



MEMORANDUM

Project 22138

TO: Derrick Crane, P.E. - Natural Resources Conservation Service

FROM: Robert Huzjak, P.E. - RJH Consultants, Inc.

DATE: March 27, 2023

RE: Brush Creek Site 12 Dam Rehabilitation Planning – Initial Agency/Public Scoping Meeting Notes

This memorandum presents a summary of items discussed during the Initial Agency Scoping Meeting and the Initial Public Scoping Meeting held on March 7, 2023. The agency meeting was held from 3:00 PM to 4:00 PM and the public meeting was held from 6:30 PM to 7:30 PM. The meetings were held at the Gardner Center (241 Mercer Springs Road, Princeton, WV 24740) and virtually using Zoom meeting software. The agency and public scoping meetings are a requirement of the Supplemental Watershed Plan and Environmental Document for the Brush Creek Site 12 Dam Rehabilitation Planning (Project). The meetings were hosted by the Natural Resources Conservation Service (NRCS) and were supported by the Sponsoring Local Organizations (Sponsors – including Mercer County Commission, Southern Conservation District, and the West Virginia Conservation Agency), RJH Consultants, Inc. (RJH), and WSP Global, Inc. (WSP). The presentation was the same for both meetings and this memorandum is a summary of the meetings and is not intended to be a verbatim account of what transpired.

The following individuals conducted the presentation:

NRCS	RJH	WSP
Derrick Crane	Robert Huzjak	Ghazoll Motlagh

Purpose

The purposes of these meetings were as follows:

- Explain the Project background and purpose.
- Present the existing conditions of Brush Creek Site 12 Dam.
- Provide an overview of the Project scope and approach.
- Review Project goals and Project schedule.
- Discuss watershed resources that may be impacted by potential alternatives. Obtain feedback from attendees on the relative importance of various watershed resources.
- Obtain and document general feedback and concerns from attendees.

Attendance

Meeting notification and the link to the Zoom meeting were distributed to interested agencies, nearby landowners, posted in local and regional newspapers, and posted on social media prior to the meetings. Ten members of the local community and agencies attended the meetings. Representatives from the following agencies and affiliations were in attendance either in-person or virtually:

- NRCS
- West Virginia Region 1 Planning and Development Council
- Mercer County Commission
- Mercer County Emergency Services
- West Virginia Conservation Agency
- Southern Conservation District

Presentation

A PowerPoint slide deck was used to facilitate the meetings and share pertinent information with meeting attendees. The slides used in the meetings are provided in Attachment A. The following key notes from the presentation are sorted by slide topic and provide additional information or discussion items that are not already included on the slides in Attachment A.

Introduction

- The Watershed Rehabilitation Process consists of four phases: assessment, planning, design, and construction.
- The assessment phase of this project was completed in 2011 and was a high-level review of the watershed that identified concerns and deficiencies based on existing data at Brush Creek Site 12 Dam.
- The Project is currently in the Watershed Planning phase, which includes selecting alternatives and preparing the Plan Environmental Document (Plan ED). Funding has only been secured for this Planning phase.
- The intent of this meeting is to provide information on what we currently know about the dam and to obtain feedback from the stakeholders and the community about the dam. We also request your feedback on resources associated with the dam. This will allow us to evaluate the social, economic, and environmental impacts of alternative solutions.
- The meeting is intended to be interactive, let the presenters know if you have a question in person or online by raising a hand or writing your question in the online chat box.
- NRCS is the Lead Federal Agency of the Project. The Southern Conservation District, West Virginia Conservation Agency, and Mercer County Commission are the Project Sponsors, providing technical input to the Project and facilitating the immediate and long-term implementation of the Project. RJH is the lead engineering consultant on the Project, responsible for the technical analysis and deliverables. WSP is a subconsultant to RJH and is providing support to RJH for the environmental aspects of the Project.

Background

- The project is located in Southern West Virginia in Mercer County approximately 1.5 miles west of the City of Princeton.
- The dam was constructed as and remains a high hazard potential dam, which means that there would likely be loss of life if the dam were to fail catastrophically.

