

TOWN OF BRECKENRIDGE
OPEN SPACE ADVISORY COMMISSION
Monday, November 17, 2014
Lower Level Conference Room
Breckenridge Town Hall
150 Ski Hill Road

5:30	Call to Order, Roll Call	
5:35	Discussion/approval of Minutes – September 22, 2014	6
5:45	Discussion/approval of Agenda	
5:50	Public Comment (Non-Agenda Items)	
6:00	Staff Summary	2
	<ul style="list-style-type: none">• Field Season Update• Forest Health Projects Update	
6:15	Open Space	
	<ul style="list-style-type: none">• Town Council Budget Retreat Follow Up• Swan River Restoration Project Discussion• BOSAC Retreat Discussion	2 3, 10 5
7:30	Executive Session	
8:00	Adjourn	

For further information, please contact the Open Space and Trails Program at 970-547-3155 (Scott) or 970-453-3371 (Chris).

Memorandum

To: Breckenridge Open Space Advisory Commission
From: Open Space Staff
Re: November 17, 2014 Meeting

Staff Summary**Field Season Update**

The summer field season is almost complete and seasonal trail crew members are wrapping up the final open space and trails tasks. Recently completed projects include:

- Finalize and sign ZL Trail for the year.
- Repair Slalom Trail from brake bumps and logging impacts.
- Complete interpretive spur and primary route on Wirepatch Trail.
- Remove wooden features adjacent to pump track.
- Remove hazard trees along French Gulch routes.
- Install gates and signs and clean up Laurium and Candler open space properties.

2014 has been another highly productive year for the trail crew. A final report summarizing this year's projects and volunteer initiatives will be presented to BOSAC in December.

Forest Health Projects Update

Iowa Hill tree removal work is complete and the Iowa Hill Trail has reopened. Two small fuel reduction projects in the Highlands area (along the Middle Flume Trail) were also recently undertaken; one is already complete and the other will be finished in spring 2015 due to weather concerns and sensitive soils.

The larger scale Golden Horseshoe open space forest health projects have begun in earnest. The planned tree removal projects near the Preston Townsite have concluded, as have the tree removal projects on the adjacent National Forest lands. Together, these projects should diversify the area age-class structure and species composition while also providing defensible space for area homes and public infrastructure. The final open space cutting unit to be addressed is along Rac Jac Way above Summit Estates. Work has begun on this 25-acre unit and is scheduled to be completed by year's end.

Open Space**Town Council Budget Retreat Follow Up**

On October 28th, Council held its annual budget retreat to discuss the 2015 town budget, including the open space fund. In general, Town Council approved the 2015 budget as previously presented to BOSAC. However, Council also requested BOSAC evaluate potential future budget surpluses in the pro forma and prioritize ways to address Town open space goals with these potential surplus funds. Specifically, Town Council highlighted early debt retirement, property acquisition, and river restoration as priority open space program goals to be addressed via the open space fund.

Staff requests BOSAC hear Councilmember Lawrence's update on the Town Council budget retreat and if necessary ask any clarifying questions regarding Council's direction. Then, we suggest the BOSAC initiate discussions by taking a broad view of Town open space priorities and the types of expenditures that would best enhance the open space program.

As a starting point, staff offers the following brief summary of the priority land conservation values established by BOSAC and Town Council in the [2007 Open Space Plan](#):

- Environmentally sensitive areas (including wetlands, perennial waterways, riparian corridors, alpine zones, etc.)
- Wildlife habitat
- Recreation land
- Other lands (including gateway, scenic, backcountry, historical and urban buffer properties)

In addition, the Open Space Plan also prioritizes stewardship efforts to be undertaken by the program as follows:

- Natural resource efforts (including protection of open space values, ecological restoration, environmental enhancement, education and interpretation, forest health management, and monitoring)
- Recreation efforts (including trails, trailheads, signage and small structures)
- Other activities (including invasive species eradication, scenic backdrop maintenance, storm water treatment, developed recreation facilities, and historical resource protection).

With these concepts provided as background and previous policy direction, staff requests BOSAC address the following questions:

- 1. What does BOSAC identify as the highest program priorities to be addressed with any potential future open space fund surpluses?*
- 2. With a list of high priorities for expenditures, are there geographic areas where those expenditures should be focused? For example, assuming river restoration is a high priority, which river stretches should Town open space funds prioritize?*

Swan River Restoration Project Discussion

As previously [discussed](#) with BOSAC, work on the Swan River restoration project has been ongoing for several years. The project, intended to recreate a functioning river and riparian corridor in a formerly dredged landscape, is focused on joint Town/County open space property, National Forest lands, and private property in the Swan River valley. The long-term goal is to reestablish a circuitous, above-ground river that supports riparian vegetation and, ultimately, a meta-population of the Colorado River cutthroat trout.

A coalition including representatives from the Blue River Watershed Group, U.S. Forest Service, Summit County Government, Town of Breckenridge, Trout Unlimited, Friends of Dillon Ranger District, L.G. Everist, private landowners, and others has been formed

to establish a vision and execute the Swan River restoration plan. This group has been meeting monthly and is moving into a more active fundraising and river restoration mode.

To date, the Swan River restoration project has involved acquiring valley bottom open space lands, designing a general river restoration plan, removing dredge piles to establish rough grades, placing a topsoil cover, and reseeded the site. The 2014 goal, to which BOSAC and Town Council committed \$30,000 of open space funds, was to realign Muggins Gulch Road to avoid wetlands, install a fish barrier and box culvert, and enhance river function by reducing the number of road crossings. Unfortunately, this project did not come to fruition in 2014. Instead, the coalition opted to include the Muggins Gulch Road realignment concept in a broader Phase 1 restoration to include 3,500 feet of new river restoration on the joint Town/County open space properties. The estimated \$2 million project would complete a portion of the restoration vision and provide a model for future upstream restoration on open space, private property and National Forest lands.

To accomplish Phase 1 of the Swan River restoration project, the coalition is pursuing funding from all available sources. Currently, Summit County Government has committed \$200,000 in Denver Water settlement funds and \$300,000 from the recently passed 1A fund, totaling \$500,000. Grants are also being pursued from multiple grant sources, including the Colorado Watershed Conservation Board, EPA Brownfields program, Climax Molybdenum, and Fishing is Fun. The Town of Breckenridge previously committed \$30,000 to the 2014 Muggins Gulch road realignment project which was not completed. BOSAC should anticipate Summit County staff and other coalition members requesting additional funds from the Town open space program to help cover restoration costs and demonstrate the Town's support for the Swan River restoration project.

Attached please find detailed information on Phase 1 of the Swan River restoration project, including a budget and map of the overall restoration effort. Brian Lorch from Summit County Government will also be available during the BOSAC meeting to discuss project specifics. During the discussion, BOSAC should keep in mind that other potential river restoration efforts on McCain, Block 11, and potentially even French Gulch, are closer geographically to Town and will likely also require open space funding in the coming years.

Staff requests BOSAC review the attached information, listen to the staff presentation, and be prepared to answer the following questions:

- 1. Does BOSAC have any clarifying questions regarding the Swan River restoration project?***
- 2. Does BOSAC have any initial thoughts for Town Council regarding the Town's support for the Swan River restoration project?***

BOSAC Retreat Discussion

On October 29th, BOSAC held a retreat and visited Sky Mountain Park near Aspen. Staff members from Pitkin County Government, the City of Aspen, and the Town of Snowmass Village guided BOSAC members and staff on a mountain bike tour of the trails in Sky Mountain Park and discussed governmental partnership models, seasonal closures, dog prohibitions, trail design and construction, and open space management planning. The discussions were wide-ranging and fruitful, and provided staff with insight on how other open space programs accomplish similar goals.

