



Montana Fish, Wildlife & Parks

May 30, 2014

PO Box 200701
930 Custer Ave W
Helena, MT 59620

Future Fisheries Citizen Panel
PO Box 200701
Helena, MT 59620

Dear Panel Members,

I am writing to submit a Future Fisheries application for a fish habitat improvement project on Prickly Pear Creek and an unnamed tributary spring creek to Prickly Pear Creek. Please find enclosed a Future Fisheries application and other supporting materials.

This project is on land currently owned by the Prickly Pear Land Trust, and will be donated to Fish, Wildlife & Parks in summer 2014 to be developed as a public Fishing Access Site. The property includes 1,560 feet of Prickly Pear Creek and 2,040 feet of an unnamed spring creek. This proposal is part of a larger project on Prickly Pear Creek on the Pete Elliot property (downstream of this project) which is funded by an EPA 319 grant and administered by the Lewis & Clark County Water Quality Protection District. If this project moves forward as proposed, FWP will work with the Water Quality Protection District to jointly solicit contractors.

Our proposal is to improve spawning habitat in the spring creek by adding appropriate spawning gravels, remove a culvert crossing and replace with a bridge, and reconnect a portion of the spring creek that was captured by Prickly Pear Creek and will add approximately 600 feet of stream length to the creek. Proposed work on Prickly Pear on the future FWP parcel includes decreasing the radius of curvature and stabilize a meandering outside bend with juniper, willow, and rock; add some curvature to a relatively straight reach where the stream first enters the property at a 90 degree turn; and remove concrete and some other foreign debris from the stream.

Partners for this project include the Lewis & Clark County Water Quality Protection District, PPL Montana, Prickly Pear Land Trust, Pat Barnes Chapter Trout Unlimited, and Montana Trout Unlimited. Expected project benefits include increased fish abundance, improved angler access and opportunity, and improved water quality.

Thank you for your consideration.

Sincerely,

Eric Roberts
Helena Area Fish Biologist

**FUTURE FISHERIES IMPROVEMENT PROGRAM
GRANT APPLICATION**

(please fill in the highlighted areas)

I. APPLICANT INFORMATION

A. Applicant Name: Eric Roberts, MDFWP

B. Mailing Address: PO Box 200701

C. City: Helena State: MT Zip: 59620

Telephone: 406-495-3272

D. Contact Person: Eric Roberts

Address if different from Applicant: _____

City: _____ State: _____ Zip: _____

Telephone: _____

E. Landowner and/or Lessee Name
(if other than Applicant): Prickly Pear Land Trust

Mailing Address: PO Box 892

City: Helena State: MT Zip: 59624

Telephone: 406-442-0490

II. PROJECT INFORMATION*

A. Project Name: Prickly Pear Spring Creek

River, stream, or lake: Unnamed tributary to Prickly Pear Creek and Prickly Pear Creek

Location: Township 10N Range 3W Section 9

County: Helena, MT

B. Purpose of Project:
Improve salmonid spawning habitat in a spring creek tributary to Prickly Pear Creek (PPC), stabilize a meandering channel and eroding bank on PPC, and remove debris from PPC.

C. Brief Project Description: _____

This proposal is to improve fish spawning habitat in the spring creek, stabilize an actively eroding stream bank in PPC, and remove foreign debris (concrete) from PPC. Project is on property that is currently owned by Prickly Pear Land Trust and will be donated to FWP for development of a public fishing access site in 2014. The property includes 1,560 feet of PPC and 2,040 feet of an unnamed spring creek. This project will be done in conjunction with a project on an adjacent tract containing PPC and funded primarily through an EPA 319 grant and administered by the Lewis & Clark Water Quality Protection District.

Habitat in the spring creek has been degraded by heavy livestock grazing, an undersized culvert crossing, and approximately 600 feet of spring creek has been captured by PPC. This proposal is to improve approximately 1,308 feet of spring creek by improving pool and riffle habitat in selected meander bends, remove the culvert crossing and replace with an ATV bridge, and reconnect with the previous confluence with PPC which will add approximately 600 feet of stream length.

