

**Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
Agenda Item 23.b.**

Applicant: City of Gunnison

Water Activity Name: Gunnison River Riparian and Diversion Restoration Project

Water Activity Purpose: Consumptive and Non-consumptive Structural Water Project

County: Gunnison

Drainage Basin: Gunnison

Water Source: Gunnison River

Amount Requested: \$400,752

Source of Funds: Statewide Account

Matching Funds: \$356,648 cash and \$3,000 in-kind (cash match includes \$45,540 from Gunnison Basin Account, approved in March 2014)

Staff Recommendation
Staff recommends approval upon the condition of providing the additional documentation specified below in Issues/Additional Needs section of up to \$400,752 from the Statewide account to help fund the Gunnison River Riparian and Diversion Restoration Project.

Water Activity Summary:

The project focuses on improvement of riparian and fishery habitat; improvement of agricultural water rights diversion structures; improvement of recreational opportunities; and protection of the municipal aquifer recharge area on a 3.59 mile reach of the Gunnison River adjacent to the city of Gunnison. The six segments in the project each have specific impairments related to agricultural diversions; recreation uses; fisheries and riparian habitat; and, flood attenuation.

An Assessment of Riparian and Aquatic Habitat Associated with the Upper Gunnison River, Gunnison County, Colorado (Bio-Environs, December 2010) includes the reach of the river being addressed in this project. The study found that, since 1950, because of increased residential development along the Gunnison River, approximately 50 percent of the riparian forest has been lost. Improved agricultural water diversion structures will contribute to enhanced plant communities and reduce streambank erosion, land loss and sedimentation downstream. Property designed diversion structures will benefit the irrigators by decreasing the annual costs of maintenance.

The project goals are to:

- construct four new diversion headgates to improve the beneficial agricultural water right use;
- assist water right holders in improving existing water diversion structures to improve habitat, stability and channel alignment;
- explore the potential to reconnect the floodplain with the existing channel to improve river function, flood storage, and aquifer recharge;
- assess aggradation and degradation near the bridges;
- maintain the existing river planform to maintain property boundaries;
- incorporate in-channel habitat improvement structures while not raising flood stage on properties adjacent to and downstream of project area which are not managed with the goal of maintaining floodplain connectivity;
- increase wild brown and rainbow trout biomass and densities;

- improve conditions for quality-sized adult trout;
- improve fishing access with a trail system;
- create in-channel deep pools to provide lower velocity holding areas;
- improve riparian habitat for wildlife and improve the river function by planting native woody vegetation; and,
- improve and manage boater access.

Discussion:

This reach is adjacent to the City of Gunnison, and will have significant recreational use.

Issues/Additional Needs:

Please provide the following additional detail:

- Geomorphic monitoring should conform to CWCB standards.
- All proposed river channel work shall conform to the CWCB Rules and Regulations for Regulatory Floodplains in Colorado.
- Applicant should demonstrate that all funds necessary to complete project are secured.

Staff Recommendation:

Staff recommends approval upon the condition of providing the additional documentation specified below in Issues/Additional Needs section of up to \$400,752 from the Statewide account to help fund the Gunnison River Riparian and Diversion Restoration Project.

All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform.

In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

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 scope 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.

Engineering: All engineering work (as defined in the Engineers Practice Act (§12-25-102(10) C.R.S.)) performed under this grant shall be performed by or under the responsible charge of professional engineer licensed by the State of Colorado to practice Engineering.

The Gunnison Basin Roundtable
501 Palmer Street
Delta, CO 81416

November 10, 2013

Mr. Craig Godbout
Intrastate Water Management and Development Section
COLORADO WATER CONSERVATION BOARD
1580 Logan Street, Suite 600
Denver, CO 80203

Re: Grant Request from the Water Supply Reserve Account
City of Gunnison
Gunnison River Riparian and Diversion Restoration Project


Dear Mr. Godbout:

This letter is presented to advise you that the grant application submitted by the City of Gunnison for \$45,540 from Basin Account funds and \$400,752 in Statewide Account funds from the Water Supply Reserve Account for the Gunnison River Riparian and Diversion Restoration project was reviewed by the Gunnison Basin Roundtable and its Project Screening Committee and was approved by a unanimous vote of the Gunnison Basin Roundtable during our meeting on November 4, 2013.

This water activity meets the provisions of Section 37-75-104(2), Colorado Revised Statutes. The requirements/language from the statute is provided in Part 3 of the Criteria and Guidelines.

This activity furthers basin-wide non-consumptive needs for the Gunnison Basin by rehabilitating a section of river channel to improve flows, restore riparian habitat and improve recreational opportunities. This activity furthers basin-wide consumptive needs by the renovation and improvement of agricultural water rights diversion structures.

Sincerely,


Michelle Pierce
Chair

cc: Tom Alvey (e-mail)



October 28, 2013

Sent via e-mail: mcf@wic.net

Mr. Tom Alvey
Chair, Project Screening Committee
Gunnison Basin Roundtable
P.O. Box 518
Lake City, CO 81235

Dear Mr. Alvey:

Thank you for meeting with Dan Brauch and me to discuss the Gunnison River and Riparian Rehabilitation Project and for your comments. We are submitting the proposal for consideration at the Roundtable meeting in November and hope that your committee will submit it with a letter of recommendation to the Colorado Water Conservation Board.

Thank you in advance for your consideration. If there is any further information you need, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Steven Westbay". The signature is fluid and cursive, with the first name "Steven" and last name "Westbay" clearly distinguishable.

Steven Westbay
Director of Community Development

Cc: Dan Brauch
J Wenum
Ken Coleman
Frank Kugel
Rachel Kullman
Michelle Pierce

attachment



COLORADO WATER CONSERVATION BOARD



WATER SUPPLY RESERVE ACCOUNT APPLICATION FORM

Gunnison River Riparian and Diversion Restoration Project

Name of Water Activity/Project

City of Gunnison

Name of Applicant

Gunnison Basin Roundtable

Amount from Statewide Account:

\$400,752

Amount from Basin Account(s):

\$ 45,540

Total WSRA Funds Requested:

\$446,292

Approving Basin Roundtable(s)

(If multiple basins specify amounts in parentheses.)

Application Content

Application Instructions	page 2
Part I – Description of the Applicant	page 3
Part II – Description of the Water Activity	page 5
Part III – Threshold and Evaluation Criteria	page 7
Part IV – Required Supporting Material	
Water Rights, Availability, and Sustainability	page 10
Related Studies	page 10
Signature Page	page 12

Required Exhibits

- A. Statement of Work, Budget, and Schedule
- B. Project Map
- C. As Needed (i.e. letters of support, photos, maps, etc.)

Appendices – Reference Material

- 1. Program Information
- 2. Insurance Requirements
- 3. WSRA Standard Contract Information (Required for Projects Over \$100,000)
- 4. W-9 Form (Required for All Projects Prior to Contracting)

Instructions

To receive funding from the Water Supply Reserve Account (WSRA), a proposed water activity must be approved by the local Basin Roundtable **AND** the Colorado Water Conservation Board (CWCB). The process for Basin Roundtable consideration and approval is outlined in materials in Appendix 1.

Once approved by the local Basin Roundtable, the applicant should submit this application **with a detailed statement of work including budget and schedule as Exhibit A** to CWCB staff by the application deadline.

WSRA applications are due with the roundtable letter of support 60 calendar days prior to the bi-monthly Board meeting at which it will be considered. Board meetings are held in January, March, May, July, September, and November. Meeting details, including scheduled dates, agendas, etc. are posted on the CWCB website at: <http://cwcb.state.co.us> Applications to the WSRA Basin Account are considered at every board meeting, while applications to the WSRA Statewide Account are only considered at the March and September board meetings.

When completing this application, the applicant should refer to the WSRA Criteria and Guidelines available at: <http://cwcb.state.co.us/LoansGrants/water-supply-reserve-account-grants/Documents/WSRACriteriaGuidelines.pdf>

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.

PAYMENT

Payment will be made based on actual expenditures and invoicing by the applicant. Invoices from any other entity (i.e. subcontractors) cannot be processed by the State. The request for payment must include a description of the work accomplished by major task, and estimate of the percent completion for individual tasks and the entire water activity in relation to the percentage of budget spent, identification of any major issues and proposed or implemented corrective actions. The last 5 percent of the entire water activity budget will be withheld until final project/water activity documentation is completed. All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and help promote the development of a common technical platform.

The application, statement of work, budget, and schedule **must be submitted in electronic format** (Microsoft Word or text-enabled PDF are preferred) and can be emailed or mailed on a disk to:

Rebecca Mitchell – WSRA Application
Colorado Water Conservation Board
1580 Logan Street, Suite 200
Denver, CO 80203
rebecca.mitchell@state.co.us

If you have questions or need additional assistance, please contact Rebecca Mitchell at: 303-866-3441 x3217 or rebecca.mitchell@state.co.us.

Part I. - Description of the Applicant (Project Sponsor or Owner);

1.	Applicant Name(s):	The City of Gunnison (City) and Colorado Parks and Wildlife (CPW)		
	Mailing address:	City of Gunnison P.O. Box 239 Gunnison, CO 81230		
		Colorado Parks and Wildlife 300 W. New York Avenue Gunnison, CO 81230		
	Taxpayer ID#:	6000673 (City)		
	Primary Contact:	Steve Westbay (City)	Position/Title:	Planning Director
	Email:	swestbay@cityofgunnison-co.gov		
	Phone Numbers:	Cell:	Office:	(970) 641-8152
	Alternate Contact:	Dan Brauch (CPW)	Position/Title:	Fishery Biologist
	Email:	dan.brauch@state.co.us		
	Phone Numbers:	Cell:	Office:	(970) 641-7070

2. Eligible entities for WSRA funds include the following. What type of entity is the Applicant?

- ☒ Public (Government) – municipalities, enterprises, counties, and State of Colorado agencies. Federal agencies are encouraged to work with local entities and the local entity should be the grant recipient. Federal agencies are eligible, but only if they can make a compelling case for why a local partner cannot be the grant recipient.
- ☐ Public (Districts) – authorities, Title 32/special districts, (conservancy, conservation, and irrigation districts), and water activity enterprises.
- ☐ Private Incorporated – mutual ditch companies, homeowners associations, corporations.
- ☐ Private individuals, partnerships, and sole proprietors are eligible for funding from the Basin Accounts but not for funding from the Statewide Account.
- ☐ Non-governmental organizations – broadly defined as any organization that is not part of the government.

3. Provide a brief description of your organization

The City of Gunnison (City) is a Home Rule municipality under Article XX of the *Colorado Constitution*. The City of Gunnison provides domestic water, sewer, and electric services to the 5,854 residents of the city, Western State Colorado University and several neighborhoods in the adjacent unincorporated county area. Other services provided by the City include parks, recreation, streets, trails, police, planning and land development. The City owns the 382 acre VanTuyl Ranch, which is adjacent to the channel reach of the Gunnison River for which this grant application is being made. The VanTuyl Ranch is the aquifer recharge area for the City's domestic water source.

Colorado Parks and Wildlife (CPW), created July 1, 2011 from the merger of Colorado State Parks and the Colorado Division of Wildlife, provides outdoor recreation and wildlife management for Colorado's 41 state parks and 23 million acres of public land. The CPW owns the Gunnison State Wildlife Area adjacent to the VanTuyl Ranch.

4. If the Contracting Entity is different then the Applicant (Project Sponsor or Owner) please describe the Contracting Entity here.

5. Successful applicants will have to execute a contract with the CWCB prior to beginning work on the portion of the project funded by the WSRA grant. In order to expedite the contracting process the CWCB has established a standard contract with provisions the applicant must adhere to. A link to this standard contract is included in Appendix 3. Please review this contract and check the appropriate box.

☒ The Applicant will be able to contract with the CWCB using the Standard Contract

☐ The Applicant has reviewed the standard contract and has some questions/issues/concerns. Please be aware that any deviation from the standard contract could result in a significant delay between grant approval and the funds being available.

6. The Tax Payer Bill of Rights (TABOR) may limit the amount of grant money an entity can receive. Please describe any relevant TABOR issues that may affect the applicant.

There are no TABOR issues contemplated either by the City of Gunnison or Colorado Parks and Wildlife.

Part II. - Description of the Water Activity/Project

1. What is the primary purpose of this grant application? (Please check only one)

☐ Nonconsumptive (Environmental or Recreational)

☐ Agricultural

☐ Municipal/Industrial

☐ Needs Assessment

☐ Education

☒ Other Explain:

2. If you feel this project addresses multiple purposes please explain.

The proposal addresses all of the purposes listed. It is both a consumptive and a nonconsumptive project and improves **agricultural** water rights diversion and provides flood attenuation benefits. The area adjacent to this reach of the Gunnison River, the VanTuyl Ranch, is the aquifer recharge area for the **municipal** water supply. **Needs assessments** conducted by the Upper Gunnison River Water Conservation District have identified the proposed improvements as a priority to address changes in the river that have been caused by manmade structures. **Educational** and research opportunities for local school district and university students will be enhanced by improving access to the riparian habitat.

3. Is this project primarily a study or implementation of a water activity/project? (Please check only one)

☐ Study

☒ Implementation

4. To catalog measurable results achieved with WSRA funds can you provide any of the following numbers?

New Storage Created (acre-feet)

New Annual Water Supplies Developed, Consumptive or Nonconsumptive (acre-feet)

Existing Storage Preserved or Enhanced (acre-feet)

Length of Stream Restored or Protected (linear feet)

Length of Pipe/Canal Built or Improved (linear feet)

Efficiency Savings (acre-feet/year OR dollars/year – **circle one**)

Area of Restored or Preserved Habitat (acres)

Other -- Explain:

4. To help us map WSRA projects please include a map (Exhibit B) and provide the general coordinates below:

Latitude:

North Bridge:
38°34'49.91"N

West Tomichi Riverway:
38°32'0.39.80"N

Longitude:

North Bridge:
106°55'20.10"W

West Tomichi Riverway:
106°57'00.62"W

5. Please provide an overview/summary of the proposed water activity (no more than one page). Include a description of the overall water activity and specifically what the WSRA funding will be used for. A full **Statement of Work with a detailed budget and schedule is required as **Exhibit A** of this application.**

This Colorado Parks and Wildlife river corridor was purchased by The Trust for Public Lands and subsequently sold to the Bureau of Reclamation, who then transferred it to the CPW. A reverter clause in the transfer requires CPW to manage and use the land for its original purposes, which is to replace river-front fishing access that was lost when Blue Mesa Reservoir was built. This project focuses on improvement of riparian and fishery habitat; improvement of agricultural water rights diversion structures; improvement of recreational opportunities; and protection of the municipal aquifer recharge area on a 3.59 mile reach of the Gunnison River adjacent to the city of Gunnison. The six segments in the project each have specific impairments related to agricultural diversions; recreation uses; fisheries and riparian habitat; and, flood attenuation.

An Assessment of Riparian and Aquatic Habitat Associated with the Upper Gunnison River, Gunnison County, Colorado (Bio-Environs, December 2010) includes the reach of the river being addressed in this project. The study found that, since 1950, because of increased residential development along the Gunnison River, approximately 50 percent of the riparian forest has been lost. Improved agricultural water diversion structures will contribute to enhanced plant communities and reduce streambank erosion, land loss and sedimentation downstream. Property designed diversion structures will benefit the irrigators by decreasing the annual costs of maintenance.

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- construct four new diversion headgates to improve the beneficial agricultural water right use;
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- increase wild brown and rainbow trout biomass and densities;
- improve conditions for quality-sized adult trout;
- improve fishing access with a trail system;
- create in-channel deep pools to provide lower velocity holding areas;
- improve riparian habitat for wildlife and improve the river function by planting native woody vegetation; and,
- improve and manage boater access.

A summary of each of the project components by river reaches is provided under Exhibit A (Statement of Work), **Task 2 B** (Project Description).

Part III. – Threshold and Evaluation Criteria

1. Describe how the water activity meets these Threshold Criteria. (Detailed in Part 3 of the Water Supply Reserve Account Criteria and Guidelines.)

- a) **The water activity is consistent with Section 37-75-102 Colorado Revised Statutes.**¹ The proposed grant will fund a project to improve in-stream and riparian habitat while enhancing the fluvial system. Any proposed alterations of the fluvial system will be critically assessed to ensure that flood hazards to adjacent properties do not increase. According to the *Upper Gunnison River Riparian Assessment, 2010*, “The primary impact to riparian zones [in agriculturally dominated areas] is from maintenance of diversion structures.” The project will have no adverse effect on any existing water rights as recognized by the *State Constitution* and will assist water right owners with improvements and in some cases, relocation, of water diversion structures to reduce maintenance and the impact to the habitat.
- b) **The water activity underwent an evaluation and approval process and was approved by the Basin Roundtable (BRT) and the application includes a description of the results of the BRTs evaluation and approval of the activity.** At a minimum, the description must include the level of agreement reached by the roundtable, including any minority opinion(s) if there was not general agreement for the activity. The description must also include reasons why general agreement was not reached (if it was not), including who opposed the activity and why they opposed it. Note- If this information is included in the letter from the roundtable chair simply reference that letter.

NOTE TO ROUNDTABLE COMMITTEE: This section will be amended as a result of the November meeting of the Roundtable.

