to the U.S. Department of Housing & Urban Development in association with HUD funding utilized for maintaining and expanding the Tribe's housing stock. The mission of the Hualapai Housing Department is to improve the current housing and living conditions of eligible families by providing and maintaining existing housing and constructing new housing. The Tribe seeks to provide its members with safe, sanitary and affordable living opportunities.

The majority of housing for Hualapai Tribal Members is concentrated in the town of Peach Springs. Additional minor concentrations of residences are in the town of Valentine, the Grand Canyon West economic development area, and at the intersection of State Route 66 and Buck & Doe Road. Scattered individual homes also exist along Indian Route 18, which runs through the eastern edge of the Hualapai Reservation, connecting State Route 66 to Hualapai Hilltop on the Havasupai Indian Reservation. A few additional homes are sprinkled across the Hualapai Reservation as isolated ranch homes.

The Hualapai Housing Department oversees 163 existing housing units. Approximately one-third are in need of rehabilitation to meet HUD's current housing standards. Of the existing houses, 148 are rental units and 15 are Homeowner housing (November 2023 figures). The Housing Department regularly conducts a needs assessment to determine those families that are underserved or unserved. There are 440 households of all types on the Hualapai Reservation, of which an estimated 70% meet HUD's definition for low-income (2021 Annual Income Limits published by HUD). Approximately half of these families are living in sub-standard housing (houses that do not meet HUD's criteria). Since housing stock is not available for all families, many extended families share homes; resulting in overcrowded conditions with more than one person per room in the home. The Housing Department reports that 21 of their rental units are overcrowded.

3.2 EXISTING HOUSING PLANS (IHP)

The Hualapai Indian Tribe's Indian Housing Plan (IHP), modified each year, includes an activities plan projected for a five-year period. The plan is produced to meet the requirements of the Native American Housing and Self Determination Act (NAHASDA). The NAHASDA Act of 1996 was designed to provide Federal assistance for Indian tribes in a manner that recognizes the right of tribal self-governance. NAHASDA reorganized the system of Federal housing assistance to Native Americans by eliminating several separate programs of assistance and replacing them with a single block grant program. The IHP is a required submittal for the block grant program; however, the IHP also includes statements of all activities and funding that will be devoted to housing, regardless of the source of funds. The IHP represents a comprehensive overview of the overall operations of the Hualapai Housing Department.

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The IHP was developed 2021. The Housing Department funds are devoted to modernizing and operating the Tribe's housing stock, renovating homeownership 15 units, new construction of home ownership units, crime prevention, youth leadership and providing housing counseling services.

3.3 MAJOR ISSUES

A high percentage of the Hualapai Indian Reservation population is living in substandard homes. These homes are comprised of HUD Low-Rental, HUD Ownership, and privately owned homes. Needs assessment are being performed annually to specifically identify immediate and future needs of the Hualapai Community. Many homes need to be modernized, repaired, made more energy efficient, and changed to accommodate the elderly and disabled.

Currently, according to waiting lists, many of the homes have two to three families dwelling in one unit resulting in overcrowding. There are a high percentage of families that have over five or more individuals living in one unit. The federal government defines an overcrowded housing unit as a dwelling that has more than one occupant per room. Based on this definition, approximately 50% of the homeowners and 60% of the renters, live in overcrowded homes. Some families could qualify for homeownership units; however, the ownership units are either not available or not the appropriate size to serve the families in need.

A significant portion of the population, which is comprised of single adults who meet the low-income requirements, are not able to obtain a rental or ownership home due to the size of existing homes. There is a need for homes that are designed for one and two person households. Housing innovations such as tiny home and co-living arrangements should be pursued as well as housing for an aging population.

There is an additional section of the population of low-income families who wish to obtain higher education or training to enhance their quality of life but cannot afford their own housing off the reservation. The Hualapai Housing Department offers some assistance but the needs exceed the program's resources. Supplementing resources would result in a larger number of individuals obtaining additional education/training and moving toward self-sufficiency.

There are families from the Havasupai Tribe living on the Hualapai Reservation who are in need of housing for health reasons. The Havasupai Reservation is very remote and accessible only by helicopter, horse/mule, or by hiking. Some of the families have members who require dialysis on a regular basis. There is a lack of units available of adequate size and some of the units require handicap accessibility. There is also a lack of qualified care-givers to assist the disabled and elderly. To meet the needs of the Supai families who require dialysis, the Housing Department also needs to provide housing to the families who are currently residing with the dialysis patients to provide care. This situation also sometimes results in overcrowding due to the unavailability of larger housing units.

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There continues to be the need to qualify families for ownership homes and move them out of the rental units. This will create self-sufficiency for low-income rental tenants and increase the availability of rental units for housing applicants.

The need for a variety of new homes/dwelling units will continue to grow as population inevitably grows. There is a segment of the population moving to Peach Springs and the surrounding areas to support recent developments in the area such as the juvenile detention center, the Tribe's growing economic development ventures, such as the Walapai Market, the social services building, cultural resource center, day care and elder group home.

There are also families living in substandard private dwellings including non-insulated one-room wooden dwellings and mobile homes over 30 years old. Both types of dwellings are neither safe nor sanitary. These families need assistance to obtain new homes. Families that own their existing homes need extensive modernization.

There are families who do not meet definitions of low-income but wish to reside on the Reservation and cannot for various reasons obtain their own housing. These families could benefit from either down payment assistance or provided access to homeownership. Due to the remote location of the reservation there is little or no housing other than the homes constructed with HUD funding.

Development of housing construction financing mechanisms such as tax credit financing, Title-6 loan guarantee program, and Section 184 loan guarantee program to enhance the current NAHASDA based new home construction activities. Renovation of boarded up homes and construction of new single family and multi-family units under Title-6 and Tax Credit financing will provide housing for qualified low-income families. Over-income and employee housing can be developed under the Section 184 program. Development of a Section 184 program will assist individual tribal members to obtain guaranteed bank financing for their own homes on and off of the Reservation.

The recent demolition of a 1960s era concrete block home located in Peach Springs revealed that the block walls were not reinforced. Given that the Hurricane Fault passes through Peach Springs and can generate at least a 6.0 magnitude quake, homes of this type will be subject to damage.

3.4 IDENTIFIED GROWTH AREAS

In preparation of this Master Plan, the Hualapai Indian Tribe identified specific areas of existing and future economic development. The town of Peach Springs and the Grand Canyon West economic development area are the two primary existing economic areas. Other Hualapai development areas have been identified for ranching, forestry or other similar development. Creation of new housing subdivisions at Box Canyon and Grand Canyon West are essential to the development of new housing. The key housing growth areas are identified as follows:

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3.4.1 Grand Canyon West

Grand Canyon West, operated by the Grand Canyon Resort Corporation (GCRC), has seen increased revenues and job opportunities as the Hualapai Tribe spends its capital investments on new installations at the Resort. This includes the Skywalk and expansions at Hualapai Point and the Grand Canyon West Airport. Further, the Tribe has increasing water and wastewater capacities for further future development and is likely to have Colorado River water delivered to the venue in the early 2030s, thanks to the recent Water Rights Settlement Act of 2022.

The Resort operations rival the Tribal Government in employment opportunities on the Reservation. The Resort currently employs upwards of 500 people. Of these, most employees are forced to commute to work due to limited housing available in the residential area at Grand Canyon West. However, expanded employee housing has been planned for many years and some units (manufactured homes) have been built.

The nearest Reservation housing is in Peach Springs, which lies 65-miles from Grand Canyon West (a 2-plus hour one-way drive along Buck and Doe Road). The nearest city is Kingman, Arizona which is some 70-miles distant. Over 100 of the employees at Grand Canyon West commute from these two locations to their jobs. Key to this is the income levels on the Reservation, which, for many Tribal Members, preclude the 150-plus mile round-trip commute (on paved roads) to access this remote portion of the Reservation. For some, it is the lack of daily availability of transportation. For others, it is the associated costs for the daily trip.

The Hualapai Tribe and GCRC have been attempting to develop additional housing at Grand Canyon West. The development of housing at Grand Canyon West would resolve a key issue that allows low-income and unemployed Tribal Members, who can't afford a lengthy commute to work, to live at the Tribe's key employment center.

3.4.2 Peach Springs

The Tribe's largest employer in Peach Springs is the Hualapai Tribal government, which is located in the town of Peach Springs. The downtown area of Peach Springs also consists of several tribally owned commercial developments along a short segment of State Route 66. Peach Springs is the location of the majority of Tribal housing. However, as discussed previously, a majority of the housing is either in need of renovation or is overcrowded. The Tribe's IHP identifies over 100 families whose housing needs remain unmet.

As noted above, the Hualapai Tribe's development of new employment opportunities in Peach Springs has increased the need for housing. Additional commercial development is being planned for the strip of Route 66 that forms the core of 'downtown', as reflected elsewhere in this Master Plan.

The Peach Springs area will continue to need not only renovation of existing housing stock, but also additional housing as the employment opportunities increase in accordance with government services expansions and economic development planning.

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3.4.3 Frazier Wells

There is no housing currently in this area, with the exception of a few scattered ranch houses, principally associated with the Tribe's ranching activities. Hualapai tribal member home sites are also allowed in the area, primarily along Route 18.

3.4.4 Buck & Doe

Several residential subdivisions in the Buck & Doe Planning Area, located approximately 5 miles southwest of Peach Springs at the intersection of Route 66 and Buck & Doe Road, constitute the largest residential development on the Reservation outside of Peach Springs.

Much like Peach Springs, the Buck & Doe residential subdivisions will continue to need not only renovation of existing housing stock, but also additional housing as the employment opportunities increase in Peach Springs and tribal members living off-reservation seek to return home. Construction of 13 homes in the Box Canyon Subdivision, completed between 2012 and 2019, has alleviated some of this need. The three ARPA-funded model homes and the 25 Low-Income Housing Tax Credit (LIHTC)-funded homes under construction in 2023, plus five more planned in the adjacent Milkweed Springs Subdivision, will help reduce this need further.

[The Land Use Element also proposes new housing development along the south side of the old alignment of US Route 66 east of Music Mountain High School and cater to tribal members seeking home site leases in a rural setting.](#)

3.4.5 Valentine

Valentine has two residential subdivisions on both sides of State Route 66, about 10 miles southwest of the main reservation. The BIA's Truxton Canyon Field Office, other government offices and historic sites are also located in Valentine. Again, like Peach Springs, the residential subdivisions in Valentine will continue to need not only renovation of existing housing stock, but also additional housing as the employment opportunities increase with the possibility of a small local-and-tourist oriented store in Valentine. In addition, employment opportunities in Peach Springs, which is within commuting distance, will affect the need for housing in Valentine. This new growth; however, will be hampered if the BIA-operated public water system is not modernized, including better water treatment.

3.4.6 Truxton Triangle

With the conversion from tribally owned fee land in 2016, the Truxton Triangle adds an additional 142 acres to Hualapai's trust holdings. Bordering the town of Truxton to the west and lying northerly of State Route 66, the location offers an infill area between the rural town and development activity along the southern border of the reservation. The tribe approved a master plan for the acreage which includes a mix of residential types from single-family to apartments supported by areas for commercial and public facilities all connected by open space and a trail system. This site is well suited for the tribe's next phase of LIHTC development.

3.5 HOUSING GOALS, OBJECTIVES AND POLICIES

Goal 1: Maintain current housing stock in a safe, sanitary, comfortable, and affordable manner.

Objectives

- 1.1 Modernize and renovate existing, eligible units including those which have been previously conveyed.
- 1.2 Provide a crime prevention program and security program with previous year's program funding.
- 1.3 Provide fencing to homes and HUD funded parks to reduce gang, trespassing, and intrusion related crimes.
- 1.4 Reduce drug related crimes through the coordination with the local Tribal Police Department.

Policies

- 1.1 Conduct an annual needs assessment within the boundaries of the Hualapai Indian Reservation, including employee housing and housing for over-income tribal members, and necessary support infrastructure.
- 1.2 Provide continuous, routine and preventive maintenance to meet employee housing and new housing needs through renovation of existing homes and construction of in-fill housing.
- 1.3 Conduct quarterly and annual inspections.
- 1.4 Enforce all lease agreements.

Goal 2: Maintain viable Hualapai Housing Department home occupancy programs for all eligible tenants.

Objectives

- 2.1 Complete, review, and revise as necessary program budgets for all existing funds to ensure compliance and congruence with the approved Indian Housing Plans.
- 2.2 Review and update Hualapai Housing Department Policies and Procedures. Seek community input on policy development and implementation.

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- 2.3 ~~Develop a "sweat equity" program and policies to assist tenants with paying arrears and/or damages in order to help families maintain current housing assistance.~~
- 2.4 Provide budgeting and home maintenance education to tenants within the housing programs.
- 2.5 Provide continual information to tenants on lease compliance through public flyers and inserts with billing statements.
- 2.6 Provide eligible youth activities and opportunities.
- 2.7 Complete an annual self-monitoring assessment.
- 2.8 Adopt policies and ordinances to support housing finance programs and projects.

Policies

- 2.1 Recruit, hire, and retain qualified staff to provide services to tenants and operate the Hualapai Housing Department.
- 2.2 Continue to work with elderly and disabled tenants to insure reasonable accessibility.
- 2.3 Comply with and maintain a financial management and accounting system that adheres to all applicable laws and regulations.
- 2.4 Comply with all applicable laws and regulations.

Goal 3: Create new housing opportunities for eligible applicants.

Objectives

- 3.1 Utilize current needs assessment to plan for new housing units.
- 3.2 Coordinate with the local Bureau of Indian Affairs, Indian Health Service, US Census Bureau and Tribal Departments to ensure adequate population counts.
- 3.3 Appraise and acquire Part 137 homes to rehabilitate and place back into the Housing Department stock.
- 3.4 Provide information to the community on new housing development and encourage input.
- 3.5 Provide a rental assistance program for students through an education assistance program.

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- 3.6 Hualapai Housing shall commission a study on home financing mechanisms, including the requirements for qualifying for guaranteed loan programs
- 3.7 Create and implement a Comprehensive Housing Plan to establish a housing construction program.
- 3.8 Ensure decent housing for all persons by encouraging a diversity of housing types and housing densities.

Policies

- 3.1 Plan and develop new housing within the financial capabilities of the Hualapai Housing Department.
- 3.2 Update and maintain waiting lists based upon eligibility.
- 3.3 Advertise for, select, contract, and monitor qualified consultants and contractors.
- 3.4 Coordinate with all appropriate agencies and Tribal Departments.

Goal 4: Maintain 1937 Act units in a safe and sanitary manner.

Objectives

- 4.1 Prioritize a maintenance and modernization schedule, including retrofitting units built with un-reinforced masonry walls.
- 4.2 Hualapai Housing shall set aside funds to appraise and acquire units to be rehabilitated and placed back into the housing stock.

Policies

- 4.1 Inspect all units on a regular basis.
- 4.2 Continue existing modernization projects.
- 4.3 Enforce all leases agreements by conducting inspections, reviewing security reports, following up with police reports, providing tenant education, and insuring collection procedures are complied with.

Goal 5: Utilize the housing programs to co-locate housing with Tribal employment opportunities.

Objectives

- 5.1 Assist in completing infrastructure at Grand Canyon West to support new housing.

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- 5.2 Obtain funding for new homes and create rental opportunities for workers at Grand Canyon West.
- 5.3 Renovate dilapidated unoccupied houses in Peach Springs and add to housing stock to increase housing commensurate with new jobs.
- 5.4 ~~Plan and develop housing at Frazier Wells simultaneously with economic project development.~~
- 5.5 ~~Coordinate with Frazier Wells economic development to establish identified subdivisions and infrastructure.~~
- 5.6 Construct in-fill housing as identified on the land use diagrams.

Policies

- 5.1 Plan and develop new housing within the financial capabilities of the Hualapai Housing Department.
- 5.2 Identify additional funding sources to keep pace with housing needs in each area.

Goal 6: Continue and enhance development that promotes smart growth, public health, energy conservation, operational savings and sustainable building practices in affordable design. (7/15, moved from Public Buildings Element)

Objectives

- 6.1 Create a high-quality, healthy living environment.
- 6.2 Conserve energy to minimize Tribal utility costs.
- 6.3 Construct new homes and rehabilitate existing housing to be energy efficient and reduce water use.
- 6.4 Enhance the health of local and regional ecosystems.
- 6.5 ~~The Tribe shall adopt the 2008 (or latter edition) Green Communities Criteria as developed by Enterprise Community Partners, Inc.~~ Provide funding and suitable locations for tiny homes to serve tribal members who seek an alternative to the conventional single-family detached home.

Policies

- 6.1 Protect the environment by conserving water, materials and other resources.

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- 6.2 ~~The Green Communities Criteria shall be incorporated into building site selection and building design for future community facilities established on the Hualapai Indian Reservation.~~
- 6.3 New homes and home rehabilitations shall follow the International Energy Code and the International Residential Code.
- ~~6.4 New home sites should only be approved where emergency response times are less than 30 minutes in all weather conditions.~~

4.0 Public Facilities and Buildings Element

4.1 INTRODUCTION

The Public Facilities section provides for the public buildings, structures and grounds to meet the needs of the community. It includes schools, parks, libraries, civic buildings, police facilities, fire stations, social structures and service centers.

Historically, the Hualapai Tribal Council has responded to Tribal Member requests by implementing Public Facilities on an as-needed basis, subject to available funding. The Council has held strategic planning retreats in which the facilities are prioritized. The prioritizations are then handed over to the Tribe's Planning & Economic Development Department for implementation.

The majority of Public Facilities have been funded through various grant programs, together with Tribal General Funds. Locations of the facilities have been determined by the Planning & Economic Development Department in association with representatives of the service to be located in the building. The service representatives utilize their day-to-day contact with their clients (users) to inform the Planning & Economic Development Department of the preferred location for the facility.

This Section identifies the major issues, examines the current conditions and provides goals and objectives to guide future public facility development.

4.2 MAJOR ISSUES

The key to the establishment and expansion of public facilities is the need for expanded public services. The Hualapai Tribe has established a wide range of services for their Members, but many services are hampered by either outdated facilities or facilities that are too small. These setbacks prevent or truncate the services that are provided.

A Community Needs Survey completed in 2007 and updated periodically through 2017 identified key Tribal Member concerns that are specific to Community Public Facilities.

Ninety-seven of the 133 households surveyed stated that assistance to youths at risk is most important to their family. At least 72.7% of 121 households stated that assistance to the elderly is most important for their family. Although the number of disabled household members is not many, 65.3% of 121 households feel that assistance to the disabled family members is important to them. Peach Springs has a small childcare center so only 61.4% of 132 households felt that childcare assistance is important to their family since some services are already available. Assistance to adults-at-risk and other family assistance are not deemed as important as assistance to youth-at-risk, elderly and the disabled.

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The following table summarizes the ranking by order of importance.

Community Assistance Need	
Item of Importance	Rank
Youth At-Risk Assistance	1
Child Care Assistance	2
Elderly Assistance	3
Disability Assistance	4
Adult At-Risk Assistance	5
Other Family Assistance	6

Although the households ranked childcare assistance lower than assistance to youth-at-risk, almost 70.0% of 132 households placed the services provided by the Hualapai Child Care Center as the most important.

The following table summarizes the ranking of community facilities and social development services by at least 86.8% of the 141 households participating in this portion of the survey and their current status.

Community Facilities	Rank	Status
Child Care Center	1	Complete
Youth Center	2	Complete
Community And Recreational Center	3	Incomplete
Comprehensive Elderly Center	4	Ongoing
People With Disability Center	5	Incomplete
Children's Home	6	Incomplete
Community Library and Computer Center	7	Complete
Assisted Living Facility	8	Incomplete
Community Park and Playground	9	Incomplete
Community Picnic and Campground	10	Complete

The Hualapai Tribe has established several community programs and facilities on the Hualapai Reservation and is also in the process of developing more community facilities. To date, the tribe opened the Boys and Girls Club (2011), a Day Care Facility (2014), an Elder Group Home (2015),

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retrofitted several public buildings for ADA accessibility (2015), rebuilt the Youth Camp (2017), added new playgrounds (2019 - 2020), and remodeled the Elder Center (2021-2023). The Assisted Living Facility was transitioned to the Elder Group Home for active seniors; however, the Elderly Program is now considering establishing an Assisted Living facility given the needs of their clientele.

Households were asked to indicate their preferred locations for these facilities or satellite facilities. The following table summarizes preferred locations of community facilities by at least 89.8% of 141 households responding to this question.

Community Facilities Locations		
Facilities	Preferred Location	Address
Child Care Center	Diamond Creak Road Area	475 Hualapai Drive
Youth Center	Current Location	479 Diamond Creek
Children Home	Current Location	NA
Comprehensive Elderly Center	Current Location	587 Canyon View
People with Disability Center	Hualapai & Indian Way Area	NA
Assisted Living Facility	Buck & Doe Area	NA
Community and Recreational Center	Rodeo Circle Area	Rodeo Circle
Community Library and Computer Center	Current Location	460 Hualapai Dr.
Community Park and Playground	Current Location	Rodeo Circle
Community Picnic and Campground	Current Location	15225 Youth Camp Road (Route 17)

The situations posed by the Community Needs Assessment, together with historical documentation of the Tribe's implementation of various Public Facilities, leads to the identification of the following major issues.

Lack of Available Space - A key issue is the lack of existing spaces in which to enact needed services. There are no unused buildings on the Hualapai Indian Reservation that are suitable for occupancy without major renovation or replacement. Current facilities are operating at capacity. This has been an on-going challenge for the Tribe as it attempts to provide services that meet Tribal Member priorities and demands. Construction of the new facilities only relieves a portion of the existing overcrowding that is occurring throughout Hualapai service departments.

Efficient Multi-Use - There are a few general multi-use facilities that have been established such as the Community Building (Multi-Purpose Building) and the Gymnasium (as opposed to service-specific uses). There are also a few departmental conference rooms and assembly rooms (such as the Council Chambers) that could be available for periodic services and functions. Many times

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these few available spaces are double-booked or un-booked. This places additional pressure on the space limitations that the Tribe currently experiences. Tribal members have also voiced a concern with the use of the Multi-Purpose Building and Gymnasium for traditional funeral services (wakes) and have asked for a Cry House dedicated for these somber rites in keeping with Hualapai tradition and custom.

Funding Issues - The Hualapai Indian Tribe does not have sufficient funds to construct new public facilities and therefore relies on grant funding for significant portions of the necessary capital. Regardless of previous strategic planning that has taken place, the prioritization of Public Facilities is made contingent on the availability of grant funds for the specific project type. This has led to projects of lesser priority being implemented prior to those of the highest priority. The lack of funding also often delays the implementation of a project while blended funding from multiple sources is amassed as was the case for the Ambulatory Care Clinic (Indian Health Services), the Health Center, and the Youth Camp, all of which required three years to obtain grant funds.

Additional Funding Issues - Associated with the above funding issue applying to the constructed facilities, historically there has been a lack of coordination between funding of needed facility construction and the funding necessary for furnishings and operations, and vice-versa. Personnel have been funded without space to implement the programs and positions. Facilities have been constructed without funding for furnishings or staffing. This places an immense burden on the Tribe to fund missing components on an emergency basis.

Public Perception - In various portions of the Community Needs Assessment, Tribal Members question the time involved in converting Tribal needs into staffed facilities and programs. Further, there is a documented misunderstanding of “services” versus “facilities”. Some of these issues, according to the Community Needs Assessment, are based on a perception that Members are not adequately informed of the status of Tribal development.

Static Development - The Tribe’s most recent facilities have been pre-planned for future expansion. Nearly all of the facilities are located in the core area of Peach Springs. The goals and objectives of this plan need to address overcoming the problem of static public facilities in the face of dynamic population and development trends. This includes pre-planning satellite facilities to serve the identified remote economic and housing growth areas.

4.3 CURRENT CONDITIONS

To begin, the Tribe upgraded the Peach Springs Canyon Park in 1992. The original Hualapai Day Care Center was completed 1993. The Community Gym was renovated 1994. The Hualapai Multi-Purpose building was completed in 1995. The Rodeo Circle Park was redeveloped in 1995 to include one softball and one baseball field and a service facility. Flooding in this low-lying area has caused the softball and baseball field to be without grass for number of years. In 1996, the tribe constructed the Hualapai Dialysis center which has since been converted to the Public Defender’s Office and Prosecutor’s Office. In 1997, the Hualapai Building Group constructed the Hualapai Earthship which has since fallen into disrepair and is no longer used. The BIA


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constructed an office and warehouse addition to the BIA Forestry building in Peach Springs in 2004 which has since been turned over to the Tribal Forestry Department.

The Tribe also built several neighborhood parks, playgrounds and camping areas. The Lower Peach Springs Dam, completed 1992, provided tribal members with recreational activities such as swimming and fishing; however, a lack of dredging stream flow sediments has curtailed these activities. The Tribe also owns the Truxton Canyon Indian Boarding School, the old Superintendent's house and four modular homes in the Valentine portion of the Reservation.

Public Facilities development in the Peach Springs are as follows: 

- Tribal Administration Building
- Senior Center
- Multi-Purpose Building
- Education & Training Center
- Natural Resources Building
- Elder Group Home
- Public Works Operations Building, including Transit Office
- Sports Complex (Rodeo Circle Park)
- Emergency Services Facility
- Ambulatory Care Clinic
- Forestry Building
- Tribal Gym and Fitness Center
- Youth Center (Boys & Girls Club)
- Head Start Facility
- Day Care
- Juvenile Detention Facility
- Adult Detention Facility
- Courthouse
- Social Services/ Safe House facility
- Cultural Center
- Health & Wellness Center
- Planning Office & IT Office

The Tribe has implemented the majority of these projects within the past 25 years. Most have been subject to the issues presented previously in this section.

Projects designed and built since 2003 have been sited and designed in general accordance with Green Community Criteria. This includes site selections that provide a walkable core and human scale. While the Hualapai Tribe has not pursued Leadership in Energy and Environmental Design (LEED) certification for any of these buildings, the majority of them incorporate LEED design and materials to minimize energy costs. The Planning & Economic Development Department has provided oversight of the architects' work throughout the design and construction process to enforce the selections of materials and methods that minimize future energy costs.

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There are additional facilities currently required in Peach Springs. These are primarily identified in the current Master Plan outreach effort. They include:

Requests for New Community Facilities & Buildings	
Building	Proponent
Cry House	Community
Digital signs for Community	Community
Expand 4H facilities + Garden space	Community
More Parks & Trails	Community
Youth Shelter (Children's Home)	Community
Renovate Veterans Park	Community
Museum	Community & Cultural Dept
Multi-Use Recreation/Sports Complex	Community & Tribal Council
New Game & Fish Building	Game & Fish Dept
Re-Entry Facility near GCW	Health Dept & Tribal Council
New Public Safety building*	Police & Fire Depts
Transit Building	Public Works Dept
Large Skate Park	Tribal Council
New Administration Building	Tribal Council
New Clinic and Staff Housing	Indian Health Services
* May consider a single facility on 7 acres	

The above listing of projects remain unfunded. Outside of the Peach Springs (including Buck & Doe) area of the Hualapai Reservation, the only other Public Facilities are at Grand Canyon West (Hualapai Police and Fire Stations) and the Youth Camp located on Indian Route 17, some 37 miles from Peach Springs.

4.4 PUBLIC FACILITIES AND BUILDINGS GOALS, OBJECTIVES AND POLICIES

Goal 1: Increase needed Public Facility operations in the core area of Peach Springs.

Objectives

- 1.1 Obtain more efficient use of existing public facilities, particularly those that have potential for multiple usage and in accordance with Hualapai tradition and custom.
- 1.2 Expand existing facilities that are pre-planned for expansion to relieve overcrowding at minimal expense.
- 1.3 Enhance the ability to take advantage of project funding as it is available.

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- 1.4 Construct new facilities in accordance with this Master Plan's prioritizations.
- 1.5 Construct new buildings and building remodels that incorporate renewable energy devices and water conservation techniques.
- 1.6 New buildings and building remodels will have adequate sound insulation to reduce noise from railroad operations.
- 1.7 Establish an Elder Care facility
- 1.8 Build a sole-purpose Cry House
- 1.9 Construct a Multi-Use Recreation and Sports Complex
- 1.10 Create a Re-Entry and companion Detoxification Facility

Policies

- 1.1 The Hualapai Tribe will establish a central coordinating system, which may be computer-based, that allows up-to-date centralized booking of available facilities and spaces.
- 1.2 The Tribe will research and acquire funding, even when it is insufficient for new facilities.
- 1.3 The Tribe will identify and conduct all preliminary development activities (master planning, cost estimating, etc.) before funding is announced to help meet application timeframes.
- 1.4 Any Tribal project approvals will consider the manner in which the project minimizes extensions of infrastructure and other off-site expenses.

Goal 2: Project submittals will include estimates of all project development costs, including off-site costs of extending infrastructure, with the facility operations and maintenance expenses being listed separately.

Objectives

- 2.1 Ensure that facilities are fully funded for all operations prior to implementation.
- 2.2 Provide a coordinated effort that involves all project elements, including furnishings, operation and maintenance.

Policies

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- 2.1 Project submittals will include estimates of all project costs, including the facility, operations, maintenance and off-site expenses.
- 2.2 Project funding activities will clearly illustrate gaps in funding that will directly impact the Hualapai General Fund.
- 2.3 Stakeholders in Public Facility projects will be involved in formulating all aspects of service operations.

Goal 3: Establish 'service cores' in association with Tribal expansion to new development areas.

Objectives

- 3.1 Pre-plan and reserve sufficient space in each development area to support future service needs.
- 3.2 Develop satellite Public Facilities in phases commensurate with projected housing growth in employment centers.
- 3.3 Conduct a Community Facilities assessment to determine priorities and funding plan for new facilities and improvements and determine needs for facility programs and maintenance.
- 3.4 Identify new community facilities funding sources and financing mechanisms such as foundation grants and bonding.
- 3.5 Establish and implement a Comprehensive Community Facilities Plan that provides adequate facilities and services to assure the health, safety and welfare of all citizens.
- 3.6 Establish and implement a Comprehensive Community Facilities **Plan** that includes facilities and services which provide diverse educational, cultural, and social opportunities.

Policies

- 3.1 The final detailed Master Plan for each development area will include reserved spaces for local satellite services that will be needed in the future.
- 3.2 The overall development plan for each area will include consideration of the project demands, infrastructure, intra-service communications and coordination needed to extend the identified services to each service core.
- 3.3 Public Facility development will be commensurate with actual identified needs, as given in this Master Plan, unless time-specific alterations are deemed necessary.

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- 3.4 Establish necessary ordinances to support community facilities financing and on-going programs.

Goal 4: Augment public information regarding Public Facility needs and implementations.

Objectives

- 4.1 Resolve Tribal Member misunderstandings regarding services that are provided and the facility conditions under which those services are provided.
- 4.2 Maintain Tribal Member consensus regarding Council-approved Public Facility and Building priorities.
- 4.3 Obtain additional support for achieving project funding.

Policies

- 4.1 The Tribe will designate an entity to post and publish updates to Public Facility priorities through established Tribal venues, such as the Gamyu and public postings at commonly visited buildings.
- 4.2 The selected entity will provide regular status reports to keep Tribal Members informed of the progress (or reasons for delays) through the selected venues.
- 4.3 Community Meetings, as needed, shall be held to solicit further Tribal Member input into future Public Facilities not contemplated by the Community Needs Assessment & Survey.

5.0 Economic Development Element

5.1 INTRODUCTION

Economic development strategic planning has never been more important to the future success of communities, regions, states or even nations than it is today. The speed of socioeconomic transformation and technological advances is increasing around the world, and therefore having a plan in place at the local level that provides a solid footing to address these changes is important. The challenge that economic development faces today is providing value and remaining relevant in this changing world. The Hualapai Tribe Master Plan offers such an opportunity for the creation of economic development activities that offer employment to local residents, provide support services for tourist trade activities along Route 66 and at Grand Canyon West. In addition to the vision statement (see Introduction), the guiding philosophy of the Economic Development Element is to ensure a clean and bright future where the air is not fouled, the water resources are not wasted or polluted and the landscape is preserved as part of the cultural heritage of the Tribe.

This element will review key findings of previous economic studies for the region, Census data courtesy of the American Community Survey related to the labor force, the existing enterprise/opportunity zone, and offer a set of goals, policies and implementation measures to bring new jobs and employment opportunities through economic development activities that will enhance existing business operations and enterprises, attract new businesses and industries to the reservation, and increase tribal revenues from these ventures. Increased revenue flows from new businesses and industries will improve the tribal government's ability to meet the needs of the community in all areas such as social services, police and fire protection, language and cultural preservation, and education.

5.1.1 Review of the Western Arizona Economic Development District's (WAEDD) Comprehensive Economic Development Strategy (CEDS) for 2020-2021

Overview

The Western Arizona Economic Development District's CEDS, published in 2019, provides a ten-year strategic plan to move the 23,519 square mile District forward which is an assemblage of Yuma, La Paz, and Mohave Counties, ten cities and towns plus six Indian reservations wholly or partly within the District, one of which is Hualapai.

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While the District possess considerable development potential, both in expanding the existing economic base sectors and in diversifying its economy, there are also severe constraints to development that affect every community, most of which are externally imposed. Existing federal and state policies and practices regarding establishing highway service levels, siting of higher education facilities, funding K-12 schools, making land available for local community development, workforce training programs, all severely disadvantage District communities and may cripple even the most dedicated development programs.

Even so, the District will continue to see rapid growth over the coming decade and beyond. Economic diversification and development are needed to assure that the impact of growth is positive, so the region stays livable and prosperous. Some communities within the District may not desire or promote growth. Economic development measures must control and direct that growth into positive channels.

Success requires local government willingness to proactively address growth and development issues, a continuation of regional and local planning efforts, and good relations and cooperation between local governments, businesses, educational institutions, and labor. It is essential for rural communities to plan their economic growth in a way that complements and leverages their existing assets.

Even with good intentions of working together, the goal of economic development is to bring high-paying jobs to the community, often with slight regard as to how these actions will affect competitors vying for the same high-paying jobs, resulting in communities that become either “winners” or “losers,” with the former having tax higher revenues to bolster public safety, housing, education, healthcare for a better quality of life and the latter suffering from economic stagnation and a less desirable quality of life.

Specific Findings Relevant to the Kingman Economic Region

Environment & Tourism - Colorado River reservoirs, warm and dry climate, and convenient east/west highways have made possible a water-related tourist industry which draws largely from California. This creates opportunities for year-round tourism, with significant water-related recreation in the summer. Tourists focused on water sports and create options for a more lucrative upscale tourist industry. This helps give the District's economy an unusual degree of stability because tourism is relatively resistant to economic downturns with recessions only mildly impacting winter visitors, RV tourism, and the fixed income visitors.

Transportation - Three Interstates traverse the District with Interstate 40 running east to west through Mohave County. Interstate-40 gives access to the industrial markets of California as well as those located to the east in Texas and the Gulf of Mexico. The main line of the BNSF railroad also traverses Mohave County with sidings in Yucca, Kingman and Peach Springs providing direct access to the Ports of Los Angeles & Long Beach and Chicago. For highway traffic running north-to-south through Mohave County, US Highway 93 provides that duty. The highway is also part of the Interstate 11 Corridor proposal that will link Nogales, Arizona, to Reno, Nevada, by way of I-10, I-15, I-19, I-40, US 395, with the exact route yet to determined.

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The Hualapai Reservation is somewhat removed from the Interstate 11 corridor; however, planned improvements, such as a Traffic Interchange at Pierce Ferry Road, will benefit GCW as visitors will clearly see the turn-off and not find themselves in Peach Springs. Developing tourism, commercial businesses and basic industry, including mining, forestry and renewable energy projects can be supported by increased trade along the corridor and aid in developing the local labor force.

