

**Draft**  
**Environmental Assessment**

**BANNACK STATE PARK**  
**FLOOD MITIGATION**  
**PROJECT**



**March 2016**



***Montana Fish,  
Wildlife & Parks***

# Draft Environmental Assessment MEPA, NEPA, MCA 23-1-110 CHECKLIST

## PART I. PROPOSED ACTION DESCRIPTION

### 1. Type of proposed state action:

FWP proposes building a detention pond in the upper portion of Hangman's Gulch on the north side of the historic town site at Bannack State Park as a flood prevention measure. Hangman's Gulch has been a historic path for flashflood events, and on July 2013 a particularly catastrophic flood occurred that caused approximately 1.5 million dollars in property damage and caused bodily injury to several visitors in the park. Bannack's importance and association with nationally significant events led to its designation as a National Historic Landmark in 1961. Today, Bannack State Park serves as a monument to the history of Montana and the United States and the potential for another catastrophic flashflood event warrants this action to preserve the site for future generations and protect current visitors from bodily injury or death.

### 2. Agency authority for the proposed action:

Montana Statute 23-1-102 (4) gives FWP "jurisdiction, custody, and control of all state parks, recreational areas, public campgrounds, historic sites, and monuments."

### 3. Anticipated Schedule:

Estimated Commencement Date: Fall 2016

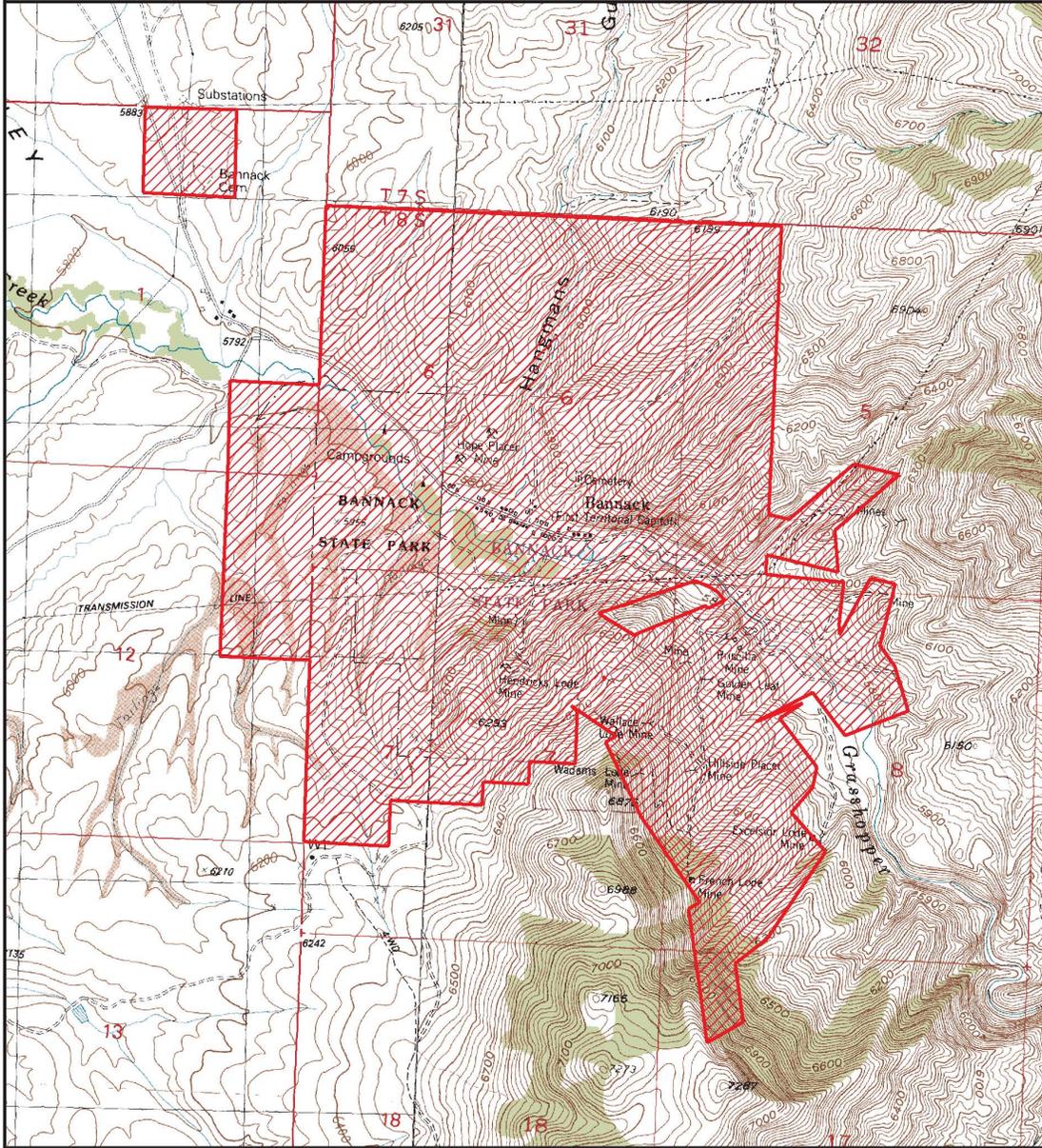
Estimated Completion Date: Fall 2016

Current Status of Project Design (% complete): 15 %

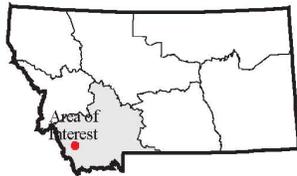
### 4. Location affected by proposed action (county, range and township – included map): Section 6, Township 8S, Range 11W



# BANNACK STATE PARK

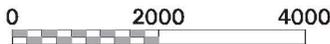


Lands Site Number: 3501



1622 acres  
 Fee Simple Parcel

0 acres  
 Agreements, Leases or Easements Parcel



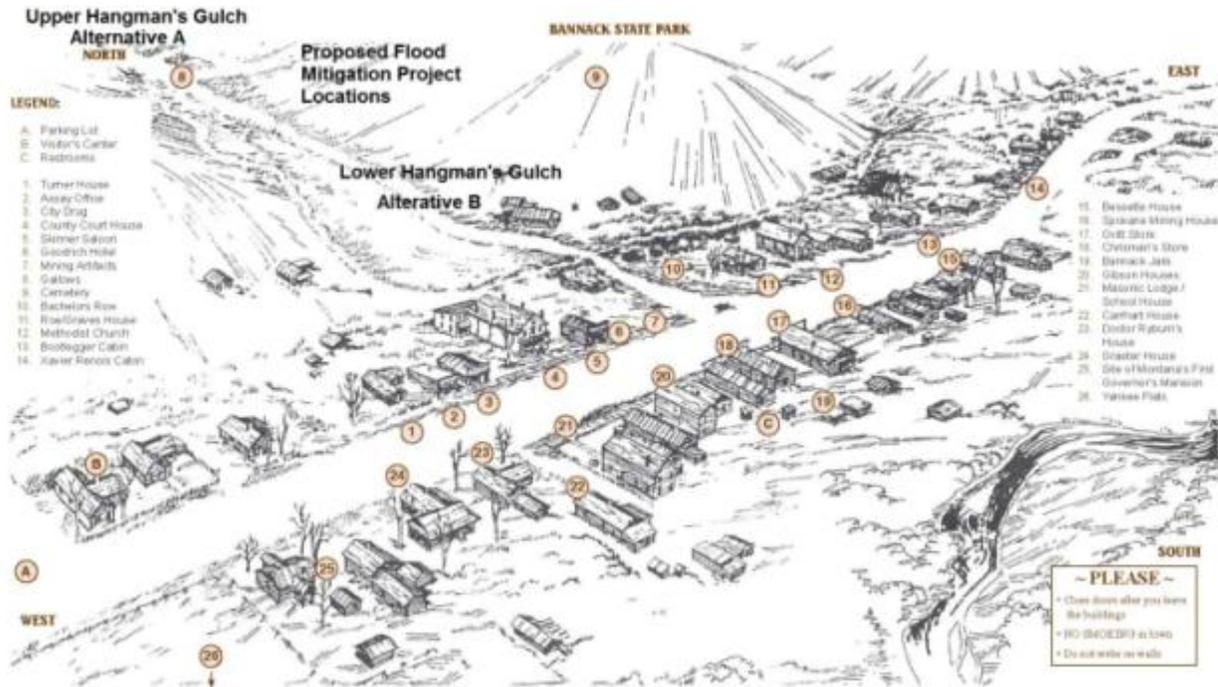
Scale in Feet  
 Scale 1:24000

State Parks from Montana Fish, Wildlife and Parks, Information Services Unit, Kalispell, MT. State Parks digitized at 24:000 from USGS 7.5 minute quad topographic maps and using COGO module of ARC/INFO by Montana Fish, Wildlife & Parks, Information Services Unit, Kalispell, MT. State Parks boundaries are accurate as of 1/1/02. Background USGS 1:24000 DRG images.



