



BLUE LAKE RANCHERIA

A Federally Recognized Tribe

Climate Pollution Reduction Grants – Implementation Grants

Empowering Tribal Sovereignty and Resilience through Electrification

1. Overall Project Summary and Approach

The Blue Lake Rancheria is applying for increased electrification of Tribal operations. These measures include 1) carport microgrid, 2) electric vehicle (EV) charging infrastructure, and 3) electrification of Blue Lake Rancheria (BLR) vehicles. Blue Lake Rancheria is applying to measures under both the BLR PCAP (Tribal Government Measure) and the State of California's PCAP (Transportation Measure 6 and Energy Measure 7). The Tribe will apply for funding for microgrid infrastructure and EV chargers under the State of California PCAP, and it will apply for electric vehicles (EVs) through the BLR PCAP. Due to local Tribal priorities being reflected in State PCAP measures, BLR is applying for funding to support two GHG reduction measures under the State PCAP (Transportation and Energy). BLR is applying for funding in the CPRG Tribal Competition to support additional measures identified in the Blue Lake Rancheria PCAP.

a. Description of GHG Reduction Measures

Measure 1) Installation of Carport Microgrid: Blue Lake Rancheria is applying to install a carport microgrid. This 0.60 MW capacity microgrid array will support BLR operations, and enhance Tribal and community resilience. The main milestones for implementing the carport microgrid are:

- 1.1. Program Launch
- 1.2. Procurement, contracting, and permitting
- 1.3. Detailed Design and Engineering
- 1.4. Microgrid Construction & Commissioning
- 1.5. Data Monitoring Through Dashboard

The program launch will include the formalization of the project management team. Creating a project management team will ensure the installation of carport PVs will happen within the designated time frame (see Gantt Chart), and that the associated GHG reduction goals will be met. The project management team will be made up of a combination of Blue Lake Rancheria and hired contractors. This



team will lead all aspects of the installation and commissioning of the carport microgrid. Detailed design and engineering will be led by contracted staff. The nature of the project is that the microgrid arrays will be installed on an existing parking lot. As a result, BLR does not anticipate extensive permitting to install the microgrid. However, the Tribe plans to follow internal protocol that aligns with the NEPA process. The construction of the microgrid will be led by BLR Electrical staff. After this process, the following milestones are the construction of the carport infrastructure and the installation of the accompanying arrays. Electrical systems staff anticipates a three year timeframe to install carport and PV infrastructure. Once commissioned, Electrical Systems staff will oversee the performance validation of the microgrid. This includes collecting data on energy generated, and displaying this data on a public-facing dashboard. This dashboard will be created by a Specialist hired through this grant to support the Tribe's GHG reduction measures. Blue Lake Rancheria Electrical Systems staff has proven successful in the development and implementation of the existing microgrid system. The team fully expects this implementation measure will yield expected GHG reduction results.

Underlying risks associated with installing carport PVs are supply chain issues, and environment-related construction delays. The rural north coast of California is prone to several environmental hazards. These hazards include: earthquakes, flood, and wildfire. Humboldt County is located at the southern extent of the seismically active Cascadia Subduction Zone, and is adjacent to [high risk wildfire zones](#) (*Map / National Risk Index*). Additionally, BLR Tribal trust land is located in a flood plain of the Baduwa't (Mad River). Events related to hazards such as these have the potential to delay construction. These potential risks are not expected to delay GHG reduction measures by more than one year.

This GHG reduction measure is supported under Energy Measure 7 of the [State of California PCAP](#). California's PCAP Energy Measure 7 is to "Enable Renewable Microgrids for Rural Communities and Tribes" (*The State of California's Draft Priority Climate Action Plan*). Being a rural Tribe, this measure is directly applicable to Blue Lake Rancheria, and aligns with the ethos of the Tribe. In 2017, the Tribe pioneered a nested microgrid system. During day-to-day "Blue Sky" conditions, the BLR microgrid runs in parallel with the utility grid. The solar electric generator provides on-site power to offset energy use from the grid, with a special focus on reducing power purchases during high priced periods. Battery storage is used to further offset peak power purchases and reduce peak demand charges. The microgrid can be placed in island mode to respond to demand response events. During these outage scenarios, the grid continues to provide power for on-site loads. For example, during public safety power outages in 2019, the BLR microgrid system supported [10,000 people](#). It provided shelter as an evacuation center, and was the only functioning gas station in the region. Events such as these exemplified the need for energy sovereignty. Blue Lake Rancheria's ability to generate and store energy during times of crisis has been crucial to the region. As a result, it is a priority of the Tribe to generate more solar power to further support local resilience.



Installing PVs that expand BLR's microgrid system supports CPRG goals in multiple ways. It will reduce the GHG emissions by 247-275 MTCO₂e/year. It will also complement Department of Energy Grid Resilience and Innovation Partnerships (GRIP) funding that the Tribe is concurrently applying funding through the Department of Energy. Paired, these two projects will create community benefits including a Tribally-led apprenticeship program. These projects run in parallel in that they both support microgrid capacity at BLR. CPRG funding will support increased solar power generation, and GRIP will support increased energy storage.

The microgrid is expected to be fully commissioned by 2028. See the Gantt Chart below (Page 14) for a breakdown of milestones and timelines.

Measure 2) Installing Electric Vehicle (EV) charging infrastructure: BLR is applying to install 10 direct current (DC) fast chargers. These 10 kWh chargers will dramatically increase access to fast chargers in the region. The major milestones to install EV charging infrastructure are:

- 2.1 Program Launch
- 2.2 Procurement, Contracting, Permitting and Location Selection
- 2.3 Prepare Installation Area
- 2.4 Install Chargers
- 2.5 Maintain Chargers
- 2.6 Data Gathering and Monitoring

The program launch involves the establishment of the project management team. BLR will contract engineers familiar with the development of microgrids. BLR does not anticipate extensive permitting to install the microgrid. However, the Tribe plans to follow internal protocol that aligns with the NEPA process. Another crucial step is to determine exact locations for each of the 10 charging pedestals. These locations will be based on a combination of placement of existing electrical infrastructure, and areas that maximize public use. Once these locations are finalized, BLR facilities staff will prepare the installation area with electrical infrastructure and the concrete pad. The installation process will be conducted by both BLR Facilities staff. Once the chargers are installed, energy usage data will be monitored and recorded. This data will be displayed on the same emissions dashboard that displays energy created for the microgrid.