- c) **The water activity meets the provisions of Section 37-75-104(2), Colorado Revised Statutes.**² The Basin Roundtable Chairs shall include in their approval letters for particular WSRA grant applications a description of how the water activity will assist in meeting the water supply needs identified in the basin roundtable’s consumptive and/or non-consumptive needs assessments.
- d) **Matching Requirement: For requests from the Statewide Fund, the applicant is required to demonstrate a 20 percent (or greater) match of the request from the Statewide Account.** Statewide

¹ 37-75-102. Water rights - protections. (1) It is the policy of the General Assembly that the current system of allocating water within Colorado shall not be superseded, abrogated, or otherwise impaired by this article. Nothing in this article shall be interpreted to repeal or in any manner amend the existing water rights adjudication system. The General Assembly affirms the state constitution’s recognition of water rights as a private usufructuary property right, and this article is not intended to restrict the ability of the holder of a water right to use or to dispose of that water right in any manner permitted under Colorado law. (2) The General Assembly affirms the protections for contractual and property rights recognized by the contract and takings protections under the state constitution and related statutes. This article shall not be implemented in any way that would diminish, impair, or cause injury to any property or contractual right created by intergovernmental agreements, contracts, stipulations among parties to water cases, terms and conditions in water decrees, or any other similar document related to the allocation or use of water. This article shall not be construed to supersede, abrogate, or cause injury to vested water rights or decreed conditional water rights. The General Assembly affirms that this article does not impair, limit, or otherwise affect the rights of persons or entities to enter into agreements, contracts, or memoranda of understanding with other persons or entities relating to the appropriation, movement, or use of water under other provisions of law.

² 37-75-104 (2)(c). Using data and information from the Statewide Water Supply Initiative and other appropriate sources and in cooperation with the on-going Statewide Water Supply Initiative, develop a basin-wide consumptive and nonconsumptive water supply needs assessment, conduct an analysis of available unappropriated waters within the basin, and propose projects or methods, both structural and nonstructural, for meeting those needs and utilizing those unappropriated waters where appropriate. Basin Roundtables shall actively seek the input and advice of affected local governments, water providers, and other interested stakeholders and persons in establishing its needs assessment, and shall propose projects or methods for meeting those needs. Recommendations from this assessment shall be forwarded to the Interbasin Compact Committee and other basin roundtables for analysis and consideration after the General Assembly has approved the Interbasin Compact Charter.

requests must also include a minimum match of **5 percent** of the total grant amount from Basin Funds. Sources of matching funds include but are not limited to Basin Funds, in-kind services, funding from other sources, and/or direct cash match. Past expenditures directly related to the project may be considered as matching funds if the expenditures occurred within 9 months of the date the application was submitted to the CWCB. Please describe the source(s) of matching funds. (NOTE: These matching funds should also be reflected in your Detailed Budget in **Exhibit A** of this application)

City of Gunnison. During the past two years the City has made over \$150,000 worth of improvements on the VanTuyl Ranch to provide public access to the river segment. The City plans to build a new access trail as part of this project and will provide \$153,708 for this trail work.

In addition, the City will contribute \$31,000 to this project with the assurance that the Piloni Ditch diversion is implemented as part of the project.

Colorado Division of Parks and Wildlife. The CPW will provide specialized staff needed to manage the planning, design and action implementation proposed by this grant. CPW staff will develop design concepts for new diversion structures; survey the river reach to identify right top bank, bankfull benches, toe bank, additional cross sections, detail for diversions, microhabitat features, hydrologic analysis, pebble counts, and propose a new location for the Wilson stream diversion. The CPW will design in-stream habitat improvement and bank stabilization structures and irrigation diversion modifications and conduct fish sampling. It is estimated that the total cost to the CPW for staff time to design and implement this project will be \$117,400.

In fall 2011 the Colorado Division of Parks Wildlife granted a one-quarter mile easement to the City of Gunnison in order to facilitate a trail extension providing public access to the riparian area. The value of the easement grant was not calculated but it is considered to be a relevant in-kind donation considered in this grant application.

Trout Unlimited. Preliminary contributions from Trout Unlimited include up to \$3,000 from the national chapter and \$3,000 from the local chapter. The local chapter has also pledged 100 hours of in-kind labor, valued at \$2,000.

Private Contributions. A private landowner adjacent to the river reach has pledged \$3,000.

2. **For Applications that include a request for funds from the Statewide Account, describe how the water activity/project meets all applicable Evaluation Criteria.** (Detailed in Part 3 of the Water Supply Reserve Account Criteria and Guidelines and repeated below.) Projects will be assessed on how well they meet the Evaluation Criteria. **Please attach additional pages as necessary.**

Evaluation Criteria – the following criteria will be utilized to further evaluate the merits of the water activity proposed for funding from the Statewide Account. In evaluation of proposed water activities, preference will be given to projects that meet one or more criteria from each of the three “tiers” or categories. Each “tier” is grouped in level of importance. For instance, projects that meet Tier 1 criteria will outweigh projects that only meet Tier 3 criteria. WSRA grant requests for projects that may qualify for loans through the CWCB loan program will receive preference in the Statewide Evaluation Criteria if the grant request is part of a CWCB loan/WSRA grant package. For these CWCB loan/WSRA grant packages, the applicant must have a CWCB loan/WSRA grant ratio of 1:1 or higher. Preference will be given to those with a higher loan/grant ratio.

Tier 1: Promoting Collaboration/Cooperation and Meeting Water Management Goals and Identified Water Needs

- a. The water activity addresses multiple needs or issues, including consumptive and/or non-consumptive needs, or the needs and issues of multiple interests or multiple basins. This can be demonstrated by obtaining letters of support from other basin roundtables (in addition to an approval letter from the sponsoring basin).
- b. The number and types of entities represented in the application and the degree to which the activity will promote cooperation and collaboration among traditional consumptive water interests and/or non-consumptive interests, and if applicable, the degree to which the water activity is effective in addressing intrabasin or interbasin needs or issues.
- c. The water activity helps implement projects and processes identified as helping meet Colorado's future water needs, and/or addresses the gap areas between available water supply and future need as identified in SWSI or a roundtable's basin-wide water needs assessment.

This application meets the Tier 1 criteria in several ways. Management of the VanTuyl Ranch has been established through a collaborative effort between the City and Colorado Parks and Wildlife. The *VanTuyl Ranch Management Plan* establishes specific objectives directed at protecting the riparian corridor and floodplain functions. Colorado Parks and Wildlife is required by a deed restriction to manage the adjacent river corridor to allow public access and the two entities have collaborated on the development of a public trail system that allows the public to access the Gunnison River.

The Surface Water Quality Classifications and Standards, as established by the State of Colorado for this reach of the Gunnison River include an "Aquatic Life Cold 1" designation and "Recreation E" designation. Rafting and fishing are primary recreation functions and opening the VanTuyl Ranch and the adjacent 1.5 miles of the Gunnison River to public use has significantly increased the amount of public recreation use. This river reach is truly a public treasure with enormous potential.

This proposed project will help advance watershed protection and restoration on this river segment. Emphasis is focused on the enhancement of the fluvial system which, in turn, will promote higher riparian and aquatic habitats. The project will also help to advance flood protection by maintaining or increasing potential storage in the natural floodplain of the river system. Enhancement of fluvial system functions will help increase in-stream flows during dry periods and benefit aquifer recharge.

This project has irrigation benefits as well. Properly designed irrigation diversion structures will decrease the annual cost of maintenance of headgates for agricultural users.

Tier 2: Facilitating Water Activity Implementation

- a. Funding from this Account will reduce the uncertainty that the water activity will be implemented. For this criterion the applicant should discuss how receiving funding from the Account will make a significant difference in the implementation of the water activity (i.e., how will receiving funding enable the water activity to move forward or the inability obtaining funding elsewhere).
- b. The amount of matching funds provided by the applicant via direct contributions, demonstrable in-kind contributions, and/or other sources demonstrates a significant & appropriate commitment to the project.

Funding this project will make a significant difference for facilitating an important resource management action. The project is directed at fulfilling objectives of the *VanTuyl Ranch Management Plan* and helping CPW fulfill their mission to protect and enhance aquatic (fishery) habitat and four improved diversion points to facilitate more efficient agricultural irrigation. Riparian habitat on this reach of the Gunnison River has been degraded over the past 50 years and this project will help reduce that trend. Additionally, the project will ensure that public recreation potential is increased and the project will be implemented in a beneficial and safe manner. Maintenance or expansion of downstream flood stage attenuation is also a significant benefit.

Investments by the City and CPW to protect and enhance the VanTuyl Ranch and river corridor over the last 20 years have exceeded two million dollars. Significant funds were allocated for the acquisition of the Ranch and

river corridor. The City and Colorado Parks and Wildlife expended over \$50,000 combined to develop the *VanTuyl Ranch Management Plan*, and the Great Outdoors Colorado Board (GOCO) provided \$50,000 for the plan's development. The adaptive resource management framework of the *Management Plan* is the primary impetus for proposing this grant. Furthermore, during the past four years the City and CPW have worked together to establish easements for public access and have spent approximately \$200,000 for a trail system which now allows easy non-motorized public access to this unique river corridor system.

At the discretion of the City Council, funding will be included in the City's 2014 budget. The CPW staff salaries are allocated in the annual budgets for the CPW. Additionally, both entities have expended enormous funds and services to develop a truly wonderful public open space environment. Colorado Parks and Wildlife will provide staffing for restoration planning, design, and project management, and some labor and equipment costs for implementation. The City will also provide in-kind labor for project elements.

Tier 3: The Water Activity Addresses Other Issues of Statewide Value and Maximizes Benefits

- a. The water activity helps sustain agriculture and open space, or meets environmental or recreational needs.
- b. The water activity assists in the administration of compact-entitled waters or addresses problems related to compact entitled waters and compact compliance and the degree to which the activity promotes maximum utilization of state waters.
- c. The water activity assists in the recovery of threatened and endangered wildlife species or Colorado State species of concern.
- d. The water activity provides a high level of benefit to Colorado in relationship to the amount of funds requested.
- e. The water activity is complimentary to or assists in the implementation of other CWCB programs.

The proposed project meets the Tier 3 criteria intent statements. Riparian habitat improvements and water-based recreation opportunities will be enhanced as management programs on this river reach are implemented and four improved diversion points to facilitate more efficient agricultural irrigation.

The VanTuyl Ranch and this river reach are located in occupied habitat of the Gunnison Sage-grouse. One of the major management objectives being promoted by federal land management agencies and the US Fish and Wildlife Service is to concentrate recreational opportunities adjacent to the city's urban area; the idea is to concentrate activities rather than dispersing activities across the occupied habitat. The public use of the VanTuyl Ranch and this river corridor help to promote this concentrated recreation objective.

Very few river systems in the State of Colorado still sustain agriculture, recreation and domestic water needs to such a high degree as the upper Gunnison basin. Protecting this unique river system provides a significant benefit to all residents and visitors of the state.

Part IV. – Required Supporting Material

1. **Water Rights, Availability, and Sustainability** – This information is needed to assess the viability of the water project or activity. Please provide a description of the water supply source to be utilized, or the water body to be affected by, the water activity. This should include a description of applicable water rights, and water rights issues, and the name/location of water bodies affected by the water activity.

All proposed work will occur on the Gunnison River on the Gunnison River SWA, the Goddard Ranch, or City of Gunnison managed property. The proposed restoration of this river reach will not affect any existing applicable water rights.

2. **Please provide a brief narrative of any related studies or permitting issues.** A 2012 fisheries assessment completed by CPW within the proposed habitat restoration section concluded that portions of the project reach had excellent habitat but also documented lower fish population estimates in degraded reaches. During this survey, trout estimates were significantly lower within the project reach when compared with an upstream reach

below the town of Almont. Within the upper half of the project area, estimated trout biomass totaled 136 pounds per acre while the Almont reach contained an estimated 232 pounds of trout per acre. Overall fish densities were also lower within the reach with an estimated 281 fish per acre as compared to 459 fish per acre at the upper site. Regarding numbers of quality sized trout; the project reach contained 27 fish over 14 inches per acre compared with an estimated 56 fish per acre at the upper site. Although the Gunnison River within the project reach currently supports an excellent fishery, the fisheries inventory surveys indicate that there is potential for improving overall fish biomass and density within the project reach.

In 2013, a CPW crew performed a channel and habitat assessment survey to measure attributes of the proposed restoration section and to identify impairments to aquatic health. Within the project area, individual segments were identified which had a high width to depth ratio, poor pool development, channelization and disconnection from floodplain, lack of sinuosity, decreased fry and adult habitat, lack of large wood and boulders, poor riparian health due to clearing of vegetation, diversion related degradation, and lack of shade and near bank habitat. Some reaches, however, did contain little impairment and would not be expected to require significant restoration work.

Permitting from the Army Corps of Engineers is anticipated for the implementation of restoration projects. Floodplain permits from the City of Gunnison and Gunnison County are also anticipated. The *Fluvial Geomorphological Assessment and River Restoration Considerations Report for the Gunnison River near Gunnison, Colorado* (2001) provides a very sound basis for moving forward with resource management actions. The *VanTuyl Ranch Management Plan* is also germane to the proposed fluvial resource management actions being proposed by the City and CPW. *Assessment of Riparian and Aquatic Habitat Associated with the upper Gunnison River, Gunnison County, Colorado* notes that riparian habitat such as that found on the VanTuyl Ranch provides water storage and release; enhances aquifer recharge and helps maintain a high groundwater table; high quality riparian habitat provides stream bank stability and maintains water quality; and, riparian habitat reduces flood impacts. The report notes that the VanTuyl Ranch is a high priority area for restoration. The report contains the following statement:

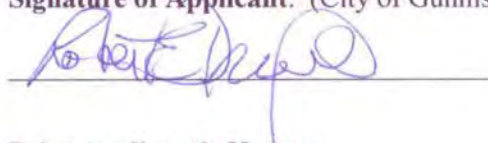
The VanTuyl Ranch was listed as an area for conservation but it is also in need of restoration. Based on aerial photographs from 1950 to the present, this area has lost much of its riparian forest and thus some of the functions of a riparian area. To maximize this publicly owned land for these benefits, we recommend the restoration of the riparian community, restoration of active side channels and overland high water flow in this area to maximize the benefits of water storage, aquifer recharge, water quality protection, a productive riverine/fisheries ecology and additional flood protection for the City of Gunnison and downstream.

3. Statement of Work, Detailed Budget, and Project Schedule

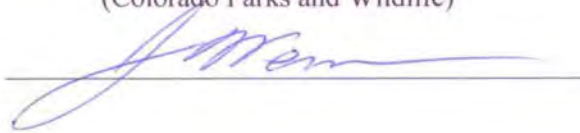
The statement of work will form the basis for the contract between the Applicant and the State of Colorado. In short, the Applicant is agreeing to undertake the work for the compensation outlined in the statement of work and budget, and in return, the State of Colorado is receiving the deliverables/products specified. **Please note that costs incurred prior to execution of a contract or purchase order are not subject to reimbursement.** All WSRA funds are disbursed on a reimbursement basis after review of invoices and appropriate backup material.

The above statements are true to the best of my knowledge:

Signature of Applicant: (City of Gunnison)

A handwritten signature in blue ink, appearing to read "Robert Drexel", written over a horizontal line.

(Colorado Parks and Wildlife)

A handwritten signature in blue ink, appearing to read "J Wenum", written over a horizontal line.

Print Applicant's Names:

Robert Drexel, Mayor

J Wenum, Area Wildlife Manager

Project Title: Gunnison River Riparian and Diversion Restoration Project

Date: November 4, 2013

EXHIBIT A STATEMENT OF WORK

WATER ACTIVITY NAME – Gunnison River Riparian and Diversion Restoration Project

GRANT RECIPIENT – The City of Gunnison and Colorado Parks and Wildlife

FUNDING SOURCE – Statewide Account and Gunnison River Basin Account

INTRODUCTION AND BACKGROUND

The Gunnison River north of the city of Gunnison has experienced historic flooding which has been contained by large, concrete-rubble levees constructed on one or both sides of the river. The levees have been extended downstream in response to flooding. The City and Colorado Parks and Wildlife recognize that floodplain and channel functions have been significantly altered and agree that improving these functions will be beneficial. Because no development will occur on a majority of this reach of the river floodplain a holistic resource management approach is possible to implement.

CPW recently completed geomorphic assessment work and an initial assessment of fisheries limiting factors on the project reach. This work included measurements of cross sections of impacted and reference reaches as well as a survey measuring streambank and streambed characteristics throughout the project area. This work guided creation of a conceptual design for river and riparian restoration work.

River management alternatives will be developed through a comprehensive review and implementation program using a four-step approach: 1) stream reach survey data collection; 2) creation of a preliminary design for stream and riparian restoration project which would be reviewed by stakeholders; 3) development of final project designs and detailed cost estimates; and, 4) implementation.

OBJECTIVES

There are five main objectives of the project.

Survey work will provide data required to identify factors contributing to fisheries habitat degradation and channel instability. Survey data is considered essential to ensure that preferred habitat improvements and stream channel modifications may occur without adversely impacting the long-term channel functions, degrade riparian habitat, or endanger structures located downstream.

