Application Name: Woodlee Restoration Project

Application Number: 218-8205-16553

By: Grande Ronde Model WS Foundation

Offering Type: Upper Grande Ronde Initiative

Application Type: Restoration

OWEB Region: Eastern Oregon
County: Union
Coordinates: 45.065976,-118.312871

Applicant:
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Project Manager:
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Budget Summary:
OWEB Amount Requested: $112,382
Total Project Amount: $609,270

Administrative Information

Abstract

Provide an abstract statement for the project. Include the following information: 1) Identify the project location; 2) Briefly state the project need; 3) Describe the proposed work; 4) Identify project partners.

The Woodlee Restoration Project is located on the Upper Grande Ronde River, tributaries to the Snake River. The project is located on 1.25 miles of the upper Grande Ronde River (RM 198-199). The project is located within Upper Grande Ronde River (1706010401); Meadowbrook Creek (170601040103) watersheds. The Upper Grande Ronde River is spawning and rearing habitat for Snake River Basin summer steelhead, Snake RiverBasin spring chinook salmon, bull trout and redband trout. Historic beaver trapping, mining, roading and the Woodlee Campground created a confined channel, with limited floodplain interaction and diminished deciduous vegetation. The project would prioritize LWD placement to add roughness, increase floodplain interaction and habitat complexity, promote out of channel flooding and activate 1.25 miles of side channels. It is expected that the project will promote longer periods of hydrologic production, decreased stream temperatures, increased low velocity habitat, increased fish cover and increased riparian deciduous vegetation. The project would place wood within 1.25 miles of the upper Grande Ronde River and 1.25 miles of side channels, plant 4,000 deciduous seedlings and 10,000 cuttings. Project partners include: Grande Ronde ModeWatershed, Bonneville Power Administration, and the US Forest Service.

Location Information

What is the ownership of the project site(s)?

✓ *Public land (any lands owned by the Federal government, the State of Oregon, a city, county, district or municipal or public corporation in Oregon)*

What agency(ies) are involved?

US Forest Service

❑ *Private (land owned by non-governmental entities)*

❑ *This grant will take place in more than one county.*

Permits

Other than the land-use form, do you need a permit, license or other regulatory approval of any of the proposed project activities?

● Yes
❍ No

For Details Go to Permit Page

Racial and Ethnic Impact Statement

Racial and Ethnic Impact Statement

❍ The proposed grant project policies or programs could have a disproportionate or unique POSITIVE impact on the following minority persons. (indicate all that apply)

❍ The proposed grant project policies or programs could have a disproportionate or unique NEGATIVE impact on the following minority persons. (indicate all that apply)

● The proposed grant project policies or programs WILL HAVE NO disproportionate or unique impact on minority persons.

Insurance Information

❑ *Working with hazardous materials (not including materials used in the normal operation of equipment such as hydraulic fluid)*

❑ *Earth moving work around the footprint of a well*

❑ *Aerial application of chemicals*

❑ *Removal or alteration of structures that hold back water on land or instream including dams, levees, dikes, tidegates and other water control devices (this does not include temporary diversion dams used solely to divert water for irrigation)*

❑ *Applicant's staff or volunteers are working with kids related to this project (DAS Risk assessment tool not required, additional insurance is required)*

❑ *Applicant's staff are applying herbicides or pesticides (DAS Risk assessment tool not required, additional insurance is required)*

Additional Information

❑ *This project affects Sage-Grouse.*

Problem Statement

Describe the watershed problem(s) that this restoration project seeks to address.

Overall problem: The Woodlee reach of the upper Grande Ronde River and its meadow habitats are not in proper functioning ecological condition (hydrologic, geomorphic, vegetative composition), due to historic management that included beaver trapping, mining, roading and the Woodlee Campground.

Sub-problem 1 - Floodplain form and function

The Woodlee reach has limited water capture and retention capacities due to past anthropogenic influences. These deficiencies have lowered ground tables. This has resulted in lower riparian vegetation survival and vigor, a decreased ability to store water and buffer water temperature, less connection to the floodplain to moderate in-channel velocity, and lower quality salmon habitat. Lack of floodplain form and function has resulted in:

* Decrease in water storage and meadow/wetland habitats resulting in drier site and mesic-site species encroachment. Drier sites are less conducive to riparian deciduous woody vegetation species (Populous and Salix) that are important food and habitat for beaver populations.
* Potential increase of in-stream water temperatures from decrease in groundwater recharge, which can be problematic for salmonids.
* Increase of in-channel velocity where the channel has downcut, and doesn't spread water out onto the floodplain during high flows. The process of downcutting causes vertical erosion, which increases fine sediment levels and decreases habitat complexity.
* Decrease in the amount of zero velocity habitat, which provide juvenile salmonids protection, temperature buffering, food sources and feeding areas, and resting areas.

Sub-problem 2 - Side channel habitat and activation:

There are 1.25 miles of old channel scrolls within the floodplain that are rarely activated, due to many of the issues identified in Sub-problem 1.

* Channel incision and lack of woody debris have isolated 1.25 miles of side channel scrolls from the existing channel. These channels only flow during high flow events.

Sub-problem 3 - Fish habitat complexity:

The Woodlee Reach's fish habitat complexity (cover, pool quality/quantity, and zero velocity habitat) is limited.

* Channel incision and lack of instream woody material has affected the quantity and quality of spawning, rearing, and overwintering habitat in the Woodlee Reach.

How have past or current land management practices contributed to the problem?

Historic management that included beaver trapping, mining, roading, the Woodlee Campground and an altered fire regime have degraded the Woodlee Reach of the Upper Grande Ronde River watershed's ecological form and function. The loss of functional meadow and stream habitat adversely effects the survival and rearing of native salmonids, other fish, and wildlife species.

Beaver trapping pressure in the 19th Century almost caused extirpation of this species in the western United States. The decrease in beaver populations on Grande Ronde River has contributed to channel incision, decreased habitat complexity, altered vegetative communities, and an altered flow/temperature regime. Beaver serve as ecological engineers by building dams that decrease the velocity of peak flows and spread flows out over longer periods of time. This increase of water retention time decreases erosive forces that cause stream incision. Higher levels of surface and subsurface water retention expands riparian and wetland habitat along the stream. As

beavers move in and out of systems, numerous side channels often form, and more woody vegetation ends up in the stream. This leads to increased habitat complexity for fish and wildlife.

Historic dredge mining occurred within the Woodlee Reach and caused channel incision, loss of floodplain function and decreased vegetation. The large tailing piles were removed in 2009 as a part of another restoration project. However, the effects of an incised channel are still present.

High densities of roads near the Woodlee Reach and its meadows have likely caused a variety of compounding problems. Impermeable road surfaces increase the rate of overland flow. This affects the timing and volume of flow in downstream areas of the watershed. Roads that are built on the sides of meadow systems (which is the case on sections of the Upper Grande Ronde River) often result in long-term soil compaction. The soil compaction can lead to a reduction in water holding capacity and infiltration into nearby meadow systems.

