

Norwood Water Commission
1670 Naturita St
Norwood CO 81423

February 10, 2025

Grant Writing Services



February 10, 2025

Norwood Water Commission
Amanda Pierce
NWC Administrator
1670 Naturita St
Norwood CO 81423

To Amanda Pierce:

Pinyon Environmental, Inc. (Pinyon), is excited to demonstrate our experience and qualifications to be considered to provide grant writing services on behalf of the Norwood Water Commission (Commission).

From a one-woman firm founded in 1993, to nearly 100 diverse environmental professionals spanning a multitude of service areas, Pinyon has worked tirelessly to earn the reputation of "Trusted Advisor." We have a very strong local presence with equally strong professional relationships with numerous partner firms. We are a full-service environmental consulting firm, able to complete a wide range of your projects using our in-house staff.

Pinyon offers the Commission the following benefits:

An Experienced Team. Pinyon is known as the "go-to" environmental consulting firm with established relationships with clients and agency personnel. Our staff of diverse grant and environmental resource specialists work alongside your team and can spearhead efforts to work efficiently to complete projects under budget, and ahead of schedule. We pride ourselves on being flexible, responsive, and readily available to meet the Commission's needs.

Specialized Experience and Technical Competence. Our team brings the necessary expertise to foresee challenges, proactively solve problems, and keep the project on schedule. Our team has depth and breadth on local regulatory issues and relationships with the regulators that may be leveraged to advance your project goals.

Streamlined Organization. Our streamlined organization allows us to provide responsive service for any size or scope of project. While every technical employee is assigned to a group, our matrix organization allows all technical experts to work on any project where their skills are needed. This structure has allowed Pinyon to successfully balance numerous contracts, while meeting and often exceeding the needs and expectations of our partners.

Pinyon is excited about the opportunity to serve the Norwood Water Commission in this important contract. If you need additional information or if questions arise, please do not hesitate to contact me at (303) 980-5200, or thomas@pinyon-env.com. Thank you for considering Pinyon for your environmental consulting needs.

Sincerely,

PINYON ENVIRONMENTAL, INC.



Karlene Thomas, PE
Principal – Strategic Implementation

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1. Qualifications and Experience

"It is my pleasure to recommend Pinyon to those looking for an environmental consulting firm that delivers a high value product in a timely and efficient manner."

David C. Erickson

ESA Site Program Manager
(Retired)
City and County of Denver (CCD)

Pinyon Environmental, Inc was established in 1993 by Lauren Evans, PE, who grew Pinyon from a one-woman outfit based out of her garage to a thriving environmental consulting firm headquartered in Lakewood, Colorado. Prior to her retirement in January 2024, Lauren implemented an ownership transition plan that makes Pinyon a 100% independent and employee-owned firm. The varied group of nearly 100 engineers, grant specialists, sustainability and resilience specialists, geologists, biologists, industrial hygienists, National Environmental Policy Act (NEPA) specialists, and others provides a wide array of services, from planning through design and construction.

Our team has the capacity to manage multiple concurrent projects and task order (TO) tasks with a deep bench of grant specialists, engineers, and scientists, with the experience and qualifications necessary for advancing the Commission's goals for each project initiated under this contract.

1.1 Experience with Key Scope of Work Elements

1.1.1 On-Call Contracts

Pinyon understands that the Commission seeks to establish on-call service contracts with qualified and experienced firms. Pinyon is very familiar with the on-call services process and understands the variables and requirements to provide superior customer service to our clients. Pinyon has Standard Operating Procedures (SOPs) and processes that allow us to adapt to a variety of on-call tasks/scopes, respond in a timely manner regardless of the magnitude of the project, and meet schedule and budget goals.

Pinyon holds on-call contracts with numerous local and state agencies. For these contracts, Pinyon provides a wide array of environmental services from planning through design and during construction. Pinyon has maintained an on-call contract with the City and County of Denver (CCD) Department of Public Health and Environment (DDPHE) for over 30 years. As a full-service environmental consulting firm, Pinyon is a trusted environmental on-call consultant for several local, state, and federal agencies. Pinyon has held or currently holds on-call contracts including:

PINYON INFO

YEARS IN BUSINESS
31 (founded in 1993)

LOCATIONS
Lakewood, Colorado (HQ)
Colorado Springs, Colorado
Loveland, Colorado
Tempe, Arizona

TECHNICAL SERVICES
Air Quality & Noise
Archaeological Resources
Architectural History
Biological Resources
Engineering & Compliance
Industrial Hygiene
Landscape Architecture
NEPA & Planning
Site Characterization & Remediation
Sustainability & Resilience

- Denver Water — General
- Commerce City — On-Call Environmental Services (including Grant Support)
- Southeast Metro Stormwater Authority (SEMSWA) — On-Call Environmental Services
- Eagle River Water & Sanitation District — Water Quality, Permitting, Compliance, and Regulatory Matters
- Colorado Springs Utilities — Environmental, Revegetation Expertise
- Northern Colorado Water Conservancy District / Northern Integrated Supply Project — Environmental Compliance Services
- City of Lakewood — Environmental
- Town of Parker — Environmental
- CDOT — Environmental
- Boulder County Transportation — Environmental

The Pinyon Team will strive to make our delivery of services and your experience the pinnacle of our industry. We will continue to leverage the outstanding talent we employ in-house, but can also offer key vendors, subconsultants and contractors that share this same philosophy to augment what we can provide. We will continue to customize and optimize our services to adapt to your needs, with a focus on long-term cost savings and reducing environmental risk.