This GHG reduction measure is supported by Transportation Measure 6 of the State of California's PCAP. Transportation Measure 6, is to "Allow for Local Deployment of ZEV Infrastructure and Low-Income ZEV Support". EV infrastructure falls under the umbrella of a "zero emissions vehicle" or "ZEV". This measure specifically highlights California's priority of increasing EV charger access to Tribal Nations.

The Tribe identified EV charging infrastructure as a priority measure. BLR currently hosts seven EV charging stations. These are Level1 and Level2 chargers, and are not fully operated by the Tribe. These existing chargers demonstrated the potential for the Tribe to support public use of EV charging



infrastructure. The Tribe has a casino, brewery, eventspace, and multiple restaurants on-site. All of which make BLR an ideal charging location for the general public. The Tribe has seen how these chargers have supported the adoption of EVs among tribal members. They have also inspired the Tribe to operate their own charging infrastructure, as this allows BLR to maintain energy sovereignty over EV charging systems. Additionally Blue Lake Rancheria is choosing to apply for funding under this measure as it pairs with the installation of microgrid solar arrays, and supports increased electrification of BLR vehicles.

There are limited risks associated with the installation of EV charging infrastructure. Similar to the installation of the microgrid, the risks associated with the installation of EV charging infrastructure are supply chain issues and environment-related construction delays. These delays are not expected to delay the implementation of this GHG reduction measure by more than a year.

Installing DC fast chargers supports CPRG goals by providing significant GHG reductions. They are expected to reduce GHG emissions by 308 MTCO₂e/year. The largest contribution (43%) of the GHG emissions inventory came from the “Employee Commute” sector. Installing DC fast EV chargers will incentivise EVs for employees and Tribal members. Blue Lake Rancheria employs over 300 people, and there is currently no public transit that stops in either the City of Blue Lake or the Blue Lake Rancheria from nearby cities. Arcata is located 8 miles to the west, with no accessible trail for alternate modes of transit. This requires that employees drive personal vehicles to travel to work. The Tribe employs roughly 300 people and some commuters don't drive their EV's due to lack of adequate charging infrastructure. Additionally, 203 people live on Tribal land, a handful of which are also employees. To incentivise adoption of EVs, all charging fees will be at cost for Tribal members and BLR employees.

The EV charging infrastructure is expected to be fully commissioned by 2027. See the Gantt Chart below (Page 14) for a breakdown of milestones and timelines.

Measure 3) Electrification of Blue Lake Rancheria vehicles: Blue Lake Rancheria is applying for funding to purchase four electric pickup trucks. The major milestones to install EV charging infrastructure are:

- 3.1. Order Vehicles
- 3.2 Obtain Vehicles
- 3.3 Log Data

The process to obtain EV trucks is straightforward, with minimal associated risk. BLR Tribal Government will place an order with a dealership to purchase four vehicles. Once the vehicles are purchased, BLR Finance keeps annual mileage logs on BLR vehicles. The Tribe will continue this practice with new EVs. This data will allow staff to monitor and calculate actual GHG emissions reductions associated with the acquisition of the vehicles.

There are limited expected risks with acquiring electrical vehicles for Rancheria use. Local inventory for vehicles is limited, which will likely require the Tribe to order vehicles from out of the area. To ensure



timely access to vehicles, BLR will select vehicles based on the practicality of obtaining, and maintaining the vehicles in this region.

EVs are a priority of the Tribe. This measure is supported by Measure 2 in the Blue Lake Rancheria PCAP. This GHG reduction measure pairs with Measures 1 & 2 of installing microgrid solar arrays and EV charging infrastructure. Together, they create a system that harnesses solar power, and is distributed to vehicles. Acquiring vehicles is the last step in this cycle, as they are able to store energy created from the microgrid. Additionally, vehicles are crucial to supporting Tribal operations. Transitioning to EVs supports CPRG goals by creating significant GHG reductions for the Tribe. Per calculations in the 2024 BLR PCAP, transitioning to EVs would reduce BLR emissions by 6%. Among the existing vehicles are diesel trucks. Replacing these vehicles will have the added benefit of reducing CAP emissions, particularly particulate matter (PM 2.5).

Electric vehicles are expected to be obtained in 2025, within the first year of the grant period. See the Gantt Chart below (Page 14) for a breakdown of milestones and timelines.

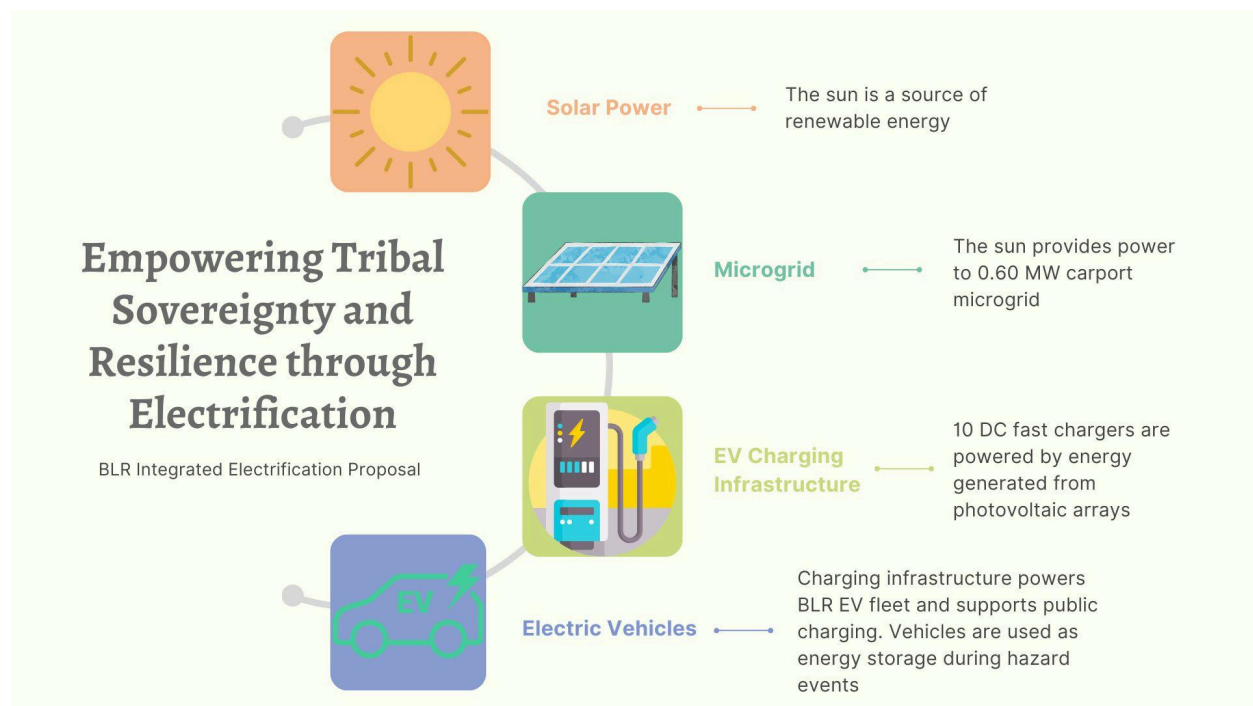


Figure 1: The proposed integrated system of electrification at Blue Lake Rancheria.

b. Demonstration of Funding Need

Blue Lake Rancheria Tribal Government relies on grant funding to operate programs. These programs include the Office of Emergency Services, Fire Department, Education Department, and Environmental Department. Historically, Blue Lake Rancheria has been limited in grant funding open to the Tribe.



