

Nez Perce Tribe Brownfield Assessment Grant Application-Tribal Unit 45

Introduction

The Nez Perce Reservation is located in north-central Idaho and includes portions of Clearwater, Idaho, Latah, Lewis, and Nez Perce counties. The gently rolling hills of the Columbia River basin and Palouse region give way to the Bitterroot Mountains that form the northern Rocky Mountain chain. The Reservation may be described as plateau country approximately bounded by two deep, desert canyons of the Snake and Clearwater Rivers—forested on north facing slopes and higher elevations--which are major tributaries to the Columbia River. Many Nez Perce Tribal members are subsistence and commercial fisherman and these rivers provide spawning and rearing habitat for ocean runs of endangered salmon and steelhead. The Nez Perce are best known for assisting the Lewis and Clark Expedition of the western United States (1804-1806) and the Nez Perce War of 1877. In this war Chief Joseph was chased by the US Calvary 1,170 miles over four months in a remarkable fighting retreat with 250 warriors, 500 women and children, and 2000 head of Appaloosa horses and livestock. At the Battle of Bears Paw, 40 miles from the Canadian border, Chief Joseph was immortalized by his famous speech that ended “From where the sun now stands I will fight no more forever.”

The Nez Perce Tribal Enterprises vision statement for the Reservation is “to fulfill economic development strategies by creating and expanding businesses in commercial, tourism, wholesale and manufacturing development throughout the Nez Perce historical lands, thereby diversifying our economy, renewing our fiscal well-being, and securing our unique legacy for cultural, educational, social, economic, and environmental success as “Ni-mii-puu” businessmen and women¹.” A redevelopment goal for Tribal Unit 45 (TU-45) was articulated by Tribal Enterprises and approved by the Tribal Executive Committee in future economic development strategies for a “Tourism and Retail Center for attracting interest in the site of Chief Twisted Hair and the Es-kap-o band of the Nez Perce Tribe².”

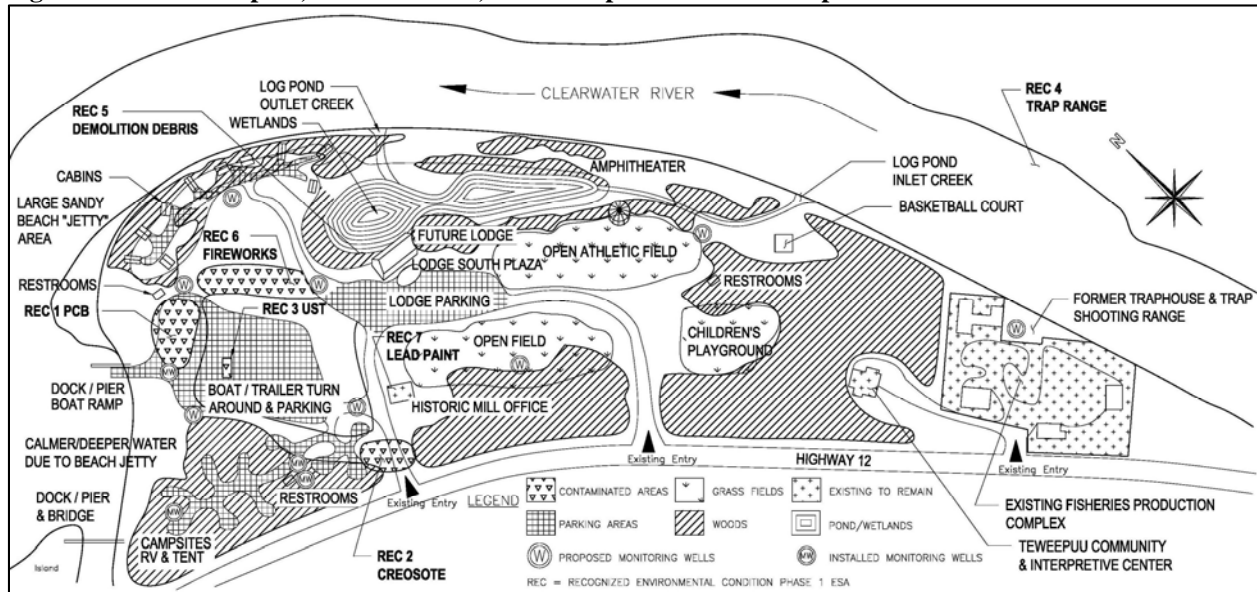
To better understand the Nimiipuu, the Nez Perce word for “we the people,” a brief history of the Tribe is presented. Since time immemorial, present-day north-central Idaho, northeast Oregon, and southeast Washington have been home to the Nimiipuu. Long before the Lewis and Clark expedition entered the homelands of the Nez Perce in 1805, the Nez Perce Native Americans hunted, fished, and traded in villages along the Clearwater, Snake, Salmon, and Columbia Rivers, and tributaries. The Tribe signed the Treaty of 1855 with the U. S. and established a Reservation including portions of Idaho, Oregon, and Washington states and consisting of over 13 million acres with perpetual rights to hunt, fish, gather, and graze their livestock, which continue to be exercised to the present day. Persistent illegal trespass onto the Reservation by non-Indian miners with many violent conflicts resulted in the Tribe being forced into signing a second treaty which reduced the Reservation to its present size of 750,000 acres in 1863. In 1887 Congress enacted the Dawes Severalty Act, which allotted 160 acres to heads of household, 80 acres for single people over 18 yrs, and 40 acres to children under 18 year old. The remainder of the Reservation was sold to non-Indians with the proceeds to be used for Indian education. The result of this act was the 83% of the Reservation is now owned by non-Indians, 2% is federally owned, and 15% is held in Trust by the federal government for the benefit of the Tribe.