Power Generation - The District is also becoming a location for commercial power generation with Griffith Energy a 640 MW, combined-cycle natural gas power plant, along I-40 south of Kingman and adjacent solar photovoltaic power generation plants established by the local utility – UniSource - to serve load growth in its service area. *The recent hydrogen hub initiative, sponsored by the Department of Energy, to transition the US away from fossil fuels, has seen multiple proposals presented to Mohave County and Hualapai Tribal leadership in 2023, with a less than enthusiastic reception given the large amounts of land required to make the projects feasible. This has led to a county-imposed moratorium on renewable energy development until their impact as a whole can be addressed by county staff.*

Workforce Development – The Region encompass 2,133 square miles, which contains some 70,000 people. (See Section 5.2 for updated population statistics). This region hosts significant concentrations of manufacturing, ground transportation, aviation and logistical operations, in addition to healthcare, tourism and artisan jobs. The major private sector employers include Kingman Regional Medical Center, American Woodmark Corp., IWX Motor Freight, McKee Foods and the Grand Canyon Resort Corporation.

The Region must take advantage of its existing critical mass of sectors, including continued development of its multimodal transportation options. As ports on the west coast continue to experience more unloading delays, freight hauling and logistical companies will be seeking alternatives further inland. Attracting sectors that focus on alternative energy component manufacturing (as opposed to generation) such as solar cells, should also be pursued.

SWOT Analysis - Isolation is not generally considered an economic asset but in the case of developing large-scale power generation facilities, isolation has been an asset given that public protest is less in sparsely populated areas. To update the 2019 CEDS analysis, recent power generation proposals, many of which are being spurred by billion-dollar federal funding initiatives to transition the American economy to carbon-free power generation have brought forth such a large number of mega-project proposals (renewables and mining) to the region that what was once seen as opportunity – open land - may in fact be seen as a threat to the lifestyle and tradition of those living in the region.

The Region, like Arizona, has traditionally relied upon population growth as its primary commercial driver — building the economy via construction, tourism, and retirement-related industries. However, the Great Recession dramatically curtailed population growth, devastating the housing market, reducing state revenues, driving up unemployment, and sending shock waves through all economic sectors including tourism. COVID-19 pandemic, not a part of the

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2019 CEDs, analysis also impacted the region but not entirely in a negative way with home construction booming as people migrated to the region to avoid somewhat severe health precautions in their home states such as California. Tourism rates initially fell but rebounded as travelers sought out ways to recreate safely, namely by visiting outdoor venues such as the Colorado River and Grand Canyon West. As a result, local leaders are researching new industrial sectors and attracting new businesses, retaining current industries and promoting a more skilled workforce.

Rural communities in the Region face challenges for economic development were weaknesses include infrastructure shortcomings (roads, sewers, railroads, and airports), limited workforce skills, and relatively few available buildings. In addition, limited government budgets often preclude hiring a full-time economic development director to both retain and attract new business. However, these communities have strengths namely quality of life, lower operating costs, a skilled labor force willing to travel long distances to work, and the care and attention that smaller communities often pay to new, highly prized businesses

Factors Limiting Growth - The planned urban density developments for Mohave County show it has sufficient private land to absorb such population growth. The likely limit to growth is water availability. Development of non-Colorado River resources may be necessary, but water should not severely limit growth up to a population total of at least 500,000. One potential for the expansion of water resources for residential development is the transfer of water rights from agricultural users to residential use. Tribal land is available for development; however, its development may be more difficult than land held in private ownership. In 2022, the Arizona Department of Water Resources established and irrigation non-expansion area (INA) in the Hualapai Valley. The INA designation limits the creation of new farming ventures, namely almond orchards, which are now drawing more water than the City of Kingman and surrounding homes, placing the aquifer outside of safe-yield and in a state of drawdown that threatens the City's ability to claim a 100-year water supply. The INA designation also encompasses the tribe's trust lands in Clay Springs.

Climate Change - Rural communities are highly dependent upon natural resources for their livelihoods and social structures. Climate change-related impacts are currently affecting rural communities. These impacts will progressively increase over this century and will shift the locations where agricultural economic activities (like agriculture, forestry, and recreation) can thrive. Rural communities face particular geographic and demographic obstacles in responding to and preparing for climate change risks. In particular, physical isolation, limited economic diversity, and higher poverty rates, combined with an aging population, increase the vulnerability of rural communities. Responding to additional challenges from climate change impacts will require significant adaptation within rural transportation and infrastructure systems, including electrical transmission lines, as well as health and emergency response systems. Governments in rural communities have limited institutional capacity to respond to, plan for, and anticipate climate change impacts.

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Warming trends, climate volatility, extreme weather events, and environmental change are already affecting the economies and cultures of rural areas. These changes will progressively increase volatility in food commodity markets, shift the ranges of plant and animal species, livestock loss and, depending on the region, increase water scarcity, exacerbate flooding, and increase the intensity and frequency of wildfires across the rural landscape. Changes in the timing of seasons, temperatures, and precipitation will alter where commodities, value-added crops, and recreational activities are best suited. Because many rural communities are less diverse than urban areas in their economic activities, changes in the viability of one traditional commercial sector will place excessive stresses on community stability. However, recreation, tourism, and leisure activities in some regions will benefit from shifts in temperature and precipitation.

Tribes may face the loss of traditional foods, medicines, and water supplies due to declining snowpack, increasing temperatures, and growing drought. Tribes with fewer economic resources will be less successful in responding effectively to climate challenges.

Policy Recommendations -

1. Embrace innovation and rethink manufacturing opportunities that are well-suited for rural economies.
2. State lawmakers must fund education to the level where that becomes Arizona's identity in order to attract industries that require a high-skilled and educated labor force that pays higher-than-average wages.
3. Increase access to high-speed internet in rural areas
4. Attract higher-paying job opportunities that will diversify the tax base and reduce the reliance on retail jobs and local sales tax.
5. Diversify the economy by attracting bioscience, advanced electronics and similar emerging industries while also protecting and expanding existing industries, e.g. aerospace and aviation.
6. Recognize the importance of tourism to state's rural economy which is largely supported by out-of-state visitors.
7. Focus entrepreneurship on business models that align with growth projections in economic clusters instead of focusing on low-revenue service-oriented ventures.
8. Diversify the region's traditional growth-based economy by nurturing and expanding existing export-based industry with the use of intellectual capital within Arizona's university system.

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9. Develop business incubator space with sufficient room for start-ups to expand within the incubator site.

5.1.2 Review of Tribal Tourism Plan (Pending)

5.1.3 Findings of the Lower Grand Canyon River Corridor Management Plan for the Hualapai Indian Reservation

Published in January, 2001, the Lower Grand Canyon River Corridor Management Plan provides a comprehensive review, analysis and remedies of various operations impeding the river's natural ecology ranging from storm water runoff from agricultural pursuits to Glenn Canyon Dam operations affecting sediment flows to increased tourism. Sections focusing on recreational activities along the Colorado River, at Grand Canyon West and the socio-economic management issues and concerns are reviewed below.



The majority of the income that the Hualapai Tribe receives results from tourism activities on the Hualapai Reservation. In the lower Grand Canyon River Corridor, the Hualapai Tribe realizes income from the Hualapai River Running operation, river running companies, private rafting trips, helicopter tours, power boat tours, camping, fishing and sightseeing. While the tribe wishes to increase the level of income from these activities, protection of the natural and cultural resources is also of utmost importance to the tribe.

Commercial rafting, operated under the auspices of the Grand Canyon Resort Corporation, by the Hualapai River Runners, provides one-day and two-day white-water trips between Diamond Creek, north of Peach Springs, and River Mile 266, just below Quartermaster Canyon where passengers are air lifted by helicopter to Grand Canyon West, a short distance from the take out point. In 2000, some 14,000 to 19,000 seats were made available during the 6 to 8 month season. However, by 2023, only 8,449 seats were available with 4,143 seats sold for the one trip and 397 seats sold for the two-day paddle trip. Downstream trips make up about 95 percent of business for the Tribe, with the remaining 5 percent derived from up-stream excursions. Tourists typically arrive and depart by bus from major metropolitan areas such as Las Vegas, Nevada. Private rafting is also available with a permit from the Tribe. Rafters may camp along the banks of the River but must leave no trace of their having occupied the site. The Hualapai also charge a permit for boaters on Lake Mead who wish to camp along their shoreline.



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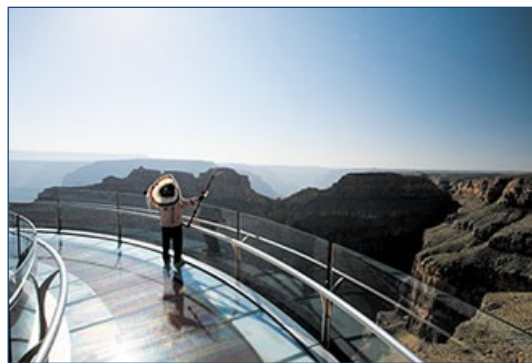
Fishing is by permit only with each permit allowing up to eight game fish, caught by line and hook. Native fish such as the humpback chub and razorback sucker may not be caught. Hunting waterfowl is also allowed with a permit.

Camping on the Rim and on River beaches, as well as swimming, hiking and bird watching require permits. From May 1 to August 15 of each year, campers are encouraged to not disturb nesting Southwestern Willow Flycatchers within the vegetated areas of Spencer Beach. Those using Spencer Creek may not journey more than 100 yards from its confluence with the Colorado River. Hiking in the Lower Grand Canyon River Corridor on the Hualapai Reservation is limited to National Canyon, Mohawk Canyon, Peach Springs Canyon and Travertine Canyon with the appropriate permit. These hikes must originate from the Colorado River. Hikes originating on the rim of the canyon fall under the authority of the Hualapai Game and Fish Department.

The Grand Canyon Resort Corporation permits and monitors helicopter tours of Grand Canyon West, Quartermaster Canyon and at the ramadas along the river below Quartermaster Canyon. During peak operations prior to the COVID-19 Pandemic, helicopter flights in Quatermaster Canyon between the helipads at the GCW airport and Colorado River where averaging over 100 per day or about one flight every six minutes during business hours.

The Hualapai Tribe in conjunction with Grand Canyon Resort Corporation operates a tourist destination at Grand Canyon West on the northwestern end of the Hualapai Reservation. Opened in 1982, tourists are treated to a barbecue lunch and breath-taking views of Lower Grand Canyon and the Colorado River. The facilities consist of an airstrip, terminal building, gift shop and a covered dining area. Tours originate at the terminal where buses take visitors to Guano Point where the meals are served. Tourists are told about the Hualapai people, the canyon and their lands and customs.

In 2007, the Grand Canyon Skywalk opened to the public and has greatly increased visitation at this venue. The Skywalk is part of an overall expansion of Grand Canyon West with subsequent plans to include a tramway, the Native American Village at Eagle Point and a luxury resort (still in the planning stage). However, not all the Hualapai are happy with the commercialization - some see it as a desecration of the land.



The majority of tourists arrive by way of bus from Las Vegas, Nevada via Highway 93, Pierce Ferry Road and Diamond Bar Road, distance of approximately 120 miles. Airplanes and private cars also deliver visitors to Grand Canyon West. In 2000, over 100,000 tourists visited Grand Canyon West per year. In 2015, the volume surpassed 1,000,000 with the completion of paving on Diamond Bar Road. Some 5,000,000 tourists are expected annually with full build out of the resort.

Major Socioeconomic Management Issues and Concerns Identified by the Lower Grand Canyon River Corridor Management Plan

Issue 1: At some level of recreational use, visitor experience and the condition of natural and cultural resources in lower Grand Canyon begin to be compromised.

Situation: One objective of Grand Canyon Resort Corporation is to increase revenues to the Hualapai Tribe through increases in the number of visitors to lower Grand Canyon. With increasing visitation, the natural and cultural landscapes can become impaired due to the physical presence of people and due to their activities such as hiking. In addition, with increased numbers of visitors, the quality of the recreational experience can decline such as the natural quiet of the canyon.

Considerations: The specific management objective of the Hualapai Tribe with regard to recreation is to maximize the amount of economic benefit to the tribe while providing a quality experience for the visitors and while protecting the natural and cultural resources of the Hualapai Reservation in lower Grand Canyon.

Solution: The Hualapai Tribe and Grand Canyon Resort Corporation need to begin to understand the tradeoffs between economic development, visitor experience and natural and cultural resource condition by implementing a survey questionnaire program to assess the quality of the visitor experience, to determine whether visitors would be willing to pay more for a higher quality experience (e.g. fewer visitors and helicopters) and to determine whether the number of visitors (people and helicopters) could actually increase. In addition, it is imperative to monitor the condition of natural and cultural resources (e.g. sand beaches, water quality, litter) at attraction sites to better understand the effects of recreational visitation on these resources.

Issue 2: While considerable numbers of visitors are brought to the ramadas adjacent to the river below Quartermaster Canyon and to the landing areas on the mesa above Quartermaster Canyon, no sanitation facilities are present to serve the visitors and helicopter pilots.

Situation: Significant amounts of human waste and toilet paper are being deposited at the ramada and boat tour area that not only poses a potential health problem, but also litters the lands of the Hualapai Tribe. In addition, when the level of Lake Mead rises, the waste material may be washed into Lake Mead causing substantial impairment of this water body.

Considerations: The recreational experience of visitors to these facilities is negatively affected by 1) they have no restroom facility to relieve themselves and 2) the presence of waste and toilet paper detract from the enjoyment of their experience.

Solution: Composting toilets, much like the one currently in use at Spencer Beach, should be constructed at the ramadas and on the mesa above Quartermaster. These restroom facilities should be maintained on a monthly basis.

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The Tribe proposes to construct composting restrooms similar to the Spencer Beach restroom, one at the helipad and one at the boat dock at river mile 261.5, both remote tourist destinations along the Colorado River, to prevent fecal coliform and E. coli contamination of the river. The Department of Natural Resources will also monitor water quality, with a goal to achieve zero fecal coliform contamination after two years, and to provide public information in the form of signs and flyers.

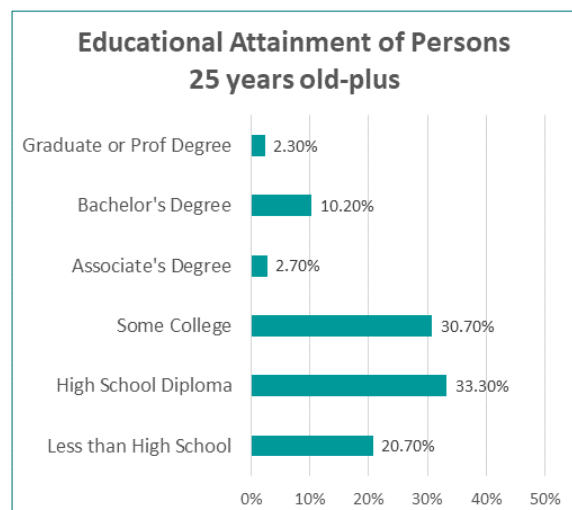
Recommendations of the Lower Grand Canyon River Corridor Management Plan:

- ✓ Determine the use levels for the lower Colorado River corridor and implement a permitting system to match the number of available beaches to avoid overcrowding of attraction sites.
- ✓ Implement of a visitor education program for people visiting the Hualapai Reservation. This may include printed material, presentation by Hualapai Tribal members and guiding activities.
- ✓ Develop use levels for the number of people who are brought into the lower Colorado River corridor during the recreation season.

5.2 DEMOGRAPHICS RELATING TO EDUCATION, LABOR FORCE, INDUSTRY AND OCCUPATION, INCOME, POVERTY AND INTERNET FROM THE 2017-2021 AMERICAN COMMUNITY SURVEY

To consider those most likely to be affected by the economic development activities within the Hualapai Reservation, 2017-2021 American Community Survey (ACS) data was reviewed. Even though this information is a five-year composite, it gives valuable insight into the nature of the Reservation and how it compares to the City of Kingman and Mohave County.

Educational attainment shows that 79.3 percent of those 25 years and older have at least a high-school education or equivalent. This is some ten percentage points less than those living in Mohave County and the City of Kingman where the percentages are 87.4 percent and 89.9 percent, respectively. Person living on the reservation with a Bachelor's degree or higher account make 12.5 percent whereas those living in Mohave County and Kingman are 14.6 percent and 21 percent, respectively. Hualapai's Training Center provides support to those tribal members seeking their GED.



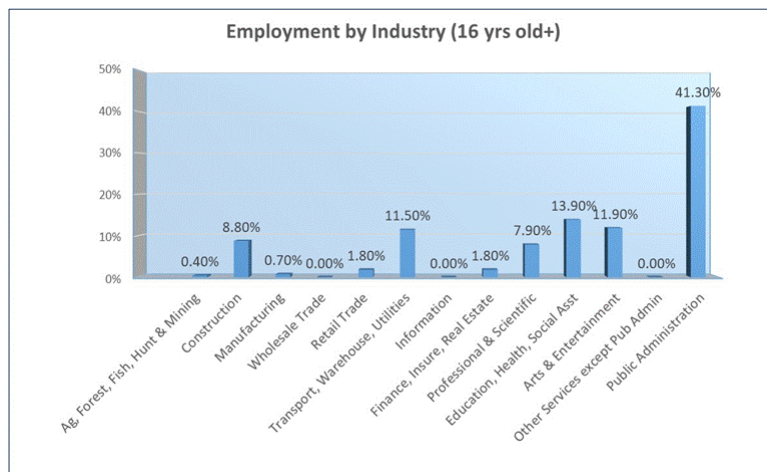
The civilian labor force participation rate of those 16 years of age and older was 44 percent with women holding more jobs than men. As a

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comparable, labor force participation in the City of Kingman stood at 50.8 percent with the County being somewhat lower at 45.7 percent, and with men holding more jobs than women. Although this variation between City and County may be explained by more senior citizens in the outlying communities, it is not true for the Hualapai because there are fewer seniors (65+) as a percentage of their population (less than 8.4% vs. 32.4% in Mohave County). Nor does the level of disability among those 16 to 64 years of age seem to explain the variation. For example, on the Reservation 16.3 percent of the labor force had a work related disability. The level of work related disabilities for the County was 14.4 percent with the City of Kingman's percentage at 15.8 percent. It should be noted that physical (ambulatory) disabilities predominated in all three populations as compared to sensory, mental or self-care disabilities. The lower labor participation on the Reservation may in part be attributed to those not actively seeking traditional employment opportunities where wages and salaries are reported.



In 2017-2021, the level of unemployment among those living on the Hualapai Reservation (17.2%) was over three times the County average of 5.5 percent. The COVID-19 Pandemic greatly impacted tribal employment with both GCRC and tribal government laying off staff which have only recently been hired back.

The employment activities on the Hualapai Reservation had 485 persons working in 13 industries

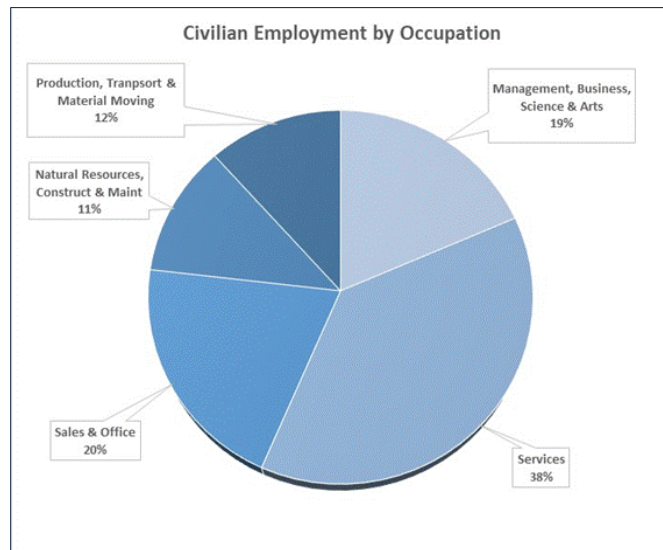
ranging from less than two percent in finance and insurance to over two-fifths of the workforce engaged in public administration such as tribal government and Bureau of Indian Affairs. About one sixth of the work force was in education/health and one eighth focused on arts and entertainment. Other industries of note included Professional/Scientific, Construction, and Transportation Warehousing and Utilities. Manufacturing, mining and forestry jobs combined to make up barely one percent of jobs on the Reservation. No employment was reported in the Wholesale Trade, Information Technology or Services other than Public Administration.

Both Kingman and Mohave County have higher rates of employment in the mining, and the agricultural and forestry and fishing industries than the Hualapai. In addition, other pursuits such as Retail trade activities for both the City of Kingman (10.0%) and the County (15.7%) are higher than on the Reservation (1.8%). The County is especially ahead of the Reservation in the manufacturing industry with 5.7% of the labor force as compared to just 0.7%, respectively. On the other hand, the Reservation does have a large number employed in education and public administration, combining for over 55 percent of employment by industry, as compared to the County with 23.3% in these two fields. These jobs tend to be stable with reasonable benefits.

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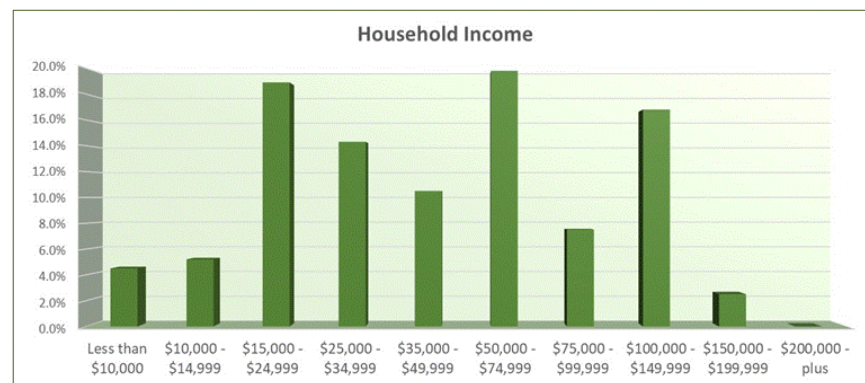
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Within the Hualapai Reservation, office support and sales jobs made up 20 percent of all occupations. Those in construction, natural resources and maintenance were nearly evenly split with production, transportation and material moving at approximately one eighth each. Nearly 20% of the jobs were in management, business, or technology. Mohave County's rate for these types of jobs was over 30%. Most jobs on the reservation are in the service sector which dominates with nearly 40% of all jobs. By contrast, less than 20% of all jobs in Mohave County are in the service sector.

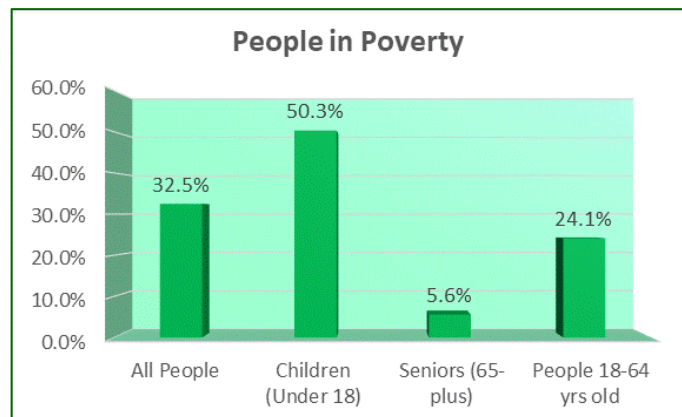
A discussion of income levels will give a relative comparison between the Reservation, the City of Kingman and Mohave County. The household annual income distribution shows a large group of households, about 28% earning less than \$15,000 per year. The median income for the majority of the Reservation was \$42,857 which is still low for the region but significantly higher than the reported \$18,823 in the 2000 Census. Less than 20 percent of Reservation

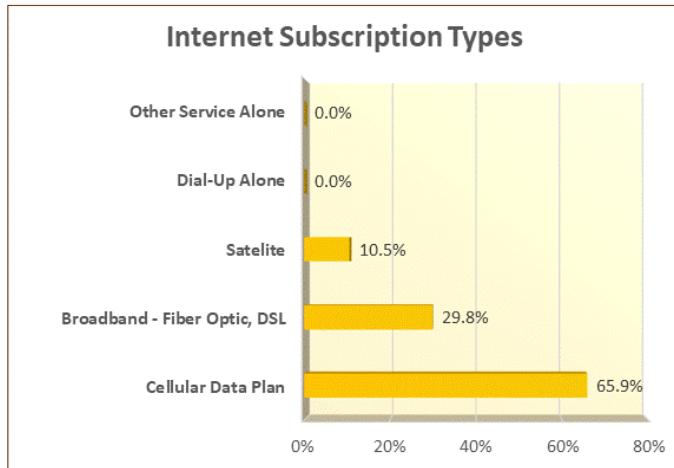


households had annual incomes over \$100,000. In Mohave County and Kingman, median incomes are \$52,768 and \$49,738, respectively.

households had annual incomes over \$100,000. In Mohave County and Kingman, median incomes are \$52,768 and \$49,738, respectively.

A review of persons in poverty reveals that the Reservation has a poverty rate of 32.5 percent, greatly exceeding the City of Kingman (12.4 percent) and County (18.0 percent) values. The poverty rate on the reservation is more impactful when we see that over half of all children are living in poverty. By comparison, the number of children in poverty in Mohave County was 23.7% with Kingman's child poverty rate standing at 16.5%.



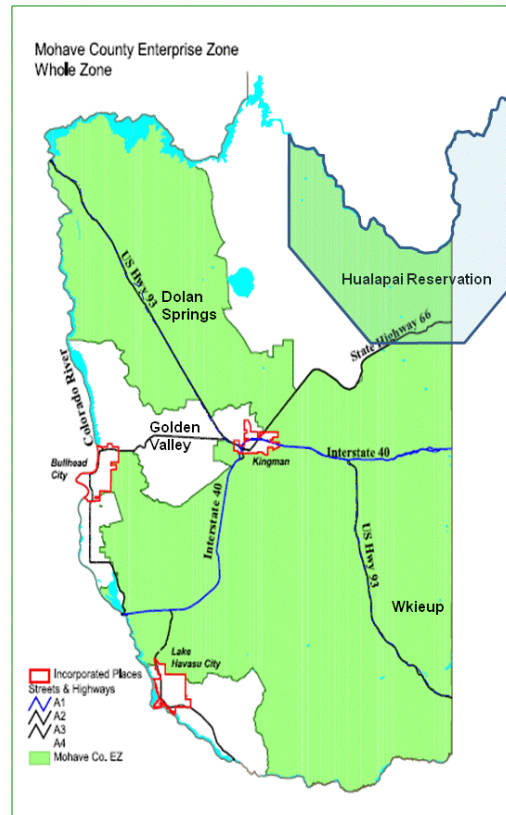


Internet to the home is mostly through the local cellular telephone company with less than 30% of households having service through a “land line.” With the planned deployment of a new fiber optic line from Kingman to Peach Springs in 2024, the community should have access to data plans well in excess of the current 10 Mbps up to 1,000 Mbps. The new fiber optic-based broadband service should greatly enhance remote learning, business operations and entertainment since streaming will not be subject to

interruptions. Nor will the fiber optic be subject to the effects of adverse weather conditions which make the microwave based wireless system less reliable.

5.3 ENTERPRISE ZONES & OPPORTUNITY ZONES

As established under A.R.S. §41-1521, et. seq., enterprise zones may be designated by the Arizona Department of Commerce to improve the economies of areas in the state with high poverty or unemployment rates. The program does this by enhancing opportunities for private investment in certain areas that are called enterprise zones. Increased investments in such areas tend to strengthen or stabilize property values and encourage quality job creation to promote the vitality of the local economies. The program focuses on income/premium tax credits and property tax credits. Opportunity Zones, established at the federal level via the Tax Cuts and Jobs Act of 2017 (PL 115-97), also spur job growth by providing tax benefits to investors.



Income/Premium Tax Credits

Credit for net increases in qualified employment positions at a site located in an enterprise zone are qualified except for those at a business location where more than 10% of the activity is the sale of tangible personal property. Exceptions include: a) food and beverages for consumption on the premises solely by employees and occasional guests of

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employees at the location, b) promotional products displaying the company logo or trademark, c) products sold to company employees.

Credits may total up to \$3,000 per qualified employment position over three years for a maximum of 200 employees in any given tax year. Qualified employment positions are as follows: 1) a full-time permanent job (1,750 hours per year), 2) pays an hourly wage above the “Wage Offer by County” (currently between \$7.64 and \$15.93 depending on the county in which the business is located), 3) offers health insurance to employees for which the employer pays at least 50 percent, 4) must work at least 90 days in the first tax year, and 5) cannot have worked for the employer within 12 months from current date of hire.

Credits for qualified employment positions in the first year are equal to: one-fourth of wages paid to an employee up to \$500. In the second year, credits are one-third of wages paid to each previously qualified employee up to \$1,000. In the third year the amount increases to one-half of wages paid to each previously qualified employee up to \$1,500. At least 35 percent of the net new eligible employees on whom the business is claiming a credit must live within an enterprise zone in the same county as the business on the date of hire (Arizona Dept. of Commerce).

The enterprise zone within Mohave County covers most of the rural areas, beyond city boundaries, and certain Census Designated Places that have urban-like population densities and qualities. The program is designed to encourage small businesses who hire local employees.

Opportunity Zones offer tax benefits to investors who elect to temporarily defer tax on capital gains if they timely invest those gain amounts in a Qualified Opportunity Fund (QOF). Investors can defer tax on the invested gain amounts until there is an event that reduces or terminates the qualifying investment in the QOF, or on December 31, 2026, whichever is earlier.

For the tribe, these new designations are less likely to increase investment on the reservation given the tribe’s policy of requesting a \$50,000 non-refundable payment from third-parties who seek to do business with the tribe. However, the Opportunity Zone designation does help the tribe when applying for grants to fund various activities and building projects

5.4 GOALS AND POLICIES FOR ECONOMIC DEVELOPMENT

Goal 1: Support commercial development that is determined by the tribe to serve the needs of the tribal members while honoring traditional Hualapai values and enhancing the quality of life on the Reservation.

Policies

- 1.1 Identify areas designated for future commercial development on the land use diagrams.
- 1.2 New locations for economic development activities should be considered once a need can be demonstrated by the community.

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- 1.3 Pursue regional recreation opportunities in partnership with local communities located outside of the Reservation.

Goal 2: Encourage diversified and balanced economic development activity that focuses on local employment opportunities on the Hualapai Reservation and trust lands with a focus on downtown Peach Springs.

Policies

- 2.1 Support the retention and expansion of existing businesses at these locations.
- 2.2 Encourage the establishment of new commercial and community serving business enterprises at these locations.
- 2.3 Provide for economic development activities along Route 66 and Diamond Bar Road that create sufficient jobs for the local labor force.
- 2.4 New locations for economic development activities must be able to be supported by existing or developer/tribal-provided infrastructure.

Goal 3: Support organized recreation and tourists activities at appropriate locations

Policies

- 3.1 Identify areas designated for future recreational development on the land use diagrams.
- 3.2 New locations for recreational development activities should be considered once a need can be demonstrated by the community.
- 3.3 New locations for recreational development activities must be able to be supported by existing or developer/tribal-provided infrastructure.
- 3.4 Encourage recreational activities that are less fossil fuel intensive and leave fewer impacts on the environment.
- 3.5 Evaluate the impact of recreational activities upon the landscape and waterways and set limits for such activities so as to preserve the quality of the recreational experience and not intrude upon areas sacred to Hualapai.
- 3.6 Maintain and improve campgrounds (trails, ramadas, sanitary facilities, etc) to meet and exceed visitors' expectations.

Goal 4: Recognize and maintain open space and vistas as an essential part of the community's attractiveness to residents and tourists

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Policies

- 4.1 Encourage economic development along Route 66 and Diamond Bar Road.
- 4.2 Encourage development activities that blend into the natural Colorado Plateau aesthetic and have low vertical profiles.
- 4.3 Preserve existing rural land use designations between population centers.

Goal 5: Allow only a limited amount of environmentally responsible industrial development

Policies

- 5.1 Pursue and support industries that consume less water and non-renewable energy resources than do traditional industry.
- 5.2 Pursue and support industries that create fewer emissions than traditional industry with zero-net-emissions as the preferred standard.
- 5.3 Pursue and support industries that reduce and/or offset greenhouse gas emissions from traditional industry.
- 5.4 Evaluate natural resources to determine sustainable development activities in accordance with the tribe's Natural Resource Development Plan.

Goal 6: Allow only environmentally responsible development

Policies

- 6.1 Pursue and support development activities that consume less water and non-renewable energy resources than do conventional development activity.
- 6.2 Pursue and support development activities that have zero-net-energy consumption as the preferred standard.
- 6.3 Pursue and support development activities that have smaller environmental footprints in regard to clearing of the land's vegetation, terrain modification, and use of sustainable building materials.

Goal 7: Create a competitive and entrepreneurial workforce for the Hualapai Reservation

Policies

- 7.1 Provide opportunities for continuing education for current workers by partnering with employers and community colleges.

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- 7.2 Fund employability training for displaced and chronically unemployed workers through career development programs at local schools and aggressively promote this program to businesses located on the Reservation.
- 7.3 Help local schools and other youth oriented programs on the Reservation to develop “culturally safe” environments for adult education to occur.
- 7.4 Study education needs for all Hualapai people from pre-school through college and adult vocational training in order to identify barriers to educational attainment and to craft responses.

Goal 8: Promote entrepreneurial development for Hualapai Tribal Members

Policies

- 8.1 Ensure that economic development activities include economic gardening, which focuses on building the economy from the inside out.
- 8.2 Encourage education providers to offer a variety of courses in entrepreneurship.
- 8.3 Create apprenticeship programs tailored to business that are the most needed on the Reservation.
- 8.4 Work with the Tribal Council, Bureau of Indian Affairs and industry to find locations for and means to establish small business incubation centers.
- ~~8.5 Encourage the North River Economic Region Coordinator to engage in the creation of employment opportunities for local residents on the Reservation.~~
- 8.5 Encourage tribal entrepreneurship by exempting such entrepreneurs from paying TERO taxes.

Goal 9: Maximize the development potential of lands held in fee by the Hualapai Tribe

Policies

- 9.1 Commission a “Highest and Best Use” study to determine the economic potential of the tribe’s various properties.
- 9.2 Create a development plan for the highest and best use of the land.
- 9.3 Seek land entitlements from the local jurisdiction (city or county) to obtain the highest and best use of the land.
- 9.4 Develop the land.

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Implementation Measures for Economic Development:

E1. Establish a regular schedule of meetings between Hualapai Tribal Council representatives, Grand Canyon Resort Corporation, the Mohave County Economic Development Coordinator, the chambers of commerce and other economic development organizations. Use these meetings for communication and coordination regarding issues such as recent economic trends, cooperative programs, alternative economic development projects, marketing efforts, and development opportunities occurring in the Region.

E2. The Hualapai Planning and Economic Development Director, Grand Canyon Resort Corporation and outside economic development organizations will review possible new economic development programs, such as economic gardening, which focuses on building the economy from the inside out, and establish an action agenda for cooperative economic development efforts emphasizing business opportunities on the Hualapai Reservation leading to the creation of a Comprehensive Economic Development Plan to serve as a guide to sustainable business development in all appropriate areas of the Hualapai Tribe.

E3. Establish regular monitoring programs to evaluate employment growth, by job type and location, and the jobs-to-resident worker ratio for the Reservation. Develop periodic outreach to businesses on the Reservation to identify skill gaps, training opportunities and skill deficiencies in the existing workforce. Also, identify jobs that match the abilities of the underemployed. Report this information and consider policy changes as part of the Master Plan's 10-year review and update.

E4. Develop information on the skills and experience of the resident labor force within the Reservation and collect this information in a report available for use in economic development efforts. Work with leaders in the travel and tourism industry to identify workforce training needs and fine-tune existing programs or develop new programs as needed to foster the growth of the industry.

