



FUTURE FISHERIES IMPROVEMENT PROGRAM GRANT APPLICATION

All sections must be addressed, or the application will be considered invalid



I. APPLICANT INFORMATION

A. Applicant Name: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Telephone: _____ E-mail: _____

B. Contact Person (if different than applicant): _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone: _____ E-mail: _____

C. Landowner and/or Lessee Name (if different than applicant): _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Telephone: _____ E-mail: _____

II. PROJECT INFORMATION

A. Project Name: _____

River, stream, or lake: _____

Location: Township: _____ Range: _____ Section: _____

Latitude: _____ Longitude: _____ *Within project (decimal degrees)*

County: _____

B. Purpose of Project: *(high level, focus on why the project is important)*

- C. Brief Project Description (attach additional information to end of application). Please include the anticipated construction schedule:

- D. What was the cause of habitat degradation and how will the project correct the cause?

E. Length of stream or size of lake that will be treated (project extent): _____
 Length/size of impact, if larger than project extent (e.g., stream miles opened): _____

F. Project Budget Summary:

Grant Request (Dollars): \$ _____

Matching Dollars: \$ _____

Matching In-Kind Services:* \$ _____

**salaries of government employees are not considered matching contributions*

Other Contributions (not used as match) \$ _____

Total Project Cost: \$ _____

G. Attach itemized (line item) budget – see *budget template*

H. Attach project location map(s) that include:

Extent of the project, including context (relation to major landmark or town)

Indication of public and private property

Riparian buffer locations and widths (if applicable) and grazing locations

I. Attach project plans:

Detailed sketches or plan views with the location and proposed restoration

Pre-project photographs (GPS location strongly recommended)

If water leasing or water salvage is involved, attach a supplemental questionnaire
<https://myfwp.mt.gov/getRepositoryFile?objectID=36110>

J. Attach support letters or statements of (e.g., landowner consent, community or public support). For FWP statement, attach provided template. List any other project partners:

III. MAINTENANCE AND MONITORING (attach additional information to end of application):

A. A 20-year maintenance commitment is required*. Please confirm that you will ensure this protection and describe your approach. Attach any relevant maintenance plans. Yes No

**If it is a water leasing project, describe the length of the agreement.*

B. Will grazing be part of or adjacent to the project? If so, describe or attach land management plans, including short term and long term grazing regimes. If the landowner is not the applicant, please describe their involvement in the project. *If you want assistance with grazing plan development, note your need.*

- C. Will the project be monitored to determine if goals were met? If so, what are the short-term and long-term plans to assess benefits and lessons learned? Were pre-project data collected? Will monitoring information be shared with FWP?

IV. PROJECT BENEFITS (attach additional information to end of application):

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

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

- C. What is the expected improvement to fish populations, both short term and long term? How might the project translate to angler success?

D. Will the project increase public fishing opportunity for wild fish and, if so, how? Is public fishing allowed onsite? Is it allowed by permission? If not, describe how the public would benefit.

E. Aside from angling, what local or large-scale public benefits will be realized from this project?

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

G. Will the project result in the development of commercial recreational use on the site (including paid access)? Explain:

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

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.

V. 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: Chris Edgington Date: _____

Submittal: Applications must be signed and received on or before November 15 and May 15 to be considered for the subsequent funding period. Late or incomplete applications will be rejected.

Mail to: FWP Future Fisheries Fish Habitat Bureau PO Box 200701 Helena, MT 59620-0701	Email: Future Fisheries Coordinator FWPFFIP@mt.gov (electronic submissions must be signed) For files over 10MB, use https://transfer.mt.gov and send to bailey.duxbury@mt.gov
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BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS

Both tables MUST be completed appropriately or the application will be invalid. Please see the example budget sheet for clarification.

PROJECT COSTS					GRANT REQUEST AND FUNDING			
Work Items (Itemize by Category)	Number of Units	Unit Description*	Cost/Unit	Total Cost	FUTURE FISHERIES REQUEST	Matching Contributions (Cash or In- Kind)***	Other Contributions (Funds not used as match)	Total Funding
<i>*Units = feet, hours, cubic yards, etc. Do not use lump sum unless necessary.</i>								
Personnel								
Survey	1	LS	\$25,453.00	\$ 25,453.00		25,453.00		\$ 25,453.00
Design				\$ -				\$ -
Engineering				\$ -				\$ -
Permitting	1	Days	\$375.00	\$ 375.00		375.00		\$ 375.00
Oversight	10	Days	\$375.00	\$ 3,750.00		3,750.00		\$ 3,750.00
Adminstration	2	days	\$350.00	\$ 700.00		700.00		\$ 700.00
MTU organizational oversite and admin (ED)	2	days	\$500.00	\$ 1,000.00		1,000.00		\$ 1,000.00
Volunteers	4	days	\$936.00	\$ 3,744.00		3,744.00		\$ 3,744.00
Maintenance**				\$ -				\$ -
			Sub-Total	\$ 35,022.00	\$ -	\$ 35,022.00	\$ -	\$ 35,022.00
Travel								
Mileage	2010	miles	\$0.725	\$ 1,457.25		1,457.25		\$ 1,457.25
Per diem				\$ -				\$ -
			Sub-Total	\$ 1,457.25		\$ 1,457.25	\$ -	\$ 1,457.25
Construction Materials								
Willow cuttings	1000	ea	\$1.00	\$ 1,000.00		1,000.00		\$ 1,000.00
Roadway Embankment and Compaction	2595	Cubic Yards (CY)	\$17.25	\$ 44,763.75		44,763.75		\$ 44,763.75
Structural Backfill	246	CY	\$36.00	\$ 8,856.00		8,856.00		\$ 8,856.00
Placed Rip Rap	58	CY	\$142.00	\$ 8,236.00		8,236.00		\$ 8,236.00
Geocell Abument Stabilization	82	Square Yards	\$95.00	\$ 7,790.00		7,790.00		\$ 7,790.00
Aggregate Surface Course, 1" minus w/ compaction method	67	CY	\$84.00	\$ 5,628.00		5,628.00		\$ 5,628.00
Precast Concrete Member, Stem Wall Footing	94	Linear Foot (LF)	\$654.00	\$ 61,476.00		61,476.00		\$ 61,476.00
36" Steel culvert	88	LF	\$110.00	\$ 9,680.00		9,680.00		\$ 9,680.00

BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS

24" Steel Culvert	30	LF	\$90.00	\$ 2,700.00		2,700.00		\$ 2,700.00	
19' Steel Plate Arch	46	LF	\$855.00	\$ 39,330.00		39,330.00		\$ 39,330.00	
			Sub-Total	\$ 189,459.75	\$ -	\$ 189,459.75	\$ -	\$ 189,459.75	
Equipment, Labor, and Mobilization									
Mobilization	1	LS	\$24,925.00	\$ 24,925.00		24,925.00		\$ 24,925.00	
Erosion and Pollution Control	1	LS	\$12,888.00	\$ 12,888.00		12,888.00		\$ 12,888.00	
Dewatering	1	LS	\$ 24,163.00	\$ 24,163.00		24,163.00		\$ 24,163.00	
Clearing and Grubbing	1	LS	\$4,755.00	\$ 4,755.00		4,755.00		\$ 4,755.00	
Culvert Removal and Disposal	1	LS	\$704.00	\$ 704.00		704.00		\$ 704.00	
Drainage Excavation	1	LS	\$855.00	\$ 855.00		855.00		\$ 855.00	
Roadway Oblit	1	LS	\$11,025.00	\$ 11,025.00		11,025.00		\$ 11,025.00	
Linear grading	1	LS	\$5,524.00	\$ 5,524.00		5,524.00		\$ 5,524.00	
Hydraulic Excavator w/ Thumb	20	Hour	\$180.00	\$ 3,600.00		3,600.00		\$ 3,600.00	
End Dump Truck Placed	20	Hour	\$156.00	\$ 3,120.00		3,120.00		\$ 3,120.00	
Streambed Rock Class 4 Placed	135	CY	\$85.00	\$ 11,475.00	11,475.00			\$ 11,475.00	
Streambed Rock Class 6 Placed	13	CY	\$85.00	\$ 1,105.00	1,105.00			\$ 1,105.00	
Channel Rock, Class CR-1	38	CY	\$85.00	\$ 3,230.00		3,230.00		\$ 3,230.00	
Rock Cross-Vane Structure, Class CR-2	1	ea	\$1,500.00	\$ 1,500.00	1,500.00			\$ 1,500.00	
			Sub-Total	\$ 108,869.00	\$ 14,080.00	\$ 94,789.00	\$ -	\$ 108,869.00	
OVERALL TOTALS				\$ 334,808.00	\$ 14,080.00	\$ 320,728.00	\$ -	\$ 334,808.00	

OTHER REQUIREMENTS:

**For projects that include a maintenance request, it cannot exceed 10% of the total project cost. match.

Additional budget detail:

BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS

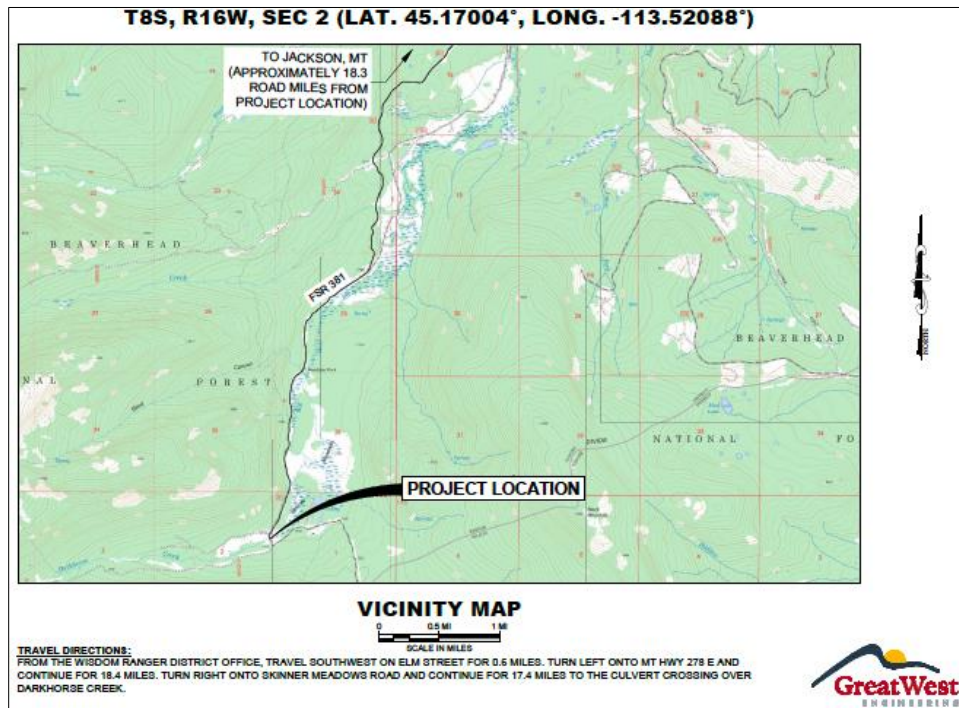
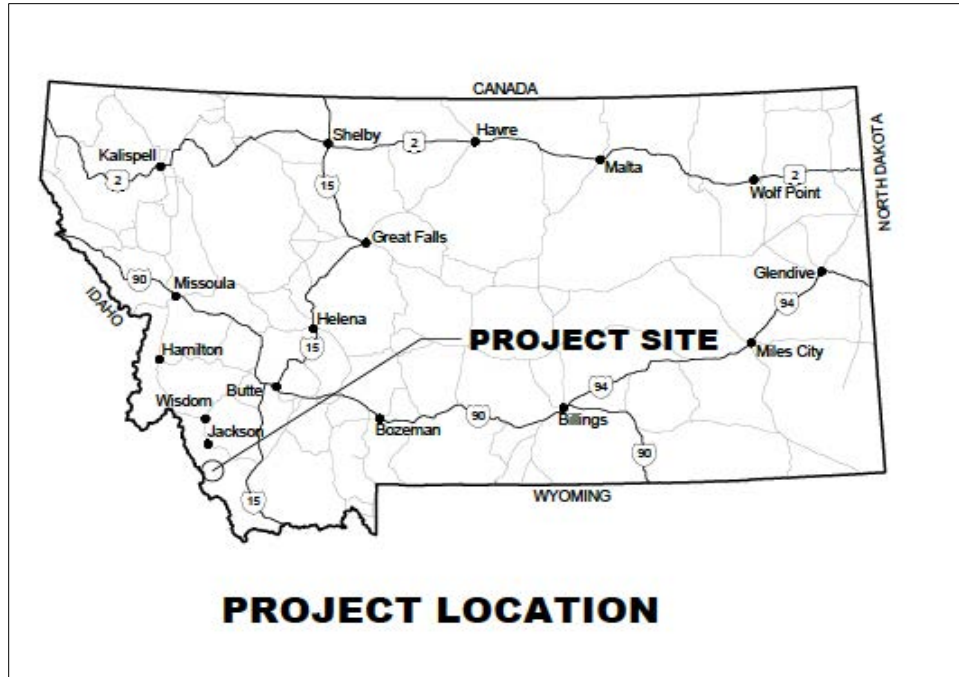
APPLICATION MATCHING CONTRIBUTIONS				
Total should equal match listed above; do not include requested funds				
CONTRIBUTOR	IN-KIND	CASH	TOTAL	Secured? (Y/N)
USFS	\$ -	\$ 305,471.75	\$ 305,471.75	YES
MTU	\$ 7,282.25	\$ -	\$ 7,282.25	YES
MTU VOLUNTEERS	\$ 4,744.00	\$ -	\$ 4,744.00	NO
GGTU	\$ -	\$ 3,230.00	\$ 3,230.00	NO
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
TOTALS	\$ 12,026.25	\$ 308,701.75	\$ 320,728.00	