Preferred alternative actions will enhance fishery habitat and increase trout density and biomass. Features such as habitat structures that can withstand high velocities during peak flow are to be considered. Habitat structures and channel modifications will be prescribed to protect eroding banks, narrow over-width channels, improve frequency of deep pools, enhance in-stream cover, and restore sediment transport velocities. Alterations of the channel geometry will also provide benefits for rafting and kayaking enthusiasts.

Preferred alternative actions to be implemented may include the removal of levees in order to break the scouring and aggradation caused by the levees. It is the desire to make alterations that will promote inundation by high frequency flood events while providing protection to citizens and structures during high volume events. The resulting actions should play a significant role in maintaining or expanding flood protection and mitigation.

Improvements to irrigation diversion structures on the Piloni Ditch and Palisades #1 Ditch and to the Palisades and Wilson ditches will aid agricultural users by reducing their annual maintenance costs at the in-take structures and will assist them in putting water rights to beneficial use.

Work will be completed post-project to assess the effects of the river and riparian restoration work.

TASKS OVERVIEW

Tasks associated with this project follow a project critical path with an integrated timeline established for the

survey and design programming, bidding process, implementation of final project design, and monitoring of results.

TASK 1 – COMPLETE GEOMORPHIC ASSESSMENT WORK

Description of Task

Additional survey work will be completed including additional detail on diversion structures, right bank measurements as well as microhabitat measurements to guide habitat treatments and proposed channel modifications. Additional work will include a hydrologic analysis (Hec-ras); pebble counts; water needs assessment; and assessment of diversion relocation on Wilson Ditch. This survey work will allow for completion of a preliminary design. Geomorphic assessment work is expected to take about six weeks to complete but will have to be completed during base flows. Work is expected to be completed by fall 2014.

Method/Procedure

The CPW will perform elevation measurements for cross sections and longitudinal surveys with the use of satellite based measurement equipment. Work will also include an analysis of bed material particle size data. Bed material information indicates the particle size range scoured and deposited. A “Wolman” type pebble count method, or an equivalent, will be used. This information will then be used, together with an analysis of flows, to determine the potential for additional scour and the size of material from which to construct fishery enhancement or grade control structures. Hydrologic assessments will be completed to assess flood stage changes between existing conditions and proposed habitat improvement treatments. Additional water needs assessments will be conducted for the areas served by the Piloni Ditch.

Deliverables

Complete segment survey with geomorphic assessment, flood elevation model for critical reaches, and completed bed material assessment.

TASK 2 - DEVELOP A PRELIMINARY DESIGN FOR REVIEW BY STAKEHOLDERS –

Description of Task

The CPW will use its employees with specialized expertise in habitat improvement and stream channel design to flesh out the conceptual design and develop a preliminary design that addresses the issues and problems that are discovered with the full geomorphic assessment. The preliminary design will be routed through stakeholders for review and potential modification prior to creation of final design. Final project design work could be completed by late fall 2014 with a three-week stakeholder review.

Method/Procedure

CPW biologists, researchers, and engineers with the appropriate training will use the geomorphic assessment to identify general treatment solutions for the six individual treatment segments identified in the conceptual design. Preliminary restoration design will include potential treatment solutions (habitat structures, plantings, channel modifications, etc.) appropriate for project area.

Deliverable

CPW will complete preliminary design which will then be reviewed by stakeholders to provide input to guide completion of final design.

TASK 3 – COMPLETE FINAL DESIGN AND USE BID PROCESS TO SELECT CONTRACTOR(S)

Description of Task

Incorporate stakeholder recommended revisions to the preliminary design and complete final design and bid package to allow for solicitation of contractor(s) to complete project components. Final design and creation of bid documents is expected to be completed by January 2015, although some sub-components may be ready to bid or complete sooner (such as Piloni diversion or riparian planting portions of the project).

Method/Procedure

The CPW will present the final design along with specific minimum project requirements and quality demands to interested contractors. Contractor(s) will be prequalified or will be selected based on qualifications and submitted bid. The City of Gunnison will administer and manage the project budget with revenues and expenditure processed through the City Finance Department. The CPW staff will manage all construction inspection activity except the Piloni head-gate construction, which will involve inspections by the City Engineer.

Deliverable

CPW will complete the final project design with plan sheets, materials specifications, structural design details and plan view, profile and cross section details of the amended channel configuration. Final construction-level plans will be ready before construction bid announcements are published and contractor(s) are selected.

TASK 4 – ACQUIRE AND STOCKPILE MATERIALS

Description of Task

Collect or purchase and store necessary materials for implementing the design. Materials would be purchased and/or delivered in spring 2015 until project implementation in fall 2015, with the exception of project components which may be completed earlier (such as Piloni diversion and riparian planting components).

Method/Procedure

CPW will work collaboratively with other parties to identify sources of materials necessary for the implementation of the stream and riparian work. These are likely to include boulders, tree roots, logs, willow cuttings/shoots, tree and willow plantings, etc. These materials will be assembled at the restoration site for use in implementation or scheduled for delivery during construction.

Deliverable

Restoration Materials

TASK 5 – COMPLETE HABITAT IMPROVEMENT DESIGN COMPONENTS

Description of Task

Construction of project components including fish habitat and bank stabilization structures, irrigation diversion improvements, boater and angler access improvements, and riparian enhancements.

Method/Procedure

This task includes physical improvements to address the areas of degradation, diversions within the river channel, river function, flood storage and aquifer recharge, improved conditions for wild brown and rainbow trout including in-channel deep pools and mid-channel adult holding cover, improvements to riparian habitat,

and improved access for fishing and boat passage. The river reach survey identifies six river reaches involving different types of improvements. This work may be completed in phases to allow for sub-components to be completed separately (Piloni Diversion and riparian planting components). Habitat improvement project components are expected to be completed by fall 2015.

Deliverables

The following is a summary of the improvements anticipated in the different reaches.

Segment 1: North Bridge to the Railroad Bridge (4,413 ft.). Rebuild Piloni Ditch diversion, improve access to the Piloni Ditch headgate, install boulder clusters, and improve near-shore habitat. Alterations will address some of the existing impairments of channelization, bermed banks, disconnection from the floodplain, lack of deep scour pools and sinuosity, narrow belt width, decreased fry and adult habitat, lack of large wood and boulders, diminished riparian vegetation, lack of shade, lack of near-bank habitat and the influence of bridges.

Segment 2: Railroad Bridge to Historic Blowout on VanTuyl Ranch (2,580 ft.). Proposed restoration will address some of the existing impairments of disconnection from the floodplain, lack of deep lateral scour pools, high width:depth ratio, monotypic reach, bermed banks, channelization, lack of sinuosity, belt width too narrow, lack of large wood and large boulders, lack of shade, lack of near-bank habitat, decreased fry and adult habitat. Develop meandering pool/riffle sequence with alternating cobble bars, boulder cluster, optimize near-shore habitat, and incorporate root wads for toe protection.

Segment 3 – Historic Blowout to Wilson Creek Diversion (1,610 ft.). Work will address some of the identified impairments including disconnection from the floodplain, high velocity and gradient, point bar development, lateral scour pools, Wilson Creek intake location within depositional area, gravel pile at Wilson Creek, 90 degree channel configuration, lack of fry habitat, lack of vegetation or bank-full bench on bends, and presence of un-natural concrete chunks.

Segment 4: Wilson Creek Diversion through Ohio Creek Confluence (2,756 ft.). Address existing impairments of cobble bars, limited lateral scour pools, backwater locations, old meander-chute cut-off channels, large wood, excessive bedload fall out, bank erosion and vertical banks. Install toe protection on bermed reaches, j-hook vanes, habitat clusters, boulder clusters, expand riparian vegetation and cottonwood gallery with seedling plants.

Segment 5 - Ohio Creek Confluence through SWA (5,920 ft.). Address the existing impairments of diversion structures, lack of point bars, weak and eroding banks due to human access. Address the current impairments of bank erosion due to boater access, limited adult holding habitat and trails through the riparian habitat. Install additional adult fish holding habitat, the bank will be hardened to limit erosion and the riparian habitat will be managed by the use of trails.

Segment 6 - West Tomichi Riverway Park (1,700 ft.). Improve bank conditions and reduce the erosion of the bank caused primarily by park uses. Root wads, woody toe protection, and boulder clusters will be installed, banks will be hardened to improve fishing access and reduce erosion, and the riparian vegetation and cottonwood gallery will be expanded by the planting of seedling trees.

TASK 6 – POST-TREATMENT EVALUATION

Description of Task

Conduct biological assessment of the treated river segment.

Method/Procedure

CPW will conduct mark-recapture electrofishing surveys using raft electrofishing equipment and crew for five years following the completion of restoration to quantify the biological effect of the work done. This will occur on a standardized site during low flows in the late summer or fall during at least two occasions within the monitoring period.

Deliverable

Biological survey and assessment of treatment effectiveness.

CITY AND CPW RESPONSIBILITIES

The City and the CPW will work cooperatively on all elements of the construction project. The CPW will be responsible for all permitting requirements including Army Corp of Engineers, Clean Water Act 404 permitting and Federal Emergency Management Agency floodplain permits. As previously stated, the City will be responsible for the financial administration of the project and the CPW will manage the majority of the construction management elements.

The City and CPW will work together to evaluate and choose contractor(s) for the project construction work. It is anticipated that one primary contractor will be selected, but it is possible that separate contractors will work on project sub-components (Piloni Ditch diversion and riparian planting). The contractor will have experience in similar river restoration work and be fully bonded and insured pursuant to City of Gunnison contract protocol. The selected contractor shall be responsible for completing the project, pursuant to the construction level designs and within the set budget under the contract.

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. Tasks should correspond to the tasks described above.

Total Costs				
	In-Kind Labor	Other Direct Costs	Matching Funds	Total Project Costs
Task 1 – Geomorphic Assessment			\$10,200	\$10,200
Task 2 – Preliminary Design			\$ 7,200	\$ 7,200
Task 2 – Additional Survey Work			\$ 9,600	\$ 9,600
Task 3 – Final Design			\$ 19,200	\$ 19,200
Task 3 – Site Plan Development			\$ 2,400	\$ 2,400
Task 3 – complete Bid Package			\$ 4,800	\$ 4,800
Task 4 – Acquire Materials ¹				
Task 5 – Aquatic Lead Biologist			\$ 9,600	\$ 9,600
Task 5 – Design Implementation			\$ 18,000	\$ 18,000
Task 5 – Water Diversion Needs Assessment			\$ 2,000 ²	\$ 2,000

¹ Included in Task 5 Costs

² Gunnison Trout Unlimited

Total Costs				
	In-Kind Labor	Other Direct Costs	Matching Funds	Total Project Costs
Task 5 – Improvements to Piloni Diversion Segment 1		\$ 19,000 @ \$35,000 per unit	\$16,000 ¹	\$ 35,000
Task 5 – Improved Access to Piloni Ditch Headgate			\$15,000 ²	\$ 15,000
Task 5 – Rock Vanes Segment 1		\$6,000 Rock Vanes 2 @ \$3,000/ea		\$ 6,000
Task 5 – Boulder Clusters Segments 2, 4, 5		\$ 14,500 (35 @ \$500 ea)	\$ 3,000 ³	\$ 17,500
Task 5 – Rock Vane Segment 2		\$3,000 Rock Vane 1 @ \$3,000/ea		\$ 3,000
Task 5 – Near-shore Habitat Segments 1, 4		\$ 8,600 (84 LF @ \$150/LF)	\$ 4,000 ⁴	\$ 12,600
Task 5 – Wilson Creek Intake Structure			\$ 25,000 (1 @ \$25,000 ea) ⁵	\$ 25,000
Task 5 – Wilson Creek Intake Cobble Toe	\$2,000 ⁶	\$12,850 (514 LF @ \$25/LF)		\$ 14,850
Task 5 – Fill Existing Diversion Channel / Excavate New Diversion Channel Wilson Creek				7
Task 5 – Wood Toe and Brush Toe Segments 2, 3, 4, 5, 6		\$81,450 Wood Toe 543 LF @ \$150 /LF		\$141,300
		\$59,850 Brush Toe 798 LF @ \$75 / LF		
Task 5 – J-Hooks and Log Vanes Segments 3, 4		\$5,000 J-Hook 1 @ \$5,000		\$ 23,000
		Log Vane \$18,000 6 @ \$3,000/ea		
Task 5 – Grade Control Sill Segment 3		\$10,000 Boulders 2 @ \$5,00/ea		\$10,000
Task 5 – Enhance Riffle Segment 4		\$ 14,000 Boulders 70 @ \$200/ea		\$ 14,000

¹ City of Gunnison

² City of Gunnison

³ Private Funds

⁴ Trout Unlimited (\$1,000 local chapter, \$3,000 national)

⁵ Basin Account

⁶ Trout Unlimited – 100 hours @ \$20/hr

⁷ Included with bank and habitat treatments

Total Costs				
	In-Kind Labor	Other Direct Costs	Matching Funds	Total Project Costs
Task 5 – Revegetation Segments 2, 3, 4, 5	\$1,000 ¹	\$ 16,000 Bare Root Willow Plantings 10,000 @ \$1.60/ea		\$ 29,250
		\$12,250 Willow Stakes 10,000 @ \$1.25 ea		
Task 5 – Palisade Ditch and Rock Vane Segment 5		\$4,460 #1 Diversion Structure 1 @ \$25,000	\$20,540 ²	\$ 72,000
		\$35,000 #2 Diversion Structure 1 @ 35,000		
		\$6,000 Rock Vane 2 @ \$3,000/ea		
		\$6,000 J-Hook Structure 1 @ \$6,000/ea		
Task 5 – Cobble Boat Ramp Segment 6		\$ 2,000 1 @ \$2,000/ea		\$ 2,000
Task 5 – Install Trails in Riparian Habitat			\$153,708 ³	\$153,708
Task 6 – Post-Project Evaluation			\$ 16,400	\$ 16,400
Operating and Maintenance			\$ 20,000	\$ 20,000
Contingency		\$66,792 (20% of Materials)		\$66,792
Total Cash	\$3,000	\$400,752	\$356,648	\$760,400

¹ Gunnison Trails – 50 hours @ \$20/hr

² Basin Account

³ Either GOCO Grant funds or City funds.

In-Kind Contributions			
Gunnison Trails (50 hours labor)	\$ 1,000		
Gunnison Trout Unlimited (100 hours labor)	\$ 2,000		
In-Kind Totals	\$ 3,000		
Budget Summary			
Total Grant Request	\$400,752		
Total Match Funds	\$356,648		
Total In-Kind Contribution	\$ 3,000		
TOTAL PROJECT VALUE	\$760,400		

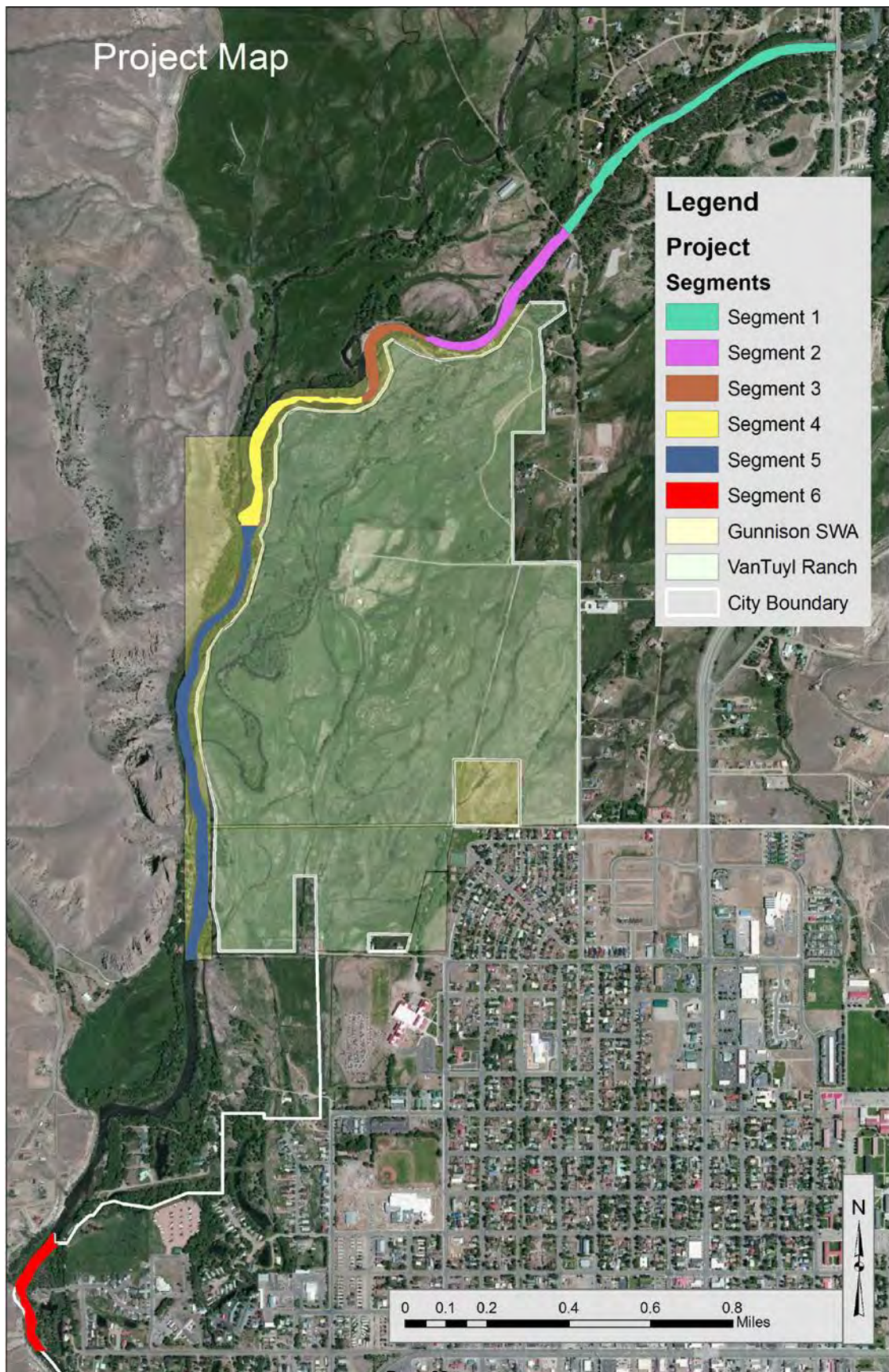
SCHEDULE

Provide a project schedule including key milestones for each task and the completion dates or time period from the Notice to Proceed (NTP). This dating method allows flexibility in the event of potential delays from the procurement process. Sample schedules are provided below. Please note that these schedules are examples and will need to be adapted to fit each individual application.