¹ Nez Perce Tribal Enterprises Economic Development Strategies, July 2009.

² Ibid, p. 12.

The Nez Perce Tribe envisions the abandoned lumber mill site at TU-45 to become a high-quality recreational showcase property with the development focusing on Nez Perce history, culture, and community interaction with green space, lifestyle enrichment programs, camping, and fishing access for boaters. The Nez Perce Tribe recognizes that a fisheries resource based business is an opportunity to capture revenue from the anglers and boaters that come for the world-famous steelhead runs on the Clearwater River.

Figure 1. TU-45 Site plan, contamination, and conceptual future development.



Narrative Proposal (Ranking Criteria)

V.B.1 Community Need (45 total points)

Orofino is a non-agricultural community dependent upon the timber industry, with the third-largest Indian population on the Reservation. The Orofino Tribal community receives the least support from the Tribe, ranking consistently behind the larger Tribal communities of Lapwai and Kamiah, Idaho. The Tweepuu Tribal Community Center, located on TU-45, is substandard in comparison to both the Lapwai and Kamiah community centers. However, TU-45 receives numerous visits from both Tribal and non-Tribal residents with emphasis on walking, wildlife viewing, fishing, swimming, seasonal outdoor basketball, and fireworks displays. Even in winter there are a surprising number of human and animal tracks visible in the snow throughout the 39 acre property. This valuable piece of real estate is the only large, relatively flat pieces of property along a 22 mile section of deeply incised canyon between Orofino and Kamiah and would provide substantial opportunities for Tribal economic development along this beautiful National Scenic Byway of the Middle Fork Clearwater River.

The Richardson Sawmill was built on this undeveloped property in 1943 and operated until May 1980. Mill site demolition and cleanup was conducted from June 1980 through July 1982. Other leases included the Orofino Gun Club, who used it for a trap range from 1985-1995. Seubert Excavators operated an asphalt batch plant from 1987-1991. WASCO leased the site in 1997 to place and compact clean fill. Various fireworks stand operators leased the site from 1987-2009, and the White Eagle Gift Shop operated from 1993-2003. Current operations on the east end of the property include the Orofino Tribal Fisheries Office and Tweepuu Community Center. The western two thirds of TU-45 are currently open space.

The Nez Perce Tribe and surrounding communities have been motivated in developing business and recreational facilities at TU-45 for 10 years. Tribal Enterprises recognizes that re-development of the site will require a source of potable water and the available data indicates the shallow aquifer is contaminated. The proposed monitor well drilling will assess distribution of contaminants in groundwater and attempt to clarify the groundwater surface water interactions as they relate to contaminant transport and possible sources of fresh drinking water. Tribal Water Resources Division is concerned about the impact the contamination poses for bioaccumulation of pollutants in fish in the Clearwater River, problems with supplying potable water for site redevelopment, and possible degradation of river water quality on the two municipal water supply diversions from the Clearwater River for the city of Orofino, located approximately one mile and five miles downstream.

This site-specific grant would provide essential funds to complete the soil and groundwater characterization needed to determine the magnitude and extent of the contamination. Tribal Enterprises cannot in good conscious proceed with redevelop plans without an informed knowledge of the contamination. Completing the proposed Phase 2 ESA and conducting an analysis of Brownfield cleanup alternatives (ABCA) for TU-45 will significantly advance the re-development of this valuable asset.

V.B.1.a Targeted Community and Brownfields (20 Points)

V.B.1.a.i. Targeted Community

The Nez Perce are traditional Indians with a culture dependent on subsistence fishing, hunting, and gathering berries and roots that are sensitive to environmental contamination because they depend on salmon, steelhead, deer, and elk for the majority of their protein.

V.B.1.a.ii Demographic Information

Unemployment rates in Orofino remain higher than the state and national levels. Due to the rural nature of the Reservation, economic relief from increased corporate activity is unlikely. According to an Idaho Department of Labor (IDL) publication Clearwater County has struggled with high unemployment since the mid-1990s” (2012). The Tribe, Orofino, and Clearwater County have unemployment rates that exceed the state and national rates. The unemployment rate for tribal members is 24%, which is nearly double the state and national rate (Table 3). The poverty rate of Tribal members is 81.7%, whereas the state and national poverty levels are below 15.1% (Table 3). This is likely a direct result of elevated unemployment rates and frequency of single-parent households with young children and is further reflected in the number of persons receiving public assistance.

The Tribal and local community have a lower per capita income and median household income than the state of Idaho or the United States. The economic disparity is greatest for Tribal members, whose per capita income is half of that of the average U.S. citizen; and Tribal member household income is 40% less than the national household income (Table 3).

Table 1 Economic factors for the Nez Perce Tribe, local community, Idaho, and U.S.