**Montana Fish, Wildlife & Parks**

Map produced by NRIS, request# 01FWP42 - January 16, 2003



**Bannack Town Site and Locations of Flood Mitigation Alternatives**

**5. Project size -- estimate the number of acres that would be directly affected that are currently:**

	<u>Acres</u>		<u>Acres</u>
(a) Developed:		(d) Floodplain	<u>0</u>
Residential	<u>0</u>		
Industrial	<u>0</u>	(e) Productive:	
(existing shop area)		Irrigated cropland	<u>0</u>
(b) Open Space/	<u>15</u>	Dry cropland	<u>0</u>
Woodlands/Recreation		Forestry	<u>0</u>
(c) Wetlands/Riparian	<u>0</u>	Rangeland	<u>0</u>
Areas		Other	<u>0</u>

**6. Permits, Funding & Overlapping Jurisdiction.**

(a) **Permits:** All permits will be filed at least 2 weeks prior to project start.

Agency Name	Permits
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(b) **Funding:**

Agency Name	Funding Amount
MT State Parks ERA 2011 Legislative Session funds	\$275,000
MT Tort Claims & Defense Division	\$433,000

(c) **Other Overlapping or Additional Jurisdictional Responsibilities**

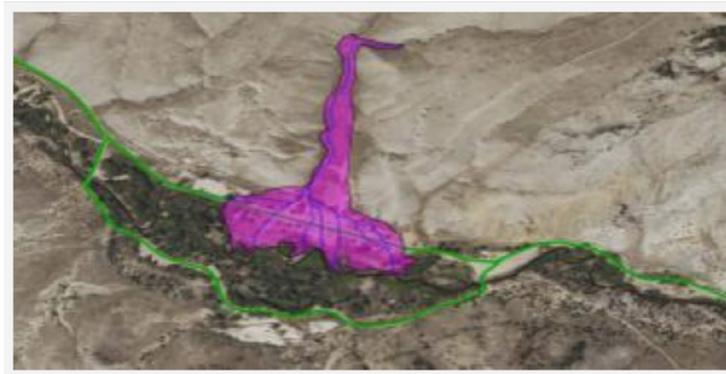
Agency Name	Type of Responsibility
State Historic Preservation Office (SHPO)	Review and Compliance.
U S Bureau of Land Management	Road Right-of-Way Permit

## **7. Narrative summary of the proposed action:**

On July 17, 2013 at approximately 4:00 pm, a localized rainfall event dropped significant amounts of rainfall on the hilly land between the Bannack State Park town site and north towards Badger Pass. The resulting runoff from this rainfall event flowed down Hangman's Gulch into Bannack, where the existing storm water conveyance system was unable to contain the runoff, resulting in extensive flooding and structural damage to the Bannack town site and the existing storm water conveyance system.

Bannack State Park in southwest Montana (see Fig. 1) is home to Montana's best-preserved ghost town and was the first Territorial Capitol of Montana. The town of Bannack was founded in 1862 after gold was discovered in Grasshopper Creek. It was Montana's first major gold strike and the ensuing gold rush swelled Bannack's population to over 3,000 by 1863. Most of Bannack's settlers moved on within a few years, following the lure of more gold in Virginia City and other locations, but a small population continued to live in the town through the 1940's. By 1950 the town was effectively deserted and Bannack was made a State Park in 1954 and declared a National Historic Landmark in 1961. Over sixty buildings survive from Bannack's heyday, most of which are open to the public.

Visitation at Montana's State Parks is up 34% over the past decade, and Bannack is no exception, with over 45,000 visitors in 2015—an increase of 10,000 visits over 2014. The most popular time to visit Bannack State Park is during the annual Bannack Days Festival, which typically draws over 6,000 visitors. This event features historic displays and activities and is held the third weekend in July each year. Some visitors also use the Park as an access point to Grasshopper Creek; a tributary of the Beaverhead River. Bannack is the only public access site maintained by FWP along Grasshopper Creek.



2013 Flood Area Map



2013 Flood Waters North of the Assay Office



Debris Field within the Bannack Townsite after 2013 Flood



Photo Showing Seven Inches of Mud inside the Hotel Meade after 2013 Flood

Hangman's Gulch contains an ephemeral stream on the north side of the townsite that typically only holds water during precipitation events. On July 17, 2013, a rainstorm triggered a severe flash flood down Hangman's Gulch that caused extensive damage. Hydrologic analysis completed by Pioneer Technical Services (Pioneer) indicated that approximately 2.2 inches of rain falling during a 30 minute period produced the estimated peak runoff flow of 1,450 cubic feet per second (cfs). The runoff from the storm overwhelmed the existing storm water facilities built above the historic town site, damaged several historic buildings within the town, and caused bodily injury to several visitors. Montana Department of Administration's Risk Management and Tort Defense Division indicate that \$1,563,807 was spent in repairing the damage caused by the flood to date.

As part of the Park's response to the 2013 storm, the proposed project is intended to address human health and safety as well as provide historic resources protection at Bannack State Park in the event of another major storm event. Montana Department of Administration's Risk Management and Tort Defense Division is highly supportive of the proposed flood mitigation project to reduce exposure to future flooding events, protect the historic resources at Bannack and protect from human injuries.

Pioneer's analysis provided the peak runoff flow for several large recurrence interval storm events and to support conceptual drainage system designs and costs. Pioneer concluded that the 1,450 cfs event of July 2013 constituted a 500-yr event and therefore did not recommend designing the project to meet that need. Instead, the 100-year, 1-hr storm runoff peak flow of 244 cfs and 16 acre-feet was selected as the design event for this project. This environmental assessment addresses the feasibility of containing and routing runoff for this design event through a detention pond upstream from the town of Bannack within Hangman's Gulch.

Based on the analysis's findings, Pioneer recommended a flood mitigation detention pond system of 15.7 acre-feet would be required to deter a 100-year, 1-hr storm event coming directly into the historic town. Pioneer submitted two design options for new detention ponds to Montana State Parks for consideration. Alternative A, located in the widest part of Hangman's Gulch, requires the greatest amount of excavation. This alternative would require relocation of the gallows, has the greatest negative impact on the view shed from the townsite, and has the greatest potential for the disturbance of surface and buried historic and pre-contact artifacts. Alternative B is the preferred option for a new detention pond because it is farther upstream in a narrower section of the gulch, is less intrusive because of the distance from the town site, and has less potential for disturbing surface and buried artifacts. Alternative B provides the same level of protection as Alternative A but with less projected impacts on the resources located at Bannack.

## **8. Description and analysis of reasonable alternatives:**

### **No Action Alternative**

The No Action Alternative is to leave the minor existing earthen embankment and open channel in its location along Hangman's Gulch, which was rebuilt after the July 2013 flood. Because this design has proven to not adequately redirect water away from Bannack's historic structures nor protect visitors from flash floods through the gulch, this alternative is eliminated from further analysis.

### **Alternative A: Lower Flood Mitigation Detention Pond**

The flood mitigation detention pond embankment would need to be constructed approximately 10-ft above existing ground with 7.5-ft of excavation at the downstream side of the pond. A concrete headwall with orifice plate and discharge pipe would provide 24-hours detention time and route the flow downstream to the existing Hangman's Gulch storm water channel. According to Pioneer the peak flow is attenuated from 244 cfs to 4.5 cfs. The existing 10-ft trail would need to re-aligned slightly to the east around the pond. Alternative A is not ideal because the volume of excavation would be 32,835 c.y., excavation would occur in the historic town site, has more impact on the historic integrity of Bannack due of the location nearer the town site, creates a greater potential of loss of historic and pre-contact artifacts, and has the potential of unearthing a historic grave purportedly located near the gallows.