E5. Conduct a business retention survey, in cooperation with Grand Canyon Resort Corporation and the Mohave County Economic Development Coordinator to identify the needs of businesses located on the Reservation.

E6. Together with existing merchants and the Grand Canyon Resort Corporation, conduct a study to identify particular goods or services desired by local residents and businesses, to shape the focus of efforts to attract new businesses to the Reservation.

E7. Study of new methods of financing economic development activities including debt financing, bonding, guaranteed loans, equity partnerships, joint ventures, and business leases by pursuing opportunities to obtain economic development funding from state, federal or other sources that are available and appropriate, such as infrastructure development, to support business retention and growth on the Reservation.

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E8. In association with Grand Canyon Resort Corporation, determine the use levels for the lower Colorado River corridor and implement a permitting system to match the number of available beaches to avoid overcrowding of attraction sites.

E9. In association with Grand Canyon Resort Corporation, develop use levels for the number of people who are brought into the lower Colorado River corridor during the recreation season.

E10. Implement of a visitor education program for people visiting the Hualapai Reservation. This may include printed material, presentation by Hualapai Tribal members and guiding activities.

E11. Establish a small business office to provide business planning and small business incubator education and support services including a small business revolving loan fund and/or a community development financial institution to make small business loans to qualified tribal entrepreneurs.

E12. Adopt a commercial business ordinance(s) that establishes guidelines and relationship parameters for small business activities with the tribal government.

E13. Create and implement a Comprehensive Education Plan.

E14. Remove the economic development functions from the Planning and Economic Development Department to create a stand-alone Economic Department when the tribe's partnership with Mohave Community College that established the Small Business Development Center in Peach Springs is concluded.

6.0 Infrastructure Element

This section addresses concerns related to infrastructure for the Tribe's water, wastewater, solid waste, energy systems and telecommunications. Roads are covered under the Transportation Element - Section 8.0. Across the Reservation, these services are, for the most part, provided by the Tribe. The quality of life on the Reservation depends on its residents' access to safe and adequate water, electric supplies, telecommunications and be able to safely dispose of wastewater and solid waste.

The infrastructure to provide for these needs is typically operated by the Public Works Department, with the exception of electricity where Mohave Electric Cooperative is the incumbent utility that serves some 152 square miles in the southern part of the reservation, Valentine and various off-reservation trust lands. The Tribe's role in planning is a key factor in ensuring the adequacy of needed infrastructure. Because of the significance of the improvements and infrastructure requirements for Grand Canyon West (GCW), these are handled separately in Section 6.6 and fall under the purview of the Hualapai Tribal Utility Authority (HTUA) whose mission is to serve the utility needs of GCW and other parts of the reservation as directed by tribal council per the HTUA's Governing Ordinance adopted in 2014.

Key Public Infrastructure Facilities Issues (General)

Planning for Facilities. Water, energy, wastewater and other facilities must be planned carefully to make the most efficient use of public resources. Providing adequate capacity to meet demands in the most cost effective manner requires planning and coordination between Tribal entities. Because of the extreme costs of developing and maintaining such systems, planning is required.

Ensuring Adequacy of Facilities. Ensuring the adequacy of infrastructure systems is a key aspect of the Tribe's responsibility to protect the health, safety and welfare of its members. Adequacy means that sufficient capacities are available to serve demands as those demands occur as well as future demands projected to occur.

Financing Facilities. Financing infrastructure requires the Tribe to balance resources, costs and benefits. The Tribe must identify the costs of construction and maintenance and then determine how to equitably finance those costs.

Design & Construction Standards. Only by implementing and requiring the use of widely accepted design standards can the Tribe ensure that public infrastructure systems meet regulations and are safe and reliable. Review and acceptance of water and septic systems throughout the Reservation should be considered a minimum requirement to ensure adequacy of facilities as well as the protection of groundwater resources. In addition, electrical distribution systems shall be designed and constructed to meet USDA's Rural Utility Service standards as well as those of the Institute of Electrical and Electronics Engineers (IEEE).

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6.1 WATER

Generally, the Tribe's Public Works Department provides water to a centralized potable water system on the Reservation, but there are areas on the Reservation that do not have centralized water service or are not served by water systems which provide potable water. Adequate water system infrastructure is a primary development constraint in many parts of the Reservation and, typically, development is limited to areas where organized water service can be provided. Expansion of existing systems or creation of new systems will be required to accommodate the growth and development on the Reservation. A list of potable water systems and their management authority is provided below:

Peach Springs	Tribal Department of Public Works
Valentine	BIA
Grand Canyon West	Currently GCRC and Public Works, with transition to HTUA when tribal council grants permission.
Frazier Well Area	Department of Natural Resources (non-potable water source).
Misc. Domestic Wells	Private - individual Tribal members

Non-potable water systems are managed by the Department of Hualapai Natural Resources and include the Peach Springs Canyon pipeline, Blue Mountain Pipeline, Mud Tank well system, and Youth Camp system, the later being designed for wildlife but in need of upgrade to address the reconstructed Youth Camp.

Organized water systems are essential to provide for normal use and emergency fire flows for urban development. Organized systems also are needed to adequately serve most suburban development, although wells may provide adequate service to some low intensity suburban areas. Existing systems were estimated by Arizona Department of Water Resources (ADWR) to have provided a total of 300 acre feet of water for municipal and industrial purposes (ADWR, Water Atlas Volume 4). Water demand is expected to increase from 351 acre feet in 2010 to 916 - 942 acre feet by the year 2060 per Water Resources Development Commission Water Supply and Demand Working Group Report, 2011.

Peach Springs Municipal Water System.

Sources: The Peach Springs water system has three well sources located about 7.5 miles west of Peach Springs on U.S. Highway 66 near Truxton in an area called D2. See the table below for details.

Well No.	Surface Elev.	Depth	Pump Depth	Static Level	Casing Dia.	Grout	Drop Pipe	Screen	Year
1	4420'	623'	500'	330'	8 in.	0-25 ft	3 in.	528-538' 579-623'	1975
2	4423'	609'	500'	330'	8 in.	0-25 ft	3 in.	423-609'	1978
3	4412'	660'	404'	326'	10 in.	5-20'	4 in.	430-640'	1989

The pump depth and static water levels were obtained from data recorded at the time the wells were completed. These values have changed little according to Public Works..

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Under normal conditions, Wells 2 and 3 alternate to fill the 2 surge tanks (20,000 gal. and 70,000 gal.), which are located at the site of the wells. Well 1, located about 1,400 ft. west, is used as a back-up.

Booster Pumps: Two submersible booster pumps, located near the surge tanks, alternate to fill 3 storage tanks on the lower distribution zone. The Buck & Doe tank is located on the transmission main at the intersection of State Highway 66 and Buck & Doe Road (475,000 gal.). Two tanks are located near the old Indian Health Services (IHS) clinic which now the Healing House (150,000 gal. and 400,000 gal.).

Two submersible booster pumps are located near the clinic tanks to fill 2 additional storage tanks located on the upper distribution zone (150,000 gal. each) just east of the Hualapai Juvenile Detention and Rehabilitation Center.

The existing Peach Springs Pumping Station presently suffers from a number of problems, including:

- Lack of automatic pumping controls causing excessive manual operation
- Difficult access to existing buried pumping vault for maintenance & operations
- Lack of proper functioning valves causing Buck & Doe Tank to overflow prior to the complete filling of the Clinic Tanks.

Distribution System: The history of the water distribution system begins in 1898 with the Atchison, Topeka and Santa Fe (AT&SF) Railroad water system, which utilized the Diamond Creek Spring in Peach Springs Canyon and supplied water to the community. Many old distribution lines were abandoned in-place when the current IHS-funded system was constructed in the 1970s. Some very old lines remain in service, but no as-built information exists for them except old AT&SF drawings, which are not complete.

The AT&SF distribution main was a 6-inch iron pipe believed to have joint seals containing lead. As the result of some elevated lead readings, action was taken in 2002 to completely remove that line from service. As-built drawings show that in 1982 the line was isolated from the new distribution main by closing 4 interconnecting valves and filling the valve boxes with concrete. However, the old 6-inch main continued to have water in it. Over the years, Public Works removed service lines from the AT&SF main and connected them to the new main. In 2002, IHS assisted Public Works in completely isolating the old main. It was found that one of the valves supposedly closed in 1982 was in fact totally open and was supplying water to the old main. The four interconnecting valves were removed and the interconnecting lines were capped. It was also discovered that when the Hualapai Lodge was built, it was, in error, connected to the old AT&SF water main. The lodge service line was connected to the new main and a new isolating valve was added so that the water main on either side of the lodge service line could be closed to facilitate repairs and the lodge can receive water from the opposite side.

An old 4-inch line with several branches of smaller diameter serves the area east of Diamond Creek Road, and south of State Highway 66. Pressure problems have been

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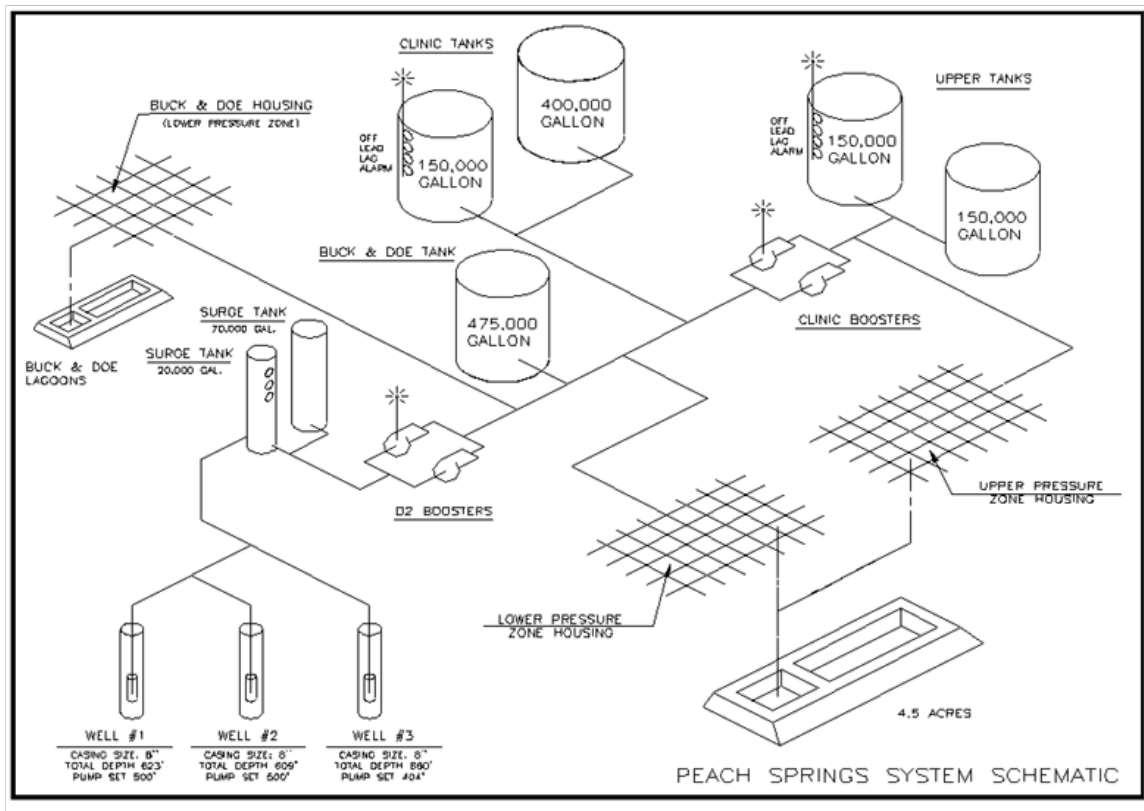
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reported in that area and a study is needed to determine what water line upgrade is required to eliminate the pressure problems.

The area west of Diamond Creek Road and south of State Highway 66 is served by very old, small diameter lines, probably 2 and 3 inches. These were originally connected to the AT&SF water main or to AT&SF smaller distribution lines. No as-built information exists for those lines, with exception of an occasional reference on the Indian Health Services as-built plans from the 1970s. Due to age and frequent leaks they should be replaced. In early 2024, the main line from the Truxton Well Field to Peach Springs suffered a significant failure causing the community to be without water for over 24 hours. The investigation revealed the 47-year-old asbestos pipe had a manufacturing defect which, when combined with its age, caused the failure.

The Buck & Doe housing area is a separate distribution zone served by the Buck & Doe tanks. Lower elevations in Peach Springs are served by the Clinic tanks. The upper elevations comprise a separate distribution zone served by the Upper tanks east of Juvenile Detention. The following figure provides a schematic overview of the Peach Spring Municipal Water Supply System.



6.1.1 Key Water Systems Issues

Providing for Adequate Water Supplies. The availability of adequate water supplies is essential for growth and development. While all residents and businesses require safe and reliable

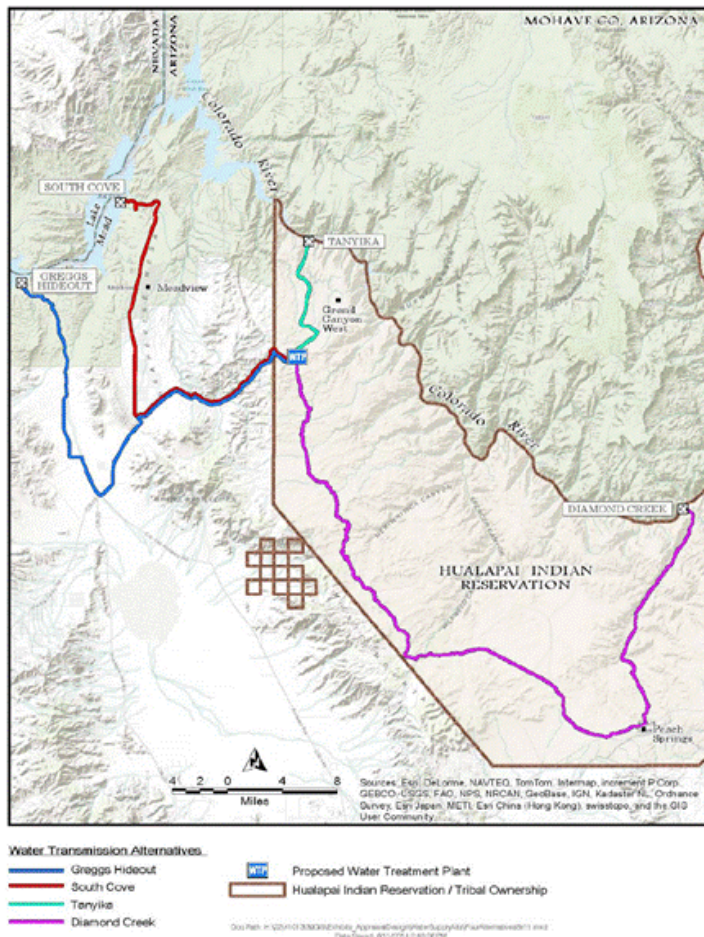
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supplies, the standards for adequacy may vary from one part of the Reservation to another. Urban development demands more water, and a centralized water system, to meet the daily needs of residents and businesses and to provide water for fighting fires. Reclaimed water (treated effluent) can also be used for non-potable uses including landscape irrigation, dust control and fire suppression. Additionally, many communities find the development of Master Plan documents a useful tool, when regularly updated for planning and financing of water system improvements.

Using Water Resources Wisely. Much of the Reservation is semi-arid land with limited water resources. The Tribe has an undetermined, but limited amount of groundwater within its boundaries. This paucity of groundwater information may, however, be less of an issue with the tribe's recent claim of up to 4,000 acre-feet of surface water from the Colorado River. Regardless of new surface water supplies, which may not be delivered for a decade. By using water wisely, the Tribe, its residents and its businesses can minimize expenditures on water and infrastructure, and help ensure that existing water supplies will support long term growth. The use of gray-water and rainwater can serve as a conservation measure.



Hualapai Tribe Water Rights Settlement Act of 2022

The Hualapai Tribe and the United States have settled the tribe's right to 4,000 acre feet of Central Arizona Project (non-Indian agricultural priority) water per year from the Colorado River. DOWL has conducted an engineering study to identify delivery alternatives that can be developed as a reliable water supply for the reservation and GCW. The leading alternative route, selected by Hualapai Tribal Council in 2014, taps the Colorado River at the mouth of Diamond Creek and conveys the water to Peach Springs and GCW via a 70-mile pipe line supported by 10 pumping stations and two water treatment facilities. The tribe will engage a third-party environmental consultant to draft the Environmental Impact Statement (EIS) that will determine the pipe line's route. The EIS will take two-plus years to complete.

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6.1.2 Goals and Policies

Goal 1: Maintain and develop a sufficient water supply that complies with all applicable Safe Drinking Water Act rules and regulations

Policies

- 1.1 The Hualapai Tribe should continue to develop and maintain existing and necessary water supply systems.
- 1.2 The Hualapai Tribe should implement water conservation practices including the installation of low or no flow fixtures when possible.
- 1.3 The Hualapai Departments of Natural Resources and Public Services will work cooperatively to identify and improve non-potable water systems to become potable water systems when public consumption is anticipated, including the development of Milkweed Springs to support West Water.

6.2 WASTEWATER

The increasingly urban and suburban character of development on the Reservation is increasing the Tribe's involvement in the provision of organized wastewater systems throughout the Reservation. While many Reservation residents traditionally had to use septic tanks or other on-site disposal systems, sewer systems are only financially viable in urban areas and where they can meet regulatory standards. Regional systems can offer significant long-term cost savings on a per-unit basis, but require high initial costs, careful planning and ongoing coordination to ensure that new development and facilities are compatible with the design of the regional system.

A list of community wastewater systems and their management authority is provided below:

Peach Springs	Tribal Department of Public Works
Valentine	BIA
Grand Canyon West	Currently GCRC with transition to HTUA when tribal council grants permission.
Misc. Domestic Septic Systems	Private – individual Tribal members

Peach Springs Municipal Wastewater System.

The wastewater system for central Peach Springs consists of sewer collection lines, which empty into a lagoon system consisting of a series of 5 treatment cells.. Cell Nos. 1 and 2 have developed leaks over the years and must have their liners replaced. This will be done when IHS helps the tribe to fund the construction of new Cell No. 6 A Two-Cell lagoon system, located south of Buck and Doe Road, serves the waste water needs of the Milkweed Springs, Box Canyon and Music Mountain subdivisions. A new wastewater system must be designed and constructed to serve

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the Truxton Triangle development. This should be a mechanical treatment plant given its location above the Truxton aquifer.

In general, the wastewater collection systems are working at an acceptable level

6.2.1 Key Wastewater Systems Issues

Providing for Adequate Wastewater Facilities. The availability of organized wastewater systems is essential for growth and development in any community. Semi-arid desert communities with limited water supply like the Planning Areas often find that maximum growth and development can be realized only if water conservation and water reuse methods are incorporated into wastewater facility planning.

To protect the environment from pollution and residents from potential health hazards, the Tribe must ensure that wastewater treatment and especially reuse methods are adequate. Many communities find the development of Master Plan documents a useful tool, when regularly updated for planning and financing of water system improvements.

Coordinating Wastewater Service Planning. Centralized wastewater service is generally provided by the Tribe's Public Works Department. By coordinating wastewater service and land use decisions, the Tribe can best assure the ability to meet future demands. By coordinating the design of wastewater systems, the Tribe can help minimize long term wastewater service costs. While small systems may be more cost effective on an interim basis, the long-term maintenance and operation costs of these facilities are high. By promoting regional wastewater systems, the Tribe will have the flexibility to provide wastewater service in the most cost effective manner.

6.2.2 Goals Objectives and Policies

Goal 2: Provide state of the art regional wastewater systems to reduce system cost, protect the aquifer and allow for reuse of treated effluent.

Policies

- 2.1 The Hualapai Tribe should coordinate the design of wastewater systems to help minimize long-term wastewater service costs
- 2.2 The Hualapai Tribe should implement wastewater reuse treatment into wastewater treatment facilities for non-potable water needs such as irrigation.

6.3 SOLID WASTE

As the Tribe's population grows the need for adequate sanitary landfill facilities and solid waste collection increases. While the Tribe's need for landfill facilities is increasing, the Tribe's ability to provide those facilities is being limited by Federal regulations. Services are available to most of the populated areas; however, rural areas are often left wanting.

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There are no authorized landfills operating on the Hualapai Reservation. The Tribe does own and operate a Solid Waste Transfer Station. Solid waste on the Reservation is collected and brought to the Transfer Station. From there it is hauled to the Mohave County operated landfill in Mineral Park, a distance of 65 miles.

A Solid Waste Management and Recycling Ordinance is currently in place. The ordinance establishes standards for disposal and recycling of solid waste and the operation of solid waste facilities within the Reservation.

In rural areas of the Reservation, individuals are often responsible for hauling their waste to an appropriate landfill or transfer station. Many rural residents consider these facilities to be at unacceptable distances from their homes. The random and “wildcat” dumping of waste in low, out-lying areas is common. The public health implications of this type of dumping concerns many rural residents.

6.3.1 Key Solid Waste Management Issues

The distance from many of the Tribe’s rural areas to the landfills is substantial. Since typically, solid waste collectors often do not cover rural areas, residents must haul their own, which encourages random dumping. Ensuring the availability of such service is important to the control of unauthorized dumping throughout the Reservation.

The Solid Waste Transfer Station’s operations and general upkeep has become an issue of late with some community members making complaints and seeking its relocation if it cannot be better managed by Public Works’ Solid Waste Division.

6.3.2 Goals and Objectives

Goal 3: Ensure adequate landfill facilities and solid waste collection services to rural areas.

Objectives

- 3.1 Implement local recycling programs to decrease contribution to landfill waste and reduce wildcat dumping.

6.4 ENERGY

Adequate and affordable energy is critical to the overall quality of life and economic growth of the Reservation. With the exception of Grand Canyon West, electricity is provided via the regional grid which is owned and operated by the Mohave Electric Cooperative. Propane for heating and cooking is provided to individual homes and tribal facilities by private suppliers based in Kingman and Peach Springs. There is no local natural gas pipeline serving the Hualapai Reservation.

6.4.1 Electricity

6.4.1.1 Existing Conditions

The Mohave Electric Cooperative has been the only provider of electric service on the Hualapai Reservation since the late 1950's. There are no other electric utilities with local distribution facilities on the Reservation. Arizona Public Service Company's Four Corners- Moenkopi-Eldorado 500kV interstate transmission line extends across the southern portion of the Reservation but the line does not provide for any local distribution service. Unisource Energy Services is the electric service provider to the region west of the Hualapai Reservation and north of Mohave Electric's service territory. Unisource is the closest utility provider to the Hualapai Tribe's tourism enterprise at Grand Canyon West in the northwest corner of the Reservation. Grand Canyon West operates without a connection to an off-reservation utility grid electric service and utilizes diesel generators and PV arrays for electric power which form a 20.8 KV micro-grid installed at GCW in 2015 and operated by the tribe (see Section 6.5).

The Mohave Electric grid provides electric service to customers primarily in the Peach Springs area and to a handful of customers along the road (BIA Route 18) to the Havasupai Reservation on the Reservation's northeast boundary, roughly 70 miles from Peach Springs. Hualapai customers are charged the same rates for electric service as Mohave's other non-Reservation customers. However, electric reliability and utility response time to outages has always been a problem for Hualapai customers.

The power line that feeds the Peach Springs Area is a 69kV radial line (not loop connected) extending from the Round Valley Substation 35 miles south of the Hualapai Reservation to the Nelson Substation located at the Lhoist lime plant facility adjacent to the southeastern corner of the Reservation. There are four 24.9kV local distribution lines/circuits leaving the Nelson Substation. One line/circuit travels west to provide power to the Peach Springs area and then continues westward off the Reservation to supply the communities of Truxton and Valentine. Another circuit travels northeast along BIA Route 18 a distance of 70 miles to provide power to the Havasupai Reservation and Hualapai customers along its path. The third line travels east to provide power to off-Reservation customers. The fourth circuit provides power to the lime plant facility and to facilities belonging to the Burlington Northern Santa Fe Railroad. Mohave Electric

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owns the 69kv transmission line, the Nelson Substation, and the local distribution lines with exception of the distribution lines which supply the Youth Camp and Frazier Wells.⁶

The offices of Mohave Electric Coop are located in Bullhead City Arizona, approximately 90 miles from Peach Springs. There are no satellite offices of Mohave Electric so the Bullhead City location is the closest point of customer service. Peach Springs is also the farthest east extension of Mohave's service territory and so the furthest distance for outage response and maintenance services. Any Mohave customers living on the Reservation that need help with billing and customer service issues have to travel to Bullhead City to get their issues addressed. Power interruptions are frequent on the Reservation due to the extended radial serving the area, and outages requiring dispatch of a line crew often require several hours to correct. One notable example was when the Havasupai Reservation went without power for three weeks in 2006. Extended power outages create significant hardship and risks due to spoilage of food products, failure of security systems, unavailability of emergency and routine health care facilities such as the Peach Springs clinic, and spoilage of medical supplies and medicines. Power outages also create the necessity for people to travel long distances seeking necessities such as food and medicines in adverse and often dangerous rural weather conditions. Mohave Electric Cooperative has responded to these service shortfalls by upgrading their power line from the Kingman Substation (Blake Ranch Road) to Hackberry and by installing a switch in downtown in Peach Springs which allows the Kingman Substation to keep power flowing to west side of Peach Springs if the Nelson Substation and 24.9 KV distribution circuit is off-line.

In general, the administration of the Mohave Electric Cooperative does not recognize the Hualapai Tribal Government as an original founding member of the Cooperative. Mohave has always been perceived as uncooperative concerning tribal participation in coop board activities and membership meetings.

6.4.1.2 Previous Studies, Reports and Transmission

Tribal Electric Utility Feasibility Studies - In 2005, the Hualapai Tribe began work on a study (TUA Study) (Ref- Attachment -TUA Study) to determine the feasibility of establishing a tribally controlled electric utility (Tribal Utility Authority - TUA). The TUA would take over from Mohave Electric Cooperative as the provider of electric utility service on the Hualapai Reservation. The TUA would acquire the facilities (poles, wires, meters, transformers, etc.) from Mohave Electric and Mohave would no longer serve as the electric utility on the Reservation. The TUA Study has performed an evaluation of the condition of the facilities and estimated their value, and studied the financial aspects relative to rates and the cost of establishing the TUA and providing electric service to all customers on the Hualapai Reservation. The TUA Study team completed its work 2007. The TUA Study made a determination that, under certain conditions, it would be financially feasible to establish a Hualapai Tribal Utility Authority to become the electric service provider on the Reservation. The TUA Study included draft Ordinances to implement the TUA, and a draft business plan and financial strategy. There was no consideration by the Hualapai Tribal Council

⁶ Refer to Arizona Corporation Commission Decision No. 7319 from 2013.

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and no action was taken toward implementation of the Study Recommendations. In 2009, The TUA Study was updated to evaluate the feasibility of the tribal electric utility under slightly different conditions, specifically the possibility of a power line being established and the TUA providing service to Reservation customers at Grand Canyon West. Establishing an TUA is a requirement of the Rural Utility Service to ensure there is an entity to set electric rates sufficient re-pay any loan from the USDA. With the tribe's successful RUS/High Energy Cost Grant application in 2014, tribal council established the Hualapai Tribal Utility Authority later that year and adopted its governing ordinance with a mission to provide power, water and wastewater services for Grand Canyon West and other parts of the reservation as council deems appropriate. Telecommunications was added to the HTUA Ordinance in 2017 and is reservation-wide.

Renewable Energy Resource Studies - With funding support from the US Department of the Interior (DOI), Bureau of Indian Affairs (BIA), Energy and Mineral Development Program (EMDP) the Hualapai Planning Department (HPD) has been conducting studies of the feasibility of utilization of Renewable Energy Resources on the Hualapai Reservation since 2004. Building on the availability of renewable energy resource data and maps available from the US Department of Energy (DOE), the HPD investigated renewable energy resources areas on the Reservation and conditions affecting the feasibility of large, medium, and small-scale development projects. The HPD studies investigated leading power generation technologies, markets for renewable energy, environmental considerations including cultural considerations, and financial feasibility of development of solar, wind, and biomass energy resources. According to DOE Geothermal resource maps, there are no commercially viable geothermal energy resources on the Hualapai Reservation.⁷

Solar Energy Studies - There is abundant solar energy available on the Hualapai Reservation. Solar Energy Resource Maps, developed by DOE, indicate that the Northern Arizona Region ranks among best solar resources areas in the nation. The milder temperatures and more moderate climate of Northern Arizona and the Hualapai Reservation are more suitable for photovoltaic (PV) power systems that lose efficiency in the higher temperatures of the lower desert areas.⁸

Small-scale solar energy utilization has been successfully demonstrated several times on tribal buildings to provide electricity and domestic hot water. Medium-scale solar PV electric systems have been established on the Reservation (West Water) to pump water through a 25-mile pipeline to Grand Canyon West.

Large utility-scale solar power system development to generate electricity for export to the regional grid as a business enterprise is possible but depends on economic conditions, establishing a point of transmission interconnection to the grid, the willingness of a developer to build a facility on the Reservation, securing of a Power Purchase Agreement from a utility or other

⁷ See DOE Arizona Geothermal Resources Map.

⁸ See Arizona Department of Commerce Energy Office Arizona Solar Roadmap

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buyer and the desire of the tribe to do so. The Nelson 69kV substation provides one point of grid interconnection for export of utility-scale solar power from the Hualapai Reservation; however, MEC has does not have an Open Access Transmission Tariff (OATT) on file with Federal Energy Regulatory Commission under which transmission service is provided, so delivering power to an off-reservation buyer along this power line is not an option at this time.

From 2003 to 2017, the Tribe was awarded six grants from the DOI-BIA-Energy and Mineral Development Program to conduct a Reservation-wide assessment of Hualapai renewable energy resources and a cost of service study to set electric rates for the newly established HTUA (BIA Assessments).

The BIA Solar Assessment indicated favorable locations and conditions for locating a utility-scale solar power facility on the Reservation. The size of the plant would be limited to the capacity of the Nelson-Round Valley 69kV transmission line which would be a maximum of 50-megawatts. In 2006, the Arizona Corporation Commission (ACC) adopted the Renewable Energy Standard and Tariff Rules which increased amount of electricity that utilities must supply from renewable energy resources to 5 percent by 2015 and 15 percent by 2025, with 25 percent coming from distributed generation.⁹

A second, utility-scale solar energy site was also identified in the Clay Springs area where the Hualapai Trust lands are interlaced with BLM holdings. Two sections of Trust land fall along the 500 kV APS line and could be connected to the regional transmission grid in conjunction with a wind farm or a large-scale solar development on nearby private land. The initial permitting and environmental study did not reveal any fatal flaws at this site. However, the area of Clay Springs is known to have been the home base of the Clay Springs Band (Ha Du:ba Pa'a in Hualapai), one of the 14 historic bands of the Hualapai, and contains numerous landmarks and places of cultural and historical importance, including burial sites. As noted in the Hualapai Cultural Department's review of the Alternative Energy Critical Impact Analysis, it would be challenging to avoid direct impacts to archaeological sites during infrastructure construction, given the abundant sites in this area. A comprehensive ethno-historic study, akin to an archaeological inventory, should be conducted as part of any planning for large scale development in the area, as early in the process as possible.¹⁰ Mitigation measures would be addressed in an Environmental Impact Statement, provided the project moves forward.

For a more modest solar project, the tribe secured an additional BIA grant in 2017 that examined the feasibility of placing community-scale solar array in the Peach Springs area. The consultant reviewed the electrical demand and usage data in greater Peach Springs and determined the array should be at least 500 KW and possibly up to 1 MW, if the load in areas west Peach Springs

⁹ See Arizona Corporation Commission's – Renewable Energy Standard and Tariff rules, 2006

¹⁰ See: Cultural Resources Overview and Impact Assessment for the Alternative Energy Critical Impact Analysis, Draft (21 June 2012), Prepared by Peter Bungart, Senior Archaeologist Hualapai Tribe Department of Cultural Resources

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(Buck and Doe housing, Music Mountain and Truxton) can be served. Two sites were considered along the BNSF railroad with the site on Nelson Road, just west of the lime plant being the preferred location for the site (1 MW array requires some 4 acres). Given the cost of construction, the Purchase Power Agreement with MEC would have to be \$60/MW hr, or with a \$1,000,000 DOE grant to help pay for construction, about \$30/MW hr. MEC's offer of \$25/MW hr made the proposal financially unfeasible. MEC's PPA offered no guarantee to purchase more than 5 MW hrs per year which requires the tribe to waive its rights under Public Utility Regulatory Policies Act of 1978. In addition, the PPA prevented other customer's within MEC's CC&N from being served by the tribe's proposed solar array such as the lime plant in a separate deal where the tribe would build its own electric distribution line to the facility to sell the excess solar power not used by Peach Springs with such sales allowing the project to become financially feasible. It should be noted that with passage of the Inflation Reduction Act, the DOE now offers grants up to \$4 million with as little as 10 percent match which may make solar project financially feasible.

Wind Energy Studies - The study of Hualapai Wind Energy Resources began with Planning's participation in the Arizona Wind Working Group (AWWG) meeting in 2003. The AWWG mission is to bring together interested parties and policy makers to examine obstacles to wide spread adoption of wind energy in Arizona. The group supported the efforts of the DOE State Wind Resource Mapping Project which resulted in the publication and validation of the High Resolution Arizona Wind Resource Map (AZ Wind Map) in 2004. The AZ Wind Map contained sub-maps of wind resources on Indian Reservations within the state. The AZ Wind Map indicated the presence of developable wind resources on and around the Hualapai Reservation. The AZ Wind Map also contained an overlay of regional power transmission lines.

The DOE Wind Powering America Program supplied a 30-meter anemometer tower (MET (or Meteorological) tower) to the Hualapai Tribe that was installed at Gray Mountain east of Peach Springs. Data was collected from the tower and sent to DOE for analysis. A wind Resource Report was prepared by Northern Arizona University that indicated the wind resource at the Gray Mountain site had the potential for utility scale development.¹¹

To build on the results of the Peach Springs site report, the Tribe was awarded a grant from the DOI-BIA-Energy and Mineral Development Program to conduct a Reservation-wide assessment of Hualapai renewable energy resources (including wind, solar, and biomass) (BIA Assessment). Under the three-year program, the 30-meter DOE MET tower at Peach Springs was replaced with an industry standard 50-meter tower. A wind energy development consultant was hired to assist the Tribe to find additional areas on the Reservation with wind energy development potential. After a survey of potential sites, a second 50-meter MET Tower was erected at Blue Mountain. After evaluation of the data from the 50-meter towers, and hiring a new wind energy resource assessment consultant, a third 50-meter MET tower was installed near the Nelson Substation. A fourth MET Tower was installed on the ridge south of Grand Canyon West to evaluate the potential for utilizing wind energy to supply electricity to the Tribe's tourism development.

¹¹ See NAU- Hualapai Wind Resource Report, 2005

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The Wind Resource Assessment Consultant prepared a map of potential wind development areas based on topography and the MET data. An environmental consultant conducted a Phase I Environmental Screening of those areas including a Cultural survey and biological field study. The Blue Mountain site was eventually eliminated due to proximity of Tribal Cultural Resources. The Peach Springs site is too close to the town for development. The Nelson site has excellent potential due to its close proximity to the Nelson Substation, however, the wind potential at that location is marginal for utility scale development and has also been dropped from consideration. Surprisingly, the Grand Canyon West site located along Buck and Doe Road emerged as the best candidate for a large-scale wind farm.