	Target Minority: Nez Perce Tribe Reservation	City of Orofino	Clearwater County	State	National
Population	2310 ⁴	3078 ²	8,590 ²	1,612,136 ¹	316,128,839 ¹
Unemployment	24% ⁴	13.6% ²	10.8% ²	6.1% ¹	6.7% ¹
Poverty Rate	81.7% ⁴	12.7% ²	11.3% ⁵	15.1% ¹	14.9% ¹

Percent Minority	12.5% ⁴	1.6% ⁴	3% ⁴	17.1% ¹	26.7% ¹
Per Capita Income	\$13,980 ⁴	\$18,832 ¹	\$20,533 ¹	\$22,518 ¹	\$28,051 ⁴
Median Household Income	\$15,500 ⁴	\$37,336 ¹	\$41,914 ¹	\$47,015 ¹	\$ 53,046 ¹
Population w/ SSI, Public assistance, and food stamps	23.4% ⁴	18.2% ⁴	16.8% ⁴	18.1% ⁴	21.2% ⁴

Data obtained from:

¹ 2013 U.S. Census data from Quickfacts and American Community Survey; last revised 01/06/2014

² 2012 U.S. Census data from Quickfacts and American Community Survey; last revised 05/2013

³ Bureau of Labor Statistics 01/10/2014;

⁴ Nez Perce Tribe TDR Demographics Report 2012,

⁵ Idaho Department of Labor 11/2013;

Health Statistics

The following health statistics for Nez Perce Tribal members versus Idaho and U.S. residents illustrate that the general health of Tribal members is failing. The Tribe stands out as a sensitive population because it represents the largest minority with high rates of women of child-bearing age and children under the age of 18. The Tribal population on the Reservation is 3,545. The Tribal members living in Orofino have experienced significant cultural isolation and disenfranchisement. Also, the exorbitant rate of cancer and diabetes among Tribal members is unexplained (Table 1). In addition, over 28% of the Tribe's population consists of a female head of household of child-bearing age with children less than 18 years of age in the home (Table 2). This is 2 to 3 times the rate of the state and national average for females and children. The Tribe's immediate concerns are that the hazards might be influencing the Teweepuu Community Center and youth recreation areas at TU-45.

Table 2 Comparison of Health Statistics for Nez Perce Tribal Members, Idaho and U.S.

	Target Minority Nez Perce Tribe	Idaho	U.S.
Diabetes ¹	16.16% ¹	8.00% ²	8.3% ³
Cancer % per 100,000 males and females over 19 yrs old ¹	10.96% ¹	0.43% ²	0.44% ³

¹2010 Tribal member data obtained from Nimiipuu Health Clinic,

² 2009 ID Diabetes data from ID Dept. of Health and Welfare at

<http://www.healthandwelfare.idaho.gov/LinkClick.aspx?fileticket=cR6OgxYknBE%3D&tabid=175&mid=6891>;

³ 2011 U.S. Diabetes data from <http://www.diabetes.org/diabetes-basics/diabetes-statistics/>; 2007 ID and US cancer data from CDC at <http://apps.nccd.cdc.gov/uscs/statevsnational.aspx>

Table 3 Comparison of sensitive populations

	Target Minority: Nez Perce Tribe	Orofino	Clearwater County	Idaho	U.S.
Percent Minority ¹	12.5% ²	8.3% ³	8.2% ¹	16.5% ¹	37.0% ¹
Female householder with children under 18 ³	22.5% ²	11.17%	6.76%	9.65%	12.78%

¹ 2010 U.S. Census data from Quickfacts;

² 2012 Nez Perce Tribe TDR Demographics Report,

³U.S. Census Bureau American Fact Finder 2010.

V.B.1.a.iii Brownfields

The Tribal Response Program (TRP) has completed a Brownfield Inventory List with 46 Brownfield properties located on the Reservation. The properties range in size from two city lots to 39 acres (TU-45). The targeted Brownfield for this grant request is Tribal Unit 45 (TU-45). TU-45 is a 38.9-acre site on the northern boundary of the Nez Perce Reservation, 1.3 miles southeast of Orofino, Clearwater County, Idaho (Figure 1). The site is situated along the south bank of the Clearwater River on a large point bar located at mile point 45.4 on Highway 12, a National Scenic Byway. The Nez Perce Tribe has owned the property since time immemorial, and it is held in trust by the US Government for the Tribe.

V.B.1.a.iv. Cumulative Environmental Issues

The environmental issues at TU-45 are serious enough to stymie further planning until the Tribe understands the magnitude and extent of contamination. Tribal members and non-Tribal public who currently utilize the site for recreation and fishing will benefit by understanding the impacts of the contamination on their individual human health, the aquatic environment, and bioaccumulation of persistent organic pollutants (POP) in fish. This grant will further the Tribe's and EPA's goals of identifying, characterizing, prioritizing, and recommending properties for cleanup, and will return this Brownfield property within the Reservation boundaries to beneficial use. This grant will help the community attain characteristics consistent with the livability principles while discouraging sprawl, integrating smart-growth practices, and green infrastructure development.

The 46 Brownfield sites on the Reservation documented by the Tribal Response Program are potentially contaminating soil, groundwater, and surface water on which the wildlife and fish upon which the Tribal members depend for the majority of their food³. The Brownfields range in size from 0.1 acre to 39 acres at TU-45.

V.B.1.b Impacts on Targeted Community:

Sensitive receptors within 5 miles downstream of TU-45 include two drinking water intakes for the City of Orofino. The Nez Perce are a fishing tribe and contaminants that bioaccumulate in fish are of particular concern. A healthy environment is very important to the tribal members living off the land, who have hunting, fishing, and gathering rights guaranteed by the Treaty of 1855. Currently Idaho water quality standards are assuming fish consumption rates of one fish meal per month, but in reality tribal members eat one fish meal per day. The Columbia River Inter-Tribal Fish Commission (CRITFC) participated in a 2002 survey of contaminants in fish in the Columbia River Basin published by the Environmental Protection Agency (EPA) in 2002. The report shows that both resident fish (white sturgeon and large-scale sucker) and anadromous fish (steelhead) collected from Idaho waters contained PCBs, dioxin-like PCBs, chlorinated dioxins, and pesticides. In a collaborative process between the CRITFC, the EPA, and the Oregon Department of Environmental Quality, a fish consumption rate of 175 grams per day was established in 2011. Washington Department of Ecology is considering a range from 157 to 267 grams per day, which takes into consideration populations who do eat fish at higher rates, such as tribes and subsistence fishers. Furthermore, due to their size, physiology, and behavior, children are more vulnerable than adults to environmental hazards. Children under age 5 breathe more air, drink more water, and eat more food per unit of body weight than adults do, so they experience higher rates of exposure to chemicals and pollutants.