Preliminary Schedule

Task	Start Date	Finish Date
1	April 2014	November 2014
2	April 2014	December 2014
3	December 2014	January 2015
4	April 2015	November 2015
5	Summer 2015	Fall 2015

EXHIBIT B PROJECT MAPS



COLORADO PARKS AND WILDLIFE

Gunnison River and Riparian Rehabilitation Project:
Gunnison State Wildlife Area

Conceptual Design Drawings



Prepared for:

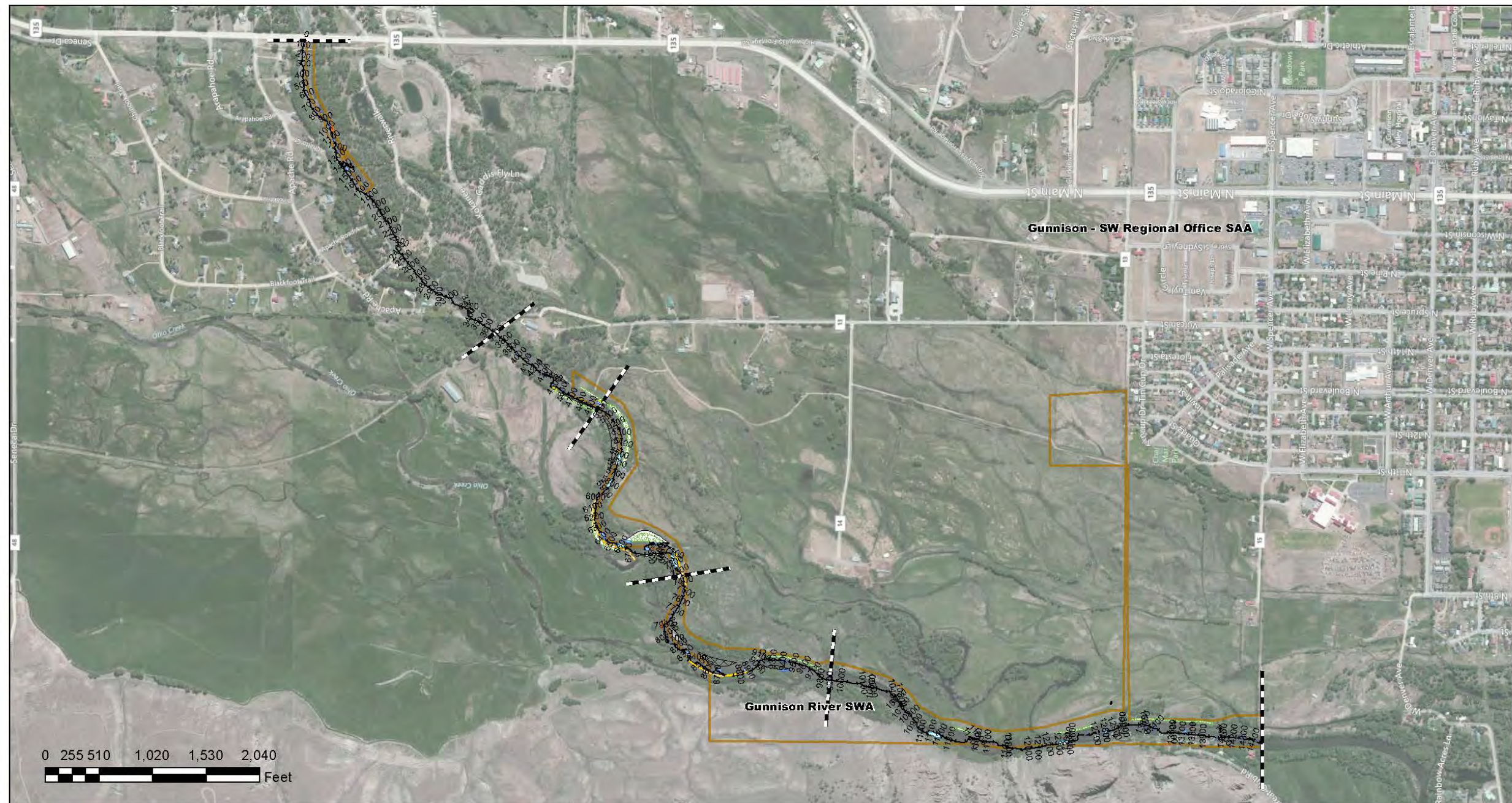
Colorado Water Conservation Board
Water Supply Reserve Account Grant Application
Gunnison Basin Roundtable

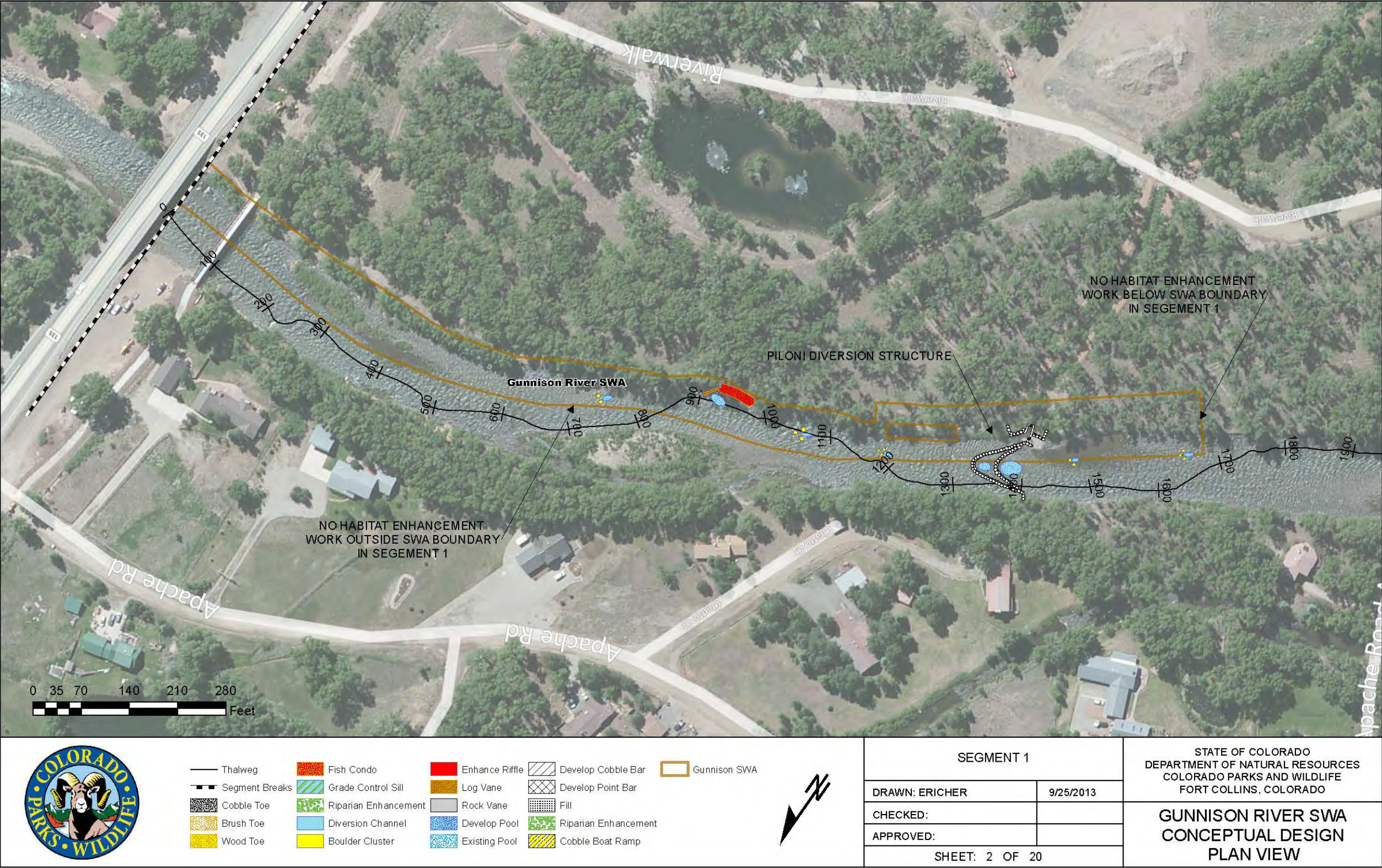
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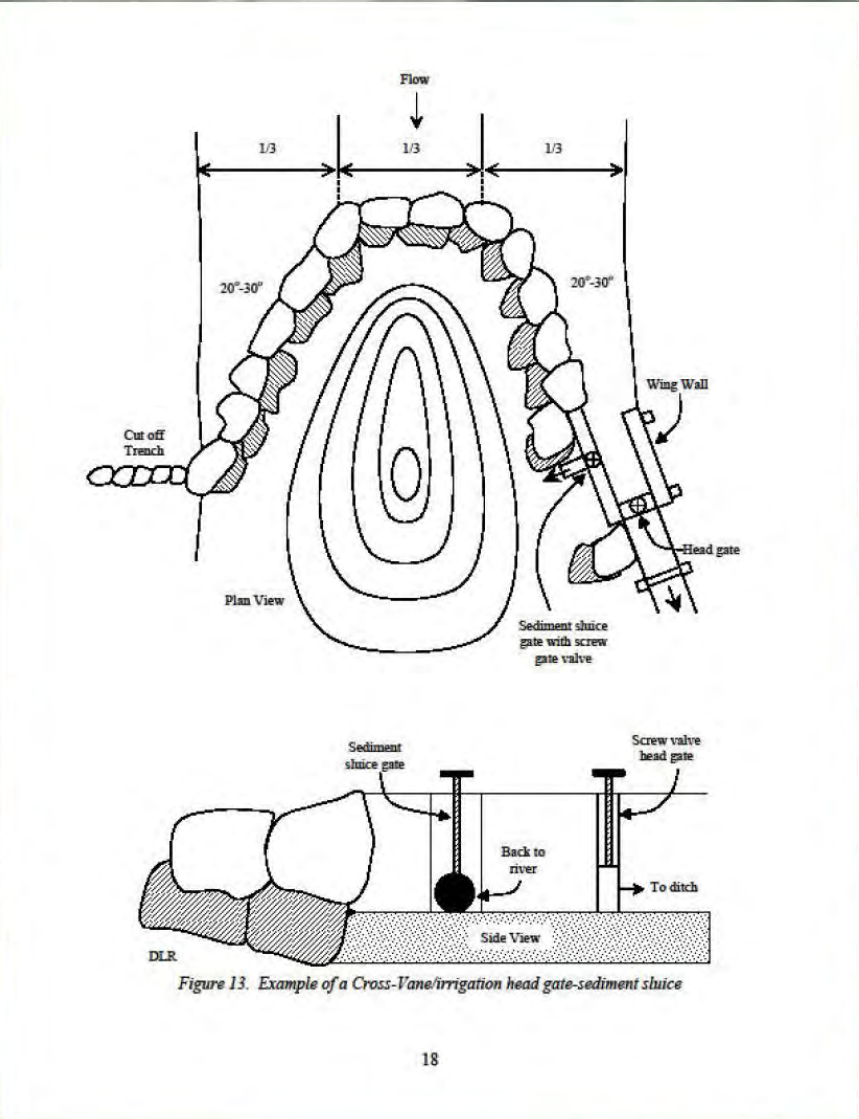
Colorado Parks and Wildlife
September 25, 2013



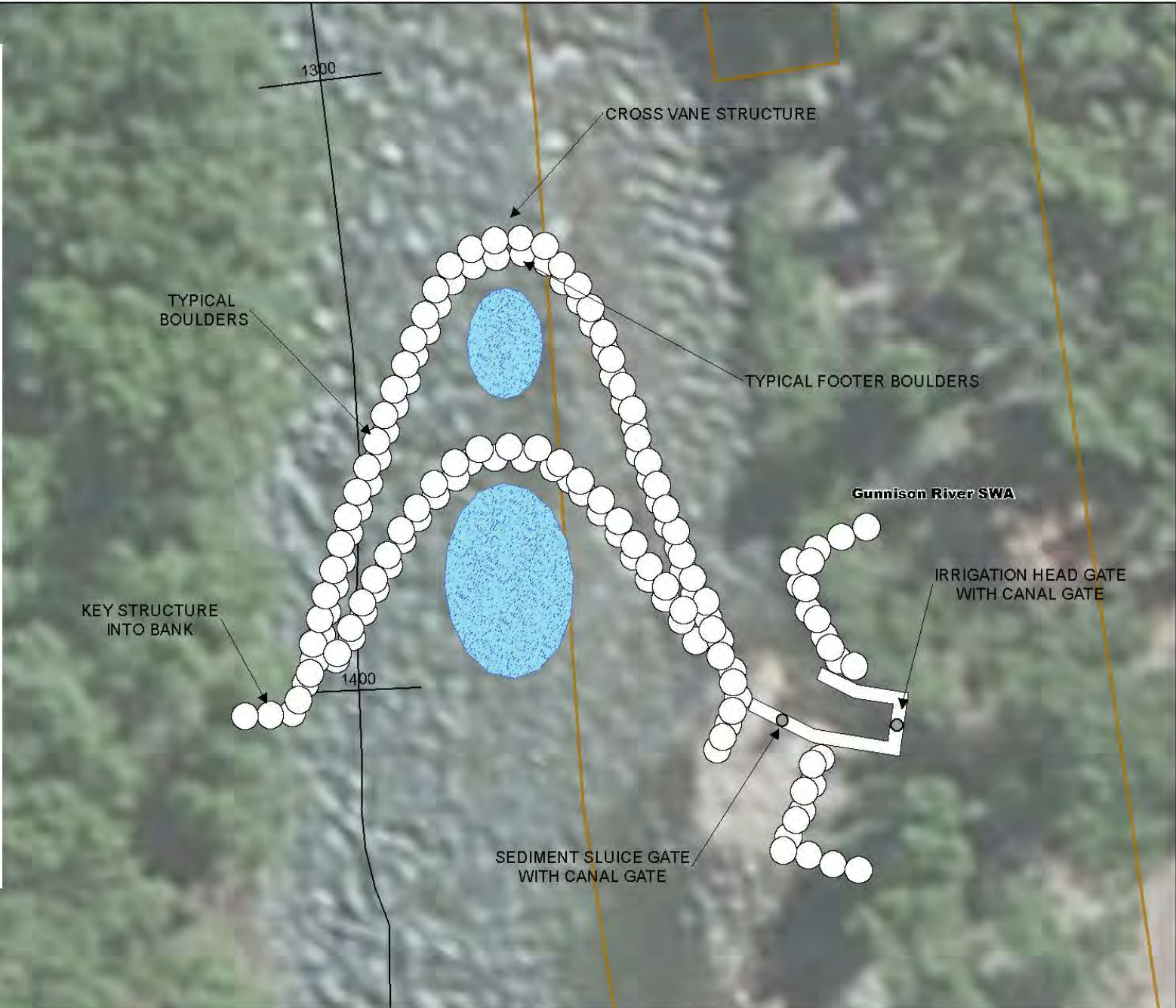
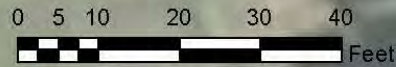
STATE OF COLORADO
DEPARTMENT OF NATURAL RESOURCES
COLORADO PARKS AND WILDLIFE
FORT COLLINS, COLORADO







18



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|----------------|----------------------|----------------|----------------------|--------------|
| Thalweg | Fish Condo | Enhance Riffle | Develop Cobble Bar | Gunnison SWA |
| Segment Breaks | Grade Control Sill | Log Vane | Develop Point Bar | |
| Cobble Toe | Riparian Enhancement | Rock Vane | Fill | |
| Brush Toe | Diversion Channel | Develop Pool | Riparian Enhancement | |
| Wood Toe | Boulder Cluster | Existing Pool | Cobble Boat Ramp | |