Altered natural and human ignited fire (Native American and sheep herders) regimes due to 20th century fire suppression have likely affected the vegetative, hydrologic, and geomorphic processes of montane meadow systems like the Woodlee Reach. Less frequent intense wildfires are more likely to have negative effects on meadows (erosion in uplands) than more frequent low-intensity fires. Historically, naturally caused and human ignited low intensity fires were likely more common. Conifer encroachment due to lack of regular fire intervals has caused dense under and mid-story fir/pine species on the edges of headwater meadows. This early stage forest ecosystem dynamic increases competition for large tree regeneration, and contributes to meadow water loss through evapotranspiration.

The Woodlee Campground altered the floodplain and riparian vegetation within the Woodlee Reach. The campground was closed in the 1990s. The effects of the campground can still be seen today.

The restoration of the Woodlee Reach's form and function will address a combination of these interrelated problems through a physical approach to stream and meadow restoration.

Does this project address one or both of the following:

✓ *Habitat needs for one or more Endangered Species Act-listed species and/or species of concern*

❑ *Concerns identified on 303(d) listed streams*

❑ *No*

Project History

Continuation - Are you requesting funds to continue work on a project previously funded by OWEB where that work did not result in a completed project?

❍ Yes
● No

Resubmit - Have you submitted, but were not awarded an OWEB application for this project before?

❍ Yes
● No

Phased - Is proposed work in this application a phase of a comprehensive watershed restoration plan or project?

❍ Yes
● No

Plans and Salmon

Is the proposed restoration activity(ies) identified in a local assessment or other plan?

● Yes
❍ No

Provide name of local plan, Watershed assessment or other locally relevant document.

The project is located in the Upper Grande Ronde Restoration Atlas. The Upper Grande Ronde Atlas is a geo-spatial restoration prioritization plan developed in coordination with BPA by local fish biologists, researchers, engineers, hydrologists, practitioners, and stakeholders. The plan divides the subbasin into biologically significant reaches (BSR) and prioritizes those reaches for restoration based on fish use, fish life stages, limiting factors, and floodplain availability. The BSR are associated with restoration actions. Each reach is assigned a Tier with Tier 1 being the highest priority and Tier 3 being the lowest priority. The Woodlee Restoration Project is within a Tier 1 BSR.

Will this project benefit salmon or steelhead?

● Yes
❍ No

✓Snake River Basin - Steelhead
✓Snake River Spring/Summer-run - Chinook Salmon

How will the resulting restoration project benefit salmon or steelhead or their habitat?

* Approximately, 1.25 miles of side channels will be activated through constructing woody debris jams in strategic locations to raise water levels that would engage existing side channel scrolls.
* Floodplain engagement will increase through constructing woody debris jams in strategic locations to raise water levels.
* Deciduous riparian vegetation would increase through planting and increased survival/natural recruitment through raised water tables.
* Habitat complexity and pool quality will improve through woody debris jam construction.

Does the project address a restoration action identified in a regional assessment or recovery plan?

❍ Yes
● No

Proposed Solution

Goal, Objectives, and Activities

State your project goal. A goal statement should articulate desired outcomes (the vision for desired future conditions) and the watershed benefit.

Overall Goal: To achieve proper ecological form and function of the Woodlee Reach (Upper Grande Ronde River) and thereby restore habitat for the imperiled Snake River Basin Spring/Summer Chinook and Snake River Basin Steelhead.

Subgoal 1: Physical - Restore Hydrologic Function
Increase hydration of a laterally confined channel to improve groundwater retention through channel spanning log jam construction.

Subgoal 2: Physical - Activate 1.25 Miles of Side Channel Scrolls
Encourage and create perennial side channels through channel spanning log jam construction.

Subgoal 3: Biological - Improve Fish Habitat
Restore habitat complexity. Existing LWD structures will be modified and additional whole trees will be placed. These structures will encourage scour pool habitat, and fish cover.

List specific and measurable objectives. Objectives support and refine the goal by breaking it down into steps for achieving the goal. (NOTE: If you quantify your objectives, ensure all numbers match the metrics listed in your selected habitat types.) Provide up to 7 objectives.

Objective #1

Objective

Hypothesis 1: If channel spanning wood structures using trees and racking material are constructed in strategic locations then: 2 years post implementation: 25% more of the floodplain will be inundated in the summer season (June-July). Water storage will be quantified in terms of floodplain acres using drone technology.
Strategy and Objectives 1: Mimic beaver dam function at pool tails and where accessible side channel habitats exist by constructing channel spanning wood structures to:
- Deflect water into the floodplain for groundwater storage.
- Activate 1.25 miles of side channel scrolls.
- Back water into fish habitat structures.
- Promote gravel deposition and spawning gravel recruitment.
- Recruit deciduous vegetation by increasing groundwater storage.
- Improve habitat for future use by beaver populations.

Hypothesis 2: See hypothesis 1
Strategy and Objectives 2: Restore floodplain function by placing floodplain wood to: Deflect, retain, and capture water once it reaches the floodplain. Floodplain wood would increase by 500 pieces and counted by the USFS.
Hypothesis 3: If large wood and racking material is placed to promote scour and longitudinal pools then residual pool depth will increase by 15% and instream wood will increase by 750 pieces.
- Pool depth and wood will be measured by USFS Level II habitat surveys.

Strategy and Objectives 3: Place logs, rootwads, racking material and whole trees to encourage: pool scour, fish cover and habitat complexity.

Describe the project activities. Activities explain how the objective will be implemented.

The proposed project would place large wood instream (~731), boulders (~ 53), racking material (~ 173: 10 yard loads), and floodplain wood (~500) into or adjacent to the Grande Ronde River. The project would involve approximately 85 structures within 38 sites on 1.25 miles of stream. The structures would consist of full spanning jams where side channel activation and floodplain inundation is possible. The rest of the sites would involve wood placement to encourage pool scour, fish cover and habitat complexity. The boulders would be used for ballast on both structure types. The large wood with rootwads and some of the racking material would be obtained from the Limber Jim Tree Harvest Unit. The rest of the racking material would be obtained from roadside brushing in close vicinity to the project area. The boulders would be obtained from two sources (one of which is in close vicinity to the project site). A design of the project is attached.

There are 1.25 miles of old side channel scrolls that would be activated with this project. A large portion of the floodplain wood would be placed within these channels. All of the floodplain wood would be obtained onsite or from the Limber Jim Tree Harvest Unit.

All of the large wood and racking material will be imported into the stream via log loader, excavator, log trucks, and dump trucks. The area would be seeded with native seed and planted with 4,000 deciduous seedlings and 10,000 cuttings. Plantskydd would be applied for the first year after planting. All disturbed areas would be rehabilitated.

Objectives 1, 2, and 3 would be met through channel spanning jam construction, floodplain wood placement and wood placement to encourage pool scour, habitat complexity and fish cover. Monitoring will measure the effectiveness of the above treatments.

List the major project activities and time schedule for each, including post project implementation.