### **Alternative B: Upper Flood Mitigation Detention Pond-Preferred Action**

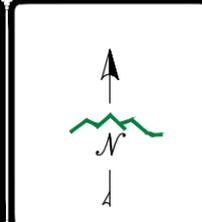
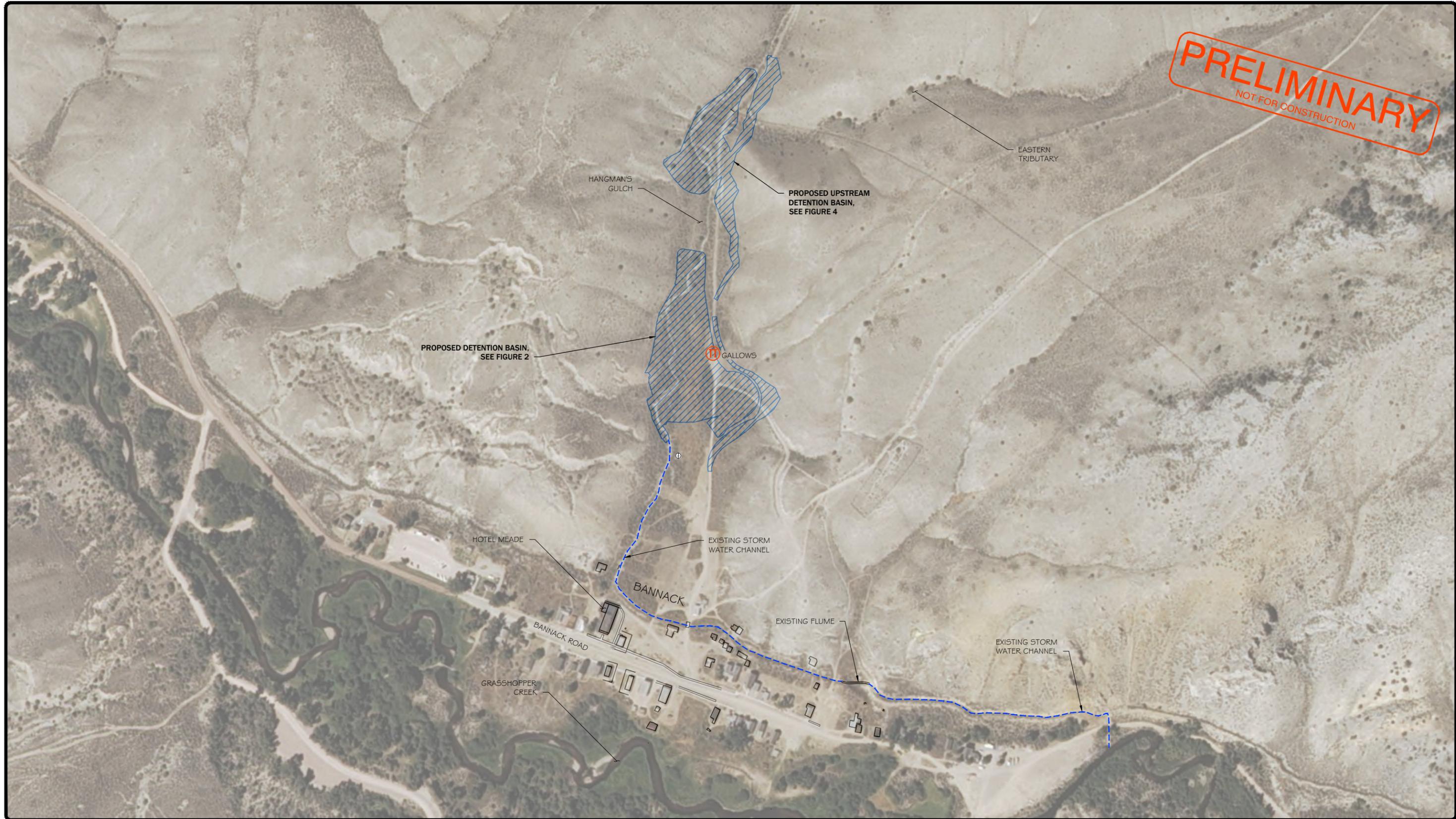
This flood mitigation detention pond embankment would need to be constructed approximately 36-ft above existing ground level with 3-ft of excavation for sediment storage. A concrete headwall with an orifice plate and discharge pipe would provide a 24-hour detention time and route the flow downstream to the existing Hangman's Gulch storm water channel. The peak flow is attenuated from 244 cfs to 4.3 cfs. The existing Road Agent Rock Trail would need to be re-aligned to the east around the pond and would include approximately 400 yards of new trail. This is the preferred alternative because the volume of excavation (9223 c.y.) is much less than Alternative A, its location is farther from the town site and the potential for the disturbance of historic and pre-contact artifacts is minimized because the construction site is farther away from the historic town site.

Access to the project area for alternatives A & B will be either across adjoining BLM lands on existing roads under a Right of Way permit and/or from the west end of Bannack and through the townsite. It is anticipated that hauling of materials will primarily be on the BLM roads but conditions may warrant access through the townsite. During the embankment construction, there will be fairly constant truck traffic delivering the embankment fill material which could last for 10 - 15 days. Administrative and light vehicle access can be through the townsite. Park and FWP staff will coordinate closely with the contractor to establish safety protocols on all access routes. Access from the east end of Bannack has been removed from consideration due to two bridges that have load rating restrictions.

## Figures

Figure 1	Alternatives A & B Flood Mitigation Project Location and Detail Plan
Figure 2	Flood Mitigation Project Detail Plan (Alternative A)
Figure 3	Flood Mitigation Project Detailed Plan (Preferred Alternative B)
Figure 4	Possible Access Route on BLM Land

**PRELIMINARY**  
NOT FOR CONSTRUCTION



DISPLAYED AS:	
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DATUM:	NAVD88
UNITS:	INT. FEET
SOURCE:	PIONEER/NAIP2013

SCALE IN FEET  
0 150 300

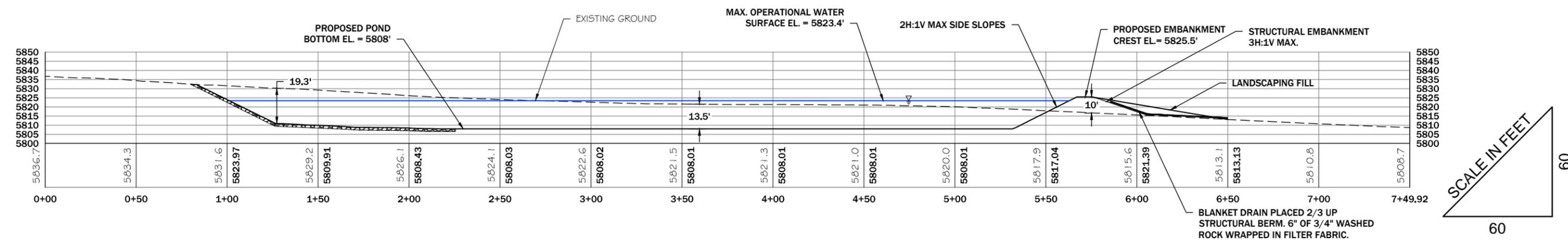
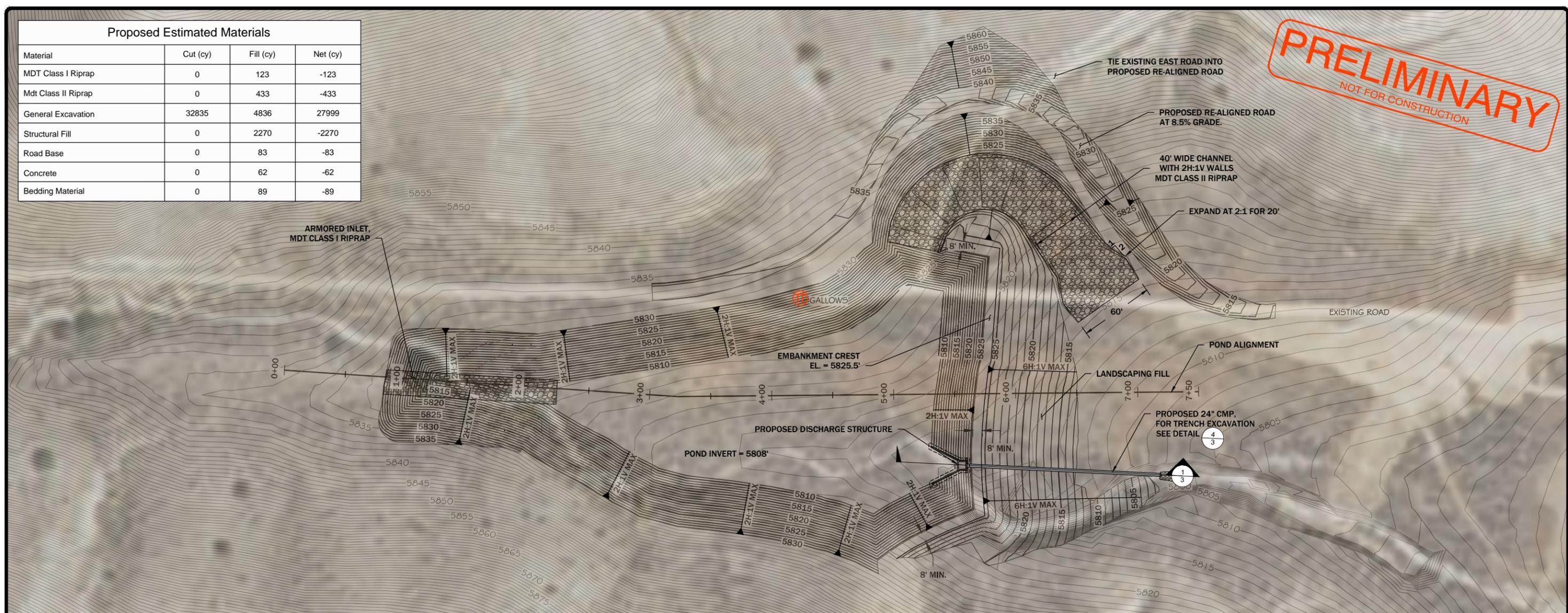
**FIGURE 1**  
**BANNACK STATE PARK**  
**FEASIBILITY ANALYSIS**  
**DETENTION BASIN**  
**SITE PLAN**