PILONI DIVERSION STRUCTURE

DRAWN: ERICHER 9/25/2013

CHECKED:

APPROVED:

SHEET: 3 OF 20

STATE OF COLORADO
DEPARTMENT OF NATURAL RESOURCES
COLORADO PARKS AND WILDLIFE
FORT COLLINS, COLORADO

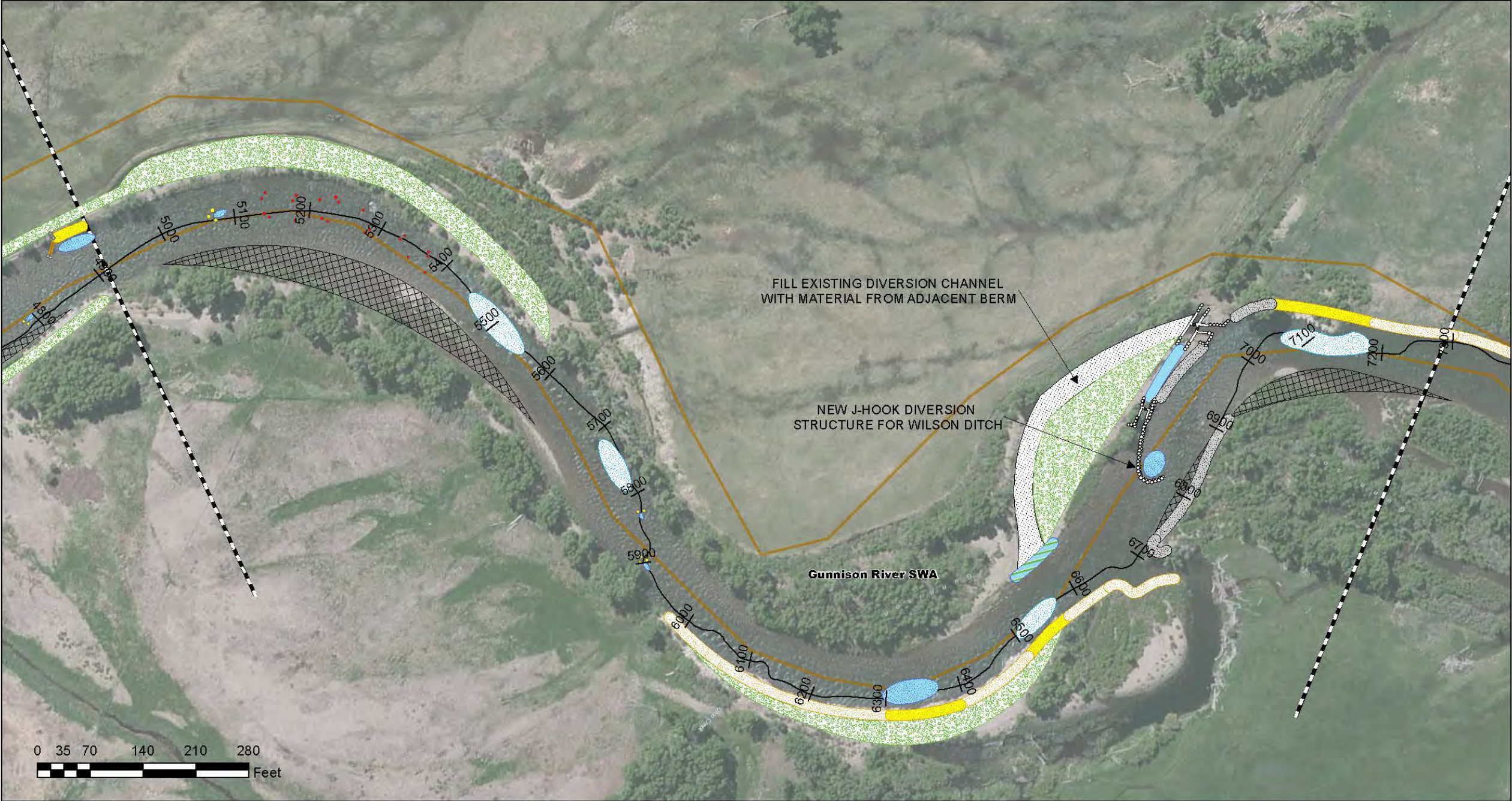
**GUNNISON RIVER SWA
CONCEPTUAL DESIGN
PLAN VIEW**



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|--------------------|----------------------|----------------|----------------------|--------------|
| — Thalweg | Fish Condo | Enhance Riffle | Develop Cobble Bar | Gunnison SWA |
| --- Segment Breaks | Grade Control Sill | Log Vane | Develop Point Bar | |
| Cobble Toe | Riparian Enhancement | Rock Vane | Fill | |
| Brush Toe | Diversion Channel | Develop Pool | Riparian Enhancement | |
| Wood Toe | Boulder Cluster | Existing Pool | Cobble Boat Ramp | |



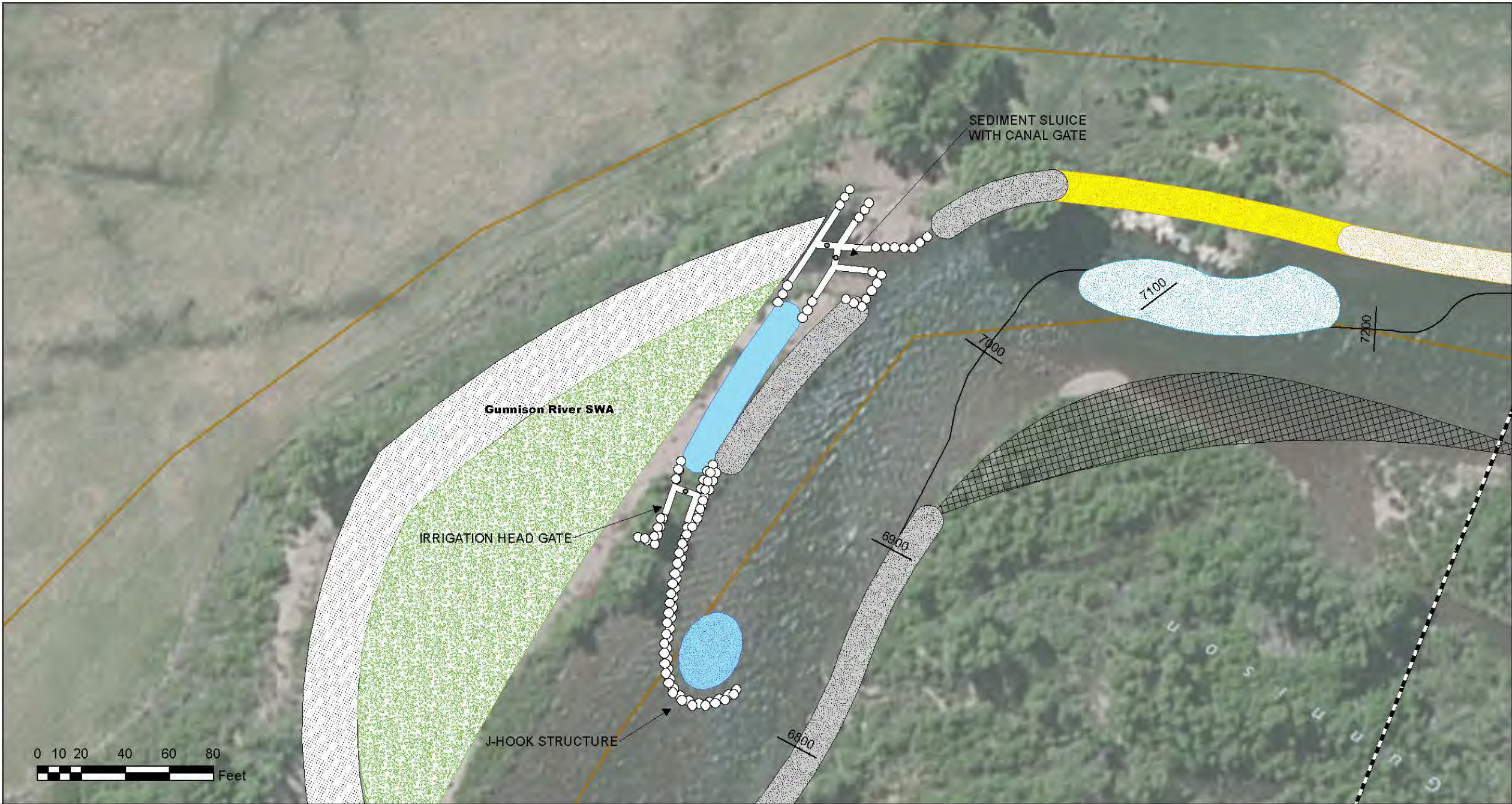
SEGMENT 2		STATE OF COLORADO DEPARTMENT OF NATURAL RESOURCES COLORADO PARKS AND WILDLIFE FORT COLLINS, COLORADO GUNNISON RIVER SWA CONCEPTUAL DESIGN PLAN VIEW
DRAWN: ERICHER	9/25/2013	
CHECKED:		
APPROVED:		
SHEET: 4 OF 20		



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|----------------|----------------------|----------------|----------------------|--------------|
| Thalweg | Fish Condo | Enhance Riffle | Develop Cobble Bar | Gunnison SWA |
| Segment Breaks | Grade Control Sill | Log Vane | Develop Point Bar | |
| Cobble Toe | Riparian Enhancement | Rock Vane | Fill | |
| Brush Toe | Diversion Channel | Develop Pool | Riparian Enhancement | |
| Wood Toe | Boulder Cluster | Existing Pool | Cobble Boat Ramp | |



SEGMENT 3		STATE OF COLORADO DEPARTMENT OF NATURAL RESOURCES COLORADO PARKS AND WILDLIFE FORT COLLINS, COLORADO
DRAWN: ERICHER	9/25/2013	
CHECKED:		
APPROVED:		
SHEET: 5 OF 20		GUNNISON RIVER SWA CONCEPTUAL DESIGN PLAN VIEW



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|----------------|----------------------|----------------|----------------------|--------------|
| Thalweg | Fish Condo | Enhance Riffle | Develop Cobble Bar | Gunnison SWA |
| Segment Breaks | Grade Control Sill | Log Vane | Develop Point Bar | |
| Cobble Toe | Riparian Enhancement | Rock Vane | Fill | |
| Brush Toe | Diversion Channel | Develop Pool | Riparian Enhancement | |
| Wood Toe | Boulder Cluster | Existing Pool | Cobble Boat Ramp | |



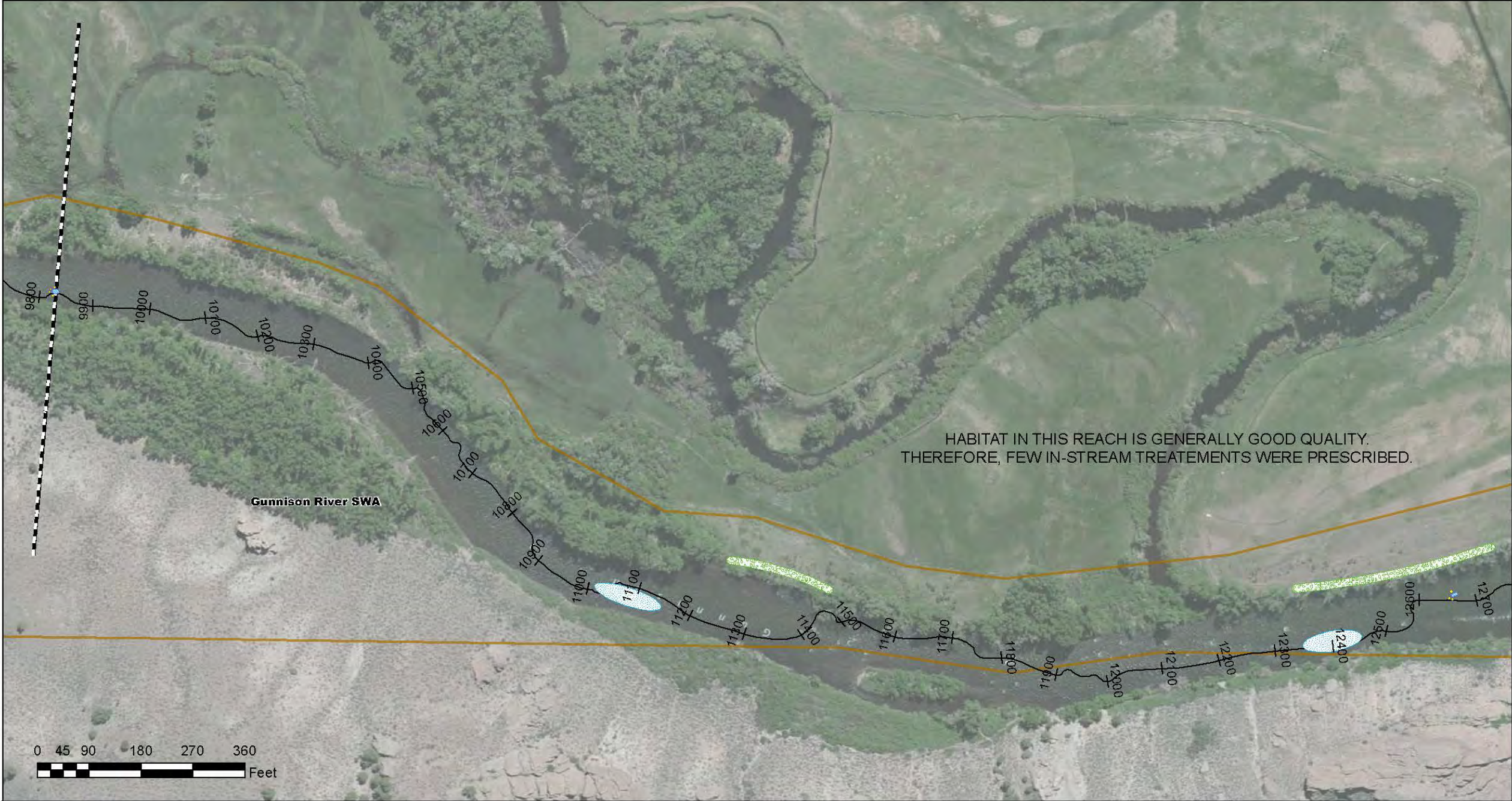
WILSON DITCH INTAKE		STATE OF COLORADO DEPARTMENT OF NATURAL RESOURCES COLORADO PARKS AND WILDLIFE FORT COLLINS, COLORADO GUNNISON RIVER SWA CONCEPTUAL DESIGN PLAN VIEW
DRAWN: ERICHER	9/25/2013	
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SHEET: 6 OF 20		



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| — Thalweg | Fish Condo | Enhance Riffle | Develop Cobble Bar | Gunnison SWA |
| - - - Segment Breaks | Grade Control Sill | Log Vane | Develop Point Bar | |
| Cobble Toe | Riparian Enhancement | Rock Vane | Fill | |
| Brush Toe | Diversion Channel | Develop Pool | Riparian Enhancement | |
| Wood Toe | Boulder Cluster | Existing Pool | Cobble Boat Ramp | |