Common barriers include caps on indirect costs, as well as match requirements. For these reasons, CPRG funding is an opportunity for the Tribe to realize its long-standing goal of electrification. This funding is integral to the implementation of GHG reduction measures.

The Tribe has identified and applied for multiple complementary funding sources. However, these funding sources have limitations that restrict the scope of the project. A barrier the Tribe often faces is match. Match is a common barrier that prevents Tribes and disadvantaged communities from accessing grant funding ([Exec. Order No. 14112, December 6, 2023](#)). Another common barrier is limits on indirect charges. Tribes rely on Indirect Costs to support all programming. It is common for BLR's established Indirect Costs to exceed the cap established by granting agencies. In these ways, CPRG funding is a unique opportunity that would hugely facilitate meeting priority GHG emissions reduction goals.

One such funding source is the [Department of Energy Grid Resilience and Innovation Partnership grant](#) funding (*Grid Resilience and Innovation Partnerships (GRIP) Program*). The Tribe is currently applying to GRIP funding, however the amount that the Tribe is able to apply for is limited. This is because the grant requires 100% match from the Tribe. GRIP funding will complement CPRG electrification efforts in that it will provide increased battery storage for energy produced from the microgrid. GRIP does not secure funding for the three measures included in this proposal.

Through the GRIP proposal, BLR will facilitate ongoing collaboration with key partners and stakeholders to identify concerns, mitigate vulnerabilities, and optimize benefits with: 1) Hoopa, Karuk and Yurok Tribe's, 2) investor owned utilities, Tribal utilities, and electric cooperatives that serve Tribal lands such as Redwood Coast Energy Authority, to coordinate planning and to identify and address transmission and distribution (T&D) priorities, constraints, and requirements affecting BLR's clean energy projects, 3) Federal, State, and local public agencies for project awareness, collaboration, and early coordination; 4) clean energy manufacturers, service providers, and industry; 5) clean-tech organizations, innovators, and business development who are also advancing solutions for microgrid integration, transportation electrification, cybersecurity, battery energy storage, and advanced systems operation; 6) labor and training organizations; 7) experienced Tribal project developers; and, 8) Minority Serving Institutions such as Cal Poly Humboldt. To supplement this application, and increase overall solar capacity at the Tribe, BLR is seeking CPRG funding to reach electrification goals at the Rancheria.

c. Transformative Impact

Supporting electrification of BLR operations reduces GHG emissions and creates infrastructure that supports the resilience of the Tribe as well as the broader community. The primary way the Tribe plans to increase this resilience is through the installation of additional solar arrays. Here in rural northern California, access to electric power is unreliable. Local communities face regular power outages. Since the development of the BLR microgrid, the Tribe has been able to provide energy to Tribal members and the broader community during these power outages. The microgrid allows for the BLR event space to serve as a Red Cross Evacuation Center during power outages and hazard events. Increased energy



generation from the microgrid allows the Tribe to generate more electricity to support the community during these events.



Figure 2: Cars in line (red) to fuel their vehicles during a power outage (The Power Stayed On).



Figure 3: Blue Lake Rancheria Microgrid after a 6.4 magnitude earthquake disabled the grid (12/20/22).



During “Blue Sky” or day-to-day operations, the microgrid will supply power to the EV chargers. These chargers add a layer of resilience in the face of emergency. Installing DC fast chargers at Blue Lake Rancheria fills a gap in electric vehicle (EV) charging infrastructure that currently exists on the California north coast. According to the Stanford University Institute for Economic Policy Research states that, “By 2035, the California Energy Commission (CEC) estimates that the state will need 2.11 million public and shared private charging stations — including 83,000 fast chargers — to support the 15.2 million passenger plug-in EVs expected to be on the road” ([Davis et al., 2023](#)). According to the Department of Energy’s Electric Vehicle Charging Stations database, there are 10 DC fast chargers in all of Humboldt County ([Alternative Fuels Data Center: Electric Vehicle Charging Station Locations](#)). Installing 10 DC fast chargers at Blue Lake Rancheria will transform local access by doubling the number of fast chargers in the County. It continues the Tribe’s legacy of pioneering replicable and scalable energy infrastructure on the north coast of California.

Blue Lake Rancheria is a strategic location for the placement of these chargers. The majority of existing chargers are concentrated along US Highway 101. BLR is located directly off of CA State Route 299. Westward on State Route 299, no EV charging infrastructure exists for another 40 miles. BLR regularly serves as a staging area for utility companies or emergency services. This usage is particularly visible during wildfire season. Access to EV charging has been identified as a limiting factor for local adoption of EVs across the region. Providing this infrastructure at this crucial geographic junction will support adoption of EVs across multiple sectors.

This resilience only increases when paired with EV ownership. EVs serve as energy storage for the microgrid system. They are able to store enough power to be used as [home generators](#) during power outages (*Penn*). Access to EV charging infrastructure during power outages will allow the broader community to charge not only their vehicles, but their homes. Additionally, the Tribe can utilize its EVs to provide Tribal elders with power during these times.

Outside of hazard resilience and energy sovereignty, this system of generating energy to charge vehicles will support Tribal operations. Among these programs are the Office of Emergency Services, Fire Department, Education Department, and Environmental Department. Within each of these departments, vehicles play a crucial role in day to day operations. Among the many services supported by vehicles is the Food Sovereignty Program. This program serves upwards of 200 households across the north coast. Humboldt County is among the poorest counties in the state. This program delivers food to tribal elders, tribal members, and other disadvantaged communities. Access to EVs allows the Tribe to not only reduce GHG emissions, but to reduce fuel costs. These reduced costs will enhance the Tribe’s ability to successfully carry out this programming.