**PIONEER**  
TECHNICAL SERVICES, INC.  
106 PRONGHORN TRAIL, SUITE A  
BOZEMAN, MONTANA 59718  
(406) 388-8578

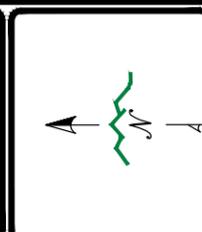
DATE: 8/10/15

Proposed Estimated Materials			
Material	Cut (cy)	Fill (cy)	Net (cy)
MDT Class I Riprap	0	123	-123
Mdt Class II Riprap	0	433	-433
General Excavation	32835	4836	27999
Structural Fill	0	2270	-2270
Road Base	0	83	-83
Concrete	0	62	-62
Bedding Material	0	89	-89

**PRELIMINARY**  
NOT FOR CONSTRUCTION



NOTES:  
1. ALL CUT VOLUMES ARE IN BANK CUBIC YARDS AND ALL FILL VOLUMES ARE IN COMPACTED CUBIC YARDS.



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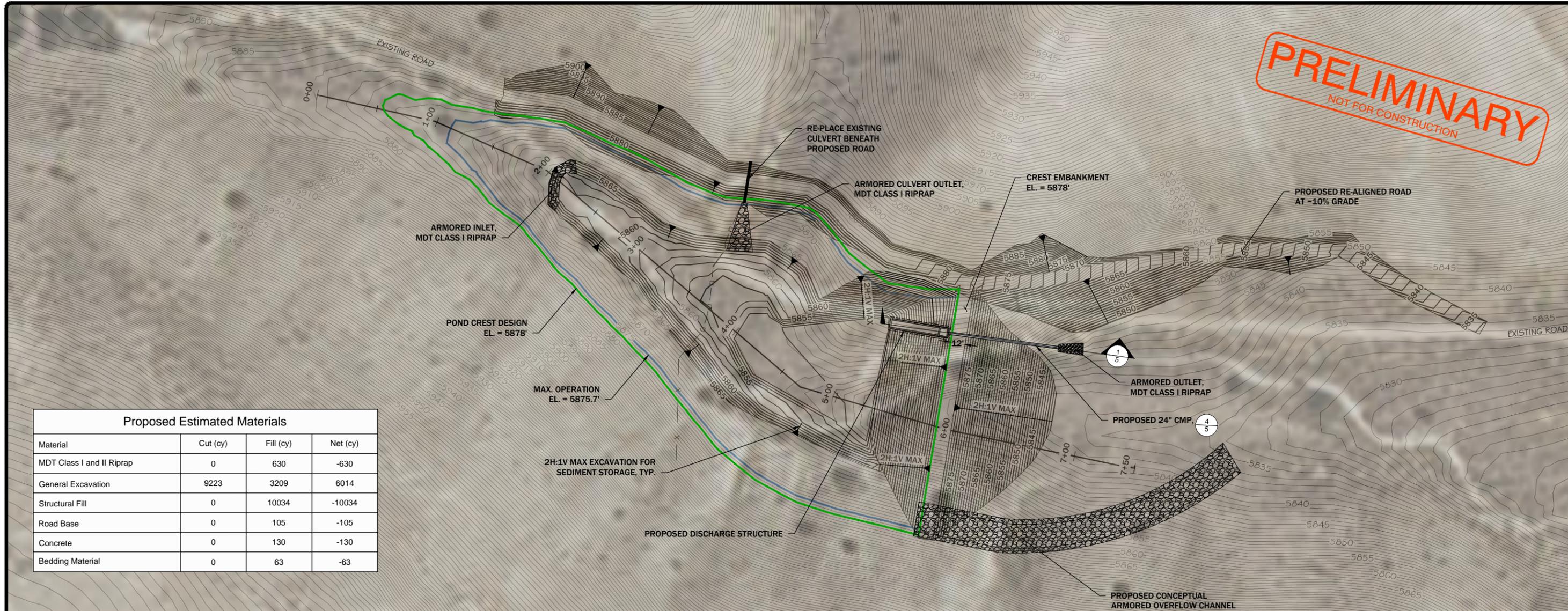
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**FIGURE 2**  
**BANNACK STATE PARK FEASIBILITY ANALYSIS**  
**DETENTION POND PLAN AND PROFILE ALTERNATIVE A**

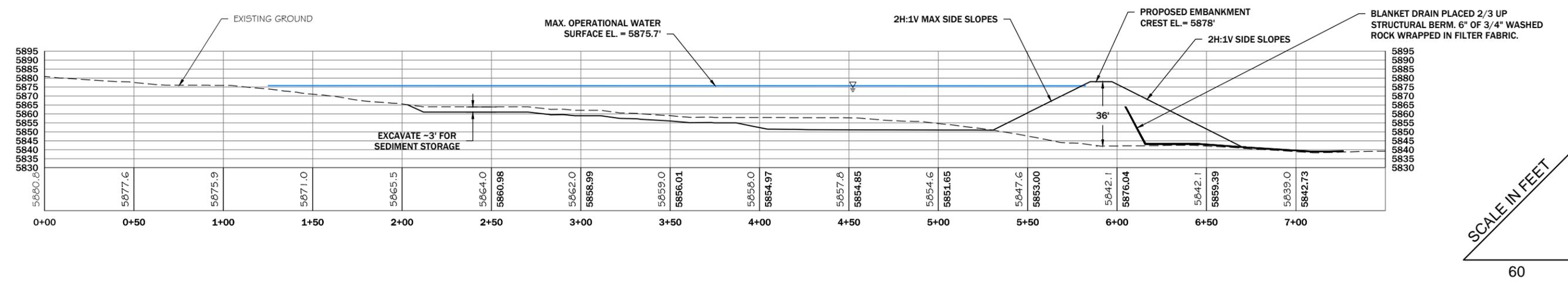
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TECHNICAL SERVICES, INC.  
106 PRONGHORN TRAIL, SUITE A  
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(406) 388-8578

DATE: 8/10/15

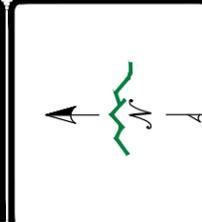
**PRELIMINARY**  
NOT FOR CONSTRUCTION



Proposed Estimated Materials			
Material	Cut (cy)	Fill (cy)	Net (cy)
MDT Class I and II Riprap	0	630	-630
General Excavation	9223	3209	6014
Structural Fill	0	10034	-10034
Road Base	0	105	-105
Concrete	0	130	-130
Bedding Material	0	63	-63



NOTES:  
1. ALL CUT VOLUMES ARE IN BANK CUBIC YARDS AND ALL FILL VOLUMES ARE IN COMPACTED CUBIC YARDS.



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UNITS: INT. FEET  
SOURCE: PIONEER/NAIP2013