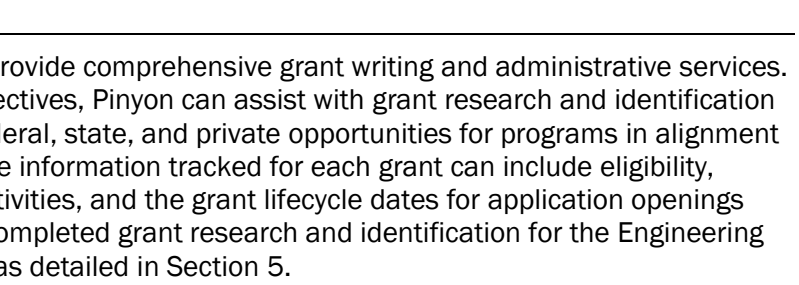
The following section highlights the Pinyon Team's capabilities in relation to this RFP.

Many of our past and current projects have included grant support services, such as for the Upper Clear Creek Watershed Authority (UCCWA) and City of Pueblo, in addition to those highlighted in detail below.

1.1.2 Grants

Grant Research and Identification

Pinyon is experienced with and can provide comprehensive grant writing and administrative services. Depending on project needs and objectives, Pinyon can assist with grant research and identification by providing a thorough search of federal, state, and private opportunities for programs in alignment with the Commission's objectives. The information tracked for each grant can include eligibility, program priorities, potential grant activities, and the grant lifecycle dates for application openings and deadlines. Pinyon has recently completed grant research and identification for the Engineering Change Lab, USA and City of Pueblo as detailed in Section 5.



Grant Proposal Development

Grant-funded projects should be designed with input from all stakeholders and project partners. Every grant application is unique; however, most include the foundational sections of the statement of need, strategic objectives, project narrative, budget, budget narrative, matching and in-kind contributions, key personnel, and letters of support. Pinyon can provide grant proposal development/preparation services for a variety of grant types. Pinyon has provided grant proposal development to a variety of clients including Commerce City, Arizona Forward, and UCCWA as described in Section 5. Pinyon's grant specialist successfully submitted 11 grant applications to various funding agencies in 2024, securing 9 awards.

Grant Management Support

Pinyon provides grant administration support including guidance and training, project management, stakeholder collaboration coordination, marketing assistance, and maintaining reporting standards. Pinyon is currently providing grant management support to UCCWA as described in Section 5.

Additionally, Pinyon's grant specialist Faye Estes has managed grant projects for Denver International Airport and Douglas County, Colorado.

Strategic Planning and Consultation | Stakeholder and Community Outreach

Pinyon will collaborate with Commission leadership to align funding strategies with long-term goals and project priorities. Strategic planning and consultation will include collaboration at each phase of the grant life cycle. In addition, the Pinyon Team regularly provides meeting support to multiple sectors and clients including federal and state clients that are required to conduct internal and/or external public/stakeholder meetings. Services provided to clients include hundreds of meetings coordinated by the Pinyon Team. The Project Team includes community involvement professionals who can support the Commission to facilitate successful meetings. Our team will collaborate with the Commission on the preparation of visual aids, presentation materials, information packets, public notifications, and any other technical support necessary. In our

Colorado Watershed Restoration Grants Pinyon

Watershed Restoration Grants
These grants aim to improve the health, vitality, and resilience of watersheds. Grant-funded watershed restoration projects can include improving the condition of the environment, water and/or quality, water supply, and hazard preparedness.

Potential Restoration Grant Activities:

- Watershed Management Plans
- Expand Equitable Access to the Outdoors
- Forest Stewardship & Rehabilitation
- Identify & Reduce Pollution
- Protect Endangered Species
- Restore Wildlife Habitat
- Reduce Erosion & Increase Infiltration
- Prevent Wildfires
- Protect Against Droughts & Floods

Grant Lifecycle Process:

1. Research Funding and Grant Program Eligibility
2. Plan and Design Project with Stakeholders
3. Submit Grant Application
4. Grant Award
5. Manage Project and Reporting
6. Project Closed

Project Alignment
Every grant program is unique, just as every grant-funded project is also unique. Grant proposals require a focused project with defined objectives, goals, and budget. Clients are typically awarded based on alignment of the project with the pre-defined priorities of the grant program.

