

## FUTURE FISHERIES IMPROVEMENT PROGRAM GRANT APPLICATION

Please fill in the highlighted areas  
all sections (IA, IB, IC, etc.) must be addressed or the application will be considered invalid

### I. APPLICANT INFORMATION

- A. Applicant Name: Big Blackfoot Chapter of Trout Unlimited
- B. Mailing Address: PO Box 1
- C. City: Ovando State: MT Zip: 59854  
Telephone: 406-240-4824 E-mail: ryen@montanatu.org
- D. Contact Person: Ryen Neudecker  
Address if different from Applicant: See above  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Telephone: \_\_\_\_\_ E-mail: \_\_\_\_\_
- E. Landowner and/or Lessee Name (if other than Applicant): United States Forest Service-George Liknes, Fish Biologist  
Mailing Address: 1569 US HWY 200  
City: Lincoln State: MT Zip: 59639  
Telephone: 406.362.7003 E-mail: georgealiknes@fs.fed.us

### II. PROJECT INFORMATION\*

- A. Project Name: Poorman Creek Mining Restoration  
River, stream, or lake: Poorman Creek  
Location: Township: 14N Range: 8W Section: 14 & 23  
Latitude: -112.350200 Longitude: 46.523720 *within project (decimal degrees)*  
County: Lewis & Clark
- B. Purpose of Project:  
The purpose of this project is to restore a reach of Poorman Creek impacted by historic mining activities. The work will restore floodplain connectivity and instream habitat complexity, allow for a functioning riparian area and improve fish passage.
- C. Brief Project Description: \_\_\_\_\_

Poorman Creek mining restoration

Poorman Creek is a third order tributary to the upper Blackfoot River and flows 14 miles through USFS and private land. The stream supports populations of pure westslope cutthroat trout and bull trout. Poorman Creek is a high priority tributary as ranked in "An Integrated Stream Restoration and Native Fish Conservation Strategy for 182 streams in the Blackfoot Basin" and is listed as critical bull trout habitat. Poorman Creek has been the focus of several past projects funded through the Future Fisheries program, including fish passage, fish screening, stream restoration, and water conservation. We now have the opportunity to switch our focus to a reach of Poorman Creek near stream mile eight on USFS lands and have developed a project that has been identified as a priority under the **Collaborative Forest Landscape Restoration Program**— a program identified in 2009 by the Secretary of Agriculture to encourage the collaborative, science-based ecosystem restoration of priority forest landscapes. The Poorman Creek channel and valley morphology in the proposed project area have been highly modified by past mining activities. To accommodate placer mining, the stream was channelized and the current stream condition is characterized by long, extended riffles. Large wood and pools are lacking and existing waste rock tailing deposits have eliminated a floodplain, restricted a functional riparian area, and confine the channel resulting in entrenched channel conditions. An undersized culvert also restricts fish passage.

This project will restore a heavily disturbed reach of Poorman Creek and ensure connectivity with a functioning floodplain following natural channel design principles. The project will remove approximately 22,000 yd<sup>3</sup> of tailings from stream-side locations and dispose of them in two or three nearby repositories. Removal of tailings will increase the flood prone width from 30 to 40 feet to 150 feet over much of the project reach. Approximately 1,500 feet of new stream channel will be constructed in a more sinuous planform through the wider floodplain. The channel will be constructed as a low width to depth ratio, riffle-pool system with a gravel bed. Large wood that will be prevalent following tailings removals will be incorporated into the stream channel to enhance channel function and improve aquatic habitat by increasing complexity, pool habitat and energy dissipation. Once tailings have been removed and floodplain connectivity reestablished, the floodplains will be restored using swales, slash, site-adapted plant material, and seeding.

Specific objectives include: reestablish floodplain connectivity and function; contour the floodplain in the placer tailing footprint in a way that sets the stage for natural recruitment / storage of sediment and riparian vegetation; improve existing instream and riparian habitat for native trout by emulating reference reach conditions; create repositories for the placer tailings that emulate natural valley slopes and restore fish passage by upgrading undersized stream crossing.

D. Length of stream or size of lake that will be treated: 1,500 feet of Poorman Creek and an adjacent ~2.4 acres of floodplain.