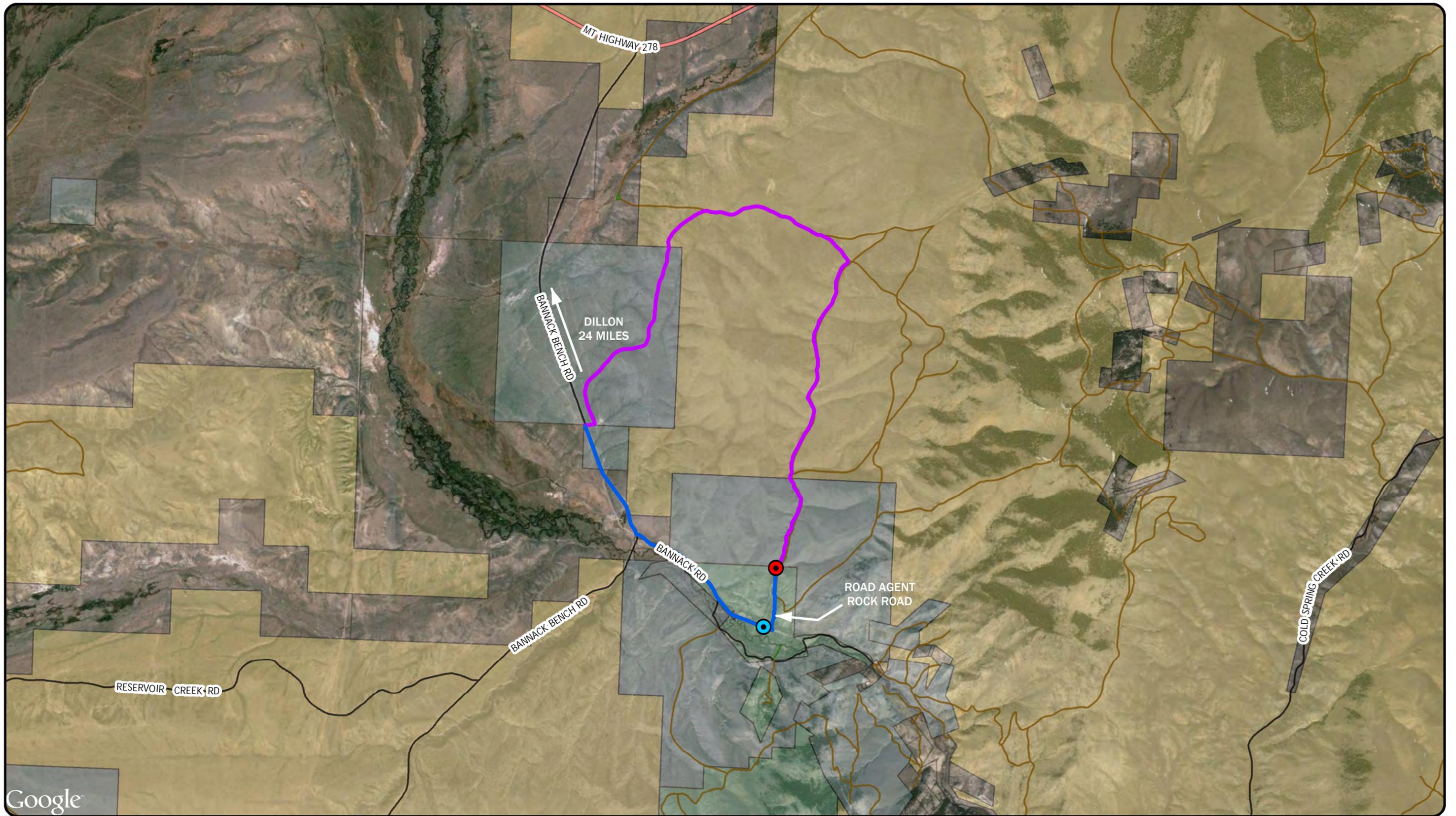
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**FIGURE 3**

**BANNACK STATE PARK  
FEASIBILITY ANALYSIS  
DETENTION POND  
PLAN AND PROFILE  
ALTERNATIVE B**

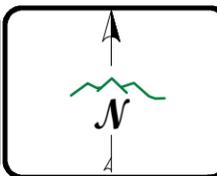
**PIONEER**  
TECHNICAL SERVICES, INC.  
106 PRONGHORN TRAIL, SUITE A  
BOZEMAN, MONTANA 59718  
(406) 388-8578

DATE: 8/10/15



**LEGEND**

BANNACK STATE PARK	PRIMARY	PRIVATE OWNERSHIP
PROPOSED DETENTION POND SITE LOCATION	CITY-COUNTY	STATE OF MONTANA
ROUTE A (4.3 MILES)	USFS	USDI BUREAU OF LAND MANAGEMENT
ROUTE B (2.0 MILES)	BLM	USDI FISH & WILDLIFE SERVICE



DISPLAYED AS:  
 PROJECTION/ZONE: MONTANA STATE PLANE  
 DATUM: NAD 1983  
 UNITS: INT'L FEET  
 SOURCE: GOOGLE/MSL/PIONEER

Miles

**FIGURE 4**

**BANNACK STATE PARK  
 DETENTION POND  
 SITE ACCESS ROADS**

DATE: 12/17/2015

**PART II. ENVIRONMENTAL REVIEW CHECKLIST**

**Evaluation of the impacts of the Preferred Alternative including secondary and cumulative impacts on the Physical and Human Environment for the preferred alternative.**

**A. PHYSICAL ENVIRONMENT**

1. <u>LAND RESOURCES</u> Will the proposed action result in:	IMPACT					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Soil instability or changes in geologic substructure?		x				
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil, which would reduce productivity or fertility?		x				
c. Destruction, covering or modification of any unique geologic or physical features?		x				
d. Changes in siltation, deposition or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake?			x		No	1d
e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard?		x				

1d) Referencing alternative A and B, by controlling runoff from Hangman’s Gulch the detention pond may cause changes to the deposition and erosion patterns that impact Grasshopper Creek by slowing water runoff speeds and capturing sediments in the pond but the impact may be positive by controlling massive runoff events like the one caused by the 2013 flash flood event. And, should there be some influx of material, it will be planned for in the design of the detention pond. Alternative A is not ideal because excavation would occur in the historic town site, has more impact on the historic integrity of Bannack

2. <u>AIR</u> Will the proposed action result in:	IMPACT *					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Emission of air pollutants or deterioration of ambient air quality? (Also see 13 (c).)			x			2a
b. Creation of objectionable odors?		x				
c. Alteration of air movement, moisture, or temperature patterns or any change in climate, either locally or regionally?		x				
d. Adverse effects on vegetation, including crops, due to increased emissions of pollutants?		x				
e. For P-R/D-J projects, will the project result in any discharge, which will conflict with federal or state air quality regulations? (Also see 2a.)		N/A				

2a) Temporary dust and vehicle emissions will be created during the project but the distance between the construction site and the town site should limit the impact on visitors and there will be no long term impact. Ambient air quality and particulate levels will return to pre-construction levels after the project is completed. To further mitigate this issue it is proposed that construction equipment access the construction site via 2-track roads on state/federal land away from the main portion of the Park and visitors.

3. <b>WATER</b>  Will the proposed action result in:	IMPACT					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Discharge into surface water or any alteration of surface water quality including but not limited to temperature, dissolved oxygen or turbidity?		x				
b. Changes in drainage patterns or the rate and amount of surface runoff?			x			3b
c. Alteration of the course or magnitude of floodwater or other flows?			x			3c
d. Changes in the amount of surface water in any water body or creation of a new water body?			x			3d
e. Exposure of people or property to water related hazards such as flooding?			x			3e
f. Changes in the quality of groundwater?		x				
g. Changes in the quantity of groundwater?		x				
h. Increase in risk of contamination of surface or groundwater?		x				
i. Effects on any existing water right or reservation?		x				
j. Effects on other water users as a result of any alteration in surface or groundwater quality?		x				
k. Effects on other users as a result of any alteration in surface or groundwater quantity?		x				
l. For P-R/D-J, will the project affect a designated floodplain? (Also see 3c.)		N/A				
m. For P-R/D-J, will the project result in any discharge that will affect federal or state water quality regulations? (Also see 3a.)		N/A				

3b) The purpose for the development of the flood mitigation detention pond is to slow the rate of runoff by holding back water moving down Hangman Gulch during storm events. However, runoff can still ultimately reach Grasshopper Creek as factored into the design of the detention structure.

3c) Historically Bannack was affected by flash floods with the latest event happening in July 2013. This action will have a positive impact by altering the known path of flash floods by holding the water in a detention pond and controlling the release of this water to prevent catastrophic damage and the potential of bodily injury and loss of life.

3d) This action will create a pond to capture water from major rain events but will remain dry unless a flash flood event occurs.

3e) This project will have a positive impact because it is designed to protect property and people from future flashflood events.

4. <u>VEGETATION</u> Will the proposed action result in?	IMPACT					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Changes in the diversity, productivity or abundance of plant species (including trees, shrubs, grass, crops, and aquatic plants)?			x			4a
b. Alteration of a plant community?		x				
c. Adverse effects on any unique, rare, threatened, or endangered species?		x				
d. Reduction in acreage or productivity of any agricultural land?		x				
e. Establishment or spread of noxious weeds?		x			yes	4e
f. For P-R/D-J, will the project affect wetlands, or prime and unique farmland?		N/A				
g. Other:						

4a) There will be the temporary loss of approximately 15 acres of sagebrush habitat. The loss of habitat will only be temporary as vegetation will establish itself overtime in and around the detention pond. Sagebrush habitat downstream of the detention structure will be protected from flash floods and will likely improve following this project.

4e) Whenever the ground is disturbed noxious weeds have a chance of establishing themselves. Construction will occur primarily in the fall which will reduce the opportunity for weeds to colonize the area, and disturbed areas will be seeded or planted with native vegetation. FWP will work with the selected contractor to establish protocols for washing vehicles and equipment before entering the site to reduce the presence of weed seeds. The Park maintains an active weed control program and the site will be monitored and treated appropriately if noxious weeds do occur.