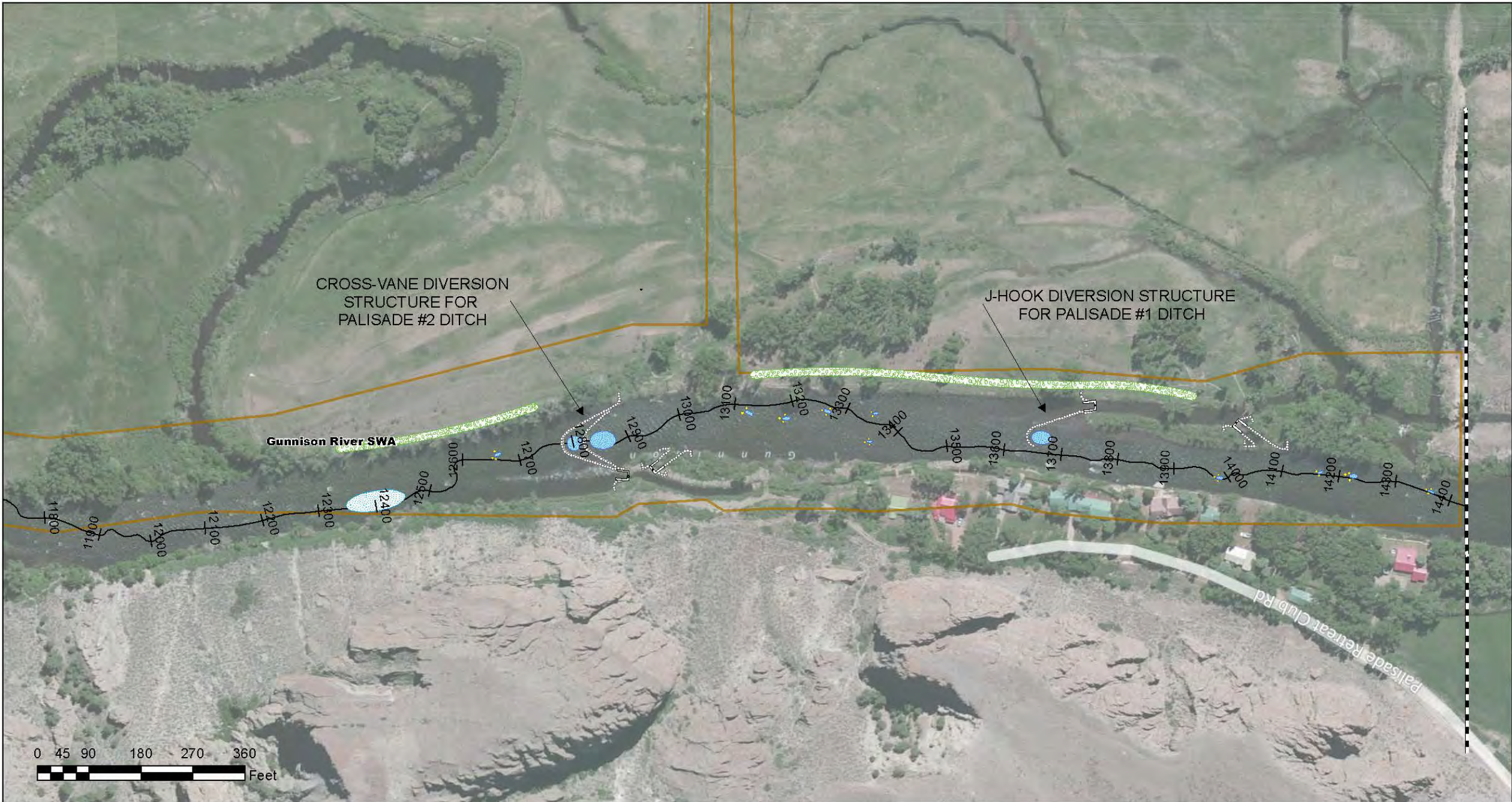
SEGMENT 4		STATE OF COLORADO DEPARTMENT OF NATURAL RESOURCES COLORADO PARKS AND WILDLIFE FORT COLLINS, COLORADO GUNNISON RIVER SWA CONCEPTUAL DESIGN PLAN VIEW
DRAWN: ERICHER	9/25/2013	
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SHEET: 7 OF 20		



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|----------------------|----------------------|----------------|----------------------|--------------|
| — Thalweg | Fish Condo | Enhance Riffle | Develop Cobble Bar | Gunnison SWA |
| - - - Segment Breaks | Grade Control Sill | Log Vane | Develop Point Bar | |
| Cobble Toe | Riparian Enhancement | Rock Vane | Fill | |
| Brush Toe | Diversion Channel | Develop Pool | Riparian Enhancement | |
| Wood Toe | Boulder Cluster | Existing Pool | Cobble Boat Ramp | |



SEGMENT 5 - UPPER		STATE OF COLORADO DEPARTMENT OF NATURAL RESOURCES COLORADO PARKS AND WILDLIFE FORT COLLINS, COLORADO GUNNISON RIVER SWA CONCEPTUAL DESIGN PLAN VIEW
DRAWN: ERICHER	9/25/2013	
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SHEET: 8 OF 20		



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|----------------|----------------------|----------------|----------------------|--------------|
| Thalweg | Fish Condo | Enhance Riffle | Develop Cobble Bar | Gunnison SWA |
| Segment Breaks | Grade Control Sill | Log Vane | Develop Point Bar | |
| Cobble Toe | Riparian Enhancement | Rock Vane | Fill | |
| Brush Toe | Diversion Channel | Develop Pool | Riparian Enhancement | |
| Wood Toe | Boulder Cluster | Existing Pool | Cobble Boat Ramp | |



SEGMENT 5 - LOWER

DRAWN: ERICHER 9/25/2013

CHECKED:

APPROVED:

SHEET: 9 OF 20

STATE OF COLORADO
DEPARTMENT OF NATURAL RESOURCES
COLORADO PARKS AND WILDLIFE
FORT COLLINS, COLORADO

**GUNNISON RIVER SWA
CONCEPTUAL DESIGN
PLAN VIEW**



- | | | | | |
|----------------|----------------------|----------------|----------------------|--------------|
| Thalweg | Fish Condo | Enhance Riffle | Develop Cobble Bar | Gunnison SWA |
| Segment Breaks | Grade Control Sill | Log Vane | Develop Point Bar | |
| Cobble Toe | Riparian Enhancement | Rock Vane | Fill | |
| Brush Toe | Diversion Channel | Develop Pool | Riparian Enhancement | |
| Wood Toe | Boulder Cluster | Existing Pool | Cobble Boat Ramp | |



PALISADE #2 DIVERSION

DRAWN: ERICHER 9/25/2013

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APPROVED:

SHEET: 10 OF 20

STATE OF COLORADO
DEPARTMENT OF NATURAL RESOURCES
COLORADO PARKS AND WILDLIFE
FORT COLLINS, COLORADO

**GUNNISON RIVER SWA
CONCEPTUAL DESIGN
PLAN VIEW**



- | | | | | |
|----------------|----------------------|----------------|----------------------|--------------|
| Thalweg | Fish Condo | Enhance Riffle | Develop Cobble Bar | Gunnison SWA |
| Segment Breaks | Grade Control Sill | Log Vane | Develop Point Bar | |
| Cobble Toe | Riparian Enhancement | Rock Vane | Fill | |
| Brush Toe | Diversion Channel | Develop Pool | Riparian Enhancement | |
| Wood Toe | Boulder Cluster | Existing Pool | Cobble Boat Ramp | |



PALISADE #1 DIVERSION		STATE OF COLORADO DEPARTMENT OF NATURAL RESOURCES COLORADO PARKS AND WILDLIFE FORT COLLINS, COLORADO
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SHEET: 11 OF 20		GUNNISON RIVER SWA CONCEPTUAL DESIGN PLAN VIEW

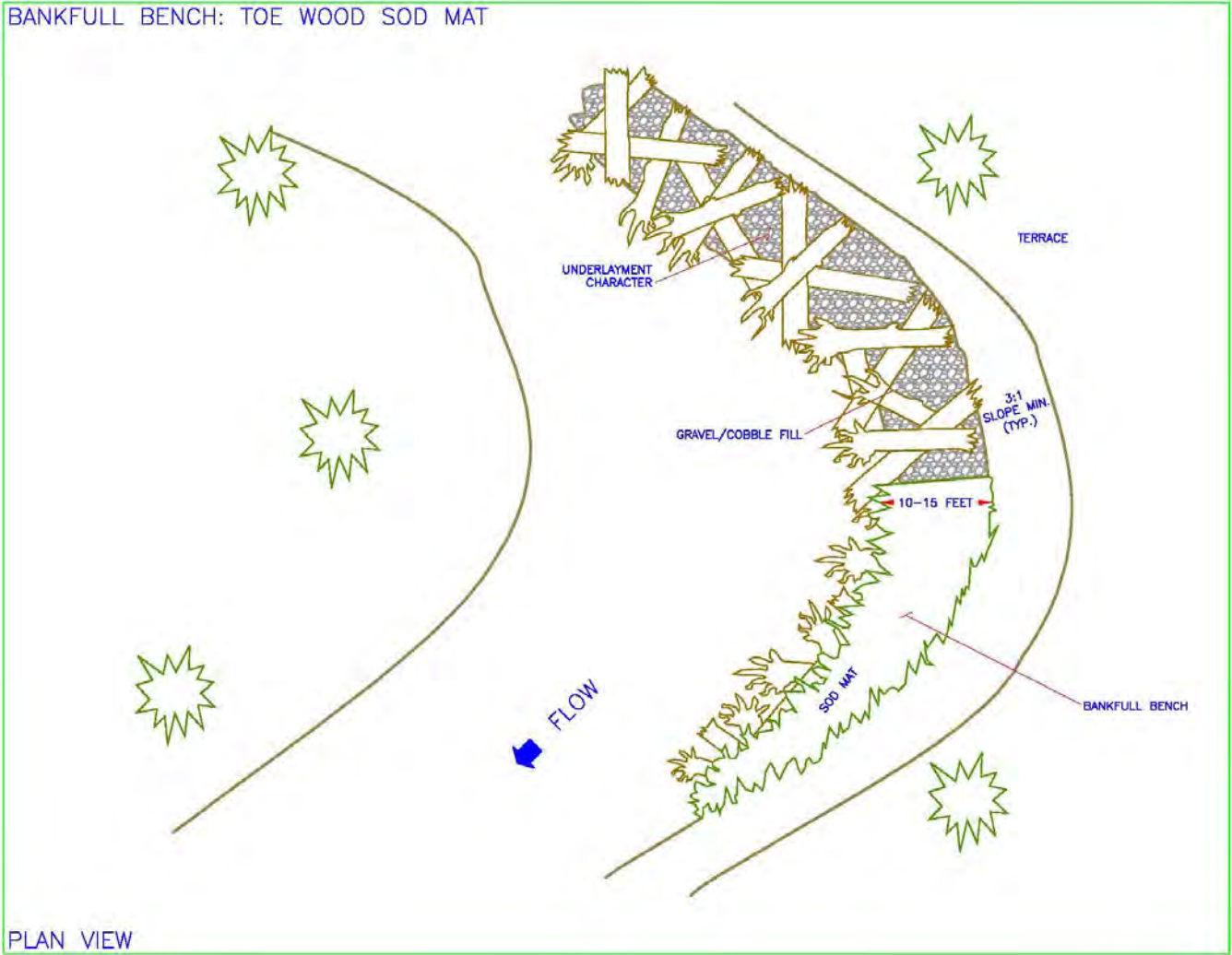


- | | | | | |
|----------------|----------------------|----------------|----------------------|--------------|
| Thalweg | Fish Condo | Enhance Riffle | Develop Cobble Bar | Gunnison SWA |
| Segment Breaks | Grade Control Sill | Log Vane | Develop Point Bar | |
| Cobble Toe | Riparian Enhancement | Rock Vane | Fill | |
| Brush Toe | Diversion Channel | Develop Pool | Riparian Enhancement | |
| Wood Toe | Boulder Cluster | Existing Pool | Cobble Boat Ramp | |



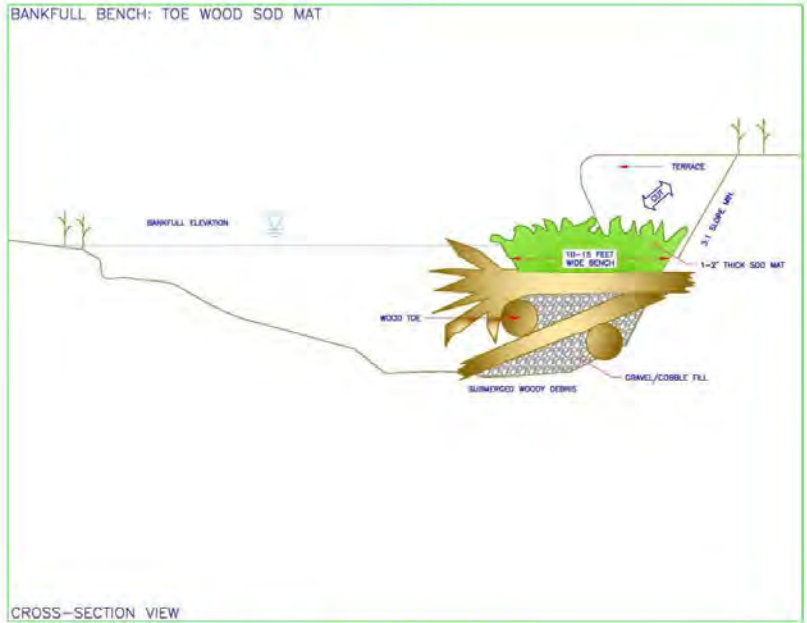
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DRAWN: ERICHER	9/25/2013	
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APPROVED:		
SHEET: 12 OF 20		GUNNISON RIVER SWA CONCEPTUAL DESIGN PLAN VIEW