On PPC, proposed work is to decrease the radius of curvature and stabilize a meandering outside bend with juniper, willow, and rock. Some curvature will also be added to a relatively straight reach coming out of a 90 degree turn where the stream first enters the property. This bank will also be treated with juniper, willow, and rock. This straight stretch also includes concrete and other debris that will be removed from the stream.

Riparian fencing is not needed as the entire fishing access site will be fenced from livestock using FWP Fishing Access Site dollars.

D. Length of stream or size of lake that will be treated: 1,308 feet spring creek, 1,000 feet PPC

E. Project Budget:

Grant Request (Dollars): \$ 49,836.55

Contribution by Applicant (Dollars): \$ 14,800.00 In-kind \$ 750
(salaries of government employees are not considered as matching contributions)

Contribution from other Sources (Dollars): \$ 12500 In-kind \$
(attach verification - See page 2 budget template)

Total Project Cost: \$ 77,886.55

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

G. Attach specific project plans, detailed sketches, plan views, photographs, maps, evidence of landowner consent, evidence of public support, and/or other information necessary to evaluate the merits of the project. If project involves water leasing or water salvage complete supplemental questionnaire (fwp.mt.gov/habitat/futurefisheries/supplement2.doc).

H. Attach land management and maintenance plans that will ensure protection of the reclaimed area.

III. PROJECT BENEFITS*

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

Brown trout, rainbow trout

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

Proposed modifications to the spring creek should improve spawning habitat, which should improve juvenile abundance, which should improve overall recruitment to the population. Proposed modifications to PPC will improve pool habitat and vegetative cover, which will provide refuge for adult and juvenile fishes. Fencing of the property from livestock is expected to improve vegetation growth, which will also provide shade to the stream as well as provide additional fish cover.

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

Modifications to the spring creek are expected to increase recruitment, which in turn should improve salmonid fish populations. Treatments to PPC will add fish cover and improve fishing by adding holding areas where fish can congregate in areas accessible to anglers.

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

Increased abundance and recruitment of juvenile fish should improve fish populations, which in turn, should improve fishing opportunity. Modifications to PPC will also improve holding areas which will also be accessible to anglers.

E. If the project requires maintenance, what is your time commitment to this project?:

Maintenance is expected to be minimal. Since the property is slated to become FWP property in 2014, any maintenance and repair needs can be readily identified and addressed by FWP personnel.

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

Livestock grazing has had substantial impacts to both the spring creek and PPC. Much of the spring creek and PPC are fenced, but the fences are in poor repair and livestock commonly encroach these areas. These areas will be completely fenced during development of the fishing access site so livestock should no longer be an issue. There is still a portion of spring creek upstream of FWP property that will still cross grazed pasture. FWP will continue to work with the landowner to fence the stream and provide livestock water gaps.

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

Improved spawning habitat and recruitment should improve sport fish population numbers, which will improve angling opportunity. Improved holding cover on PPC coupled with improved public access will also improve the opportunity to catch fish.

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

No. Work on PPC is done in conjunction with work already proposed on an adjacent landowner. The proposed project is not expected to interfere with any water conveyance structures or restrict the ability to others to access their water rights.

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

The project is not expected to lead to development of commercial recreational use. Improved fish populations coupled with improved public access at the fishing access site could lead to use by commercial guides.

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

No.

Each approved project sponsor must enter into a written agreement with the Department specifying terms and duration of the project.

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:

Sponsor (if applicable):

***Highlighted boxes will automatically expand.**

**Mail To: Montana Fish, Wildlife & Parks
Habitat Protection Bureau
PO Box 200701
Helena, MT 59620-0701**

Incomplete or late applications will be returned to applicant.

Applications may be rejected if this form is modified.