Staff requests BOSAC members share their perspective on the retreat, including lessons learned and ideas for future retreat locations and topics.

Roll Call

Jeff Cospolich called the September 22, 2014 BOSAC meeting to order at 5:47 pm. Other BOSAC members present included Chris Tennal, Elisabeth Lawrence, Jeffrey Bergeron, Elizabeth Miller, Jeff Carlson and Craig Campbell. Staff members present were Peter Grosshuesch, Scott Reid, Mark Truckey and Chris Kulick. Brian Lorch from Summit County Open Space and Trails and Pat McShane, a Breckenridge resident, were also in attendance.

Approval of Minutes

The minutes were approved as presented.

Public Comments

Ms. McShane – What is going on with Yellow Brick Road? I have used it for years and recently saw new trail posts, only to have the posts removed last week. Would you please update me on the status of Yellow Brick Road?

Mr. Reid – Yellow Brick Road is an historical road that is included on maps since the late 1800s and early 1900s. The County, under C.R.S 2477 had rights to roads and “thoroughfares” established for long periods of time. The County believes that the road is a public road open to public access and the landowner of the Friday Lode disagrees. The County staff and attorneys are working with the landowner to settle the dispute and removal of the signage was a gesture of good faith in the negotiations. The landowner has committed to removing the barriers, cable and signage this week as a response in kind. The landowner’s primary issue as I understand it is that the road/trail access goes right in front of their house. We are looking at a comparable trail location behind the house to deal with the public access and proximity concern. The landowner is also concerned about the proposed Weber Gulch hut parking lot. This is a USFS decision, however. If it all works well, the posts and trail access will be reinstated in a location that is satisfactory to all parties.

Mr. Lorch – This is part of a standstill agreement between the County and the landowner. We hope to have a resolution to this issue in the near future.

Staff Summary

Field Season Update

Work has continued on multiple summer projects on the 2014 work plan. The following has occurred since the previous 8/18 BOSAC meeting:

- Completed and opened B-Line Trail to Hermit Placer Trail.
- Constructed new portions of the ZL Trail, including several bridge spans and chicanes/entry posts.
- Completed Sallie Barber Road drainage repairs.
- Improved Side Door drainage on historic alignment.
- Installed signage throughout trail system.
- Planned and designed new trail projects for the 2014 and 2015 construction seasons (e.g. Aspen Alley, Weber Gulch, Wirepatch, and Mineral Hill).

Mr. Reid – Most of this work was completed jointly with Summit County. I would encourage you to visit the new trails.

Friends of Breckenridge Trails Update

On September 13th, over 20 volunteers assisted with the construction of ZL Trail as part of Make a Difference Day. Significant progress was made on ZL and the trail crew is finalizing the route. Vail Resort's EpicPromise Day, with an estimated 220 volunteers, occurred for September 20th and completed the Wirepatch Trail in upper French Gulch.

Rocky Mountain Recreation and Wilderness Preservation Act Update

Attached is the Town Council letter of support regarding Congressman Polis' recent wilderness bill. Council appreciated BOSAC's input on this issue.

Weber Gulch Hut Update

At its August 26th discussion, Town Council agreed with BOSAC's recommendation to not object to the U.S. Forest Service (USFS) draft record of decision regarding the Weber Gulch hut. The USFS will respond to all objections filed before September 12th and then issue a final decision regarding the hut in the coming months.

Forest Health Projects Update

The Iowa Hill forest health project should be completed by 9/22. The Golden Horseshoe project started on September 22nd and will likely continue until snowfall prevents further work. Staff will update BOSAC on any progress regarding these projects.

Mr. Bergeron – In terms of forest health, is better to let nature take its course instead of removing the fuel? (Mr. Grosshuesch – The USFS is treating areas in the wildland urban interface (WUI) and leaving more remote areas alone.)

Friends of the Dillon Ranger District

Mr. Reid – We should anticipate another grant request from the FDRD in the coming months. BOSAC should consider which projects in Breckenridge's backyard should be priorities on the National Forest.

Mr. Bergeron – In the interest of directing users through the appropriate corridor and to avoid conflict with adjacent neighbors, I would encourage the FDRD to install blue diamonds along the McCullough Gulch trail.

Open Space

Reiling Dredge Preservation Master Plan

Staff presented a draft version of the Reiling Dredge Preservation Master plan and an accompanying memo from the September 9th Town Council meeting. Town Council reviewed the plan in advance of the September 23rd Breckenridge Heritage Alliance joint meeting which determines 2015 capital expenditures. As you can see by the memo, the Town and County have reached a decision point regarding stabilization costs for the dredge itself.

During the discussion, Council directed staff to pursue stabilization of the dredge boat structure by clearing the deck of soil and vegetation and shoring up rotten decking portions. Staff will also evaluate the feasibility and cost of raising the water level of the pond, as outlined in the Preservation Master Plan. The total stabilization costs for phase I have been estimated at \$110,000, with portions

of those costs coming from the open space fund and the Breckenridge Heritage Alliance 2015 capital fund. Town Council also asked Summit County to split the stabilization costs 50/50. Phase I of the stabilization will address the most pressing issue of the dredge (structural decay) and allow for future phases to be considered. This project and its costs will be discussed by OSAC at their October meeting.

Town Council and the Board of County Commissioners also agreed to postpone any decision regarding National Historic Landmarking and river restoration.

Mr. Campbell – Who came up with the budget for the project? (Mr. Grosshuesch – SlaterPaull, the report’s consultant came up with the budget.)

Mr. Bergeron – Did I miss the option to remediate the stream corridor? That would require a lot of truck trips down CR 450. (Mr. Reid – That option was not really part of this preservation master plan. However, that idea is still on the table even given the challenging logistics. We are focused on the Swan River restoration for the foreseeable future, but it seems prudent to keep a French Creek stream restoration as a future option.)

Mr. Campbell – How many dredge boat sites remain in the County (Mr. Reid – Three with any remainder of the boat.)

Mr. Campbell – I question the value of preserving the environmental degradation that was caused by the dredge boats. I would prefer to spend the money on stream restoration.

Mr. Carlson – What does “some degree” of restoration mean? (Mr. Grosshuesch – It means stabilization.)

Mr. Tennal – With the historical designation were laid over the area how reversible is that. (Mr. Even with a National Landmarking you could do a stream restoration. However any action will require 404 and 106 review from the Army Corps and allow comment from the Historic Folks. How the Army Corps would utilize those comments is unknown.

Mr. Lorch – We need to figure out how we use this master plan because if we start using it for funding or whatever, it will start to lend it credibility despite it being very one-sided.

Mr. Campbell – Is there a value in the historic designation? (Mr. Grosshuesch – Hypothetically, however we don’t know what it is.) (Mr. Reid – The rock also as value.)

Mr. Bergeron – I’m all for committing money to restore the dredge. I would prefer to not have hundreds of trucks driving down French Gulch Road. Please ignore the State so we can do it as we see fit.

Mr. Tennal – I’m all for river restoration in French Gulch so I don’t want us locked into a plan or landmark that goes against that goal. I’m not necessarily against the stabilization of the dredge and would support some minimal stabilization. We should use the interpretation as more of a cautionary tale than to glorify it.

Ms. Miller – I agree with many of Mr. Tennal’s comments. I would love it to look like four mile but am worried about the truck traffic. I don’t see the need to preserve all that rock to give an idea of what it looked like. I would support some minimal amount of stabilization.

Mr. Campbell – The trade off of preserving the site isn’t worth preventing a possible stream restoration. I would support a minimal amount of stabilization next year.