BANKFULL BENCH: TOE WOOD SOD MAT



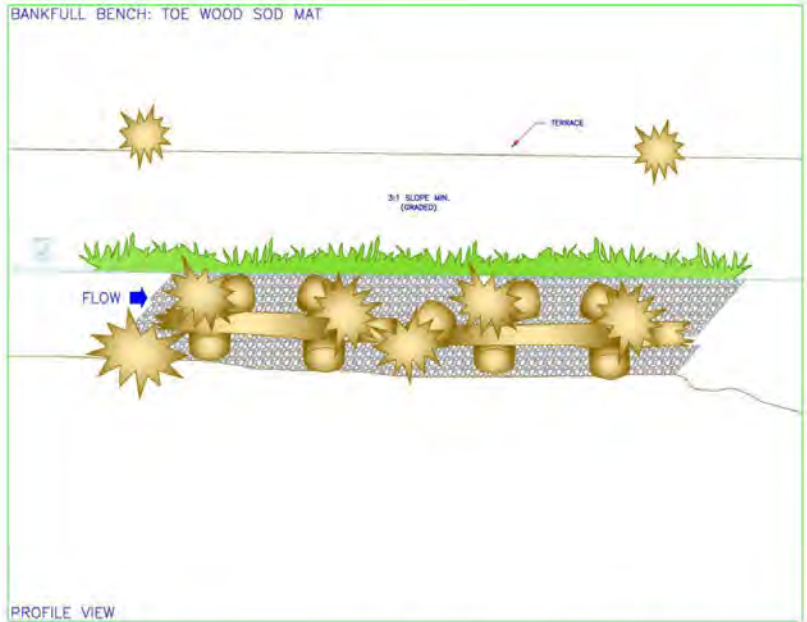
PLAN VIEW

BANKFULL BENCH: TOE WOOD SOD MAT



CROSS-SECTION VIEW

BANKFULL BENCH: TOE WOOD SOD MAT



PROFILE VIEW



NOT TO SCALE

WOOD TOE / SOD MAT DETAIL

DRAWN: ERICHER 9/25/2013

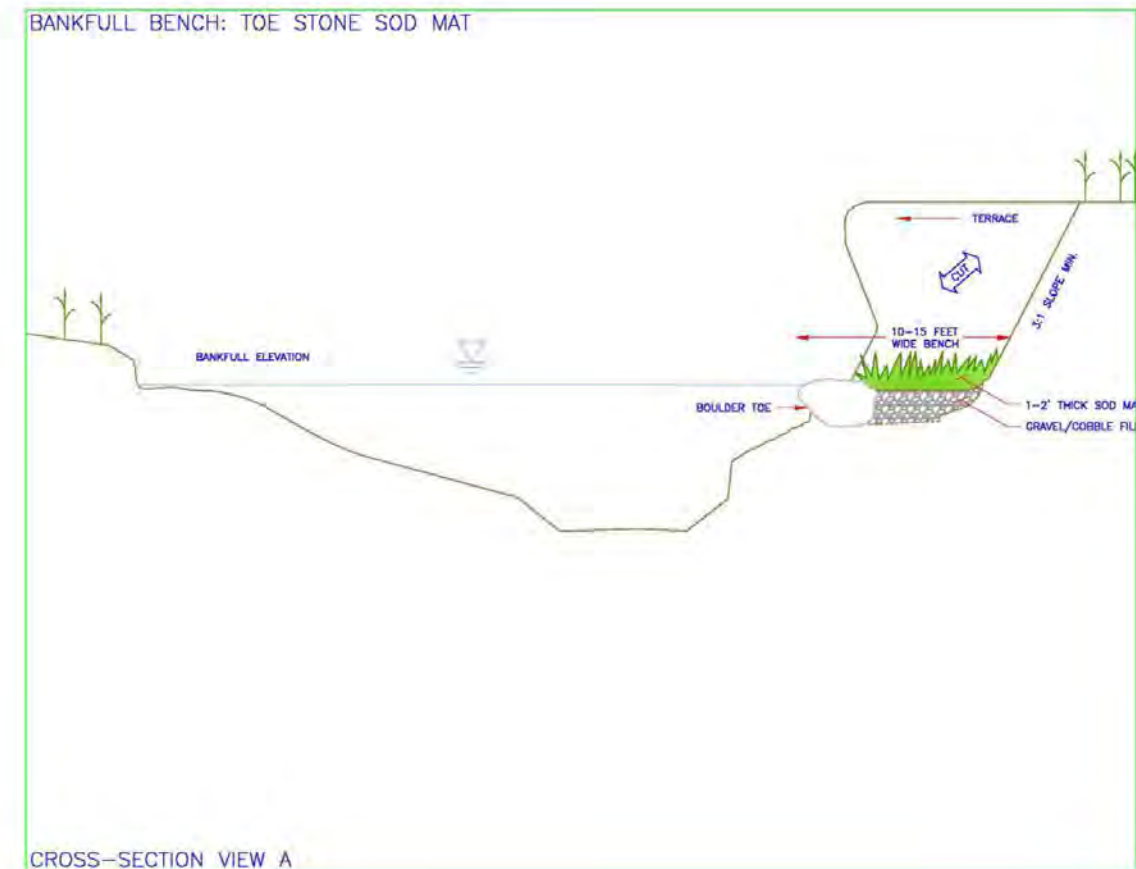
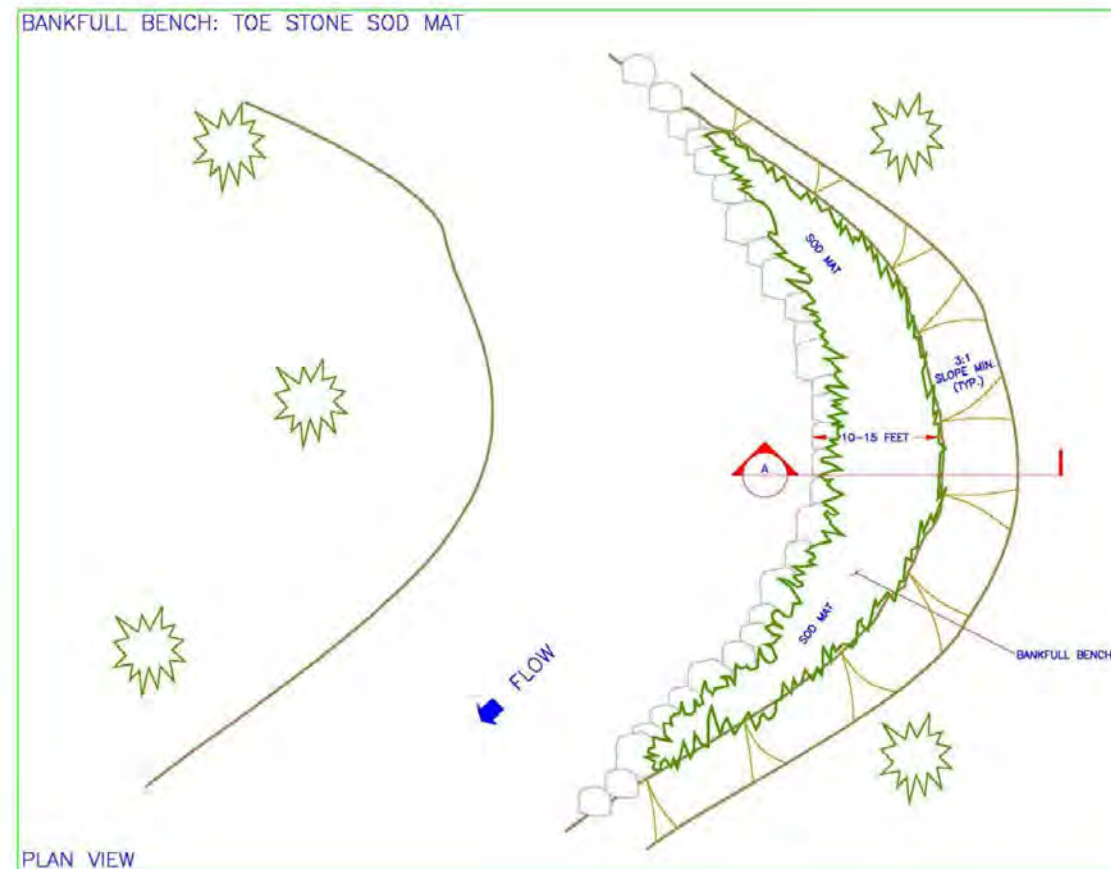
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STATE OF COLORADO
DEPARTMENT OF NATURAL RESOURCES
COLORADO PARKS AND WILDLIFE
FORT COLLINS, COLORADO

GUNNISON RIVER SWA
CONCEPTUAL DESIGN
DETAIL DRAWINGS



NOT TO SCALE

COBBLE/BOULDER TOE DETAIL

DRAWN: ERICHER 9/25/2013

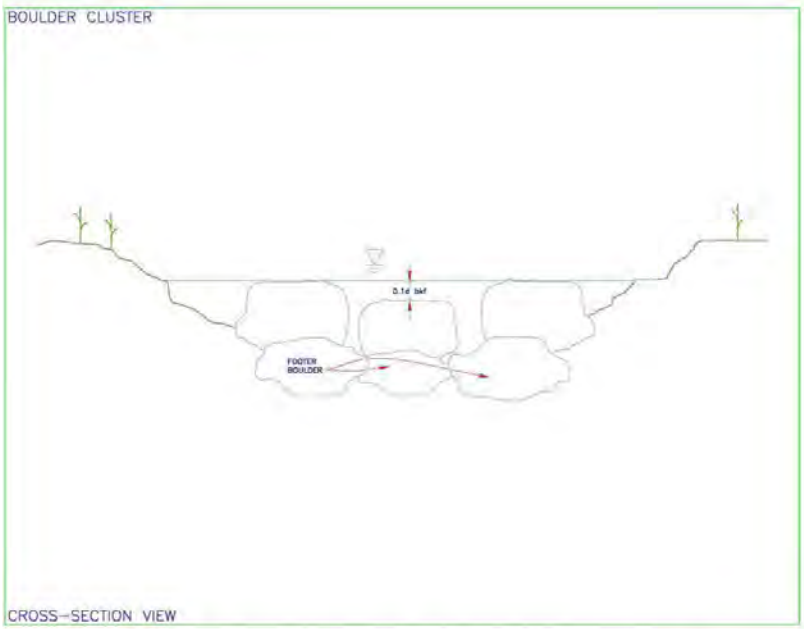
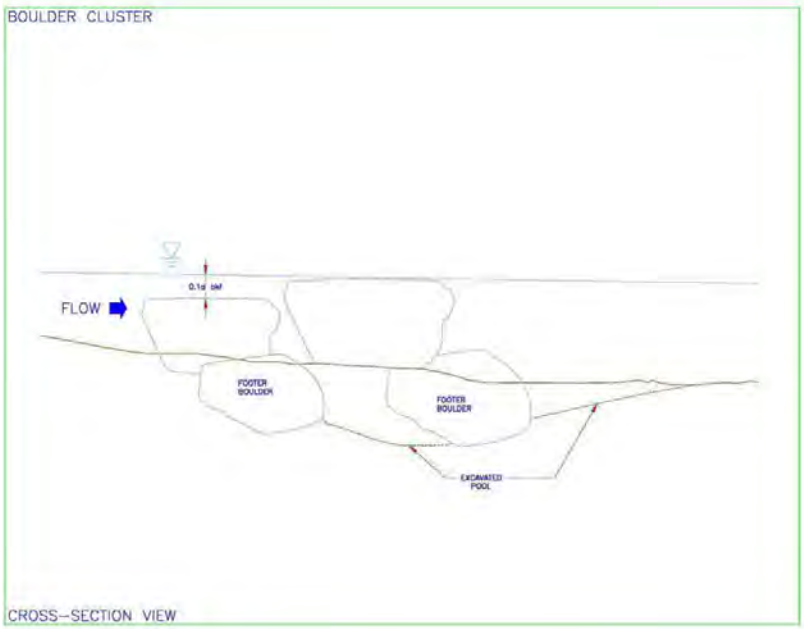
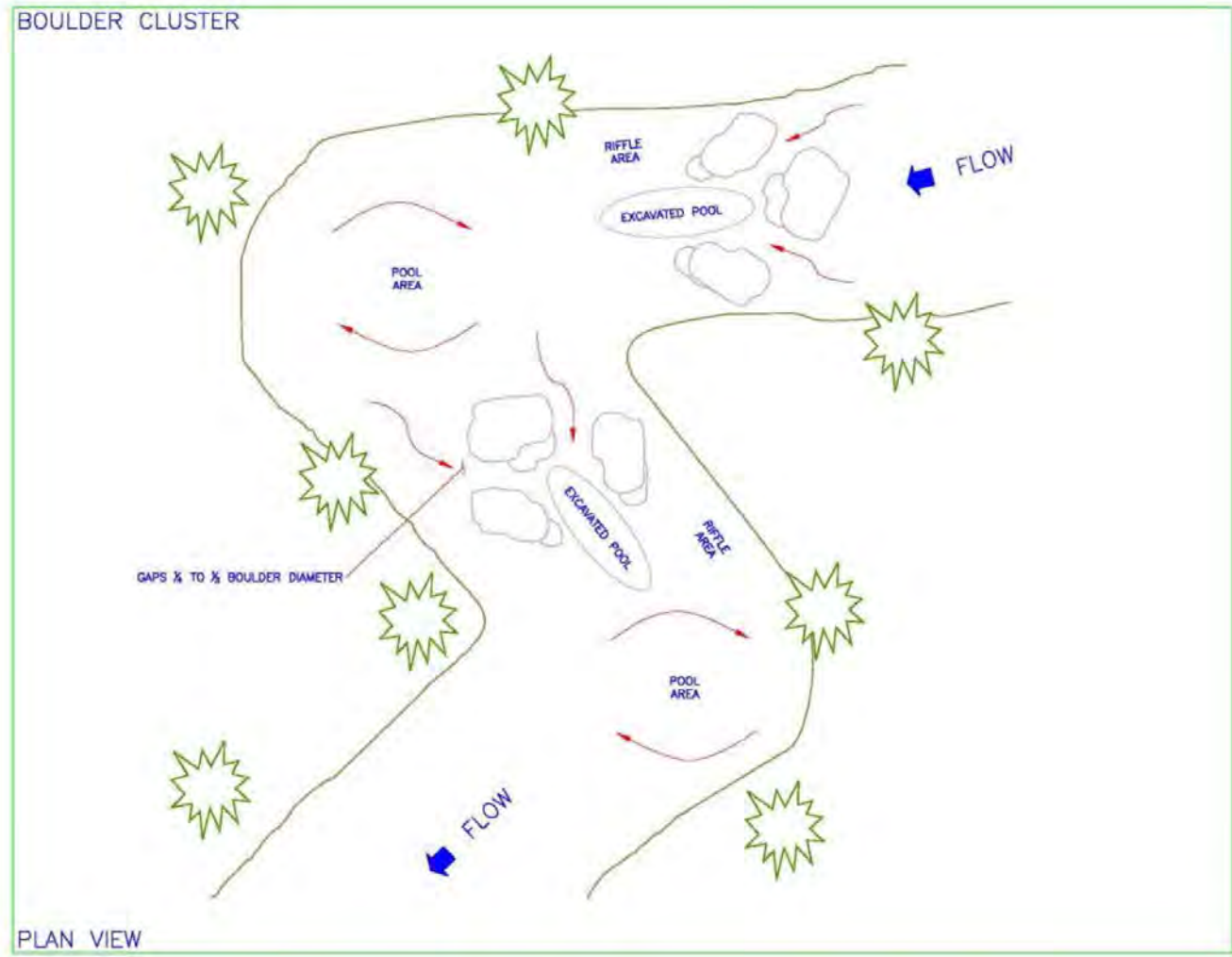
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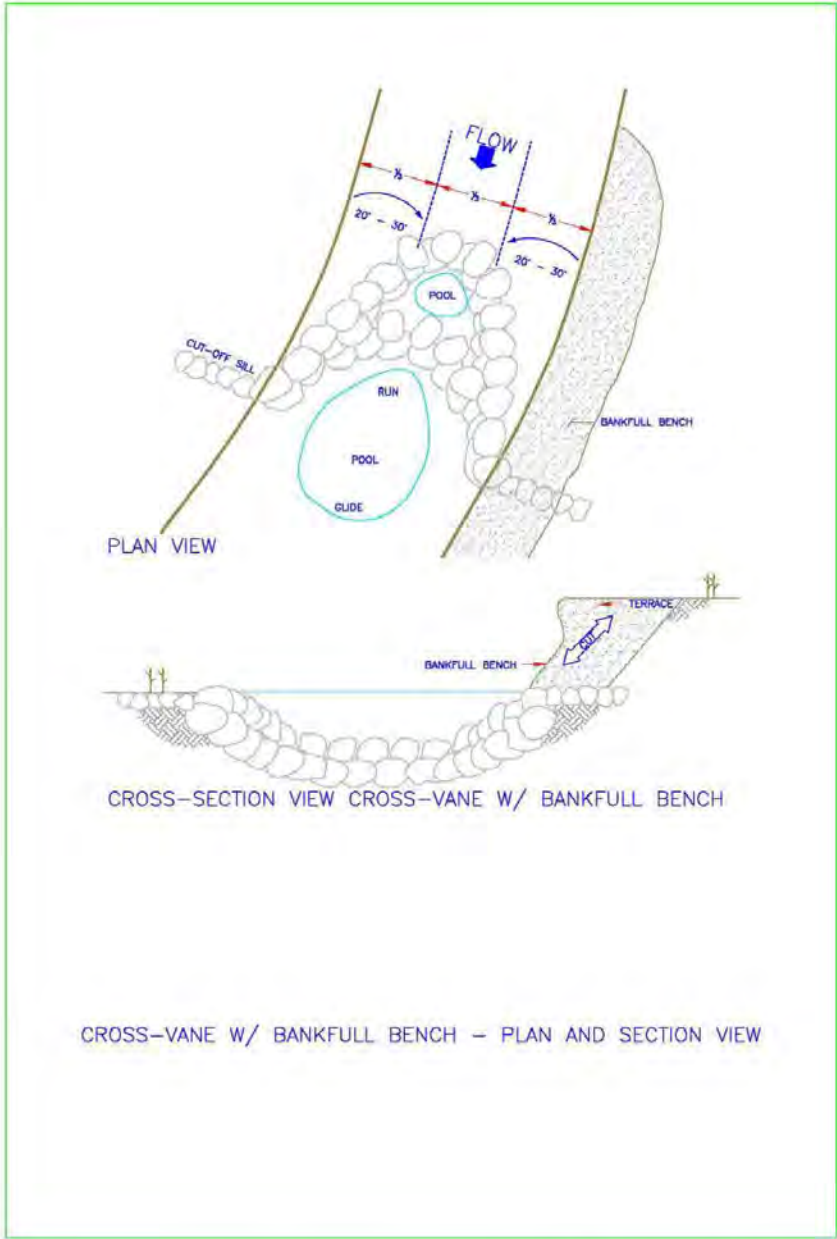
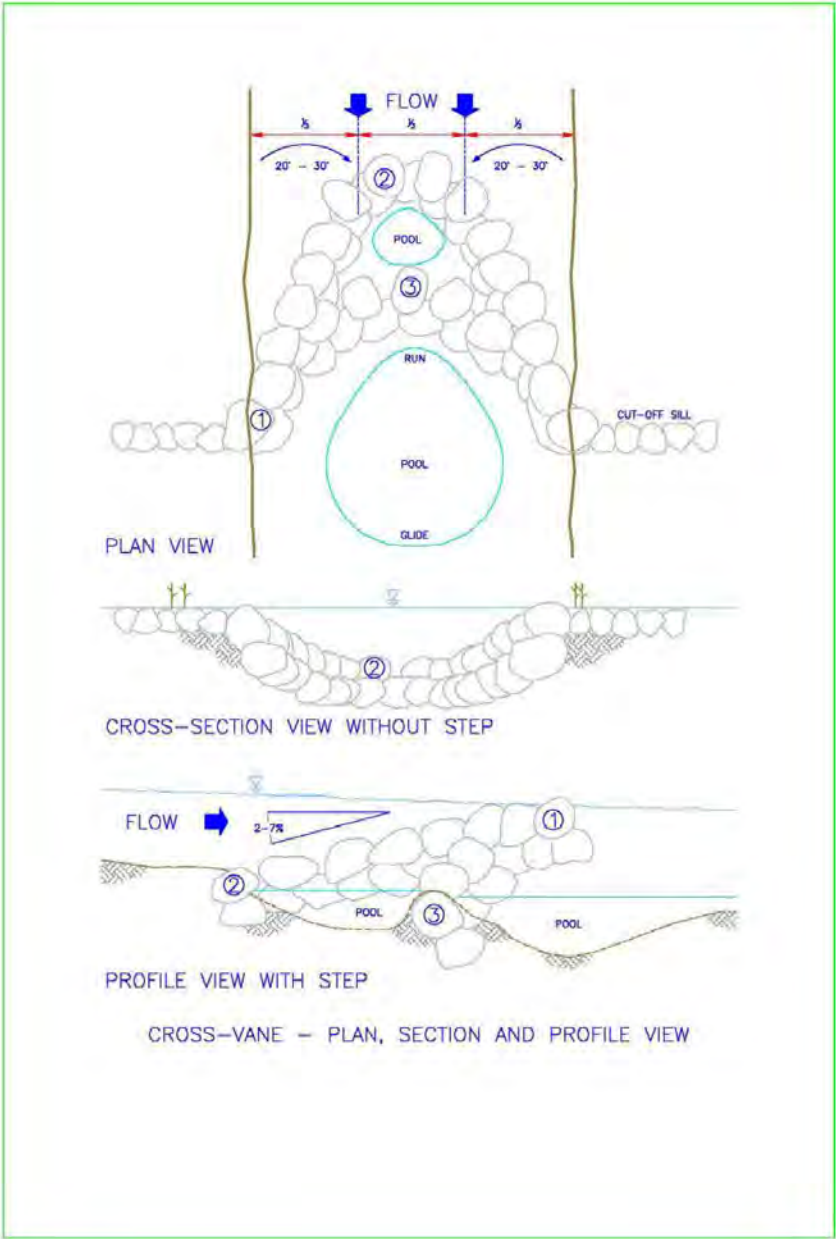
STATE OF COLORADO
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COLORADO PARKS AND WILDLIFE
FORT COLLINS, COLORADO