Element	Description	Start Date	End Date
Tree remvoal (Limber Jim unit)	Trees and some racking material will be removed out of the Limber Unit and staged in the adjacent quarry.	10/2018	11/2018
Tree/Boulder/Racking material haul	Trees and racking material, racking material from road prisms and boulders would be hauled and staged at the Woodlee stream reach.	5/2019	6/2019
Structure construction/wood placement	Structure construction and wood placement	7/2019	7/2019
Seeding	Seeding disturbed areas.	9/2019	11/2019
Planting deciduous seedlings	Hand plant 4000 deciduous seedlings.	10/2019	11/2019
Planting 10,000 cuttings	Planting 10,000 willow and cottonwood cuttings. by hand.	2/2020	5/2020

Element	Q4 2018	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020
Tree remvoal (Limber Jim unit)							
Tree/Boulder/Racking material haul							
Structure construction/wood placement							
Seeding							
Planting deciduous seedlings							
Planting 10,000 cuttings							

Habitat Types

In which habitat type(s) are you proposing to work?

✓*Instream Habitat: below the ordinary high water mark (includes in-channel habitat restoration, bank stabilization, flow, fish screening, and fish passage) -- Details will follow.*

✓*Riparian Habitat: above the ordinary high-water mark of the stream and within the stream's floodplain. -- Details will follow.*

❑*Upland Habitat: above the floodplain and improves native habitat and watershed function.*

❑*Wetland Habitat: land or areas covered, often intermittently, with shallow water or have soil saturated with moisture.*

❑*Estuarine Habitat: tidally influenced areas.*

Instream Habitat

Select all applicable Instream categories.

❑**Bank stabilization**

❑**Fish passage improvement**

❑**Fish screening project**

❑**Instream Flow**

✓Instream habitat restoration

Select all the actions you propose to implement to address the problem.

✓*Placement of materials in channel*

Does the proposed project follow:

✓*ODFW Guidelines*

✓*NOAA Guidelines*

❑*Other*

What types of instream habitat materials are you proposing to install? (select all that apply)

❑*Large wood*

❑*Boulders*

✓*Combination log/boulder*

Number of structures

85

Average number of logs per structure.

9

Average length of logs per structure (feet)

50

Average diameter of logs per structure (feet)

1.2

Average number of boulders per structure.

1

Average size of boulders per structure (feet)

3.5

❑*Other materials: Materials that stabilize the streambed*

✓*Channel reconfiguration and connectivity, including alcoves and side channel reconnection*

What type(s) of change are you proposing to the channel configuration and connectivity?

The project will activate 1.25 miles of old side channel scrolls through construction of full spanning log jams that will back water into the side channel inlets.

Acres off-channel or floodplain habitat connected

15

Number of pools created/added

38

❑*Spawning gravel placement*

❑*Beaver reintroduction*

❑*Non-native plant control*

❑*Nutrient enrichment*

❑*Animal species removal*

Is the primary purpose of the instream habitat restoration treatment(s) to address water quality limiting factors?

❍ Yes
● No

Total miles of stream to be treated with all instream habitat restoration treatments
1.25

❑**Stockpiling logs**

Riparian Habitat

Select all applicable Riparian categories.

❑**Riparian road activities**
❑**Fencing and other materials for habitat protection**

✓**Vegetation establishment or management**

Select all the actions you propose to implement to address the problem.

✓*Planting*
For Details Go to Plant Page

❑*Non-native plant control*
❑*Prescribed burnings, stand thinning, stand conversions, silviculture*
❑*Juniper treatment*

❑**Livestock management**
❑**Debris and Structure Removal**

Is an objective of the riparian treatment(s) to address water quality limiting factors?

● Yes
❍ No

✓High Temperature

Total linear stream miles to be treated.
2.5

Total riparian acres to be treated.
26

Left streambank miles to be treated.
2.5

Right streambank miles to be treated.
2.5

Wrap-Up

Public Awareness

Does this proposed project include public awareness activities?

❍ Yes
● No

Design

Were design alternatives considered?

● Yes
❍ No

Describe the design alternatives that were considered and why the preferred alternative was selected.

Originally, we were going to create full spanning jams (similar to Limber Jim) throughout the whole project area. Due to onsite review by several members of the GRMW Technical Team, plans changed to allow for fish passage in channel spanning jams and promote longitudinal pool development.

Select the appropriate level of design for your project.

❍ No design is required.
❍ 10-30%: Conceptual design (evaluation of alternatives, concept-level plans, design criteria for project elements, rough cost estimates).
● 30-85%: Preliminary design (selection of the preferred alternative, draft plans, draft design report, preliminary cost estimates).
❍ 85-100%: Final design (final design report, plans, and specifications, contracting and bidding documents, monitoring plan, final cost estimate).

If work remains on the project's design, describe the work that remains to be done and when you expect to have it completed. If no design is required put "N/A"

The design will be 30% completed at the time of the proposal deadline. This will be sent separately to GRMW before the deadline. The finished product will be completed in February of 2019.

Describe the steps you will take to minimize adverse impacts to the site and adjacent lands during and after project implementation.

Project implementation will avoid wetlands, use existing/closed road prisms, and stay on existing designated skid trails where possible. All disturbed areas will be rehabilitated with an excavator to mimic natural conditions and add floodplain wood. The areas will also be seeded and mulched, where erosion potential is high.

Project Management

List the key individuals, their roles, and qualifications relevant to project and post project implementation. At a minimum include the following: project management, project design, project implementation, and project inspection.

Role	Name	Affiliation	Qualifications	Email	Phone
Project design, implementation and inspection.	Joe Platz	USFS (Biological Technician)	Joe Platz is a biological technician for the US Forest Service. Joe Platz has a Bachelor of Science degree from OSU in Fisheries Science. He has been involved in designing and implementing restoration projects since 1989.	jplatz@fs.fed.us	(541) 962-8571
Design	Sean Welch	BPA (Engineer)	Fish and Wildlife Engineering Technical Services Team Leader	spwelch@bpa.gov	(503) 230-7691
Design	Brett Yaw, P.E.	USFS - Engineer	Civil Engineer on the Wallowa-Whitman NF	byaw@fs.fed.us	(541) 523-1243

Optional Monitoring

OPTIONAL: Restoration Project Monitoring

❑*Salmonid Monitoring*
❑*Non-salmonid biological monitoring*
❑*Water (quantity) flow monitoring*
✓*Water quality monitoring*
❑*Rangeland monitoring*
❑*Onsite*
✓*Downstream*
✓*Upstream*
❑*Upslope*

Will effectiveness monitoring will be conducted for this project?

● Yes
❍ No

Please describe the monitoring activities and any additional sources of funding (amount and source) to support this effort.

Monitoring consists of the following:
1) Stream temperature: Two temperature/stage probes will be installed upstream and downstream and in the project area. The temperatures/stages will be monitored for 5 years. This will be completed by the USFS.

(2) Drone: Drone imaging will be collected, yearly, for five years by GRMW.

(3) Habitat/Snorkel surveys: ODFW completed AQI habitat/snokel surveys on the Grande Ronde River in 2018 and plan on repeating the survey in 2023 or 2024.

(4) Structure construction: Monitoring of structures would involve photo points of before and after operations occur. Follow up photo points would occur at year 1 - 3 after project completion. This monitoring will be completed by the USFS.