E. Project Budget:

Grant Request (Dollars): \$ 25,000

Contribution by Applicant (Dollars): \$ In-kind \$ 6,760.00  
(salaries of government employees are not considered as matching contributions)

Contribution from other Sources (Dollars): \$ 280,645.00 In-kind \$ 26,000.00  
(attach verification - See page 2 budget template)

**Total Project Cost: \$ 338,405.00**

F. Attach itemized (line item) budget – see template

Poorman Creek mining restoration

- Attach **specific project plans, detailed sketches, plan views, photographs, maps, evidence of landowner consent, evidence of public support and fish biologist support, and/or other information necessary to evaluate the merits of the project. If project involves water leasing or water salvage complete a *supplemental questionnaire*** ([fwp.mt.gov/habitat/futurefisheries/supplement2.doc](http://fwp.mt.gov/habitat/futurefisheries/supplement2.doc)).
- G. **Attach land management & maintenance plans that will ensure protection of the reclaimed area.**

**III. PROJECT BENEFITS\***

- A. What species of fish will benefit from this project?:

Bull trout and westslope cutthroat trout.

- B. How will the project protect or enhance wild fish habitat?:

By rehabilitating the stream, floodplain and riparian area impaired by previous placer mining operations, the project will promote and restore aquatic habitat conditions that support native trout.

- C. Will the project improve fish populations and/or fishing? To what extent?:

Yes, by providing off-site recruitment to the Blackfoot River and angling opportunities on-site. Poorman Creek enters a portion of the Blackfoot River that receives high angling pressure.

- D. Will the project increase public fishing opportunity for wild fish and, if so, how?:

Yes, by increasing wild trout habitat in the Blackfoot River drainage. The public also has legal streamside access via adjacent USFS lands.

- E. The project agreement includes a 20-year maintenance commitment. Please discuss your ability to meet this commitment.

The USFS has committed to signing a Landowner Agreement for a minimum of 20 years.

- F. What was the cause of habitat degradation in the area of this project and how will the project correct the cause?:

Already answered above. The perturbation from mining activity decreased stream length and habitat quality. The goal is to restore stream and floodplain function to a natural condition.

- G. What public benefits will be realized from this project?:

This project involves the continuation of the Blackfoot River Restoration program and the restoration of a westslope cutthroat stream. Public benefits include: 1) expanding suitable habitat conditions for pure westslope cutthroat trout and fluvial juvenile bull trout populations, 2) improved water quality (temperature) on-site and downstream, and 3) contribute to the recovery of westslope cutthroat trout. Additionally, the Bull Trout Conservation Strategy lists the Poorman drainage as an important population that contributes to Blackfoot core bull trout population; the strategy identifies the main factor limiting recovery of bull trout as the lack of high quality tributaries throughout the watershed. This project, in conjunction with the cumulative effects of other projects in the drainage, will benefit bull trout and work towards stability and recovery of the core population, which is in the public's interest.

- H. Will the project interfere with water or property rights of adjacent landowners? (explain):

This project will have no effect on water and property rights of adjacent landowners.

Poorman Creek mining restoration

- I. Will the project result in the development of commercial recreational use on the site?: (explain):

No commercial recreational use is known to legally occur at this site.

- J. Is this project associated with the reclamation of past mining activity?

Yes, a major part of this project involves removing 22,745 cubic yards of placer rock piles from the floodplain.

**Each approved project applicant must enter into a written agreement with Montana Fish, Wildlife & Parks specifying terms and duration of the project. The applicant must obtain all applicable permits prior to project construction. A competitive bid process must be followed when using State funds.**

**IV. AUTHORIZING STATEMENT**

I (we) hereby declare that the information and all statements to this application are true, complete, and accurate to the best of my (our) knowledge and that the project or activity complies with rules of the Future Fisheries Improvement Program.

Applicant Signature:  Date: 11-28-2017

Sponsor (if applicable): 

**\*Highlighted boxes will automatically expand.**

**Mail To:** Montana Fish, Wildlife & Parks  
Fisheries Division  
PO Box 200701  
Helena, MT 59620-0701

**E-mail To:** Michelle McGree  
[mmcgree@mt.gov](mailto:mmcgree@mt.gov)  
(electronic submissions MUST be signed)

Incomplete or late applications will be rejected and returned to applicant.  
Applications may be rejected if this form is modified.

**\*\*\*Applications must be signed and *received* by the Future Fisheries Program Officer in Helena before December 1 and June 1 of each year to be considered for the subsequent funding period.\*\*\***

## Poorman Creek mining restoration



Photo 1: Existing condition through proposed restoration reach on Poorman Creek.

**BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS**

Both tables must be completed or the application will be returned

WORK ITEMS (ITEMIZE BY CATEGORY)	NUMBER OF UNITS	UNIT DESCRIPTION*	COST/UNIT	TOTAL COST	CONTRIBUTIONS			
					FUTURE FISHERIES REQUEST	IN-KIND SERVICES**	IN-KIND CASH	TOTAL
<b>Personnel***</b>								
Survey	75	hrs	\$100.00	\$ 7,500.00			7,500.00	\$ 7,500.00
Design	180	hrs	\$100.00	\$ 18,000.00			18,000.00	\$ 18,000.00
Engineering	50	hrs	\$100.00	\$ 5,000.00			5,000.00	\$ 5,000.00
Permitting	40	hrs	\$40.00	\$ 1,600.00		1,600.00		\$ 1,600.00
Oversight	190	hrs	\$100.00	\$ 19,000.00			19,000.00	\$ 19,000.00
Oversight	100	hrs	\$40.00	\$ 4,000.00		4,000.00		\$ 4,000.00
			Sub-Total	\$ 55,100.00	\$ -	\$ 5,600.00	\$ 49,500.00	\$ 55,100.00
<b>Travel</b>								
Mileage	2000	miles	\$0.58	\$ 1,160.00		1,160.00		\$ 1,160.00
			Sub-Total	\$ 1,160.00	\$ -	\$ 1,160.00	\$ -	\$ 1,160.00
<b>Construction Materials****</b>								
Trees (18'-24', 18" diameter)	400	each	\$65.00	\$ 26,000.00		26,000.00		\$ 26,000.00
Mine Waste Removal & Disposal	22,745	CY	\$6.00	\$ 136,470.00	3,000.00		133,470.00	\$ 136,470.00
Repository Clearing & Grubbing	4.4	acres	\$7,000.00	\$ 30,800.00			30,800.00	\$ 30,800.00
Soil import & placement	1000	cubic yards	\$7.00	\$ 7,000.00			7,000.00	\$ 7,000.00
Willow cuttings	4960	each	\$1.00	\$ 4,960.00	1,000.00		3,960.00	\$ 4,960.00
			Sub-Total	\$ 200,270.00	\$ 4,000.00	\$ 26,000.00	\$ 175,230.00	\$ 200,270.00
<b>Equipment and Labor</b>								
Hydraulic Excavator	250	hrs	\$165.00	\$ 41,250.00	15,000.00		26,250.00	\$ 41,250.00
Track Truck	121	hrs	\$125.00	\$ 15,125.00	3,000.00		12,125.00	\$ 15,125.00
Skidsteer	100	hrs	\$95.00	\$ 9,500.00	3,000.00		6,500.00	\$ 9,500.00
Labor	200	hrs	\$45.00	\$ 9,000.00			9,000.00	\$ 9,000.00
			Sub-Total	\$ 74,875.00	\$ 21,000.00	\$ -	\$ 53,875.00	\$ 74,875.00
<b>Mobilization</b>								
All Equipment	1	Lump Sum	\$7,000.00	\$ 7,000.00			7,000.00	\$ 7,000.00
			Sub-Total	\$ 7,000.00	\$ -	\$ -	\$ 7,000.00	\$ 7,000.00
<b>TOTALS</b>				\$ 338,405.00	\$ 25,000.00	\$ 32,760.00	\$ 285,605.00	\$ 338,405.00