GUNNISON RIVER SWA
CONCEPTUAL DESIGN
DETAIL DRAWINGS



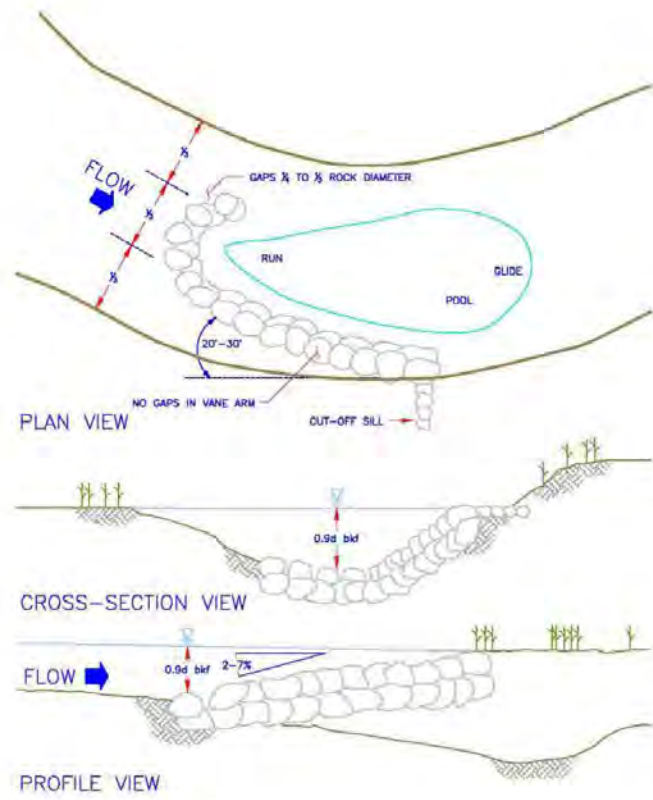
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BOULDER CLUSTER DETAIL		STATE OF COLORADO DEPARTMENT OF NATURAL RESOURCES COLORADO PARKS AND WILDLIFE FORT COLLINS, COLORADO GUNNISON RIVER SWA CONCEPTUAL DESIGN DETAIL DRAWINGS
DRAWN: ERICHER	9/25/2013	
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SHEET: 15 OF 20		

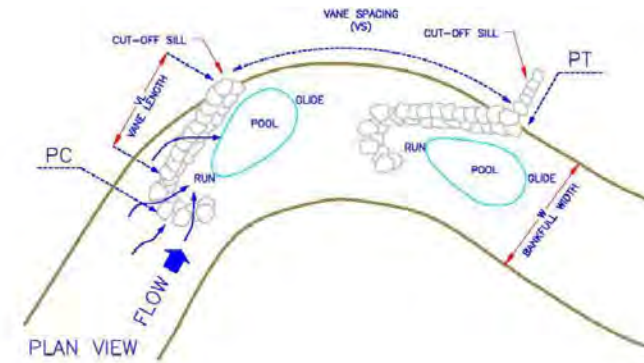


NOT TO SCALE

CROSS-VANE DETAIL		STATE OF COLORADO DEPARTMENT OF NATURAL RESOURCES COLORADO PARKS AND WILDLIFE FORT COLLINS, COLORADO GUNNISON RIVER SWA CONCEPTUAL DESIGN DETAIL DRAWINGS
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J-HOOK VANE - PLAN, SECTION AND PROFILE VIEW



J-HOOK VANE SPACING



NOT TO SCALE

J-HOOK DETAIL

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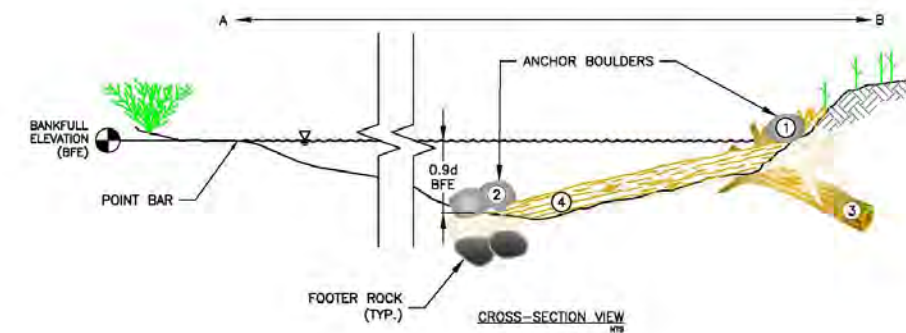
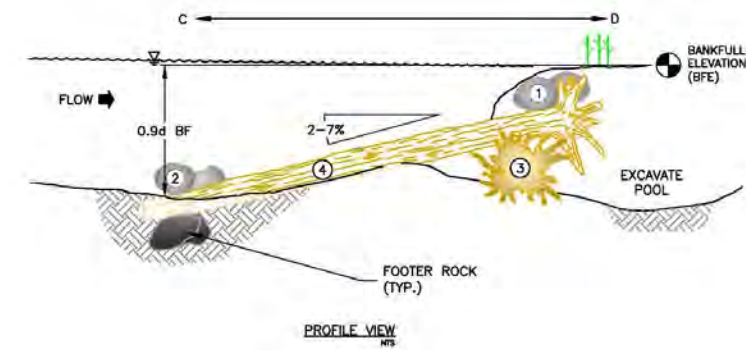
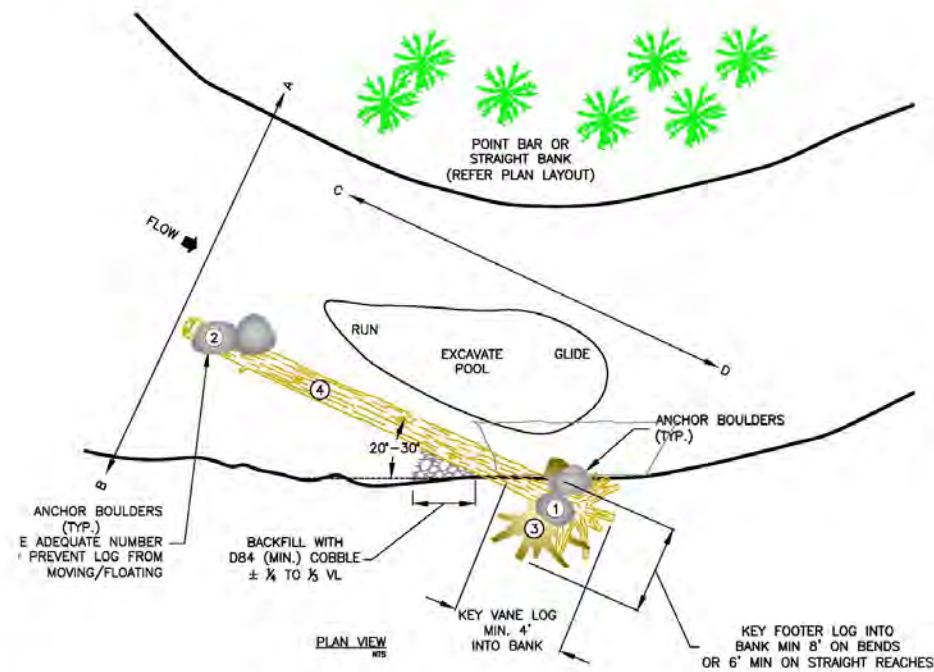
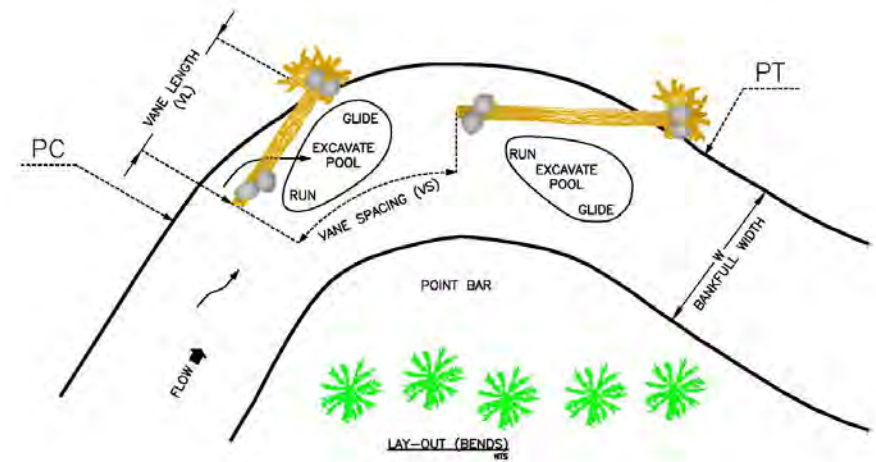
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STATE OF COLORADO
DEPARTMENT OF NATURAL RESOURCES
COLORADO PARKS AND WILDLIFE
FORT COLLINS, COLORADO

GUNNISON RIVER SWA
CONCEPTUAL DESIGN
DETAIL DRAWINGS



NOT TO SCALE

LOG-VANE DETAIL

DRAWN: ERICHER 9/25/2013

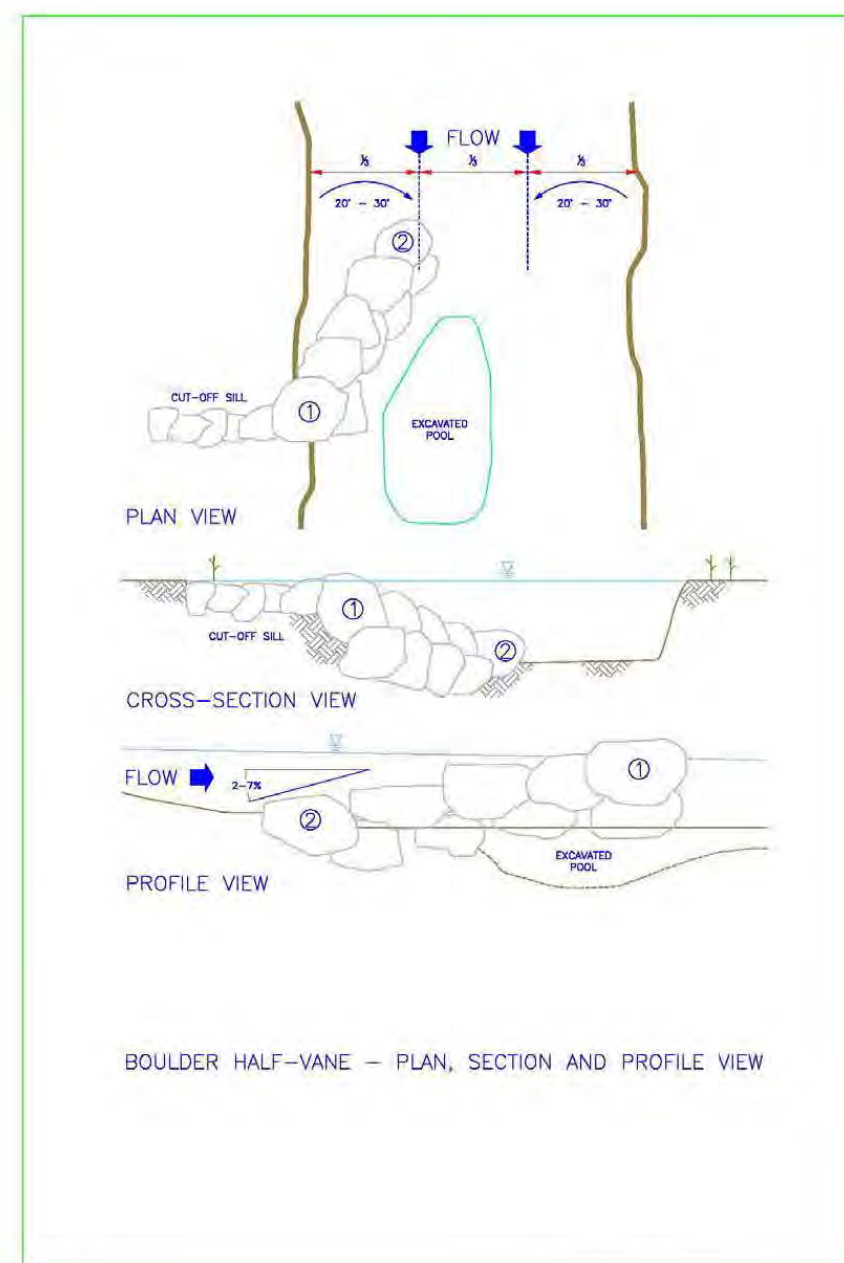
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STATE OF COLORADO
DEPARTMENT OF NATURAL RESOURCES
COLORADO PARKS AND WILDLIFE
FORT COLLINS, COLORADO

GUNNISON RIVER SWA
CONCEPTUAL DESIGN
DETAIL DRAWINGS



NOT TO SCALE

ROCK VANE (HALF-VANE) DETAIL

DRAWN: ERICHER

9/25/2013

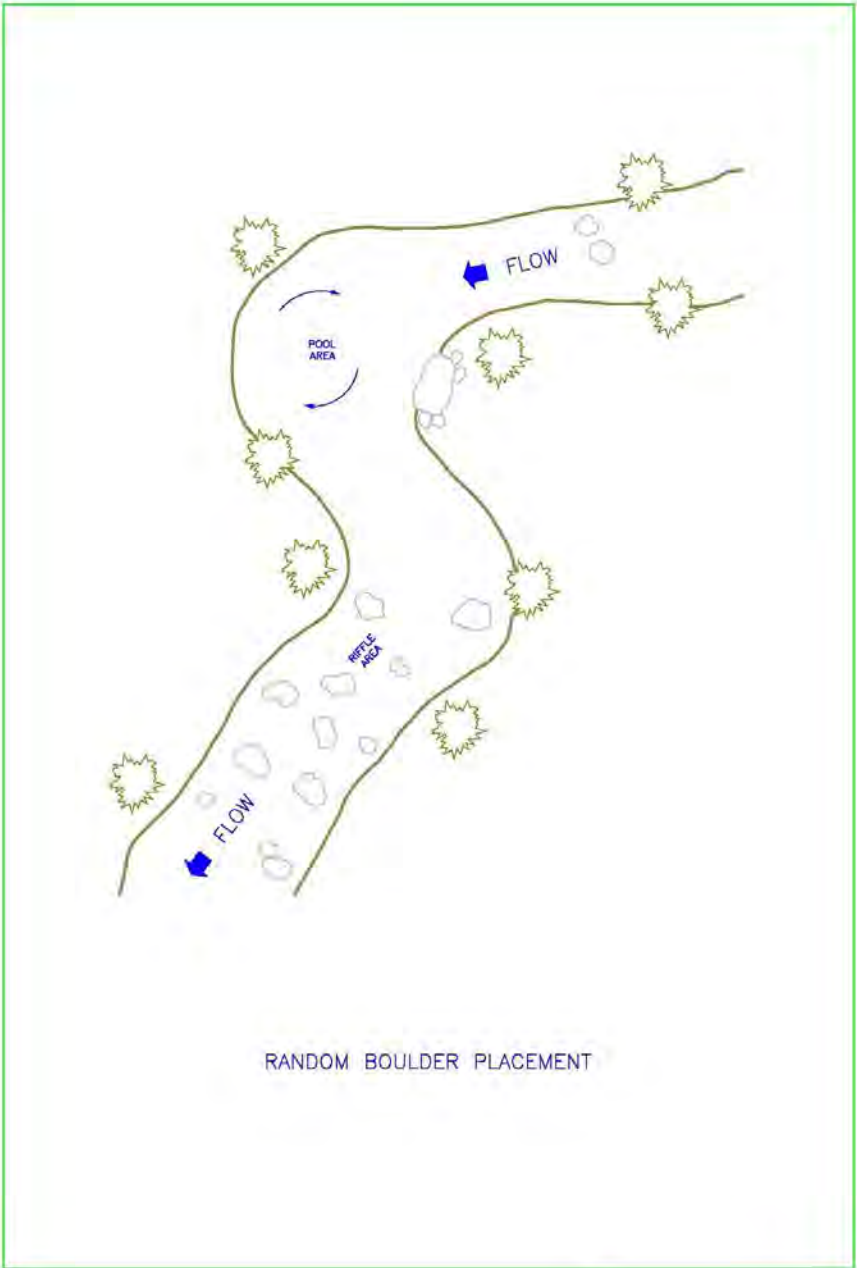
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STATE OF COLORADO
DEPARTMENT OF NATURAL RESOURCES
COLORADO PARKS AND WILDLIFE
FORT COLLINS, COLORADO

GUNNISON RIVER SWA
CONCEPTUAL DESIGN
DETAIL DRAWINGS



RANDOM BOULDER PLACEMENT



NOT TO SCALE

ENHANCED RIFFLE DETAIL

DRAWN: ERICHER 9/25/2013

CHECKED:

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STATE OF COLORADO
DEPARTMENT OF NATURAL RESOURCES
COLORADO PARKS AND WILDLIFE
FORT COLLINS, COLORADO

GUNNISON RIVER SWA
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EXHIBIT C VICINITY MAP