(5) Stream Survey: Region 6 Level II Stream Habitat Inventory would be conducted prior to (completed) and @year 1 and year 5 after completion. This monitoring will be completed by the USFS.

(6) Plant/seed survival: Native plantings and seeded areas would be evaluated for survival on a yearly basis for three years after project completion through photo points and determining plant survival. If plant/seed survival is poor, then subsequent planting and/or seeding would occur (depending on funding). This monitoring will be completed by the USFS.

(7) Noxious weeds: Noxious weeds would be monitored, yearly, for three years after project operations. This monitoring will be completed by the USFS.

Budget

Item	Unit Type	Unit Number	Unit Cost	OWEB Funds	External Cash	External In-Kind	Total Costs
Salaries, Wages and Benefits							
Biological Technician (Joe Platz)	Hours	800	$45.00	$0	$36,000	$0	$36,000
Biological Technician	Hours	800	$31.25	$0	$25,000	$0	$25,000
NEPA/Support Staff	Hours	60	$334.00	$0	$0	$20,040	$20,040
Project Engineer	Hours	20	$404.00	$0	$0	$8,080	$8,080
Category Sub-total				$0	$61,000	$28,120	$89,120
Contracted Services							
Tree haul	Each	875	$100.00	$85,500	$2,000	$0	$87,500
Boulder Haul	Each	53	$200.00	$0	$10,600	$0	$10,600
Racking Material Haul	Each	173	$225.00	$0	$38,925	$0	$38,925
Brushing Roads for Racking Material	Miles	3	$2,000.00	$0	$6,000	$0	$6,000
Log Loader to construct structures	Hours	200	$200.00	$0	$40,000	$0	$40,000
Excavator to construct structures/rehab.	Hours	200	$150.00	$16,665	$13,335	$0	$30,000
Category Sub-total				$102,165	$110,860	$0	$213,025
Travel							
USFS vehicle	Days	64	$4.30	$0	$0	$276	$276
Truck mileage	Miles	2500	$0.55	$0	$0	$1,375	$1,375
Category Sub-total				$0	$0	$1,651	$1,651
Materials and Supplies							
Straw mulch	Each	250	$4.00	$0	$1,000	$0	$1,000
Boulders (FS$)	Each	53	$200.00	$0	$0	$10,600	$10,600
Trees (FS$)	Each	1231	$150.00	$0	$0	$184,650	$184,650
Native Seed	Pounds	250	$10.00	$0	$0	$2,500	$2,500
Conifer seedlings for replanting tree removal unit	Each	4500	$1.00	$0	$4,500	$0	$4,500
Tree Removal (2018 $BPA)	Each	875	$105.15	$0	$0	$92,007	$92,007
Category Sub-total				$0	$5,500	$289,757	$295,257
Equipment and Software							
			$0	$0	$0	$0	$0
Category Sub-total				$0	$0	$0	$0
Other							
			$0	$0	$0	$0	$0
Category Sub-total				$0	$0	$0	$0
Modified Total Direct Cost Amounts				$102,165	$177,360	$319,528	$599,053
Indirect Costs							
Federally Accepted 'de minimis' Indirect Cost Rate (up to 10%)		10%			Indirect Cost Total: $10,217		
Total				$112,382	$177,360	$319,528	$609,270

If the budget includes unusually high costs and/or rates, provide justification for those costs and/or rates.

Tree haul ($87,500) budget item: The USFS received $95,000 through BPA/CTUIR for the Woodlee unit to pluck the trees and stage them at the quarry, next to the unit. The contract bid was for $92,000. The trees had to be removed in the fall due to soil concerns. The trees have not been hauled to the Woodlee project area. The $87,500 in funds are needed to haul and stage these trees at the structure sites within the Woodlee Project area.

If the budget identifies a contingency amount for specific line item(s) within the Contracted Services and Materials and Supplies budget categories, explain the specific reasons a contingency is needed for each line item. Contingencies are line-item specific and cannot be used for other costs.

Funding and Match

Fund Sources and Amounts

Organization Type	Name	Source Note	Contribution Type	Amount	Description	Status
Federal	United States Forest Service		In-Kind - Materials	$199,401	Includes trees, boulders, seed and vehicle	Secured
Federal	Bonneville Power Administration		Cash	$177,360	Includes salary, contracted services and materials.	Secured
Federal	Bonneville Power Administration		In-Kind - Materials	$92,007	Paid for tree removal in 2018	Secured
Federal	US Forest Service	NEPA/Project Engineer	In-Kind - Labor	$28,120	NEPA/Project Engineer	Secured
Fund Source Cash Total		**$177,360**	**Fund Source In-Kind Total**		**$319,528**	

Match

Contribution Source-Type: Description	Amount
United States Forest Service-In-Kind - Materials: Includes trees, boulders, seed and vehicle	$199,401
Bonneville Power Administration-Cash: Includes salary, contracted services and materials.	$0
Bonneville Power Administration-In-Kind - Materials: Paid for tree removal in 2018	$92,007
US Forest Service-In-Kind - Labor: NEPA/Project Engineer	$0
Match Total	**$291,408**

Do match funding sources have any restrictions on how funds are used, timelines or other limitations that would impact the portion of the project proposed for OWEB funding?

❍ Yes
● No

Do you need state OWEB dollars (not Federal) to match the requirements of any other federal funding you will be using to complete this project?

❍ Yes
● No

Does the non-OWEB funding include NOAA/PCSRF funds?

❍ Yes
● No

Uploads

Map: Restoration_WOODLEE_JPlatz_08_2018.pdf **- Project Map**

Bids: Woodlee only.pdf **- Power Point**

Bids: Woodlee trees.pdf **- Tree numbers per site**

Secured Match Forms: 03011001.PDF **- Match form**

Secured Match Forms: 03011001.PDF **- Match form**

Plant Page

Planting Questions

Relationship to other conservation programs

❑*This project will use OWEB funds to increase the planting density on CREP acres.*

Planting Activities

Describe the current condition of the site(s) to be planted.

The riparian habitat has limited deciduous vegetation, even with the planting that occurred in 2010. Approximately 25- 30% of the project area has a mixed conifer forest in close vicinity to the stream and side channels. There is a vast grass mat over the majority of the riparian area. The area is currently not grazed by livestock, but there is evidence of wild ungulate browse on deciduous vegetation.

Approximatley .8 mile of the side channels have limited to no vegetation, with the exception of grass/forb species. These side channels have never been planted before and the goal is to shift the channels from ephemeral to perennial. Therefore, the value of planting Woodlee is high and important in establishing a deciduous shrub component within the riparian area.

Describe how you will prepare the site(s) prior to planting and how those activities are appropriate considering the site conditions described in the previous question.

A total of 4,000 deciduous seedlings and 10,000 deciduous cuttings will be planted in the project area. Native species will be used. All of the planting will be completed by hand.

The deciduous seedlings will be protected (as much as possible) from drought. Drought protection includes scalping (by hand), watering the trees twice during the first year, and mulch. These techniques encourage survival and limit competition with the extensive "grass mat" within the riparian area.