**MATCHING CONTRIBUTIONS** (do not include requested funds)

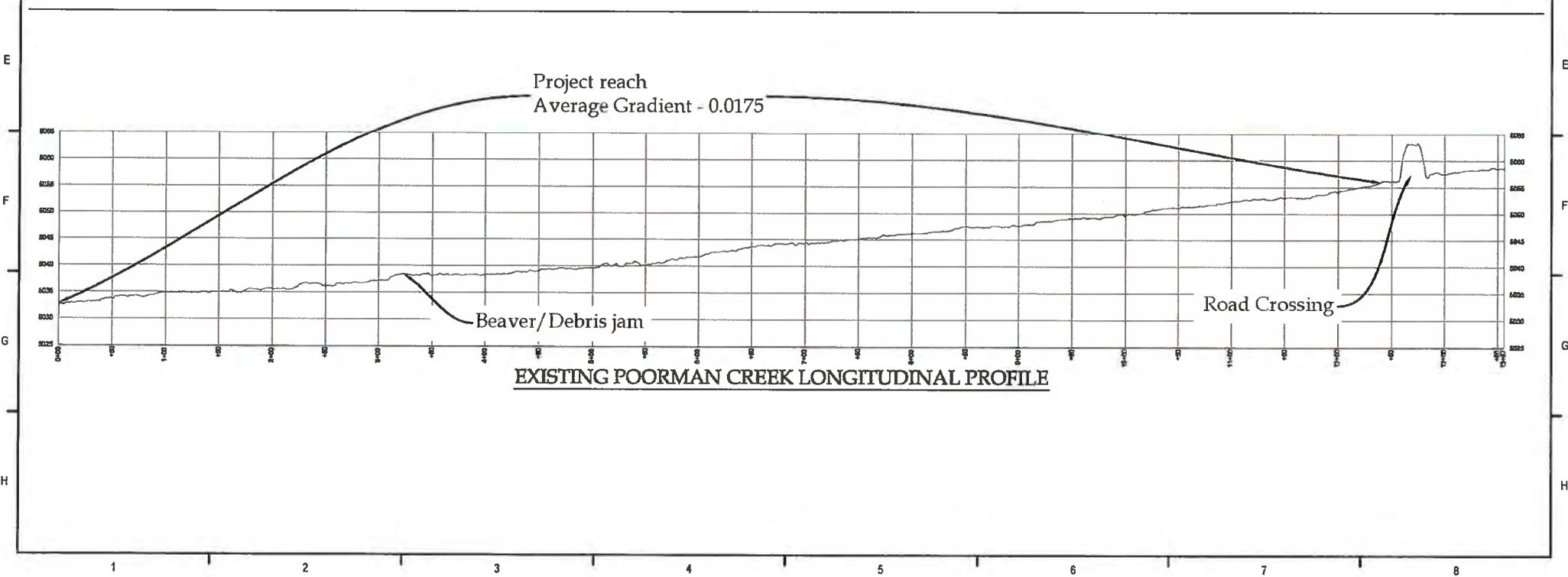
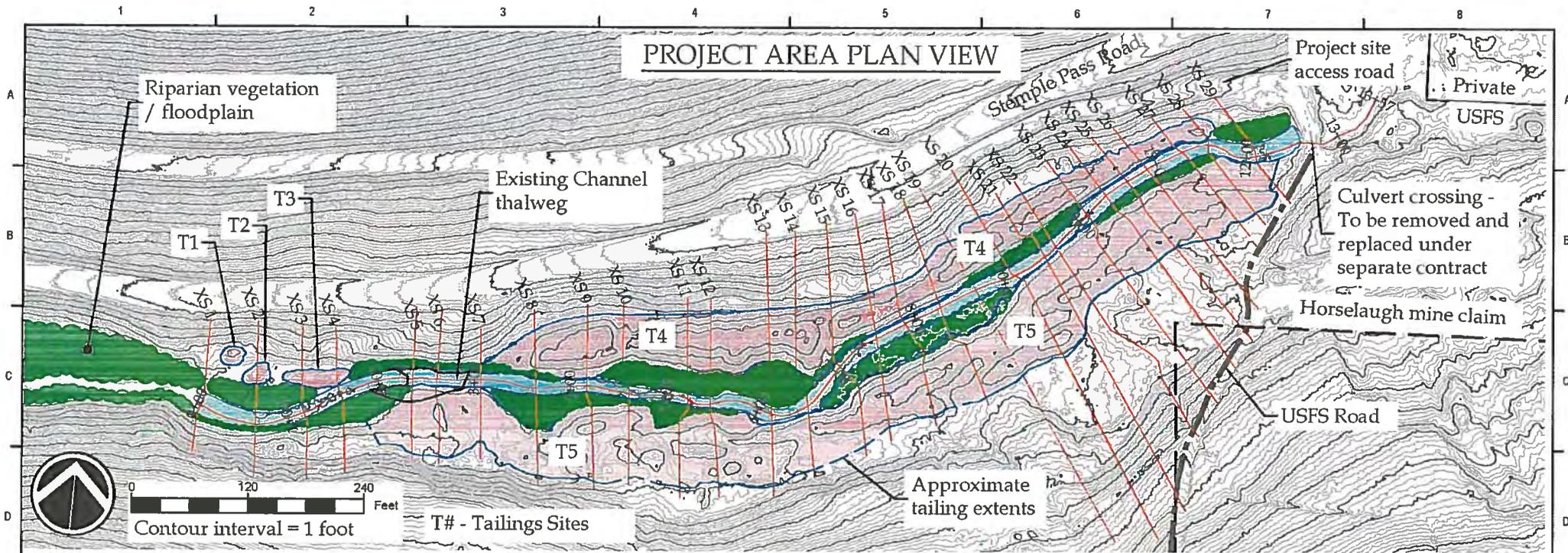
**BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS**