2. IMPACT OF GHG REDUCTION MEASURES

a. Magnitude of GHG Reductions from 2025 through 2030



Timeframes for GHG reduction Measures 1 & 2 (microgrid and EV charging infrastructure) are shortened to reflect time needed to commission the project. The microgrid is expected to be commissioned in 2028. This time frame accounts for time to design, engineer, and construct the microgrid. EV charging infrastructure is expected to take two years to prepare and install. They are expected to be commissioned by 2027. Electric vehicles are expected to be acquired shortly after the grant period begins, and will produce GHG emissions reductions throughout the full period of 2025-2030. The EV calculations reflect the GHG emissions reductions associated with four vehicles.

Microgrid: 822 MTCO₂e are expected to be reduced from 2028*-2030.

EV charging infrastructure: 923 MTCO₂e are expected to be reduced from 2027*-2030.

Electric Vehicles: 1,014 MTCO₂e are expected to be reduced from 2025-2030.

Cumulative 2025-2030 GHG Emissions Reductions: 2759 MTCO₂e.

Any limited durability of these measures is reflected in the timeframe of emissions reductions shown above. See Section b (Magnitude of GHG Reductions from 2025 through 2050) for a more in depth discussion of the durability of each measure).

**time frame modified to reflect commissioning process*

b. Magnitude of GHG Reductions from 2025 through 2050

Microgrid: 5,998 MTCO₂e are expected to be reduced from 2028*-2050.

EV charging infrastructure: 7,076 MTCO₂e are expected to be reduced from 2027*-2050

Electric Vehicles: 3,041 MTCO₂e are expected from 2025-2040**

Cumulative 2025-2050 GHG Emissions Reductions: 16,115 MTCO₂e.

The durability of each GHG reduction measure varies. Microgrids have an average lifespan of [30-35 years](#) (*Department of Energy*). Due to Blue Lake's relatively mild climate, it is expected that the number of years will be on the upper end of this range (expected reductions through 2063). These GHG reductions account for annual PV degradation of 0.5%.

EV Charging infrastructure is expected to support a permanent reduction in GHG emissions. This is because the lack of charging stations is currently limiting EV access to the North Coast. This increased infrastructure will facilitate the permanent adoption of EVs across the region.



Electric vehicles have an average lifespan of 15 years. This limited durability is reflected in the shortened GHG emissions reductions timeframe (2025-2040). Despite the limited lifespan, acquiring these initial EVs will support a permanent transition of the Blue Lake Rancheria fleet to zero emissions vehicles (ZEVs).

**time frame modified to reflect commissioning process*

*** time frame modified to reflect average life of EV*

c. Cost Effectiveness of GHG Reductions

Measure 1) Microgrid: \$574/MTCO₂e

Measure 2) EV charging infrastructure: \$423/MTCO₂e

Measure 3) Electric Vehicles: \$137/MTCO₂e

The cost effectiveness of all three GHG emissions reductions measures is \$425/MTCO₂e.

The calculations and cost effectiveness for each measure is conservative. The microgrid reductions and cost effectiveness are calculated to account for geographically specific solar potential (insolation and shading factor). They are also conservative in that they account for 0.5% degradation every year. The EV charging infrastructure is not for profit—any revenue will be used to maintain and expand EV charging infrastructure. The electric vehicles assume a 15 year lifespan. The baseline fuel usage is based on 2022 vehicle usage. Since 2022, Blue Lake Rancheria programs have expanded, and it is expected that fuel usage has increased accordingly.

d. Documentation of GHG Reduction Assumptions

Measure 1: Carport Microgrid

The method used to calculate the GHG emissions reductions associated with installing 0.6 MW of carport microgrid arrays at Blue Lake Rancheria is based upon standard microgrid system energy generation and the equivalent energy diverted from the electricity grid. This method uses site specific data analysis to quantify GHG emissions reductions associated with the use of solar array generated energy, excluding the supporting infrastructure. Site specific data is based upon the most recent data for Blue Lake, California.

Measure 2: EV Chargers

The method used to calculate the GHG emissions reductions associated with installing 10 DC Fast Chargers is based upon ICFs “*GHG Reduction Estimation Tool for Electric Vehicle Charging Stations*”. This method uses a “EVCS Charging Activity Approach” to quantify GHG emissions reductions associated with the use of EV chargers, excluding the supporting infrastructure. This approach estimates the expected charging activity per day, and assumes that GHG emissions reductions of EVCS are only related to charging utilization.



Measure 3: Fleet EV

The method used to calculate the GHG emissions reductions associated with replacing 4 gasoline utility vehicles with 4 all electric “eTrucks” is based upon the California Air Resources Board (CARB) “*Methodology for Determining Emission Reductions and Cost-Effectiveness*”. This method uses a “well-to-wheel” analysis to quantify GHG emissions reductions associated with the use of advanced technology electric vehicles, excluding the supporting infrastructure.

See Technical Appendix for more detail.

3. Environmental Results – Outputs, Outcomes, and Performance Measures

a. Expected Outputs and Outcomes

Expected outputs and outcomes are listed below. The numbers in parenthesis next to each output and outcome corresponds to the GHG reduction measure it applies to. Measure (1) is the installation of a carport microgrid (2) is the installation of EV charging infrastructure (3) is the acquisition of electric vehicles.

Lowered GHG Emission (Measures 1, 2, and 3): Expected outcomes for all GHG reduction measures are reduced GHG emissions. The microgrid is expected to increase solar power generation by 0.6 MW. This reduces the Tribe’s usage of the local grid-mix, and is expected to reduce emissions by 247-275 MTCO₂e/year. Based on current assumptions (See Appendix B.) the DC fast chargers are expected to reduce GHG emissions by 308 MTCO₂e/year. Similarly, four EVs are expected to reduce GHG emissions by 203 MTCO₂e/year.

Reduced Strain on Local Grid (Measures 1, and 2): The installation of additional solar arrays from the microgrid will reduce the energy usage from the local energy grid. Humboldt County is located at the end of the electrical and natural gas supply grids, which limits both energy supply options and system reliability. Local utility company (PG&E) owns the natural gas and electricity transmission and distribution systems in Humboldt County. Transmission infrastructure is aged and connections to the larger grid are undersized. This creates particularly vulnerable energy infrastructure. Reducing loads on this infrastructure increases the community’s energy resilience. Usage of BLR EV charging infrastructure will reduce strain that would otherwise be put on the local grid.

Reduced Energy Costs (Measures 1, and 2): Generating energy allows BLR to reduce reliance on the local energy utility company. This promotes energy sovereignty and results in reduced costs for the Tribe.