The cuttings will be planted in areas that are flooded during spring flows. These plantings are targeting those areas that will have and increased water table. This should support increased survivability, growth and vigor.

All of the plants will be sprayed with Plantskydd the first year to protect the seedlings/cuttings from browse.

Deciciduous species selected are those that are limited within the project area and/or are the preferred food sources for beavers.

Fill out the table below. Identify the vegetation communities you plan on planting in, the acres each vegetation community encompasses, and the density of your planting.

Vegetation Community	Acres	Density
Riparian Area	26	538

Fill out the table below for each vegetation community listed in the table above, provide the common and scientific

names of up to five plants that will be planted, the form(tree, shrub, grass), type of plant (bare root, cutting, etc) and the planting timing.

Vegetation Community	Plants: Common Name	Plants: Scientific Name	Form	Type	Year	Month
Riparian area	Cottonwood	Populus trichocarpa	Tree	Plugs	2019	October
Riparian area	Cottonwood	Populus trichocarpa	Tree	Cutting	2020	April
Riparian area	Geyer's willow	Salix geyerana	Shrub	Plugs	2019	October
Riparian area	Geyers willow	Salix geyeriana	Shrub	Cutting	2020	April
Riparian area	Coyote willow	Salix interior	Shrub	Plugs	2019	October
Riparian area	Coyote willow	Salix interior	Shrub	Cutting	2020	April
Riparian area	Mtn. alder	Aldus incana	Shrub	Plugs	2019	October
Riparian area	Service berry	Amelancher ainifolia	Shrub	Plugs	2019	October

Plant Stewardship

After the plantings are installed, will you conduct plant stewardship ("free to grow")?

- ● Yes
- ❍ No

Are you requesting OWEB funds for plant stewardship activities?

- ❍ Yes
- ● No

Explain how you plan to carry out activities to help the plantings survive and grow over time.

The plants will be watered twice the first year and mulched. Plantskydd will be applied the first year.

Measures of Planting Success

Use the table below to explain how you will document and determine success for the plantings.

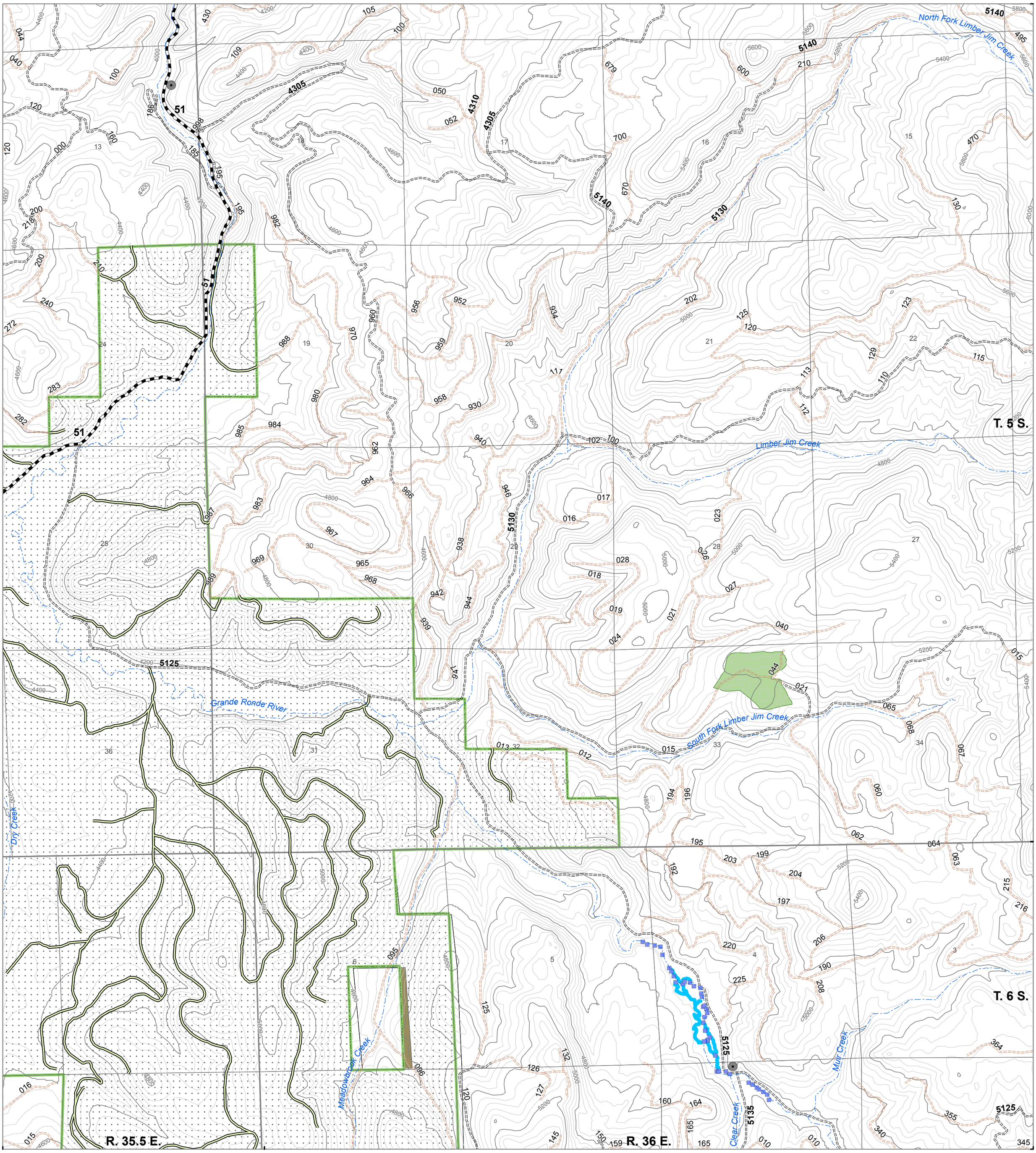
Vegetation Community	Parameter	Percentages
Riparian area (shrubs)	Percent Survival	70%
Riparian area cuttings	Percent Survival	50%
Riparian area (grass/forbs)	Percent Survival	90%

If, in the course of the 3-5 years following planting, the success rate falls below your standard, what is your plan?

Our plan is to replant/seed where applicable. However, the amount of replanting will depend on future funding.