OTHER CONTRIBUTIONS				
Total should equal other contributions listed above; these are funds not specically matched to the Future Fisheries application				
CONTRIBUTOR	IN-KIND	CASH	TOTAL	Secured? (Y/N)
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	
TOTALS	\$ -	\$ -	\$ -	



Darkhorse Creek Aquatic Organism Passage Project

In partnership with the Beaverhead-Deerlodge National Forest



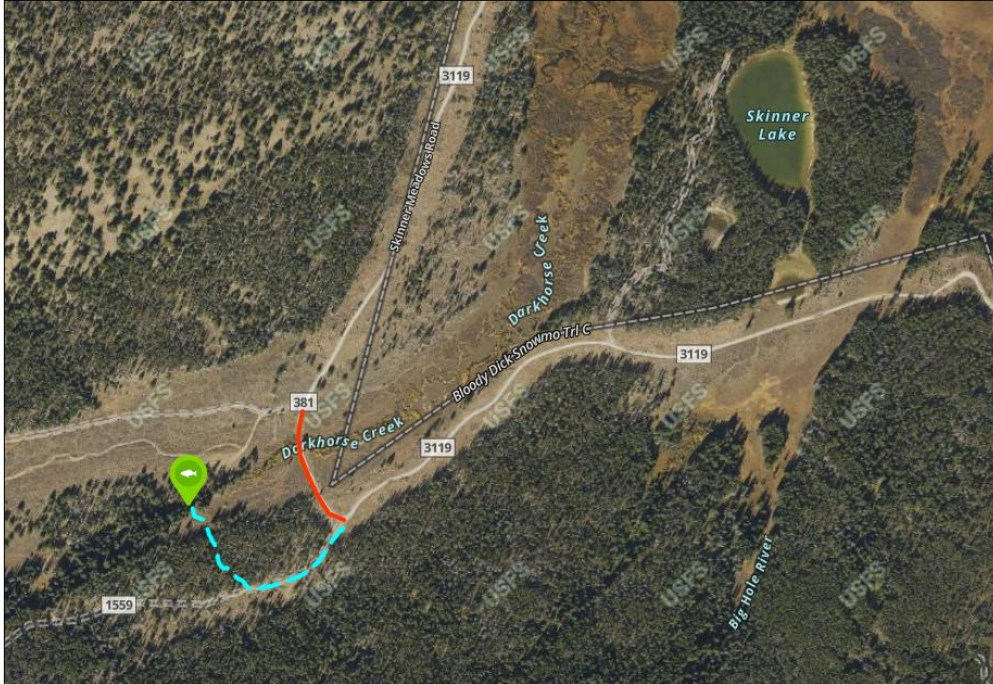


Figure 1. Darkhorse AOP location, 45.1693, -113.52288, new road prism (blue dash), and riparian road obliteration (red line).



Figure 2. 45.17005, -113.52085, looking north. The current location of USFS Road 381, Skinner Meadows Road, is located on an alluvial fan, causing ponding and excess sediment to the Big Hole River. The road is an important corridor leading to several public fishing opportunities, including the upper Big Hole River, Darkhorse Creek, Van Houten Lake, Reservoir Lake, Bloody Dick Creek, and Selway Creek.



Figure 3. Looking upstream, 45.16963, -113.5206, One of two (southern) undersized culverts is to be removed and the road obliterated.



Figure 3. Looking upstream at Darkhorse Creek, 45.17006, -113.52083. One of two (northern) undersized culverts is to be removed and the road obliterated.



Looking downstream at Darkhorse Creek, 45.17006, -113.52083. One of two (northern) undersized culverts is to be removed and the road obliterated.

FS Agreement No. 23-PA-11010200-026

Cooperator Agreement No. _____

PARTICIPATING AGREEMENT SUPPLEMENTAL PROJECT AGREEMENT
 To
 MASTER PARTICIPATING AGREEMENT # 22-PA-11010200-034
 Between
 MONTANA TROUT UNLIMITED, INC.
 And The
 USDA, FOREST SERVICE
 BEAVERHEAD-DEERLODGE NATIONAL FOREST

This Supplemental Project Agreement (SPA) is hereby made and entered into by and between the Montana Trout Unlimited, Inc., hereinafter referred to as "TU," and the United States Department of Agriculture (USDA), Forest Service, Beaverhead-Deerlodge National Forest, hereinafter referred to as the "U.S. Forest Service," as specified under the provisions of Master Participating Agreement #22-PA-11010200-034.

Title: Darkhorse Aquatic Organism Passage

I. GENERAL PROJECT DESCRIPTION: To enhance aquatic systems in the upper Big Hole River watershed to facilitate the recovery of fisheries and stream function by connecting Darkhorse Creek with aquatic organism passage. This project will replace an undersized culvert with a large structure and will reconnect approximately 2 miles of upstream habitat.

II. RESPONSIBILITIES:

A. The TU shall:

1. Perform in accordance with Financial Plan, Attachment A.
2. Solicit bids for construction at the culvert replacement site.
3. Award contracts when circumstances warrant and both parties agree it is beneficial.
4. Make payments to the selected contractor as appropriate.
5. DAVIS BACON WAGES FOR CONSTRUCTION. Following the requirement in Section 41101 of the Bipartisan Infrastructure Law, P.L. 117-58, Davis-Bacon wage rates must be applied for all laborers and mechanics employed by contractors or subcontractors in the performance of construction, alteration, or repair work on a project assisted in whole or in part by funding made available under this



Act. Laborers and mechanics shall be paid wages at rates not less than those prevailing on similar projects in the locality, as determined by the Secretary of Labor in accordance with subchapter IV of chapter 31 of title 40, United States Code (commonly referred to as the “Davis-Bacon Act”).

6. FINANCIAL STATUS REPORTING

A Federal Financial Report, form SF-425 (and Federal Financial Report Attachment, SF-425A, if required for reporting multiple awards), must be submitted quarterly. These reports are due 30 days after the reporting period ending March 31, June 30, September 30, December 31. The final SF-425 (and SF-425A, if applicable) must be submitted either with the final payment request or no later than 90 days from the expiration date of the award. These forms may be found at <https://www.grants.gov/forms/post-award-reporting-forms.htm>.

7. PROGRAM MONITORING AND PROGRAM PERFORMANCE REPORTS

The parties to this agreement shall monitor the performance of the agreement activities to ensure that performance goals are being achieved.

The cooperator may use whatever format it chooses for reporting performance, including Forest Service form SF-1500-23. Notwithstanding, performance reports must contain information on the following:

1. A comparison of actual accomplishments to the goals established for the period. Where the output of the project can be readily expressed in numbers, a computation of the cost per unit of output, if applicable.
2. Reason(s) for delay if established goals were not met.
3. Project activities in the upcoming quarter/reporting period.
4. Additional pertinent information.

The Cooperator shall submit quarterly performance reports to the Forest Service Program Manager. The report is due 30 days after the reporting period ending March 31, June 30, September 30, December 31. The final performance report must be submitted either with the Cooperator’s final payment request, or separately, but no later than 120 days from the expiration date of the agreement.

B. The U.S. Forest Service shall:

1. PAYMENT/REIMBURSEMENT. The U.S. Forest Service shall reimburse the TU for the U.S. Forest Service's share of actual expenses incurred, not to exceed \$250,000.00, as shown in the Financial Plan. In order to approve a Request for Reimbursement, the U.S. Forest Service shall review such requests to ensure payments for reimbursement are in compliance and otherwise consistent with the terms of the agreement. The U.S. Forest Service shall make payment upon receipt of the TU’s quarterly invoice. Each invoice from the TU must display the total project costs for the billing period, separated by U.S. Forest Service and the TU’s share. In-kind contributions must be displayed as a separate line item and must not be included in the total project costs available for



reimbursement. The final invoice must display the TU's full match towards the project, as shown in the financial plan, and be submitted no later than 120 days from the expiration date.

Each invoice must include, at a minimum:

1. The TU's name, address, and telephone number.
2. U.S. Forest Service agreement number. 23-PA-11010200-026
3. Invoice date.
4. Performance dates of the work completed (start & end).
5. Total invoice amount for the billing period, separated by U.S. Forest Service and TU share with in-kind contributions displayed as a separate line item.
6. Display all costs, both cumulative and for the billing period, by separate cost elements as shown on the financial plan.
7. Cumulative amount of U.S. Forest Service payments to date.
8. Statement that the invoice is a request for payment by "reimbursement".
9. If using SF-270, a signature is required.
10. Invoice Number, if applicable.

The invoice must be forwarded to:

EMAIL: SM.FS.ASC_GA@USDA.GOV

FAX: 877-687-4894

POSTAL: USDA Forest Service
Albuquerque Service Center
Payments – Grants & Agreements
101B Sun Ave NE
Albuquerque, NM 87109

Send a copy to: jennifer.mickelson@usda.gov

3. TEXT MESSAGING WHILE DRIVING. In accordance with Executive Order (EO) 13513, "Federal Leadership on Reducing Text Messaging While Driving," any and all text messaging by Federal employees is banned: a) while driving a Government owned vehicle (GOV) or driving a privately owned vehicle (POV) while on official Government business; or b) using any electronic equipment supplied by the Government when driving any vehicle at any time. All Cooperators, their Employees, Volunteers, and Contractors are encouraged to adopt and enforce policies that ban text messaging when driving company owned, leased or rented vehicles, POVs or GOVs when driving while on official Government business or when performing any work for or on behalf of the Government.



4. Review bid packages and reserve the right to approve or reject the selection.
5. Ensure instream work windows are appropriately defined and mutually agreed upon.
6. Perform construction oversight, monitoring and acceptance of work at culvert replacement site.
7. Provide design and specifications of the culvert replacement for solicitation package.
8. Perform in accordance with Financial Plan, Attachment A.

III. CONTACTS & TIME LIMITS:

- A. PRINCIPAL CONTACTS. Individuals listed below are authorized to act in their respective areas for matters related to this agreement.

Principal Cooperator Contacts:

Cooperator Program Contact	Cooperator Administrative Contact
Chris Edgington Jefferson Watershed Project Manager Montana Trout Unlimited PO Box 7186 Missoula, MT 59807 406-451-3035 Email: chris montanatu.org	David Brooks Executive Director Montana Trout Unlimited PO Box 7186 Missoula, MT 59807 406-543-0054 Email: david montanatu.org

Principal U.S. Forest Service Contacts:

U.S. Forest Service Program Manager Contact	U.S. Forest Service Administrative Contact
Jennifer Mickelson Watershed Program Manager Beaverhead-Deerlodge National Forest 420 Barrett Street Dillon, MT 59725 Telephone: 406-683-3861 Email: jennifer.mickelson@usda.gov	Tom Richards 1820 Meadowlark Ln Butte, Mt 59701 406-565-3957 FAX: Email: thomas.richards@usda.gov

- B. ASSURANCE REGARDING FELONY CONVICTION OR TAX DELINQUENT STATUS FOR CORPORATE ENTITIES. This agreement is subject to the provisions



contained in the Department of Interior, Environment, and Related Agencies Appropriations Act, 2012, P.L. No. 112-74, Division E, Section 433 and 434 434 as continued by Consolidated and Further Continuing Appropriations Act, 2013, P.L. No. 113-6, Division F, Title I, Section 1101(a)(3) regarding corporate felony convictions and corporate federal tax delinquencies. Accordingly, by entering into this agreement TU acknowledges that it: 1) does not have a tax delinquency, meaning that it is not subject to any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability, and (2) has not been convicted (or had an officer or agent acting on its behalf convicted) of a felony criminal violation under any Federal law within 24 months preceding the agreement, unless a suspending and debaring official of the United States Department of Agriculture has considered suspension or debarment is not necessary to protect the interests of the Government. If TU fails to comply with these provisions, the U.S. Forest Service will annul this agreement and may recover any funds TU has expended in violation of sections 433 and 434.