*****Applications may be submitted at anytime, but must be received by the Future Fisheries Program office in Helena before December 1 and June 1 of each year to be considered for the subsequent funding period.*****

Prickly Pear Creek Fishing Access Site Design Narrative

Prickly Pear Creek (PPC) is a perennial stream with headwaters near the Continental Divide and generally flows north past the towns of Clancy and Montana City, and enters the Helena valley just south of East Helena. Geology of the upper basin is comprised primarily of Butte Quartz Monzonite, which naturally contributes large volumes of sand to the stream channel. As PPC enters the Helena valley it exits a relatively confined corridor and flows northward over an alluvial fan comprised of a broad depositional surface with numerous distributary channels. Upper reaches of PPC are heavily influenced by past mining activities, while historic land use in the Helena valley was primarily agricultural. Chronic dewatering of PPC in the Helena valley was historically common due to over allocation of water resources, but recent efforts to maintain flows in PPC have effectively eliminated dewatering over the short term.

The project area is approximately 6.5 stream miles upstream from the confluence with Lake Helena. Rosgen classification for the reach is a C5 type channel, which is generally defined as a low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well defined flood plains. Substrate in the project reach is primarily granitic sands with some gravel and cobbles. See Table 1 for design calculations for proposed channel work on PPC. These design calculations were also used for proposed work on the neighboring Pete Elliott property.

Table 1: Geomorphic calculations used for Prickly Pear Creek channel design. These metrics were also used for design for work on Prickly Pear on the Pete Elliott property downstream.

Stream meander length (L_m)	290-360 ft.
Riffle W_{bkf}	31 ft.
Riffle d_{bkf}	2.1 ft.
Pool W_{bkf}	37 ft.
Pool d_{bkf}	4 ft.
Radius of curvature (R_c)	75-81 ft.
Sinuosity (K)	1.5

The spring creek is a slightly entrenched C or E type channel, with moderate to low width to depth ratio, moderate sinuosity, and sand/silt substrate with some gravels. Few morphometric changes are proposed, as the exclusion of livestock is expected to promote riparian plant growth, which is expected to reduce width:depth ratio, increase stream velocities over gravel areas, and improve fish cover. Following designed treatments on the spring creek, average width is expected to be 4 feet and average depth of 1 foot.