Permit Page

Project Activity Requiring a Permit or License	Name of Permit or License	Entity Issuing Permit or License	Status
Instream wood/boulder placement	Regional General Permit & General Permit	Army Corps of Engineers & Dept. of State Lands	Programmatic permits - obtained in March 2019
Entire Project	NEPA	USFS	Almost completed.
Entire project	ESA clearance	USFW and NOAA	Programmatic (ARBOII) will be completed March 2019



Date: 8/8/2018

WOODLEE
Restoration Project

1 : 2 0 ,000

0 0.25 0.5 1 Miles

40 Foot Contour Interval

N

- Boulder Locations
- Fish Structure Sites (GPS)
- Existing Side Channels
- Restoration Trees Unit

Existing Roads; OPML

- Closed
- High Clearance Vehicles
- High Degree of User Comfort
- Other Non USFS Roads
- Main Streams

- District Boundary
- Private Land
- U.S. Forest Service
- Undetermined

Author: MSutton
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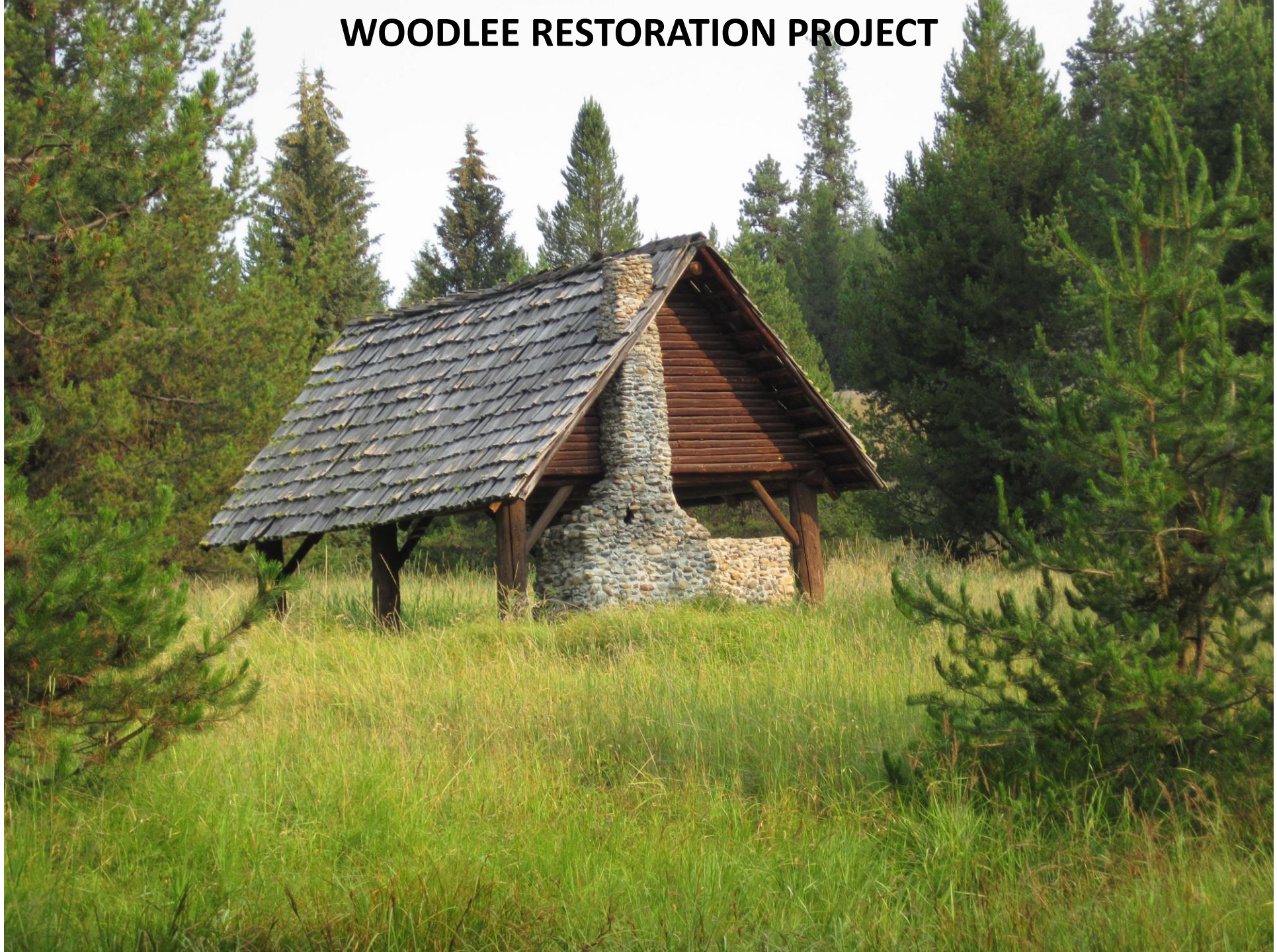
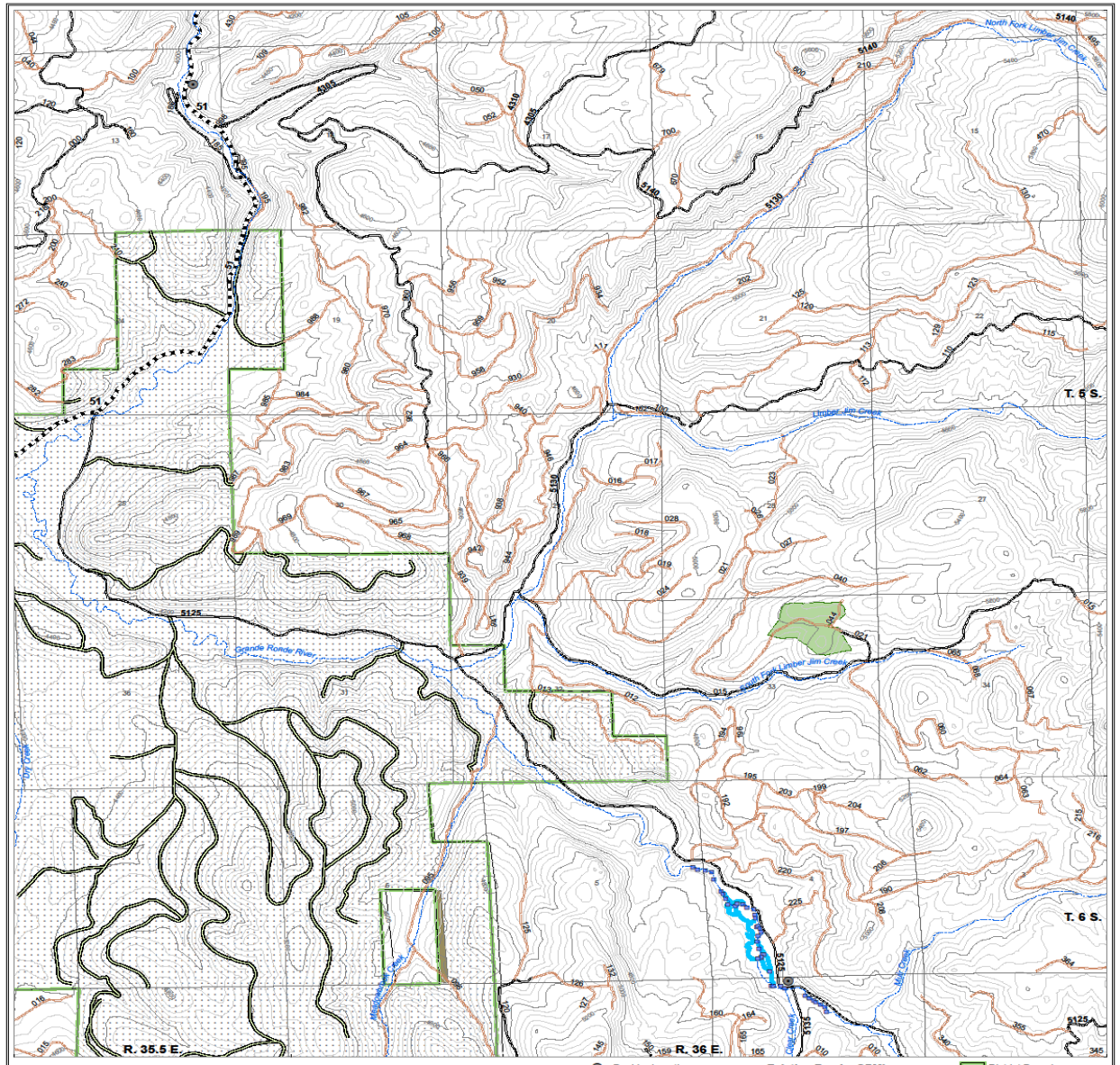
WOODLEE RESTORATION PROJECT