<b>CONTRIBUTOR</b>	<b>IN-KIND SERVICE</b>	<b>IN-KIND CASH</b>	<b>TOTAL</b>	<b>Secured? (Y/N)</b>
<b>United States Forest Service</b>	\$ 26,000.00	\$ 210,645.00	\$ 236,645.00	YES
<b>Montana DEQ 319 Funding</b>	\$ -	\$ 15,000.00	\$ 15,000.00	YES
<b>US Fish &amp; Wildlife Partners Program CRI Funds</b>	\$ -	\$ 25,000.00	\$ 25,000.00	YES
<b>DNRC Reclamation Development Grant Program-L&amp;C County</b>	\$ -	\$ 30,000.00	\$ 30,000.00	YES
<b>BBCTU</b>	\$ 6,760.00	\$ -	\$ 6,760.00	YES
<b>TOTALS</b>	\$ 32,760.00	\$ 280,645.00	\$ 313,405.00	









**EXISTING CONDITIONS  
PLAN & PROFILE VIEW**

**POORMAN CREEK - STREAM MILE 8  
PLACER MINE RECLAMATION & CHANNEL  
RESTORATION**

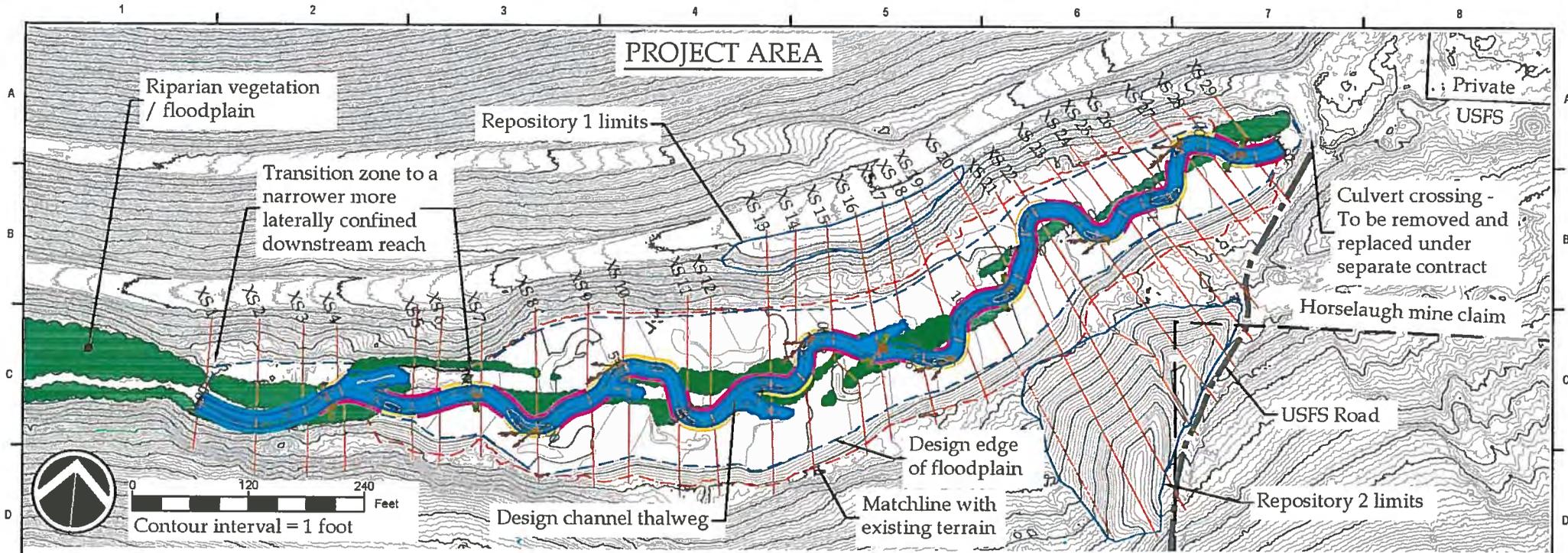
NO.	DATE	BY	DESCRIPTION	CHK
1	11/15/17	TC	Preliminary design & abstracts	
2	11/15/17	TC	Final Design	