Juniper Tree Revetment Prickly Pear Creek

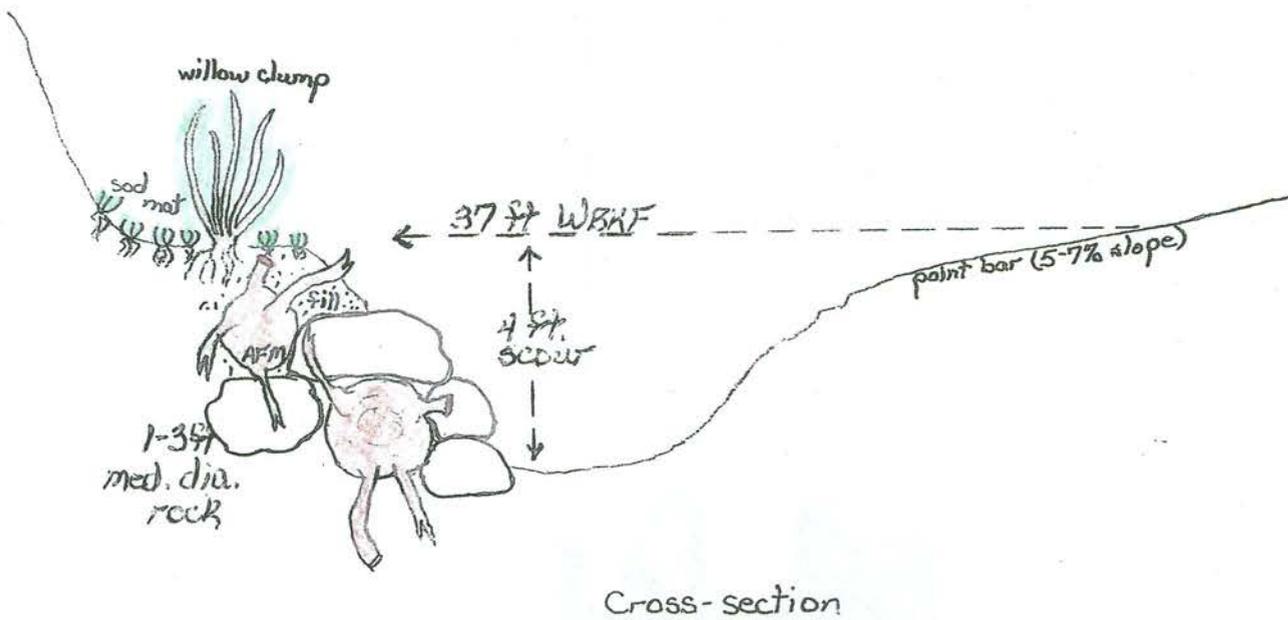