³ Tribal Response Program Inventory of Regulated Properties, 2013.

V.B.1.c. Financial Need (20 total points)

Recent hard economic times have driven Clearwater County's population down by 5%, while Idaho's population grew by 20%, and the U.S. population grew by 9.5%. The decline in the local population is associated with a long-term collapse in the timber industry and a lumber mill closure in 2000. The decline was further intensified by the collapse of the housing market in 2006. Employment in the timber industry fell from 864 jobs in 1992 to 354 jobs in 2001, where it remained until the housing market collapse depressed it to just 69 jobs in 2009 (Idaho Department of Labor 2012). Furthermore, the economic downturn has affected leisure, hospitality, and tourism business. After the September 2001 terrorist attack far fewer tourists than predicted came to celebrate the bicentennial of the Lewis and Clark expedition through Idaho or to hunt, fish, camp or use their boats at Dworshak Reservoir near Orofino.

Currently, the main employers for the Nez Perce Tribe and Orofino are government, education, health, and social services (IDL 2012). High unemployment rates on the Reservation are due to the decreased price of commodities (lumber, wheat, etc.) and the economic downturn, which has greatly reduced the tourism income for the community. Jobs that were once considered secure, such as education and public employment, which are a major source of income for households in the targeted community, are also facing state-mandated budgets cuts.

This Assessment grant application is a logical extension of the TBA and our CERCLA 128(a) TRP. The Tribe also manages EPA Leaking Underground Storage Tank (LUST) Prevention and Assessment Programs. An abandoned UST exists on TU-45, and we are leveraging funds by assessing this UST with LUST Assessment funds. That portion of the site is excluded from this Brownfield Assessment Grant application. The Tribe needs dedicated assessment funds to determine the extent of contamination, identify cleanup options and provide oversight, and conduct environmental monitoring. In 2014 the Tribal Response Grant (TRP) will fund the quarterly monitoring well sampling of four recently installed wells. However, the proposed drilling and sampling program would consume the entire proposed budget for the TRP and a new source for funding the assessment must be found.

V.B.2 Project Description and Feasibility of Success (100 total points)

Review of previous work:

The Nez Perce Tribe is committed to environmental protection and restoration of all lands within the Reservation boundaries. In particular, the Nez Perce Tribe has a vested interest in restoring anadromous threatened and endangered steelhead and salmon, and resident threatened bull trout, and species of concern (Pacific lamprey) within the Columbia River Watershed.

Three significant reports have been produced regarding Environmental Assessment of the site: a 2012 Phase 1 Environmental Site Assessment (ESA), 2010 Targeted Brownfield Assessment (TBA), and a 2013 Phase 2 ESA at TU-45, which documented soil and groundwater contamination including wood preservatives (creosote and pentachlorophenol), PCBs (spilled transformer oil) and perchlorate (fireworks explosive residue). Several of these contaminants are characterized as "persistent organic pollutants" which can bioaccumulate in the food web and directly affect potential drinking water quality.

The Phase I ESA (2012) concluded there were seven recognized environmental conditions at TU-45 including PCB contaminated soil, creosote wood treatment, UST, lead shot from a Trap Range, uncharacterized demolition debris, chemical residue from extensive fireworks ignition,

and lead contaminated soil from peeling lead paint. At the request of the Tribal Response Program, EPA Region 10 conducted a TBA⁴ including soil sampling and direct-push drilling and sampling of five borings and one groundwater sample. A significant effort went into the TBA, and the results confirmed the presence of creosote contamination at depth of 15 ft and the presence of two pollutants (perchlorate and pentachlorophenol) exceeding proposed and current drinking water standards. However, the TBA did not generate sufficient data to define the extent and magnitude of contamination. The TBA was unsuccessful in evaluating in completing the groundwater sampling because the direct-push drilling rig used in the TBA could not penetrate the boulders present in the substrate beneath the site.

In 2013 the Tribal Response program conducted a Phase 2 (ESA) assessment activities that included soil sampling for PCB's and creosote, a geophysical survey to explore for underground storage tanks (funded by the Tribe's EPA LUST Assessment Program), an Amplified Geochemical Imaging (AGI) soil vapor survey, and drilling and sampling of four monitoring wells using TUBEX Air Rotary drilling, which focused on the down gradient effects of creosote contamination and potential PCB soil and groundwater contamination.

Although an additional three quarters of groundwater monitoring are needed before we can definitively draw conclusions as to the environmental impacts of the contamination in the vicinity of the four monitoring wells, here is a summary of the results to date:: No PCB soil or groundwater contamination has been identified to date; residual contamination—if any—may be handled with institutional controls. Creosote contaminated soil exceeding regulatory standards for ingestion was identified at a depth of 4 to 15 ft below ground surface. Groundwater monitoring results from the four recently installed wells identified seven creosote-related compounds in one well 13 ft downgradient to the creosote treatment pad, but none of the contaminants exceeded drinking water standards. The AGI soil vapor survey identified a vapor contaminant plume down gradient from the creosote treatment area consisting of toluene and Total Petroleum Hydrocarbon. Perchlorate exceed the proposed drinking water standard of 15 ug/L in two wells and was detected in all four wells. No pentachlorophenol was detected in the four wells, although we didn't drill in the immediate vicinity of the previous pentachlorophenol groundwater sample.