- C. SYSTEM FOR AWARD MANAGEMENT REGISTRATION REQUIREMENT (SAM). TU shall maintain current information in the System for Award Management (SAM) until receipt of final payment. This requires review and update to the information at least annually after the initial registration, and more frequently if required by changes in information or agreement term(s). For purposes of this agreement, System for Award Management (SAM) means the Federal repository into which an entity must provide information required for the conduct of business as a Cooperative. Additional information about registration procedures may be found at the SAM Internet site at www.sam.gov.
- D. AVAILABILITY FOR CONSULTATION. Both parties will make themselves available at mutually agreeable times, for continuing consultation to discuss the conditions covered by this agreement and agree to actions essential to fulfill its purposes.
- E. MODIFICATIONS. Modifications within the scope of this SPA shall be made by mutual consent of the parties, by the issuance of a written modification signed and dated by all properly authorized, signatory officials, prior to any changes being performed. Requests for modification should be made in writing, at least 30 days prior to implementation of the requested change. The U.S. Forest Service is not obligated to fund any changes not properly approved in advance.
- F. COMMENCEMENT/EXPIRATION DATE. This agreement is executed as of the date of the last signature and is effective through **March 1, 2027** at which time it will expire. The expiration date is the final date for completion of all work activities under this agreement.
- G. AUTHORIZED REPRESENTATIVES. By signature below, each party certifies that the individuals listed in this document as representatives of the individual parties are



authorized to act in their respective areas for matters related to this agreement. In witness whereof, the parties hereto have executed this agreement as of the last date written below.

2023-03-30

DAVID BROOKS, Executive Director
Montana Trout Unlimited, Inc.

Date

LISA TIMCHAK, Forest Supervisor
U.S. Forest Service, Beaverhead-Deerlodge National
Forest

Date

The authority and format of this agreement have been reviewed and approved for signature.

THOMAS
RICHARDS

Digitally signed by
THOMAS RICHARDS
Date: 2023.03.30
08:29:03 -06'00'

TOM RICHARDS
U.S. Forest Service Grants Management Specialist

Date

Burden Statement

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0596-0217. The time required to complete this information collection is estimated to average 4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call toll free (866) 632-9992 (voice). TDD users can contact USDA through local relay or the Federal relay at (800) 877-8339 (TDD) or (866) 377-8642 (relay voice). USDA is an equal opportunity provider and employer.

U.S. Forest Service

OMB 0596-0217
FS-1500-17B

Attachment:

USFS Agreement No.:
Cooperator Agreement No.:

Mod. No.:

Note: This Financial Plan may be used when:
(1) No program income is expected and
(2) The Cooperator is not giving cash to the FS and
(3) There is no other Federal funding

Agreements Financial Plan (Short Form)

Financial Plan Matrix: Note: All columns may not be used. Use depends on source and type of contribution(s).

COST ELEMENTS	FOREST SERVICE CONTRIBUTIONS		COOPERATOR CONTRIBUTIONS		(e) Total
	(a) Noncash	(b) Cash to Cooperator	(c) Noncash	(d) In-Kind	
Salaries/Labor	\$1,540.00	\$0.00	\$5,450.00	\$0.00	\$6,990.00
Travel	\$0.00	\$0.00	\$589.50	\$0.00	\$589.50
Equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Supplies/Materials	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Printing	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Other	\$0.00	\$225,000.00	\$1,936.00	\$4,500.00	\$231,436.00
Other					\$0.00
Subtotal	\$1,540.00	\$225,000.00	\$7,975.50	\$4,500.00	\$239,015.50
Coop Indirect Costs		\$25,000.00	\$797.55		\$25,797.55
FS Overhead Costs	\$200.20				\$200.20
Total	\$1,740.20	\$250,000.00	\$8,773.05	\$4,500.00	\$265,013.25
Total Project Value:					\$265,013.25

Matching Costs Determination	
Total Forest Service Share = (a+b) ÷ (e) = (f)	(f) 94.99%
Total Cooperator Share (c+d) ÷ (e) = (g)	(g) 5.01%
Total (f+g) = (h)	(h) 100.00%

MONTANA FISH, WILDLIFE & PARKS

Future Fisheries Improvement Program

Appendix: FWP Statement

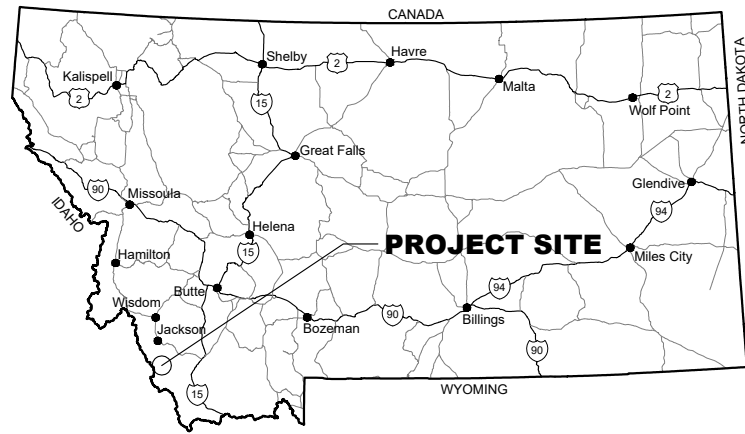
Project Title: Darkhorse Creek (Big Hole) Aquatic Organism Passage

Please describe the potential impact of the project, including the priorities of the Fisheries Division and the importance to Montana's anglers.

Project goals: The goal of this project is to improve long term stream function and fish passage and continue to provide travel management for the Forest Service. The existing Forest Road Crossing is located on an an alluvial fan where the stream naturally wants to shift channels and migrate. Moving the road crossing upstream where the stream is naturally more confined makes sense for long-term stream function. The area is popular with angler, hunters and campers and is wide open to public access. This project is a slam dunk.

Name of FWP Biologist Jim Olsen Date: 5/15/26

Please attach to the FFIP application and materials and submit according to listed deadlines.



PROJECT LOCATION



**United States Department of Agriculture
Forest Service**

**REGION 1
NORTHERN REGION
BEAVERHEAD-DEERLODGE
NATIONAL FOREST
WISDOM RANGER DISTRICT
BEAVERHEAD COUNTY, MONTANA**

DARKHORSE CREEK AOP FSR 381 - M.P. 9.10

T8S, R16W, SEC 2 (LAT. 45.17004°, LONG. -113.52088°)

RECOMMENDED BY:

FOREST ENGINEER
BEAVERHEAD-DEERLODGE NATIONAL FOREST

DATE

APPROVED BY:

FOREST SUPERVISOR
BEAVERHEAD-DEERLODGE NATIONAL FOREST

DATE

APPROVED BY:

WISDOM DISTRICT RANGER
BEAVERHEAD-DEERLODGE NATIONAL FOREST

DATE

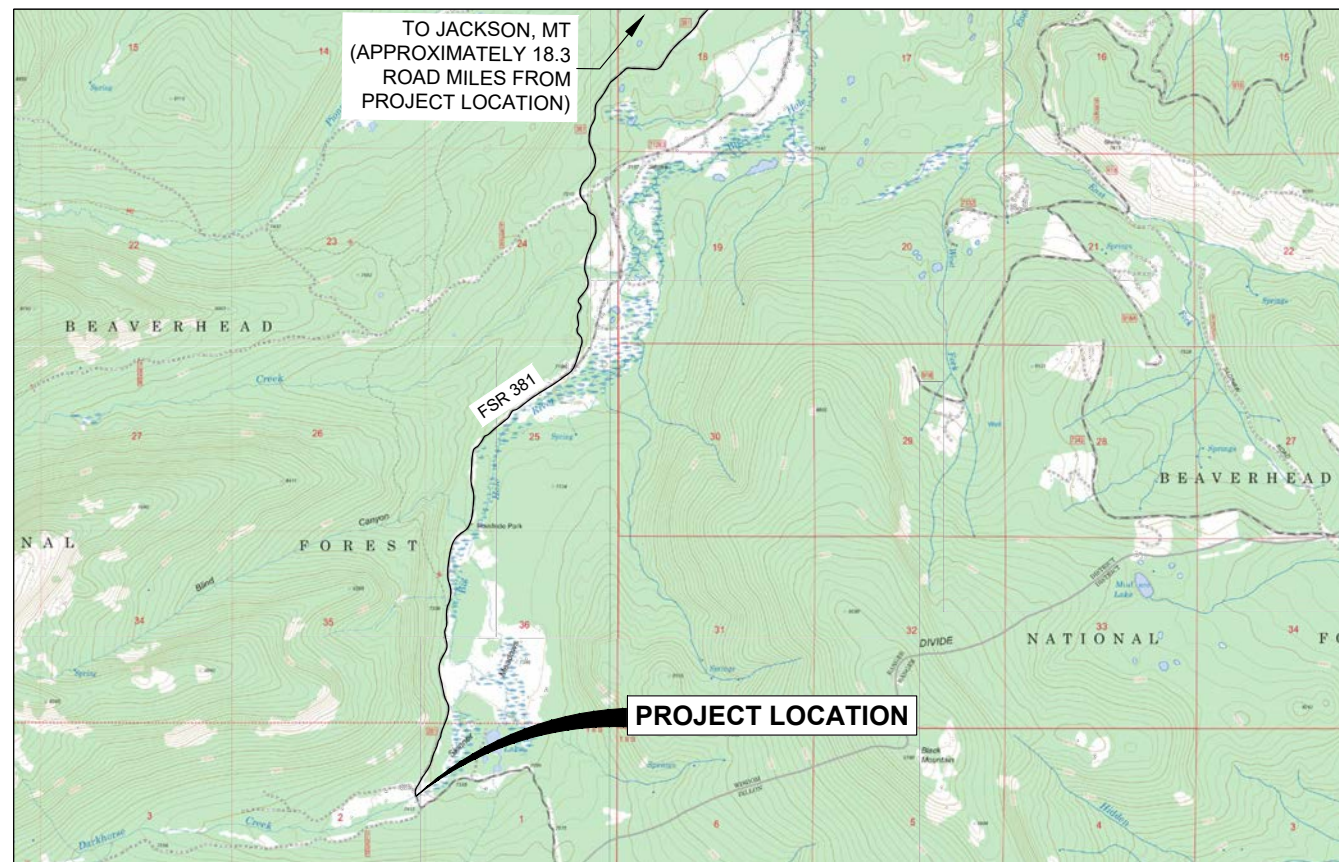
DESIGNED BY:

Ryan Elliott

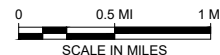
RYAN ELLIOTT, PE
GREAT WEST ENGINEERING

3-23-2016

DATE



VICINITY MAP



TRAVEL DIRECTIONS:
FROM THE WISDOM RANGER DISTRICT OFFICE, TRAVEL SOUTHWEST ON ELM STREET FOR 0.6 MILES. TURN LEFT ONTO MT HWY 278 E AND CONTINUE FOR 18.4 MILES. TURN RIGHT ONTO SKINNER MEADOWS ROAD AND CONTINUE FOR 17.4 MILES TO THE CULVERT CROSSING OVER DARKHORSE CREEK.



INDEX OF SHEETS

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1	COVER
2	ESTIMATED QUANTITIES & EARTHWORK TABULATION
3	GENERAL NOTES & SITE PHOTOS
4	TYPICAL ROAD SECTIONS
5	EXISTING SITE PLAN & CONTROL DIAGRAM
6	PROPOSED SITE PLAN
7	FSR 381 REALIGNMENT PLAN & PROFILE
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9	DARKHORSE CREEK DIVERSION PLAN
10	CULVERT SECTION
11	STEM WALL & FOOTING DETAILS
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13	CROSS-DRAIN DETAILS
14	DARKHORSE CREEK CHANNEL DETAILS
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24	DARKHORSE CREEK DESIGN DATA
25	DARKHORSE CREEK CHANNEL CHARACTERISTICS

NOTE:
DRAWING SCALE IS ONLY ACCURATE WHEN PLANS ARE PLOTTED ON 11" X 17" (TABLOID-SIZED) PAPER.