The permitting and environmental study did not reveal any fatal flaws at the Buck and Doe or Grand Canyon West met tower sites. Using a zero to four point scale with zero having no impact and a rating of four indicating a fatal flaw, visual impacts at Grand Canyon West were ranked as three and the impact on bird flight paths at Buck and Doe rated three. While visual impacts are difficult to quantify and mitigate, the impact on avian flight paths may be mitigated by increasing the distance from nesting areas, slowing the speed of blade rotation and curtailment of operations during peak migration times of the year. In November of 2013, members of tribal council visited the newly commissioned Perrin Ranch wind farm north of Williams and noted the miles of access roads needed to serve the several dozen 1.5 MW turbines and their general appearance on the landscape and did not believe such large-scale wind development should be pursued on the Hualapai Reservation regardless of the wind resource.

Biomass Studies - The Hualapai Tribe has approximately 185,000 forested acres within the Reservation boundary. In 2004 the Hualapai Planning Office began a feasibility study to determine if it would be economic to establish a forest biomass facility on the Reservation. The economics of “wood-to-electricity” conversion technologies, generally combustion-steam-turbine-generators of one type or another, were not favorable at the time of study, indicating a market price well above the cost of conventionally generated electricity. The study also concluded that utility companies in Arizona prefer to develop their own projects rather than contract with vendors.

The study looked into production of other products from forest biomass. The consultant conducted an analysis of conversion of forest biomass to other fuels and products such as ethanol and biodiesel. While the promises from the biomass gasification technology vendors were encouraging, the technologies were generally non-commercial in scale. Without verifying data from installed large-scale projects with an operational history, the study could not establish the feasibility of such a venture.

The study looked briefly into markets for other forest based products such as building materials and found limited markets for such products in the region. Hualapai Forestry Department sees timber sales as the only economically feasible market for Hualapai forest products

Strategic Technical Assistance Response Team (START) - On June 20, 2012, the Hualapai Renewable Energy Program was selected for inclusion into the Strategic Technical Assistance

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Response Team (START) Program. START is comprised of DOE and National Renewable Energy Laboratory (NREL) experts in renewable energy project development to help Tribe's achieve their goals of energy self-sufficiency, sustainability, and economic competitiveness.

The session was held in early October 2012. The three-day session began with a discussion of Tribal history up to the current day showing how energy development has affected the Tribe. This was followed by Practical Vision Workshop for energy use in the 2022. The vision provides guidance to the current energy development priorities of the Tribe, as follows:

1. Towards the Safe & Socially Responsible Energy Use & Management in Daily Life where all Hualapai have access to affordable or free transportation, sustainable economic security and protection of the environment through the use of sustainable clean energy.
2. Towards Mental, Physical, Spiritual Health & Well Being For Community, Family & Individual by assuring healthy food availability for community well-being, local access to a variety of education options and safe, compassionate resources to care for our elderly treasures
3. Towards: Healthy, Viable Economic Community Through Individual Independence with a deeper connecting harmony & accountability between government and the people, energy independence through utility ownership, well balanced Hualapai living happy & healthy lifestyles and a thriving cultural identity & education woven into daily life

The Underlying Contradictions Workshop identified issues and obstacles to achieving progress towards the 10-year energy vision and to ensure that strategies were realistic. Bettering communication between Tribal officials and Tribal members was identified as a key area needing improvement. The Strategic Directions Workshop established and prioritized key actions to take in the next two years to achieve the energy vision. The Tribal Council adopted the Strategic Launch Plan by Resolution on November 6, 2013. As can be seen, the START workshop brought out more issues than creating a pre-development package that can be used in support financing and construction of a renewable energy project on tribal lands and focused more on how energy conservation in transportation, food production, or utility ownership can be used to enhance the lives of individuals in the community. The START effort can be credited for giving impetus to forming both the Hualapai Transit program and the Hualapai Tribal Utility Authority (HTUA).

2017 Cost of Service Study Funded by BIA DEMD, the 2017 Study found that the tribe would have to raise electrical rates over 30% over MEC's current rate to maintain the same level of service with little capital reserves to make system improvements. The small loads in Peach Springs make a rate increase problematic. For tribe's three hydropower contracts, the energy could be delivered to Peach Springs, but the loss of the existing bill credit with MEC (Hoover "D2" allocation) and the benefit arrangements with Pechanga (Hoover "D1" allocation) and Navajo Tribal Utility Authority (CRSP allocation) should be considered.

The tribe may look to acquire the MEC distribution system when it has substantially larger loads to serve, such as those anticipated at Grand Canyon West or a pumping load when the tribe

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perfects its Colorado River Water Rights. However, some of the MEC assets are encumbered by USDA loans which may require a higher purchase price than net book value. MEC requires that their main 24.9 KV distribution line remains in place across the reservation to link its two substations and to serve non-tribal loads such as Burlington Northern Santa Fe and the FAA. Another option to establish a looped distribution system is to expand the circuit size of the proposed power line from UniSource's substation north of Dolan Springs to Grand Canyon West so it can also serve Peach Springs via Buck and Doe Road, a distance of some 60 miles.

In conclusion, the Cost of Service study opened up a new dialog with the MEC in regard to maintaining their electrical system on the reservation and, just as importantly, maintaining and upgrading their off-reservation transmission lines that serve the reservation. This may lead to an easier negotiation when the tribe is ready to buyout the electrical distribution system on the reservation.

Evaluation of BIA Route 18 Power Line - The existing power transmission system supplying Supai Village is a 24.9 kilovolt (kV), three phase, over-head power transmission line that originates at a Mohave Electric Cooperative substation in Nelson and extends approximately 70 miles along BIA Route 18 to Long Mesa, above Supai. The line was constructed in 1982 by Mohave Electric (personal communication with C. Walker, 2007). This overhead transmission line is constructed of wood poles with cross arms. Regular maintenance activities on the line were terminated in 2005 when the Mohave Electric Cooperative essentially abandoned the facilities. Regular maintenance, however, has resumed with the 2013 Arizona Corporation Commission decision noted below.

In addition to providing electric power for Supai, there are a number of single and three-phase taps from this distribution line feeding Frazier Wells, the Youth Camp, small buildings, radio equipment, well sites and miscellaneous loads on the Hualapai Reservation between Nelson and Long Mesa.

Eldorado-Moenkopi Power Line - Arizona Public Service Company (APS) operates a 500kV interstate transmission line that crosses the Hualapai Reservation in an east-west direction. The APS line passes within a few miles of the community of Peach Springs, but does not have an interconnection point at which power could be withdrawn for local use or injected for export. In general, power transmission lines transmit electricity from the point of generation to load centers at high voltages. The electrical transmission system in the western U.S. operates at nearly full capacity and allocations of capacity to accommodate new power generation are precious and difficult to obtain. The Hualapai Tribe and APS concluded successful negotiations in 2017 which resulted in an additional 25-year term for the right-of-way for cash compensation paid to the tribe by APS.



Tribal Power Allocation - The Western Area Power Administration (WAPA) distributes hydro-electricity from the federal dams (Hoover, Glenn Canyon, Parker and Davis) on the Colorado River to Preference customers. Preference customers are typically rural and municipal electric

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coops and utilities, irrigation districts, and federal and state facilities. In 2004 WAPA conducted a re-allocation of those resources to include Tribes. The Hualapai Tribe has three an annual allocations of energy and capacity. The Hualapai's first energy allocation is 625 kilowatt hours. Because the Hualapai Tribe does not act as the electric utility on the Reservation, its allocation could have been accepted by Mohave Electric Coop and the net benefit of the lower cost power delivered to the Tribe in the form of a check. However, Mohave declared that there was no net benefit and refused to participate in delivery of the benefit to the Tribe. The Navajo Tribal Utility Authority (NTUA) offered to accept the Hualapai allocation, along with the allocations of other tribes that did not have a utility, calculate the net benefit and pay the Tribe monthly for the use of its allocation. The Hualapai allocation has been contracted for delivery to NTUA, and the Tribe receives a check for approximately \$4,000 each month. The tribe's hydropower allocation was increased with the expiration of the current hydro-electric power agreements from the Boulder Canyon Project (BCP - Hoover Dam) in September 2017 with a D1 allocation of 381 KWs from WAPA via a benefit arrangement with the Pechanga Band of California and a 100 KW D2 allocation from the Arizona Power Association by way of a bill credit for MEC.

WAPA hydropower is probably the lowest cost energy available, compared to market prices, and is a central aspect of the planning for a tribally controlled utility and represents a significant long-term hedge against rising energy prices. With the HTUA constructing its own power line, the WAPA allocation would be delivered to the Hualapai Reservation and distributed to Hualapai customers. The balance of the energy required to meet the electricity demand of Hualapai homes and businesses would either have to be generated locally or purchased on the open market by the HTUA.

Western Area Power Administration – In 2019, the HTUA contracted through the Department of Energy for WAPA to perform a pre-feasibility study of two possible alternative HTUA system expansions. The two alternatives proposed to develop three new HTUA interconnections to the grid (UNSE Dolan Springs 69kV, APS Round Valley 69kV, and WAPA Peacock 230kV) plus about 150 miles of new lines within the HTUA system. However, to possibly mitigate performance issues found with these two original HTUA-proposed alternatives, the study also examined several possible options based on a fourth new HTUA interconnection to the grid. This fourth interconnection would be to a planned for the White Hills 345kV station, requested by a large wind generation project to interconnect its planned wind farm to WAPA's Peacock-Mead 345kV line part of the Southwest Intertie. The study also included a WAPA-proposed alternative that would initially involve building a radial double-circuit line from the planned White Hills substation to HTUA's Grand Canyon West substation; and, a radial double-circuit line from WAPA's Peacock station to HTUA's proposed Peach Springs substation. Eventually, a single-circuit line could be cut into each of the double-circuit lines to form a single-circuit loop from Peacock to Peach Springs to Grand Canyon West to White Hills. Finally, the study included another alternative proposed by HTUA: a pair of single-circuit radial lines, which is a streamlined version of the WAPA-proposed alternative.

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The HTUA-proposed alternative of 65 miles of new single-circuit 69 KV radial line interconnection from the grid to either Grand Canyon West or to Peach Springs (see map) would be voltage-limited and could technically support about 2MW to 5MW at Grand Canyon West and about 6MW to more than 10MW at Peach Springs. However, these estimates of maximum supportable HTUA

loads depend upon many non-technical and technical factors. Among the technical factors are choice of criteria for acceptable voltage performance, the operating voltages at the new interconnection points (of UNSE Dolan Springs 69kV and APS Round Valley 69kV), the HTUA load power factor, the HTUA system reactive compensation, etc. Costs to design and construct both power lines will likely be \$60 million.

6.4.1.3 Key Energy Issues

Electric Power Reliability and Quality of Service. As noted above, the relationship with Mohave Electric Cooperative has never been good for the Hualapai Tribe and Reservation residents. Frequent and often lengthy power outages are costly and sometimes dangerous. The inability of the Hualapai Tribe to represent power quality, reliability, and customer service issues to the Mohave Electric Cooperative Board and to participate as a member of the Board prevents the Tribe from affecting Coop policy and effecting change.

Efficient Use of Energy. The cost of energy to Hualapai consumers has steadily increased over the years without corresponding increases in resident income. The increases in energy costs to the Tribe diminishes financial resources that would be better used to provide services for the community. Constantly rising prices demands a concentration on efficient use of energy in tribal buildings, homes, and vehicles. Strategies to secure long-term, low-cost energy resources and to promote energy efficiency in all tribal homes, businesses, government buildings, and vehicles are of paramount importance to the Hualapai Tribe.

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Use of Alternative Energy Sources. The sun and wind provide renewable, non-polluting energy sources and have great potential on the Hualapai Reservation. Initial cost and public awareness are two of the greatest obstacles to more widespread use of these largely untapped resources. The Tribe can promote the use of solar energy by protecting, providing information on passive and active solar energy use and offering incentives for the use of solar energy. Incentives, such as utility rebates and federal tax credits, could also be applied to the use of wind energy in appropriate locations. Policies requiring the integration of renewable energy sources and energy efficiency practices in tribal buildings and homes are needed as a hedge against future energy cost increases. In 2011, Mohave Electric Cooperative adopted the SunWatts program which allows distributed generators such as single-family homes and small business to install renewable energy systems, namely solar arrays and wind turbines, to provide up to 125% of the users annual electric demand.

Large-scale solar and wind power projects offer the potential for significant economic development activities. However, the development, construction, operation, and ownership of renewable energy generation plants are very capital intensive and financially complex. The Hualapai Tribe/HTUA needs to develop the business capability to negotiate sophisticated multi-million dollar business deals in order to derive the maximum benefit from renewable energy development.

Indian Route 18 Power Line Dispute. There have been a number of dissatisfactions/problems with Mohave Electric Cooperative. The most notable is Mohave's attempted abandonment of the power line along BIA Route 18 (Supai Line). In 2005, Mohave informed the BIA that they were "Quit Claiming" ownership and responsibility for Supai Line to the BIA. The BIA and the Havasupai Tribe filed complaints with Arizona Corporation Commission and Mohave has been required to maintain the line and provide service.

The dispute on the Route 18 power line was essentially resolved on June 27, 2013, with Arizona Corporation Commission's Decision No. 73914 stating that the line is being used to supply electricity to retail customers and is therefore necessary and useful in the performance of Mohave Electric's Cooperative's duties and responsibilities to the public (p.17 of Decision). The ACC's decision is based upon an earlier agreement – Decision 72043 – issued in 2010, which allows MEC to budget for repair and maintenance of the line and apportion line loss expenses, cost of adding new loads and tribal taxes, fees and assessment. The agreement also provides for the installation of the Two-Way Automatic Control system that allows remote reading meters and monitoring of outage along the line.

6.4.1.4 Power Development Opportunities

The Hualapai Tribal Utility Study and the Cost of Service Study (2017) have evaluated the feasibility of taking over all Coop facilities on the Hualapai Reservation including the Supai Line. Should this occur, the HTUA would maintain the line and deliver electricity wholesale to the Havasupai Tribe. The Hualapai Tribe would not become the retail electric service provider on the Havasupai Reservation.

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Local Utility Grid Power - The relationship between the Hualapai Tribe and Mohave Electric Coop must be improved so beneficial changes or opportunities can take place with the electric utility grid. The HTUA holds the most promise for improvement of conditions on the Reservation affecting the cost of electricity, energy efficiency, power reliability, and customer service.

There is a pressing need for utility power to be extended to the Tribe's tourism enterprise area, Grand Canyon West. Not only does a power line need to be extended the thirty plus miles from the UniSource substation north of Dolan Springs to Grand Canyon West, but the local distribution network should connect all the GCW loads that are part of the existing 20.8 KV microgrid.

The 2023 estimated cost of the 69kV line extension and the 69-to-20.8kV distribution substation is 27.1-million dollars. While this and the additional cost of a distribution network is daunting, there are opportunities to mitigate the situation.

The HTUA could finance the construction of the line extension and charge appropriate rates to customers, i.e. GCRC, to repay the debt. The feasibility of this option would largely depend on new large electric demands at GCW such as the proposed hotel.

Renewable Energy Generation

- **Solar for Economic Development** – The utility-scale solar power industry is experiencing rapid growth with the recent imperatives concerning global warming and independence from foreign fossil fuel dependency. Such growth has pushed down the cost of large-scale solar to a point where it becomes competitive with other renewable energy technologies. Government incentives, such as the aggressive California renewable portfolio standard of having 100% of the electricity sold in the state come renewable sources by 2050, and corresponding growth in solar component manufacturing capacity worldwide have also contributed to the downward trend in solar power pricing. However, as discussed above, the tribe is not likely to move forward with utility-scale solar merchant power plants to sell to off-reservation utilities serving metropolitan markets.
- **Solar for Local Use** - With the advantage of lower operating costs, due to not requiring fuel to produce energy/electricity, solar power still suffers under the dynamic of the unfamiliar versus the familiar. The pathway to widespread acceptance and implementation of solar technologies has been as typical at Hualapai as elsewhere. Early pioneers and advocates of solar have demonstrated the efficacy of solar through utilizing the technology themselves and constructing demonstration projects.

The two most significant factors in people's minds are higher initial cost (despite lower life-cycle cost) and technological complexity. An educational response and a technological response is required. The solar technology industry itself has made tremendous progress in refining solar technologies to both reduce initial cost and improve reliability and longevity. Educating people to the long-term benefits, or life cycle cost method of comparing conventional technologies to solar and providing answers to people's concerns

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or misinformation concerning solar, is the task of those seeking solar adaptation on a community scale.

On the Hualapai Reservation, the groundwork has been laid for widespread community level adaptation of solar technology utilization for commercial and residential applications. For example, with the adoption of Mohave Electric Cooperative's GreenWatts program in 2011, the Tribe was able to install a 10 kilowatt solar PV array at the Juvenile Detention Facility. A 19 kilowatt solar PV array, made possible by MEC's program to provide to solar all schools within its franchise area plus a grant from the Grand Canyon Trust, allowed the \$80,000 roof-mounted system to be installed at the Peach Springs Elementary School in 2013. Mohave Electric also provides cash a rebate to all its customers. The fundamental value of environmental protection and rising fuel costs have also increased the desire for an alternative to the conventional approaches, especially in remote areas that are not served by the grid and require expensive diesel generators for power production.

- **Other Opportunities**

Diesel Generator Replacements - The transition from diesel to solar has begun to take place on the reservation with the successful completion of the 885 KW solar array and 2,145 KWhr battery system deployed at Grand Canyon West in the fall of 2023. Administration of the program and maintenance of the systems is being performed by the HTUA. The new array is designed to reduce diesel generator use by 50% over the course of a year. Revenue from savings on diesel fuel purchases and service could be captured and used as a maintenance and replacement fund. The result would be lowered energy cost to the Tribe, new job creation, and environmental benefits from reduced air, noise and soil contamination from fuel spillage and CO2 reduction.

Tribal Facilities Power, Day-lighting, and Hot Water - With the support of various renewable energy grant offers from the Inflation Reduction Act that require a tribal match, the HTUA could finance the cost of installing solar PV power systems, solar hot water heaters (for facilities with high hot water demands such as the clinic, elder center, and detention center) and solar-tube day-lighting. Tribal buildings are primarily day-use facilities whose power demands coincide with solar availability. Administration of the program and maintenance of the systems would be performed by the HTUA. Revenue from savings on reduced energy cost to tribal facilities could be captured and used as a maintenance and replacement fund. The result would be lowered energy cost to the Tribe, new job creation, and environmental benefits from reduced air pollution and CO2 reduction.

Residential solar PV and hot water systems – Energy accounts for as much as 30% or more of housing costs. Under a similar program to the one described above, multiple solar PV and hot water heating systems could be financed along with energy efficiency improvements to tribal homes, many of which are rental units where the Hualapai Housing Department would be the lead applicant for grant funding and then administration of the

grant. Revenue could be captured from savings on utility bills paid to the HTUA to administer the program and maintain the systems. The result would be lower energy costs to tribal members, job creation and environmental benefits.

- **Wind for Economic Development** - The Hualapai Planning Program has identified two locations with sufficient wind resources for commercial scale-development.

The Grand Canyon West wind resource area can accommodate up to approximately 200 megawatts of wind generation capacity or 118 1.7 Megawatt wind turbines. The Nelson wind resource area is smaller and has a 69kV substation nearby as a point of grid interconnection. The Hualapai Renewable Energy Development Project established the limit of the capacity of the Nelson site at 50 megawatts. Development cost at Nelson would be lower, but the wind resource there less than that found at GCW and may not be considered for commercial-scale wind development. However, as discussed above, the tribe is not likely to move forward with utility-scale wind farm merchant power plants to sell to off-reservation utilities serving metropolitan markets.

Wind for Local Use - The variability of wind energy production creates some difficulties for local consumption of wind-generated electricity. Under arrangement with the local utility, a small to medium-scale wind turbine could provide power to a tribal facility and the energy produced by the wind turbine would be credited against the energy consumed at the retail rate. This is a fairly simple arrangement requiring only a smart inverter and a contractual agreement with the local utility. Grid connected inverters are typically very reliable and perform for years without difficulties. However, wind turbines need to be checked regularly to ensure that the wind energy is reaching the load and the grid.

Non-grid-connected systems require the use of batteries to store wind generated electricity and make it available to the load using an inverter. Any battery power system, regardless of the source of the charging energy for the batteries, will require significant maintenance. The use of wind turbines in rural areas where grid power is unavailable must be accompanied by a plan to maintain the batteries and perform power system checks.

Monitoring of the wind resource for two years prior to installing a wind turbine is recommended for predicting wind turbine performance. Wind energy production is very sensitive to site conditions near the generator and the performance of a generator in one location is not necessarily and accurate prediction of its performance in another. For very small generators attached to small loads, performance predictions may be generalized without too much difficulty. However for larger, more costly systems attached to larger loads, detailed resource monitoring and financial feasibility studies are recommended to determine if a wind generator is the best choice.

At this time, the Peach Springs Radio Tower is the only location where wind resource monitoring has been conducted at the site of a possible load. A wind turbine at the Gray Mountain site could provide energy to the radio transmitter as well as to GCRC, BIA and

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the cellular phone provider's operations. The feasibility of this potential application needs to be determined based on the performance of a particular wind turbine at the site.

There are financial incentives for installation of wind turbines for local use that should be considered during the financial feasibility analysis. Maintenance of new wind turbines should be performed by the HTUA.

- **Other Renewable Generation Opportunities** - Opportunities for power generation from Biomass are limited primarily by the availability of a sustainable feedstock. The forest resource on the Hualapai Reservation could be utilized to sustainably generate a limited amount of electrical energy. However, there are issues with Biomass to electrical power generation technologies that conflict with Hualapai environmental priorities. The most cost-effective biomass to power technology is simple combustion or wood burning, to produce pressurized steam which spins a turbine generator.

The next generation of Biomass to energy conversion is the gasifier. The exhaust from this process is less polluting than from unrestricted burning. More advanced systems can "scrub" the syngas to remove pollutants and produce fewer emissions. However, the cost of power production from gasification is more expensive and technically complex.

One of the key aspects of power production from biomass is the location of the generator near the source of the feedstock. It would be impractical to locate a power system in the forested area of the Hualapai Reservation, so the forest biomass would have to be harvested and transported to a central location. This situation adds the cost of transportation and labor to the cost of the biomass and increases as the distance from the forest to the power plant increases. Conversion of biomass waste from a wood processing facility such as a sawmill eliminates the cost of labor and transport as it is already factored into the cost of the wood products produced at the mill. It is common practice for large sawmills to burn sawdust, bark, and slash to produce power for use at the mill.

If a viable market for products produced from Hualapai timber could be established and the cost of operating a sawmill is financially feasible and sustainable, then a forest biomass to energy generation facility could be integrated into the operation. The use of a gasifier and engine generator would be preferable to direct combustion and steam turbine. Energy from the system could be used on site to meet the power demands of the sawmill and excess power could be either sold to the local utility or used by the HTUA to meet local demand. A thorough feasibility study would need to be performed to establish practicability. The result would be establishment of a forest-wood industry that would provide revenue to the Tribe, create new jobs, and establish a sustainable supply of at least a portion of the Tribe's electrical power needs. At present, tribal members follow the tried and true method of using wood from the forest to heat their homes in wood stoves during wintertime.

Reduced Fossil Fuel Use in Power Generation - There are numerous diesel power generators running day and night all over the Hualapai Reservation to provide power in

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remote areas where grid power is unavailable. The most common application is water pumping in remote areas. Some generators are only started when an operator is present; others run continuously.

The 20.8 KV micro-grid at GCW has consolidated many these loads and reduced operations and maintenance costs. However, there are still a handful of loads that have not been connected to the grid which still rely upon stand-alone diesel generators.

Upgrading the capacity of solar power systems will always be more cost effective in meeting load growth than using diesel generators. A thoughtful policy and decision making process is needed to meet new load demands. The HTUA has taken over responsibility for power generation and will charge HTUA customers. This would ensure consistency in maintenance practices, load management and reduce costs.

Energy Efficiency Improvements

- **Residential** - There is ample opportunity for improvement in the energy efficiency of tribal homes. A home weatherization program could secure funding from numerous federal grant and rebate programs to make energy efficiency improvement to tribal residences. The program could be run by the Hualapai Housing Department. The effect would be reduced energy bills for tribal members and creation of new jobs.

New housing construction and renovation on the Reservation should adopt the use of the most energy efficient techniques and products. The result would be increased affordability of new and renovated homes. In addition, several homes constructed since 2017 using Home Improvement Program (BIA) funds have modest 3 KW solar arrays installed on their roof tops.

- **Commercial & Tribal Buildings** - There is ample opportunity for energy efficiency improvement to tribal buildings on the Reservation. A program of energy efficiency retrofits could be established through the Public Works to either self-perform with aid of grant funding or contract with energy services companies that would finance the improvements through captured savings on utility bills paid by the Tribe.

All new tribal facilities should be of the most energy efficient type of construction and utilize the most energy efficient equipment, lighting, and appliances. An energy efficiency policy or ordinance would make energy efficient construction mandatory and establish standards of energy performance for tribal buildings and homes. The result would be lower energy cost to the Tribe and tribal members, a more sustainable community, and a reduced carbon footprint. To that end, the tribe adopted the 2018 International Building Code/International Residential Code which contains enhanced energy savings provisions.

- **Transportation** - Opportunities for efficiency improvements in the transportation sector on the Hualapai Reservation include conversion of the tribal vehicle fleet to more efficient and hybrid vehicles and placing electric vehicle charging stations along or adjacent to State Route 66. Establishing local services and employment centers on the Reservation would reduce the

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number of extra miles that tribal members and tribal vehicles have to travel for such services and encourage tribal members to live on the Reservation. Hualapai Transit, established in 2017, provides commuter service between Peach Springs and Kingman as well as Peach Springs and GCW plus operates a local circulator route in greater Peach Springs. Both help reduce the use of single-occupancy vehicles for these trips.

6.4.2 Propane and Natural Gas

6.4.2.1 Existing Conditions

The Hualapai Reservation does not have natural gas service and there is no gas service infrastructure (underground piping) in place. The nearest natural gas service is in the Town of Seligman approximately 35 miles to the east of Peach Springs is supplied by UniSource. The Hualapai Tribe has had discussions with gas companies to determine if natural gas service can be established in Peach Springs, however, due to the lack of large commercial gas users on the Reservation, the capital cost of extending gas service to Peach Springs would not be economically feasible.

Propane

Nearly all Reservation homes and buildings are currently served by propane for space heating, water heating, and cooking. There are three propane service providers serving tribal customers on the Reservation.

Ferrell Gas

75 Residential and Commercial/Industrial customers

Northwest Gas

52 Residential Customers – 5,000 gallons per year

Indian Energy

100+ residential customers and 10 tribal government accounts

In general, residential propane customers only purchase enough propane to support water heating and cooking uses. The average residential customer uses less than 100 gallons annually, which indicates that the majority of homes on the Reservation depend on wood burning for space heat. A typical Hualapai customer will only take the minimum 50-gallon order when purchasing propane (per conversation with Ferrell Gas Representative). This reflects the inability of Hualapai customers to afford the cost of filling their tanks, especially when prices were high. The cost of filling a 250-gallon tank at \$2.67 per gallon would be \$668. Very few Hualapai residents have the financial resources to be able to afford to heat their homes with propane. The Hualapai Tribe has a program to provide wood and propane for elders on the Reservation. The program is funded

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by proceeds from the Tribe's gaming compact. Tribal members also receive an annual \$850 stipend per household for the purchasing energy.

6.4.3 Goals, Objectives and Policies

Goal 4: To establish sustainable, environmentally benign, and beneficial energy systems and supplies of energy on the Hualapai Reservation with a look toward sustainability for future generations.

Objectives

- 4.1 To, wherever possible, convert existing inefficient non-sustainable and polluting energy systems to energy systems using the best available, environmentally benign, and sustainable technology.
- 4.2 Deploy new sustainable and non-polluting energy systems using the best available and environmentally benign and sustainable technology.
- 4.3 ~~Encourage and attract sustainable, non-polluting and beneficial economic development activity in the energy sector on the Hualapai Reservation.~~
- 4.4 Select a site for a community-scale solar array to serve all or a portion of the electrical demand for Peach Springs.
- 4.4a Incorporate renewable energy generation on-site, such as roof-top solar panels, where new construction projects are financed by the tribe and other third-party funding sources.
- 4.5 ~~Establish a Tribal Utility Authority to control energy infrastructure development, determine improve the efficiency and sustainability of tribal power generators, and have authority to enter into financing agreements with power system developers to capture of costs savings and to repay debt.~~
- 4.6 Develop a distributed generation program for renewable energy installations at individual sites to offset 20 percent or more of the building's annual electric costs.
- 4.7 Increase the fuel efficiency of tribal government vehicles used on the Reservation.
- 4.8 Electric vehicle charging stations should be established at Peach Springs and Grand Canyon West.
- 4.9 Establish a sustainable and more diverse economic base through the development of renewable energy

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Policies

- 4.1 The Hualapai Tribe should study the feasibility of a variety of financing options to pay for acquisition and or development of energy infrastructure.
- 4.2 The HTUA should set rates for services in order to meet operations and maintenance expenses and obligations for debt service.
- 4.3 The HTUA should be authorized to develop energy conservation programs for energy efficiency improvements for commercial customers.
- 4.4 The HTUA should provide for cost effective propane service on the Reservation and research the feasibility of natural gas service in Peach Springs.
- 4.5 The Hualapai Tribe should require the purchase of the most efficient tribal fleet vehicles. All requests for purchase of tribal vehicles must justify the size, type, and fuel economy of the vehicle requested. The Tribal Fleet Department would establish a wholesale fuel purchase agreement and dispense fuel for tribal vehicles. Fuel could be dispensed from a tribally controlled facility (gas station) with discounts for tribal members.
- 4.6 The Hualapai Tribe should encourage tribal members to purchase fuel-efficient vehicles including hybrid and electric vehicles with the aid of Incentive programs.
- 4.7 Electric vehicle charging stations should utilize renewable energy to provide electricity.
- ~~1.8 Existing wind and solar energy development projects should be prioritized by tribal leadership.~~
- ~~1.9 Seek technical analysis expertise & financial assistance for commercial scale renewable development projects~~

~~Goal 2: Increase awareness and understating of renewable energy systems by establishing a Tribal Energy Committee~~

~~Policies:~~

- ~~2.1 Work with the local utility provider to hold distributed energy workshops.~~
- ~~2.2 Collaborate with the Training Center to develop & implement vocational classes for training wind and solar technicians.~~

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~~2.3 — Encourage the Training Center to create teaching plan to educate the community on energy technology.~~

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6.5 TELECOMMUNICATIONS

With the support of a National Tribal Broadband Grant courtesy of BIA's Office of Indian Energy and Economic Development (IEED), the tribe secured the services of a third-party consultant in 2022 to prepare a Broadband Feasibility Study. The feasibility study assessed current broadband services on the reservation, identified alternatives to deliver broadband service to the reservation, provided high-level engineering evaluations of new or expanded broadband services, estimated the cost of building or expanding broadband networks, determined the type of transmission medium(s) to be employed, identified potential funding and/or financing for the networks and considered the financial and practical risks associated with developing a tribally operated broadband system on the Hualapai Reservation.¹²

6.5.1 Existing Conditions

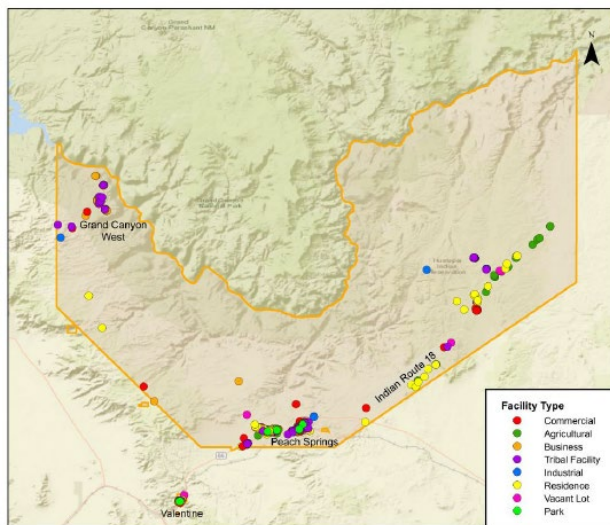


Figure 1 - Existing Facility Types

Within the Hualapai Reservation, six existing cell towers are spread across the terrain and are used to serve the Tribe with internet through a wireless microwave connection using dishes, radios, etc. These cell towers along with others in the area, but not owned by the tribe, are shown in Figure 2. Other internet service providers, like Verizon, also have their equipment on these towers. Some of the towers such as Canyon Vista and Manzanita are powered by solar panels or generators owned by the Tribe or Verizon. None of the towers

The Grand Canyon Resort Corporation currently provides and manages the internet for the tribal government with the assistance of Information Technology staff. The Tribe also subsidizes the full cost of internet for their residents and businesses within the reservation. Approximately 160 subscribers are obtaining free internet service from the tribe's fixed-base wireless system (see Figure 1). The tribe's internet provides an upload and download speed of up to 25 MBps for each user.

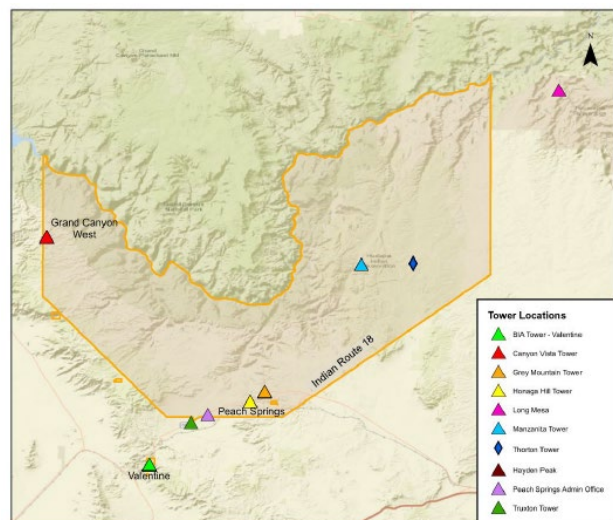


Figure 2 - Existing Tower Locations

¹² See Hualapai Broadband Feasibility Study prepared by Kimley Horn

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currently have a redundancy plan if one of the cell tower locations loses connection which has happened in the past. Another issue with these towers is that some of the tribe-owned dishes on the towers are non-functional. There are 5 dishes on the Canyon Vista tower but only 1 of them works. The cell towers within Peach Springs provide 2.5G service, made possible by the tribe's recently acquired FCC license. The system serves the community using point-to-point and point to multi-point connections. However, it does not provide a reliable enough connection to all those who visit or live here. With the anticipated deployment of Wecom's fiber optic network in 2024, the 2.5G system will no longer be expanded but will be maintained and used for redundancy.

Figure 3 shows the communication connection between all towers on or near the reservation. All of the towers within the reservation eventually connect back to Hayden Peak tower with the exception of the Canyon Vista and Manzanita towers that must connect back to the Grey Mountain tower. Not having another communication source and only relying on this single path causes obvious issues. The absence of redundancy is critical for the northeast and northwest areas of the reservation. Honaga Hill tower is also a tower that provides service to a majority of the population within the reservation that is central Peach Springs. This tower connects back to Grey Mountain which then connects back to Hayden Peak. Grey Mountain tower also communicates to the tower at the Peach Springs office. The tower in Valentine communicates directly with Hayden Peak. The shorter the distance between two towers the better the connection. Frontier Communications provides a buried fiber optic connection between Peach Springs Truxton. However, the connection between Hayden Peak and the Truxton tower is the bottleneck. Not having fiber communication between those two locations makes the existing fiber infrastructure between Truxton and Peach Springs less usable.