- The 2011 assessment report concluded that the auxiliary spillway would likely erode to the point of breaching, if activated. A breach would result in a rapid and uncontrolled release of the reservoir.

Benefit

- The dam primarily provides flood protection to downstream structures, residents, and roadways. The blue shaded area shows the area that would be flooded by a 24-hour, 100-year reoccurrence storm if the dam were not in place.

Dam Breach Inundation

- A dam breach inundation considers what happens if water in the reservoir overtops the dam causing the dam to fail. A large wave of water would flow downstream and the theoretical area that would get inundated is shaded in blue. The dam is classified as a high hazard potential dam because of these downstream consequences located within the blue shaded area. The regulatory and safety issue is not that the dam will fail, but if it would fail, what is at risk.

Watershed Rehabilitation Process

- The assessment phase has been completed and is not included on the slide.
- The planning phase identifies issues with the dam and what is needed to improve the conditions of the dam as well as other alternatives that include non-structural and decommissioning. All alternatives have to meet the purpose and need of the Project. Once alternatives are identified, the Sponsors select the preferred alternative to move forward into design.
- There are funding requests in between the Project phases. The time required to get through the process to construction completion is estimated to be 6 years or more because the start of each phase is dependent on the previous phase and then obtaining new funding and contracting the work.

Dam Components

- The dam is about 235 feet long and 44 feet high.
- The principal spillway passes routine flows and storm flows contained within the reservoir. It takes the peak off the flood such that the dam stores water so that flow is released slower through the outlet, which prevents or dramatically reduces flooding downstream.
- The auxiliary spillway is used to convey larger floods downstream so that the dam embankment is not overtopped. The 2011 assessment recommended further study to evaluate if the energy of the water in the auxiliary spillway might pluck rock and soil out of the auxiliary spillway, erode back toward the reservoir, and cause a large amount of water to be released from the reservoir.
- There may be other parts of the dam that might not meet current standards and design criteria have changed since the 1960's.
- One key activity that will be performed as part of this phase is to identify what are the current conditions of the dam and to identify what parts of the dam do not meet current standards. This work is currently in progress.
- We do not know how the dam will get modified yet, because the first step is to identify the current issues.

Phase 1: Goals, Objectives, Purpose and Need

- We have collected data to perform analyses like embankment seepage and stability. Laboratory data is currently in progress and will be used to support the analyses.
- Topography data has been collected below the water surface and up the hillslopes above the water.
- We are in the process of identifying how much sediment has collected in the reservoir, which will affect hydrologic design of the dam.
- The design will be providing a structure with an estimated 50- to 100-year life span.
- We are currently looking at flood events from the 5-year up to the Probable Maximum Flood (PMF). This is called inflow hydrology. Flood routing will be performed to see how the dam would pass the inflow from these various storm events. We also want to know what the downstream impacts are for the decommissioning alternative.
- There might be a need to modify the Purpose and Need Statement depending on the comments we get from the agency and public meetings. All alternatives need to meet the purpose and need.

Phase 2: Inventory and Analyze Resources

- Environmental resources include wetlands.
- Cultural resources include archeological and architectural evaluations.
- Economic and social impacts will be evaluated during the alternatives phase.
- Red box is the area around the impoundment that was considered for investigations.
- Historic archaeological/architectural evaluations consisted of shovel tests that are about 0.5 meter x 0.5 meter x 0.3 meter deep.

Phase 3: Alternatives Evaluation

- After we identify what the issues of the dam might be, we will identify alternatives to address these issues. The different alternative categories are summarized below.
 - No action/no federal investment Alternative: considers what happens if the NRCS does not provide funding for project. Generally this means that the risk continues to be present. This alternative is used to evaluate other alternatives against.
 - Decommission Alternative: removal of dam and put the stream back to the original conditions. This would remove the flood protection provided by the dam and could include another form of flood protection.
 - Structural Alternative: repairs to the dam. There will likely be multiple alternatives.
 - Non-structural Alternative: changes to downstream floodplain that reduces the impacts such as relocating structures, widening the floodplain, etc.
- The team will estimate costs and evaluate impacts to resources for the alternatives identified.
- Sponsors, with some input from the NRCS, select the preferred alternative to move forward with the Project. Then there will be another public meeting to present the alternatives, costs, and impacts, and to solicit input on the preferred alternative.