Increased Staff Capacity to Implement GHG reduction measures (Measures 1, and 2): Supporting these GHG emissions reductions measures supports multiple jobs at Blue Lake Rancheria. Among these positions is the CPRG specialist position. The specialist will support the implementation of these GHG



emissions reduction measures, as well as the development of additional GHG reduction measures for the Comprehensive Climate Action Plan (CCAP). The Tribe relies on grant funding to operate programs, so this funding helps to ensure capacity to create impactful reduction measures.

Reduced Criteria Air Pollutants (CAPs) (Measure 3): Transitioning from diesel and gasoline fueled vehicles will result in reduced criteria air pollutants (CAPs), specifically reduced particulate matter.

b. Performance Measures and Plan

Performance measures listed below are paired with corresponding outcomes from Section a (Expected Outputs and Outcomes).

Lowered GHG Emissions (Measures 1, 2, and 3): GHG emissions data will be tracked for all three reduction measures. All energy production and usage will be tracked by the Specialist, displayed on the data dashboard, and used to calculate GHG emissions reductions. For example, energy production data from the microgrid will be monitored and logged. This information will be displayed on the BLR data dashboard, and will be used to calculate yearly emissions reductions. EV charger energy usage data will be collected and displayed on the data dashboard. This information will be used to calculate GHG emissions reductions. The specialist will keep track of mileage of EVs to calculate yearly emissions reductions.

Reduced Strain on Local Grid (Measures 1, and 2): Impact on energy grid will be monitored through the kWh of power produced by the carport microgrid.

Reduced Energy Costs (Measures 1, and 2): Reduced energy costs will be reflected on utility billing statements. Average spending will be compared to the baseline year for which data was collected for the Priority Climate Action Plan (PCAP).

Increased Staff Capacity to Implement GHG reduction measures (Measures 1, and 2): This will be measured through the number of GHG reduction measures included in the Comprehensive Climate Action Plan (CCAP).

Reduced Criteria Air Pollutants (CAPs) (Measure 3): Blue Lake Rancheria maintains a T640 regulatory air monitor. Staff will use data from this monitor to track any changes over time. Data will be compiled and analyzed on a yearly basis.

c. Authorities, Implementation Timeline, and Milestones

Blue Lake Rancheria maintains full authority to implement each of these GHG reduction measures. Per the BLR Constitution, the Council oversees the right to regulate “the use and development of all tribal lands, whether assigned or unassigned, and to manage, lease or to otherwise use all unassigned Tribal lands in accordance with applicable law” (Section 6; G). This establishes that electrification measures



including the installation of a microgrid and EV charging infrastructure are under the authority of the Tribal government to implement.

Blue Lake Rancheria staff will lead all implementation measures. The Environmental Director will lead grant management and will lead the hiring process of the Specialist. The Specialist will coordinate with the project management team, and contractors. The Specialist will also monitor energy data and display this in a public-facing dashboard. The project management team will include key BLR and contracted staff. These members include the Electrical Systems Director, Environmental Director, Director of Sustainability, and the Specialist. The Blue Lake Rancheria Electrical Systems Department will lead all site prep for construction of the microgrid and EV chargers. Contracted engineers will lead detailed design and engineering of the microgrid and EV chargers.

The timeline of the GHG reduction measures is outlined in greater detail in the Gantt chart below. The microgrid is expected to be fully commissioned by 2028. The EV charging infrastructure is expected to be fully commissioned by 2027. Electric vehicles are expected to be obtained in 2025, within the first year of the grant period. Reporting will be due at the end of every quarter. Reporting dates are indicated by asterisks (*) in the Gantt Chart below. At the end of the grant term, a final report will be due that documents the implementation of all measures and calculates actual GHG emissions reductions.



Blue Lake Rancheria CPRG GHG Reduction Measures and Milestones Timeline	2025 (10/1/2024-9/30/2025)				2026 (10/1/2025-9/30/2026)				2027 (10/1/2026-9/30/2027)				2028 (10/1/2027-9/30/2028)				2029 (10/1/2028-9/30/2029)			
	Q1/2025	Q2/2025	Q3/2025	Q4/2025*	Q1/2026	Q2/2026	Q3/2026	Q4/2026*	Q1/2027	Q2/2027	Q3/2027	Q4/2027*	Q1/2028	Q2/2028	Q3/2028	Q4/2028*	Q1/2029	Q2/2029	Q3/2029	Q4/2029*
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1.3. Detailed Design and Engineering																				
1.4 Microgrid Construction and Commissioning																				
1.5 Data Monitoring																				
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2.1 Program Launch																				
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2.3 Prepare Installation Area																				
2.4. Install Chargers																				
2.5. Maintain Chargers																				
2.6. Data Gathering and Monitoring																				
Measure 3: Electrify On-Road Mobile Sources																				
3.1. Order Vehicles																				
3.2 Obtain Vehicles																				
3.4 Log Data																				



4. LOW-INCOME AND DISADVANTAGED COMMUNITIES

a. Community Benefits

Historically, energy development and resiliency has disregarded Tribal priorities, often leading to significant negative impacts on Tribes and corresponding to a broader history of devastation from colonization and development. To begin repairing the Nation's relationship with Tribes and other disadvantaged communities, President Biden issued Executive Order 14008 and 14096, which made it a goal that 40% of the overall benefits of certain Federal climate, clean energy, and other investments flow to disadvantaged communities (*Justice40 Initiative*). Blue Lake Rancheria (BLR), a federally recognized Tribe, is designated as a disadvantaged community, under the Justice40 measures, "land within the boundary of federally recognized Tribes is designated as disadvantaged". For the purpose of the CPRG General Competition, Blue Lake Rancheria meets the definition of a low-income and disadvantaged community, where "any geographic area within tribal lands" as included in the EPA EJ Screening and Mapping tool (*US EPA*). All implemented GHG reduction measures will be implemented and directly benefit BLR Tribal lands, contributing to the Justice40 Initiative goal. While acknowledging the limitations of data regarding Tribes, using spatial tools with data by census tract and Tribal area demonstrates a consistent pattern of significant energy, environmental, and economic burdens affecting BLR.

Implementing clean energy systems in rural Tribal communities directly addresses State and Federal equity goals. Direct disadvantaged community benefits by measures 1) carport photovoltaic microgrid, 2) electric vehicle (EV) charging infrastructure, and 3) electrification of BLR vehicles are related to increased electrification of Tribal operations. This includes decreased operational costs in energy, improved energy resilience, public health and workforce development, as well as greater access and equity to electric vehicles and charging infrastructure.