United States Department of Agriculture
Forest Service

REGION 1
NORTHERN

STAMPS, LOGOS, AND SEALS



NO.	REVISION / ISSUE	DATE

PROJECT NAME
**DARKHORSE CREEK
AOP
FSR 381 - MP 9.10**

**BEAVERHEAD-
DEERLODGE
NATIONAL FOREST**

WISDOM RANGER DISTRICT

DRAWING TITLE
**EXISTING SITE PLAN &
CONTROL DIAGRAM**

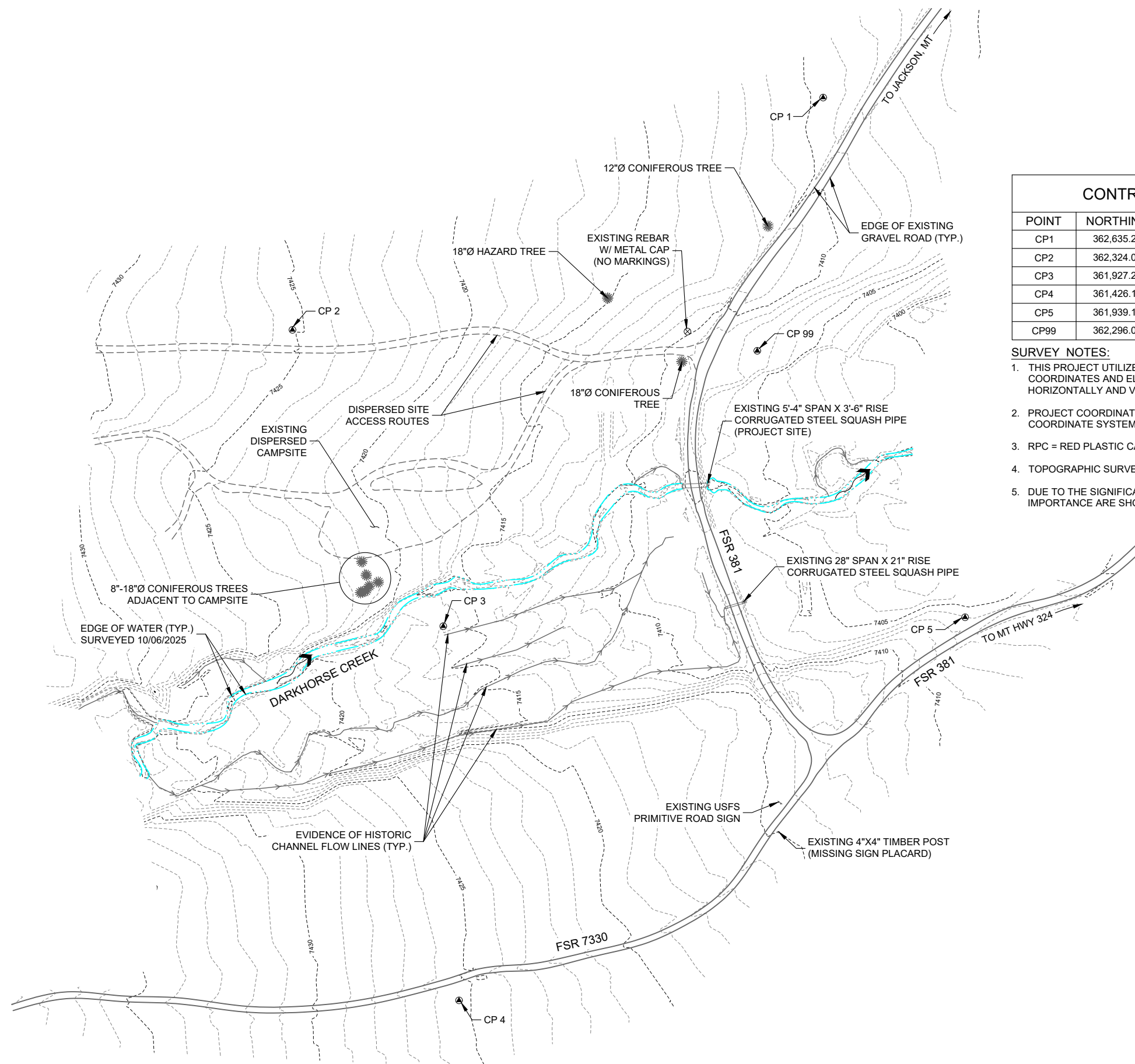
DATE 3/23/2026	ARCHIVE NO.
DESIGNER T. MCGURRAN	DRAWING SHEET NO.
DRAWN T. MCGURRAN	
CHECKED R. ELLIOTT	
PROJECT NO. GWE 1-25172	SHEET 5 OF 25

CONTROL POINT COORDINATE STAKING TABLE

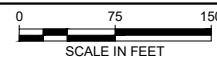
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP1	362,635.23	932,184.47	7,409.82	REBAR W/ RPC
CP2	362,324.09	931,473.65	7,425.43	REBAR W/ RPC
CP3	361,927.25	931,675.66	7,416.92	REBAR W/ RPC
CP4	361,426.12	931,696.81	7,425.54	REBAR W/ RPC
CP5	361,939.17	932,374.56	7,406.04	REBAR W/ RPC
CP99	362,296.04	932,096.26	7,407.69	REBAR W/ RPC

SURVEY NOTES:

- THIS PROJECT UTILIZES A LOCAL GROUND COORDINATE SYSTEM. NORTHING AND EASTING COORDINATES AND ELEVATIONS ARE EXPRESSED IN UNITS OF U.S. SURVEY FEET BOTH HORIZONTALLY AND VERTICALLY.
- PROJECT COORDINATES ARE LOCAL BUT ARE REFERENCED TO THE MONTANA STATE PLANES COORDINATE SYSTEM (NAD83).
- RPC = RED PLASTIC CAP
- TOPOGRAPHIC SURVEY COMPLETED ON 10/06/2025 & 10/07/2025.
- DUE TO THE SIGNIFICANT NUMBER OF TREES IN THE PROJECT VICINITY, ONLY TREES OF IMPORTANCE ARE SHOWN IN THIS SURVEY.



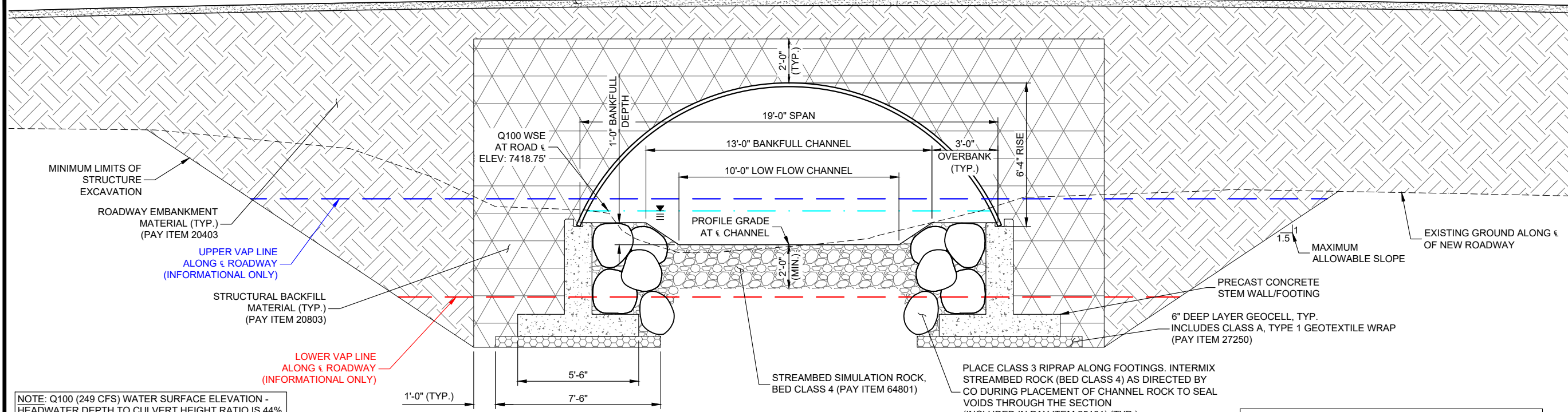
EXISTING SITE PLAN & CONTROL DIAGRAM



NOTE:
ROADWAY STATIONS RUN
FROM LEFT TO RIGHT

AGGREGATE SURFACE COURSE,
4" COMPACTED DEPTH (TYP.)

FINISH GRADE ALONG €
OF NEW ROADWAY



MINIMUM LIMITS OF
STRUCTURE
EXCAVATION

ROADWAY EMBANKMENT
MATERIAL (TYP.)
(PAY ITEM 20403)

UPPER VAP LINE
ALONG € ROADWAY
(INFORMATIONAL ONLY)

STRUCTURAL BACKFILL
MATERIAL (TYP.)
(PAY ITEM 20803)

LOWER VAP LINE
ALONG € ROADWAY
(INFORMATIONAL ONLY)

NOTE: Q100 (249 CFS) WATER SURFACE ELEVATION -
HEADWATER DEPTH TO CULVERT HEIGHT RATIO IS 44%
AT THE CULVERT INLET, 4.25' OF FREEBOARD AT THIS
LOCATION.

1'-0" (TYP.)

Q100 WSE
AT ROAD €
ELEV: 7418.75'

1'-0" BANKFULL
DEPTH

19'-0" SPAN

13'-0" BANKFULL CHANNEL

10'-0" LOW FLOW CHANNEL

PROFILE GRADE
AT € CHANNEL

3'-0"

OVERBANK
(TYP.)

6'-4" RISE

1.5
MAXIMUM
ALLOWABLE SLOPE

EXISTING GROUND ALONG €
OF NEW ROADWAY

PRECAST CONCRETE
STEM WALL/FOOTING

6" DEEP LAYER GEOCELL, TYP.
INCLUDES CLASS A, TYPE 1 GEOTEXTILE WRAP
(PAY ITEM 27250)

STREAMBED SIMULATION ROCK,
BED CLASS 4 (PAY ITEM 64801)

PLACE CLASS 3 RIPRAP ALONG FOOTINGS. INTERMIX
STREAMBED ROCK (BED CLASS 4) AS DIRECTED BY
CO DURING PLACEMENT OF CHANNEL ROCK TO SEAL
VOIDS THROUGH THE SECTION
(INCLUDED IN PAY ITEM 25101) (TYP.)

NOTE: INSTALL STRUCTURAL PLATE ARCH AS RECOMMENDED
BY MANUFACTURER - WITH ASSOCIATED TOLERANCES

TYPICAL SECTION - STRUCTURAL STEEL PLATE ARCH CULVERT

SCALE: 1" = 5'

STRUCTURE EXCAVATION NOTES:

1. STRUCTURE EXCAVATION SHALL BE COMPLETED IN ACCORDANCE WITH FP-14 AND APPLICABLE FSSS'S.
2. LIMITS SHOWN ARE MINIMUM EXCAVATION REQUIREMENTS BASED ON THE ASSUMPTION OF OSHA SOIL TYPE C AND OSHA EXCAVATION REQUIREMENTS. DETERMINATION IS BASED ON LIMITED DATA AND ACTUAL SITE CONDITIONS MAY VARY. NOTIFY THE CO IMMEDIATELY IF BEDROCK OR SOFT, UNSUITABLE SOILS ARE ENCOUNTERED.
3. THE STRUCTURE EXCAVATION QUANTITY SHOWN IS FOR INFORMATION ONLY BASED ON THE LIMITS SHOWN. CONTRACTOR IS RESPONSIBLE FOR DETERMINING ACTUAL QUANTITIES BASED ON THEIR OWN EXCAVATION PLAN.
4. CONTRACTOR SHALL SUBMIT EXCAVATION PLAN TO CO FOR APPROVAL. PLAN SHALL INCLUDE DRAWINGS AND WRITTEN OUTLINE ILLUSTRATING AND DESCRIBING PROPOSED EXCAVATION LIMITS, METHODS, EQUIPMENT, LOCATION OF STOCKPILES, AND ESTIMATED QUANTITIES AND IT MUST COMPLY WITH OSHA EXCAVATION SOIL TYPING AND REQUIREMENTS. CHANGES TO THE EXCAVATION LIMITS SHOWN ON THIS SHEET FOR CONTRACTOR'S DEWATERING METHODS OR OTHER CONTRACTOR CONVENIENCE, MUST BE SHOWN ON THE CONTRACTOR'S PLAN AND ARE THE RESPONSIBILITY OF THE CONTRACTOR. THIS WORK IS INCLUDED IN ITEM 20804.

STRUCTURAL BACKFILL MATERIAL:

1. ALL STRUCTURAL BACKFILL MATERIAL SHALL MEET THE MATERIAL REQUIREMENTS IN FP-14 SECTION 704.04 AND BE COMPACTED IN ACCORDANCE WITH FP-14 SECTION 208. PLACE STRUCTURAL BACKFILL IN ACCORDANCE WITH FP-14 SECTION 208, AND AS SHOWN ON THESE PLANS. COMPACT STRUCTURAL BACKFILL MATERIAL IN ACCORDANCE WITH FP-14 FSSS SUBSECTION 208.10, COMPACTION METHOD 1. SAMPLING AND TESTING IS REQUIRED PER FP-14 TABLE 208-1.
2. STRUCTURAL BACKFILL LIMITS SHOWN ARE MINIMUM REQUIREMENTS. ANY MATERIAL OUTSIDE THE SHOWN LIMITS OF STRUCTURAL BACKFILL SHALL BE CONSIDERED ROADWAY EMBANKMENT AND MUST MEET THE REQUIREMENTS OUTLINED IN FSSS SECTION 204.
3. PLACE STRUCTURAL BACKFILL MATERIAL IN HORIZONTAL LAYERS THAT DO NOT EXCEED 6 INCHES IN COMPACTED THICKNESS.