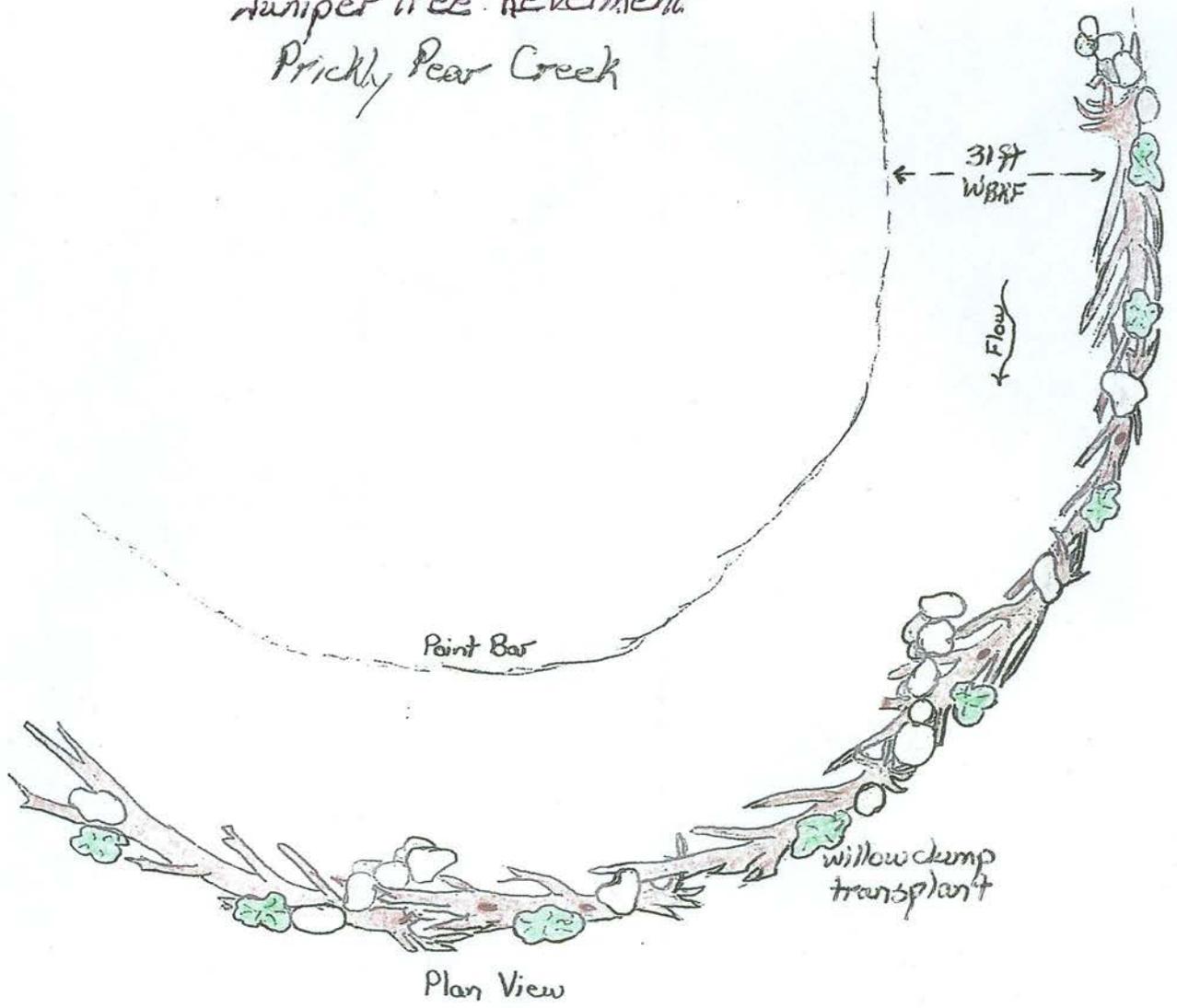