For example, the USFWS Candidate Species Conservation Fund prioritizes projects that enhance collaboration between state and federal government agencies, non-governmental organizations, and private landowners.

Similarly, the CPW Colorado Wildlife Habitat Program prioritizes projects that protect the "Species of Greatest Conservation Need" habitat as identified in the state wildlife Action Plan.

Grant Types & Trends
Planning and Implementation Grants (local, state, regional, and national grant-makers) offer watershed restoration grant programs locally suited for Colorado. For example, USFWS and CPW have both planning and implementation grant programs to support projects from start to finish.

Current Trends:

- Sustainability
- Climate Change Mitigation/Adaptation
- Inclusive & Co-located Projects
- Addressing Systemic Issues Impacting Disadvantaged Communities
- Collaboration Across Perspectives

Pinyon Environmental Grant Support Services
Pinyon Environmental can assist you in understanding the lifecycle of grants and navigating the entire grant process.

We can cover things like finding the right grant programs, preparing proposals that align with the program's priorities, and what kind of administration is required after a grant is awarded.

experience, the most productive meetings include interaction between all participants and are designed to facilitate meaningful communication between parties.

Stakeholder engagement is also a critical component to any grant funded project. The Pinyon Team's key personnel have built strong professional relationships with local organizations, community leaders, and agencies that can be leveraged to gain support and identify potential funding opportunities, project champions, and partnerships. These relationships provide a foundation of trust and transparency that will strengthen the public engagement process and facilitate the long-term success of a project. Pinyon has provided strategic planning and consultation with stakeholder and community outreach services for many clients, including the CCD on the Washington Street Washington Street Livability project which was the recipient of a Rebuilding America Infrastructure and Sustainability and Equity (RAISE) discretionary grant.

1.1.3 Water Infrastructure and Water Quality

Water Infrastructure

Water scarcity and quality concerns are increasingly pressing issues across Colorado. Our team is deeply committed to addressing these challenges and are thrilled every time we have the opportunity to work on a water project. Pinyon has conducted environmental permitting and a variety of environmental clearances for many water infrastructure projects including water and wastewater pipelines, interceptors, pump-stations, lead service line replacements, source water well development, aquifer storage, reservoir planning and construction. We have experience with both large and small utility companies including Denver Water, Aurora Water, Colorado Springs Utilities, Aurora Water, Town of Castle Rock, South Platte Regional Water Company, and Eagle Park Reservoir Company. Pinyon recently provided Aurora Water with environmental clearance services for the design and construction phases of Aurora Eastern Utilities Extension, which included comprehensive environmental permitting review, hazardous material, environmental screening and natural resources assessments to support pipeline corridor alignment planning while avoiding impacts to sensitive resources and hazardous materials.

Additionally, Pinyon has worked with or completed projects for approximately 16 special districts in Colorado including:

- Eagle River Water and Sanitation District
- Mt. Crested Butte Water and Sanitation District
- Northern Colorado Water Conservancy District
- North Pecos Water and Sanitation District
- Valley Sanitation District
- Mile High Flood District
- East Cherry Creek Valley Water and Sanitation District
- Roxborough Water & Sanitation District
- Southeast Metro Stormwater Authority
- Eagle Park Reservoir Company
- Parker Water and Sanitation District
- Water Quality and Permitting

Water Quality

Pinyon offers a wide array of technical support and planning services to meet regulatory challenges related to municipalities and water quality. Pinyon's team of scientists and engineers assist public and private sector clients with Clean Water Act and Safe Drinking Water Act issues, including projects related to water quality standards, National Pollutant Discharge Elimination System (NPDES) and Colorado Discharge Permit System (CDPS) permitting (including permit adjudication), 1041 permitting, and other local, state, and federal compliance. We work effectively with clients, environmental agencies, and specialized subcontractors to collect and analyze water quality, quantity, and biological sampling data for streams and lakes. Our services focus on a range of regulatory requirements and completing scientific studies and analyses in support of permitting, planning, and resource management strategy development. Our experience includes watershed planning and development of water quality improvement plans that identify measures to protect and improve the water quality and health of Colorado water bodies. Some of our work has focused on the relationship between aquatic invertebrate populations and biological stressors including point and nonpoint nutrient loading and other factors such as sedimentation, habitat alteration, metals contamination and urban runoff. We also conduct watershed assessments for planning and regulatory purposes. Pinyon's approach relies on stakeholder collaboration to prioritize concerns and develop strategies for resource management. Pinyon also specializes in water quality standards and in assisting clients to develop protective standards that are appropriate for their local waterbodies. Additionally, we have a long history of participating in stakeholder workgroups related to the Colorado Water Quality Control Commission regulations and frequently participate on behalf of clients in statewide and basin-specific rulemaking hearings.