Phase 4: Prepare Plan-Environmental Document

- The Plan ED is a comprehensive report at the end of the planning phase which contains: existing conditions, technical evaluations, engineering, social impacts, environmental impacts, costs, etc. This document provides the NRCS and the Sponsor data they need to decide how to advance the project.

Agency and Public Input

- There will be three public meetings, including the one today.

Discussion on Possible Benefits & Considerations

There were no comments or questions during the public meeting. The questions and comments received during the agency meeting are summarized as follows.

- The participants expressed interest in better understanding the flood protection provided by the dam. Particularly, how much flood protection is provided to the hospital and Stafford Drive area given the 100 and 500 year reoccurrence storms? Stafford Drive experiences periodic flooding during storm events. There are likely development plans for these areas.
 - The risk for flooding of these facilities will be evaluated during this study.
- A few people use the reservoir for fishing but there is no parking area, the access slope is steep, and the dam and reservoir are on private land. Recreation was identified as a liability. The agencies and sponsors do not have a strong opinion about maintaining a permanent pool; however, some of the nearby landowners may care. At least one adjacent landowner contacted the NRCS requesting the permanent pool be maintained.
- The agencies/sponsors do not have a need to maintain the access road through the auxiliary spillway but the landowner likely will need continued access to the livestock and buildings on the property.
- Brush Creek is a tributary to the Bluestone River which has an approximate 10-mile length designated as “wild and scenic.” This is the only “wild and scenic” waterway in West Virginia.

Public Input on Resources

- Presenters led the meeting attendees through a worksheet to obtain feedback on the relative importance of various natural resources that could be improved/impacted as part of the Project. A discussion explaining each resource or giving examples was provided to help attendees fill out the resources form. Attendees were encouraged, but not required, to fill out the form in a manner that reflects their personal opinions.
- The resources inventory form was uploaded to the Zoom meeting chat so online participants could download, fill out, and return to Derrick Crane. The resources inventory form is provided in Attachment B. A summary of the results from the agency and public meetings that show how many attendees ranked the relative importance of each resource is presented in Attachment B. Not every attendee returned the completed resources inventory form and not every resource was completed.

Open Discussion

- There were no additional comments or questions.

RJH Closing Comments

- We are helping to facilitate your Project moving forward. We need to make sure it is safe and meets standards but it is up to you and the comments you provide to make it what your community needs.

NRCS Closing Comments

- Concerns and comments are due by April 7 but are also welcome after this. Please submit them so we can get them to the Project team. The earlier comments are provided during the Project the better and easier it is to address them.

Attachments:

A. Meeting Slides

B. Resources Inventory Form and Results

ATTACHMENT A: MEETING SLIDES

Brush Creek Site
12 – Plan-
Environmental
Document

Public Scoping Meeting
March 7, 2023, 6:30-8:00
PM

Gardner Center
241 Mercer Springs Road
Princeton, WV 24740



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Meeting Agenda

1. Logistics and Introduction
2. Background
3. NRCS Watershed Rehabilitation Program and NEPA Process
4. Purpose and Need
5. Overview of Scope of Work
6. Agency, Property Owners, and General Public Concerns
7. Discussion

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Meeting Logistics

- Instructions to **Meeting Attendees**

- Instructions to **Online Attendees**

- Muted and unable to speak.
- Chat function is enabled and being monitored.
- Add name, address, and email/phone number to the meeting chat.