Mr. Bergeron – Is there any threshold where you wouldn’t support restoration. (Campbell, Miller, Tennal – whatever it takes.)

Mr. Carlson – I agree to stabilization and want to keep the option open for river restoration.

Mr. Cospolich – I support stabilization but question raising the water but it seems like it would obscure interpretation. I would love to see the valley restored but question the feasibility of the restoration. It seems it may be an insurmountable obstacle. (Mr. Lorch – above Country Boy it would be very similar to the Swan River. Most of the options do not get into water quality issues.) I question if a National Register designation would really boost visitation.

Staff requests BOSAC familiarize themselves with the attached report and memo, and then answer the following questions:

1. *Does BOSAC have any questions regarding the content of the draft Preservation Master Plan and its recommendations?*
2. *Does BOSAC have any questions for staff regarding the policy direction from Town Council?*

2015 Budget/Pro Forma

Mark Truckey will review the revised open space pro forma as part of the ongoing 2015 budgeting process.

Executive Session

Ms. Miller – Motioned to move into Executive Session at 7:21 pm to discuss property acquisition negotiations.

Mr. Tennal – seconded the motion.

Mr. Cospolich – Made a motion to come out of Executive Session at 8:23 pm. Mr. Carlson seconded the motion.

Next Meeting

The next regularly scheduled meeting is on Monday, September 22, 2014, at the Breckenridge Town Hall, 150 Ski Hill Road. The next meeting is scheduled one week later than normal due to staff attending the annual Colorado Open Space Alliance conference.

Mr. Tennal motioned to adjourn the meeting, which was seconded by Mr. Bergeron.

The meeting was adjourned at 7:33 p.m.

Jeff Cospolich, Chair



MEMORANDUM

TO: Town Council
FROM: Scott Reid, Open Space and Trails Planner
DATE: January 22, 2014 (for the January 28, 2014 meeting)
SUBJECT: Swan River Restoration Project

Summary:

The Swan River Restoration is an ambitious, multi-jurisdictional river restoration undertaken by the U.S. Forest Service, Summit County Government, Town of Breckenridge, the Blue River Watershed Group, and several private partners to restore habitat connectivity and natural characteristics to the dredged portions of the Swan River drainage. Partnership efforts on this long-term project are ongoing, and staff seeks to update Council on the project vision and recent progress.

Background:

During the gold rush era of Summit County (late 1800's-1920's), at least nine dredge boats operated along valley bottoms in the Blue River, Swan River, and French Creek drainages in and around Breckenridge. At the time, dredge boats were cutting-edge technology used to extract "free gold" from ancient river cobbles and valley bottoms. Dredges systematically overturned valley bottoms to reach bedrock and collect the gold that over eons had sifted down through river cobbles and settled on bedrock. The relentless pursuit of gold left a legacy of cobble-strewn valleys largely devoid of a defined river channel, riparian corridor, or even vegetative growth.

Since the dredge boats ceased operations, many of the remaining "spooned" piles have been removed, processed, and sold for road building and other construction purposes (e.g. the McCain property, Wellington neighborhood). Over the past decades, the Town of Breckenridge and Summit County Government have undertaken multiple stream restoration projects designed to improve stream connectivity and function, enhance riparian vegetation, restore fisheries, and improve recreation along the Blue River. The Blue River and Fourmile Bridge restoration efforts are two illustrative examples of these previously successful restoration efforts.

With the acquisition of the 1,800-acre B&B Mines open space property by the Town and County in 2005, an opportunity to restore portions of the Swan River valley arose. In addition, the U.S. Forest Service (USFS) identified the Swan River as a suitable location for restoration of a meta-population of state-level, threatened Colorado cutthroat trout. To accomplish this goal, the government partners (USFS, County and Town) are working cooperatively with the Blue River Watershed Group and supportive local landowners to restore the upper reaches of the Swan River, and to leave a restoration legacy and a functional riverine environment.

The specific goals of the Swan River restoration effort include:

- Improve fisheries and aquatic habitat
- Create riparian and terrestrial habitat
- Restore natural aesthetics in the valley
- Create recreational opportunities
- Reduce road impacts
- Reduce the potential for water quality degradation
- Provide a model for future restoration projects

This project vision is strongly supported by the Town and County open space commissions, who have assisted staff in pursuit of cost-effective planning and implementation of the project. To date, the following measures have been taken to complete the long-term restoration vision:

1. Solicited and received project support from affected landowners.
2. With grant support, completed a river and restoration design for the portions of the Swan River on joint Town/County open space.
3. Coordinated efforts to seamlessly merge open space restoration plans with USFS-based design plans on private property and National Forest.
4. Renewed a mining permit to help remove surface gravels to reach appropriate river and riparian elevations.
5. Partnered with neighboring developers (Muggins Gulch) to exchange surface gravels for excavation work, topsoil, and seeding.
6. Closed (USFS) unsustainable routes and educated users regarding recreational impacts to riverine health.

Additional work will take several years, and will include:

- Working with multiple partners to continue removing and selling gravel to reach appropriate river and riparian grades,
 - Realigning Muggins Gulch Road to reduce river crossings, installing an open-bottomed box culvert to improve hydrological connectivity,
 - Defining and constructing a sinuous river channel, establishing trail-based recreational and river access, and
 - Revegetating the riparian corridor to improve water quality and wildlife habitat.
- All of these measures will occur through partnership support.

In a recent [referral](#), the USFS sought feedback on its plan to dovetail the broader Swan River stream restoration with the current Town/County efforts downstream. Staff has drafted the attached letter of support in response to the USFS request for comment.

Staff will provide a brief Powerpoint presentation on the Swan River restoration at the January 28th meeting. We request Council review the attached information and respond to the following questions:

1. ***Does Town Council have any questions about the goals or scope of the overall restoration project?***
2. ***Does Town Council have any questions or concerns about the USFS referral and attached letter of support from the Town?***

Exhibit A
Statement of Work

WATER ACTIVITY NAME – Swan River Restoration Project

GRANT RECIPIENT – Summit County Open Space & Trails

FUNDING SOURCE –

Colorado Basin account: \$47,500. Water Supply Reserve account: \$902,500

INTRODUCTION AND BACKGROUND

Provide a brief description of the project. (Please limit to **no more than 200 words**; this will be used to inform reviewers and the public about your proposal)

The Swan River has been significantly impacted by past mining activities. The existing condition of the Swan River valley project area consists of dredge piles and a stream that runs subsurface for a majority of its length. A collaborative effort between Summit County, Blue River Watershed Group, Town of Breckenridge, and the US Forest Service developed a Preliminary Design Plan Report to restore the entire project valley. The purpose of the project is to restore the stream, riparian, and upland corridor to a natural, highly functional riverine system. The total length of the river to be restored is approximately 12,200 feet; this application is for the first phase of work, which includes approximately 3,500 feet of river.

The project includes creation of a meandering channel approximately 25-30 feet wide, containing a variety of fluvial and habitat features. Areas adjacent to the stream will be reclaimed as a natural riparian zone and upland allowing for trails and fishing access. Aquatic migration will be enhanced by addressing two existing road crossings in the Phase I project reach. One crossing will be eliminated and the other upgraded to pass necessary flows while simultaneously acting as a fish barrier. This barrier will help facilitate the reintroduction of native cutthroat trout.