5. <u>FISH/WILDLIFE</u> Will the proposed action result in:	IMPACT					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Deterioration of critical fish or wildlife habitat?			x		Yes	5a
b. Changes in the diversity or abundance of game animals or bird species?			x			5b
c. Changes in the diversity or abundance of nongame species?			x			5c
d. Introduction of new species into an area?		x				
e. Creation of a barrier to the migration or movement of animals?		x				
f. Adverse effects on any unique, rare, threatened, or endangered species?			x			5f
g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest or other human activity)?			x			5g
h. For P-R/D-J, will the project be performed in any area in which T&E species are present, and will the project affect any T&E species or their habitat? (Also see 5f.)		N/A				
i. For P-R/D-J, will the project introduce or export any species not presently or historically occurring in the receiving location? (Also see 5d.)		N/A				

5a) Park Manager Dale Carlson consulted with FWP's local fisheries biologist Matt Jaeger, he determined that this project will not have any detrimental impacts on the fish population because of the distance between the creek and construction site. Positive impacts may be seen through the reduction of sediment flowing into Grasshopper Creek potentially conserving or improving the fishery.

5b) Park Manager Dale Carlson consulted with FWP's wildlife biologist, Craig Fager and he determined this project would not have a negative affect the abundance of wildlife, however it may have a positive effect with the temporary retention of water from this project that would otherwise not be easily accessible to local wildlife. Wildlife such as sage grouse, mule deer and pronghorn will be temporarily displaced by the project but will return when construction-related activities are completed.

5c) The excavation, noise and the temporary localized loss of habitat will have a minor negative impact on non-game species but construction is only temporary and the habitat will restore itself in time.

5f) Three species of special concern listed with the Montana Natural Heritage Program (sage grouse, sage sparrow and pygmy rabbit) inhabit the sagebrush steppe surrounding Bannack. FWP non-game wildlife biologist Kristi DuBois was consulted and it is felt that the previous flash floods have destroyed much of the suitable habitat for the species of concern so the project would have minimal impact on the species. Field investigations will be conducted during the design phase of the project to assess the area and adjust the design or construction process if needed and necessary. It is anticipated that habitats below the flood mitigation pond will improve after the project is complete due to reduced flooding and sedimentation. FWP staff will work with the selected contractor to establish best techniques to be followed during construction such as controlling vehicle speeds and remaining on established routes.

5g) The project will cause temporary stress to wildlife in the vicinity of the construction zone. The project work is temporary and impacts should last only until construction is finished and habitat is restored. To minimize the stress to wildlife, the project will most likely take place after breeding seasons and before winter stresses and established roads will be utilized for construction traffic.

**B. HUMAN ENVIRONMENT**

6. <u>NOISE/ELECTRICAL EFFECTS</u> Will the proposed action result in:	IMPACT					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Increases in existing noise levels?			x			6a
b. Exposure of people to serve or nuisance noise levels?			x		Yes	6b
c. Creation of electrostatic or electromagnetic effects that could be detrimental to human health or property?		x				
d. Interference with radio or television reception and operation?		x				

6a) There will be a temporary increase in noise levels caused by construction but it will only last the duration of the project. Utilizing access roads on adjoining lands north of the townsite will help reduce noise levels in the townsite.

6b) The park will be open during this period and visitors will be exposed to noise levels that may be described as a nuisance, but the distance between the construction site and the town site will help minimize the impact. Completing the project in the off season will also help mitigate the impacts.

7. <u>LAND USE</u> Will the proposed action result in:	IMPACT					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Alteration of or interference with the productivity or profitability of the existing land use of an area?			x			7a
b. Conflicted with a designated natural area or area of unusual scientific or educational importance?			x			7b
c. Conflict with any existing land use whose presence would constrain or potentially prohibit the proposed action?		x				
d. Adverse effects on or relocation of residences?		x				

7a) The area under consideration for this proposed project will certainly be altered but it is within the park boundaries and is isolated from the areas frequented by most visitors so it should not interfere with park operations. Alternative A would have more of an impact due to its proximity to the townsite and can be viewed by visitors.

7b) The proposed action does not conflict with the educational importance of the site and the project is designed to protect the park and its visitors for future generations. However alternative A would have more of an impact due to its proximity to the townsite.

<b>8. <u>RISK/HEALTH HAZARDS</u></b>	<b>IMPACT</b>					
	<b>Unknown</b>	<b>None</b>	<b>Minor</b>	<b>Potentially Significant</b>	<b>Can Impact Be Mitigated</b>	<b>Comment Index</b>
<b>Will the proposed action result in:</b>						
a. Risk of an explosion or release of hazardous substances (including, but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or other forms of disruption?		x				
b. Affect an existing emergency response or emergency evacuation plan, or create a need for a new plan?		x				
c. Creation of any human health hazard or potential hazard?			x		Yes	8c
d. For P-R/D-J, will any chemical toxicants be used? (Also see 8a)		N/A				

8c) This proposed project will reduce the risk of damages to historic properties and improve public safety within the park and seen as a positive impact. The detention pond itself is not anticipated to create health hazards but if the detention pond is collecting water there is potential for visitors to be attracted to the pond. This problem can be mitigated by closing access to the area if needed when the pond is retaining water, installing addition signage with warnings and monitoring by park staff.

<b>9. <u>COMMUNITY IMPACT</u></b>	<b>IMPACT</b>					
	<b>Unknown</b>	<b>None</b>	<b>Minor</b>	<b>Potentially Significant</b>	<b>Can Impact Be Mitigated</b>	<b>Comment Index</b>
<b>Will the proposed action result in:</b>						
a. Alteration of the location, distribution, density, or growth rate of the human population of an area?		x				
b. Alteration of the social structure of a community?		x				
c. Alteration of the level or distribution of employment or community or personal income?		x				
d. Changes in industrial or commercial activity?		x				
e. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods?		x				

<b>10. <u>PUBLIC SERVICES/TAXES/UTILITIES</u></b>  <b>Will the proposed action result in:</b>	<b>IMPACT</b>					
	<b>Unknown</b>	<b>None</b>	<b>Minor</b>	<b>Potentially Significant</b>	<b>Can Impact Be Mitigated</b>	<b>Comment Index</b>
a. Will the proposed action have an effect upon or result in a need for new or altered governmental services in any of the following areas: fire or police protection, schools, parks/recreational facilities, roads or other public maintenance, water supply, sewer or septic systems, solid waste disposal, health, or other governmental services? If any, specify:		x				
b. Will the proposed action have an effect upon the local or state tax base and revenues?		x				
c. Will the proposed action result in a need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications?		x				
d. Will the proposed action result in increased use of any energy source?		x				
e. Define projected revenue sources						
f. Define projected maintenance costs.			x			10f

10f) This project will be designed to allow for sediment to collect within the flood control pond. FWP will monitor the sediment levels if they develop and take corrective action in consultation with the designers. The projected maintenance costs for this project is unknown as it depends on the frequency and severity of rain events over time.

<b>11. <u>AESTHETICS/RECREATION</u></b>	<b>IMPACT</b>					
	<b>Unknown</b>	<b>None</b>	<b>Minor</b>	<b>Potentially Significant</b>	<b>Can Impact Be Mitigated</b>	<b>Comment Index</b>
<b>Will the proposed action result in:</b>						
a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view?			x		Yes	11a
b. Alteration of the aesthetic character of a community or neighborhood?		x				
c. Alteration of the quality or quantity of recreational/tourism opportunities and settings? (Attach Tourism Report.)			x			11c
d. <u>For P-R/D-J</u> , will any designated or proposed wild or scenic rivers, trails or wilderness areas be impacted? (Also see 11a, 11c.)		N/A				

11a) The detention pond will alter the view shed to a very minor extent but mitigation will occur with landscaping and vegetation will be restored to help blend the detention pond into the natural environment .

11c) The detention pond will alter the Road Agent Rock Trail/Road. Approximately 400 yards of new trail/road will be constructed just to the east of the existing one. Once the project completed the trail/road will be reopened so it is only a temporary disruption of recreational opportunity.

<b>12. <u>CULTURAL/HISTORICAL RESOURCES</u></b>	<b>IMPACT</b>					
	<b>Unknown</b>	<b>None</b>	<b>Minor</b>	<b>Potentially Significant</b>	<b>Can Impact Be Mitigated</b>	<b>Comment Index</b>
<b>Will the proposed action result in:</b>						
a. Destruction or alteration of any site, structure or object of prehistoric historic, or paleontological importance?			x		Yes	12a
b. Physical change that would affect unique cultural values?		x				
c. Effects on existing religious or sacred uses of a site or area?		x				
d. <u>For P-R/D-J</u> , will the project affect historic or cultural resources? Attach SHPO letter of clearance. (Also see 12.a.)						