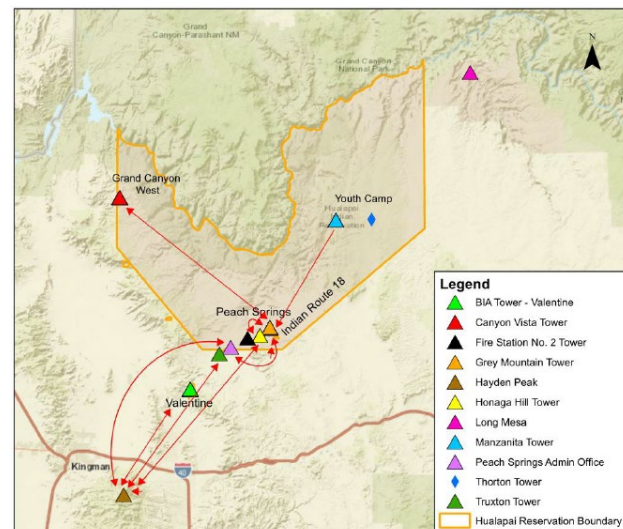


Figure 3 - Existing Cell Tower Communications Map

There are numerous dead zones throughout the Hualapai Reservation. Dead zones are areas that have zero cell service or connection to anything. There are three large areas, northeast near Manzanita tower and the Youth Camp, between Grand Canyon West and Peach Springs, and also in the center of the reservation south of the border as seen in Figure 4. Even though Manzanita tower is within one of these areas, the connection between this tower and Grey Mountain tower is only a backhaul connection. Therefore, Manzanita tower does not provide cell service to this area.

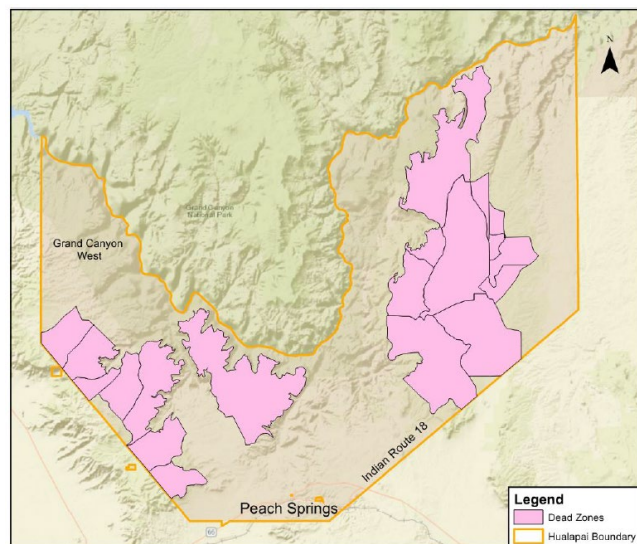


Figure 4 - Hualapai Dead Zones

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These dead zones can be eliminated by installing new broadband infrastructure, which will then bring more economic growth to these areas. The dead zone between Grand Canyon West and Peach Springs is particularly important due to it having high growth potential.

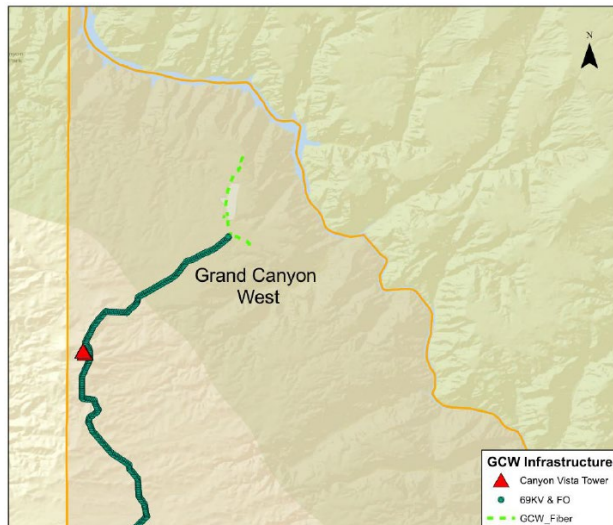


Figure 5 - Grand Canyon West

All of Grand Canyon West is currently powered by generators and/or solar panels. To bring reliable power to this area of the reservation, the Tribe has established a route for the proposed 69kV power line and aerial fiber optic cable utilizing all new infrastructure. This power line will start at the Dolan Springs Substation and then travel East towards Grand Canyon West. The plan is to have the line end at the intersection of Diamond Bar Rd and Quartermaster Point Rd near the Grand Canyon West airport. This route also closely passes the Canyon Vista cell tower that provides internet service to this area. An existing 8 count fiber, part of the GCW micro-grid, currently connects the Skywalk building south near the police station. Fiber also

continues along Quartermaster Point Rd to the cabins at Grand Canyon West. The proposed 69kV line and aerial fiber optic cable will connect to the existing 8 count fiber where it ends at the street intersection as shown in Figure 5.

Wecom currently provides internet service to the community of Peach Springs, AZ, and the public schools within Hualapai Reservation through a wireless microwave. Wecom recently received a USDA Re-Connect grant to install a fiber optic line that will start in Golden Valley stretching 60 miles with a portion of it traveling through the Hualapai Reservation as shown in Figure 6. Wecom has plans to install an entire broadband network through Valentine and Peach Springs, AZ. The broadband network will connect to 3 cell towers within the reservation, Peach Springs Admin Office, Honaga Hill, and Grey Mountain Tower. They plan on keeping the existing wireless connection to Peach Springs to create a redundant network for the tribe. The proposed fiber-optic line will be both aerial and buried fiber, which Wecom has a private partnership with Mohave Electric and Unisource Electric that will allow them to hang the aerial fiber on existing infrastructure. They also have an agreement with Arizona Department of Transportation to install buried fiber along State Route 66 right-of-way between mile posts 82.5 and 103. Wecom has secured ROW agreement with the tribe and BIA and will soon begin fiber network construction on the reservation.

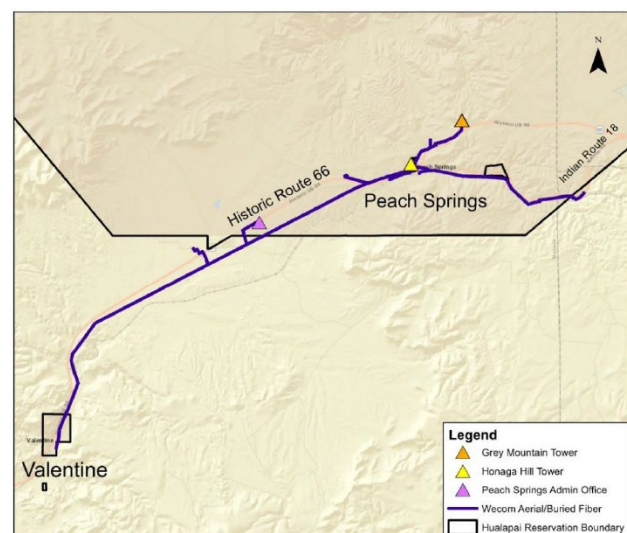


Figure 6 - Wecom Proposed Fiber

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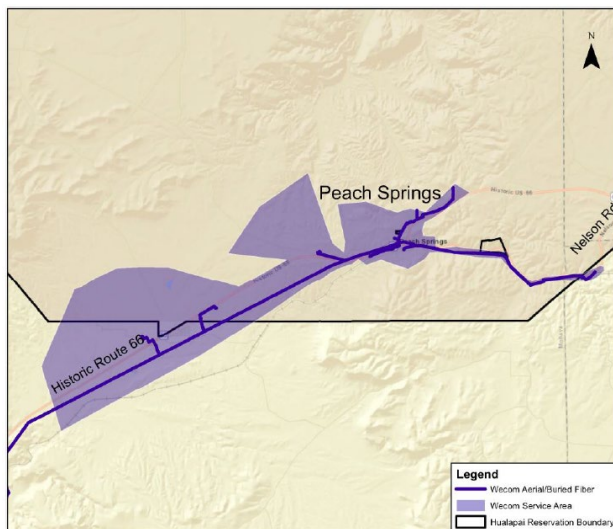


Figure 7 - Wecom Service Area

Wecom has committed to provide direct fiber connection for over 30 critical facilities in the service area shown in Figure 7 with 10 Gbps connectivity. These facilities include healthcare, education, tribal offices, and major businesses such as the Hualapai Lodge. Wecom is installing wireless service of at least 25/3 Mbps and up to 100/100 Mbps to all residences and other businesses not a part of the 30 critical facilities within the service area. As part of the proposed design, Wecom plans to provide businesses with a 12-count fiber only reserving some fibers to continue the path to Flagstaff for future redundancies to the east. The rates of the connectivity options are low and more affordable than other large metropolitan areas. With additional funding,

Wecom can promise connectivity to additional buildings and homes within the service area on an as-needed basis. This ensures the tribe that future growth is achievable and within reach.

Mohave Electric Cooperative (MEC) and their partner TWN provides power and broadband to several thousand accounts in western Arizona. They currently do not have fiber-optic lines within the Hualapai Reservation. However, their objective is to expand their fiber-optic network by reaching every home, within reason, that has an electric service meter in the next few of years. Existing overhead infrastructure provides power to each of the residents and businesses throughout their certificate of convenience and necessity (CC&N) which stretches over the area shown in Figure 8.

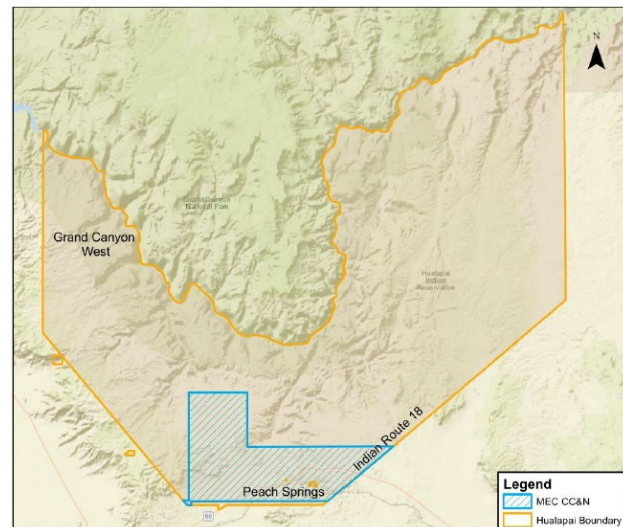


Figure 8 - MEC Certificate of Convenience & Necessity

Figure 9 illustrates the physical overhead utility lines across the reservation with the inset showing the overhead utilities within Peach Springs. In a forthcoming partnership with Wecom, their plan of action is to build out a main transmission fiber line reaching Peach Springs. Wecom will own a 288-strand fiber optic cable and MEC will own a 144-strand fiber optic cable. Their goal is to have their full broadband built out using their existing infrastructure and have it completed within 5 years. The fiber construction will match the existing infrastructure, whether it be overhead or underground. Currently, MEC does not plan on leasing out its future fiber.

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However, they are open to new partnerships with other providers to help them reach their vision of providing broadband service within their Certificate of Convenience and Necessity (CC&N) which covers about 99% of the homes on the reservation. MEC is also open to allowing the Hualapai Tribe to utilize their existing poles if the tribe obtains funding and would like to build out new fiber infrastructure in the region beyond the CC&N.

American Telephone and Telegraph Company (AT&T) has an existing direct buried 36 count transmission fiber line that stretches over 17.5 miles of the reservation between Truxton, AZ, and the reservation's easterly boundary as shown in Figure 10. This transmission line is the main artery for their long-haul transmission between larger metropolitan cities and is an important piece of their infrastructure. It currently transfers voice and video through the community of Peach Springs. Given that this line is only a transmission line and not distribution, AT&T is currently working with the Hualapai Tribal Council to upgrade the existing fiber line within the next 3-5 years with a new buried 96 count fiber within one of the three, 2" conduits installed in the early 1990s. They are also working together to possibly establish the Tribe's desired point of presence (PoP) which will allow the tribe access to the fiber optic network. The nearest AT&T PoP is located in Kingman, Arizona.

Frontier currently provides service to the community via Truxton, Arizona, through a 400 MBps bandwidth radio connection from Kingman, which, as previously mentioned, provides slower upload and download speeds. From Truxton to Buck and Doe Road, this connection is then converted to a direct buried 24-count fiber line. At the intersection of Buck and Doe Road and State Route 66, the 24-count fiber branches off and travels in two different directions. A 12-count fiber line continues to Peach Springs along State Route 66, of which only 4 strands are currently in use. A 12-count fiber line also runs along Buck and Doe Road towards the FAA's VORTAC (VHF omnidirectional range and tactical air navigation system). The fiber line to the VORTAC is approximately 90% aerial and 10% direct buried. The fiber line to Peach Springs is direct buried which terminates near the elementary school in Peach Springs. The fiber line to Peach Springs and the VORTAC has strands available for future use. In Peach Springs, the rest of the communications infrastructure is DSL copper cable. Frontier recently upgraded their DSL connections in Peach Springs to provide 10MBps/1MBps. Frontier's microwave dish connects Hayden Peak to the cell tower in Truxton which then feeds fiber optic line up to Peach Springs.

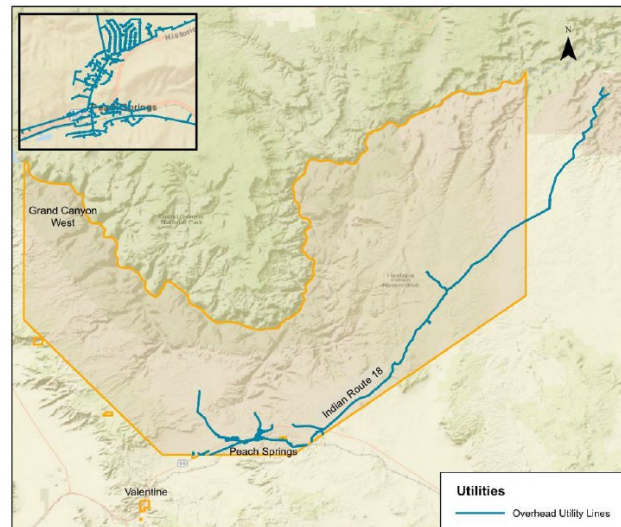


Figure 9 - Existing Overhead Power Utility Lines

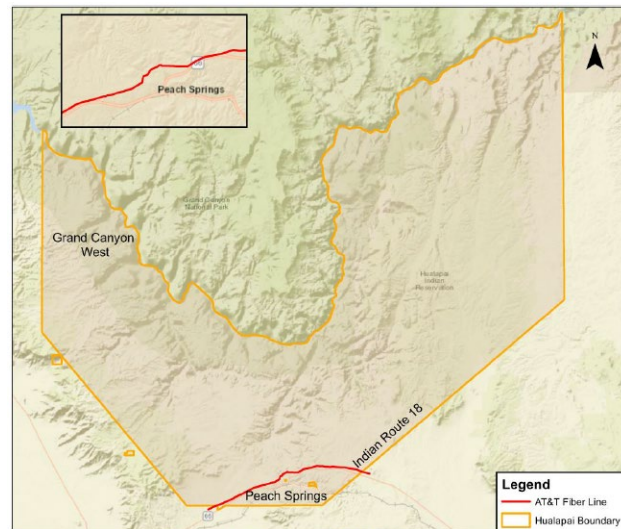


Figure 10 - Existing AT&T Infrastructure

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This tower connection between the two creates a bottleneck for users north of Truxton. There is currently a missing link along State Route 66 between Truxton and Antares Road. Frontier plans to build fiber out approximately another mile towards Hackberry, which would shorten the distance to Truxton to approximately 19 miles.

Niles Radio provides VHF and UHF service for Hualapai Police, EMS, Forestry and tribal government via BIA's towers located at Grey Mountain, Manzanita and Valentine. The towers are linked together; however, service is not continuous and requires radio users to change channels. To obtain full coverage, two additional radio towers need to be installed between these points.

6.5.2 Survey Results

Of the 14 residents who answered the survey online, 35% use the internet for education and school. The remaining percentage has a mix between entertainment, personal use, and at their place of work. Most respondents use mobile or cellular devices only for their type of internet service. Internet availability, reliability, speed, and ability to work/learn from home were given the highest number of "poor" ratings, with only one giving these same factors a rating of excellent. 64% of the residents believe internet speed and multiple internet service options are very important to them. Download speeds ranged from 0.08-29 megabits per second (Mbps) and upload speeds ranged from 0.1-16 Mbps. Overall, these are very slow download and upload speeds. There is a bell curve to the cost people are willing to pay for internet per month, with \$50-\$75 being the average. Only 21% of the residents are willing to pay over \$100 a month for speeds faster than 1 GBps. Additional input from some of the residents was referring to cell services being poor as well. Coverage is unreliable and phone calls drop often. Multiple cell service options along with faster internet broadband would satisfy the members of the Hualapai Tribe.

6.5.3 Recommended Design for Fiber Optic Network

To provide a redundant and reliable broadband network on the Hualapai Indian Reservation, the infrastructure components will consist of first mile, middle mile, and last mile segments.

First Mile - The high-level design creates a redundant loop throughout the reservation and back to the Data Center in Kingman and will utilize Wecom's proposed fiber backbone and the existing AT&T fiber backbone along State Route 66. Wecom and AT&T's infrastructure will create a "ring" within Peach Springs with the installation of new buried and aerial backbone fiber by the tribe (see Figure 11).

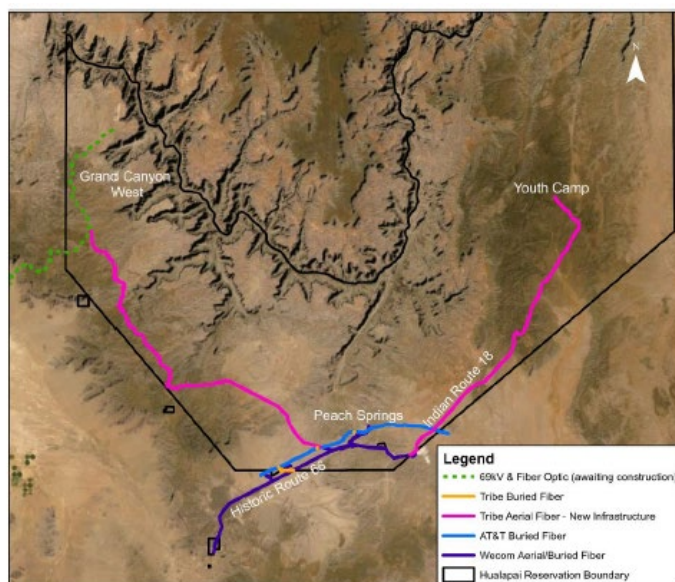


Figure 11 - First Mile Fiber - Mixed Buried/Aerial Tribe Poles

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The first mile design will also provide a direct fiber connection to Grand Canyon West (GCW) and the Hualapai Youth Camp Facility. The proposed design for GCW and the Hualapai Youth Camp Facility will consist of three options: Option 1 – Aerial Fiber on existing HTUA and MEC infrastructure, respectively, Option 2 – Buried Fiber, and Option 3 – Aerial Fiber on new Tribe-owned power pole infrastructure. The green dashed line in the Figure 11 represents the new 69kV power line and aerial fiber that has not been constructed yet but will be in the future. Option 1 implies the tribe will be building its own power and aerial fiber optic line to the gap between the VORTAC and the green dashed line (solid pink line). Although the proposed fiber design for GCW and the Hualapai Youth Camp Facility does not consist of a redundant fiber loop, these areas will continue to use the existing cell towers as a redundant connection if the Tribe's fiber connection fails. In addition to providing a reliable and redundant broadband network, the proposed design will eliminate the existing Forestry radio dead zones throughout the reservation by providing future cell service expansion.

The first mile design within Peach Springs consists of existing AT&T infrastructure, proposed Wecom fiber, and tribally funded fiber. The design also includes the installation of two node buildings, with one node building designed to be a PoP. The PoP provides future growth for other service providers, including the HTUA, to promote a more competitive market from which tribal customers can choose service.

The first mile design also relies upon the tribe's water rights settlement to fund and construct a new power line between the HTUA's planned 69kV power line to GCW and the existing MEC 24kV power line that ends at Plain Tank and will include the installation of new aerial fiber on the proposed power poles. For the Youth Camp, the first mile design includes the installation of new aerial fiber on existing MEC power poles that run along Indian Route 18 to the Hualapai Youth Camp Facility. In addition to the fiber connection to the Youth Camp Facility, the Thorton Tower site, located along the way, can be utilized to install new communications or cellular equipment to provide a redundant path and additional coverage. By bringing fiber connection to the Youth Camp and additional tower equipment, this design will help better serve the BIA, Tribal Forestry, Arizona Game & Fish, EMS, and the Hualapai Police with their current radio communication and dead zones in this area. A structural evaluation of the existing Thorton tower will need to be conducted.

Middle Mile – This part of the broadband network provides a direct fiber connection to the BIA Tower located in Valentine and the Canyon Vista Tower located on Buck and Doe Road south of GCW. The Canyon Vista Tower will connect to the first mile aerial backbone fiber courtesy of the planned 69kV power line and the 48-strand fiber optic line with a branch fiber cable. At this location, there is an existing communication building that will be upgraded with a new fiber termination panel and switch to provide the fiber connection to the cell tower located just outside of the building. This will greatly enhance backhaul (communication to and from the internet) for both tribal communications and the third-party cellular company that use the tower.

As part of the middle mile design in Valentine, the existing BIA building and tower will be connected to the first mile backbone fiber line placed on the east side of State Route 66. Once the connection has been established to the building, the fiber network will can connect to the cell tower via a wireless connection or through a direct branch fiber connection.

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Last Mile - The last mile design provides a direct fiber connection to the residents and businesses on the reservation. Once a business area or residential area is identified, the node buildings installed with the first mile design would then take the branch fiber cables and connect to multiple pedestals. Pedestals are the last serving terminal to the customers home or businesses. The detailed design will need to consider the equipment installed within a home or business and the requirements when designing the node buildings and path to pedestals. As the tribe investigates the possibilities of becoming an Internet Service Provider (ISP) or allows other service providers to serve their community, the various equipment (i.e., router, modem, switch, etc.) must be specified.

Within Peach Springs, the last mile design consists of Option 1 - Aerial Fiber and Option 2 – Buried Fiber. Option 1 installs aerial fiber on existing MEC power infrastructure from the pedestals to each property line throughout town. Once the aerial fiber reaches the property line of each business or home, the fiber will transition to a buried fiber line connecting directly to the business or home. Figure 12 illustrates the last mile Option 1 connection to each home and business within Peach Springs. Option 2 follows the same path but buries the entire fiber optic line.

Wecom's USDA grant-funded project provides direct fiber connection to 30 businesses and tribal facilities within the reservation. With this design, the tribe will provide last mile fiber connection to the unserved residents and any remaining business or tribal facility that was not connected through the grant-funded project. However, Wecom is considering the possibility of constructing direct service to each home in Peach Springs as they construct their network.

In Valentine, the last mile fiber design will provide direct fiber connection to 20+ homes. The design includes the connection of the pedestals within Valentine to the middle mile aerial fiber. These pedestals will be utilized to directly connect to each home.

Along Indian Route 18, towards the Hualapai Youth Camp Facility, there are approximately a dozen homes that will need a direct fiber connection. As part of the last mile fiber design pedestals, and direct fiber to each home will be installed. The pedestals will then connect to the first-mile backbone aerial fiber.

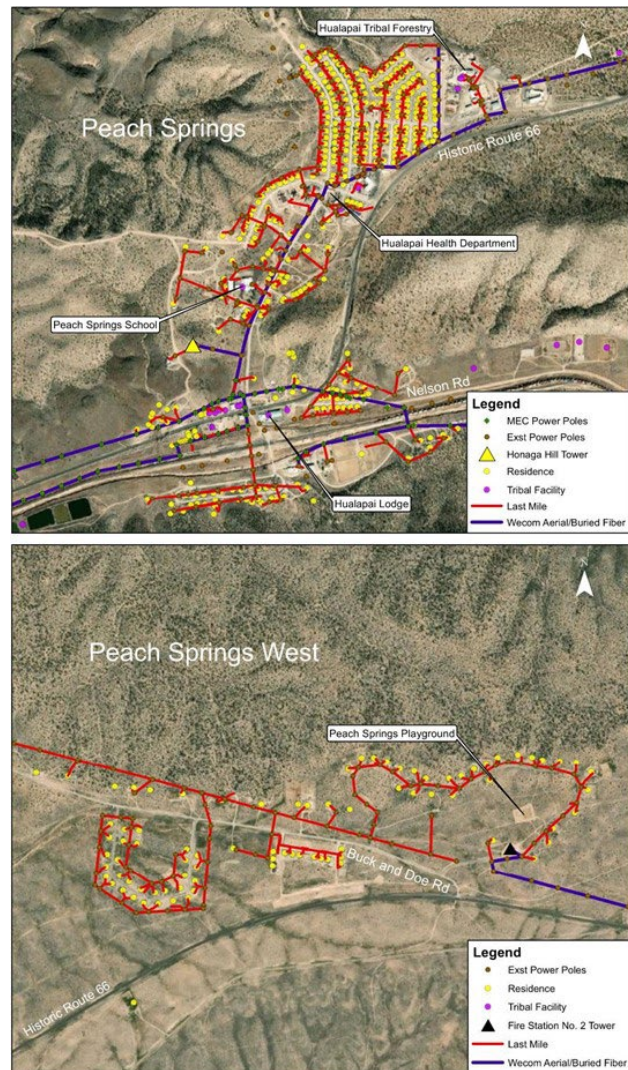


Figure 12 - Last Mile - Peach Springs Aerial Fiber

6.5.4 Implementation Strategies

6.5.4.1 Operational Models

The tribe is considering the option of becoming its own internet service provider (ISP) for the reservation and Valentine and would take on the duties of a phone or cable company that plans and manages communication resources. This encompasses exploring the best practices for the implementation, operation, and maintenance of a fiber communications network on a daily basis. The Hualapai Tribal Utility Authority (HTUA) is the leading candidate to operate the ISP given the HTUA Ordinance gives the entity the ability to manage and construct telecommunications on the reservation. The tribe's Information Technology Department will most likely become a large part of the newly deployed internet service provider team and the foundation for execution. Staffing for the ISP is estimated at between three and four persons with a combined annual payroll expense from \$250,000 to \$300,000. Some \$30,000 to \$40,000 should also be set aside for purchasing telecom equipment with an additional \$50,000 to \$100,000 held in contingency for hiring third-party contractors for fiber optic line repair which is beyond a typical IT staff's ability.

Advantages for an HTUA-run ISP include, 1) not having to rely on an outside source for their services, 2) economic growth value and competitiveness for the tribe, 3) job creation, 4) benefits gained from becoming an ISP would go directly to the Hualapai Tribe, and 5) self-determination in that the tribe will plan their own fiber-optic network design and make their own decisions. Challenges are 1) difficult to find someone to hire with the required technical expertise, 2) may have to outsource to other companies for certain maintenance or installation jobs, 3) funding would be necessary to get started, 4) tribal members might not want to pay for better services since some 160 households have free service, and 5) already have third-parties providing internet service.

Public-Private Partnerships (P3) is an agreement that is formed between a government agency and a private-sector company to finance, build, operate, maintain, and/or manage a public project. Each party shares incoming revenue, delivery of the service to the public, and the risk factors of the project. The Tribe's relationship with Wecom could evolve into a P3.

Advantages of a P3 are, 1) sharing of costs and risks between partners, 2) faster delivery and at an overall lower cost, 3) control of fiber network and implementation, 4) can serve a broader part of the community in a unified manner. Challenges include, 1) upfront costs for the tribe and 2) finding a private partner who would want to partner with the tribe, since the incumbent internet providers may not have the motivation to participate.

6.5.4.2 Funding Resources

President Biden's Bipartisan Infrastructure Law provides \$65 billion in funding to expand reliable and affordable high-speed internet service to all Americans. Some of the agencies participating in this effort are the National Telecommunications and Information Administration (NTIA), the Federal Communications Commission (FCC), the Department of Treasury, and the U.S Department of Agriculture (USDA). The table below organizes the funding programs that are accepting application for the next few years. Funding, however, may not be duplicative in that

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the tribe will not qualify for the same grant that Wecom, for example, was awarded to cover Peach Springs (see Figure 7 above).

Program	Description	Status	Agency	Amount	What it Funds
Broadband Equity, Access, and Deployment (BREAD)	<ul style="list-style-type: none"> Builds high-speed internet infrastructure Provides equipment 	Open Annual Deadlines	NTIA	\$42.45 Billion	<ul style="list-style-type: none"> Infrastructure Planning Adoption
Digital Equity Act Programs	<ul style="list-style-type: none"> Advance equity Promote digital inclusion Establishes affordable internet access 	Open Annual Deadlines	NTIA	\$2.75 Billion	<ul style="list-style-type: none"> Adoption
Enabling Middle Mile Broadband Infrastructure Program	<ul style="list-style-type: none"> Expands middle-mile infrastructure Reduces the cost of connecting unserved and underserved areas 	Open Annual Deadlines	NTIA	\$1 Billion	<ul style="list-style-type: none"> Infrastructure
Affordable Connectivity Program: For Tribal Families	<ul style="list-style-type: none"> Helps those in need pay for high-speed internet services and technology 	Open No Deadline	FCC	\$30-\$75 per month	<ul style="list-style-type: none"> Adoption

Definitions are as follows: *Infrastructure*: Equipment needed to deploy internet connections like cell towers, fiber, and Customer Premise Equipment (CPE), *Planning*: Feasibility studies, data collection, and high-level design, and *Adoption*: Subsidies, equipment, public access, digital literacy, training, telehealth, remote learning.

6.5.4.3 Recommended Project Stages

Figure 13 provides a visual representation of the different project stages across the reservation and in Valentine. Stages 1, 2, and 3 consist of separate projects that can be built at different times throughout each stage with order of operation still considered. The breakdown of the various projects provides a more realistic implementation of how the broadband network can be prioritized and constructed. The following table breaks down each project by mile design, location, and cost. An example of a funding possibility is also attached to each project but does not mean the project would not be eligible for other funding opportunities as well.

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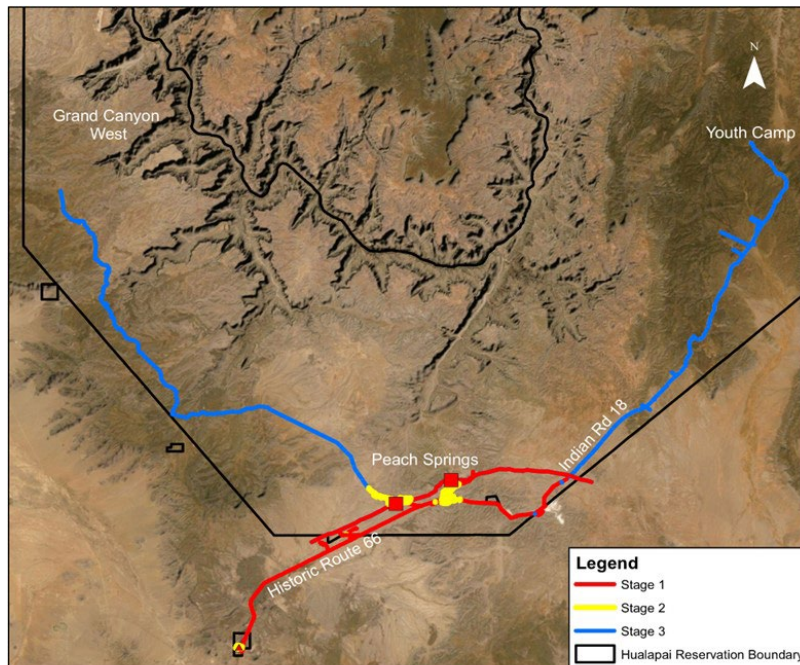


Figure 13 - Implementation Strategy Stages

Stage 1

First Mile – Direct buried/aerial fiber within Peach Springs & node building/PoP

Middle Mile – Direct buried/aerial fiber within Valentine, AZ

Stage 2

Last Mile – Direct fiber connection to homes & additional Tribal facilities

Stage 3

First Mile – Direct buried/aerial fiber connection to Grand Canyon West & Youth Camp, cell tower equipment on Thorton Tower

Implementation Stage 1					
Projects	Mile	Location	Description	Cost*	Funding
Project 1	First	Peach Springs	Installing node buildings and point of presence location.	\$500,000	NTIA or NTBG or FCC
Project 2	First	Peach Springs	Creating the fiber connection loop by installing tribal owned fiber between AT&T and Wecom fiber backbones.	\$497,213.29 to \$776,302.40	NTIA or NTBG or FCC
Project 3	Middle	Valentine	Closing the fiber connection gap between Peach Springs and Valentine by installing branch fiber connection to Wecom's fiber backbone.	\$94,479.66 to \$284,580.00	Enabling Middle Mile Broadband Infrastructure Program

Implementation Stage 2					
Projects	Mile	Location	Description	Cost*	Funding
Project 1	Last	Peach Springs	Installing fiber connection directly to the homes and business along with other necessary equipment.	\$5,957,566.10 to \$9,525,205.00	Tribal Broadband Connectivity Program
Project 2	Last	Valentine	Installing fiber connection directly to the homes and business along with other necessary equipment.	\$377,810.00	Tribal Broadband Connectivity Program

Implementation Stage 3					
Projects	Mile	Location	Description	Cost*	Funding
Project 1	First	Youth Camp	Installing fiber connection from Peach Springs to the Youth Camp.	\$1,481,695.00 to \$10,710,129.60	ReConnect Broadband Grant
Project 2	First	Grand Canyon West	Installing fiber connection from Peach Springs to Grand Canyon West.	\$2,647,381.54 to \$12,119,233.74	ReConnect Broadband Grant
Project 3	Last	Youth Camp	Installing fiber connection directly to the homes/businesses along Indian Route 18	\$1,804,075.00	Tribal Broadband Connectivity Program

6.5.5 Goals, Objectives and Policies

Goal 5 Provide equal and affordable internet access to tribal members living on or adjacent to the Hualapai Reservation and its trust lands.

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Objectives:

- 5.1 Determine the feasibility of expanding the telecommunications mission of the Hualapai Tribal Utility Authority (HTUA) to be an internet service provider (ISP) to tribal members living on or adjacent to the Hualapai reservation and its trust lands and to surrounding communities outside of the boundaries of the Hualapai Reservation.
- 5.2 Establish relationships with existing internet service providers to provide backhaul for the HTUA to utilize as the tribe's ISP.
- 5.3 Develop a capital improvement plan to deploy the first, middle and last-mile fiber optic or fixed base wireless network on the Hualapai Reservation and trust lands.
- 5.4 Renew the tribe's current 2.5 GHz license granted by the FCC (FRN 0029663200) by 2030.

Policies:

- 5.1 Seek tribal, state, federal and private grant funding sources to develop, operate and maintain the tribal broadband network.
- 5.2 Prioritize development and expansion of the HTUA's broadband network instead of relying upon a third-party to be the tribe's ISP.

6.6 GRAND CANYON WEST

Because Grand Canyon West (GCW) is a unique and substantial development for the Tribe, located remotely from other Tribal infrastructure facilities, and possessing many unique requirements, the infrastructure needs of this area are best discussed collectively for the purposes of this plan.

Key Grand Canyon West Issues:

- Planning for Facilities.
- Ensuring Adequacy of Facilities.
- Financing Facilities, and
- Design & Construction Standards

Additional specific Key issues facing the GCW infrastructure are summarized below:

Resolve Wastewater Violations and Immediate system Deficiencies. The septic tank and leach field facilities serving the Hualapai Ranch and the Residential areas were found to be in non-compliance of EPA regulations. As a result, use of these systems has been discontinued. Currently, wastewaters are collected in a tank and hauled away daily. The Advantex system and the associated ET disposal bed however are now exceeding maximum design operational capacity. Additional development at the Airport cannot be accommodated without repair or expansion of the wastewater facility.

Construct West Water Pipeline Project. The Westwater pipeline was completed in the Summer of 2013 and is now supplying water to Grand Canyon West. Even though the well is rated at 45 gpm, the well began losing production in 2018 and is currently augmented with water hauled from Peach Springs. The tribe's Water Settlement Act of 2022 and the ensuing pipeline project will be able to accommodate additional growth anticipated in the Master Plan.