Health and Environmental Benefits

BLR expects community benefits in improved public health and local air quality resulting from emissions reductions in electrification. BLR takes active steps to control prevention, mitigation, and monitor air quality. In California, gasoline vehicles are the single greatest source of smog-forming emissions, contributing to the climate crises and public health effects. Replacing four Tribal Government gasoline vehicles to EVs eliminates sources of toxic criteria air pollutants (CAPs), such as nitrogen oxides (NOx), carbon monoxide (CO), particulate matter, as well as hazardous air pollutants (HAPs). Measures to reduce BLR's emissions benefit local disadvantaged community residents who are vulnerable to pollutants like airborne particulate matter, such as fine particulates smaller than 2.5 microns (PM 2.5), including seniors, those with existing cardiovascular disease, and reactive airway disease. Furthermore, EV operation is expected to reduce noise pollution and improve community comfort. The BLR Project team will assess and quantify emission reductions from energy efficiency, renewable energy



implementation, replacement of gasoline vehicles, and other analysis to indicate how the project measures benefits the community.

Implementation of electric charging infrastructure inspires adoption of EVs among Tribal and community members, providing access and equity to clean alternative transportation sources in a rural, historically disadvantaged area. Early EV adopters have favored high-income, urban populations, including homeowners with access to home charging, as well as privately accessible workplaces. This disparity creates barriers to residents and Tribal members who otherwise may be interested in purchasing or using an EV, contributing to continued lower adoption. Therefore, to incentive EV adoption, all EV charging fees will be at cost for Tribal members and employees. Additionally, non-residential DC fast chargers provide access to Tribal members, employees, and the public, which BLR experiences over 3,000 vehicles per day on average visiting the Rancheria. Moreover, the carport microgrid provides vehicle protection, efficient use of existing parking space, and is a source of clean energy for Tribal members and visitors. The DC Fast Chargers and microgrid will benefit BLR's economic enterprises as they will be a draw into the campus that may support casino, convenience store, restaurant and hotel operations. Prioritizing public charging infrastructure and clean energy resilience at BLR provides benefits to an under-resourced community and additional services to the transportation industry.

Transportation Benefits

The potential benefits for Tribal nations and the transportation (trucking and personal) industry will be as a result of increased access to fast DC charging infrastructure. According to the California Energy Commission (CEC), California is projected to need more than one million public and shared private DC fast chargers by 2030 (*California Energy Commission*). This infrastructure is essential to support the known increases in electric vehicle (EV) registrations, which are expected to reach seven million by the end of 2029 (*"California Hits 10,000 DC Fast Chargers Milestone Ahead Of Schedule"*).

Further, the CEC estimates that 5 million battery electric vehicles (BEVs) in 2030 will require nearly 2,000 DC fast charging (DCFC) stations across all long-distance travel corridors in California which includes both highways 101 and 299. These DCFC stations are crucial for electrified interregional travel and are projected to result in a system peak load of about 60 megawatts around 2 to 3 p.m. during road trips.

To this end, California's ambitious EV goals call for a substantial expansion of charging infrastructure, including both DC fast chargers and local distribution upgrades, to accommodate the growing number of electric vehicles on the roads. This project assists California to meet its goals, thus will enable community benefit

Workforce Benefits

The national and state demand for clean energy far exceeds existing workforce capacity. Leveraging the deployment of BLR's electrification goals and associated workforce development activities, this project will directly increase clean energy workforce participation by recruiting and training new local



hires (including targeting those from low-income disadvantaged communities) and supporting the existing workforce to keep workers relevant in the energy transition, while also catalyzing Tribal energy enterprise development.

The BLR project management team will explore formalizing partnerships through community and labor agreements with Tribes, educational institutions, labor and workforce development organizations, community based organizations, and local governments. Specific to targeting training and job opportunities in low-income and disadvantaged communities, the BLR project management team and partners will support the development and implementation of: 1) prevailing wage and union labor requirements; 2) outreach for job and training opportunities to recruit new hires and ensure participation from the existing workforce; 3) workplace and training protocols that support inclusive environments and employee safety standards, and that engage employees in design and execution of workplace safety and health plans; 4) strategies which eliminate barriers to employment or enable skilled career pathways; and 5) utilizing partnerships with Cal Poly Humboldt and College of the Redwoods in promoting local accessible credentialed programs. Lastly, BLR and three additional Tribal Nation partners (Hoopa, Yurok, and Karuk Nation) are working together on a Tribally designed Apprenticeship Accelerator program that will support and uplift Tribal members, Black-Indigenous-People of Color (BIPOC) and other historically marginalized groups such as LGBTQIA+ to learn the technical skills and gain certifications associated with the low-voltage electrician occupation which may serve each Tribes clean energy, carbon reduction goals. BLR intends to integrate these strategies to not only ensure the education, self-confidence, and upward mobility of its Tribal members, but to sustain a regional workforce and economic opportunities in a clean energy transition.

BLR actively works to advance diversity, equity and inclusion (DEI) is well respected. Competitive preference for contracts is given to organizations who embody DEI in their hiring and deployment of services processes. BLR's team is committed to ensuring that the portfolio's engineering, planning, and workforce efforts reflect, uplift, and serve the diversity of this region and California.

Lastly, BLR expects to design and implement an emissions reductions data dashboard that will be made publicly available, as identified during consultation with Tribal leaders and residents, including disadvantaged community members. This effort provides project transparency and quantifiable emission reduction rates associated with the various implemented and planned GHG reduction measures on the BLR campus and region.

Community-Informed Process

It is critical to assess, quantify, and analyze impacts from projects on Tribal land - while the preceding description of potential community benefits are not exhaustive, BLR staff will continue to collect project benefits and avoid disbenefits through a community-informed process. The proposed GHG reduction measures will be overseen by BLR Sustainability and Environmental Departments, which have vast technical, administrative, fiscal, and project management experience and has the capacity to



manage a suite of complex electrification projects, the peer-to-peer learning network, and community and labor engagement activities.

There are limited negative impacts to low-income and disadvantaged communities associated with this proposal, however, BLR will apply standard mitigation practices such as changes in system designs, technologies, and sites. It is standard protocol for BLR to incorporate mitigation strategies for each project to minimize potential negative impacts to the environment, habitat, culturally or archaeologically significant sites, or the community. This approach ensures BLR is empowered to align site selection with Traditional Ecological Knowledge (TEK), avoiding sensitive areas and leveraging the expertise of Tribal natural resources and planning departments.