Date: 8/8/2018

WOODLEE
Restoration Project

1 : 20,000

0 0.25 0.5 1 Miles

40 Foot Contour Interval

N

- Boulder Locations
- Fish Structure Sites (GPS)
- Existing Side Channels
- Restoration Trees Unit

Existing Roads; OPML
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Main Streams

- District Boundary
- Private Land
- U.S. Forest Service
- Undetermined

Author: MSutton
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PROJECT OBJECTIVES

- Activate 1.25 miles of side channel scrolls
- Increase floodplain engagement
- Increase deciduous riparian vegetation
- Improve habitat complexity and pool quality

EXISTING CONDITION

Impacted through:

(1) Beaver trapping
(2) Mining
(3) Roading
(4) Woodlee Campground

Past restoration included:

- Sill log/boulder placement (~early 1990s)
- Woodlee campground closure (~1995)
- Mine tailing removal (2009)
- Road recontour and dispersed campground rehabilitation (2010)
- Wood placement and partial sill removal (2010)
- Planting and POD construction (2010)

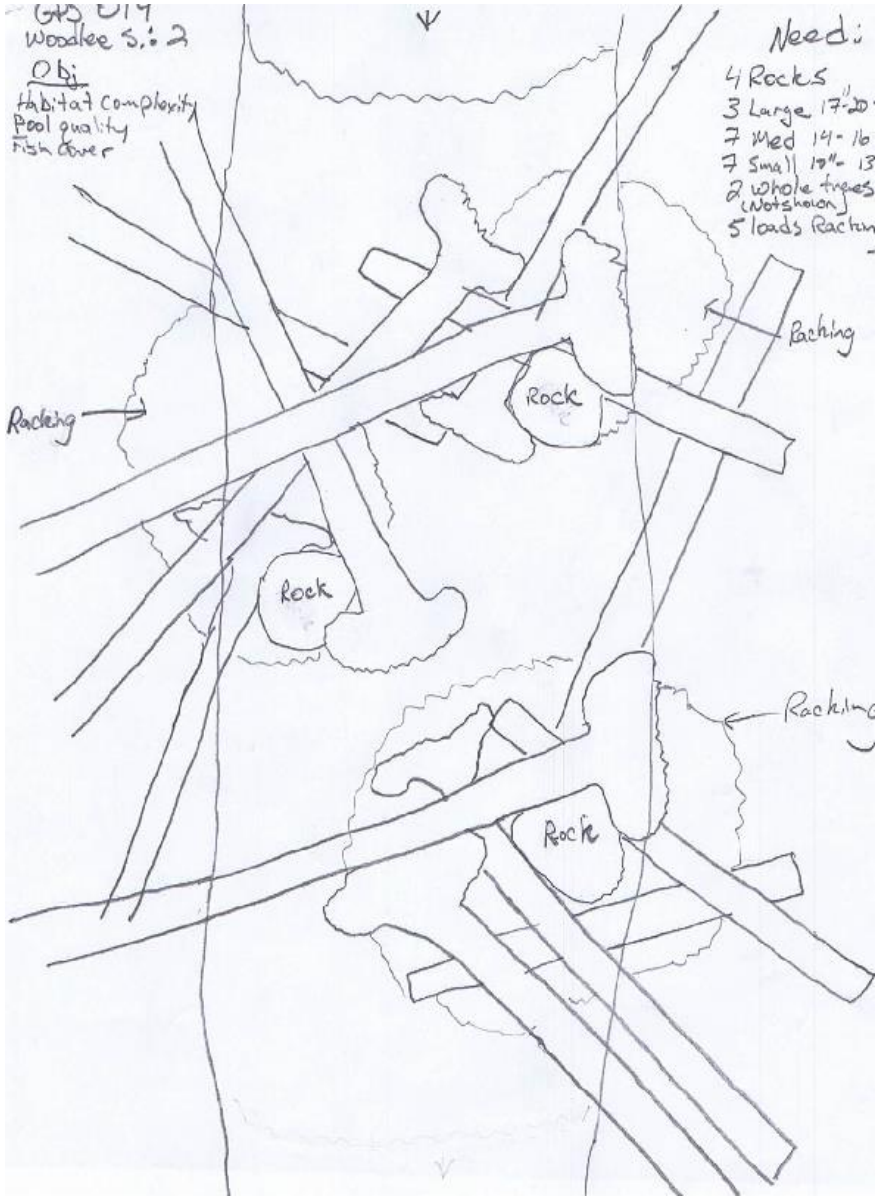
Dredge Mining Aftermath
UGR Project Area Circa 1939