OBJECTIVES

Project objectives include:

1. Re-create desirable stream, riparian and upland habitat characteristics believed to have existed before early mining practices
2. Repair the stream so that it once again flows along the surface, rather than subsurface
3. Create a stream channel with morphology resembling reference conditions for a stream in a broad sub-alpine valley
4. Allow periodic flooding sufficient to support riparian habitat
5. Establish habitat for fish and other aquatic species
6. Remove an existing road crossing
7. Improve an existing road crossing
8. Develop a fish barrier that allows native cutthroat populations to be reestablished in the upper Swan River drainage
9. Provide a successful model of natural stream restoration for implementation of future phases.

TASKS

TASK 1 – Contracting and project management

Description of Task

This task includes all of the project management, coordination, contracting, financial oversight, and progress reporting that would be accomplished by Summit County Open Space and Trails (OS&T).

Method/Procedure

OS&T, with help from other partners, would identify and retain a design/build contractor to complete major tasks, as described below, and would coordinate with volunteer groups. OS&T would negotiate and oversee all contracts and volunteer agreements, track and report on progress for each task, and manage all financial aspects of the project.

Deliverable

This effort will produce written agreements with every contractor involved in implementing the restoration project. Additionally, this effort will produce detailed accounting documents and progress reports.

TASK 2 – Final design/build construction drawings

Description of Task

This task includes final design/build drawings for the Phase I project reach. Work will be completed by the design/build contractor.

Method/Procedure

Initial design and cost estimates for this work have been completed by Ecological Resource Consultants, Inc. (ERC) on behalf of the Blue River Watershed Group (BRWG) in 2013. Subsequent to the completion of ERC's report, Summit County OS&T has directed additional grading work in the Phase I project area. Grading work removed some of the stored dredge cobbles, initiated contouring of the site and has placed topsoil. Task 2 will refine concepts developed in the 2013 based on current contours.

To complete this work, topographic mapping will be generated for the Phase I area utilizing LIDAR data from aerial surveys recently completed for OS&T. The meandering channel concept presented in the 2013 report will be retained, but the exact alignment will be modified to fit current grading, minimizing costs where practical. A detailed alignment, locations of riffles and pools and channel profile will be determined. Details on tie-ins to existing areas at the upstream and downstream end of the channel will be designed and plans for the road removal and new road crossing and fish barrier will be generated.

As a result of this work, final design/build construction drawings depicting the details of the design will be produced. The drawing set would then become the basis for all contract work to follow.

Deliverable

This effort would produce the design/build level drawing set and construction layout that would be used during construction including permitting, staging, erosion control, grading, channel creation and re-vegetation. Stakes and control points would be established on the ground to facilitate actual construction.

TASK 3 – Permitting and associated monitoring

Description of Task

Compile data required to submit plans for project permitting and post project monitoring as required by permitting agencies. Work will be completed by the design/build contractor with assistance from the USFS and the County.

Method/Procedure

It is anticipated that the following permits will be required for the work:

- Army Corps 404 Permit
- County Grading Permit
- State Stormwater Permit

A portion of the project area is on US Forest Service (USFS) property. The USFS will complete permitting work, including required NEPA documentation, on their property. This USFS work is not included in the work scope and costs presented herein.

It is anticipated that the US Army Corps of Engineers and/or the County will require post-project monitoring be completed. This work is incorporated into this work task.

Deliverable

Permit applications and post project monitoring reports will be submitted to the appropriate governing agency.

TASK 4 – Subgrade excavation

Description of Task

Areas under the channel and riparian zone will be excavated to reach the desired subgrade. The purpose of this excavation is so that a low permeability liner can be installed to help ensure water stays at the surface and does not travel subsurface through the high permeability dredge rock.

Method/Procedure

Areas under the proposed channel and adjacent riparian areas will be excavated to their subgrade elevations. Materials generated as part of this process will be temporarily stockpiled. An area of approximately 10 acres will be excavated as part of this task. This work is to be accomplished using heavy equipment by the design/build contractor.

Deliverable

This work will create the foundation for installation of the low permeability liner. It will also produce materials that will be screened for use in various parts of the project.

TASK 5 – Material sorting and handling

Description of Task

Excavated materials and other on-site dredge piles will be sorted to create materials of different specification.

Method/Procedure

Screens will be used to sort material into different particle sizes. Material sizes will include finer material for the low permeability liner, smaller gravels and cobbles for glide and pool areas and larger cobbles for riffles and banks. Work will be completed by the design/build contractor.

Deliverable

This work will produce various specifications of material that will be used to create different features including the liner and channel bed and bank material.

TASK 6 – Low permeability liner installation

Description of Task

Line portions of the new channel with a low permeability soil liner to ensure excessive surface water is not lost to groundwater.

Method/Procedure

Finer material that is generated as part of the material sorting will be spread below the proposed stream and portions of the riparian areas. An 18” layer of this low permeability material will be spread along the stream alignment over a 75 foot wide swath. Low permeability material would be compacted into native sands and gravels exposed during channel excavation. The low permeability liner will still allow groundwater to enter the surface system during times when the local water table is elevated as well as maintain in channel flows on the surface. It is expected that nearly 9,000 cubic yards of materials will be sorted. Work will be completed by the design/build contractor.

Deliverable

This work will create a natural liner to retain a majority of surface water at the surface.

TASK 7 – Stream channel creation and riparian and upland grading

Description of Task

The new channel will be created over the low permeability liner and fine grading will be completed in the riparian zones

Method/Procedure

Materials excavated and separated on site will be placed to form the new channel. This task will produce the meandering channel alignment and create the riffles and pools for aquatic habitat. Larger rocks and woody debris will be used to create micro-aquatic habitat along the newly constructed channel. Fine grading will be completed in the adjacent riparian and upland areas in preparation for soil. Work will be completed by the design/build contractor.

Deliverable

This work task will create the geometry of the new stream channel and overbanks (riparian and upland). It will produce the desired stream alignment, geometry, width, and depth.

TASK 8 – Riparian and upland planting area preparation

Description of Task

Place mineral soil along areas planned for riparian and upland planting to facilitate growth.

Method/Procedure

The existing dredge material is not conducive to plant growth. In order to reestablish a natural riverine corridor, mineral soil will be placed in areas where vegetation is planned. Soil will be placed along channel banks to facilitate shrub plantings for stabilization. Six inches of soil will be placed along other riparian areas and three inches of soil will be spread over upland areas. As significant amounts of appropriate soil is not available on-site, this material will be imported. Soil will be improved with soil amendments and seeded. An area of approximately 19.5 acres will receive planting soil. Erosion control fabric will be installed over riparian soils and uplands will be mulched. Work will be completed by the design/build contractor.

Deliverable

This work will create a medium for future establishment of the riparian and upland corridor.

TASK 9 – Vegetation

Description of Task

Appropriate native shrubs and trees will be planted in the riparian and upland areas.

Method/Procedure

Both locally harvested willows stakes, transplanted willows and nursery produced shrubs and trees will be secured and installed in the riparian and upland areas. Major plantings will be focused in planting pockets and along river banks. Willow stakes will primarily be used as part of the newly created channel banks. Shrubs and trees will primarily be located outside of the bankfull channel area. A total of approximately 12.9 acres of riparian area and 6.6 acres of uplands are expected to be created as part of this task. Temporary fencing will be installed to protect key planting areas. Work will be completed by the design/build contractor.

Deliverable

This work will produce the larger vegetation that accompanies the stream improvements.

TASK 10 – Road and culvert improvements

Description of Task

Roads and culverts at the downstream end of the project area will be improved.

Method/Procedure

The Tiger Road (CO Road 6) crossing of the Swan River will be modified by replacing the degraded, CMP multi-culvert crossing with a single larger box culvert. The elevation of the culvert will be set to act as a migration barrier preventing downstream fish from passing the culvert. Armoring of the slope will be included. Additionally the existing Muggins Gulch road will be realigned to eliminate its crossing of the Swan River. A new box culvert will be installed where this realigned section of road crosses Muggins Gulch.