GEOCELL:

1. INSTALL GEOCELL PER FSSS 272.06. CONTRACTOR SHALL HOLD GEOCELL IN PLACE TO THE LINES AND GRADES SHOWN ON THE DRAWINGS WITH SUITABLE SIDE FORMS (STRETCHER FRAMES).
2. PLACE TYPE 1, CLASS A GEOTEXTILE UNDER GEOCELL ON LEVEL COMPACTED SUBGRADE. BACKFILL GEOCELL WITH COARSE GRANULAR BACKFILL (COMMERCIAL MATERIAL SOURCE). WRAP GEOTEXTILE OVER TOP OF THE GEOCELL AFTER IT IS BACKFILLED AND COMPACTED. ALL WORK AND MATERIALS RELATED TO GEOCELL INSTALLATION ARE INCLUDED IN ITEM 27250.

STREAMBED SIMULATION ROCK:

1. STREAMBED SIMULATION ROCK SHALL BE AS SHOWN ON THIS SHEET THROUGH THE CULVERT. IN CHANNEL RECONSTRUCTION OUTSIDE OF THE CULVERT EXTENTS, STREAMBED SIMULATION MATERIAL, BED CLASS 4, SHALL BE SHAPED TO A MINIMUM DEPTH OF 10". STREAMBED SIMULATION ROCK, BED CLASS 6, SHALL BE SHAPED TO A MINIMUM DEPTH OF 14".
2. STREAMBED SHALL BE INSTALLED NON-UNIFORMLY. BANKFULL WIDTH SHALL BE 13'-0" AND THE LOW FLOW CHANNEL SHALL BE 10'-0", OR AS DIRECTED BY THE CO.
3. CONTRACTOR SHALL USE SUITABLE ON-SITE MATERIAL FROM CHANNEL AND STRUCTURE EXCAVATION FOR STREAMBED SIMULATION ROCK. SORTING WILL BE REQUIRED TO MEET THE REQUIREMENTS SPECIFIED IN FSSS 705.
4. MATERIAL SHOULD BE A WELL GRADED AND COMPACTED MIX TO PRODUCE A DENSE, WELL INTERLOCKING BED WITH LOW PERMEABILITY. STREAMBED MATERIAL PLACEMENT IS AN INDIRECT COST OF SECTION 208 (STRUCTURE EXCAVATION). COMPACT IN 6" LIFTS ACCORDING TO SECTION 208.10(f) OR BY HAND UNTIL THERE IS NO VISIBLE EVIDENCE OF FURTHER CONSOLIDATION.

DEWATERING AND EROSION CONTROL:

1. PROTECT AGAINST SOIL EROSION AND SEDIMENTATION DURING CONSTRUCTION IN ACCORDANCE WITH FP-14, SECTION 157 AND THE PROJECT PERMITS. CONTRACTOR SHALL PREPARE AND SUBMIT A SOIL EROSION AND SEDIMENT CONTROL PLAN TO THE CO FOR APPROVAL. PLAN SHALL INCLUDE DRAWINGS AND A WRITTEN OUTLINE ILLUSTRATING AND DESCRIBING PROPOSED LAYOUT, METHODS, AND EQUIPMENT.
2. DEWATER THE EXCAVATION IN ACCORDANCE WITH FP-14 SECTIONS 208, 157 AND THE REQUIREMENTS ON SHEET 9.
3. CONTRACTOR SHOULD ANTICIPATE WATER INFILTRATING THE EXCAVATIONS (SEEPAGE).
4. CULVERT EXCAVATION, FOOTING PLACEMENT, STRUCTURAL BACKFILL PLACEMENT, RIPRAP PLACEMENT, STREAM CHANNEL SHAPING, AND GEOCELL INSTALLATION ARE TO BE COMPLETED PER THE CONTRACT SPECIFICATIONS AND STANDING OR RUNNING WATER IN THE WORK AREA DOES NOT RELIEVE THE CONTRACTOR FROM MEETING THE SPECIFICATIONS.

ESTIMATED QUANTITIES (INFORMATIONAL ONLY)

ITEM	QUANTITY	UNIT
TOTAL STRUCTURE EXCAVATION (NEW CROSSING LOCATION)	635	CY
ROADWAY EMBANKMENT (GOV'T FURNISHED)*	2595	CY
STRUCTURAL BACKFILL (GOV'T FURNISHED)	246	CY
STREAMBED SIMULATION ROCK, BED CLASS 4 (GOV'T FURNISHED)	135	CY
STREAMBED SIMULATION ROCK, BED CLASS 6 (GOV'T FURNISHED)	13	CY
CHANNEL ROCK, CLASS CR-1 (GOV'T FURNISHED)	38	CY
GEOCELL (COMMERCIAL SOURCE)	82	SY
CLASS 3 RIPRAP (COMMERCIAL SOURCE)	58	CY

*REFER TO ADDITIONAL DETAILS ON SHEET 2

HATCH LEGEND

	AGGREGATE SURFACE COURSE
	ROADWAY EMBANKMENT
	STRUCTURAL BACKFILL
	CONCRETE
	GEOCELL
	RIPRAP
	ROADWAY OBLITERATION



United States Department of Agriculture
Forest Service

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**DARKHORSE CREEK
AOP
FSR 381 - MP 9.10**

**BEAVERHEAD-
DEERLODGE
NATIONAL FOREST**

WISDOM RANGER DISTRICT

DRAWING TITLE

CULVERT SECTION

DATE 3/23/2026	ARCHIVE NO.
DESIGNER T. MCGURRAN	DRAWING SHEET NO.
DRAWN T. MCGURRAN	
CHECKED R. ELLIOTT	
PROJECT NO. GWE 1-25172	SHEET 10 OF 25



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NORTHERN



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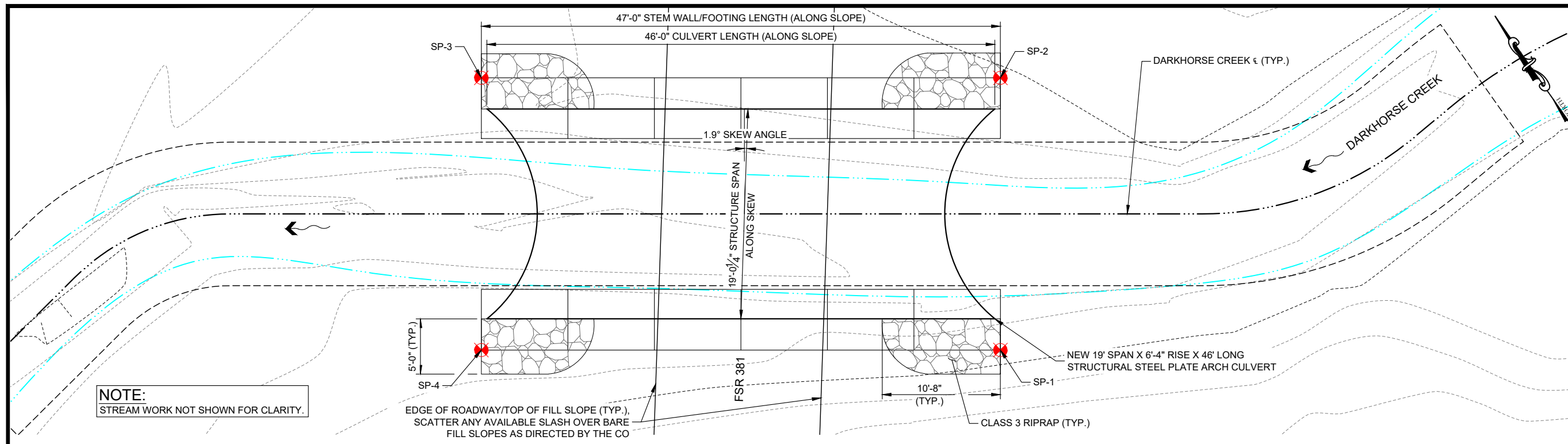
PROJECT NAME
**DARKHORSE CREEK
AOP
FSR 381 - MP 9.10**

**BEAVERHEAD-
DEERLODGE
NATIONAL FOREST**

WISDOM RANGER DISTRICT

DRAWING TITLE
**CULVERT PLAN,
ELEVATION & DETAILS**

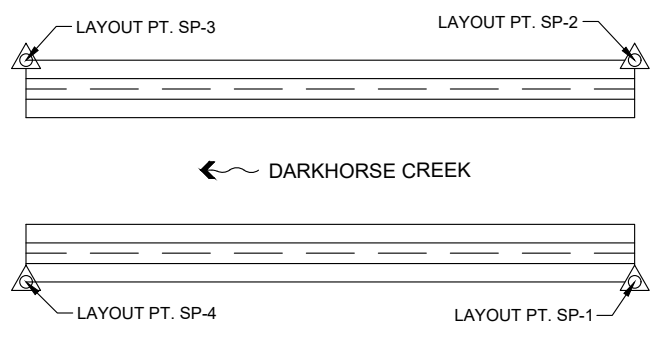
DATE 3/23/2026	ARCHIVE NO.
DESIGNER T. MCGURRAN	DRAWING SHEET NO.
DRAWN T. MCGURRAN	
CHECKED R. ELLIOTT	
PROJECT NO. GWE 1-25172	SHEET 12 OF 25



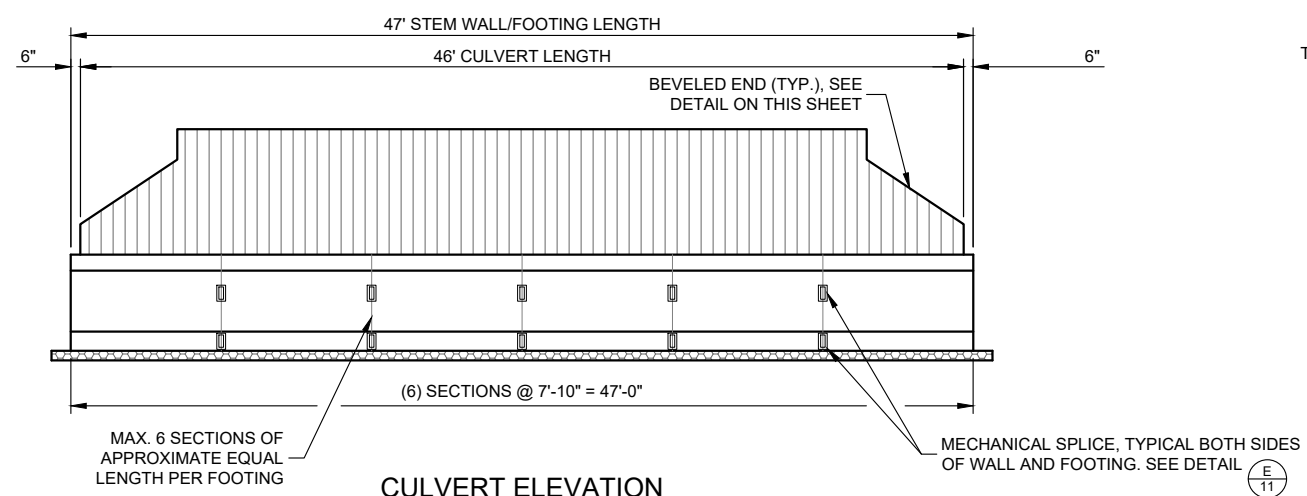
CULVERT PLAN
SCALE: 1" = 10'

CULVERT FOOTING STAKING TABLE

NORTHING	EASTING	ELEVATION	DESCRIPTION
361,904.62	931,514.39	7,413.39	SP-1
361,880.93	931,521.22	7,413.39	SP-2
361,893.94	931,566.38	7,412.67	SP-3
361,917.63	931,559.56	7,412.67	SP-4