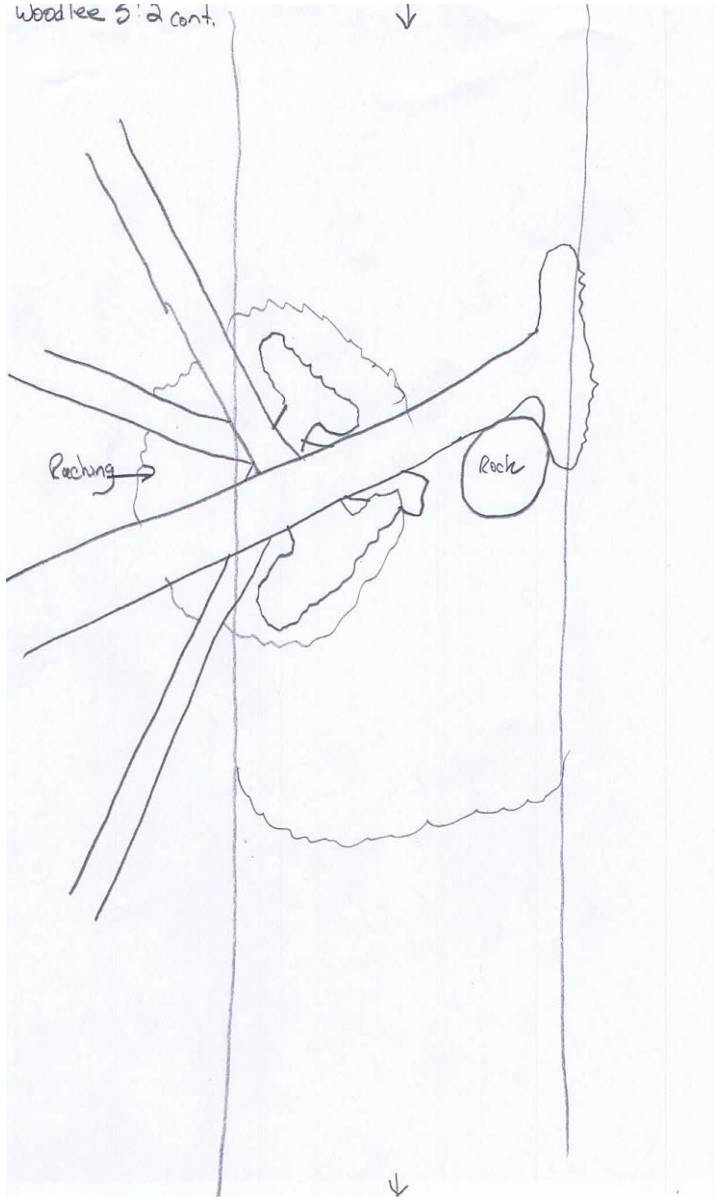
Proposed project

- ~ 731 large wood pieces instream; including whole tree placement
- ~ 53 boulders for ballast
- ~ 173 loads of racking material
- ~ 500 pieces of floodplain wood (targeting side channels)
- Involves 85 structures within 38 sites on approximately 1.25 miles of stream.
- Plant 4000 deciduous seedlings, and 10,000 cuttings
- Apply Plantskydd for plant protection

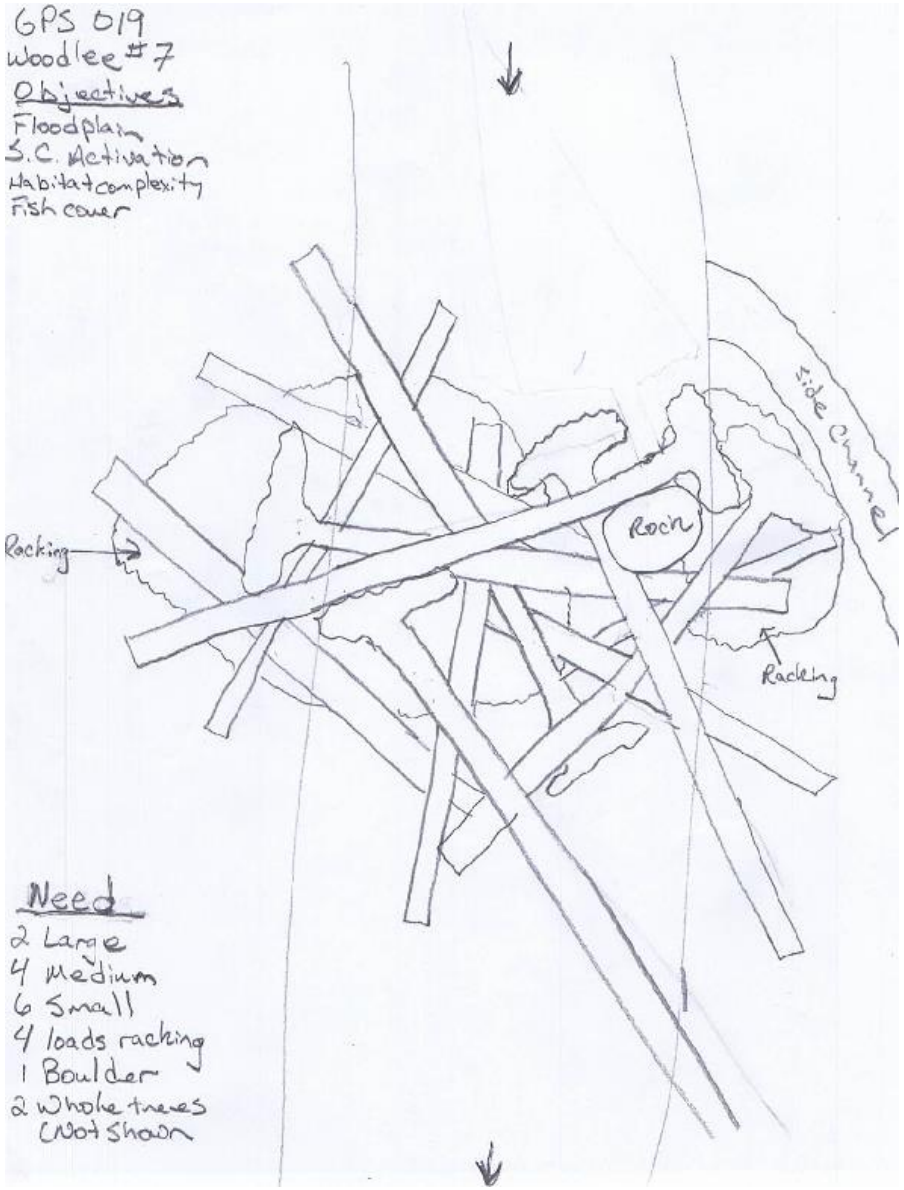
Longitudinal Pools

Woodlee Structure 2 Example





Large wood debris jam to promote side channel activation (Woodlee #7)



Monitoring/Budget

Proposed Monitoring

- 2 temperature probes installed
- Drone flights (pre and post)
- Planting survival
- Structure photo points

Cost Estimate

- FIP: $112,500
- BPA: $203,360


Questions?

WOODLEE RESTORATION PROJECT

STRUCT.	ROCK	L	M	S	RACKING	WT
38	2	3	4	6	5	2
37	3	4	10	10	6	4
36	1	3	7	10	6	4
35	0	1	3	6	3	2
34	2	3	5	6	4	4
33	0				0	7
32	0	2	8	7	4	2
31					0	5
30					0	5
29	1	2	4	6	3	2
28	1	2	4	6	3	2
27	1	2	4	6	3	2
26	1	2	4	6	3	2
25	1	2	4	6	3	2
24	1	2	4	6	3	2
23	3	4	9	13	7	4
22	1	2	4	6	3	8
21	3	4	8	12	5	4
20	2	4	8	12	6	6
19	3	10	12	16	9	8
18	1	2	4	6	3	2
17					2	6
16	1	2	3	6	5	2
15	2	4	8	12	6	10
14	2	3	9	8	6	2
13	3	4	9	15	12	4
12	2	4	8	10	5	4
11	2	3	9	8	4	2
10	2	4	8	12	6	2
9	2	3	9	10	7	2
8	2	4	11	11	9	2
7	1	2	4	6	4	2
6	1	2	6	5	4	2
5	0	3	7	5	5	2
4	2	3	8	10	5	2
3	1	2	4	4	4	2
2	2	3	7	7	5	2
1	1	4	2	5	5	2
	53	104	218	280	173	129

Total	Wood:	731
Total	Rock:	53
Total	Racking	173

Total	Whole T	129
TFW:	500	
Side	Channel:	1.25 miles

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