Construct 69KV Power Line and Fiber Optic Line Project. The tribe has been planning, designing and securing right-of-way as well as funding for a 36-mile, 69 KV radial distribution line to bring power to Grand Canyon West from the local electric utility serving northwest Arizona whose nearest substation is some 20 miles west of the reservation. The power line will replace the existing power source at GCW – three diesel powered generators - and augment the power generated from the recently commissioned 885 KW solar array and battery pack. The project will also bring a 48-strand fiber optic line to GCW to speed up sales transactions and replace the current wireless based system.

From the 2008 Development Update for GCW (GCRC, 2008)

1) "Essential Needs" (Stabilize/Reinforce Existing Operations)

- Civil Engineering Master Plan – Capital Improvements to Infrastructure/Utilities

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- Environmental Assessment for GCW Long Range Land Use Plan
- Air Terminal and Airport Improvements
- Community Housing – Immediate and Permanent Community Development
- GCW Entrance, Phase I and Parking for Ground Traffic
- Skywalk and Eagle Point Improvements
- Guano Point Improvements
- GCW Maintenance, Public Services, and Emergency Response
- Expansion of 20.8 KV Electrical Distribution Grid to provide reliable power to all operations, reduce fuel consumption and decrease air pollution

2) Mid-Term Development (Initiate High Return Revenue Enhancements)

- Continued Capital Improvements to Infrastructure/Utilities
- Continued Airport Improvements
- CGW Entrance Phase II – Visitors Center (with Cultural Museum/Theater)
- RV Park, Camping and Hiking Trails
- Gas & Convenience Store (serving Visitors and Residential Community)

3) Long-Term Development -2035 (Implement Full Build-Out of Land Use Plan)

- Continued Capital Improvements to Infrastructure/Utilities
- Destination Resort and Executive Conference Center
- Health and Wellness Center
- Multi-Purpose Event Arena
- Grand Canyon Tram
- Grand Canyon West Desert Golf Course
- Rim Amphitheater

6.6.1 Grand Canyon West Land Use Plans

A Master Plan for GCW was prepared in 1994 by Cornoyer Hedrick, Inc. The 1994 Master Plan included a general store, restaurant, 150-room lodge, housing area, development of rim viewpoints and hiking trails, and below rim operations. In 2015, a second Master Plan was prepared by Plan*Et in association with the Worth Group (architect) and Eliot D. Pollack (market study) that built upon the 1994 effort and divided overnight visitor accommodations between resort style and mid-priced hotels, a commercial area with gas station, tribal vending areas, and other retail uses south of the airport, recreational vehicle camping and campgrounds, and a conference and event center adjoining Eagle Point (Skywalk), all in anticipation of some 2.8 million visitors per year.

This plan established the planned development of GCW over a projected 20-year build out period. The Land Use Plan focuses on development of GCW in alignment with GCRC's development

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philosophy. This philosophy includes the balance of four strategic factors: community and cultural enhancement, environmental preservation, business development, and government oversight. The 2015 Land Use Plan includes plans for the following developments:

- New Airport Terminal
- GCW Entrance/Retail
- Shuttle System/Stations
- Major Destination Vistas
- Recreational Trails
- Corporate Conference Center
- RV Park
- Campground
- GCW Destination Resort with spa
- Grand Canyon Golf Course
- Retreat Clusters
- Future Additional Businesses
- Community Housing
- GCW Support Services

It is anticipated that with the improvements to the existing airport facilities, the airport will act as a center for all arriving air traffic. Improvements will include new facilities for airport staff and service buildings for aircraft as well as parking facilities. Travelers arriving by automobile and bus will disembark at a new visitor center south of the airport.

The GCW entrance will be improved along with major destination vistas and recreational trails. Lodging facilities will also be constructed including a 45-space RV Park and 270 hotel rooms divided between the resort and mid-priced hotel. Additional visitor destinations will include a corporate conference center and 18-hole golf course. A shuttle system will be developed to facilitate transportation between the major facilities of the development.

Of the 9,000 acres encompassed by GCW, it is estimated that 11% (990 acres) will eventually be developed for commercial and residential purposes. The remaining 89% (8,010 acres) will be preserved as open space.

6.6.2 Existing Facilities

Commercial - GCW facilities currently include an airport with a 5,000 foot runway, three primary viewpoints at the rim of the Grand Canyon, tour related facilities including the Skywalk, Indian Village, Guano Point, Hualapai Point/Zip Line, employee housing, maintenance operations, and road infrastructure. GCW also hosts helicopter transports to and from the Colorado River in support of River Runners pontoon operation and the transportation for those disembarking on the One-Day River Runners from Diamond Creek.

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Housing - Current housing at GCW is quite modest, consisting of mobile home type units providing housing for approximately 300 employees. Improvements and expansion are much needed and a priority within the Housing Plan.

Water - Currently the GCW area is served water through the West Water well and pipeline. The West Water well is located approximately 30 miles south of the GCW development area at the head of Milkweed Canyon.

A major rehabilitation of the West Water pipeline system was completed in the summer of 2013. Improvements include the installation of a buried 6-inch pipeline, power and pumping improvements, addition of a second, backup supply well, a new 400,000-gallon storage tank, and disinfection facilities. These improvements will provide a reliable, year-round supply of between 45 gpm and 100 gpm for the GCW community. As noted above, West Water's supply is being augmented by the Peach Springs water system which draws from the Truxton aquifer. Hualapai Public Works is proposing a new 6" water line to connect the Peach Springs water system to West Water, a distance of some 16 miles, which will eliminate the current water hauling.

Wastewater - The only existing engineered wastewater disposal system is at the Airport. This consists of an Advantex and an ET disposal bed. A number of historically used septic tank and leach fields in the Western Village and Housing Area are no longer in use, however it is believed that several smaller systems are still in use. For the most part; holding tanks are used to collect wastewaters at Housing, Western Village, Eagle Point and Guano Point, which is carried away daily with 5,000 to 10,00 gallons of septage being hauled to the lagoon system located just south of Diamond Bar Road at the reservation's boundary. As a result, the Airport Advantex system is already exceeding its design capacity. Additional development at the Airport cannot be accommodated without repair or expansion of the wastewater facility.

Improvement to the GCW area wastewater systems is one of the most pressing infrastructure issues currently facing the development.

Energy and Telephone - Currently the GCW facilities do not have a regional utility grid-connected electrical supply to feed its 2015 installed micro-grid which serves most of the GCW campus via 20,000 feet of 20.8 KV underground electrical circuit, energized by up 2.2 MWs of electricity courtesy of three Caterpillar diesel generators, and the newly installed 885 KW solar array with battery storage. The closest Mohave Electric Cooperative electrical facilities are approximately 36 miles south along Buck and Doe Road. However, the nearest electrical service, provided by UniSource Energy Services, is along Pierce Ferry Road, some 20 miles distant. GCRC's Land Use Plan mentions the recommendation of routing electrical service along Diamond Bar Road or Buck and Doe Road; however, after an extensive environmental review, the line was re-routed over open public land north of Red Lake and up Hells Canyon onto Buck and Doe Road, a distance of 36 miles, to avoid negative impacts to the Joshua Tree Forest and the high visual resource value of Diamond Bar Road.

Microwave radio and cable facilities from Frontier Communications located in Kingman, AZ are available to provide telephone service to GCW once the power line is constructed. In addition,

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Verizon provides cellular phone coverage from its installation on a tribal tower location along Buck and Doe Road some seven miles south of GCW

6.6.3 Projected Demands

Water - With the development of GCW will come more visitors and a resulting increase in water demands. In 2001, 191,458 guests visited GCW (2003 Land Use Plan). In 2011, approximately 784,000 guests visited GCW. This number increased to 810,000 in 2012 and reached over 1,000,000 by 2017. Projected visitors from the 2003 Land Use Plan indicated that ultimately as many as 5,000,000 visitors are expected to visit GCW; however, the more recent estimate places that number at 2.8 million. Based on these values the "Preliminary Engineering Report Water Supply Evaluation for the Grand Canyon West Development Hualapai Indian Reservation, Arizona", (NRCE, 2005) and the West Water System Rehabilitation Pre-Design Study Report (Stantec, 2007) provides the following projections of water demand for GCW:

GCW Water Projected Water Demands Summary

Development Level	Visitors Per Yr.	Avg Daily (gpm)	Peak Day (gpm)	Annual (Acre-foot/yr)
Current Demand (2023)	850,000	31	55	37
GCW Water Demands at West Water System Build-out. (Residential Pop. = 408)	850,000	74	110	120
Full Destination Resort Development, Ultimate Demands (w/o Golf Course)	5 million	900	1,630	1,500
Full Destination Resort Development, Ultimate Demand (w/Golf Course)	5 million	1,180	2,130	1,900

Waste Water - Based on the projections for water demand, a preliminary estimate of waste water generation rates for GCW can be estimated as summarized below.

GCW Waste Water Projected Flow Summary

Development Level	Visitors Per Yr.	Avg Daily		Annual (Acre-foot/yr)
		(gpd)	(mgd)	
Current (2023)	850,000	37,000 est.	0.037	42
GCW Water Demands at West Water System Build-out. (Residential Pop. = 408)	850,000	106,000	0.11	120
Full Destination Resort Development, Initial Demands (w/ or w/o Golf Course)	1 million	259,200	0.26	290
Full Destination Resort Development, Ultimate Demands (w/ or w/o Golf Course)	5 million	1,296,000	1.30	1,500

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6.6.4 GCW Infrastructure Development Plans

Detailed Development Plans for GCW do not currently exist. Therefore the following draws upon previous reports.

6.6.4.1 Water

Of the infrastructure needs at GCW, water supply has been examined in the most detail. Relevant studies include: “Preliminary Engineering Report Water Supply Evaluation for the Grand Canyon West Development” (NRCE, 2005), “West Water System Rehabilitation Pre-Design Study” (Stantec, 2007); “Preliminary Engineering Report for the West Water Pipeline System” (Stantec 2009) and the Appraisal Design Report (Dowl 2016). Based on these studies the water development plan for GCW can be summarized as follows:

- Rehabilitate West Water System to 100-120 gpm to provide supplies through Intermediate Development Stage which has been completed.
- Development of Colorado River Supply System to handle water demands beyond that point. Projected total water demands at full build-out far outstrip the supply potential of the West Water Well, even if combined with other potential groundwater supply opportunities, e.g. the Truxton aquifer. (NRCE, 2005).

Colorado River Supply Project: A detailed examination of water supply alternatives for GCW based on a comparison of costs, risk, and environmental impact considerations, concluded that a intake structure alongside the Colorado River and a pipeline to access the Colorado River floor is the best ultimate water supply system. Some of the main factors recommending it are:

- Ability to meet projected demand with the proposed golf course.
- Low risks in terms of hydrogeologic uncertainties and water right issues.
- Low level of environmental and cultural impacts.
- All facilities involved would be entirely within the current boundaries of the Reservation.

A summary of the features of the propose project is provided below.

- **Supply** - An intake structure placed in the alluvium of the Colorado River at the bottom of Peach Springs Canyon.
- **Transmission** – A 16-inch pipe line and seven booster stations will transport the water up to Peach Springs where a portion will be treated with the remaining untreated water piped to GCW via a 12-nich line placed along Buck and Doe Road. Treatment may occur at the site of the existing West Water reservoirs at which point both water supplies will be combined to serve GCW through the existing pipe line or treatment will occur at a location adjacent to the 400,000 gallon water reservoirs some four miles south of GCW.

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- **Treatment** - Water treatment will be necessary to convert the raw waters to potable supplies. Alluvial wells benefit from pre-filtration of the river water collected by the surrounding alluvial materials which can reduce filtration requirements necessary for EPA compliance. In addition to some level of filtration, disinfection will be an additional treatment requirement.
- **Development Plan** – Even with the successful passage of the Hualapai Tribe Water Rights Settlement Act of 2022, it recognized that development of a Colorado River supply may take years to develop due to the extensive engineering, environmental, financial challenges facing the project. It is recommended that further investigations be conducted to better define the design requirements of the Colorado River water supply system for GCW. Required investigations include surveys, geotechnical and environmental investigations, and the further development of facility designs, all of which will be addressed, including the selection of the preferred alternative route, as the Environmental Impact Statement (EIS) takes shape over a 24 to 36 month period. Because of extensive hurdles facing the project, enhancing the water supply of the West Water Pipeline is the only reasonable means of providing a reliable and safe water supply at the present time.

6.6.4.2 Wastewater

A comprehensive plan for the development of wastewater facilities at GCW does not currently exist. The pending USDA grant-funded wastewater project will collect sewage from the housing and living quarters. The remaining sewage will be collected and hauled to the evaporation lagoon site near the boundary of the reservation.

6.6.4.3 Electrical

The Hualapai Tribal Utility Authority has secured the services of an engineer (Entrust) to produce plans to bring the 69 KV power line and fiber optic line to GCW from the UniSource substation located on Pierce Ferry Road. The estimated cost of \$27.1 million includes a 69 KV/20.8 KV substation at GCW to match the voltage of the existing micro-grid. The tribe will also be applying for federal grants to expand the solar array.

6.6.5 Infrastructure Goals and Policies Specific to Grand Canyon West

Goal 1: Create infrastructure facilities to meet the needs of a self-supporting community at Grand Canyon West.

Policies

- 1.1 The Tribe should encourage regional provision of facilities and infrastructure whenever feasible and should discourage the proliferation of smaller systems.
- 1.2 To ensure the improvement and maintenance of facilities and infrastructure, the Tribe should develop and maintain a comprehensive reservation Infrastructure

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Plan with prioritized improvements and funding strategies for water, wastewater, solid waste, flood control/drainage, electrification and transportation system facility master plans for urban and suburban development areas.

- 1.3 The Tribe should prepare its Capital Improvements Program (CIP) and construct its capital improvement projects to provide adequate public facilities and services to serve the population and employment levels projected through the year 2035.
- 1.4 The Tribe should ensure that facilities are designed and constructed to accommodate the demands from planned development in a cost-effective manner, but also considering reliability, sustainability and project impacts.
- 1.5 The Tribe should require all infrastructure system improvements to be designed, as a minimum, in accordance with the Maricopa Association of Government (MAG) engineering standards, as these may be modified from time to time.
- 1.6 The Tribe shall designate areas that are appropriate for development based on proximity of public services and facilities. These areas should be given first priority for extension of public facilities.
- 1.7 The Tribe shall discourage development that is not served by adequate public facilities.
- 1.8 Required on-site improvements shall be in place at the time project occupancy creates demands for those improvements.
- 1.9 Where public facilities are not adequate to serve an entire development project, the Tribe should use phasing to ensure that adequate facilities will be available concurrently with demands for those facilities.
- 1.10 The Tribe may adopt development fees or require contributions through development agreements to finance system improvements.

Goal 2: Maintain and develop a sufficient water supply that complies with all applicable Safe Drinking Water Act rules and regulations

Policies

- 2.1 The Hualapai Tribe should continue to develop and maintain existing and necessary water supply systems
- 2.2 The Hualapai Tribe should implement water conservation practices including the installation of low or no flow fixtures when possible
- 2.3 Continue to lobby federal representatives to secure appropriations to perfect the Hualapai Water Rights Settlement Act of 2022

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Goal 3: Provide state-of-the-art regional wastewater systems to reduce system cost, protect the aquifer and allow for reuse of treated effluent

Policies

- 3.1 The Hualapai Tribe should coordinate the design of wastewater systems to help minimize long-term wastewater service costs.
- 3.2 The Tribe should repair and re-engineer existing wastewater systems to accommodate additional sewage flows from existing facilities.
- 3.3 The Hualapai Tribe should implement wastewater reuse treatment into wastewater treatment facilities for non-potable water needs such as irrigation.

Goal 4: Establish utility, grid-tied electric service to Grand Canyon West

Policies

- 4.1 Pursue federal grants and loans as well as other funding opportunities to bring electrical power from the local utility grid to Grand Canyon West.
- 4.2 ~~Negotiate with the local utility company to share the costs with other customers in the service area who will benefit from the electrical line extension that provides grid-tied power to Grand Canyon West.~~

Goal 5: Construct an aerial tramway to convey passengers and supplies between the Grand Canyon Rim and the Pontoon Docks on the Colorado River

Policies

- 5.1 Seek outside funding sources and technical support to prepare the necessary feasibility study, environmental report and engineering plan to develop the aerial tramway.
- 5.2 Place tribal funds in a separate account annually to fund the construction of the aerial tramway.

7.0 Ranching, Forestry and Mining Element

7.1 INTRODUCTION

Ranching is overseen by the Hualapai Department of Natural Resources (HDNR). The Department's mission is to conserve, protect and enhance the natural resources of the Hualapai Reservation while providing for multiple consumptive and non-consumptive uses. Beyond Ranching, the Department oversees Range Water Resources, Wildlife Fisheries and Parks. It also oversees and conducts the Hualapai Tribe's Environmental Services. Tribal Forestry, once a program under the Natural Resources Department, with a mission to promote personnel through experience and education understanding the disciplines of Forestry & Wildland Fire Management while adapting traditional knowledge to sustain natural resources for the Hualapai People, manages timber, wildland fires and overall forest health.

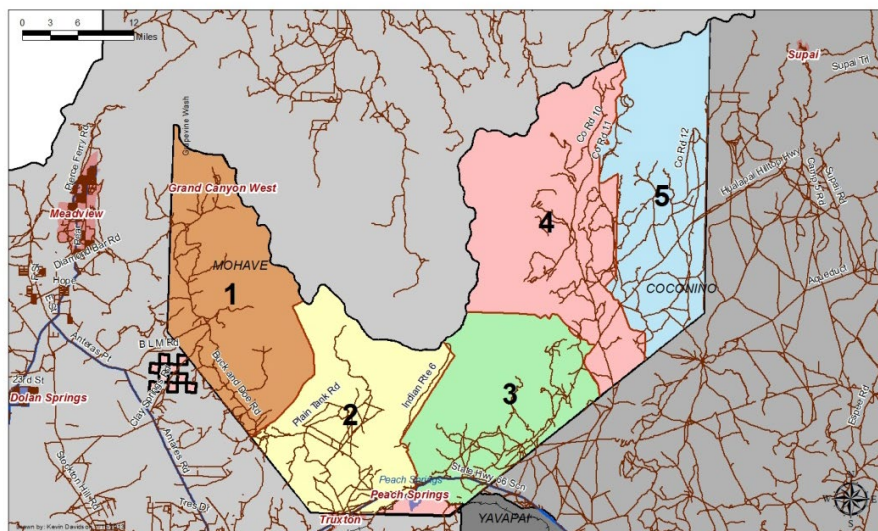
While included in the Plan, Mining is not currently assigned to a Hualapai tribal department since the Tribe is not directly engaged in mining or the extraction of mineral resources. An inactive flagstone quarry is located across the border of the Dunbar Mine bordering the southwest edge of the reservation. A lime plant (Lhoist North America) also operates just outside the extreme southeastern edge of the reservation in the town of Nelson.

7.1.1 Ranching & Reserve Areas

Tribal members began ranching when the BIA sold 150 head of cattle to individuals in 1914. Four livestock associations were established in 1938. Today, each of these Associations is permitted to run between 400 and 800 animal units, primarily as cow-calf pairs. The Tribe established a Tribal Herd on a fifth district in 1941, but this enterprise was suspended in 2003, and then re-started as the New Water Livestock Association in 2015. The cattle breeds include Hereford, Beefmaster, Angus, and various crosses.

The **five** Livestock District Associations are organized via By-Laws and are governed by Tribal Ordinance #2B to conduct their livestock activities. Spring and Fall round-ups are held annually and members participate in branding, castrating, dehorning, ear-tagging, injection of medicine for calves to prevent diseases and record keeping.

Hualapai Nation Grazing District Boundary Map



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The Hualapai Agriculture Program Annual Report shows the acreage allocated to each of the districts:

The Hualapai Tribe			
Hualapai Agriculture Program			
Livestock Districts, Animal Units Carrying Capacities			
Livestock Districts	Acres	Grazing Acres	Animal Units
District 1: New Water Livestock Association	186,889	143,625	330
District 2: Milkweed Springs Livestock Assn.	136,700	141,393	697
District 3: Peach Springs Livestock Assn.	108,000	115,319	884
District 4: Pine Springs Livestock Assn.	168,790	141,221	474
District 5: Coyote Springs Livestock Assn.	182,000	149,351	598
Total	782,379	690,908	2,983
<i>Source: Agriculture Program Annual Report 2003 (updated 2023)</i>			

In all, the Hualapai Reservation has approximately nearly 700,000 designated acres of grazing land with the capacity to carry approximately 3,000 animal units with one Animal Unit weighing 1,000 lbs.

It is important to note that the volume of land devoted to Livestock use overlaps the amount of land subject to potential forestry operations. This single use involves nearly 80% of the Hualapai Reservation lands. Most undesignated land noted in the Land Use Element Maps is range land.

7.1.2 Forestry Department and Reserve Areas

The Forestry Department consists of the Forest Development, Timber, and Hazardous Fuels Reduction programs since the 1970's. In 2020, the department expanded to include Wildland Fire Management through a BIA PL93-638 aka "638" contract adding programs such as Preparedness/Suppression, Hazardous Fuels Reduction, and Prevention. Currently (2023). The department employees 32 personnel.

The department focuses on budget, policy, program stability, GIS mapping, and collaboration that includes state, tribal, county, and federal entities with most time devoted seeking funding to expand the program through federal proposals by requesting funding to improve forest health, educate staff, and support the Hualapai community.

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Early commercial activity utilizing ponderosa pine timber consisted of a non-tribally owned sawmill at Frazier Wells that operated from 1951 until the timber contract was completed in 1962. The harvests between 1951 and 1962 treated the entire forest. The Forest Plan in effect at that time stated that the next periodic cut should not be necessary for 20 years. There was some limited harvest of other forest products in the form of mine sculls, charcoal, posts, poles and fuel wood by local Hualapai members throughout the early history. Local members still harvest commercial forest products today.

The Forest Development Program operates a greenhouse at Thorton Tower to restock all burn scars on the reservation with a focus on Ponderosa pine (*pinus ponderosa*). The program is currently working with NAU Greenhouse Research program inquiring on current market greenhouse development. The following step is to coordinate reforestation projects. Also, the Forest Development program is tasked with Timber Stand Improvement projects removing infected or damaged tree's to improve timber genetics.

The Timber Program operates a portable sawmill to provide forest products to the Hualapai people, specifically corral panels. The portable mill will eventually provide dimension lumber for decks, porches, cabins, or for neighboring tribe's Hogan use. The Timber Program issues permits and operates the Woodland Enterprise employing tribal members that harvest fuel wood for the Hualapai people. All revenue is put back into the enterprise in order to offer more contracts.

The Wildland Fire Management Program consists of the Preparedness/Suppression, Hazardous Fuels Reduction Program, and developing Prevention Program.

The *Preparedness Program* is responsible for suppressing all wildland fires on the reservation trust acres and includes incident commanders, fire fighters, equipment, etc. which also support emergency wildland fires within the US and abroad. The program has received awards from federal Incident Management Teams based on employee performance.

The *Hazardous Fuels Reduction Program* has expanded with aid of the Bipartisan Infrastructure Law (BIL) funding (a second fuels crew, mastication operation, LIDAR mapping). The program overall intent is to reduce hazardous fuels threatening the wildland urban interface (WUI), timber base, and reservation boundaries through mechanical and prescribed burning.

The *Prevention Program*, currently in development, will educate the public of pros and cons of wildland fire. The program would also aid in collecting indices data of weather and fuel moisture to anticipate the potential of low, moderate, or high fire behavior.

The Hualapai Tribe has developed a detailed Forest Management Plan that addresses the Planning Period through December 31, 2029. The Plan does not establish Reserve Areas per se, but includes management actions that address the interdisciplinary nature of Forest Management. The forestry areas are distributed in various locations, but are concentrated in the Eastern portion of the Reservation, as shown on following map – Figure 1:

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The above forestry areas are subject to the Goals and Policies given later in this Element of the Plan. However, the Hualapai Tribe's Forest Management Plan is the basis for these, since it includes the cooperative management of the Tribe's forests to interrelate with other aspects of Tribal development.

7.1.3 Mining

While the Hualapai's have a long history of working in mines at Mineral Park, Cerbat, Music Mountain, Nelson, and other locations, they have not developed many mining activities on their own lands. The Reservation contains substantial economic mineral and elemental resources including high-grade limestone, copper, uranium and flagstone. Other elements found on the Reservation include silver, gold and lead.

The Ridenour Mine historically produced copper but is now closed. Uranium and limestone deposits were studied but have not been mined because of concerns over potential environmental contamination of land and water resources.

Lhoist North America, located just off-Reservation in Nelson, produces limestone products, including MAG-on-demand (Variable Magnesium Oxide Enhancement), Calcium Hydroxide Hydrated Lime, Calcium Oxide (Quicklime) and other Limestone products. In 2013, Lhoist approached the Tribe in an effort to expand its operation onto the Reservation.

7.2 MAJOR ISSUES

The majority of identified issues applying to Ranching, Forestry and Mining have to do with the interrelationships of the Hualapai Reservation's open spaces and their uses. There are substantial overlaps between areas utilized for grazing and those included in the Forest Management Plan as well as the proposed residential development depicted in the:Land Use Element. At this time, mining is confined to small areas and the quarries, when in operation, do not appreciably impact the Land Uses as set forth in the Master Plan.

7.2.1 Ranching

The major issue applying to Ranching is the volume of land that is designated for this purpose. The Livestock Association Districts overlap many other uses, creating the potential for future conflicts in both physical development and the development of natural resources. Many of the issues applying to Ranching are in common with those applying to Forestry. These include the protection of wildlife habitat, the cooperative management of grazing and forestry, and the accommodation of home sites, recreation and natural aesthetics. The Hualapai Soil and Water Conservation District (HS&WCD) in association with the University of Arizona (Agricultural Extension) provide solid recommendations on range management. However, these recommendations must be adopted by the tribe, namely HDNR and Forestry, to be implemented.

Further, Ranching is an historical use that continues through generations of Hualapai Tribal Members. The purpose of many of the Tribe's agricultural programs are oriented toward continuing this tradition on to future generations.

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The key issue is to accommodate and encourage Ranching in an environment that accommodates grazing needs but does not prohibit other development. The Livestock Associations need to be a partner in project development activities to achieve compatibility and to minimize depletion of rangelands.

7.2.2 Forestry

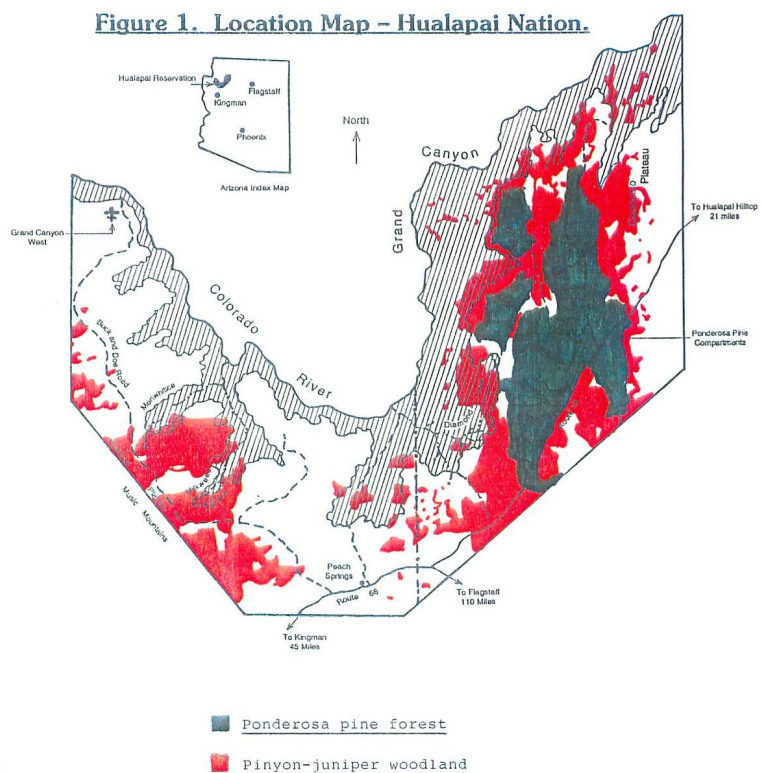
The Hualapai Indian Tribe's current Forest Management Plan specifically addresses issues that may arise from Forestry activities, including logging and associated road building, etc. These include potential conflicts between and the multiple uses of forest and woodlands. The following is a listing of the principle issues identified in the plans:

1. **Wildlife:** Forestry Management must occur in a manner that protects habitat for the 200-250 species of birds, 30-40 species of reptiles and amphibians and the 50-60 species of mammals occurring on the Reservation. These issues also impact the Tribe's wildlife operations, which include hunting permits, maintaining the elk herd, etc.

2. **Range/Grazing Lands:** The interrelationship between Forestry Management and proper Grazing practices must be maintained to augment both activities. Further, there are five active grazing districts with management plans

developed by the HS&WCD, Agricultural Extension and the Bureau of Indian Affairs in cooperation with district Associations. Forestry operations need to stay coordinated with the policies and objectives of those plans.

3. **Recreation and Aesthetics:** Most non-member recreational use of the forest and woodland is related to hunting opportunities and occasional fishing and sightseeing activities. There is high seasonal use of the Peach Springs Wash and Diamond Creek Road, which provides the only drive in access to the Colorado River in Grand Canyon. Recreational facilities include Hualapai Youth Camp located in the ponderosa pine forest. The camp is



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utilized by tribally guided commercial hunters, on a seasonal basis and for a variety of special events. Aesthetics are a high priority for Tribal Members and visitors alike.

4. **Planned Development Areas:** This Master Plan identifies specific expansions of developed Use Areas on the Reservation, such as the redevelopment of the Youth Camp that expanded the recreational/commercial scope and use of the area. Commercial activity at the Youth Camp is restricted until the fourth CY Quarter of 2025 due the limitations of the original HUD grant that funded the facility. The key issue is avoiding future conflicts between the designated land use and the Hualapai Tribe's ability to appropriately manage their natural resources. In addition, tribal member home sites are approved by tribal council on a case-by-case basis with the goal to minimize their impact on forestry and range land operations. With Grazing District No. 2 seeing the most home site requests, the land use diagram has been updated to allow 191 acres for Rural Residential east of the Music Mountain School, south of the District.

7.2.3 Mining

Issues applying to mining on the Hualapai Reservation are varied. The Tribe previously has been involved in mining, but more recently has documented opposition to mining activities, with the most recent opposition against a proposed lithium mine on the public lands adjoining the Cholla Canyon Ranch which has recently achieved trust status. During preparation of the Valentine Visioning Plan, strong opposition was voiced against an off-Reservation quarry that was (and is) visible from the Valentine/Annadale community. The scarring of the mountainside is not deemed repairable, even if the quarry was shut down.

The Hualapai Tribal representatives have been extremely active on a regional basis against uranium mining, although a previously prepared Mineral Assessment projected substantial tribal income could be generated through on-Reservation mining development. In 2009, the Hualapai Tribal Council renewed a ban on uranium mining on-Reservation and in 2013 prohibited the transportation of uranium ore through the Reservation. This latter resolution came about with the proposed uranium mine on State Trust land located just east of the Reservation whose access would pass through the Reservation via BIA Route 18.

While the potential for the development of mineral resources has been identified, the potential environmental and aesthetic issues are a continuing concern for Hualapai Tribal Members.

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7.3 STRATEGIC PLANNING

7.3.1 Ranching

Range management on the Hualapai Reservation has been guided by a “638” contract since 1995. These activities were undertaken by the Hualapai Agriculture Program. This includes implementation, enforcement of grazing regulations (see Ordinance No. 2B cited above), and contract activities. The Program includes:

- Range and livestock monitoring
- Annual range, livestock, and vegetation inventory
- Annual range utilization surveys
- Range use compliance
- Range management and conservation plan
- Livestock management plan
- Grazing permit allocation and collection of grazing fees
- Floodplain and wetland management
- Farm and ranch water management
- Soil erosion control and soil conservation activities
- Plant cover improvement
- Pest and animal control
- Range plant trend studies
- NEPA compliance
- Preparation and administration of contracts and subcontracts
- Preparation of annual reports on grazing activities, crop reports, cattle counts, range inventory and range utilization
- Liaison with federal, state, and local agencies

The acreages of each District remain the same today as when first designated. While Ranching remains a major use on the Hualapai Indian reservation, it is not a prime economic generator for the tribe as a whole.

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That is not to say that the Tribe’s Agricultural and Ranching programs do not provide a benefit to the Hualapai Tribe and its Members. The following Table illustrates the major programs and the range of involvement.

Major Programs and Primary Collaborators			
PROGRAM	ISSUES	ACTIVITIES	COLLABORATORS
Youth Education Programs	Need for youth to be positively engaged in community activities and to be engaged in livestock production	Youth livestock projects for county fair	Local 4-H Club (volunteers), Tribal Agriculture Program
Range Programs: Tribe and Livestock	Cultivate knowledge of the natural resources of the Reservation	Summer Youth Camp Ethnobotany Project Boys and Girls Club	Department of Natural Resources
Range Programs: Tribe and Livestock Associations	Conserving range resources used by livestock and wildlife	Workshops and field days Range Monitoring	Department of Natural Resources Range Districts
Livestock Management: Tribe and Livestock Associations	Improve effectiveness of cattle production	Annual livestock meeting Workshops and field days	Tribal Agricultural Extension Program Regional Center for Rural Development
Community Gardening	Encourage local food production to promote healthy lifestyles and improve food security	Workshops Programs with Boys and Girls Club, University of Arizona	Boys and Girls Club Elementary School Green Arrow Program Emergency Operations Center
Water Resources Conservation	Safeguard water quality and wetlands	Trainings and short workshops	Department of Natural Resources

The key Planning strategy is to maintain the historic nature of ranching on the Hualapai reservation, including established districts and programs. However, this needs to be accomplished in concert with continuing residential growth, economic development and in coordination with natural resource development, such as Forestry.

Since areas devoted to Ranching overlap a wide variety of areas devoted to other uses, ranching representatives will need to continue to be participants in each development process as project-specific plans are finalized.

7.3.2 Forestry

The current Forest Management Plan proposes annual timber sales of between 1.5-2.5 million board feet. There has been an active timber sales contract 11 out of the last 40 years which has resulted in over 15 million board feet of timber harvested since 1984. Hualapai Tribal Forestry has had limited success in attracting purchaser since the milling capacity in the Southwest has declined more two-thirds since 2001. However, Forestry does operate a portable mill for local use.

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7.3.3 Mining

In 1996, the Hualapai Tribe requested BIA funding to conduct a Mineral Resource Assessment. Several potential sources of mineral development were identified, the major one being the Ridenour Mine area, located in the extreme northeastern portion of the Hualapai Reservation. The resultant assessment is summarized below:

1. Uranium: In the 1950s, the prospect of uranium mining was brought to the Tribe's attention. During the 1980's substantial exploration and research was conducted on the distribution, quantity and quality of uranium associated with collapse features in the redwall limestone known as breccia pipes. Surveys and feasibility studies were conducted showing substantial economic potential. The market for uranium collapsed in the mid-1980s. Since 2020, the market revived. At today's price (\$80/lb) a single breccia pipe uranium mine, a site of approximately 20 acres is expected to produce between \$100 million and \$170 million in revenues. The Tribe mapped over 200 of these collapse features. In 1990, the U.S. Geological Survey (USGS) conducted a geology and mineral study on the Ridenour Mine Breccia Pipe.
2. Silver: Silver deposits were found in the breccia pipes in the Ridenour Mine. The silver concentration in the samples collected was found to exceed the samples found in other parts of northwestern Arizona.
3. Copper: The Ridenour Mine was originally developed for copper. The copper deposits in the Ridenour Mine were found to compare well with other deposits found in the northwestern Arizona.
4. Gold: On the Hualapai Reservation gold was mined in three areas: Music Mountain, Gold Basin and Lost Basin. All mines are currently closed.
5. Sand and Gravel: Over the years the Tribe has had numerous sand and gravel quarries. The quarries are normally limited to local road and housing construction activities. The operations are limited to short-haul distances. The Tribe received offers in 2004 and 2005 for a sand and gravel quarry on their Wikieup land for Highway 93 road construction projects but did not approve any permits.
6. Oil and Gas: The Tribe received exploration payments from Casa and Pathfinder oil and gas exploration companies in the 1980's to do wildcat exploration. Prior to conducting seismic studies, the deregulation of natural gas and the falling markets caused the projects to be abandoned.
7. Flagstone: The Tribe quarried flagstone near Robbers Roost, west of Route 18, (no longer active) and at the western boundary near Hunt Ranch. A tribal member operated the latter quarry for number of years until its closing over ten years ago.. The tribe received funding in 2014 to perform a flagstone study which identified this quarry, adjoining the off-reservation Dunbar quarry, as having the most commercially viable product – Hualapai Chocolate.