V.B.2.a Project Description (20 points)

i). Potential and documented groundwater contamination is a significant impediment to locating a potable water supply at TU-45. The existing potable water well produces 5 gallons per minute from deep well producing water from a low-yielding crystalline basement aquifer beneath the site and this is an insufficient quantity to support the proposed development. Potable water will either need to be supplied from the river with associated expensive water treatment requirements or extracted from an uncontaminated part of the alluvial cobble-boulder aquifer. A clean groundwater source would be the most desirable because of the reduced cost of treatment and avoiding biological contaminants, suspended sediment during spring runoff and storm events, and occasional chemical spills relating to trucking accidents up river along Highway 12. Additionally, transport of persistent organic pollutants to the aquatic environment in the river may be contaminating aquatic life.

⁴ Ecology and Environment, 2011.

The primary objective of this proposal is to drill and sample eight water monitor wells to assess groundwater quality (see Figure 1). These eight wells—in addition to the four wells recently installed in 2013—will establish a monitoring well network capable of answering the questions regarding groundwater’s effect on the project. We will utilize TUBEX Air Rotary drilling to collect sediment and groundwater samples for volatile, semi-volatile organics, and perchlorate, identify seasonal groundwater flow, and generate a groundwater and contaminant transport flow map. Previous monitor well drilling experience with both direct push and TUBEX Air Rotary at the site has demonstrated that air rotary is perhaps the only feasible drilling technology capable of installing monitoring wells in the cobble-boulder substrate beneath TU-45.

V.B.2.b Task Description and Budget Table

Task Description

The proposed \$199,978 Phase II ESA budget would be expended over a period of three years (Table 4). Staff time was estimated for each task, and a table showing the distribution of full-time equivalent salaries is presented in Table 5.

Costs for financial reporting are included in the “Other” category. These costs were calculated as 6.27% of the Nez Perce Tribe’s negotiated Indirect Cost Agreement with the National Business Center. The current approved indirect cost rate is 24.86% of direct charges excluding contractual and equipment. As negotiated by this agreement, the charges for financial management are 24.86% of the indirect costs, or 6.27% of the direct charges, excluding contractual and equipment costs. The “Other” category also includes estimated costs for public meetings and Analysis of Brownfield Cleanup Alternatives in Task 3.

Assessment Work Plan

Task 1 QAPP development and solicit bids, \$10,355

- A. QAPP development: The Nez Perce Tribal Response Program has an active quality assurance program. We have an EPA-approved quality management plan (QMP) and a general quality assurance project plan (QAPP). We will draft a site-specific sampling and analysis plan (SAP) incorporating all the pertinent information related to the project that will dovetail into our approved QMP and QAPP plans.
- B. Solicit drilling bids: Utilizing the information learned from the Targeted Brownfield Assessment (TBA) and the Phase II ESA conducted by the Tribe in 2013, eight groundwater monitoring wells are proposed. In December 2013 the Tribe successfully completed the drilling and installation of four monitoring wells utilizing the TUBEX Air Rotary drilling. Approximately 75% of the substrate in this drilling encountered cobbles and boulders essentially eliminating all other drilling techniques in this difficult geologic environment.
- C. Solicit analytical bids: Based on our recent experience with the Phase 2 ESA we have recent budgeting experience estimating actual contractual expenses of AGI soil vapor sampling, monitor well drilling, and sampling. Based on the chemicals previously identified in the TBA and Phase 2 ESA, eight EPA analytical methods are needed, for monitor wells water sampling including, Semi-Volatile Organic Carbon (SVOC), Volatile Organic Carbon (VOC), PCB, Perchlorate, RCRA 8 Metals, Cation-Anion Balance, Alkalinity, and Total Dissolved Solids (TDS). The sediment samples generated by the drilling should include SVOC, VOC, PCB, and Perchlorate. We have previously requested a bid for AGI soil vapor sampling to be utilized in the 2013 Phase 2 ESA.

However, lack of funds required us to significantly scale back the scope of the project to access only the creosote treatment area. We will also request a new bid from AGI to cover the proposed sample area.

Task 2 Drilling and Sampling \$127,618

- A. Amplified Geochemical Imaging (AGI) soil vapor sample screening: Collect 80 soil vapor screening samples at \$250/sample for an estimated cost of \$20,000. This technique was used over the creosote contamination area at TU-45 in the Phase II ESA and identified a toluene and total petroleum hydrocarbon signature that was very useful in identifying locations for installing monitoring wells. Soil vapor screening samples will be installed on a grid with 50 ft centers, samplers will be placed in 2 ft deep holes, plugged with a cork, and left for one week, and then submitted to AGI for chemical analysis. AGI will then plot the chemical concentrations on a plan view map with coordinates submitted by the Tribe, and contour the results. This technique has proven successful on three recent projects, which the Tribe either managed or consulted on and were pre-approved by EPA R10 QAPPs.
- B. Tubex air rotary drilling and sampling and monitor well installation: A bid from Environmental West Exploration was received for 8 wells, 35 ft deep for an estimated total of \$46,760, or approximately \$5,845/well. The elevation of the Clearwater River is believed to be flowing on the bedrock surface, and the water table is anticipated to fluctuate with river stage. Drilling, sampling, equipment decontamination between wells, and monitor well installation is estimated to take approximately one month. The Tribe's Idaho Registered Professional Geologist will manage the project, log the borehole geology, and make all field decisions related to the project investigation.
- C. Groundwater monitor well sampling (1st qtr): Initial cost per water sample is \$1066 or \$12,000 for 13 wells (Four monitor wells were drilled in 2013, plus eight new wells in this project, plus one duplicate sample per sample event). Approximately 32 sediment samples will be collected during the drilling (4/boring) at an estimated cost of \$21,600. Water quality parameters will be field-collected with a multi-meter and flow-through cell to measure dissolved oxygen, temperature, electrical conductivity, pH, and oxidation-reduction potential (ORP). Water level measurements will be collected, and water level contour maps will be constructed. Various well-hydraulic tests may be conducted to determine the hydrologic properties of the aquifer, which will be useful for estimating contaminant transport properties and migration of contaminants to drinking water wells and the Clearwater River.