Pinyon has provided water quality, permitting, compliance, and regulatory matters to the Eagle River Water and Sanitation District and the Town of Erie.

1.1.4 Value Add – Sustainability & Resilience

Pinyon's Sustainability and Resilience experts provide clients with the strategic insight and practical solutions needed to enhance community impact in evolving environments. With over 30 years of expertise in sustainability and resilience across the built environment, natural systems, and human behavior, our team helps clients develop and implement targeted strategies that deliver measurable results. We guide project design and execution to enhance sustainability and resilience through innovative, validated solutions—always upholding Pinyon's reputation for timely and cost-effective delivery.

Beyond strategy and implementation, our Sustainability and Resilience team can support the identification of funding opportunities to support sustainable and resilient infrastructure projects. Our team's understanding of grant programs, funding mechanisms, and policy frameworks allows us to connect projects with financial resources that maximize impact while minimizing costs. Pinyon's in-house Sustainability and Resilience team can provide the Commission with the technical experts to focus improvement efforts while balancing sustainability initiatives and meeting Norwood's goals.

1.2 Proposed Key Staff

Below are biographies for proposed key staff members that may be assigned tasks as required under this contract. This is not an exhaustive list of staff available and additional resources will be assigned as required for the project scope. Pinyon has a robust staff, including engineers, grant specialists, historians, archaeologists, landscape architects, sustainability experts, and environmental scientists. Pinyon's culture is built around collaboration; all the staff highlighted below have worked together on projects, and the project teams developed for specific tasks will be built based on individuals' working history, availability, technical capacities, and project requirements.

Pinyon is fully committed to delivering the services for the Commission on this contract in a timely, efficient, and technically sound manner. Brian Schaffer, PE will be the POC/PM and Principal Karlene Thomas, PE will provide Senior QA/QC and technical guidance for the contract. Having one individual assigned to senior QA/QC provides continuity between deliverables. Resumes are provided in Appendix A.

Brian Schaffer, PE, CFM | PROJECT MANAGER/ENGINEER



Brian Schaffer is a Senior Water Resources Engineer with over 20 years of experience providing water resources design support on multiple transportation, municipal, commercial, and residential land development projects. His project experience includes storm sewer design, retention and detention design, channel design, stream restoration, floodplain modification, and regulatory permitting. Brian has project management experience with managing small to large projects, as well as functioning as the in-house consultant project manager for a large transportation company, where he managed consultants, suppliers, and vendors on the client's behalf. He has managed projects ranging from complex railroad facility design and construction projects involving multiple design teams and stakeholder groups, to single and multi-parcel residential and commercial developments. He has had AECOM MAP certification as well as multiple formal training classes and seminars.

Brian has managed utility improvement projects for clients including Aurora Water and Colorado Springs Utilities. In addition, Brian was the project manager on the Upper Clear Creek Watershed Nine Element Plan update and the Commerce City Grant Management projects.

Brian is experienced with H&H Modeling including CUHP, SWMM, HEC-HMS, HEC-Ras, HydroCAD, StormCAD SewerGEMS and others. He has completed CLOMR/LOMR and local Floodplain permitting projects in Illinois, Wisconsin, Minnesota, and Colorado.

Karlene Thomas, PE | PIC & SENIOR QA/QC



Karlene Thomas is an Environmental Professional and licensed Professional Engineer with over 30 years of consulting and project management experience and five years of mechanical design experience. Karlene is a principal at Pinyon leading the Strategic Implementation Team and is also in charge of Pinyon's rigorous QA/QC program. She has experience in regulatory compliance including hazardous and universal waste, air, wastewater, stormwater, oil storage and spill prevention in addition to environmental audits. Karlene has extensive experience in wastewater, surface water and groundwater permitting, stormwater management,

environmental site assessments, hazardous material assessments, SPCC, methane, radon, and soil-vapor mitigation. Karlene provides oversight and project management guidance on small to multi-million-dollar projects.

Karlene is a water quality leader in Colorado and on the board of directors for the Colorado Watershed Assembly and Cherry Creek Stewardship Partners. She is also a member of the Colorado Water Quality forum, Colorado Water Congress, and Water Education Colorado. Karlene works regularly with the various divisions of the Colorado Department of Public Health and Environment (CDPHE); these relationships provide valuable benefits as client's interests are represented in legislation and the establishment and reform of policy impacting our industry. Karlene is the PIC on the UCCWA Upper Clear Creek Watershed Nine Element Plan update project. Karlene's experience has led to being skilled at solving complex problems – including identifying strategies to reduce project costs, expedite environmental permitting, and negotiate practical solutions with regulatory agencies.