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8. Limestone: The US Bureau of Mines, in its October 1942 information circular stated that the Peach Springs area contains large amounts of dolomite. The BIA conducted a Limestone Market Study in 1986. In 1990, the Tribe requested a study update. Other than the lime plant at the extreme southeastern boundary of the Reservation, no further limestone quarrying has been pursued.

In the process of Plan development, this issue of mining was not directly addressed in the Community Needs Assessment. From the perspective of the issues versus the opportunities, the Hualapai Tribe does not preclude the potential of some strategic mineral development, but the areas for this potential are not identified in this Master Plan. The Lhoist proposal to expand its operation onto the Reservation would occur on some 900 acres in this southeastern area of the Reservation. The Hualapai Master Plan Update Committee finds flagstone mining by tribal members acceptable.

The northeastern mining area, including the Ridenour Mine, will not be reopened due to the existing ban on uranium mining.

7.4 GOALS, OBJECTIVES AND POLICIES

7.4.1 Ranching and Agriculture

Goal 1: To preserve and maintain agricultural lands.

Objectives

- 1.1a Improve rangeland resources by preparing and implementing equitable and environmentally sound decisions regarding land use, range management, and grazing authorization.
- 1.1b Maintain and improve rangelands by eradicating invasive plant and animal species.
- 1.2 Conserve and preserve productive grazing and agricultural land as a limited resource which has both an environmental and economic value.

Policies

- 1.1 Manage livestock grazing consistent with Master Plan objectives as further specified in the Hualapai Grazing Ordinance (2B).
- 1.2 Encourage consultation, cooperation, and coordination with rangeland users, and other interests as a part of the land use and livestock grazing management decision-making process.

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- 1.3 Consider in all land development reviews the use of methods to minimize negative impacts of such development on surrounding rangeland areas.

Goal 2: Develop the potential for Ranching activities to become an economic generator for the Hualapai Tribe, Tribal Members and Tribal Entities.

Objectives

- 2.1 Promote and install cost-effective range improvements to improve the production of rangeland resources for a variety of uses, including livestock grazing and wildlife, while maintaining or improving upland and riparian land health conditions.
- 2.2 Provide training to Hualapai ranchers on beef processing with the aid and technical support of the Hualapai Department of Natural Resources and the Hualapai Soil and Water Conservation District in association with the University of Arizona's Agricultural Extension program.

Policies

- 2.1 Manage livestock grazing on the Hualapai Indian reservation under the principles of multiple use and sustained yield.
- 2.2 Monitor rangeland resources and evaluate the effectiveness of management actions.
- 2.3 Direct rangeland resources, including funds and personnel, to areas where the greatest need for management exists and the greatest return on investments can be realized.

7.4.2 Forestry

Goal 3: Manage Hualapai forest and woodland resources by sound forest management practices to meet the desires of the Hualapai Tribe.

Objectives

- 3.1a Develop, maintain and enhance Hualapai forest land in a perpetually productive state according to the principles of sustained yield.
- 3.1b Implement the standards and objectives set forth in the Hualapai Forest Management Plan to provide effective management and protection through the application of sound silvicultural and economic principles to the harvesting of forest products, re-forestation, timber stand improvement and other forestry practices.

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- 3.2 Keep Hualapai forestland in its natural state when the Hualapai Tribe determines that the recreational, cultural, aesthetic, or traditional values of the Hualapai forest represents the highest and best use of the land.
- 3.3 Maintain and improve timber productivity, grazing, wildlife, fisheries, recreation, aesthetic, cultural and other traditional values.

Policies

- 3.1 Regulation of Hualapai forestland shall be through the development and implementation, with the full and active consultation and participation of the Hualapai Tribe, of this forest management plan which is supported by written tribal objectives.
- 3.2 The regulation of Hualapai forest land shall be done in a manner that will ensure the use of good method and order in harvesting so as to make possible on a sustained yield basis, continuous productivity and a perpetual forest business.
- 3.3 The development of Hualapai forest land and associated value-added industries by the Hualapai Tribe shall promote a self-sustaining community, so that Hualapai's may receive from their own property not only the stumpage value, but also the benefit of whatever labor and profit that such forest land is capable of yielding.
- 3.4 The management and protection of forest resources shall be to retain the beneficial effects of Hualapai forestlands in regulating water run-off and minimizing soil erosion.

Goal 4: Develop the potential for Forestry activities to become an economic generator for the Hualapai Tribe, Tribal Members and Tribal Entities.

Objectives

- 4.1 Secure adequate funding for the forest and woodland programs, outlined in this plan, to properly manage the resources, and fulfill contracted obligations.
- 4.2a Establish a timber sales program following the ponderosa pine compartment entry schedule to harvest timber volume within the calculated allowable annual cut.
- 4.2b Apply the guidelines, contained within the Hualapai Forest Management Plan in timber sale development.

Policies

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- 4.1 Utilize the Interdisciplinary Team (IDT) in timber sale planning to assure multiple resource integration.
- 4.2 Manage the woodland resource following the guidelines listed in Goal No. 3 above to provide products for personal, commercial, and Hualapai Woodland Enterprise use.

7.4.3 Mining

Goal 5: Regulate and allow only hard rock mining that ultimately meets criteria established through an environmentally sensitive planning process that includes both the social and economic costs of establishing the use.

Objectives

- 5.1 End the creation or perpetuation of Tribal dependence on mining, and prevent other disruption of community life that would be created by mining activities.

Policies

- 5.1 Fully evaluate all environmental characteristics of any area that mining is proposed in.
- 5.2 Restrict the rate of mining to that necessary to meet actual needs based on the assumptions of maximum conservation and minimum utilization of energy resources.
- 5.3 Consider in all land use reviews the means and methods to minimize negative impacts of such development on surrounding rangeland areas.
- 5.4 Consider only mining activities that would not create latent environmental hazards that may affect future generations.

Goal 6: Regulate future mining on the Hualapai Indian Reservation.

Objectives

- 6.1 Prevent mining's visual and environmental impacts in, or visible from, areas that are designated for other uses by this Master Plan.

Policies

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- 6.1 Comply with existing Hualapai Tribal Council Resolutions and ordinances that ban specified mining activities.
- 6.2 Continue to identify areas having natural, scenic, historic, cultural, recreational, wildlife, or geographical value for the purpose of further designating area-wide mining prohibition and restrictions.

8.0 Transportation Element

8.1 INTRODUCTION

The Transportation Element draws from both the “20 Year Transportation Plan Update, Final Report” (Paiki, 2000) and the “Long Range Transportation Plan” (Jacobs, 2014).

8.2 EXISTING CONDITIONS

8.2.1 Existing Roadway System

Public roads on the Reservation are constructed and maintained primarily by the BIA, the Tribe, and the Arizona Department of Transportation (ADOT). The ADOT-maintained road on the reservation is State Route 66, which passes through both Valentine and Peach Springs. The following table summarizes the surface condition, ownership and length (in miles) of all public roads on the reservation. The map that follows shows the location of these roads.

<i>Jurisdiction</i>	<i>Paved Miles</i>	<i>Unpaved Miles</i>	<i>Total Miles</i>	<i>Add to Inventory</i>	<i>All Miles</i>
BIA Roads	66.42	587.55	653.97	14.59	668.55
State Route 66	18.10	0.00	18.10	51.33	69.43
County Roads	0.00	0.00	0.00	46.63	46.63
Tribal Roads	0.08	70.85	70.93	73.66	144.58
Total	84.59	658.40	742.99	186.20	929.20
<i>BIA Roads Percent of Total</i>	<i>78.51%</i>	<i>89.24%</i>	<i>88.02%</i>	<i>7.83%</i>	<i>71.95%</i>

The 2014 Long Range Transportation Plan (LRTP) advised that Hualapai add nearly 200 miles to its roadway inventory which includes State Route 66 and several Mohave County Roads such as Antares Road, Clay Springs Road and a section of Diamond Bar Road. The inventory is utilized as the basis to identify a tribe's transportation system, determine the transportation needs of a tribe, and serves as a basis for apportioning federal funds with additional miles securing more funding.

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8.2.2 Major Issues

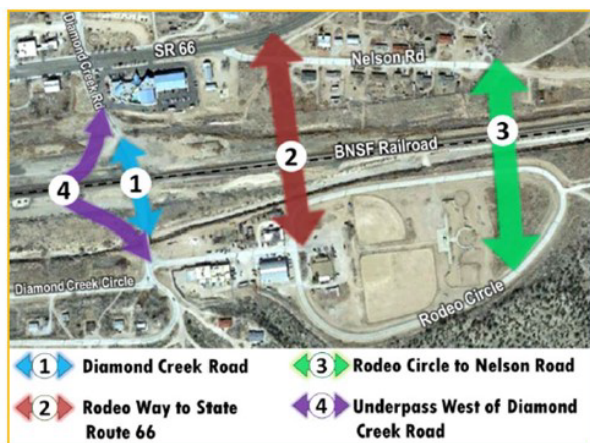
8.2.2.1 Railroad Conflicts

The BNSF (Burlington Northern Santa Fe) railroad tracks divide both the Peach Springs and the Valentine communities into two parts. At times, several or more trains per hour pass through both communities, and it is not inconceivable that more than 100 trains per 24-hour period use these tracks.

In Peach Springs, only one road provides access to the section of the community south of the railroad tracks: IR 101 (Diamond Creek Road), which also bridges a wash that parallels the tracks to the south. When a train blocks the tracks, which often occurs for extended periods of time, there is no alternative vehicular access to or from this portion of Peach Springs. Concerned officials and citizens cite numerous incidences when a blocked crossing prohibited a prompt response by an emergency vehicle. There is particular concern for the danger posed by this lack of ingress/egress in Peach Springs should an accident occur, such as a hazardous materials spill/leak, that would require evacuation of the area.

In Valentine, trains do not block access to the community on the west side of the tracks because State Route 66 is west of the tracks. However, a stopped train blocks immediate access to the community's main housing area east of the tracks. A less than adequate alternative means of entering/exiting the community east of the tracks is via an unimproved road leading to an underpass, then to State Route 66 one mile to the north.

The Tribe has registered numerous complaints with BNSF, and has resorted to levying fines for lengthy delays, but has experienced no significant relief from this problem. A location study for a railroad overpass in Peach Springs is proposed (see Figure below). The train can be a great asset for the community's economic development and should remain; however, traffic management must be made a top priority to ensure that it does not interfere with emergency vehicles or emergency evacuation plans.



Option	Description	Considerations	Est Cost (2014)	Est Cost (2023)*
Diamond Creek Road	Replace current at-grade crossing with new 500 FT overpass	Construction will obstruct the crossing and limit connectivity	\$3,700,000	\$6,261,538
Rodeo Way to State Route 66	Extend Rodeo Way to State Route 66 with a new 450 FT railroad overpass	Will increase traffic at Nelson Road/State Route 66 intersection	\$3,800,000	\$6,430,769
Rodeo Way to Nelson Road	Realign Rodeo Circle to connect to Nelson Road with a new 250 FT railroad overpass	Nelson Road will need to be upgraded to accommodate increased traffic	\$2,200,000	\$3,723,077
Underpass	Construct underpass west of the existing at-grade railroad crossing	Additional expense to pump storm water may be needed	\$6,000,000	\$10,153,846

* Price adjustment from National Highway Construction Cost Index 3rd Quarter 2014 to 1st Quarter 2023

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In addition to access concerns, the train traffic from the BNSF Railroad also creates significant noise pollution within the community. With no train frequency or horn noise restrictions on the trains at night the noise poses a serious nuisance for both residents and visitors. The Hualapai Lodge, lying some 100 yards from the rail line, reports that visitors typically request rooms along State Route 66, the opposite side of the hotel, to mitigate the noise from passing trains. Only 22 of the Lodge's 56 rooms face Route 66, leaving many of those who stay on track-side rooms posting negative comments on web-based travel sites (Priceline, Expedia, Trip Advisor). In 2010, the City of Flagstaff established quiet zone for at grade crossings adjoining the city's historic downtown. Such efforts may be pursued at other at-grade crossings. The City of Kingman has also established a Quiet Zone in its historic downtown. Construction costs are estimated between \$130,000 and \$400,000 per crossing depending upon the type of improvements with raised medians being the most economical and wayside horns and quadrant gates being the most expensive.

8.2.2.2 Drainage & Bridges

Drainage problems associated with the hilly terrain, road elevations, geometrics, soil conditions, and storm water runoff occur throughout the Reservation, from Peach Springs to the more remote locations. Residents of Peach Springs have noted that flooding of structures after a heavy rain is especially severe in the vicinity of the elementary school on Diamond Creek Road. Two of the Tribe's most important roads for economic development experience severe problems associated with road geometrics and storm water runoff: IR 6 (Diamond Creek Road, north of the community) and IR 1 (Buck and Doe Road/Diamond Bar Road). IR 6, an unimproved road that provides access to the Tribe's river rafting enterprise and Colorado River recreational area, runs along the Peach Springs Wash, which forms a natural drainage way to the river. Storm water runoff down the roadbed and canyon walls causes moderate to severe erosion along much of the roadway, and flash flooding washes large boulders, rock, mud, and debris on the road several times a year. IR 1, which is the primary access to Grand Canyon West from Peach Springs, has road surfaces ranging from paved to grade and drain earth to unimproved bladed. Both the Buck and Doe Road and Diamond Bar Road sections of IR1 encounter steep grades, washes, numerous switchbacks, and other conditions that contribute to flooding and road washouts. Transportation improvement projects that address these problems are identified in the following sections.

For guidance on rural roadway construction, the Tribe's Forest Management Plan includes the following recommendation among it's "mitigation Measures and Management Considerations" for resource protection during logging operations (primarily water quality).

Erosion controls are necessary to consider during road construction... Adverse road grades and soils with high erosion potential should be avoided. Out-sloping, cross-drainage, ditching, and other methods for reducing erosion potential should be utilized. All roads... must have water diversion structures in place. ...Roads that remain open should be properly maintained. During (timber) sale planning, existing roads that are poorly located in ephemeral stream bottoms and show evidence of causing or contributing to excessive soil erosion should be relocated, realigned, and/or closed out.

This advisory has application not only to those roads created for a specific logging operation but for all reservation roads.

8.2.2.3 Traffic Hazards

The traffic hazards identified during the course of this study occur in the following locations. Road improvement projects that would correct these hazardous conditions are identified later in this chapter.

- **State Route 66 heading west into Peach Springs from Grey Mountain:** The roadway grade is relatively steep, the alignment curves, and the speed limit is 65 mph until approximately 0.45 miles east of Hualapai Way, at which point the speed limit becomes 45 mph. Hualapai Way is the main access of State Route 66 to a tribal residential area, fire station, and the tribal government employment center. There are two “Reduce Speed Ahead” signs east of the intersection, however there are no signs or flashing lights alerting drivers that they are approaching a populated area and an intersection that is an emergency vehicle route.
- **State Route 66 approaching IR 1 (Buck and Doe Road) Intersection:** Two tribal housing developments are located off IR 1, just north of State Route 66. Owing to these and other proposed developments in the area, including those at Grand Canyon West, traffic could be expected to increase through this area, particularly at the intersections. The speed limit along this stretch of State Route 66 is 65 mph, and the site distance is poor owing to the location of the intersection on a curving section of the roadway. The 2014 Long Range Transportation Plan estimated the traffic volume at the Buck and Doe intersection at State Route 66 during the morning and evening peaks will increase some 50% by 2034.
- **IR 1 (Buck and Doe Road):** From Peach Springs the only access to both Grand Canyon West and the Box Canyon, Milkweed and Buck and Doe Subdivisions is via State Route 66 to IR 1 (Buck and Doe Road). Existing roadway conditions that pose hazards include the IR 1/State Route 66 Intersection as noted above and along IR 1 from the end of the grade and drain, gravel section to Diamond bar Road aka IR 7 (tight curves, steep grades, poor sight distance at many locations along with absence of warning signs and guardrails).
- **IR 18 (Road to Havasupai):** Some 40 miles of Indian Route 18 falls within the Hualapai Reservation. The two-lane roadway was paved in the early 1970s and traverses rolling terrain with several curves causing speed limits to be reduced to 25 mph for safety. The roadway has fallen into disrepair with the first twenty miles of pavement from State Route 66 to Twenty Pines being resurfaced in 2012 at a cost of \$2.4 million with the remaining 20 miles requiring an additional \$2.5 million to resurface. In early 2013, the Tribe was approached by a mining company looking to transport uranium ore over the roadway. The concern is that if the Tribe expends these monies on road maintenance, will the ore trucks damage the roadway that was just repaired.

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- **Hazards associated with the transportation of radioactive and other hazardous material on Reservation roadways:** In May of 2013, the Hualapai Council adopted a resolution formerly opposing the transportation of uranium ore through the Reservation. Indian Route 18, under BIA control, is considered a public road. Being such it will be subject to Federal rules and regulations regarding the transportation of uranium ore and hazardous material. State Route 66 will be subject to rules and regulations adopted by the State for the transportation of uranium ore and hazardous material.
- **Hazards associated with Railroad Crossings in Peach Springs and Valentine:** as previously discussed.

8.3 PROJECTED TRAVEL DEMAND

8.3.1 Projected Traffic Volumes

The projected travel demand, per the Paiki study as well as the Jacobs LRTP, and assuming the reservation develops according to the plan assumed, the most significant new generator of trips on reservation roads would be facilities and activities proposed for the Grand Canyon West area, and residential development off IR 1 (Buck and Doe Road). State Route 66, currently with an average annual daily trip count of approximately 1,760 vehicles passing through the State Route 66/ IR 1 intersection (2014), would also experience higher traffic volumes as a result of proposed developments, particularly those in the Truxton Triangle located immediately south of the Reservation boundary, Grand Canyon West, and Peach Springs areas. By the year 2034, traffic volumes at some intersections are expected to increase by 50%.

8.4 STRATEGIC PLANNING

The recommended 20-year Transportation Plan for the Hualapai Tribe, originally developed in 2000, provides an integrated set of recommended roadway improvements and identifies policies and related government actions needed to carry out the plan. Although the capital improvement portion of the Transportation Plan is dated, the Plan offers relevant advice, much of which was incorporated into the 2014 LRTP, on the need for further improvements and studies as summarized below :

1. Recommended Transportation Improvement Projects:

See Tables 8.1 & 8.2 for a list of mid-term and long-term capital improvement projects recommended by the 2014 LRTP. Short-term capital improvement are listed in Appendix A

2. Transportation Studies and Planning Recommendations:

- a. Tribal Transportation Improvement Program: Hualapai Public Works will prioritize the updating and implementation of TTIP with the objective of producing a prioritized listing of projects to be carried out within each 5-year period.

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- b. Tribal Transportation Services Feasibility Study: The Hualapai Transit should update its 2015 Transit Feasibility Study to justify additional routes to qualify for additional FTA and ADOT funding.
- c. Safety Action Plan: This will identify improvements along roadway corridors that have safety issues. The plan will include “quick-build” strategies to test out safety features such as separated bicycle lanes or curb extensions at intersections, etc. The tribe recently secured an Federal Highways Administration grant – Safe Streets for All (SS4A) - which will be used to hire a third-party consultant to develop a Safety Action Plan for the tribe

3. Revisions to BIA Road Network:

Recommendations for revisions to the BIA Road Network including updating inventory mileage, functional classification and the addition of new roads to the system.

4. Plan Implementation and Updating:

The Transportation Plan should be reviewed on an annual basis to keep up with changes in reservation development that may warrant a change in the project listing or a change in a project’s priority. Additionally, the overall reservation transportation plan should be reviewed and updated every five years, or when there is a major change to the Tribe’s land use plans.

5. Regional Transportation Planning Activities:

It is recommended that the Tribe maintain its involvement in regional transportation planning activities, by continuing cooperative relationships with the State, County, the Western Arizona Council of Governments (WACOG) and the Northern Arizona Council of Governments (NACOG).

6. Establishment of Transportation Committee:

Many Tribes have appointed a Transportation Committee to help implement and monitor their transportation plans. Such a committee could be responsible for periodically reviewing and updating transportation needs and maintenance procedures, developing an annual work program, maintaining communication & coordination with State and County highway departments, and reviewing proposal for road projects on Tribal lands.

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Table 8.1 Mid-Term Capital Improvements (within 10 years) Part One						
Project ID	Jurisdiction and Location	Description	Miles	Cost (2014)	2023 Cost Est*	
Hualapai Tribe						
MT-1	BIA Route 101 (Peach Springs)			\$888,000	\$1,502,769	
MT-1.1	Diamond Creek Road/BNSF Rail Road Crossing	Establish Quiet Zone through Peach Springs Community	NA	\$8,000	\$13,538	
MT-1.2	Shady Lane (Sections 50 and 30); BIA Lane (Section 260)	Grade and pave roadway	0.4	\$400,000	\$676,923	
MT-1.3	Shady Lane (Sections 50 and 30); BIA Lane (Section 260)	Install street signs and wayfinding signs	0.4	\$20,000	\$33,846	
MT-1.4	Rodeo Circle	Construct concrete shared-use path	0.57	\$100,000	\$169,231	
MT-1.5	Shady Lane: Diamond Creek Road to Hualapai Way	Construct concrete shared-use path	0.37	\$70,000	\$118,462	
MT-1.6	Sections 90 & 130 -190	Construct concrete shared-use path	1.88	\$290,000	\$490,769	
MT-2	BIA Route 103 (Valentine)			\$1,563,000	\$2,645,077	
MT-2.1	Sections 10 -110	Grade and pave roadway	1.3	\$1,200,000	\$2,030,769	
MT-2.2	Sections 10 -110	Construct asphalt shared-use path	1.7	\$350,000	\$592,308	
MT-2.3	Section 70 and 80/BNSF Railroad Crossing	Coordinate with BNSF to level and widen roadway; install gates; and flashing light	NA	\$8,000	\$13,538	
MT-2.4	Section 70 and 80/BNSF Railroad Crossing	Establish Quiet Zone in Valentine	NA	\$5,000	\$8,462	
MT-3	BIA Route 9103 (Valentine)			\$375,000	\$634,615	
MT-3.1	Section 10	Grade and pave roadway	0.4	\$375,000	\$634,615	
MT-4	BIA Route 8000 (Valentine Cemetery Road)			\$8,000	\$13,538	
MT-4.1	State Route 66 to Valentine Cemetery	Replace and widen cattleguards (2)	0.9	\$8,000	\$13,538	
MT-5	BIA Route 104			\$590,000	\$998,462	
MT-5.1	Milkweed Springs Road	Construct concrete shared-use path	0.2	\$40,000	\$67,692	
MT-5.2	Section 40 and Section 50	Grade and pave roadway	0.6	\$550,000	\$930,769	
MT-6	Buck and Doe Road (BIA 1): State Route 66 to Mud Tank Road			\$1,700,000	\$2,876,923	
MT-6.1	State Route 66 to Mud Tank Road	Add 5 FT unpaved shoulders	3.5	\$1,500,000	\$2,538,462	
MT-6.2	State Route 66 to Music Mountain Road	Construct asphalt shared-use path	1.1	\$200,000	\$338,462	
MT-7	Buck and Doe Road (BIA 1): Mud Tank Road to Diamond Bar Road			\$725,000	\$1,226,923	
MT-7.1	MP 4 to MP 17	Install roadside fencing to ADOT/AZGF standards	13	\$375,000	\$634,615	
MT-7.2	Mud Tank Road to Diamond Bar Road	Install Culvert (22)	44.9	\$350,000	\$592,308	
MT-8	Supai Road (BIA 18): State Route 66 to MP 20			\$5,000,000	\$8,461,538	
MT-8.1	State Route 66 to MP 20	Add 5 FT unpaved shoulders	20.1	\$5,000,000	\$8,461,538	
MT-9	Supai Road (BIA 18): MP 20 to Hualapai Reservation Boundary			\$5,000,000	\$8,461,538	
MT-9.1	MP 20 to Hualapai Indian Reservation Boundary	Add 5 FT unpaved shoulders 20	20	\$5,000,000	\$8,461,538	

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Table 8.1 Mid-Term Capital Improvements (within 10 years) Part Two					
Project ID	Jurisdiction and Location	Description	Miles	Cost (2014)	2023 Cost Est*
Hualapai Tribe					
MT-10	Nelson Road (BIA 19): State Route 66 to State Route 66				
MT-10.1	State Route 66/Nelson Road Intersection (Peach Springs)	Redesign and realign intersection to a T-intersection	NA	\$3,200,000	\$5,415,385
MT-10.2	State Route 66/Nelson Road Intersection	Widen intersection so trucks turning EB can easily access State Route 66	NA	\$400,000	\$676,923
MT-10.3	Lhoist Lime Plant to State Route 66	Grade and pave roadway	2.5	\$500,000	\$846,154
MT-11	Youth Camp Road (BIA 17): State Route 66 to Youth Camp				
MT-11.1	State Route 66 to Youth Camp	Grade and pave roadway	3.8	\$2,300,000	\$3,892,308
MT-12	Multi-Use Trail System				
MT-12.1	Buck and Doe Road to Honaga Hill Road	Construct unpaved multi-use trail	2.5	\$350,000	\$592,308
MT-12.2	Hualapai Lodge to BIA Lane	Construct a concrete shared-use path with trail side amenities	1.04	\$320,000	\$541,538
Mohave County					
MT-13	Antares Road: State Route 66 to Pavement Ending				
MT-13.1	State Route 66 to Pavement Ending	Add 5 FT unpaved shoulders	0.76	\$160,000	\$270,769
MT-13.2	State Route 66 to Pavement Ending	Install multi-use path	0.76	\$160,000	\$270,769
Arizona Department of Transportation					
MT-14	State Route 66: Buck and Doe Road to Diamond Creek Road				
MT-14.1	MP 103 to Diamond Creek Road	Install Chicane to reduce speeds	NA	\$600,000	\$1,015,385
MT-14.2	Honaga Hill Road to Diamond Creek Road	Consolidate driveways to the Cultural Center and Post Office and Planning Department	0.25	\$300,000	\$507,692
MT-15	State Route 66: Diamond Creek Road to MP 105				
MT-15.1	West of Hualapai Way to East of High View Drive	Restripe roadway to include a center turn lane	0.7	\$463,000	\$783,538
MT-15.2	East of High View Drive	Install Chicane to reduce speeds	NA	\$3,000	\$5,077
MT-15.3	Hualapai Lodge to BIA Lane	Construct a concrete shared-use path with trail side amenities	1.04	\$300,000	\$507,692
<i>* Price adjustment from National Highway Construction Cost Index 3rd Quarter 2014 to 1st Quarter 2023</i>					
Totals			62.3	\$21,172,000	\$35,829,538

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Table 8.2 Long-Term Capital Improvements (within 20 years) Part One					
Project ID	Jurisdiction and Location	Description	Miles	Cost (2014)	2023 Cost Est*
Hualapai Tribe					
LT-1	BIA Route 101 (Peach Springs)			\$3,150,000 - \$6,950,000	\$5,330,769 - \$11,761,538
LT-1.1	Shady Lane/Honaga Hill Road/Ridge Road Intersection	Reconfigure intersection	NA	\$250,000	\$423,077
LT-1.2	Diamond Creek Road/BNSF Rail road Crossing	Option 1: Replace current at-grade crossing with new 500 FT overpass		\$3,700,000	\$6,261,538
LT-1.3	Diamond Creek Road/BNSF Rail road Crossing	Option 2: Extend Rodeo Way to State Route 66 with a new 450 FT railroad overpass		\$3,800,000	\$6,430,769
LT-1.4	Diamond Creek Road/BNSF Rail road Crossing	Option 3: Realign Rodeo Circle to connect to Nelson Road with a new 250 FT railroad overpass		\$2,200,000	\$3,723,077
LT-1.5	Diamond Creek Road/BNSF Rail road Crossing	Option 4: Construct new railroad underpass west of existing at-grade crossing		\$6,000,000	\$10,153,846
LT-1.6	Truxton Wash Bridge (Section 290)	Widen Bridge	NA	\$700,000	\$1,184,615
LT-2	BIA Route 9103 (Valentine)			\$250,000	\$423,077
LT-2.1	Section 20/State Route 66 Intersection	Level intersection	NA	\$250,000	\$423,077
LT-3	BIA Route 8000 (Valentine Cemetery Road)			\$2,100,000	\$3,553,846
LT-3.1	State Route 66 to Valentine Cemetery	Grade and pave roadway	0.9	\$900,000	\$1,523,077
LT-3.1	State Route 66 to Valentine Cemetery	Buildup roadway and install culvert (1) at Truxton Wash	0.9	\$1,200,000	\$2,030,769
LT-4	Buck and Doe Road (BIA 1): State Route 66 to Mud Tank Road			\$3,210,000	\$5,432,308
LT-4.1	State Route 66 Intersection Widen intersection to include an exclusive left-turn lane		NA	\$175,000	\$296,154
LT-4.2	State Route 66 to Mud Tank Road	Reconstruct roadway to include 5 FT shoulders center turn lane and 12 FT travel lanes	3.5	\$3,000,000	\$5,076,923
LT-4.3	State Route 66 to Mud Tank Road	Construct multi-use path	3.5	\$35,000	\$59,231
LT-5	Buck and Doe Road (BIA 1): Mud Tank Road to Diamond Bar Road			\$51,000,000	\$86,307,692
LT-5.1	MP 17.5 - 18.5	Realign roadway at sharp curves	1.5	\$9,000,000	\$15,230,769
LT-5.2	MP 26 - 29	Realign roadway at sharp curves	3.0	\$18,000,000	\$30,461,538
LT-5.3	MP 30 - 32	Realign roadway at sharp curves	2.0	\$12,000,000	\$20,307,692
LT-5.4	MP34 - 36	Realign roadway at sharp curves	2.0	\$12,000,000	\$20,307,692

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Project ID	Jurisdiction and Location	Description	Miles	Cost (2014)	2023 Cost Est*
Hualapai Tribe					
LT-6	Nelson Road: State Route 66 to State Route 66				
LT-6.1	State Route 66 Intersection (Peach Springs)	Redesign and realign intersection to a T-intersection	NA	\$5,590,000	\$9,460,000
LT-6.2	State Route 66 Intersection	Widen intersection	NA	\$250,000	\$423,077
LT-6.3	Residential area to Rodeo Ground	Extend concrete shared-use path to rodeo ground	0.6	\$300,000	\$507,692
LT-6.4	Pavement ending to Lhoist Lime Plant	Grade and pave roadway	5.6	\$40,000	\$67,692
LT-7	Multi-Use Trail System				
LT-7.1	Ridgeline Road: Shady Lane to Milkweed Springs Road	Construct unpaved multi-use trail	3.1	\$950,000	\$1,607,692
LT-7.2	Buck and Doe Road to Honaga Hill Road	Upgrade trail to a concrete shared-use path with trailside amenities	2.5	\$200,000	\$338,462
LT-7.3	Peach Springs Area	Construct unpaved multi-use trail system north of Peach Springs; west of Diamond Creek Road; and along Wahanda Way	4.2	\$500,000	\$846,154
Mohave County					
LT-8	Antares Road: State Route 66 to Pavement Ending				
LT-8.1	State Route 66 to Pavement Ending	Install roadside fencing to ADOT and AZGF standards	0.8	\$100,000	\$169,231
LT-9	Antares Road: Pavement Ending to Pierce Ferry Road				
LT-9.1	Pavement Ending to Pierce Ferry Road	Grade and pave roadway	31.6	\$38,700,000	\$65,492,308
LT-9.2	Pavement Ending to Pierce Ferry Road	Install drainage improvement recommended in the drainage study	31.6	\$30,000,000	\$50,769,231
ST-9.3	Pavement Ending to Pierce Ferry Road	Install roadside fencing to ADOT and AZGF standards	31.5	\$30,000 per location (est 90)	\$50,769 per location (est 90)
LT-9.4	Pavement Ending to Pierce Ferry Road	Construct bridge over Truxton Wash	NA	\$4,000,000	\$6,769,231
LT-10	Diamond Bar Road: Pierce Ferry Road to Hualapai Indian Reservation				
LT-10.1	Pierce Ferry Road to Hualapai Indian Reservation	Install roadside fencing to ADOT and AZGF standards	14.0	\$2,000,000	\$3,384,615
<i>* Price adjustment from National Highway Construction Cost Index 3rd Quarter 2014 to 1st Quarter 2023</i>					
Totals			71.4	\$1,800,000	\$3,046,154
				Price Range	Price Range
				\$98,150,000	\$166,100,000
				\$101,950,000	\$172,530,769

8.5 TRANSPORTATION GOALS, OBJECTIVES AND POLICIES

Goal 1: To Provide Adequate and Safe Transportation Facilities for Tribal Residents.

Objectives

- 1.1 Develop a Transportation Improvement Program (TIP) that will provide a prioritized listing of the improvement and maintenance of new and existing roads and other Public Works projects to be carried out within each 5-year period.
- 1.2 Manage, maintain and improve existing transportation infrastructure and services to ensure effective and efficient management of the system.
- 1.3 ~~Minimize the negative environmental impacts of the transportation system such as air pollution, green house gas (GHG) emissions, noise pollution, water pollution, land and wildlife habitat fragmentation, land disturbance, and resource consumption. (from 10.1.6)~~
- 1.4 Provide for transportation system development and operations that result in safe and secure travel by all modes.
- 1.5 Develop a multi-modal transportation system that supports a robust economy and increases resiliency to economic fluctuations.
- 1.6 Ensure that adequate transportation exists for all users regardless of age, income, or disability.
- 1.7 Provide additional warning signage and new warning lights along State Route 66 telling motorists they are approaching Peach Springs.
- 1.8 Prevent the transportation of uranium ore and hazardous materials through the Reservation.
- 1.9 Install street lights where needed to reduce traffic accidents and increase overall community safety.

Policies

- 1.1 The Tribe's TIP should be reviewed on an annual basis and updated as required. Additionally, the overall plan should be reviewed and updated every five years or when there is a major change to the Tribe's land use plans.
- 1.2 The Tribe's should maintain involvement in regional transportation planning activities.

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- 1.3 The Tribe should follow best design practices when constructing native material roadways.
- 1.4 Where opposition to the transportation of uranium ore and hazardous materials through the Reservation is unworkable, coordinate with Federal (USDOT and DOE) and State (AZDEM) agencies to ensure that such transport is performed per each agency's rules and regulations.

Goal 2: Reduce Noise Pollution from the BNSF Railroad.