BLR will continue to invest in resilient clean energy projects that are designed to maximize Tribal community benefits and further position BLR as a clean energy leader – laying the foundation for an energy transition that aligns with Tribal priorities, equitable workforce development, and Justice40 goals.

b. Community Engagement

The project management team has garnered broad support for this proposal, as demonstrated by letters of commitment as well as through solicited input from Tribal administration, departments across the Rancheria, and Tribal community. Additionally, BLR staff met with Tribal council members, the Tribal Administrator, and created an employee survey to gauge interest and priorities in GHG reduction measures. Disadvantaged community input is recognized in all aspects of staff functions and decision-making at BLR, for instance, as it relates to the use of the four proposed electric vehicles for providing educational, emergency, and social services to the community.

Extensive collaboration has brought diverse perspectives into the planning and initial design phase for clean energy projects, including the ones identified in this specific proposal. The team has facilitated regional community input and social buy-in by engaging with three regionally situated Tribes (Hoopa, Yurok and Karuk Tribal Nations), as well as local and national partners through numerous one-on-one meetings, Tribal listening sessions, and public forums — including the first-ever California Energy Commission and California Public Utilities Commission En Banc with Tribal leaders (Tribal En Banc), convened in March 2023. Throughout the proposal development process, BLR partners have met weekly for technical office hours and joint strategy sessions. Additionally, BLR, Kuruk, Hoopa Yurok Tribes, Schatz Energy Research Center and the Redwood Coast Energy Authority have entered into a collective MOU outlining their desire to work collaboratively to secure funding to advance their collective energy related goals. The BLR team will continue to leverage similar mechanisms for engagement throughout project development and implementation.

Meaningful community engagement continues even after a project is developed and implemented. The project management team will continue outreach and engagement on the outcomes of the carport



microgrid, EV charging infrastructure, and electrification of BLR vehicles. This includes creation of educational materials and publicly-available data dashboard, both expected to provide how such GHG reduction measures benefit the residential disadvantaged community and Tribal government operations. Additionally, BLR anticipates continued participation of peer-to-peer learning and knowledge sharing, such as but not limited to regional Tribal Nation networking and California Energy Commission-sponsored events. BLR will share lessons learned and technical support for electrification projects in disadvantaged communities from concept to sustainable operations. This may include how to maximize community benefits, ensure meaningful Tribal engagement throughout all solar carport and DC Fast charging phases, inform capacity-building resources, and support peer-to-peer knowledge exchange.

5. JOB QUALITY

Electrification deployment relies on the availability of a skilled and trained workforce capable of constructing, implementing, and commissioning advanced energy systems. BLR will support investments to both foster a skilled workforce and to build Tribal staff capacity to operate and maintain energy assets over time. A suite of new investments and partnerships are envisioned for BLR's electrification goals that advance commitments to supplier diversity and support innovations in the labor force – including Tribal-driven labor agreements to maintain workforce continuity. BLR will invest in the development of high-quality jobs. Through the joint impact of both CPRG and GRIP funding sources, BLR will create internal capacity, and professional development opportunities within Tribes.

BLR will support investments to both foster a skilled workforce and to build Tribal staff capacity to operate and maintain energy assets over time. Additionally, BLR envisions commitments to supplier diversity and support innovations in the labor force, including Tribal-driven labor agreements to maintain workforce continuity. BLR also has a long history of clean energy supply chain development, from innovation and manufacturing to deployment and market scaling, including support for human, technology, and financial capital. The proposed GHG reduction measures will prioritize the procurement of American-made technologies and supplier diversity. BLR will invest in the development of high-quality jobs, such as the creation of internal capacity and professional development opportunities.

The project management team will explore formalizing partnerships through community and labor agreements with Tribes, educational institutions, labor and WFD organizations, community based organizations, and local governments. This group will document new models, templates, and best practices for community and labor agreements that serve to benefit all parties, and which are consistent with Tribal priorities.



6. Programmatic Capability and Past Performance

Blue Lake Rancheria Tribe has successfully managed many grants and agreements that demonstrates the Programmatic Capability to execute the proposed activities. For example, the Tribe's audited 2022 financials provide details of its typical annual budget of ~\$25 million and management of over 30 Federal and State grants and other funding contracts. Successful examples within the last three years include water quality monitoring, nonpoint source program management, solid waste management, and outreach initiatives, consistently meeting reporting requirements and delivering on mandatory milestones. Initiatives like the Sustainable Agricultural Lands Conservation Capacity Grant and California Air Resources Board Air Monitoring and Outreach project reflect our dedication to reducing greenhouse gas emissions and promoting environmental sustainability. Furthermore, BLR has shown resilience in adapting to challenges, such as the pandemic disruptions during the Climate Adaptation Planning Training Partnership Project, which underscores their commitment to effective grant management and community engagement. A breakdown of these performances are as follows:

1. FY 2018-2022 Performance Partnership Grant (Ended 2022; Total \$1,216,351)

- **Assistance Agreement Number: BG-96929318**
- **Funding agency and assistance listing number: 66.605**

Throughout the five years of the Performance Partnership Grant, which encompassed the EPA General Assistance Program, CWA 106 (Water quality monitoring and assessment), and CWA 319 (Nonpoint source program), the Blue Lake Rancheria Tribe successfully executed environmental program management, consultation and coordination, solid waste management, air quality monitoring, and outreach and education initiatives. Expenditures were consistently aligned with the accomplished work, and all mandatory deliverables, such as the EPA Tribal Environmental Plan and Water Quality Assessment Report, were promptly completed or updated according to schedule.

- **Program Contact:** Ruben Mojica Hernandez mojica-hernandez.ruben@epa.gov
- **Reporting Requirements:** Quarterly and annually which were provided as required.

2. FY 2023-2024 Performance Partnership Grant (Ongoing; Total \$658,690)

- **Assistance Agreement Number: BG-96929323**
- **Funding agency and assistance listing number: 66.605**

The Blue Lake Rancheria is currently in the second year of this Performance Partnership Grant, which in addition to including the EPA General Assistance Program, CWA 106 (Water quality monitoring and assessment), and CWA 319 (Nonpoint source program), it also includes a household hazardous waste component, environmental program management, consultation and coordination, solid waste management, air quality monitoring, and outreach and education



initiatives. Expenditures were consistently aligned with the accomplished work, and all mandatory deliverables, such as the EPA Tribal Environmental Plan and Water Quality Assessment Report, were promptly completed or updated according to schedule.

- **Program Contact:** Ruben Mojica Hernandez mojica-hernandez.ruben@epa.gov
- **Reporting Requirements:** Quarterly and annually which were provided as required

3. Sustainable Agricultural Lands Conservation Capacity Grant (Ongoing; \$250,000)

- **Assistance Agreement Number:** 3023-955

The Blue Lake Rancheria Tribal Sustainable Agricultural Lands Conservation aims to reduce greenhouse gasses by protecting agricultural lands from sprawl development in order to promote growth within existing jurisdictions, ensure open space remains available, and sequester climate change-causing emissions. We are in the early stages of this grant but have already hired a Tribal member and started targeting several properties for conservation.