Faye Estes | GRANT SPECIALIST



Faye Estes has 15 years of experience providing grant management, administration, and proposal services to clients across the US. Faye excels at researching grant opportunities; creating project objectives, timelines, and budgets for grant proposals; and using extensive project management skills to ensure clients meet grant requirements. Faye has worked on a variety of federal and state program areas including transportation and mobility, sustainability and energy, aging services, aviation, weatherization, zero emission, and rural housing. She has also helped to develop program-specific best practices to ensure grant compliance and reporting accuracy.

Faye Estes is backed by the experts at Pinyon. She can provide grant support services including research to identify relevant grant funding opportunities; alignment of grant program priorities with project objectives; stakeholder collaboration and input; and preparing grant proposals. Her work has included coordinating with stakeholders across many sectors and grant writing for a wide variety of concentrations. Faye successfully submitted 11 grant applications to various funding agencies in 2024, securing 9 awards.

Faye specializes in aligning grant opportunities with client goals and can provide expertise in creating competitive grant proposals. After a grant is awarded, Faye uses grant-specialist project management tools and stakeholder engagement skills to provide administrative support and to ensure the successful fulfillment of grant requirements. From planning grants to implementing grants and beyond, Faye has a unique skill set that pairs client projects with funding opportunities and supports grant-funded project teams through effective and practical administrative assistance. Faye's extensive grant life-cycle experience provides the Commission with a competent, knowledgeable resource for grant needs at any stage.

Diane Kielty | WATERSHED TECHNICAL EXPERT/GRANT SUPPORT



Diane Kielty has over 30 years of experience in business operations, project development, strategic planning, and grant management. In 2007, she launched her consulting business, Kielty Diversified Projects. She supports organizations with strategic business planning and implementation, serves as project liaison, and facilitates discussions on planning, process, and project development. Diane served as a Project Manager for the Clear Creek Watershed Foundation (CCWF) from 2007 through 2019, managing project agreements with organizations including the US Environmental Protection Agency, US Department of Agriculture-Forest Service, CDPHE, and Colorado Division of Reclamation, Mining & Safety. Projects for CCWF including remediation of large scale nonpoint source pollution contributing to the State of Colorado's 303(d) list of impaired waters for trace metals.

Since 2015, Diane has worked with the Colorado Watershed Assembly (CWA), a statewide organization that supports collaborative efforts to protect and improve the conservation values of our state's land, water, and other natural resources. As a Program Manager for CWA, Diane organizes and coordinates the Colorado Healthy Rivers Fund program and the Chatfield Watershed Authority program. She is the Manager for the Upper Clear Creek Watershed Association, a 208 Management Agency of the Clean Water Act. She is also working with the Clear Creek Watershed and Forest Health Partnership, performing project development activities, including field reconnaissance, drafting statements of work for projects, conducting outreach to landowners, and coordinating to develop mitigation partnerships.

Jennifer Hale, ENV SP | SUSTAINABILITY & RESILIENCE



Jennifer brings over 24 years of experience in developing and implementing sustainability and resilience programs and strategies for a diverse range of clients, including state and local governments, commercial and industrial sectors, non-profits, and transportation agencies. With a passion for conservation, community education, and sustainable infrastructure innovation, she excels at guiding project teams in assessing impacts and risks while delivering solutions that enhance sustainability and resilience performance.

Jennifer's expertise extends beyond strategy—she helps clients identify and secure funding opportunities to turn sustainability and resilience goals into actionable projects. Her strengths in systems thinking, strategic planning, and fostering collaborative stakeholder partnerships enable teams to develop and implement long-term visions that improve community well-being, environmental outcomes, and economic performance.

She is eager to apply her holistic approach and expertise to the Commission, supporting the implementation of key initiatives and securing financial resources to advance the Commission's long-term goals.

2. Approach and Methodology

Pinyon proposes the following approach and methodology to fulfill grant writing services for Norwood.

1. Initial Consultation and Assessment

- **Objective:** To understand the Commission's specific funding needs, priorities, and goals.
- **Method:**
 - Schedule initial meeting(s) with the Commission to discuss current and upcoming water infrastructure projects and goals.
 - Review existing documentation related to the Commission's water systems, upgrades, and sustainability initiatives.
- **Outcome:** Develop a clear understanding of the Commission's goals and create a list of prioritized projects requiring funding.

2. Grant Research & Identification

- **Objective:** To identify funding opportunities that align with the Commission's needs to support critical water infrastructure projects, including but not limited to system upgrades, sustainability initiatives, and community water access improvements including federal, state, and local funding sources.
- **Method:**
 - Leverage funding databases, platforms, and subscriptions—including Grants.gov, U.S. Environmental Protection Agency (EPA), CDPHE, and other relevant local, state, and water infrastructure agencies—to identify and assess potential funding opportunities
- **Tools:**
 - **Custom Tracking Spreadsheet:** Create a shared document where all identified opportunities will be logged, with deadlines, eligibility criteria, and funding availability.