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Introductions

Lead Federal Agency

USDA Natural Resources Conservation Service (NRCS)



- Derrick Crane, P.E. | *Project Lead*
- Andy Deichert, P.E. | *State Conservation Engineer*

Project Sponsors

Southern Conservation District, West Virginia Conservation Agency and Mercer County, WV



- Gene Buckner, Greg Puckett, and Bill Archer | *Mercer County Commissioners*
- Randall Patton | *Southern Conservation District*
- Edward Cox | *West Virginia Conservation Agency*

Consultant Lead

RJH Consultants, Inc.



- Robert Huzjak, P.E. | *Project Manager*
- Ezra Stockton, P.E. | *Project Engineer*

Environmental Consultant

WSP USA

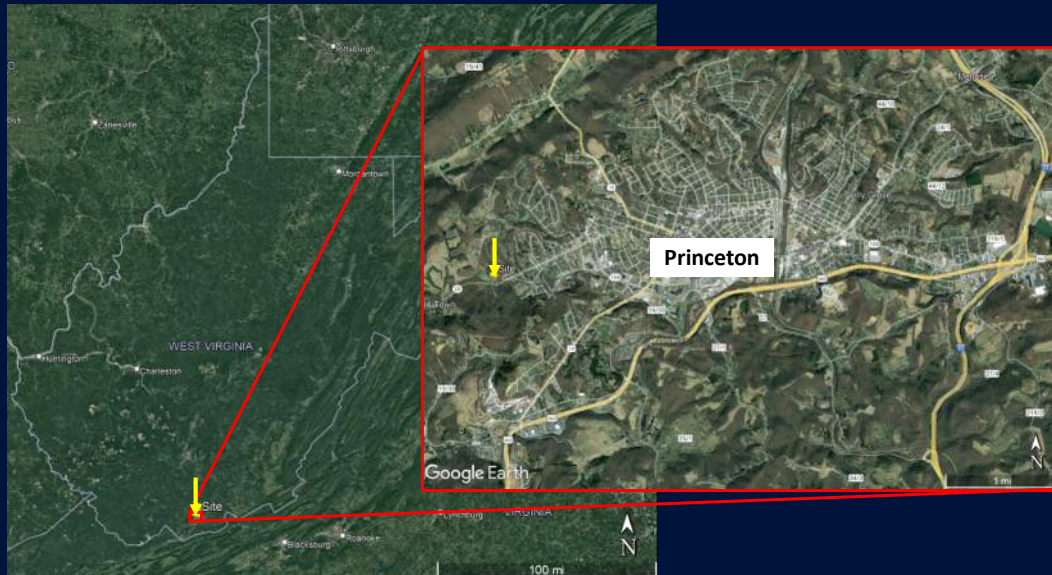


- Ghazoll Motlagh, P.E., CFM | *Project Manager*

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Project Location



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Project Location



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Background

- Designed and built in 1965 as a **high hazard potential** dam for the purposes of flood protection.
- 2011 Condition assessment indicated the dam **does not meet** current design standards and the spillway would likely erode leading to a dam breach if activated.

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Benefit – No Dam 100-year Flood



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Dam Breach Inundation



Dam breach would impact:

- About 515 people
- 200 residences
- Several commercial buildings
- 15 secondary/county road stream crossings
- Several roadways

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Watershed Rehabilitation Process



This project is currently in the Watershed Planning phase, which involves:

- Identify the purpose and need.
- Identify and gather data on dam safety concerns.
- Evaluate key resources.
- Evaluate potential solutions.
- Determine if federal funding should be pursued to implement solutions.

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Purpose and Need

Purpose

- Provide flood damage reduction
- Improve safety and reduce loss of life potential

Need

- Address dam safety and performance deficiencies
- Reduce potential loss of life
- Continue to provide flood damage reduction