12a) The area encompassed by sites for the proposed action includes part of a historic trail system leading in and out of Bannack and part of the historic town site. There is a potential that artifacts, both historic and pre-contact may be uncovered. The preferred Alternative B will help mitigate the loss of valuable artifacts and possible destruction of a burial site because it involves less ground disturbance and it is further away from the town site. A heritage resources survey of the project area will be conducted prior to construction. If significant historic or archaeological resources would be impacted by the proposed project, the Montana State Parks Heritage Resource Program Manager will devise a plan in consultation with the Montana State Historic Preservation Office (SHPO) and in compliance with the Montana Antiquities Act (MCA 22-3-421 to 22-3-442) to mitigate potential impacts to these cultural resources. On site monitoring of construction by qualified archaeologists will be conducted in case previously undetected artifacts are uncovered during project construction. A cultural resource consultant will be under contract to provide a cultural resource inventory on the two possible locations for the detention basin as soon as conditions allow. FWP would not begin construction until final clearance has been given by SHPO. FWP would consider design changes if necessary to accommodate SHPO requirements to protect cultural or historical resources.

### SIGNIFICANCE CRITERIA

13. <u>SUMMARY EVALUATION OF SIGNIFICANCE</u>	IMPACT					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
<b>Will the proposed action, considered as a whole:</b>						
a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources that create a significant effect when considered together or in total.)		x				
b. Involve potential risks or adverse effects, which are uncertain but extremely hazardous if they were to occur?		x				
c. Potentially conflict with the substantive requirements of any local, state, or federal law, regulation, standard or formal plan?		x				
d. Establish a precedent or likelihood that future actions with significant environmental impacts will be proposed?		x				
e. Generate substantial debate or controversy about the nature of the impacts that would be created?		x				
f. For P-R/D-J, is the project expected to have organized opposition or generate substantial public controversy? (Also see 13e.)		N/A				
g. For P-R/D-J, list any federal or state permits required.		N/A				

## PART III. NARRATIVE EVALUATION AND COMMENT

Bannack State Park is one of Montana's most important historic and cultural resources but its significance extends beyond our borders. The Park's national significance was recognized by the United States Department of Interior in 1961 when the site was declared a National Historic Landmark. Bannack was the site of the first major gold rush in Montana, the site of the first Territorial Capital, and was witness to vigilante justice, but most importantly Bannack State Park symbolizes a community's struggle to survive. Efforts to preserve the town began in 1954 and today it is considered one of the best preserved ghost towns in the United States. Every year the Park attracts approximately 46,000 visitors from around the country and the world. Hangman's Gulch historically served as a path for flashfloods and the 2013 flashflood event demonstrated how vulnerable the town and visitors are to the potential damaging and possibly deadly effects of future flashfloods. Therefore, Montana State Parks, in consultation with hydrologists and engineers, has determined that steps need to be taken to protect the town site and visitors from future flashflood events and the best way to do this is by controlling the path of the flashfloods by constructing a detention pond in Hangman's Gulch.

As discussed throughout this document, the upper flood mitigation detention pond Alternative B is the preferred alternative because it has less impact on the visual aspects of the town site than the lower location and protects cultural resources as well or better.

## **PART IV. PUBLIC PARTICIPATION**

### **1. Public involvement:**

- Public notice on the Montana State Parks web page: [stateparks.mt.gov/](http://stateparks.mt.gov/)
- Two public notices in each of these papers: *Helena Independent Record*, *Butte Standard*
- One statewide press release

### **2. Duration of comment period:**

The public comment period will extend for (30) thirty days. Written comments will be accepted until 5:00 p.m., April 19, 2016. The public can submit written comments Bannack Flood Control Mitigation Project, Montana State Parks, 1400 19th Ave So, Bozeman, MT 59718. Or comments can be emailed to [mmarcinek@mt.gov](mailto:mmarcinek@mt.gov).

## **PART V. EA PREPARATION**

- 1. Based on the significance criteria evaluated in this EA, is an EIS required? (YES/NO)? No  
If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action.**

Based on an evaluation of primary, secondary, and cumulative impacts to the physical and human environment under the Montana Environmental Protection Act (MEPA), this environmental review did find significant impacts from the proposed detention pond project but most are only temporary, can be mitigated and some will have a positive impact. FWP assessed the severity, duration, geographic extent, and frequency of the impact, the probability that the impact would occur or reasonable assurance that the impact would not occur, growth-inducing or inhibiting aspects of the impact, the importance to the state and to the society of the environmental resource or value affected, and precedent that would be set as a result of the proposed action that would commit FWP to future actions; and potential conflicts with local, state, or federal laws. Therefore, an EA is the appropriate level of review and an EIS is not required.

- 2. Persons responsible for preparing the EA: Dale Carlson (Bannack State Park Manger, Matt Marcinek (Region 3 Parks Manger) and John Phillips (Bannack State Park Ranger).**
- 3. List of agencies or offices consulted during preparation of the EA:**

Montana, Fish, Wildlife & Parks  
Parks Division  
Wildlife Division  
Responsive Management Unit  
Fisheries Division  
Lands Division  
Design & Construction Bureau  
Montana State Historic Preservation Office  
Montana Department of Commerce – Tourism  
Montana Natural Heritage Program – Natural Resource Information System (NRIS)  
MT Department of Environmental Quality  
US Bureau of Land Management

**APPENDIX A**  
23-1-110 MCA  
PROJECT QUALIFICATION CHECKLIST

**Date:** 3/1/16

**Person Reviewing:** Dale Carlson

**Project Location:** Bannack State Park, Beaverhead County. Section 6, Township 8S, Range 11 W.

**Description of Proposed Work:** Construction of a flood mitigation detention pond above Bannack townsite.

The following checklist is intended to be a guide for determining whether a proposed development or improvement is of enough significance to fall under 23-1-110 rules. (Please check  all that apply and comment as necessary.)

- A. New roadway or trail built over undisturbed land?  
Comments: The existing Hangman's Gulch trail will need to be re-aligned and approximately 400 yards of new trail may need to be constructed. The realigned trail will fall within the existing trail corridor and will be located on the edge of the new flood mitigation pond.
- B. New building construction (buildings <100 sf and vault latrines exempt)?  
Comments: No buildings are being constructed.
- C. Any excavation of 20 c.y. or greater?  
Comments: Preferred Alternative B is estimated to involve 9,223 c.y. excavation, significantly less than the 32,835 c.y. necessary for Alternative A.
- D. New parking lots built over undisturbed land or expansion of existing lot that increases parking capacity by 25% or more?  
Comments: No new parking lots are being built.
- E. Any new shoreline alteration that exceeds a doublewide boat ramp or handicapped fishing station?  
Comments: No shoreline will be impacted by this project.
- F. Any new construction into lakes, reservoirs, or streams?  
Comments: Hangman's Gulch contains an ephemeral water course that only contains water during rain events.
- G. Any new construction in an area with National Registry quality cultural?  
Comments: Montana State Parks Heritage Program Manager Sara Scott has been consulted on this project and will coordinate on-site heritage resource evaluation during the design process. Once the on-site evaluation of the completed design has concluded she will consult with Montana's State Historic Preservation Office for a letter of clearance before the project begins.
- H. Any new above ground utility lines?  
Comments: No utility lines will be constructed.
- I. Any increase or decrease in campsites of 25% or more of an existing number of campsites?  
Comments: No campsites are being built.
- J. Proposed project significantly changes the existing features or use pattern; including effects of a series of individual projects?  
Comments: This project will necessitate a temporary public closure during construction but the area will be returned to preexisting use patterns after construction.

If any of the above are checked, 23-1-110 MCA rules apply to this proposed work and should be documented on the MEPA/HB495 CHECKLIST. Refer to MEPA/HB495 Cross Reference Summary for further assistance.

## Appendix B

### Sensitive Plants and Animals in the Bannack State Park Area

A search of the Montana Natural Heritage Program (MNHP) element occurrence database ([nhp.nris.state.mt.us/eoportal](http://nhp.nris.state.mt.us/eoportal)) indicates no known occurrences of federally listed threatened, endangered, or proposed threatened or endangered plant or animal species in the proposed project site.

#### Species of Concern Terms and Definitions

**Montana Species of Concern.** The term "**Species of Concern**" includes taxa that are at-risk or potentially at-risk due to rarity, restricted distribution, habitat loss, and/or other factors. The term also encompasses species that have a special designation by organizations or land management agencies in Montana, including: Bureau of Land Management Special Status and Watch species; U.S. Forest Service Sensitive and Watch species; U.S. Fish and Wildlife Service Threatened, Endangered and Candidate species.

#### ▼ **Status Ranks (Global and State)**

The international network of Natural Heritage Programs employs a standardized ranking system to denote global (**G** -- range-wide) and state status (**S**) (NatureServe 2003). Species are assigned numeric ranks ranging from 1 (critically imperiled) to 5 (demonstrably secure), reflecting the relative degree to which they are "at-risk". Rank definitions are given below. A number of factors are considered in assigning ranks -- the number, size and distribution of known "occurrences" or populations, population trends (if known), habitat sensitivity, and threat. Factors in a species' life history that make it especially vulnerable are also considered (e.g., dependence on a specific pollinator).