Task 3 Monitoring and Analysis of Brownfield Cleanup Alternatives, \$62,005.

- A. Groundwater monitor well sampling (2nd, 3rd, 4th quarters): An additional three quarters of groundwater monitoring will be conducted after the initial sampling to measure the temporal variations of contaminant concentration. Pressure transducers may be deployed in some of the wells to correlate groundwater elevation to river stage. Two contaminants, perchlorate and pentachlorophenol, are of particular concern for drinking water. A single groundwater sample for perchlorate collected at the site during the TBA had a concentration of 60 µg/L, and EPA is proposing a drinking water standard of 15 µg/L. Recent perchlorate analysis from four new wells ranged from 5.2-16.9 µg/L. Perchlorate contamination is believed to be the result of the detonation of fireworks and subsequent leaching of the fireworks casings that litter the site. Firework detonation has particular

importance to a future “source water protection area” because of the vulnerable nature of the river gravel substrate.

Pentachlorophenol (penta) was detected at 0.036 µg/L in groundwater, which exceeds the Idaho Initial Default Target Level (IDTL) of 0.001 µg/L for drinking water. Penta was also detected in 7/48 surface soil samples ranging from 11-460 µg/L exceeding the IDTL of 9.6 µg/L for soil. Penta is of particular concern because of the very low IDTL, the fact that it was not previously identified in the Phase I ESA, and its source is unknown. The additional monitoring wells will help define the distribution of penta.

- B. Data compilation and interpretation: Analytical, geologic, and hydrologic data will be compiled under the supervision of the Team Leader and interpreted utilizing contour maps, geologic cross-sections, and groundwater flow directions.
- C. Risk assessment: Chemical concentrations and physical locations will be compared to Idaho initial default target levels and comparable EPA contaminant levels for Indian Country. Concentrations exceeding IDTL values will then be analyzed using the Idaho Risk Evaluation Manual, which incorporates risk-based corrective action principles to determine which constituents pose unacceptable risks to human health and the environment.
- D. Analysis of Brownfield Cleanup Alternatives: Chemical constituents exceeding all acceptable levels will be targeted for cleanup. Constituent concentrations will be compared to various uses including residential, commercial, and industrial. Alternatives will be explored in an attempt to accommodate the proposed site uses. Institutional and engineering controls may be needed under some circumstances to utilize the property.

Public Meetings: \$1000 is budgeted in Tasks 2 and 3 to advertise and host public meetings to present the findings, including estimated costs, development options, and cleanup alternatives. Additional presentations are anticipated to Tribal Council and the Tribal Economic Development Office, and partners and stakeholders in the future development of the site.

V.B.2.c Ability to Leverage

We have leveraged funds from the Tribal Response Grant to pay for three significant tasks required for the assessment: The Phase 1 ESA, Archeological Survey to comply with the National Historic Preservation Act, and Phase 2 ESA.

The Tribe is primarily working with EPA Region 10 to leverage grant funds through the CERCLA 128(a) and LUST grants. Utilizing Tribal employees for multiple grants helps develop the Tribe’s capacity and provides a broad range of experience for staff. In addition, Idaho Department of Environmental Quality (IDEQ) Brownfields Office has expressed a willingness to assist the Tribe with resources in redeveloping TU-45. We also have the ability to apply for additional Brownfield cleanup loans through the Clearwater Economic Development Association via their affiliation with Sage Community Resources and the Idaho Brownfields Revolving Loan Fund.

Table 4. Project Budget (1/13/2014)

	Task 1 QAPP & Solicit Bids	Task 2 Drilling & Sampling	Task 3 Monitoring, Anal Brownfields Alternatives	Total
a. Personnel Total	6536.00	14814.00	12745.00	34095.00
b. Fringe Benefits	2958.00	5634.00	4965.00	13557.00
c. Travel	0.00	0.00	0.00	0.00
d. Equipment	0.00	0.00	0.00	0.00
e. Supplies	250.00	1000.00	500.00	1750.00
f. Contractual	0.00	103418.00	41574.00	144992.00
g. Construction (N/A)	0.00	0.00	0.00	0.00
h. Other	0.00	1324.00	1016.00	2340.00
i. Total Direct Costs	9744.00	126190.00	60800.00	196734.00
j. Total Accounting (1/2014)	611.00	1428.00	1205.00	3244.00
k. Total Proposed Costs	10355.00	127618.00	62005.00	199978.00

Table 5. Full time equivalent staff allocation by project task. (1/13/2014)

Budget Categories	FTE%			
	Assessment Tasks			Assessment Total
Position Title	[Task 1]	[Task 2]	[Task 3]	
Team Leader	6%	13%	12%	31%
GIS Analyst	6%	13%	12%	31%
Total	12%	26%	24%	62%

V.B.3.a Your Plan for Involving the Affected Community (10 Points)

The Tribe will communicate with the affected community primarily through the Tribal Water Resources website (www.nptwaterresources.org). We will also write articles for the Tribal newspaper called the Ta'ctito'ogan. The Tribe has recently begun broadcasting over a Tribal radio station, KIYE at 88.7 FM, which offers community service announcements. When announcing public meetings we will utilize paid announcements in three local newspapers of record including Lewiston Morning Tribune (daily), Clearwater Progress (weekly), Idaho County Freepress (weekly). All communication will be conducted in English as very few Tribal members speak the Nez Perce language; no translation services are necessary.