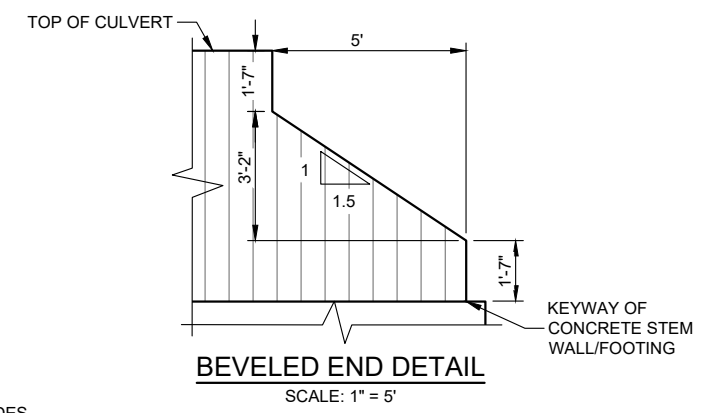
CULVERT STAKING SCHEMATIC
NO SCALE



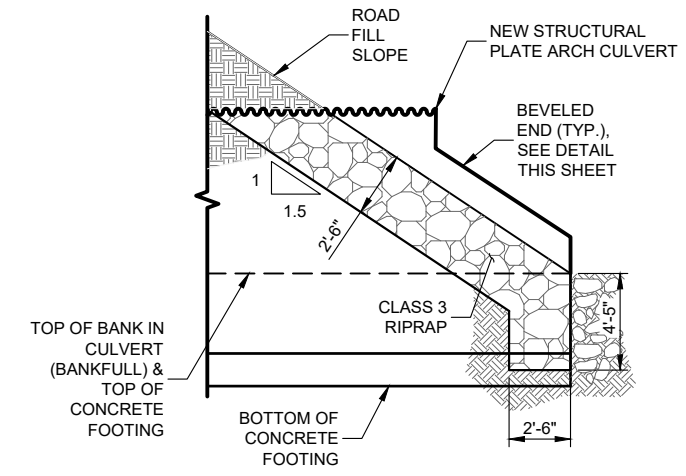
CULVERT ELEVATION
SCALE: 1" = 10'

HATCH LEGEND

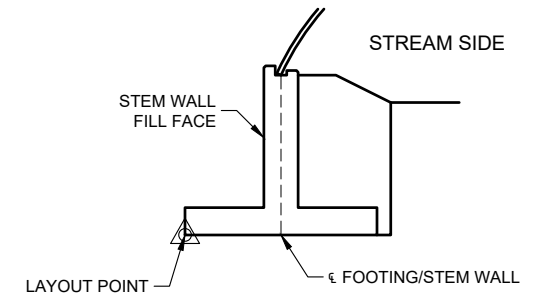
	AGGREGATE SURFACE COURSE
	ROADWAY EMBANKMENT
	STRUCTURAL BACKFILL
	CONCRETE
	GEOCELL
	RIPRAP
	ROADWAY OBLITERATION

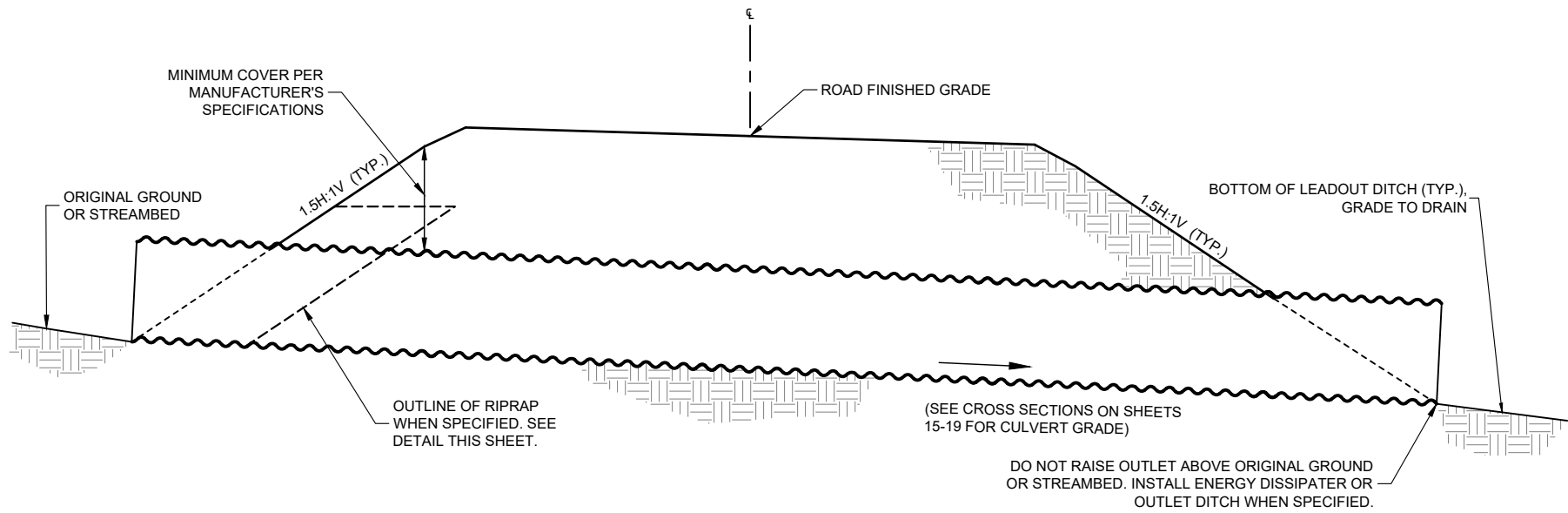


BEVELED END DETAIL
SCALE: 1" = 5'

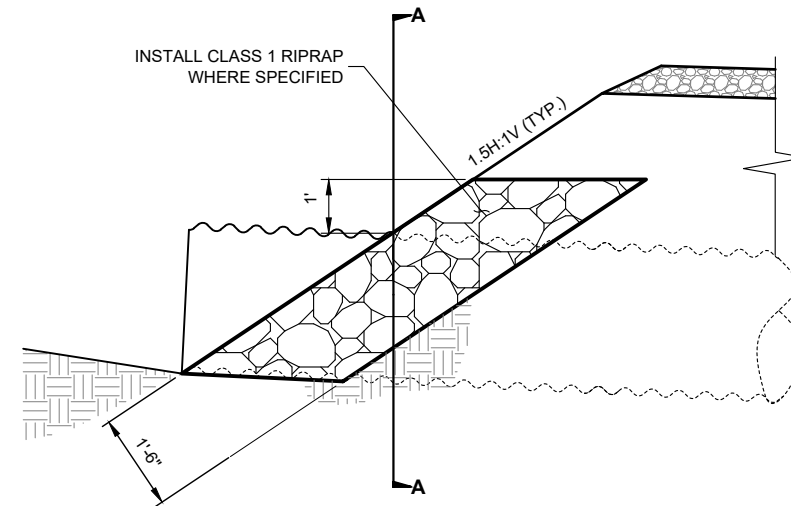


RIPRAP AT INLET
NO SCALE



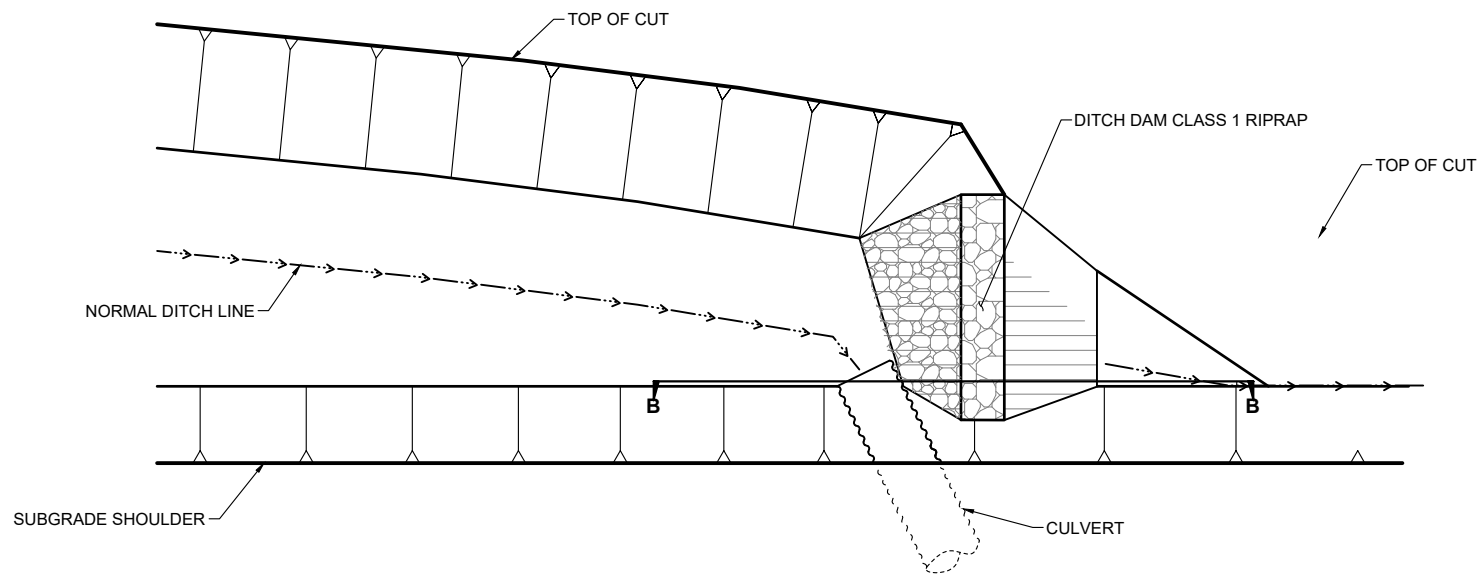


A CULVERT DETAIL
13 NOT TO SCALE

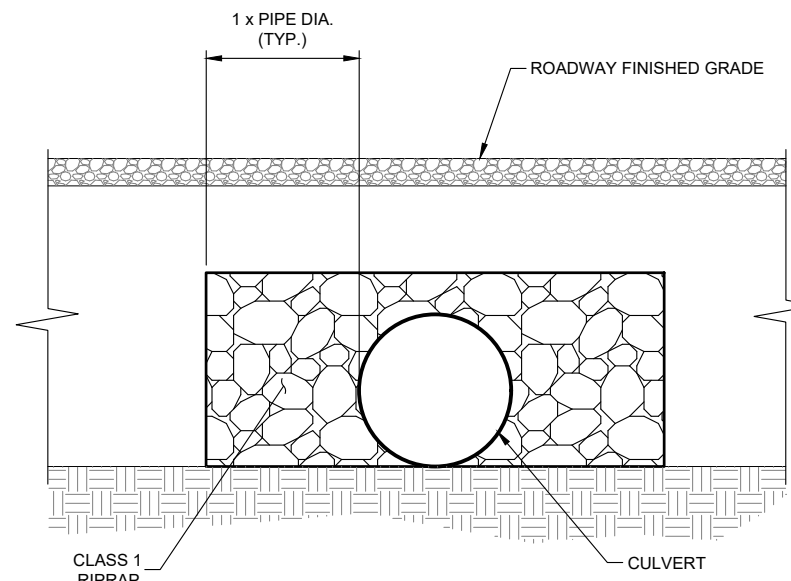


NOTE: MODIFICATIONS MAY OCCUR IN FIELD BY C.O.

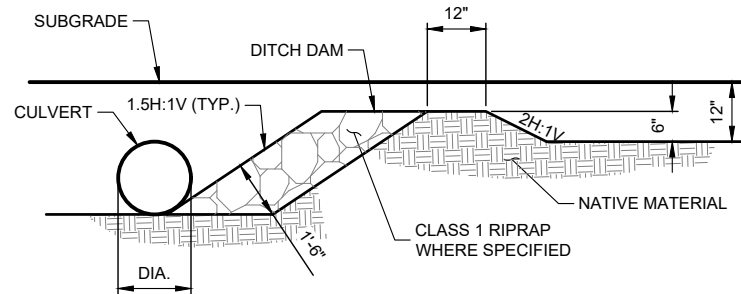
B RIPRAP DETAIL
13 NOT TO SCALE



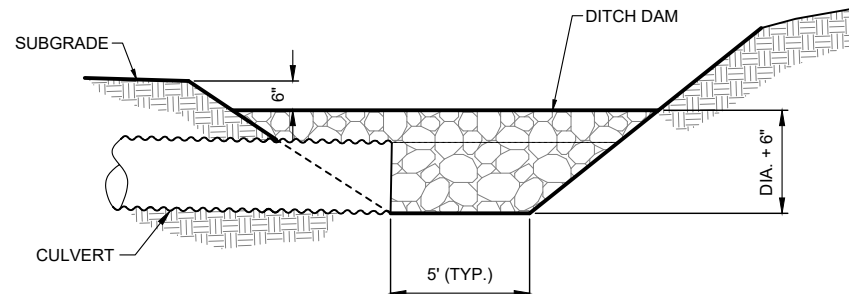
C ARMORED DITCH BLOCK DETAIL
13 NOT TO SCALE



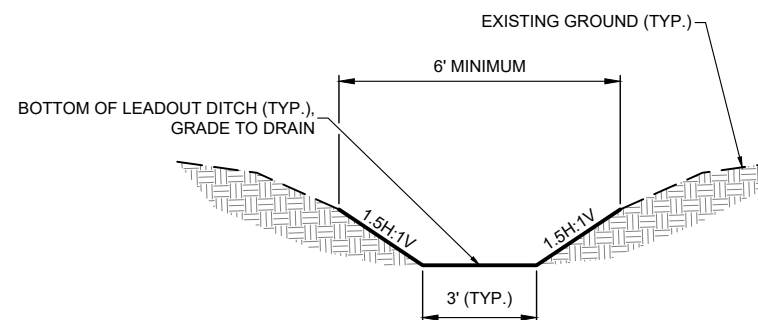
D SECTION A-A



E SECTION B-B
13 NOT TO SCALE



F ARMORED DITCH BLOCK ELEVATION
13 NOT TO SCALE



G LEADOUT DITCH DETAIL
13 NOT TO SCALE



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WISDOM RANGER DISTRICT

DRAWING TITLE
CROSS-DRAIN DETAILS

DATE 3/23/2026	ARCHIVE NO.
DESIGNER T. MCGURRAN	DRAWING SHEET NO.
DRAWN T. MCGURRAN	
CHECKED R. ELLIOTT	
PROJECT NO. GWE 1-25127	SHEET 13 OF 25



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NATIONAL FOREST**

WISDOM RANGER DISTRICT

DRAWING TITLE

**DARKHORSE CREEK
CHANNEL DETAILS**

DATE

3/23/2026

ARCHIVE NO.