Deliverable

Improved road crossings that benefit the aquatic system by passing larger flows, removing a crossing of the Swan River and providing a formalized migration barrier will be completed.

TASK 11 – Weed control, irrigation and maintenance

Description of Task

This task will be completed after the initial construction and revegetation is done and is intended to help with overall vegetation establishment and project success.

Method/Procedure

Weed and water issues are inherent to large-scale revegetation projects. This work task will provide for weed removal, irrigation and general maintenance for the first two years following planting. Weed development will be monitored and either removal or spraying may be used to manage observed problems. Supplemental water will be applied to the revegetated areas to improve survivability and growth. General maintenance will also be completed as needed.

Deliverable

This work task will allow the native restoration to flourish with reduced weeds.

TASK 12 – Miscellaneous construction activities

Description of Task

This task incorporates miscellaneous construction activities required for the project.

Method/Procedure

There are a number of miscellaneous construction activities that will be required for the work that will be accomplished under this work task. This includes items such as contractor mobilization/demobilization, water control, construction best management practices, handling of all excess dredge material that is generated and reclaiming the work areas. Each of these items will be accomplished as part of this work task. Work will be completed by the design/build contractor.

Deliverable

Completion of miscellaneous work associated with the construction

TASK 13 – Construction management and surveying

Description of Task

This task includes vertical and horizontal survey control and overall day-to-day construction management.

Method/Procedure

All vertical and horizontal survey control will be established and maintained throughout the construction process. This task also includes all day-to-day coordination that occurs through the duration of the project.

Deliverable

This work task will ensure the project is constructed as intended in a safe and coordinated manner.

TASK 14 – Reporting, monitoring and photography

Description of Task

This task includes all of the work needed to prepare a final report, produce a slide show documenting the project, and initiate pre and post-construction monitoring procedures required by agency permits.

Method/Procedure

This would be accomplished through cooperation with project partners. OS&T will establish photo points to document the various phases of the restoration project before, during, and after construction and produce a slide show that can be posted on the web.

Deliverable

A final report would be prepared that documents all phases of the project from design to completion. This would provide a record on which to gauge the success of the project and provide a basis for any additional work, if needed. The report would be produced in hardcopy and electronic format. Additionally, photos shot during construction would be edited into a short slide show appropriate for web viewing.

REPORTING AND FINAL DELIVERABLE

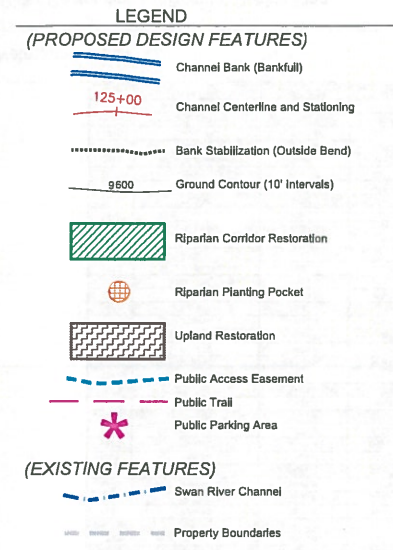
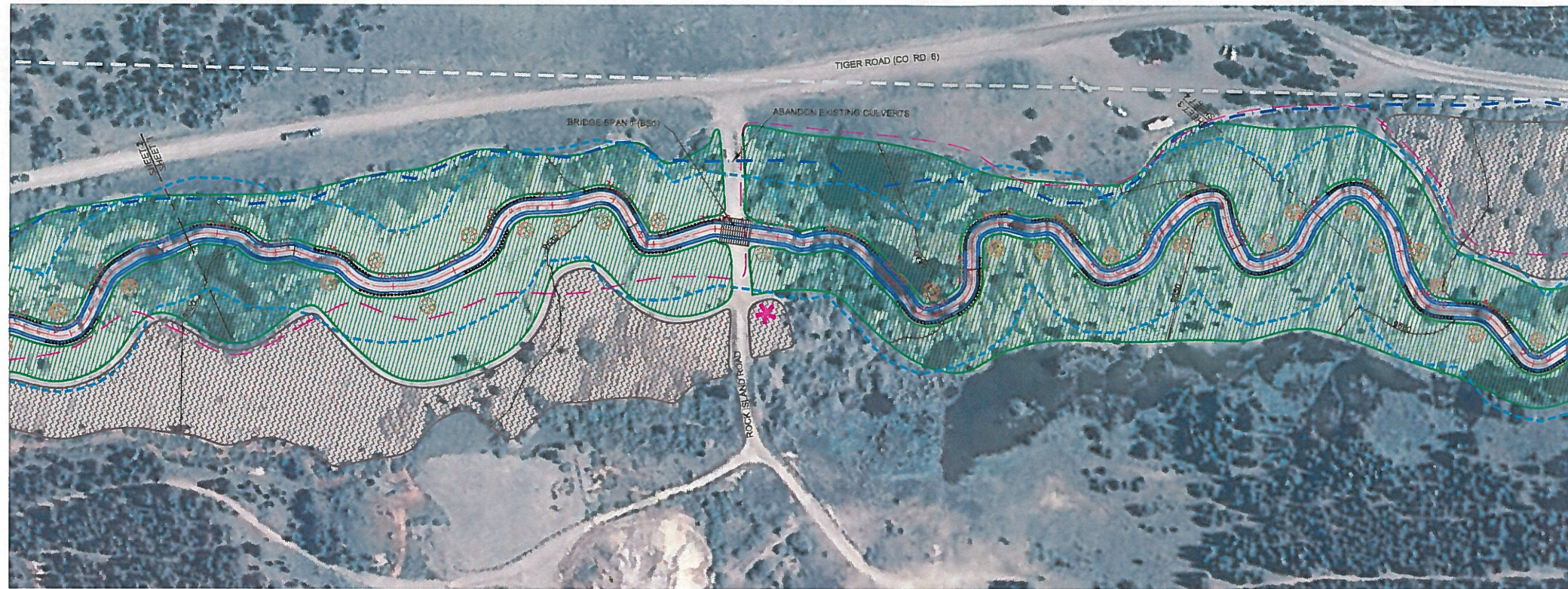
Reporting: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the statement of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

Final Deliverable: At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

BUDGET

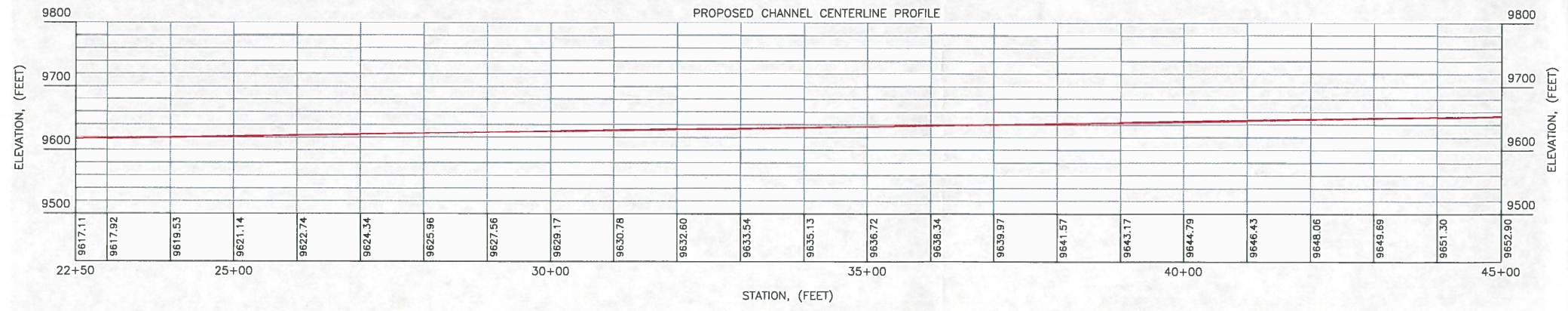
Provide a detailed budget by task including number of hours and rates for labor and unit costs for other direct costs (i.e. mileage, \$/unit of material for construction, etc.). A detailed and perfectly balanced budget that shows all costs is required for the State's contracting and purchase order processes. Sample budget tables are provided below. Please note that these budget tables are examples and will need to be adapted to fit each individual application. Tasks should correspond to the tasks described above.