- **Outcome:** Provide the Commission with a comprehensive list of targeted grant opportunities and potential fit for each project.

3. Grant Proposal Development

- **Objective:** To prepare well-researched, compelling grant proposals that align with funder priorities and showcase the Commission's strengths and needs.
- **Method:**
 - Develop tailored proposals for each identified opportunity, ensuring alignment with specific funding source requirements.
 - Gather necessary project data, including descriptions of infrastructure needs, environmental impacts, and community benefits, to ensure the proposal speaks to the funder's priorities.
 - Collaborate with Commission staff to incorporate technical and financial details into the proposals, ensuring clarity and accuracy.
 - Prepare any required funding opportunity documentation including budgets, narratives, maps, and other required documents.
- **Tools:**
 - **Grant Writing Templates:** Use a set of templates to streamline proposal writing, ensuring consistency across submissions.
 - **Budget Templates:** Custom templates for creating accurate project budgets, including cost estimates for water system upgrades and sustainability initiatives.
 - **Project Description Framework:** A structured outline to capture key components of each proposal.
- **Outcome:** Deliver a complete, polished, and on-time grant proposal that demonstrates the Commission's capabilities and meets all funding requirements.

4. Grant Management Support

- **Objective:** To provide support with grant compliance, reporting, and relationship building and communication with funding agencies.
- **Method:**
 - Maintain communication with funding agencies post-submission to check on proposal status and address any follow-up questions or requests for additional documentation.
 - Provide the Commission with regular updates on the status of each application.
 - Offer support with the required reporting or additional grant documentation.
- **Tools:**
 - **Custom Tracking Spreadsheet:** To track the progress of each proposal, manage deadlines, and follow-up tasks.
- **Outcome:** Keep the Commission informed throughout the grant lifecycle and ensure the timely submission of required reporting and documentation.

5. Ongoing Support and Strategic Planning and Consultation

- **Objective:** To provide the Commission with long-term support with funding strategies and long-term goals and project priorities.
- **Method:**
 - Plan recurring meetings to discuss future project plans and funding that will align.
 - Offer ongoing advice or consultation for future funding opportunities as they arise.
- **Outcome:** Encourage the Commission to continue to apply for funding opportunities that align with the overall priorities and goals to diversify funding and allow for more projects.

3. Fee Structure

Pinyon's 2025 Schedule of Unit Rates sheet is included in Appendix B.

4. References

Pinyon offers the following references.

Reference 1

Diane KIELTY, UCCWA Board Secretary/Treasurer

UCCWA

720-722-4213 | dkielty3@msn.com

Upper Clear Creek Watershed Plan 319 Nonpoint Source Pollution Grant Application (Description of Work Below)

**Note that Diane consults to Pinyon on an on-call basis and while she is the point of contact for this project, she was not part of the selection committee, therefore, there was no conflict of interest.*

Reference 2

Mike McMeekin, President/Executive Director

Engineering Change Lab

402-669-6021 | mikemc@ecl-usa.org

Grant Application Support Services (Description of Work Below)

Reference 3

Valerie Robson, President/Owner of Coming of Age Consulting LLC

(Former) Douglas County

303-697-8326 | valerie.robson-coa@outlook.com

Personal Reference for Faye Estes' work on grants while at Douglas County.

5. Sample Work

Pinyon submits the following representative Project Descriptions for Pinyon's grant support services. Additionally, a Sample application for the UCCWA Upper Clear Creek Watershed Plan 319 Nonpoint Source Pollution Grant Application is presented in Appendix C.

“Pinyon's willingness to work with tight deadlines in complicated situations is greatly appreciated.”

Andrew Ross

Senior Environmental Administrator
CCD, Department of Public Health &
Environment Environmental Quality

Grant Funding Research for Stormwater Master Plan | City of Pueblo

The City of Pueblo is in the process of updating their Stormwater Master Plan. This project is a high priority, but funding has been a barrier. To help move the project forward Pinyon has assisted in the research of potential funding opportunities. The research included:

- A list of all the federal, state, and local grant opportunities
- Details and application information for each grant
- Prioritization of the best options for the project



Grant Application Preparation and Review Services | Arizona Forward (AZF)

Arizona Forward, a non-profit, non-partisan member-based organization for over 50 years, is leading the charge for sustainability in Arizona. Pinyon has provided a grant application search and preparation services for Arizona forward, including:

- Grant finding research
- Creation of a general-use grant template for the organization
- Applications for multiple grant opportunities
 - Avnet Community Grants Program: Pinyon worked with the client on project goals and scope, then wrote and prepared the grant proposal, which included researching and planning for stakeholder outreach and requirement fulfillment. The project successfully supported education in STEM, environmental sustainability stewardship workshops, and diversity, equity, and inclusion of sustainability education throughout Arizona.
 - Arizona Businesses Advancing Sustainability (AzBAS) Grant: Pinyon assisted Arizona Forward in preparing a grant proposal for the Arizona Businesses Advancing Sustainability (AzBAS) grant. Pinyon consulted with clients and created project goals for a statewide sustainable business program, including the Emerging Sustainability Leaders program, the Environmental Excellence Awards, and the Statewide Sustainability Summit. Kate wrote and prepared the grant application, and Arizona Forward was better able to bring civic and business leaders together to improve sustainability and economic vitality in Arizona.
 - Fiesta Bowl Grant: Focusing on the Emerging Sustainability Leaders educational and workforce development program, Pinyon prepared a grant proposal for the Fiesta Bowl Charities grant. Pinyon consulted with AZF about project and funding needs, organized project goals and scope, and prepared the grant proposal. The proposal was not accepted after the first submission, and Pinyon coordinated incorporating feedback from the grantmaking foundation and updating the grant proposal for the next funding cycle.
 - Sonora Quest Laboratories Corporate Giving: Pinyon prepared a grant proposal for the Sonora Quest Laboratories Corporate Giving grant. Pinyon worked with AZF to develop project goals, description, community benefit research, statement of need, expected outcomes, and stakeholder engagement sections of the proposal. Pinyon then drafted and prepared the proposal that focused on environmental stewardship and sustainable education workshops offered in the Phoenix area.



Grant Application Support Services | Engineering Change Lab-USA (ECL-USA)



**Engineering
Change Lab
USA**

The Engineering Change Lab-USA (ECL-USA) is a social change lab that connects, shares information, and collaborates with individuals and stakeholder groups within the engineering community. Pinyon has provided grant application research, guidance, and support services

for the ECL. Pinyon prepared a grant application, on behalf of the ECL, for the United Engineering Foundation grant program. Working with the ECL to develop the project scope, schedule, stakeholder outreach, budget, goals, and objectives, Pinyon wrote the concept paper and prepared the grant application. Pinyon provided support with grant requirement fulfillment, coordination of stakeholder outreach, and maintaining reporting standards after the grant was received. The grant funding was used to develop the Inspiring Leaders of Change Engineering Workshops series which contributes to developing the diversity of change leaders in the engineering community.

Upper Clear Creek Watershed Plan 319 Nonpoint Source Pollution Grant Application | UCCWA

The UCCWA required grant funding to complete the planning process for their 2024 watershed plan update. Pinyon used the project goals, which included a nine-element plan from the EPA, to find grant programs that aligned to provide a competitive advantage for the project. Among several other well-suited grant programs, Pinyon identified the CDPHE 319 Nonpoint Source Pollution grant program and completed an interview with CDPHE. Collaborating with the project team, Pinyon prepared the concept paper and met with CDPHE leadership to discuss the strengths and weaknesses of the potential project and proposal. After collecting feedback from internal project partners, Pinyon prepared the grant proposal, which included a project narrative, project budget, risk assessment, and letters of support for this grant program to fund this impactful watershed project. This grant was awarded.



Additionally, Pinyon collaborated with UCCWA to prepare an application to the Colorado Watershed Assembly Colorado Healthy Rivers Fund to obtain additional funding to help UCCWA meet the match required by the 319 Nonpoint Source Pollution grant. This grant was also awarded and reduced the amount that UCCWA had to raise from their members to complete the work.

Commerce City Grant Writing Services | City of Commerce City



Pinyon, in partnership with Lotus Sustainability, offered grant writing services for Commerce City to apply to a CDPHE Environmental Justice grant program. All the required application documents were prepared, reviewed and submitted in partnership with Commerce City and the relevant project partners. This grant program aims to help communities disproportionately affected by pollution and climate change. The grants focus on various environmental topics, including air and water quality, waste management, climate change, and land use.

The City of Commerce City's (C3) 2045 Vision aims for a thriving, economically strong, environmentally sustainable, and socially equitable community. To support this, the City established the Division of Energy, Equity, and the Environment (E3) to address significant environmental challenges, such as higher particle pollution and respiratory issues, which disproportionately affect the community.

As part of its efforts, E3 has focused on improving soil quality through sampling and remediation services, aligning with the community's priorities outlined in the 2023 Sustainability Action Plan. In this proposed initiative, E3 partners with the Spirit of the Sun (SotS), a community organization dedicated to environmental restoration. SotS empowers youth by training them in restorative and permaculture practices to combat soil contamination and environmental degradation in the city. The project would also include preliminary soil assessments and analysis completed by Pinyon. This project reflects the shared goals of the City and E3 to foster a healthier environment. The grant award is pending.