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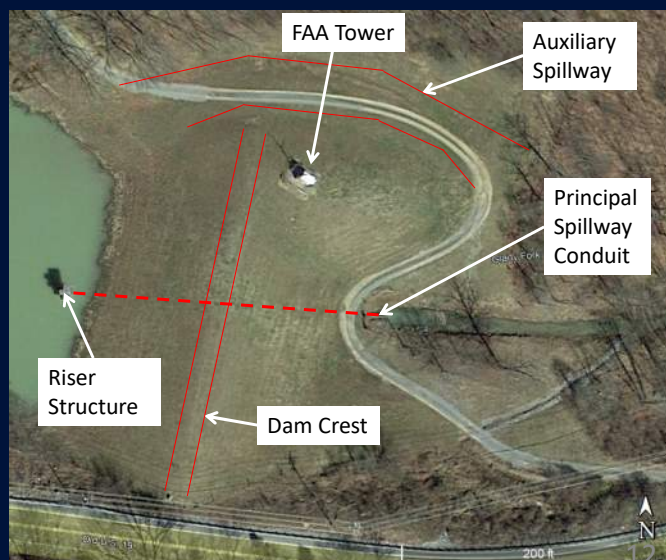
Dam Components

Auxiliary spillway

- Likely erode during high flows

Embankment stability and seepage

- May need modifications to meet current standards



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Scope of Work

Project Planning Phases

- Phase 1: Goals, Objectives, Purpose and Need
- Phase 2: Inventory and Analyze Resources
- Phase 3: Alternatives Formulation
- Phase 4: Prepare Final Plan-Environmental Document

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Phase 1: Goals, Objectives, Purpose and Need

- Compile and Review Existing Data
- Collect Additional Data
 - Subsurface investigation - complete
 - Topographic Survey - complete
 - Sediment Survey - complete
 - Flooding Evaluations – in progress
 - Public Participation – in progress
- Define Purpose and Need



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Phase 2: Inventory and Analyze Resources

- **Inventory Resources**

- Environmental
- Economic
- Cultural
- Social

- **Analyze Identified Resources**

- Field Investigations
- Local Research
- Desktop Analysis
- Evaluate Potential Impacts



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Wetlands and Endangered Species

Wetlands

- 7.3-acre open water impoundment
- 0.2-acre adjacent fringe scrub-shrub wetland

Endangered Species

- Potential limited foraging habitat for listed bats
- Limited roosting habitat for Indiana bat, northern long-eared bat, and tri-colored bat.
- Limited habitat for Monarch butterfly



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Historic Architectural and Archaeological Surveys

- Background research revealed no previously recorded sites
- 10 Shovel Tests were excavated in testable areas
- **No new** archaeological sites were identified as a result of this survey



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Phase 3: Alternatives Formulation

- **Identify and formulate reasonable alternatives**
 - Evaluate impacts to resources
 - Cost Estimates
 - No-action
 - Decommission
 - Structural
 - Non-structural
- **Identify the preferred alternative**

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Phase 4: Prepare Plan-Environmental Document

- Compile **collected data** for existing structure
- Identify and **evaluate alternatives**
- Identify and evaluate **impacts of alternatives**
- Select **preferred alternative** with public input



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Agency and Public Input

- Three scheduled opportunities for public and agency input:
 - **Initial Public/Agency Scoping Meeting - today**
 - Provided: Project introduction
 - Requested: Input on objectives, alternatives, and prioritization
 - **Alternatives Meeting**
 - Provided: Report on how input was incorporated and presentation of alternatives
 - Requested: Input on selected alternative
 - **Plan-Environmental Document Review Meeting**
 - Provided: Review of the Plan-Environmental Document
 - Requested: Comments on the Plan-Environmental Document

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Discussion on Possible Benefits & Considerations

- Possible benefits and other considerations while developing alternatives
 - Increased flood protection
 - Permanent pool?
 - Improved access
- Landowner considerations?
 - Access through auxiliary spillway
- Other considerations?

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Public Input on Resources

Public Involvement

What resource opportunities/impacts are of particular importance?

Are there any other known opportunities or impacted resources?

General concerns or comments?