Task	Total Cost	Matching Funds (cash and in-kind)	Grant Request
Task 1 – Contracting and project management	\$13,250	\$11,000	\$2,250
Task 2 – Final design/build construction drawings	\$51,000	\$25,250	\$25,750
Task 3 – Permitting and monitoring	\$55,000	\$32,500	\$22,500
Task 4 – Subgrade excavation	\$80,000	\$41,750	\$38,250
Task 5 – Materials sorting and handling	\$60,000	\$47,500	\$12,500
Task 6 – Low permeability liner installation	\$80,000	\$62,250	\$17,750
Task 7 – Stream channel creation	\$160,000	\$105,000	\$55,000
Task 8 – Riparian and upland area planting preparation	\$600,000	\$280,750	\$319,250
Task 9 – Vegetation	\$180,000	\$148,500	\$31,500
Task 10 – Road and culvert improvements	\$225,000	\$95,750	\$129,250
Task 11 – weed control, irrigation and maintenance	\$110,000	\$92,500	\$17,500
Task 12 – Miscellaneous construction activities	\$275,000	\$25,500	\$249,500
Task 13 – Construction management and surveying	\$100,000	\$72,000	\$28,000
Task 14 – Reporting, monitoring and photographs	\$12,500	\$11,500	\$1,000
Totals	\$2,001,750	\$1,051,750	\$950,000



INSTREAM FEATURE DATA
Table 2, Sheet 3 Station Elevations

Station (ft)	Feature ID	Channel Invert Elevation (ft AOD)	Bankfull Elevation (ft AOD)
2295	Pool 15	9614.4	9616.4
2320	Rifle End 15	9616.4	9617.9
2460	Rifle Beginning 15	9620.5	9622.0
2518	Glide 16	9619.8	9622.8
2575	Pool 16	9619.0	9623.0
2600	Rifle End 16	9621.0	9625.5
2685	Rifle Beginning 16	9624.1	9625.6
2715	Glide 17	9623.4	9626.4
2745	Pool 17	9622.6	9626.6
2770	Rifle End 17	9624.5	9626.1
2815	Rifle Beginning 17	9626.2	9627.7
2825	Glide 18	9625.5	9628.5
2835	Pool 18	9624.7	9628.7
2860	Rifle End 18	9626.7	9628.2
2940	Rifle Beginning 18	9628.2	9629.7
2968	Glide 19	9627.5	9630.5
2995	Pool 19	9626.7	9630.7
3020	Rifle End 19	9628.7	9630.2
3070	Rifle Beginning 19	9630.3	9631.8
3083	Glide 20	9629.6	9632.6
3095	Pool 20	9628.8	9632.8
3120	Rifle End 20	9630.8	9633.3
3195	Rifle Beginning 20	9632.3	9633.8
3200	Rock Island Rd old culvert	9632.6	9634.1
3260	Rock Island Rd old culvert	9632.9	9634.4
3333	Glide 21	9632.2	9635.2
3405	Pool 21	9631.4	9635.4
3430	Rifle End 21	9633.4	9634.9
3530	Rifle Beginning 21	9637.2	9638.7
3568	Glide 22	9636.5	9639.5
3675	Pool 22	9635.7	9639.7
3690	Rifle End 22	9637.9	9639.2
3720	Rifle Beginning 22	9640.3	9641.8
3753	Glide 23	9639.6	9642.6
3785	Pool 23	9638.8	9642.8
3810	Rifle End 23	9640.8	9642.3
3865	Rifle Beginning 23	9642.6	9644.1
3880	Glide 24	9641.3	9644.0
3895	Pool 24	9641.1	9645.1
3920	Rifle End 24	9643.1	9644.6
3970	Rifle Beginning 24	9644.3	9645.8
3983	Glide 25	9643.6	9646.6
3995	Pool 25	9642.8	9646.8
4020	Rifle End 25	9644.8	9646.3
4135	Rifle Beginning 25	9647.0	9648.5
4380	Glide 26	9646.3	9649.3
4395	Pool 26	9645.5	9649.5
4420	Rifle End 26	9647.5	9649.0
4395	Rifle Beginning 26	9650.1	9651.6
4350	Glide 27	9648.4	9652.4
4375	Pool 27	9648.6	9652.6
4400	Rifle End 27	9650.6	9652.1



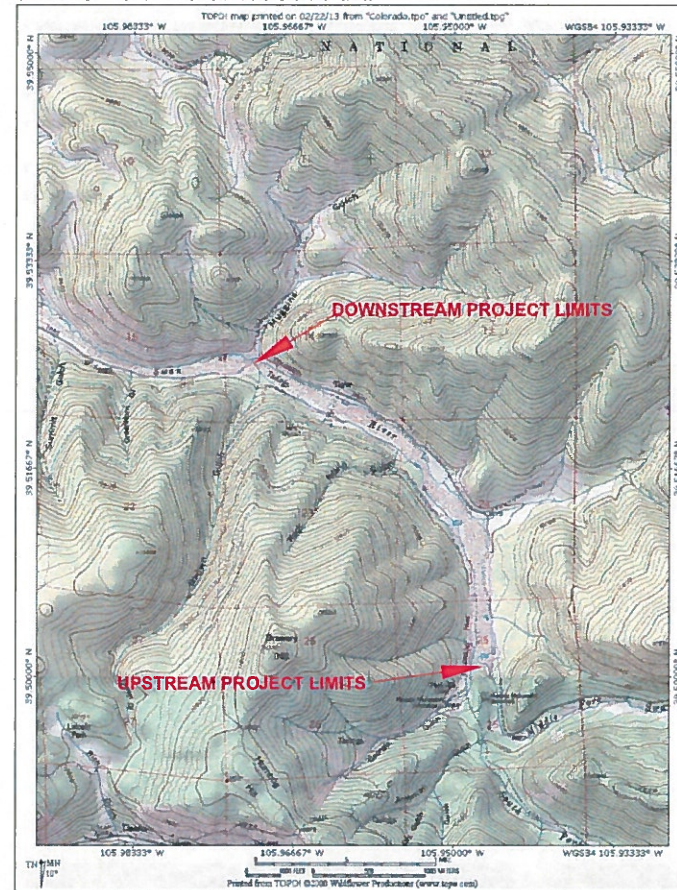
- NOTES:**
- The 2013 Swan River Restoration Plan (2013 Plan) has been prepared by the Blue River Watershed Group in close coordination with:
 - U.S. Forest Service White River National Forest
 - Summit County and
 - Town of Breckenridge.
 - Property boundaries as depicted were obtained from Summit County GIS and are approximate. Discrepancies from actual field survey do exist.
 - Proposed ground contours have been generated based on limited available existing topography. Proposed ground contours and tie-ins to existing topography will need adjustment upon more detailed topographic field survey.
 - Existing native vegetation and water features should be preserved when feasible and incorporated into final design planning.
 - Proposed Channel Centerline Profile depicts the average profile along the proposed channel centerline and does not depict instream habitat features as presented in the Instream Feature Data Tables 1-7.
 - The 2013 Plan has been developed as a preliminary design plan containing information for planning purposes only. Insufficient detail is provided for final implementation.
 - The 2013 Plan has been developed based on and incorporating previous restoration planning as part of the Swan River Restoration Conceptual Design Plan (Summit County, 10-27-09) and the Upper Swan River Restoration Concept Plan (Blue River Watershed Group, 4-24-12).
 - Public Access Easement, Trail and Parking Areas are preliminary and for planning purposes only. Public Trail is intended as non-motorized and a soft surface.