### Status Ranks

Code	Definition
<b>G1 S1</b>	At high risk because of extremely limited and/or rapidly declining numbers, range, and/or habitat, making it highly vulnerable to global extinction or extirpation in the state.
<b>G2 S2</b>	At risk because of very limited and/or declining numbers, range, and/or habitat, making it vulnerable to global extinction or extirpation in the state.
<b>G3 S3</b>	Potentially at risk because of limited and/or declining numbers, range, and/or habitat, even though it may be abundant in some areas.
<b>G4 S4</b>	Uncommon but not rare (although it may be rare in parts of its range), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern.
<b>G5 S5</b>	Common, widespread, and abundant (although it may be rare in parts of its range). Not vulnerable in most of its range.

**1. *Centrocercus urophasianus* (Greater Sage-grouse)**

State: **S2**  
Global: **G4**

U.S. Fish and Wildlife Service:  
U.S. Forest Service: **Sensitive**  
U.S. Bureau of Land Management: **Sensitive**

A documented lek occurs approximately 1.75 miles south of the proposed project site, but population data is unavailable. **(Check with Ben)** It is unlikely that the proposed action would affect this species, as inferred extent of this species range does not overlap with the town site.

**2. *Amphispiza belli* (Sage Sparrow)**

State: S3B  
Global: G5

U.S. Fish and Wildlife Service:  
U.S. Forest Service:  
U.S. Bureau of Land Management: **Sensitive**

The species has been identified on the road just south of Bannack and maybe in the area north of the town but we have no confirmed sightings in the area under consideration.

**3. *Buteo regalis* (Ferruginous Hawk).**

Natural Heritage Ranks:  
State: **S2B**  
Global: **G4**

Federal Agency Status:  
U.S. Fish and Wildlife Service:  
U.S. Forest Service:  
U.S. Bureau of Land Management: **Sensitive**

This sensitive species has been regularly observed from 1977 through the present, in short-grass prairie habitat and brushy draws. The full extent of occupied breeding habitat is unknown, but most sightings have occurred in the Lima-Sweetwater breaks northwest of Dillon. It is unlikely that the proposed project would affect this species.

**4. *Perognathus parvus* (Great Basin Pocket Mouse).**

Natural Heritage Ranks:  
State: **S2S3**  
Global: **G5**

Federal Agency Status:  
U.S. Fish and Wildlife Service:  
U.S. Forest Service:  
U.S. Bureau of Land Management: **Sensitive**

This species was first observed at two survey sites east and west of Badger Pass in 1961. No current population information is available.

**5. *Lepus californicus* (Black-tailed Jack Rabbit).**

Natural Heritage Ranks:  
State: **S2**  
Global: **G5**

Federal Agency Status:  
U.S. Fish and Wildlife Service:  
U.S. Forest Service: **Sensitive**  
U.S. Bureau of Land Management:

This record is a summary of multiple observations in the area south of Bannack, with dates ranging from 1937-1997. We have not specifically identified this species north of Bannack where the project will be located and stress and loss of habitat caused by this project should

only be temporary.

**6. *Brachylagus idahoensis* (Pygmy Rabbit)**

Natural Heritage Ranks:

State: S3  
Global: G4

Federal Agency Status:

U.S. Fish and Wildlife Service  
U.S. Forest Service: **Sensitive**  
U.S. Bureau of Land Management: **Sensitive**

Pygmy Rabbits are in the area under consideration for this project but negative impacts created by construction will be temporary and the sagebrush habitat will be restored in time.

**7. *Oncorhynchus clarki lewisi* (Westslope Cutthroat Trout)**

Natural Heritage Ranks:

State: **S2**  
Global: **G4T3**

Federal Agency Status:

U.S. Fish and Wildlife Service:  
U.S. Forest Service: Sensitive  
U.S. Bureau of Land Management: **Sensitive**

**8. *Thelypodium sagittatum ssp. sagittatum* (Slender Thelypody).**

Natural Heritage Ranks:

State: **S2**  
Global: **G5**

Federal Agency Status:

U.S. Fish and Wildlife Service:  
U.S. Forest Service:  
U.S. Bureau of Land Management: **Sensitive**

A specimen for this sensitive species was first collected during the tenth census of the United States Department of Forestry, Northwestern Territories, in 1880. No current population data for this species is available.

**9. *Lesquerella pulchella* (Beautiful Bladderpod).**

Natural Heritage Ranks:

State: **S2**  
Global: **G5**

Federal Agency Status:

U.S. Fish and Wildlife Service:  
U.S. Forest Service: **Sensitive**  
U.S. Bureau of Land Management: **Sensitive**

While this species has been observed in the Bannack area the proposed action it has not been seen in the immediate vicinity of the proposed construction site.

**10. *Sphaeromeria argentea* (Chicken Sage).**

Natural Heritage Ranks:

State: **S3**  
Global: **G3G4**

Federal Agency Status:

U.S. Fish and Wildlife Service:  
U.S. Forest Service:  
U.S. Bureau of Land Management: **Sensitive**

While this species has been observed in the Bannack area the proposed it has not been observed in the vicinity of the construction site.

**11. *Lomatium attenuatum* (Taper-tip Desert-parsley).**

Natural Heritage Ranks:

Federal Agency Status:

State: **S2**  
Global: **G3**

U.S. Fish and Wildlife Service:  
U.S. Forest Service:  
U.S. Bureau of Land Management: **Sensitive**

Over 10,000 plants occur within the larger Bannack State Park area, but it is unlikely that this project would affect this species.

**12. *Astragalus scaphoides*** (Bitterroot Milkvetch).

Natural Heritage Ranks:

State: **S2**  
Global: **G3**

Federal Agency Status:

U.S. Fish and Wildlife Service:  
U.S. Forest Service: **Sensitive**  
U.S. Bureau of Land Management: **Sensitive**

Approximately 300 plants occur in 3 subpopulations about 2 1/2 miles south of the proposed project site. There is sufficient distance between the element occurrence of this species and the proposed construction site to ensure it will not harm this species.

**13. *Phacelia incana*** (Hoary Phacelia).

Natural Heritage Ranks:

State: **S2**  
Global: **G3**

Federal Agency Status:

U.S. Fish and Wildlife Service:  
U.S. Forest Service: **Sensitive**  
U.S. Bureau of Land Management: **Sensitive**

Over 1000 plants occur in patches on ridge complex within Bannack State Park.

*Interested parties may contact MFWP Region 3 offices for a detailed map of sensitive species Element Occurrences (EOs).*

Information courtesy of Montana Natural Heritage Program.

## **ATTACHMENT C**

Clearance Letter – State Historic Preservation Office (pending design and on-site investigation of alternatives)

The State Historic Preservation Office (SHPO) has been consulted and has requested additional investigation into the proposed project. A cultural resource consultant is under contract to provide a cultural resource inventory on the two possible locations for the detention basin as soon as conditions allow. FWP would not begin construction until final clearance has been given by SHPO. FWP would consider design changes if necessary to accommodate SHPO requirements to protect cultural or historical resources.

**ATTACHMENT D**  
**TOURISM REPORT**  
**MONTANA ENVIRONMENTAL POLICY ACT (MEPA)/HB495**

The Montana Department of Fish, Wildlife and Parks have initiated the review process as mandated by HB495 and the Montana Environmental Policy Act in its consideration of the project described below. As part of the review process, input and comments are being solicited. Please complete the project name and project description portions and submit this form to:

Jeri Duran, Director of Sales and Constituent Services  
Montana Office of Tourism  
301 S. Park Ave.  
Helena, MT 59601

**Project Name:** Bannack State Park Detention Pond Project

**Project Location:** Bannack State Park, Beaverhead County. Section 6, Township 8S, Range 11W.

**Project Description:**

FWP proposes building a detention pond in the upper portion of Hangman's Gulch on the north side of the historic town site at Bannack State Park as a flood prevention measure. Hangman's Gulch has been a historic path for flashflood events, and on July 2013 a particularly catastrophic flood occurred that caused millions of dollars in property damage and caused bodily injury to several visitors in the park. Bannack's importance and association with nationally significant events led to its designation as a National Historic Landmark in 1961. Today, Bannack State Park serves as a monument to the history of Montana and the United States and the potential for another catastrophic flashflood event warrants this action to preserve the site for future generations and protect current visitors from bodily injury or death.

1. Would this site development project have an impact on the tourism economy?  
NO                    **YES**                    If YES, briefly describe:

The impact should be minimal as construction will take place in the off season.

2. Does this impending improvement alter the quality or quantity of recreation/tourism opportunities and settings?  
NO                    **YES**                    If YES, briefly describe:

The project will close a portion of the Road Agent Rock Trail but it will only be temporary and by doing the work in the off season it should minimize the impact.

Signature     Jeri Duran