Figure 1: Location where PPC has captured the spring creek, shortening stream length of the spring creek approximately 600 feet. Spring creek flows in from the right of the picture, while PPC is on the left.



Figure 2: Looking downstream where PPC captured the spring creek. PPC is on the right and spring creek to the left.



Figure 3: Culvert road crossing on the spring creek. Proposal is to remove culvert and replace with a bridge.



Figure 4: Spring creek above culvert crossing.



Figure 5: Spring creek reach heavily impacted by livestock. Project area extends above the fence shown in the picture.

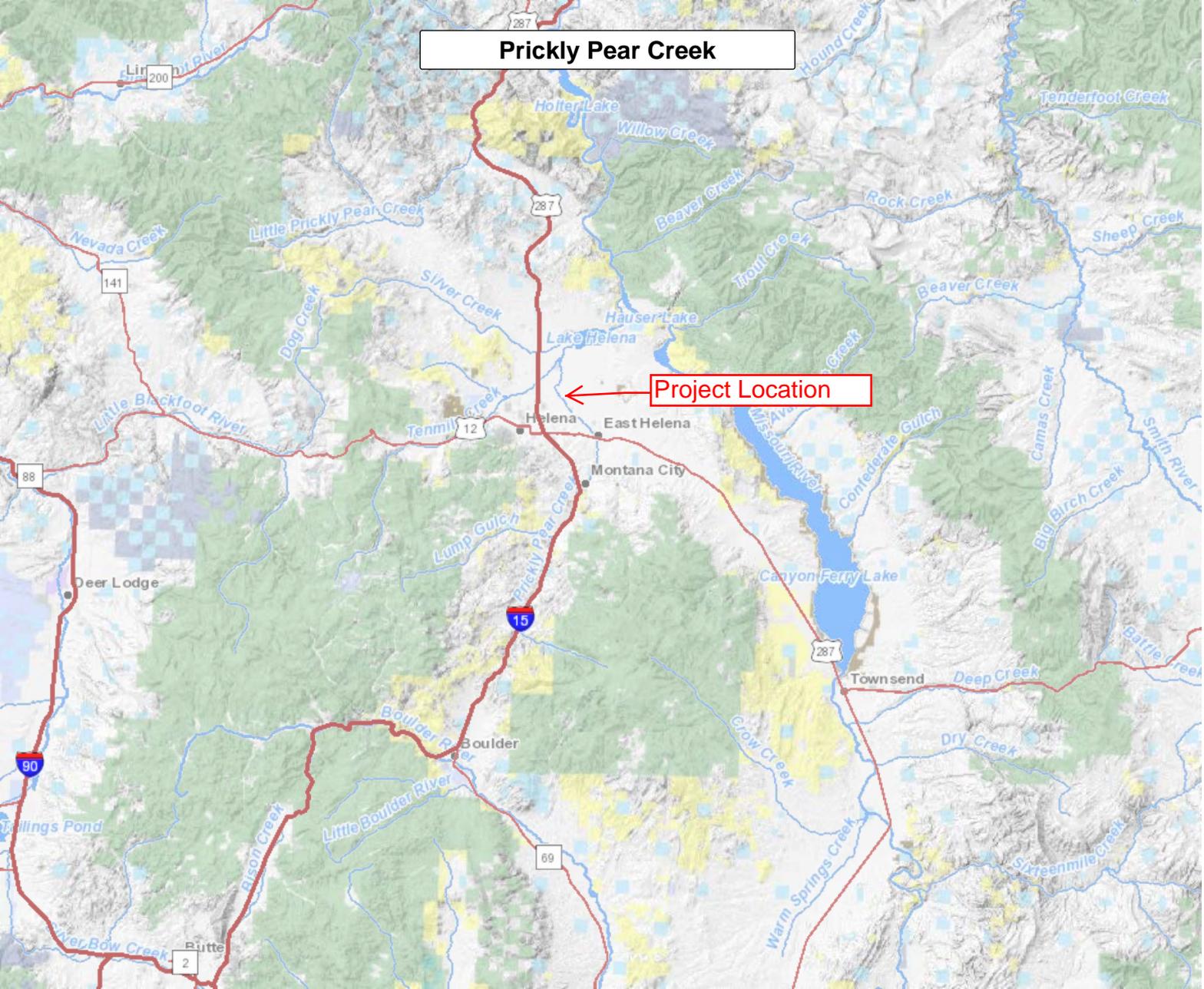


Figure 6: Silt substrate found throughout the spring creek.



Figure 7: Sand substrate typically found in Prickly Pear Creek.

Prickly Pear Creek



Prickly Pear Creek



Donated FAS

Prickly Pear Creek

Spring Creek

GRASSLAND INC
GRASSLAND INC
TRYAN RICHARD L & LAURIE JO
MCKAY JOSHUA P & MARY JENNIFER
BROWN DAVID J & MARGARET A
TREASURE STATE ACRES CNTY SEWER DIST
LUDTKE DOUGLAS B & JULIE A
MERKEL JOHN B & CINDY R
MERKEL JOHN B & CINDY R
ELLIOTT PETER M & KIM G
ELLIOTT PETER M & KIM G
ELLIOTT PETER M & KIM G
LUDTKE DOUGLAS B & JULIE A
FLOWERS DRIVE
MERKEL JOHN B & CINDY R
SOUTHBRIDGE PROPERTIES LLC
FLAX MARY B
PRICKLY PEAR LAND TRUST
HERRIN MOLLY B STEVENS MARK K & BONNIE JEAN
ANDERS WILLIAM E TRUST S
PRICKLY PEAR SIMMENTAL RANCH LLP
CHARLTON DALE L & DARLENE O FLAX MARY ELIZABETH BURKE
DEMARAY KEVIN D & JANE G
HUBERT CLIFFORD R & CHRISTINE NICOLE
LASALLE SANDRA F
SIERER SHANE
ANDERS WILLIAM E TRUST
JACQUAY PAUL J &
MITCHELL JAMES E
HOLMAN K G & BONNIE
BURNHAM KURT A JACKSON MATTHEW S & SUZANNE M
MUMSON DARREN S ALLISON
CLINCH ARTHUR R
ANDERS CONNIE MARIE
LUTGEN MARY L
MUMSON MILTON W & KAREN L
PRICKLY PEAR SIMMENTAL RANCH LLP
BURNHAM GARY L
SILVER MAPLE RANCH
OSBERT
280