A	3-22-13	FINAL	APPROVED BY: ERC	CLIENT Blue River Watershed Group
			CHECKED BY: ERC	PROJECT 2013 Swan River Restoration Preliminary Design Plan
			DESIGNED BY: ERC	TITLE Plan and Profile
			DRAWN BY: ERC	ERC# 860-1201
				3 of 11
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35715 US Hwy. 40, Suite D204
Evergreen, CO 80439
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www.erccolorado.net

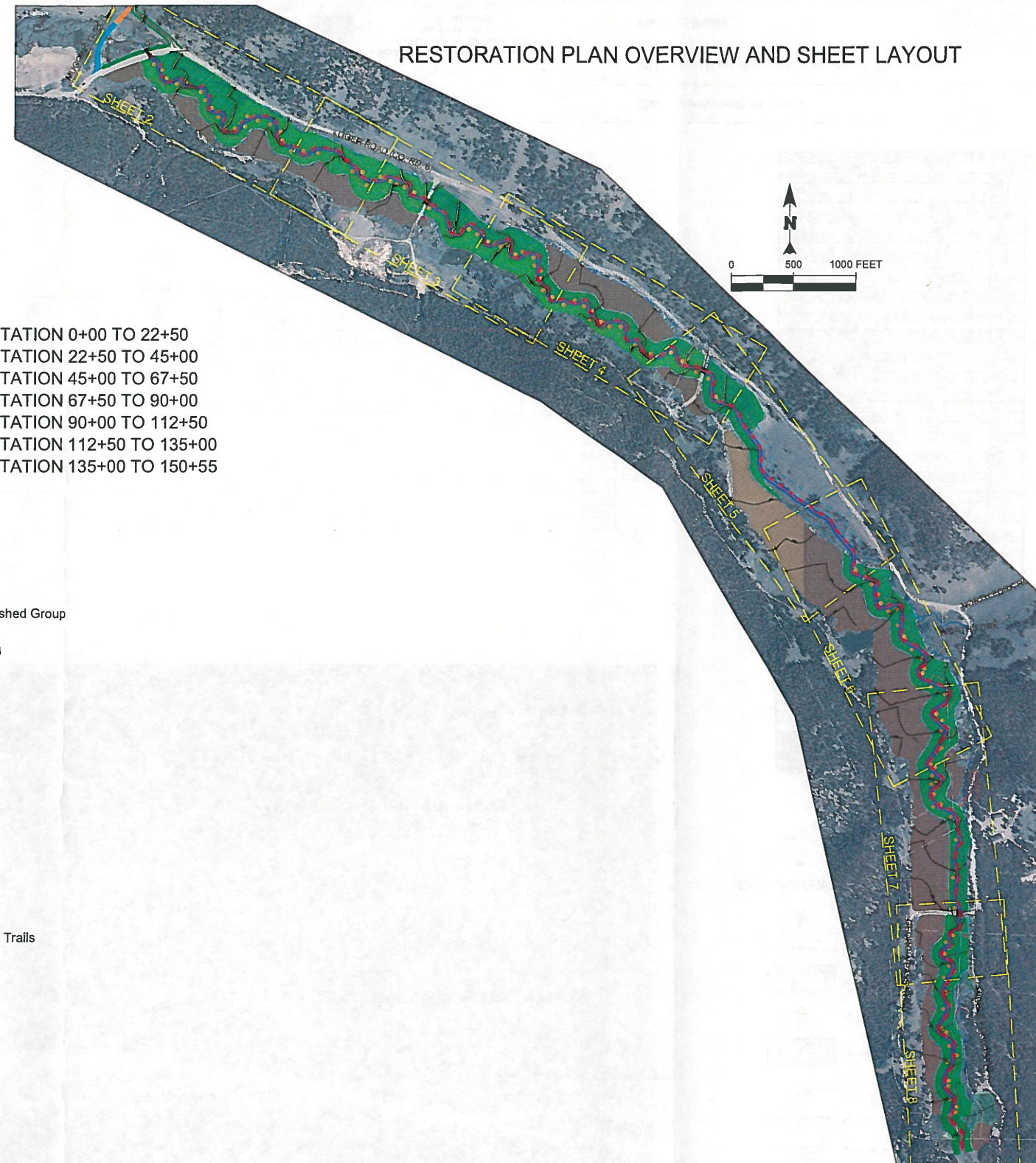
PROJECT LOCATION MAP



PROJECT VICINITY MAP



RESTORATION PLAN OVERVIEW AND SHEET LAYOUT



PLAN SET CONTENTS


SHEET	DESCRIPTION
1	COVER SHEET
2	PLAN AND PROFILE-STATION 0+00 TO 22+50
3	PLAN AND PROFILE-STATION 22+50 TO 45+00
4	PLAN AND PROFILE-STATION 45+00 TO 67+50
5	PLAN AND PROFILE-STATION 67+50 TO 90+00
6	PLAN AND PROFILE-STATION 90+00 TO 112+50
7	PLAN AND PROFILE-STATION 112+50 TO 135+00
8	PLAN AND PROFILE-STATION 135+00 TO 150+55
9	TYPICAL DETAILS
10	TYPICAL DETAILS
11	TYPICAL DETAILS

PREPARED FOR:



Blue River Watershed Group
PO Box 1626
Frisco, CO 80443


PREPARED IN COOPERATION WITH:




US Forest Service
White River National Forest

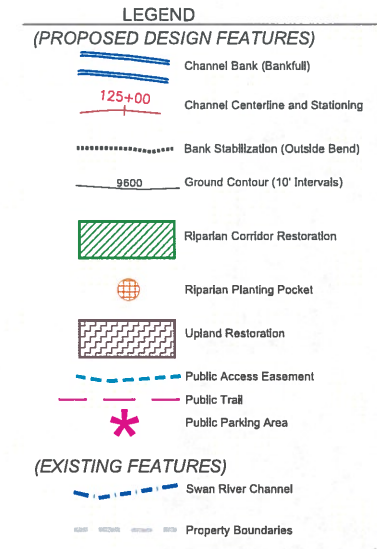
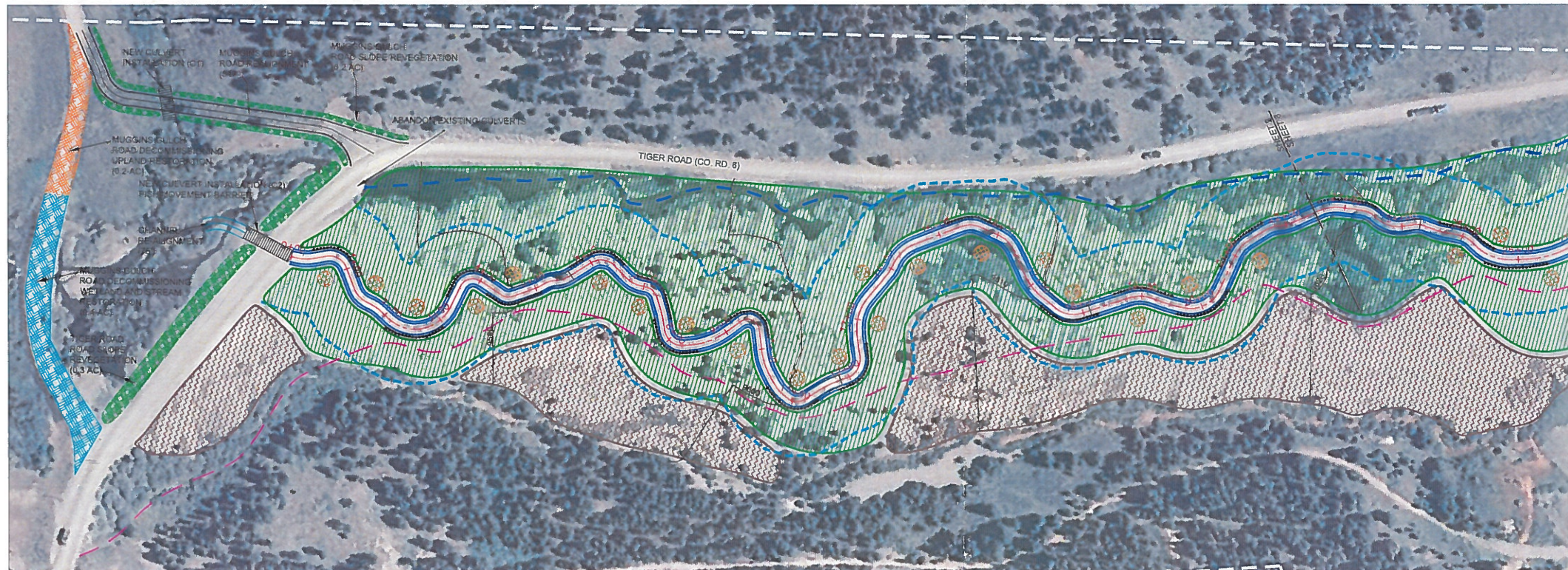


Summit County-Open Space and Trails
County Commons
SCR 1005
0037 Peak One Drive (PO Box 5660)
Frisco, CO 80442



Town of Breckenridge-Open Space and Trails
150 Ski Hill Road (PO Box 168)
Breckenridge, CO 80424

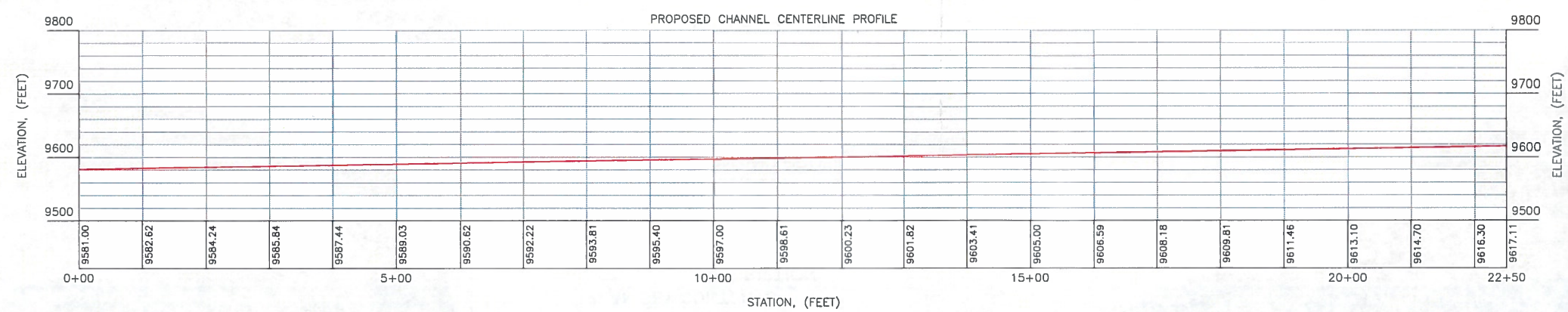
A	3-22-13	FINAL	APPROVED BY: ERC	CLIENT Blue River Watershed Group
			CHECKED BY: ERC	PROJECT 2013 Swan River Restoration Preliminary Design Plan
			DESIGNED BY: ERC	TITLE Cover Sheet
			DRAWN BY: ERC	ERC# 860-1201
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				A



INSTREAM FEATURE DATA

Table 2. Sheet 2 Station Elevation

Station (ft)	Feature ID	Channel Elevation (ft AMSL)	Bankfull Elevation (ft AMSL)
0	Tiger Rd w/ culvert	9581.0	9582.5
38	Slide 1	9580.0	9583.3
75	Pool 1	9579.5	9583.5
100	Riffle End 1	9581.5	9585.0
160	Riffle Beginning 1	9583.6	9585.1
178	Slide 2	9582.0	9585.9
195	Slide 3	9582.1	9586.1
220	Riffle End 2	9584.1	9585.6
310	Riffle Beginning 2	9586.0	9587.5
343	Slide 3	9585.3	9588.3
375	Pool 3	9584.5	9588.5
400	Riffle End 3	9586.5	9588.0
435	Riffle Beginning 3	9588.0	9589.5
440	Slide 4	9587.3	9590.3
445	Pool 4	9586.5	9590.5
470	Riffle End 4	9588.5	9590.0
555	Riffle Beginning 4	9590.9	9591.4
585	Slide 5	9589.2	9592.2
615	Pool 5	9588.4	9592.4
640	Riffle End 5	9590.4	9591.9
720	Riffle Beginning 5	9592.7	9594.2
763	Slide 6	9592.0	9595.0
795	Pool 6	9591.2	9595.2
820	Riffle End 6	9593.2	9594.7
900	Riffle Beginning 6	9595.4	9596.0
928	Slide 7	9594.7	9597.7
955	Pool 7	9593.9	9597.9
980	Riffle End 7	9595.9	9597.4
1050	Riffle Beginning 7	9597.8	9599.3
1078	Slide 8	9597.1	9600.1
1095	Pool 8	9596.3	9600.3
1120	Riffle End 8	9598.3	9600.8
1175	Riffle Beginning 8	9599.8	9601.3
1200	Slide 9	9599.1	9602.1
1200	Pool 9	9598.3	9602.3
1225	Riffle End 9	9600.3	9601.8
1248	Riffle Beginning 9	9602.5	9604.0
1289	Slide 10	9601.8	9604.8
1435	Pool 10	9601.0	9605.0
1460	Riffle End 10	9603.0	9604.5
1550	Riffle Beginning 10	9603.8	9607.3
1583	Slide 11	9605.1	9608.1
1615	Pool 11	9604.3	9608.3
1640	Riffle End 11	9606.5	9607.8
1720	Riffle Beginning 11	9608.5	9610.0
1748	Slide 12	9607.8	9610.8
1775	Pool 12	9607.0	9611.0
1800	Riffle End 12	9609.0	9610.9
1860	Riffle Beginning 12	9610.8	9613.3
1878	Slide 13	9610.1	9613.1
1895	Pool 13	9609.3	9613.3
1920	Riffle End 13	9611.3	9612.8
1975	Riffle Beginning 13	9612.7	9614.2
1990	Slide 14	9612.0	9615.0
2095	Pool 14	9611.2	9615.2
2030	Riffle End 14	9613.2	9614.7
2175	Riffle Beginning 14	9615.9	9617.4
2235	Slide 15	9615.2	9618.2



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APPROVED BY:
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			2 of 11
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