DESIGNER

T. MCGURRAN

DRAWING SHEET NO.

DRAWN

T. MCGURRAN

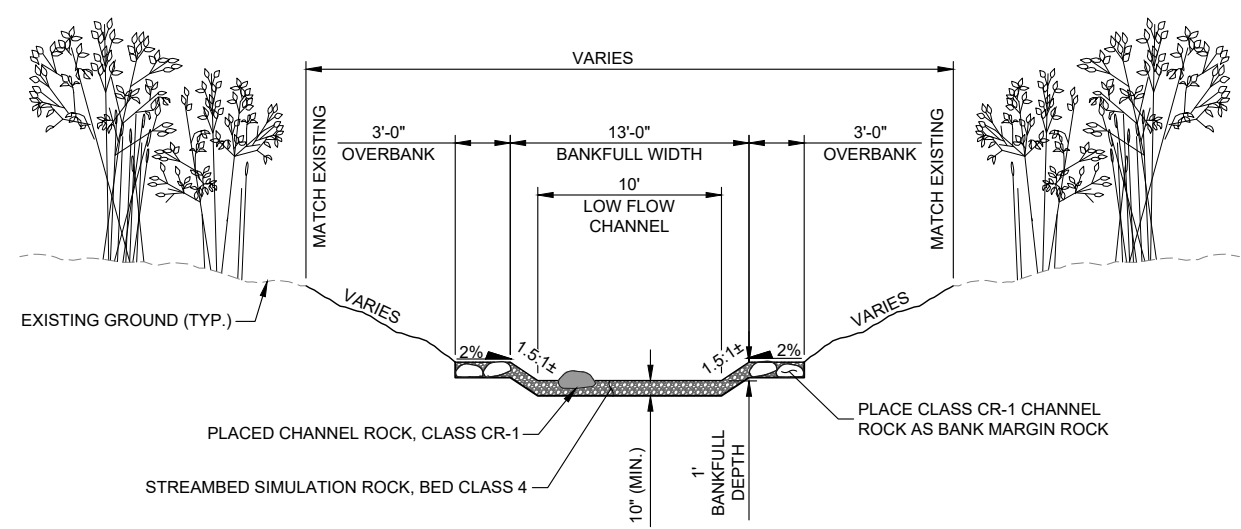
CHECKED

R. ELLIOTT

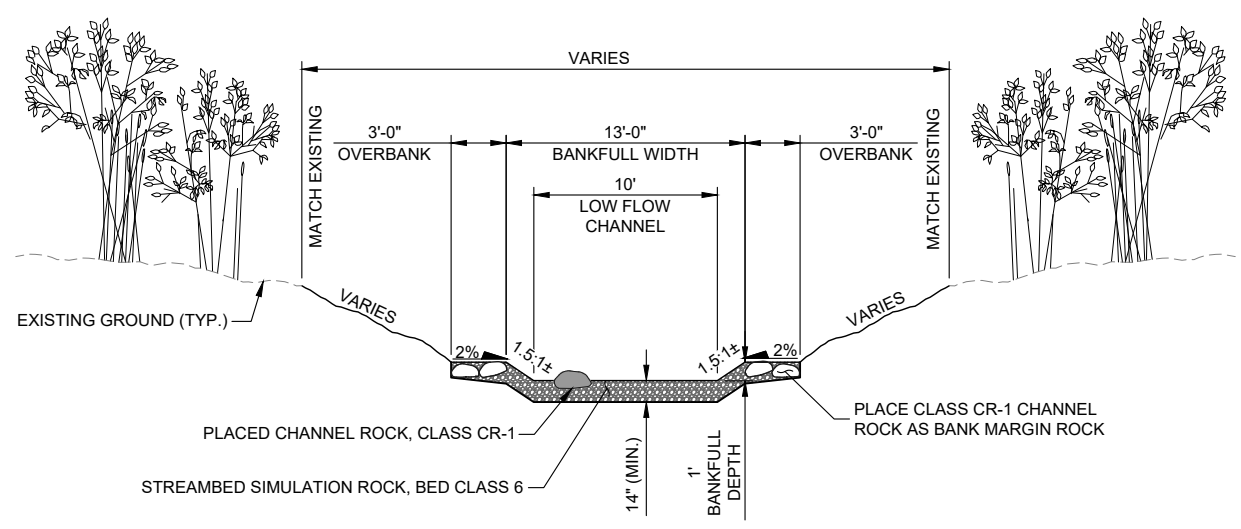
PROJECT NO.

GWE 1-25172

SHEET 14 OF 25



TYPICAL CHANNEL SECTION
NO SCALE



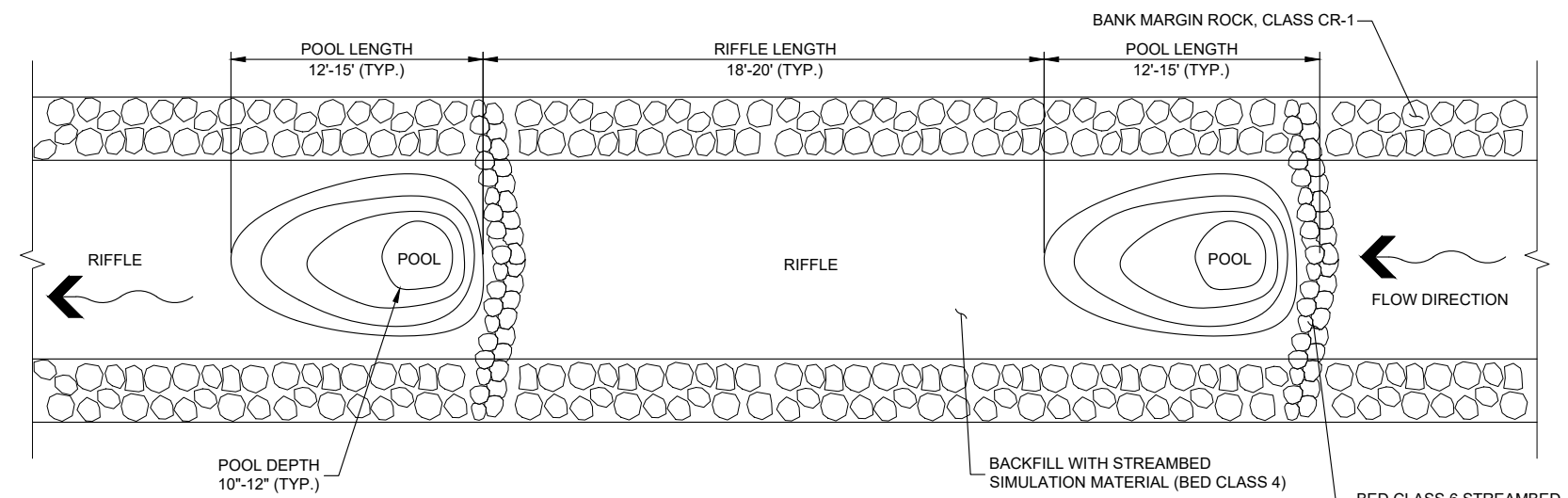
TYPICAL CHANNEL SECTION (BED CLASS 6 STRUCTURES)
NO SCALE

GRADATION REQUIREMENT FOR CHANNEL ROCK (CR)		
CLASS	MASS (POUNDS)	APPROXIMATE CUBIC DIMENSION (INCHES)
CR-1	90-300	12-18

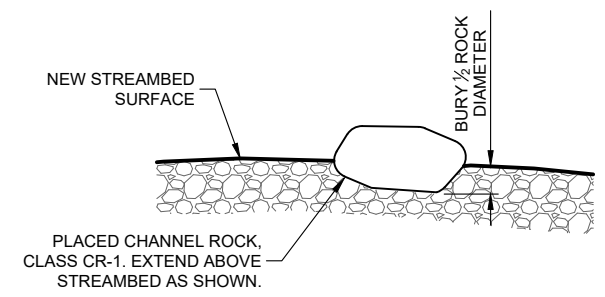
*REFER TO OTHER CHANNEL ROCK REQUIREMENTS IN FSSS 648.

GRADATION REQUIREMENTS FOR STREAMBED SIMULATION ROCK (INCHES)					
BED CLASS	100% PASSING	84% PASSING	50% PASSING	16% PASSING	10% PASSING
4	10	4	1 3/4	1/2	NO. 10
6	14	6	2 1/2	3/4	NO. 10

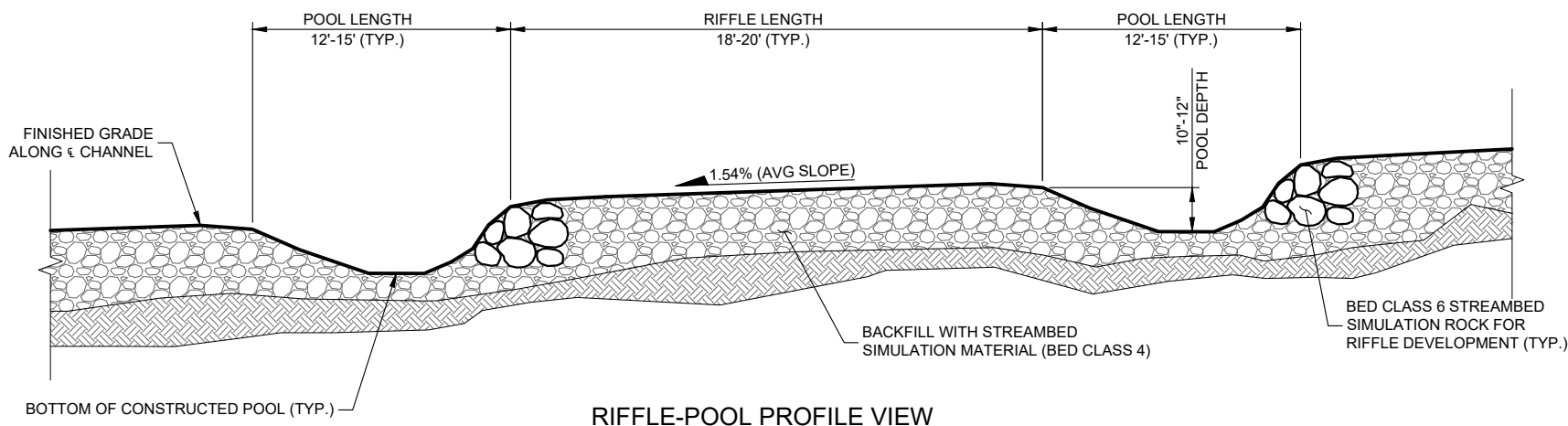
*REFER TO OTHER SIMULATION ROCK REQUIREMENTS IN FSSS 648.