The Tribe held two recent public meetings regarding proposed ESA at Tweepuu Community Center at TU-45 were held in January 2012 and again in November 2013. Concurrently with both meetings "SurveyMonkey" digital surveys designed to both inform the public of specific information and solicit input on the Tribe's plan for redeveloping the site. Both meetings were advertised in three newspapers and the Tribal Radio Station (KIYE 88.7 FM). In 2010, three

public meetings were also held regarding TU-45 ESA and redevelopment options. Once the proposed Phase 2 ESA is complete and an Analysis of Brownfield Cleanup Alternatives has been developed, additional public meetings will be held, and public comments will be invited to guide the cleanup standards in accordance with the redevelopment decisions. The public comment period is anticipated to range from 2 weeks to 30 days. Public comments will be compiled and utilized in the planning process for assessment and cleanup decisions, particularly those actions that have potential impacts to human health or the environment.

V.B.3.b Partnerships (10 Points)

i) Local/State/Tribal environmental and health agencies

The Tribe has a good professional relationship with the Idaho Department of Environmental Quality (DEQ) Brownfields Office. DEQ routinely refers Reservation environmental complaints, inspections, and cleanups to our office. The Tribe reciprocates by updating DEQ of our progress. The Bureau of Indian Affairs (BIA) is the Federal Agency which holds the land in Trust for the benefit of the Tribal Members. Nez Perce Tribal Enterprises is the Economic Development organization for the Tribe and functions independently from Tribal Government, which employs the Brownfield Tribal Response Program.

ii) Other relevant federal and state governmental agencies

As the redevelopment plan progresses, the Idaho Transportation Department will be consulted to redesign the access to the site off Highway 12. EPA Region 10 will be consulted on the best approach to address cleanup options including administrative exclusion to redevelopment. The Tribal Historic Preservation Office insures that all federally funded activities are in compliance with the National Historic Preservation Act. \$30,000 was leveraged to conduct an archeology survey prior to conducting the Targeted Brownfield Assessment in compliance with the Act.

iii) Any local environmental job training program

We plan to link members of the community to potential employment opportunities in the assessment, cleanup, and redevelopment of TU-45 through the Tribal Employment Rights Office (TERO) Compliance Program. TERO is a tribally established and operating Indian Preference enforcement and compliance program to protect and assert Indian employment and contracting rights for the economic, social, and cultural prosperity of the Nez Perce Reservation communities. When the recruiting process begins, we will contact TERO with a job description; and they will search their database to put us in contact with unemployed, skilled Native Americans.

V.B.3.c Key Community-Based Organizations (10 Points) The Nez Perce Tribe has received letters of support from four institutions including Clearwater Economic Development Association (CEDA), Friends of the Clearwater (FOC), Idaho Rivers United, and Palouse Clearwater Environmental Institute (PCEI).

Clearwater Economic Development Association (CEDA) provides a much-needed business approach to community involvement. They routinely deal with local and state governments and know many of the economic issues important to these communities. The organization is a member-driven private nonprofit corporation that operates in the public interest to improve economic opportunities, increase employment skills and sustain preferred lifestyles for residents, communities, and businesses in north-central Idaho. CEDA is a member of Sage Community Resources, which manages an EPA Brownfields Revolving Loan Fund.

Three local environmental organizations have written letters of support for the proposed Phase 2 ESA. Their primary rationale for supporting this work relates to the possible presence of persistent organic pollutants identified as potentially contaminating the Middle Fork Clearwater River.

V.B.4.Project Benefits (30 points)

The Tribe will track and measure progress for short- and long-term outcomes and outputs for the Assessment Grant utilizing the staff and funding of the Brownfields Response Grant, which has capacity development for such tasks as part of its workplan. We will develop a timeline with milestones and benchmarks in cooperation with our EPA Project Officer. We will prepare quarterly reports and compare our progress to the project timeline and make realistic corrections as needed. We will also meet regularly with our three grant partners to establish project deliverables to incorporate into the project timeline. The development of assessment and cleanup plans and community meetings will be tracked via our website, local radio station, and newspaper.

Outputs:

1. Phase II ESA
2. Public Meetings
 - a. Nez Perce Tribe Natural Resource Subcommittee
 - b. Orofino Chamber of Commerce
 - c. Public Meeting discussing results Phase II ESA and scoping meeting for Analysis of Brownfield Cleanup Alternatives
 - d. Presentation of Tribe's decision on ABCA

Outcomes:

The primary benefits to Reservation residents include improving the environmental health, increasing economic competitiveness, supporting existing communities, leveraging federal investment, and valuing communities and neighborhoods. The Tribe's assessment of TU-45 will focus on assessments of environmental pollutants contaminating soil and groundwater. Tribal Enterprises has not been able to move forward with redevelopment plans because of known existing and potential contamination. Potential groundwater contamination not only affects future sources of domestic groundwater needed for site redevelopment, but baseflow to the Clearwater River is potentially degrading the downstream drinking water diversions for the City of Orofino. Additionally, some of these chemicals are known to bioaccumulate in fish, potentially violating proposed water quality standards related to increased fish consumption standards. The Clearwater River provides spawning and rearing habitat for threatened and endangered steelhead and salmon, which are major food sources to Tribal members.