Objectives

- 2.1 The Tribe should prepare a Quiet Zone study and issue an ordinance to enforce the Quiet Zone that will mitigate the impact of the noise of the train.
- 2.2 ~~New buildings and building remodels will have adequate sound insulation to reduce noise from railroad operations.~~

Policies

- 2.1 The Tribe should encourage discussion with the BNSF railroad to establish a Quiet Zone in Peach Springs and Valentine and issue an ordinance to enforce the quiet zone
- 2.2 ~~The Tribe should allow for adequate sound insulation in the construction budgets of new buildings and building remodels~~

9.0 Environmental Element

9.1 INTRODUCTION

The Environmental Element addresses issues relating to Hualapai Tribe's natural resources. The element includes sections on air quality, water resources, and other natural resources. Each section includes a brief overview of existing conditions and trends as well as a list of key issues that the Tribe should address. At the conclusion of this chapter, goals, objectives and policies to guide the Tribe's approach to resolving the key issues.

This element contains analysis, policies and strategies to address anticipated effects, if any, of plan elements on air quality, water quality and natural resources associated with proposed development. The policies and strategies to be developed under this element shall be designed to have reservation-wide applicability, be in harmony with the tribe's existing Natural Resources Conservation Ordinance (24-70, Subtitle B, HERC), as well as other sections the Hualapai Environmental Review Code (HERC), and shall not require an additional NEPA or similar analysis beyond the requirements of Tribal and federal law.

9.2 MAJOR ISSUES

9.2.1 Air Quality Issues

The Hualapai Reservation, with its natural beauty and close proximity to regional destinations continues to be a popular travel destination. With the particular aesthetic quality of the Reservation, maintaining air quality should continue to be considered a number one priority. Seeking a Class I Airshed designation by the EPA has been discussed by the Tribe and awaits further action.

With the major expansion of both tourist and Tribal facilities at GCW and in Peach Springs, automobile traffic and construction have increased significantly reservation-wide. As a result automobiles and construction sites have become the Reservation's primary sources of air pollution. Dust appears to be the main pollutant. The proliferation of diesel generators to power individual buildings at Grand Canyon West has been lessened by the construction of the local electrical distribution grid energized by a central generator in 2014 and may be abated altogether by the extension of hard line electric power from the local utility company located off-reservation in Dolan Springs. In addition the construction of the 885 KW solar array and battery storage system has reduced diesel use further and will further reduce it if the array is expanded.

Poor air quality is particularly an issue on unpaved roads, which make up the vast majority of roads on the Reservation, as well as temporary air quality degradation from construction sites where properties have been clear-graded prior to the construction phase. In general, however, air quality remains good on the Reservation and is assisted by frequent strong prevailing winds.

Key Air Quality Issues

Monitoring. To evaluate changes in air quality, the Tribe must have access to air quality data. An ongoing monitoring program helps the Tribe to enforce air quality mitigation measures are needed.

Native Material Roads. There are some 700 miles of native material or dirt roads throughout the Reservation which are listed on the BIA and tribal inventory. The dust raised by a single automobile traveling down a dirt road can be seen for many miles. The cumulative effect of increased traffic on dirt roads is degraded air quality. This problem can be mitigated by paving roads carrying medium to high volumes of traffic and when air quality conditions otherwise warrant (near population centers, schools, etc.).

Maintaining Air Quality. Agriculture, mining and construction activities all produce dust and particulates. As a result, these activities contribute air-borne particulates degrading air quality on the Reservation. By encouraging techniques to reduce dust from these operations, the Tribe can lessen the effect of such activities on air quality. The air quality impacts associated with proposed development on the Reservation should be carefully considered by IDT, TERC and tribal council. To address air quality issues, the Tribe adopted an air quality ordinance in 1999 (Subtitle K, HERC).

9.2.2 Water Quality Issues

The quantity and quality of water and groundwater have a significant impact on the growth potential and quality of life on the Hualapai Reservation. In addition to their valuable recreational and aesthetic contributions, water resources are essential for domestic, commercial, agricultural and wildlife uses. These resources must be protected to maintain the environmental and economic health of the Hualapai Tribe and surroundings. To protect groundwater quality, the Tribe adopted the Groundwater Overlay Protection Ordinance in 2009 (Subtitle P, HERC).

Water supplies throughout the Reservation are almost entirely dependent upon spring flows and groundwater supplies. Potable systems rely entirely on groundwater as there are no surface water sources. The Peach Spring's municipal water system included 3 active wells and an above-ground water storage capacity of just over 1.4 million gallons of water stored in 7 storage tanks. The source of this groundwater lies in three basins: The Truxton Canyon Wash Watershed, part of the Upper Gila Basin, Coconino Plateau Basin and the Peach Springs Basin (see map below for the eight named watershed boundaries within these basins). The effects of any point and non-point pollution sources on this valuable groundwater source are of critical importance to the continued well-being of residents and to future growth of the area. Most of the potential pollution to the groundwater would be expected from non-point sources such as roadway runoff; however, the Karst topography of the Truxton well field poses a special problem in evaluating potential impacts from both point and non-point source pollution sources. Significant concerns are the possibility of chemical or hazardous chemical spills from State Route 66 or the BNSF railroad. The location of both of these thoroughfares to drainage ways suggests a high vulnerability. In addition, the proximity of point sources, such as septic systems, to the wells is of high concern.

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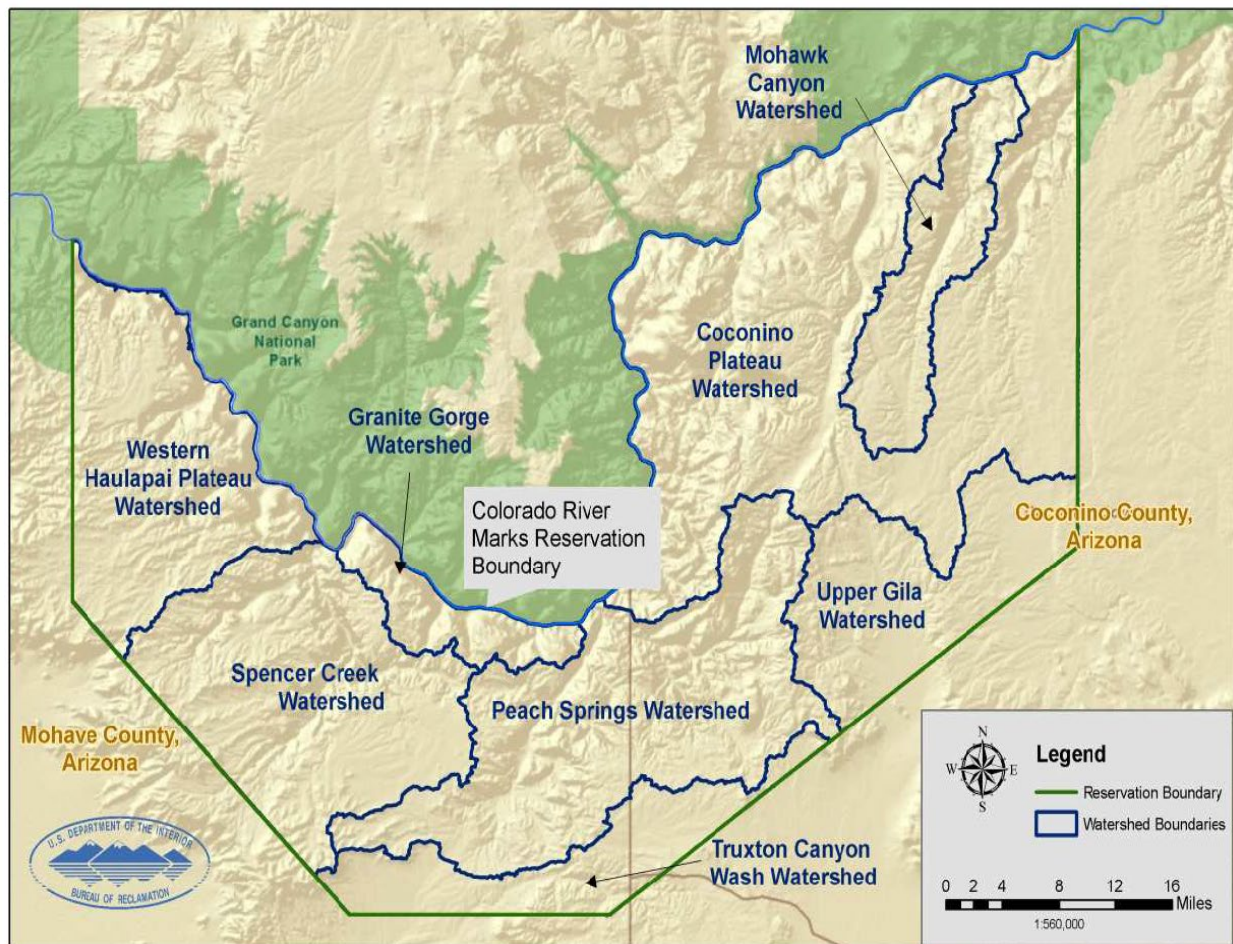
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Chemical analysis of potable water supply wells are completed frequently and annual consumer confidence reports regarding these tests are sent to the public and are available from the Hualapai Public Works Department.

The Water Resources Program is responsible for the monitoring of over fifty-six different water sources throughout the reservation of which twelve are ground water wells from depths of 40 feet to 2,875 feet and the remaining forty-four are springs, that seep through the ground to extensive flows of water that run all year round. Access to sites is extremely difficult due to the mountainous terrain and canyon networks. The different sites are accessed by helicopter, riverboat and driving. Most of the spring sites also require extensive hiking to gain access.

Watershed Boundary Map¹³



Surface water on the Reservation is limited to the Colorado River, its tributaries, notably Spencer Creek and Diamond Creek, and scattered stock ponds. The Colorado River is and will continue

¹³ Source: Water Management Plan for the Western Hualapai Plateau and Spencer Creek Watersheds, May 2010

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to be the Reservation's most important surface water body for recreational, commercial, and natural environmental uses and represents an invaluable aesthetic and recreational resources for residents and tourists. The Tribe has a vital interest in the quality of the Colorado River's water because the river is a major tourist attraction and, with the approval of the Hualapai Tribe's Water Rights Settlement Act of 2022, a planned future source for 4,000 acre-feet of water annually. The Tribe should support efforts to maintain and enhance Colorado River water quality to protect its drinking water supply and to ensure that the river continues to attract the tourists that play such an important role in the local economy.

With the world-wide increase in exploratory lithium mining, spurred on by the federal push to convert the nation's automotive fleet from gasoline to electric powered vehicles, the public lands surrounding the tribe's trust holdings, specifically at Cholla Canyon Ranch in the Big Sandy Valley along US Highway 93, are now subject to such exploration. The 360-acre Cholla Canyon Ranch contains Ha'Kamwe' aka Cofer Hot Springs, a naturally occurring hot spring in the transition zone between the Sonoran and Mojave Deserts. The spring and its surroundings are part of the ancestral homelands of the Hualapai, Yavapai, Fort Mojave, Chemehuevi, Southern Paiute, Hopi and Colorado River indigenous tribes. As noted in a recent news article (AZ Republic, 3/25/24), "People value the landscape for its religious, traditional and cultural significance. Elders say the holy spring has been used since time immemorial for traditional medicine, praying, and conducting ceremonies. Even non-indigenous people say they believe in its healing powers."

If the current Environmental Assessment being developed by the BLM for the exploratory mining determines there is no significant impact to the surrounding area, the mining proponents may choose to move forward with the creation of a mining plan of operation and companion Environmental Impact Statement (a separate and more intensive NEPA process) for an area containing up to nine square miles of public lands adjoin the Cholla Canyon Ranch. This is likely given that the ore samples taken so far have proven to be "99.8% pure, ideally suited for the production of lithium batteries for electronic devices and electric vehicles," (ibid). Developing an open pit mine, within a few hundred feet of the hot spring, would very likely destroy cultural sites on public land adjoining the trust holdings, sever the flow of water to the hot spring, which is also an oasis for desert wildlife, and potentially cause water pollution downstream which may eventually reach the Colorado River that supplies drinking water to the metropolitan areas of Phoenix, Tucson, Los Angeles, San Diego and points in between.

Key Water Issues

Groundwater Quality. To ensure the viability of its continued use, the quality of area groundwater should be monitored regularly. Key recharge areas should be protected from development activities that degrade water quality, including non-tribal lands as noted in the above discussion on the Cholla Canyon Ranch as stipulated in Title P of the HERC. The effects of non-point source pollution and septic systems effluent on groundwater quality should be minimized.

Colorado River Water. The quality of water in the River and in Lake Mead, must be maintained to continue attracting tourists to the Hualapai Reservation. While many other jurisdictions have

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an impact on the Colorado River, the Hualapai Tribe's tourist based economy and future water supplies are so directly linked to Lake Mead and the River that the Tribe has a vital interest in preventing their contamination.

Mercury Deposition and Monitoring. The risk to human beings and to wildlife from mercury and methyl mercury are well established. Quantitative determination of risk requires monitoring and assessment of environmental concentrations further along the exposure pathway, such as in water, fish and humans.

Hualapai Lands are located in the path of major wind paths such as the Polar Jet Stream and the Sub Tropical Jet Stream. Atmospheric mercury is a key source of contamination for aquatic ecosystems. The deposition of mercury through precipitation is a driver of current and future risk. Therefore, the need for obtaining trend data and qualitative indicators in the surrounding area is a valid concern for the Hualapai Tribe.

Water Availability. Information on the use and availability of water should be monitored. Concern has been expressed about declining water levels in the wells serving Peach Springs and at Westwater which ceased pumping operations in 2018 due to overdraft but has only recently resumed operation at a lower pump rate of some 30 gpm. Whether this is related to a drought-cycle or over-pumping remains to be determined. Long-term water planning throughout the Reservation will help in identifying water supplies to meet existing and growing demands and will enable the efficient use of the Tribe's water resources.

9.2.3 Flood Control and Drainage

Despite its semi-arid climate, the Reservation has flood control and drainage issues. Storm water has the potential to cause considerable property damage. Even though, FEMA has not performed any flood studies within the Reservation to determine potential flood hazards, the Tribe desires that development comply with FEMA's regulations for floodplain development to avoid potential losses in the future.

Many similar governing bodies establish multi-year plans to help ensure that flood control and drainage project expenditures are equitable and responsive to the needs of residents and commercial establishments.

The Tribe can help prevent future drainage problems through the careful review of new development. Through careful design of new developments and their drainage systems, the Tribe can minimize the impact on downstream drainage-ways and land uses. The Tribe should ensure that new development have adequate flood-free areas for structures and support activities such as septic systems and well sites.

Key Flood Control/Drainage Issues

Providing Adequate Flood Control/Drainage Facilities. To effectively protect life and property from flood damages, the Tribe should monitor changes in floodplains caused by natural events or

human activities, and ensure that development is consistent with anticipated changes in the floodplains.

9.2.4 Natural Resource and Environmental Issues

Panoramic vistas and pristine conditions exist throughout the Reservation. These views and the natural environment, especially the Colorado River and Grand Canyon, are resources that attract tourists to the Reservation throughout the year. In addition to attracting people, the Tribe's unique environments provide habitat for a variety of species, including the species of special status as listed by the Fish and Wildlife Service.

Key Natural Resource Issues

Soil Conservation and Erosion. The mountain ranges of on the Reservation have tremendous visibility. Inappropriate hillside development could mar their beauty, reduce their important environmental contributions, increase soil erosion, contaminate recharge areas and create safety hazards including sediment flows and rock slides. Thus the Tribe must establish standards for appropriate hillside development in regard to health, safety and welfare.

Habitat Preservation. The Reservation is home to numerous important, rare, threatened or endangered species. To further preservation goals, the Department of Natural Resources has completed a variety of Natural Resources plans.

Colorado River Corridor Management. Published in January, 2001, the Lower Grand Canyon River Corridor Management Plan defines an overall perspective for activities and operations of Tribal, governmental and public entities in lower Grand Canyon on the Hualapai Reservation. This plan also outlines processes that allow access to lower Grand Canyon and provides direction for the lawful enjoyment of the wonders of the Hualapai Reservation in Grand Canyon. The plan includes descriptions of the natural resources of lower Grand Canyon including wildlife, vegetation, camping and hiking opportunities as well as hydrologic conditions and other factors affecting these resources. The document provides a comprehensive review, analysis and remedies of various operations impeding the river's natural ecology ranging from storm water runoff from agricultural pursuits to Glenn Canyon Dam operations affecting sediment flows to increased tourism.

Sacred Canyons and Springs. With the passage of tribal council Resolution No. 67-97 in 1997, several canyons leading to the Colorado River, due to their "location and relationship with the universe, legends and creation have greater importance to the Hualapai Tribe than others," were declared sacred in order to protect ceremonial and archeological sites within each. The resolution also noted that GCW was set aside for economic development purposes in order to preserve the balance of the reservation from economic development without first being granted "proper approval of tribal council and concurrence of the tribal elders in order to protect sacred tribal lands." To conclude, the resolution authorized the chairperson to inform the National Park Service and the FAA of these findings and request that no air tours be allowed to fly over these canyons. A list of sacred canyons and springs is shown in the appendix (not for publication).

9.3 GOALS, OBJECTIVES AND POLICIES

There are a number of existing policies and measures which may be used to mitigate problems and enhance air quality, water quality and natural resources associated with development within the Reservation.

9.3.1 Environmental and Natural Resources Goals, Objectives, and Policies

Goal 1: Protect the Tribe's environmental attributes and culturally significant areas in recognition of their importance to the Tribe.

Objectives

Develop conservation and management plans and codes for all land and natural and cultural resources, including planning and zoning; and develop a Grand Canyon management plan.

- 1.1 Practice sound conservation practices to preserve and enhance critical wildlife habitats to stop the depletion of wildlife and to perpetuate and encourage a diversity of species on the Reservation.
- 1.2 Strengthen natural resources management capacity and develop natural resources-based economic opportunities;
- 1.3 Practice sound conservation practices to preserve unique and distinctive natural features and ecosystems, cultural features and cultural sites in recognition of the irreplaceable character of such resources and their importance to the Tribe.
- 1.4 Practice sound conservation practices to preserve significant natural communities, riparian communities, wetlands and rare plant sites, with the aim of 1) retaining living examples of natural ecosystems, 2) providing a baseline of ecological processes and functions, as well as 3) enhancing and maintaining the biodiversity of the region.
- 1.5 Identify and protect historic sites which meet Tribal, national, state, or local criteria for historic designation from destruction or harmful alteration (Subtitle F, HERC).

Policies

- 1.1 The Tribe should limit development impacts on environmentally sensitive areas by encouraging innovative designs and mitigation.

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- 1.2 The Tribe should encourage development proposals that preserve or enhance identified wildlife habitat areas.
- 1.3 Natural resources should be managed in accordance with the Hualapai Natural Resources Conservation Ordinance and the Hualapai Environmental Review Code and in a manner which is consistent with sound conservation practices and ecological principles that assures the resource is protected from adverse impacts.
- 1.4 Coordinate with the U.S. Fish & Wildlife Service to identify habitat areas that must be protected under the Endangered Species Act and habitat areas that may be developed.

Goal 2: Promote environmental awareness and conservation as a way to cultivate stewardship of Hualapai Tribal land

Objectives

- 2.1 Preserve and protect the original and pristine nature of Hualapai lands.
- 2.2 Construct new buildings and building remodels that incorporate renewable energy devices and water conservation techniques.
- 2.3 Develop and implement education programs to raise awareness of the negative impacts of littering and to teach Hualapai to become stewards of the land.
- 2.4 Develop and then enforce a public nuisances ordinance and a property maintenance ordinance to abate trash, weeds, unkempt buildings, hazardous and offensive activities and remove abandoned vehicles.

Policies

- 2.1 Promote the use of energy efficient site design and construction techniques.
- 2.2 Promote the use of passive solar energy to light and heat residential, commercial, industrial, and public/government buildings.
- 2.3 Encourage the use of low-water use vegetation and other drought-tolerant plants, especially along sidewalks, in parking lots and along streets.
- 2.4 Continue adequate solid waste collection and disposal that minimizes solid waste, and provides opportunities for recycling.

9.3.2 Air and Water Quality Goals, Objectives, and Policies

Some policies and ordinances available to the Tribe to mitigate damage to air and water quality include providing opportunities for public of transportation to reduce the number of vehicles on the road. The Tribe can also use existing ordinances and policies to reduce dust pollution from such sources as unpaved roads and parking lots, construction sites and clear graded areas. Water quality can be maintained by continuing to frequently monitor well sites and identifying methods to prevent non-point pollution sources.

Goal 3: Improve the Reservation's air quality by decreasing automobile dependence by promoting pedestrian, bicycle and transit alternatives.

Objectives

- 3.1 Expand the sidewalk system, particularly in Peach Springs, along existing streets and on existing trails.
- 3.2 ~~Develop a Transit system.~~
- 3.3 Place new residential dwellings within walking distance of new commercial development

Policies

- 3.1 Continue to enforce bicycle parking requirements which require most new development to install bicycle racks.
- 3.2 Consider land use policies that place services in proximity to residential areas to decrease the necessity of vehicle trips and balance jobs to housing.
- 3.3 Encourage designers of commercial developments to incorporate a residential component into the project to create a jobs-to-housing balance.
- 3.4 ~~Encourage employers at Grand Canyon West to develop traffic reduction programs such as car pooling and employee bus transit. (5th Obj)~~

Goal 4: Reduce existing air and water pollution sources.

Objectives

- 4.1 Pave unpaved streets.
- 4.2 Adopt and enforce an ordinance to require paved parking lots for new commercial and public facilities and buildings or buildings that change their use to commercial or public facilities.

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- 4.3 Protect area aquifers from degradation from non-point pollution sources by continuing to monitor well sites for pollution contaminants in accordance with the Water Resources and Wetlands Ordinance (Subtitles I and J, HERC).
- 4.4 Adopt and enforce zoning and development policies which support industries that are not likely to negatively impact water quality.

Policies

- 4.1 Monitor air quality at construction projects and enforce existing dust control ordinance (Subtitle K, HERC).
- 4.2 Enforce ordinances against clear grading of property unless immediately prior to development.
- 4.3 Support zoning and development policies which support industries that are not likely to negatively impact water quality and air quality.

Goal 5: Increase efforts to maintain or improve existing air quality.

Objectives

- 5.1 Adopt zoning and development ordinances which support industries that are not likely to negatively impact air quality.

Policies

- 5.1 The Tribe should encourage the use of techniques that minimize the amount of airborne dust resulting from agricultural activities.

Goal 6: Establish construction and development standards that maintain or improve existing air quality.

Objectives

- 6.1 The Tribe shall adopt standards for dust management at construction sites.
- 6.2 The Tribe shall adopt road construction and surfacing standards that will minimize traffic related dust generation.

Policies

- 6.1 The Tribe shall encourage the management of fugitive dust from mining and production gravel operations.

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- 6.2 The Tribe shall require submittal and approval of environmental assessments for major projects with the potential for significant air pollutant discharges, including but not limited to subdivisions, manufacturing or other industrial developments.

9.3.3 Water Quantity and Quality Goals, Objectives, and Policies

Goal 7: To preserve the quantity and quality of water resources, in perpetuity, throughout the Reservation.

Objectives

- 7.1 Reduce potable water consumption in new commercial, industrial and public use buildings.
- 7.2 ~~The Tribe shall identify strategies to reuse effluent for irrigation purposes. (5th Obj from Goal 2)~~

Policies

- 7.1 The Tribe shall encourage the efficient use of water resources through educational efforts.
- 7.2 ~~New water intensive uses such as golf courses and man-made lakes shall require the use of treated effluent where and when available.~~
- 7.3 New commercial, industrial and public buildings should incorporate rain-water harvesting techniques in their design.

10.0 Strategic Planning Element

10.1 INTRODUCTION

Strategic planning is a long-term, iterative, and future-oriented process of assessment, goal setting, and decision-making for use by the Hualapai Tribe. It includes a multiyear view of objectives and strategies for the accomplishment of the Tribe's goals. Clearly defined results provide feedback that leads to better program performance that in turn influences future planning, resource allocation, and operating decisions of the leadership. The strategic planning process incorporates and sets direction for all Tribal agency and department operations as they apply to the Master Plan's implementation.

The strategic plan is a formal document that communicates its goals, directions, and outcomes to various audiences, including the Tribal Council, the tribal member constituency, the public and clientele groups, and employees of the Hualapai Tribe. The document keeps the government on point or focused on achieving the tribe's greater vision and not spending time and resources on what are ultimately distractions.

10.1.1 Strategic Planning and Budgeting

A successful strategic planning process provides many benefits to Tribal agencies, departments and those affected by their operations. As an agency clarifies its purpose and direction, it will develop a stronger identity. The plan enhances decision-making by improving internal communication, and by identifying the agency's long-term goals and the factors affecting the agency.

The process of developing the strategic plan also improves the agency's external communications and emphasizes customer service. As Figure 1 shows, strategic planning will guide budget preparation and establish a basis for measuring success. Strategic planning relies on careful consideration of an agency's capabilities and environment and may lead to priority-based allocation of fiscal, human, technological, capital, and other resources. The strategic plan defines what an agency is and intends to be, as well as the principles guiding it. The plan outlines agency goals and objectives and produces strategies that lead to priority-based resource allocation decisions the agency plans to follow to achieve these long-term goals. Successful strategic planning is characterized not only by compliance with statutory requirements, but also by leaders, managers, and all employees of the agency being

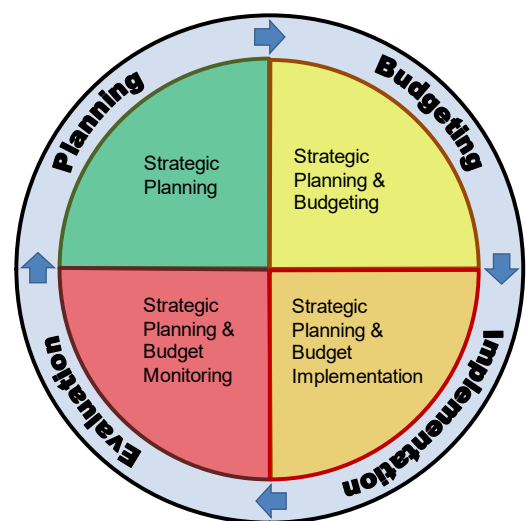


Figure 1

committed to the planning process and to the strategic plan.

10.1.2 Purposes of Strategic Planning

The goal of strategic planning is to anticipate and accommodate the future by identifying issues, opportunities, and problems. Strategic planning for the Hualapai Tribe should serve a number of distinct, though interrelated, purposes. These purposes include:

- 1) To establish Tribal Council level direction in key policy or functional areas to move away from crisis-driven decision-making;
- 2) To provide a starting point for aligning resources in a rational manner to address the critical issues facing the Hualapai Tribe now and in the future;
- 3) To make Tribal government more responsive to the needs of Tribal members by placing greater emphasis on benefits and results rather than on simply service efforts and workload;
- 4) To bring focused issues to Council members for review and debate;
- 5) To provide a context to link the budget process and other legislative processes of the Council with priority issues, and to improve accountability for the use of Tribal resources;
- 6) To establish a means of coordinating the policy concerns of public officials with implementation efforts and to build interagency, intergovernmental, and public/private/nonprofit partnerships;
- 7) To provide a forum for communication between service providers and the tribal members constituents they serve;
- 8) To examine the efficiency of tribal programs and make adjustments to reduce waste and make government spending as efficient as possible
- 9) To assure planning reflects the trends of global environmental conditions, new knowledge trends, and trends in economic development.

10.2 STRATEGIC PLANNING TEMPLATE OVERVIEW

The proposed Hualapai Tribe strategic planning template comprises nine “tiers.” The Tribal Council develops the first two, which contain the vision, mission, philosophy, goals, and benchmarks for the Tribe. These elements serve as a foundation for the strategic planning process. Tribal Agencies and Departments develop the elements in the remaining tiers as they prepare their strategic plans as shown in Figure 2. Each tier is linked to the others. The tiers are briefly described below.

Vision, Mission, and Philosophy of the Hualapai Tribe

- ❖ Vision—an inspiring view of the preferred future
- ❖ Mission—a concise statement of the basic purpose and role of Tribal government
- ❖ Philosophy—a statement of the core values and principles underlying Tribal government service

Hualapai Tribe Goals and Benchmarks

- ❖ Goals - general ends toward which the Tribe directs its efforts
- ❖ Benchmarks - specific performance indicators and targets used to assess progress at the Sovereign level in achieving Tribal goals

Agency/Department Mission

- ❖ the reason for a department’s or agency’s existence which should be developed and followed by the departments and agencies

Agency/Department Philosophy

- ❖ the expression of core values and principles for the conduct of the department or agency in carrying out its mission which should be developed and followed by the departments and agencies

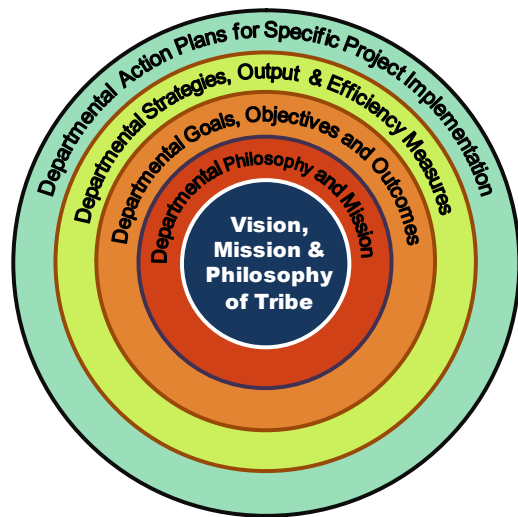


Figure 2

External/Internal Assessment

- ❖ an evaluation of key factors that influence the success of a department or agency in achieving its mission and goals which should be developed and followed by the departments and agencies

Agency/Department Goals

- ❖ general ends toward which agencies direct their efforts which should be developed and followed by the departments and agencies in the order of their priority

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Objectives and Outcome Measures

- ❖ clear targets for specific action and the quantified results or effects of that action which should be developed and followed by departments and agencies in the order of their priority

Strategies and output, efficiency, and explanatory measures

- ❖ methods to achieve goals and objectives and the measurable end products, proficiencies, and descriptive indicators of the agencies' efforts which should be developed and followed by departments and agencies in the order of their priority

Action Plans

- ❖ detailed methods for implementing the strategies which should be developed and maintained by departments and agencies, but not included as part of their strategic planning

In conclusion, strategic planning will succeed or fail according to how well the process results in quality services to Tribal members. Producing identifiable and meaningful results for Tribal member constituents is essential to a successful plan.

10.3 PHILOSOPHY, MISSION AND VISION OF THE HUALAPAI TRIBE ¹⁴



Philosophy – *Honor the Creator, respect mother earth, and value all living things.*

Mission – *We are ancestors to future generations with a responsibility to carry on our language, culture, and traditions. We must be good to our land so it will continue to be good to us.*

Vision – *Through hard work, determination, and education everything is possible and we are assured bigger and brighter days ahead.*

Strategic Vision - *To use a variety of new financial tools and concepts to build on existing programs, projects, and priorities to establish of a vibrant, healthy and sustainable tribal economy that honors Hualapai tradition, maintains cultural identity, protects and preserves natural resources, and enhances the quality of life for all Hualapai people.*

¹⁴ From Hualapai Tribe Website: http://www.hualapai-nsn.gov/index.php?option=com_frontpage&Itemid=1

10.4 GOALS & POLICIES, OBJECTIVES & IMPLEMENTATION STRATEGIES

Goals below are based upon the Hualapai Environmental Review Code, contemporary planning practices and public input from various planning efforts.

One primary concern is that all institutions - political, social, economic, and educational - must work together to further enhance the dignity of the Tribe. The members of the Tribe vary in their interests, values, desires, and accordingly, in their perceptions of what are “needed”. Public involvement is, therefore, essential in the development, interpretation and implementation of these goals.

These broad stated goals are the foundation on which policies and proposals can be constructed to help provide a means for satisfying some of these specific and widely-differing interests and for integrating them on a Reservation - wide basis through the vehicle of the Comprehensive Master Plan.

Master Plan and Master Planning Process

Goal 1: Maintain the relevancy of the Master Plan

Policy 1.1: Refer to goals and policies when consulting with project developers.

Policy 1.2: Refer to goals and policies when conferring between agencies, departments and other governments.

Policy 1.3: Refer to goals and policies when making formal recommendations to the Interdisciplinary Team, Tribal Environmental Review Committee and Tribal Council.

Policy 1.4: Review Master Plan every 5 years between agencies, departments, districts and other governments.

Policy 1.5: Update Master Plan every 10 years with the aid of stakeholders and citizen committees to perform “light-of-day” review of goals and policies.

Policy 1.6: Incorporate Master Plan goals specific to each Department into the Department’s 5-Year Capital Improvement Plan and re-evaluate annually. For those Departments without CIPs, allocating resources to meet specific goals should be considered during annual budgeting workshops.

Policy 1.7 Amendments to the Master Plan shall require public notification of public hearings and an explanation of the amendment for meaningful public (p.9, HERC) involvement during review and consideration by the Interdisciplinary Team, Tribal Environmental Review Commission and the Tribal Council.

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Policy 1.8 Following the public hearing, the Hualapai Tribal Council, the Planning and Economic Development Department, Interdisciplinary Team, Tribal Environmental Review Committee shall jointly meet to consider the Plan in light of comments expressed at the public hearing and shall attempt to reach a consensus on the Plan amendment (p. 9, HERC).

Policy 1.9 Upon reaching consensus, any such plan or amendment thereto shall be formally adopted by resolution of the Hualapai Tribal Council (p.10, HERC).

Policy 1.10 In the absence of consensus, the Hualapai Tribal Council shall determine the content of and shall adopt the Plan amendment (p. 10, HERC)

Goal 2: Increase level of Tribal and Public support for the Master Plan

Policy 2.1: Provide a semi-annual report to Tribal Council showing status of the implementation of the Master Plan.

Policy 2.2: Include status of Master Plan implementation at inter-Departmental meetings occurring at least quarterly.

Policy 2.3: The Tribal Council shall schedule annual retreats to discuss the Master Plan's implementation and prioritization of goals in the forthcoming year. Annual retreats should be led by a third-party facilitator trained in strategic planning.

Policy 2.4: Publically promote the Master Plan to seek champions among the Tribal Council, the Interdisciplinary Team, Tribal Environmental Review Committee, and members of the Tribe currently outside of the political process.

Goal 3 Develop relations with neighboring governments

Policy 3.1: The Tribe should encourage and promote coordination and cooperation between Federal, State, and Local Government entities charged with making decisions which significantly affect land use developments on and near the Reservation.

Enhancing the Planning Process

Goal 4: Create an Enterprise Geographic Information System to Assemble, Analyze and Assess Development Activities and Departmental Actions on Tribal Lands

Policy 4.1: The Tribe shall acquire GIS software for use in an enterprise-wide application.

Policy 4.2: Each Department shall have staff trained and maintained with a basic proficiency in the common GIS software application.

Policy 4.3: Each Department shall digitize existing spatial information for incorporation into the GIS database.

Policy 4.4: New Information received or produced by each Department shall be in digital format.

Policy 4.5: GIS spatial analysis and mapping shall be incorporated into the various work products of each Department as needed.

Policy 4.6: Maintain a public use GIS website with appropriate confidentiality to protect tribal interests.

Policy 4.7: Seek new innovative technology and techniques by participating in various GIS user-group meetings and attending geo-spatial conferences and seminars.

Goal 5 Create and publish a comprehensive annual report detailing tribal government activities regarding land use, transportation, public facilities, housing, etc. which also includes the related proceeds and expenditures in these areas.

Policy 5.1 The Tribal Environmental Review Commission (TERC) shall submit annual reports to the Hualapai Tribal Council regarding land use and development on Hualapai Tribal lands which summarize activities as follows:

Progress that has been made toward the accomplishment of short-term (1-5 years) and long-term (5-years plus) goals and objectives,

Major problems that have occurred in the past year or that remain unresolved,

The extent to which there have been changes in the assumptions of information on which the Tribe's Master Plan was based,

Any recommendations for changes in the Tribe's Master Plan

Policy 5.2 The Hualapai Tribal Council will consider the Commission's annual report and take action as may be appropriate.