PROJECT NO: 0616-2

PROJECT NO: \_\_\_\_\_

DATE: 11/15/17

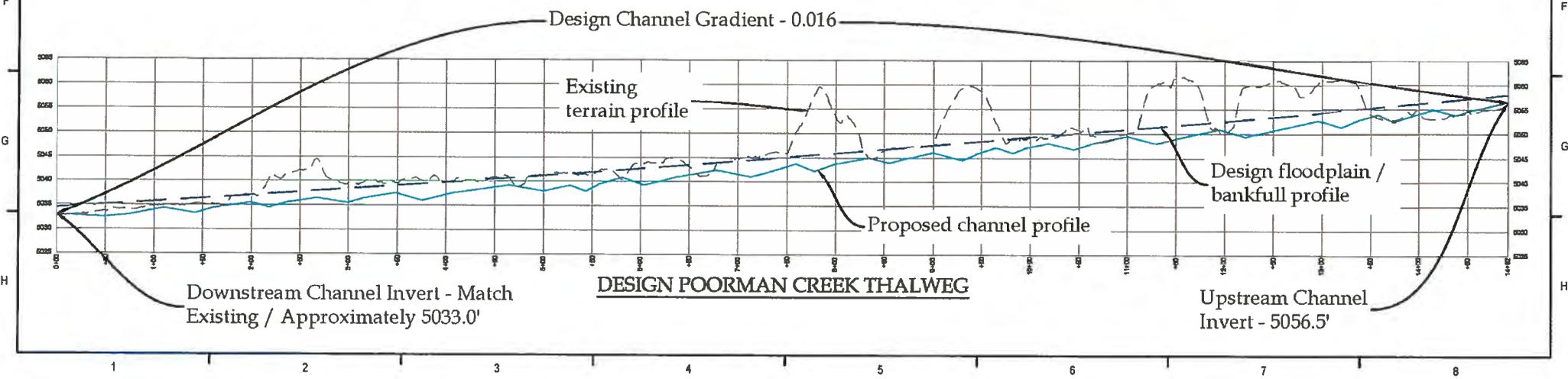
SHEET NO: **4**



**Notes:**

1. The design channel alignment meanders repeatedly across the existing channel in order to increase sinuosity in the expanded floodplain and to allow for construction of the majority of the channel outside of the active flowing stream.
2. The channel design was developed to utilize materials that are readily available on site.
3. All high shear banks (outside bends) will be constructed with composite brush bank construction. The composite brush banks use a combination of large and small wood compacted in lifts with alluvium as defined on project Sheet 15.
4. In addition to composite brush banks at 11 high shear sites, additional large wood constructions will be incorporated into the banks (Sheets 16 & 17).
5. Low shear banks corresponding to riffles and glides will be constructed with shrub and sod transplants as the primary treatment. These banks may also be constructed as fabric encapsulated soil lifts (FESL) where shrub and sod transplants cannot be efficiently obtained.
6. The availability and quality of shrub and sod materials is variable along the channel so it is estimated that approximately 1/3 of the low shear bank lengths will be constructed as FESLs.
7. Shrubs and sod may be collected from areas where the new channel crosses the riparian corridor or from existing channel banks, provided that the banks are sufficiently isolated to prevent turbidity.
8. Where materials are borrowed from the existing riparian corridor the disturbed areas must be filled to grade and treated as a revegetation site.

TREATMENT LENGTHS & AREAS				
	MAP SYMBOL	DESCRIPTION	QUANTITY	UNITS
Design High Shear Banks		Large Wood Structural	6	Structures
		Channel Spanning Log	5	Structures
		Composite Brush Bank	860	LF
Design Low Shear Banks		Mature Shrub Transplants	1260	LF
		Fabric Encapsulated Soil	600	LF
Existing Banks		No Treatment	260	LF
Design Floodplain		Floodplain Reactivation	81,000	FT <sup>2</sup>