Resource List

- | | | |
|----------------------|---------------------------------|--------------------------|
| • Wetlands | • Land Use | • Scientific Resources |
| • Critical Habitat | • Migratory Birds | • Soil Resources |
| • Floodplains | • Natural areas | • Water Quality |
| • Recreation | • Parklands | • Water Resources |
| • Cultural Resources | • Prime and Unique Farmland | • Wild and Scenic Rivers |
| • T&E Species | • Riparian Areas | • Waters of the US |
| • Fish and Wildlife | • Public Health and Safety | • Social Issues |
| • Forests | • Regional Water Resource Plans | • Other... |
| • Invasive Species | • Scenic Beauty | |

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Open Discussion/Questions



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Next Steps

- **Initial Public/Agency Scoping Meeting (Today)**
 - Public comments due to NRCS by April 7, 2023
 - NRCS will publish:
 - Public Participation Plan, Meeting Notices, Meeting Invitation and Attendees, Meeting Notes, Public Comments
- **Alternatives Development**
 - Consider information from Public and Agency meetings
 - Refine purpose and need as appropriate
 - Develop alternatives and evaluate impacts
 - Identify preferred alternative
 - Next public meeting (alternatives presentation and solicit input)

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Schedule

Evaluate existing conditions	Spring 2023
Identify and Evaluate alternatives	Spring and Summer 2023
Alternatives Meeting	Summer 2023
Public review of draft documents.	Summer 2024
Public review of final documents.	Summer 2024
Planning Completion	Winter 2024

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Closing Comments

Final Thoughts

- Planning phase of a bigger project.
- Schedules and timelines are targets, not rigid.
- The participation of public and agencies is voluntary **BUT CRITICAL TO A SUCCESSFUL PROJECT.**
- The project is intended to reflect the values and opinions of the local agencies and community whenever possible.
- Project webpage: <https://www.nrcs.usda.gov/conservation-basics/conservation-by-state/west-virginia/news/public-meeting-on-march-7-brush-creek>

Contact Derrick Crane with the NRCS:

- Email: derrick.crane@usda.gov
- Phone: (304) 943-9557

Comments/Questions are due to Derrick Crane by: **Friday April 7, 2023**

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ATTACHMENT B: RESROUCES INVENTORY FORM AND RESULTS

Resource Concerns – Scoping Meeting Brush Creek Site 12 Plan-Environmental Document March 7, 2023

Name (Optional): _____

Results are shown in red. Numbers indicate how many attendees ranked the importance of the resource. Not every attendee submitted the resource inventory sheet and not every resource was completed.

ITEM/ CONCERN	How Important is this Resource in relation to the Project?			Why?
	Not	Little	Very	
Wetlands	1	4	5	
Critical Habitat	2	4	4	
Floodplains	0	1	9	
Recreation	5	5	0	
Cultural Resources	6	2	2	
Threatened and Endangered Species	2	5	3	
Fish and Wildlife	4	3	3	

Resource Concerns – Scoping Meeting
Brush Creek Site 12 Plan-Environmental Document
March 7, 2023

ITEM/ CONCERN	How Important is this Resource in relation to the Project?			Why?
	Not	Little	Very	
Forests	4	5	1	
Invasive Species	4	3	3	
Land Use	5	1	4	
Migratory Birds	3	6	1	
Natural Areas	2	7	1	
Parklands	4	6	0	
Prime and Unique Farmland	6	2	2	
Riparian Areas	3	4	1	

Resource Concerns – Scoping Meeting
Brush Creek Site 12 Plan-Environmental Document
March 7, 2023

ITEM/ CONCERN	How Important is this Resource in relation to the Project?			Why?
	Not	Little	Very	
Public Health and Safety	1	0	9	
Regional Water Resource Plans	3	3	4	
Scenic Beauty	2	7	1	
Scientific Resources	4	6	0	
Soil Resources	4	4	2	
Water Quality	2	3	5	
Water Resources	3	4	3	
Wild and Scenic Rivers	4	2	4	

**Resource Concerns – Scoping Meeting
Brush Creek Site 12 Plan-Environmental Document
March 7, 2023**

ITEM/ CONCERN	How Important is this Resource in relation to the Project?			Why?
	Not	Little	Very	
Waters of the US	3	2	3	
Social Issues	5	3	0	
Other	0	0	1	One participant wrote in maintaining the FAA tower on the crest of the dam.