V.B.4.b Economic Benefits and/or Greenspace (10 Points)

i) Economic benefits

Assessing TU-45 will further Tribal Enterprises objectives to redevelop the site with a proposed visitor center, retail stores, and lodging, which will lead to increased recreation, tourism, and employment. Green building practices will enhance the redeveloped facilities' appearance, present our services (cabin rentals, retail shops, etc.) in an inviting manner that appeals to customers, increase consumer comfort thereby increasing sales and encouraging repeat business, and heighten the Tribe's public relations and attract visitors (U.S. Small Business Administration 2012).

ii) Other non-economic benefits associated with the site to be reused

Greenspace along TU-45's riparian corridor will be used to restore fish habitat along the Clearwater River. This will provide additional spawning and rearing habitat for threatened and endangered steelhead and salmon. Also, greenspace at TU-45 will provide ample areas for recreation and gathering, thereby enhancing the public's mental, physical, and social health.

V.B.4.c Environmental Benefits from Infrastructure Reuse/Sustainable Reuse (10 Points)

The single remaining building from the lumber mill operation is the historic mill office constructed in 1945. It is anticipated that this office would be incorporated into a visitor's center and museum documenting the mill legacy. The existing electrical utility corridors for the abandoned mill will be reused to conserve greenspace.

V.B.5 Programmatic Capability and Past Performance (40 Points)

Grants Management System:

Staff expertise, qualifications, and experience are sufficient to complete the proposed Workplan. The Project Manager, Kevin Brackney, is an Idaho Registered Professional Geologist, Certified Ground Water Professional by the Association of Ground Water Scientists and Engineers, and is a practicing Hydrogeologist. Mr. Brackney has an M.S. in Hydrology (1992) and a B.S. in Geology (1978). Judy Goodson will assist with the project. She is a GIS Specialist with a B.A.S. in Engineering with experience in Phase 2 and 2 environmental assessments and heavy construction. Our staff also maintains routine communications with IDEQ and EPA Brownfields program coordinators. Should any of the staff positions be vacated, Water Resource Division has depth within the team to continue until that position can be filled through the tribal routine personnel process to hire a replacement with the appropriate knowledge, skills and ability. The development of a Quality Assurance Project Plan (QAPP) will lay out the breadth, scope, and information needed that replacement staff could continue with the assessment with little delay. It is part of our project plan to hire qualified contractors that are experts in the field of geophysics, monitor well drilling, and analytical chemistry analysis.

The Project Leader will facilitate the management system within the Tribe to direct activities under this grant. The Project Leader will attend the tribal Natural Resources Subcommittee Informational Meetings, facilitate communication between departments within the Tribe, and disseminate knowledge to colleagues to create an informed workplace. The Project Leader will supervise and manage the staff to meet program goals and will conduct monthly project status meetings with staff to discuss issues and priorities. The Project Leader will review monthly staff reports and conduct annual performance evaluations for staff. Also, the Project Leader will prepare quarterly progress reports on the overall status of the project. In addition, the Project Leader will administer project closeout activities with clear examples of the program's improvements that protect the community.

Audit Findings:

We have no adverse audit findings from EPA, nor are we listed as high-risk.

Compliance with Grant Requirements and Funds Expenditure

The Tribe has successfully managed CERCLA 128(a) grants for multiple years. The Tribe is in compliance with grant requirements detailing the workplans, schedule, and terms and conditions. We are current with all quarterly reports and in routine communication with our Project Officer to discuss our progress toward achieving expected results. The Tribe's

Accounting Office has a good record of submitting on-time financial statements, and we pride ourselves on doing well-documented work of high quality. We are preparing to report results of the Phase 2 ESA at TU-45 to the ACRES database. Table 6 lists our EPA grant numbers and award amounts for the past five years.

Table 6. State Tribal Response Grants received by Tribe

Year	Grant Number	Grant Amount
2014	RP96046308	\$195,000
2013	RP96046307	\$195,000
2012	RP96046306	\$198,550
2011	RP96046305	\$209,000
2010	RP96046304	\$220,400

Accomplishments

The Tribe has a long list of assessment, cleanup, and redevelopment accomplishments, which can be viewed in further detail on our Public Record page at www.nptwaterresources.org. Some of these achievements include: Successfully completing a Phase 2 ESA at TU-45 which included geophysics, AGI soil vapor sampling survey, drilling and sampling of four monitoring wells (2013). We successfully completed the assessment of a leaking underground storage tank project utilizing geophysics, AGI soil vapor sampling survey, and the drilling a sampling of three temporary monitor wells in Kooskia, Idaho (2013). Provided hydrogeologic expertise to EPA and evaluated a petroleum seep entering the Clearwater River in Orofino, Idaho (2012-2013). Evaluated two addition properties by mapping and sampling the hyporheic zone where petroleum-type sheen was entering the Clearwater River, Orofino, Idaho (2013). Assisted the EPA Underground Injection Control (UIC) Program sample and evaluate a solvent contaminant plume with soil sampling and soil vapor survey to determine the extent of the solvent plume to assist in locating monitoring wells (2013). Provided compliance assistance with state and federal environmental laws; Maintaining an active inventory program of regulated properties to including identified Brownfields; Responding to environmental threats on the Reservation that require immediate response with the tribally-funded Hazardous Environmental Response Team; Supervising the assessment of an industrial site and recommending that EPA issue a No Further Action Letter. Site has been redeveloped and is currently in operation as a lost foam foundry; Overseeing two Targeted Brownfield Assessments for a former trap range and mill site (at TU-45 location) for redevelopment purposes; Assisting a voluntary cleanup of petroleum-contaminated soils and issuing a No Further Action Letter; Conducting Phase 1 and Phase 2 ESA on multiple properties including TU-45 and gasoline contaminated soil.