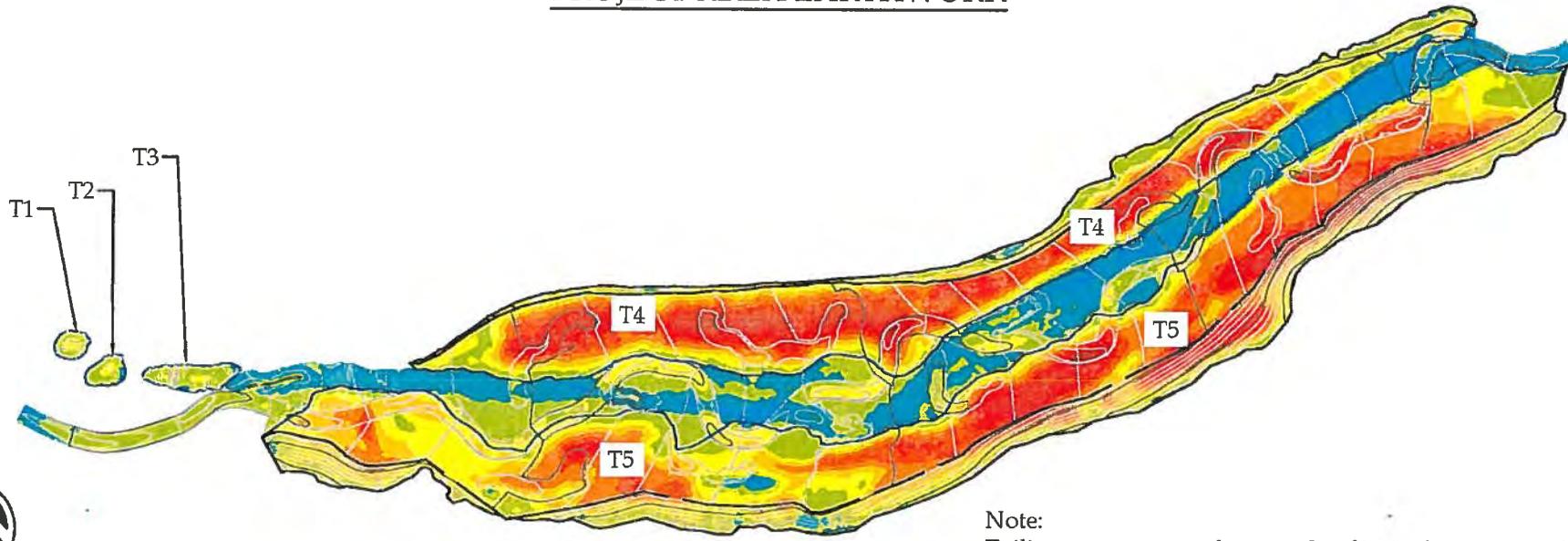
**DESIGN PLAN VIEW**  
**POORMAN CREEK - STREAM MILE 8**  
**PLACER MINE RECLAMATION & CHANNEL RESTORATION**

CHK	NO.	DATE	BY	DESCRIPTION
	1	11/15/17	TC	Preliminary design submission
	2	11/15/17	TC	Final Design

PROJECT NO: 0616-2  
 PROJECT NO: \_\_\_\_\_  
 DATE: 11/15/17  
 SHEET NO: **5**



# PROJECT AREA EARTHWORK



Note:  
Tailings are composed primarily of 12 inch minus particles with a majority in the 3 inch minus range. Investigation of the tailings was limited to approximately two feet of depth. The occurrence of larger rock, greater than 1 foot in diameter, deeper within the tailings is unknown.

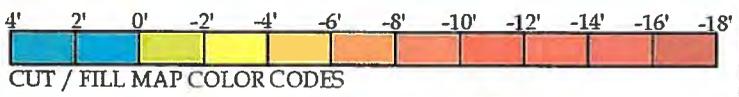
TYPICAL TAILING SURFACE COMPOSITION & VEGETATION



EXCAVATION QUANTITIES		
Location	Volume (yd <sup>3</sup> )	Footprint Area (Acres)
Tailings 1	20	0.01
Tailings 2	20	0.01
Tailings 3	40	0.02
Tailings 4	8,370	0.83
Tailings 5	12,930	1.50
Design Channel*	1,365	0.33
<b>SUBTOTALS</b>	<b>22,745</b>	<b>2.37</b>

PROJECT AREA FILL QUANTITIES		
Location	Volume (yd <sup>3</sup> )	Footprint Area (Acres)
Existing Channel Fill	900	0.50

\*Includes channel subexcavation



NO.	DATE	BY	DESCRIPTION	CHK
1	11/15/17	TC	Preliminary Design & Submittals	
2	11/15/17	TC	Final Design	