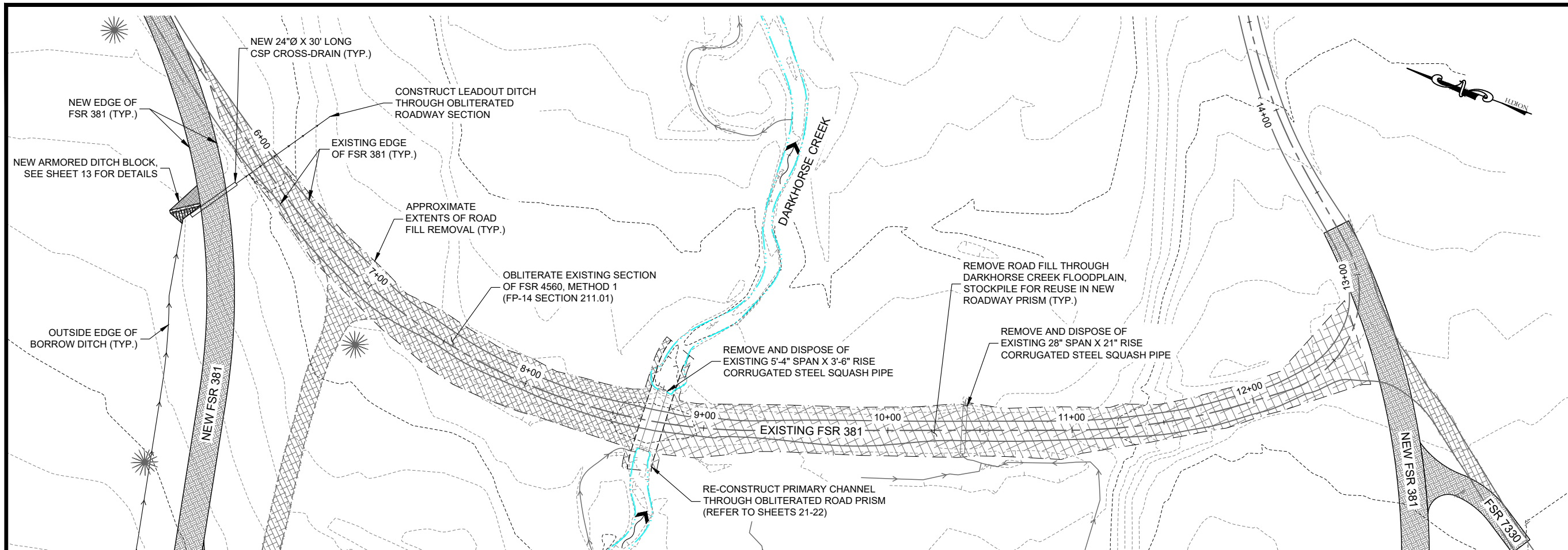
RIFFLE-POOL PLAN VIEW
NO SCALE



PLACED CHANNEL ROCK - TYPICAL SECTION
NO SCALE



RIFFLE-POOL PROFILE VIEW
NO SCALE

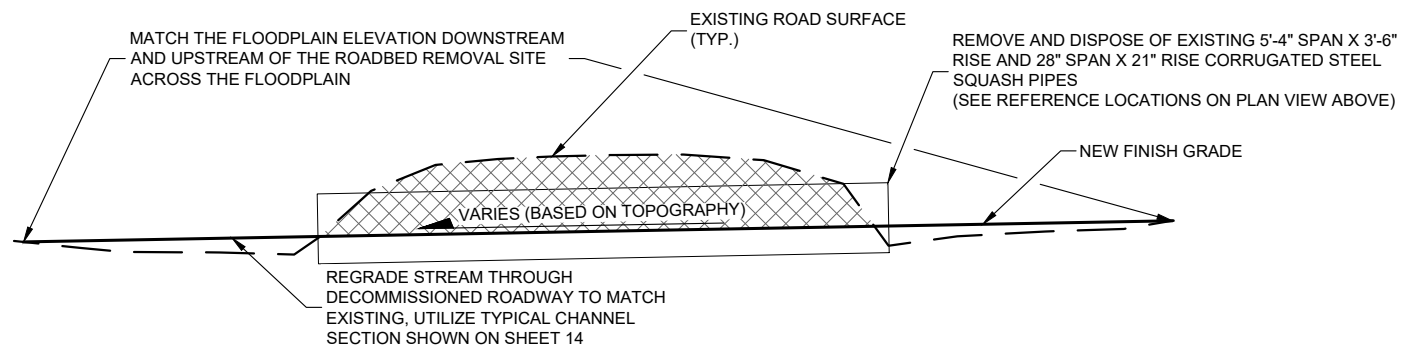


EXISTING FSR 381 - OBLITERATION PLAN

SCALE: 1" = 60'

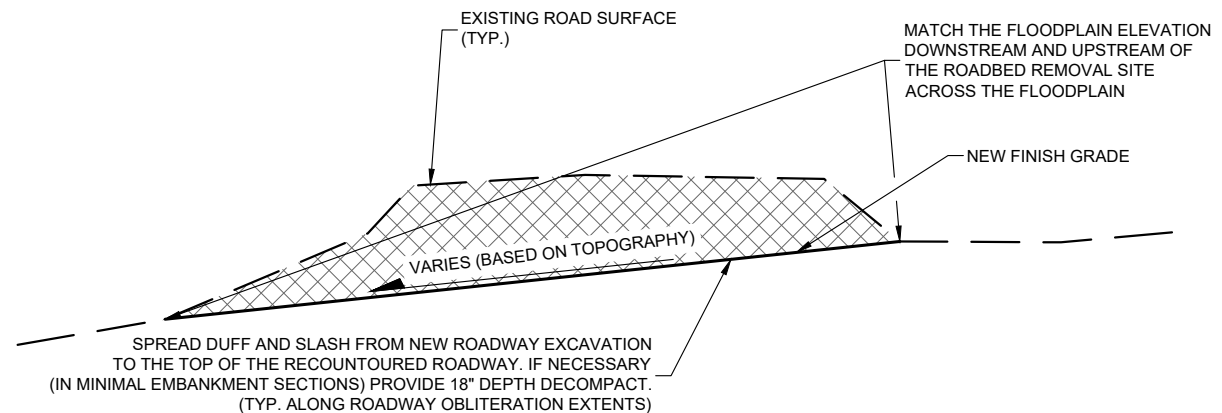
OBLITERATION NOTES:

- SUITABLE EXCAVATED MATERIAL SHALL BE USED AS ROADWAY EMBANKMENT FOR THE NEW ROADWAY. REFER TO THE TABLES ON SHEET 2 FOR ESTIMATED QUANTITIES.
- CONTRACTOR SHALL REMOVE PLUNGE POOL AND RESHAPE PRIMARY CHANNEL THROUGH OBLITERATED ROAD PRISM PER THE TYPICAL STREAM CHANNEL SHOWN ON SHEET 14.
- PLACE WOOD DEBRIS/SLASH AND ROCKS ON RECONTOURED SLOPE. COVERAGE SHALL BE BETWEEN 40% AND 60%. THIS WORK IS INDIRECT TO ITEM 21102.
- DEWATERING IS NOT REQUIRED FOR THE REMOVAL OF THE EXISTING CULVERT.



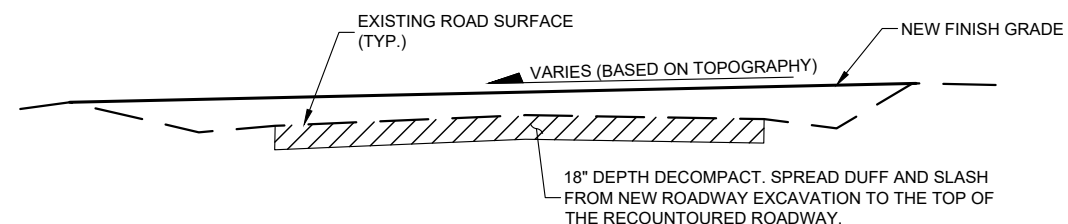
OBLITERATION DETAIL, METHOD 1 - CULVERT REMOVAL SECTION

FULL RECONTOUR - EMBANKMENT SECTION



OBLITERATION DETAIL, METHOD 1 - EMBANKMENT SECTION

FULL RECONTOUR - EMBANKMENT SECTION



OBLITERATION DETAIL, METHOD 1 - CUT SECTION

FULL RECONTOUR - CUT SECTION



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WISDOM RANGER DISTRICT

DRAWING TITLE

**EXISTING FSR 381
OBLITERATION PLAN &
DETAILS**

DATE 3/23/2026	ARCHIVE NO.
DESIGNER T. MCGURRAN	DRAWING SHEET NO.
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PROJECT NO. GWE 1-25172	SHEET 21 OF 28

CHANNEL ROCK TABLE				
SAMPLE LOCATION	AVERAGE B-AXIS DIAMETER (CM)	AVERAGE B-AXIS DIAMETER (INCHES)	ROCK DESCRIPTION	CHANNEL ROCK (CR SIZE)
Upstream Pebble Count #1	26.9	10.6	SUBANGULAR	CR-0 (6"-12")
Upstream Pebble Count #2	18.6	7.3	SUBANGULAR	CR-0 (6"-12")
Upstream Pebble Count #3	28.8	11.3	SUBANGULAR	CR-0 (6"-12")

PEBBLE COUNT GRADATION TABLE			
PARTICLE SIZE CLASS (mm)	Upstream Pebble Count #1	Upstream Pebble Count #2	Upstream Pebble Count #3
<2	0	0	0
2 - 2.8	0	0	0
2.8 - 4	0	0	0
4 - 5.6	0	2	2
5.6 - 8	0	0	0
8 - 11.3	0	5	6
11.3 - 16	5	8	19
16 - 22.6	14	17	9
22.6 - 32	19	16	20
32 - 45.3	9	32	20
45.3 - 64	33	12	14
64 - 90.5	11	8	7
90.5 - 128	7	0	3
128 - 181	1	0	0
181 - 256	0	0	0
256 - 362	0	0	0
362 - 512	1	0	0
512 - 1024	0	0	0
1024 - 2048	0	0	0
2048 - 4096	0	0	0
>4096	0	0	0
Nearest Bed Class	4	4	4



United States Department of Agriculture
Forest Service

REGION 1
NORTHERN

STAMPS, LOGOS, AND SEALS



RYAN ELLIOTT
23790PE
PROFESSIONAL ENGINEER



Great West
ENGINEERING

NO.	REVISION / ISSUE	DATE

PROJECT NAME

**DARKHORSE CREEK
AOP
FSR 381 - MP 9.10**

**BEAVERHEAD-
DEERLODGE
NATIONAL FOREST**

WISDOM RANGER DISTRICT

DRAWING TITLE

**DARKHORSE CREEK
CHANNEL
CHARACTERISTICS**

DATE 3/23/2026	ARCHIVE NO.
DESIGNER T. MCGURRAN	DRAWING SHEET NO.
DRAWN T. MCGURRAN	
CHECKED R. ELLIOTT	SHEET 25 OF 25
PROJECT NO. GWE 1-25172	



UPSTREAM PEBBLE COUNT #1 LOCATION



HISTORIC CHANNEL US OF PROPOSED CROSSING



UPSTREAM PEBBLE COUNT #2 LOCATION



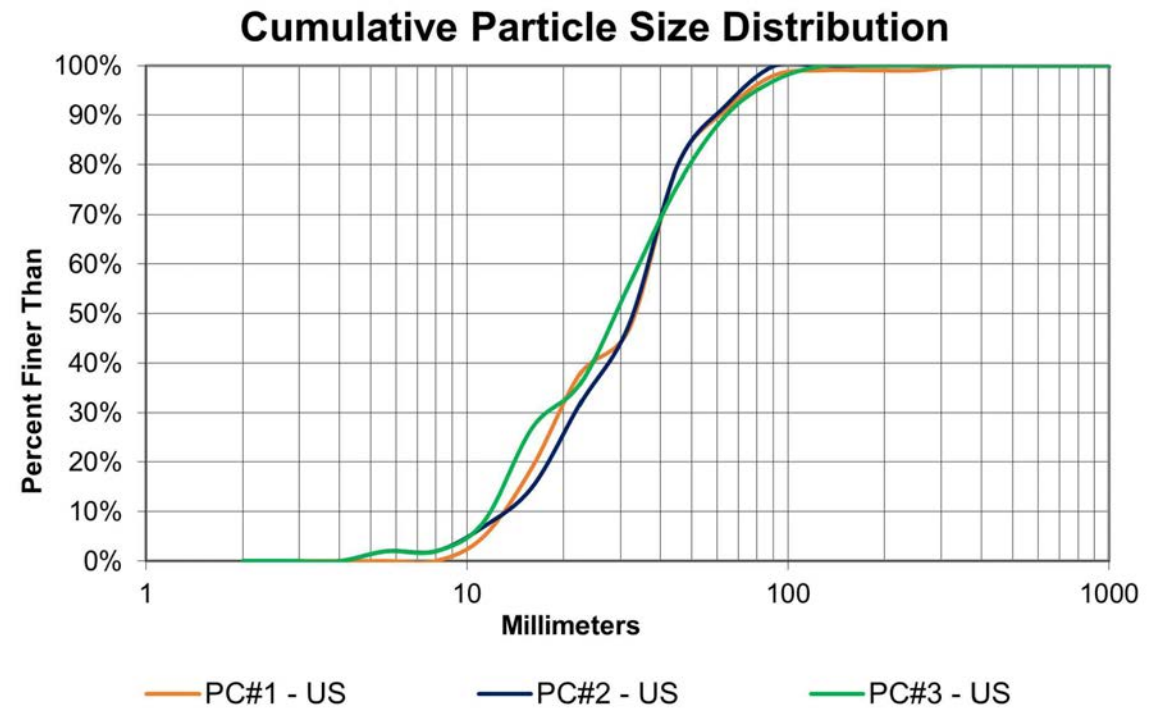
PROPOSED CROSSING LOCATION LOOKING UPSTREAM



UPSTREAM PEBBLE COUNT #3 LOCATION



EXISTING LOG JAM DS OF PROPOSED CROSSING



NOTE: INFORMATIONAL ONLY