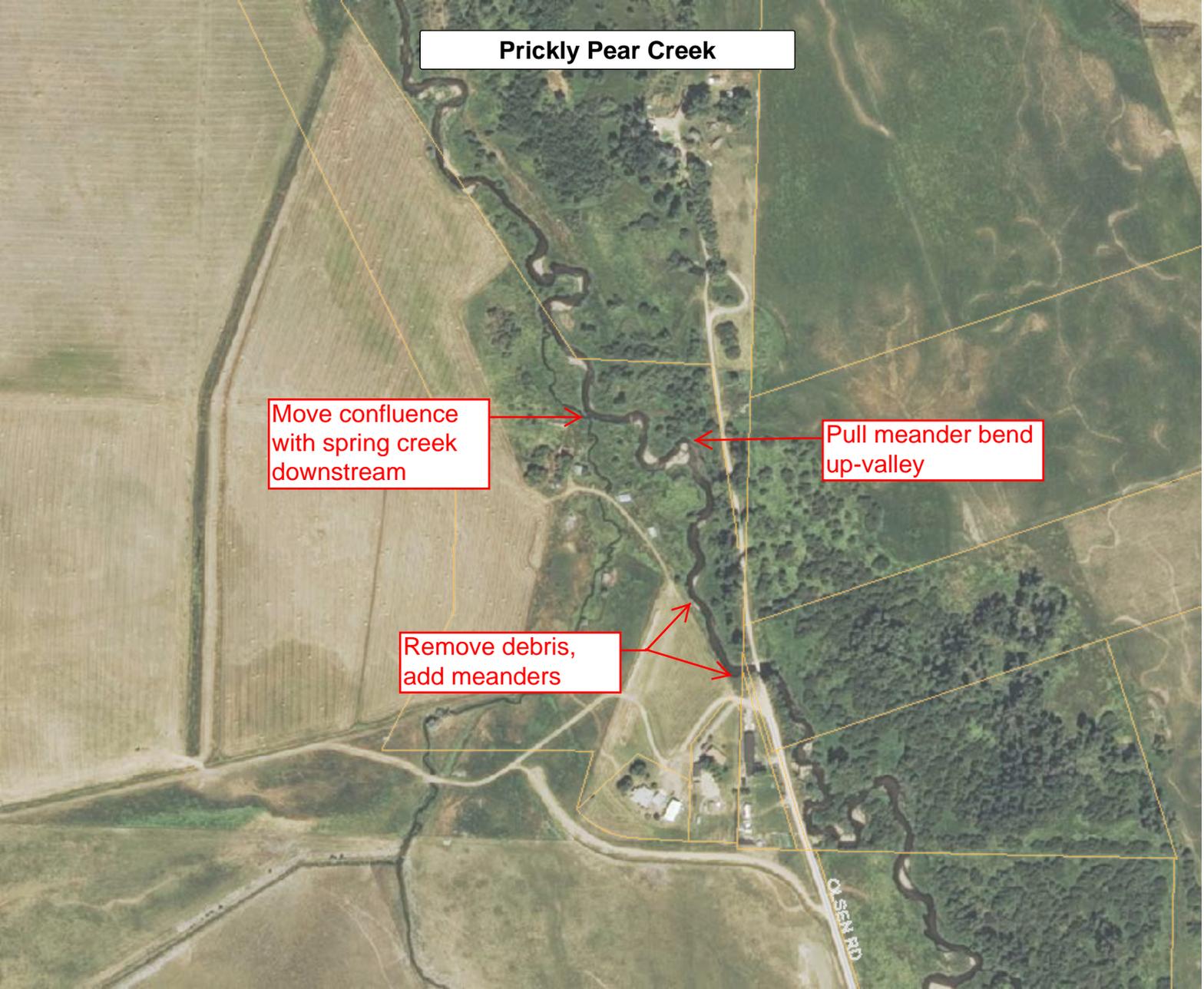
Prickly Pear Creek

Move confluence with spring creek downstream

Pull meander bend up-valley

Remove debris, add meanders

CLINTON RD



Prickly Pear Creek

Original spring creek confluence

Move spring creek away from PPC

Remove culvert crossing and replace with bridge

Spawning gravels at pool tailouts

End of project reach