- **Program Contact:** Sarah Nolan Sarah.Nolan@conservation.ca.gov
- **Reporting Requirements:** Final report with Final Invoice

4. California Air Resources Board Air Monitoring and Outreach (Ongoing; \$300,000)

- **Assistance Agreement Number:** 3023-955

The Blue Lake Rancheria Tribe is partnering with Sonoma Technology, Inc. to establish a network of PM sensors, accompanied by an education program, focusing on air quality, personal exposure, data analysis, and the importance of reducing greenhouse gas emissions, with plans to secure long-term funding. The project aims to engage the community, increase monitoring density, train staff, and develop informative reports, emphasizing community engagement, workforce development, and environmental sustainability.

- **Program Contact:** Trish Johnson trish.johnson@arb.ca.gov
- **Reporting Requirements:** Biannually and Annual reports

5. Climate Adaptation Planning Training Partnership Project (Ended 2022; Total \$148,500)

- **BIA Contract #A19AP00161**

The Blue Lake Rancheria secured and expended \$148,500 in funding for their Climate Adaptation Planning Training Partnership Project through the Bureau of Indian Affairs' Tribal Resilience Program. Despite the pandemic disrupting initial plans for in-person training sessions, successful adaptation was achieved, resulting in positive feedback and good attendance for courses



organized with ITEP, FEMA, and the Tribal Education Agency hosting a conference for local Native Americans High Schoolers.

- **Program Contact:** John Mosley john.mosley@bia.gov
- **Reporting Requirements:** Quarterly and annually which were provided as required

a. Staff Expertise

Blue Lake Rancheria (BLR) has successfully managed over \$12 million in grid resiliency and microgrid construction projects and brings highly qualified and experienced staff, including a certified electrical contractor, three certified electricians, and four facilities engineers. BLR has skilled project and program managers and training staff, delivering trainings and certifications via its Resiliency Training and Innovation Center program. The Tribal government has a full time staff of approximately 80 employees, and certain types of part time staff, fellows, and internships. The Tribe has a Financial Management Manual in place in compliance with all applicable (Federal, Tribal) labor regulations and sets policies and procedures to manage grant funding and fiscal operations.

Blue Lake Rancheria staff expertise spans the breadth of electrification emissions reduction measures. Key Blue Lake Rancheria staff include Electrical Systems Director Randy Cox, Tribal Administrator Jason Ramos, Environmental Director William Matsubu, and Finance Director Kim Norton.

Electrical Systems Director, Mr. Randy Cox has over 40 years of experience as a licensed electrician on high, medium, and low voltage electrical systems in industrial and commercial applications within the U.S and internationally. He is highly experienced in electrical construction and project management. He manages a team that has a combined over 100 years of experience. Mr. Cox was integral to the development and implementation of the BLR microgrid systems.

Tribal Administrator, Chairman, and CEO of Business Operations, Mr. Jason Ramos has over 20 years of experience advancing tribal strategy, policy, programs, and investments in infrastructure and economic enterprise. Throughout his career, he has collaborated with Tribes, federal, state, and local governments, and other agencies. His contributions have strengthened tribal sovereignty, improved education, accelerated climate action, and spurred economic development. Ramos also serves on the U.S. Department of Energy Indian Country Energy and Infrastructure Working Group, the Northern California Tribal Chairperson's Association, the Tribal-State of California Regulators Association, and Blue Lake Education Foundation. His work for BLR has earned the following recognition: a 2019 "Green Power Leadership Award" from the Environmental Protection Agency; 2019 "Microgrids for Greater Good Award" from Microgrid Knowledge; 2018 "Project of the Year for DER Integration" from POWERGRID International and DistribuTECH; 2017 "Whole Community Preparedness Award" from FEMA; and the 2015-2016 "Climate Action Champion" from the White House and U.S. Department of Energy.



Environmental Director, Dr. William Matsubu, Ph.D. manages all grants within the Environmental Department. He manages a team of six employees, and has overseen the development of the CPRG PCAP. He earned his Ph.D. from the University of Washington College of the Environment. Additionally, Dr. Matsubu brings experience as a Skilled Laborer in the construction industry. This skill set combines knowledge of ecology, grants, and construction and contracting– all of which will support the completion of this project.

Finance Director, Mrs. Kim Norton has extensive experience preparing reports that are required by statutes authorizing grants and contracts, and to be able to trace funds to a level of expenditures adequate to establish that such funds have not been used in violation of the restrictions and prohibitions of applicable statutes. They keep accurate, current and complete disclosure of financial results of financially assisted activities in accordance with the financial reporting requirements of the grants. Records are maintained to adequately identify the source and application of funds provided for financially assisted activities. These records must contain information pertaining to grant awards and authorizations, obligations, unobligated balances, assets, liabilities, outlays or expenditures, and income.

See Other Attachments section for resumes of key staff for more detail.

7. Budget

Funding Request

The project will cost a total of \$6,854,686 over 5 years. The Tribe has an Indirect Cost Negotiation Agreement of 37.7% (approved 2024 rate provided).

Budget by year							
COST-TYPE	CATEGORY	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL
Direct Costs	TOTAL PERSONNEL	\$178,200	\$185,328	\$192,741	\$106,862	\$111,137	\$774,268
	TOTAL FRINGE BENEFITS	\$80,190	\$83,398	\$86,734	\$48,088	\$50,011	\$348,420
	TOTAL TRAVEL	\$0	\$0	\$0	\$0	\$0	\$0
	TOTAL EQUIPMENT	\$275,160	\$0	\$0	\$0	\$0	\$275,160
	TOTAL SUPPLIES	\$10,000	\$10,000	\$0	\$0	\$0	\$20,000
	TOTAL CONTRACTUAL	\$2,240,246	\$2,724,488	\$0	\$0	\$0	\$4,964,734
	TOTAL OTHER	\$0	\$0	\$10,000	\$10,000	\$10,000	\$30,000
	TOTAL DIRECT	\$2,783,796	\$3,003,214	\$289,475	\$164,950	\$171,148	\$6,412,582
	TOTAL INDIRECT	\$101,183	\$105,080	\$109,132	\$62,186	\$64,523	\$442,103
TOTAL FUNDING		\$2,884,979	\$3,108,293	\$398,607	\$227,136	\$235,671	\$6,854,686



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