6. Closing

Pinyon is pleased to offer on-call grant services assistance. As detailed in the pages above, our team has experience with projects in the utilities, water infrastructure, and water quality spaces, including grant services. We are a Colorado local firm, with experience across the State, and the experience and technical professionals to meet the project needs, including scheduling, and budgets. We are skilled in facilitating on-call contracts in a thoughtful, client-centered way. Our designated PM, Brian Schaffer, is particularly excited to work on this important contract. Pinyon will give Brian the support and resources needed to make this contract and subsequent Task Orders (TOs) successful. We are always looking for opportunities to grow our relationship with water districts and commissions and believe that this on-call contract would be a great opportunity to collaborate on projects that will make a positive impact on our beloved Colorado communities.

Appendix A. Key Personnel Resumes



Brian Schaffer, PE, CFM

Project Manager/Engineer

AREAS OF EXPERTISE

Project Management
 Storm Sewer Design
 Retention and Detention Design
 Channel Design
 Stream Restoration
 Floodplain Modification
 Regulatory Permitting
 Hydrologic Modeling
 Hydraulic Modeling

YEARS EXPERIENCE

21

YEARS WITH PINYON

1

EDUCATION

M.S., Environmental Engineering, University of Arkansas

B.S., Biological Engineering, University of Arkansas

TRAININGS & CERTIFICATIONS

Professional Engineer
 Colorado 57673,
 Illinois 062761

Certified Floodplain Manager (CFM)

AECOM Map Certification

PROFESSIONAL ORGANIZATIONS

American Society of Civil Engineering (ASCE)
 Colorado Association of Stormwater and Floodplain Mangers (CASFM)

PROFESSIONAL EXPERIENCE

Brian Schaffer is a Senior Water Resources Engineer with over 20 years of experience providing water resources design support on multiple transportation, municipal, commercial, and residential land development projects. His project experience includes storm sewer design, retention and detention design, channel design, stream restoration, floodplain modification, and regulatory permitting. Brian has project management experience with managing small to large projects, as well as functioning as the in-house consultant project manager for a large transportation company, where he managed consultants, suppliers, and vendors on the client's behalf. He has managed projects ranging from complex railroad facility design and construction projects involving multiple design teams and stakeholder groups, to single and multi-parcel residential and commercial developments. He has had AECOM MAP certification as well as multiple formal training classes and seminars.

Brian has managed utility improvement projects for clients including Aurora Water and Colorado Springs Utilities. In addition, Brian was the project manager on the Upper Clear Creek Watershed Nine Element Plan update and the Commerce City Grant Management projects.

Brian is experienced with H&H Modeling including CUHP, SWMM, HEC-HMS, HEC-Ras, HydroCAD, StormCAD SewerGEMS and others. He has completed CLOMR/LOMR and local Floodplain permitting projects in Illinois, Wisconsin, Minnesota, and Colorado.

PROJECT EXPERIENCE

Upper Clear Creek Watershed Plan Update (and Grants) | UCCWA | Colorado. The UCCWA required grant funding to complete the planning process for their 2024 watershed plan update. Pinyon used the project goals to find grant programs that aligned to provide a competitive advantage for the project. Pinyon was selected by UCCWA to be their Fiscal Agent and identified the CDPHE 319 Nonpoint Source Pollution grant program and prepared the grant proposal to fund this impactful watershed project. A second grant application was prepared and submitted to the Colorado Watershed Assembly Colorado Healthy Rivers Fund to obtain additional funding to help UCCWA meet the match required by the 319 Nonpoint Source Pollution grant.

Brian is the Project Manager reviewing documents, coordinating resources, collaborating with stakeholders and team partners to complete the plan update on schedule and budget.

Northern Integrated Supply Project (NISP) | Northern Colorado Water Conservancy District | Larimer and Weld Counties, Colorado. NISP is a \$2 billion water infrastructure project in Northern Colorado. The project will construct two new reservoirs and approximately 80 miles of new pipelines to supply 15 Northern Front Range water providers with 40,000 acre-feet of new, reliable water supplies. Brian provided wetland outlet structure design at future Glade Reservoir site.

Rampart Pipeline Environmental Services | Aurora water | Colorado. Brian is the Project Manager reviewing documents, coordinating resources, collaborating with stakeholders and team partners to provide environmental assessments and permitting.

Homestake Pipeline Environmental Services | Aurora water and Colorado Springs Utilities | Colorado. Pinyon has been selected as part of the Owners Representative team lead by Black and Veatch to provide comprehensive environmental services as need as assessment and design progress.

Extended Detention Basin (EXDB) Monitoring R1 | Colorado Department of Transportation (CDOT) Region 1 | Douglas County, Colorado. Brian provided technical expertise and developed methods to quantify water quality benefits from existing detention ponds.

In-House Facility Project Manager | Canadian National Railroad | Homewood, IL. Brian provided project management services on various facilities projects, including water supply, building repair and maintenance, and water treatment.

Harmony Master Development | Melcor/TC Aurora, LLC | Aurora, Colorado. Brian led the team in developing all aspects of drainage design for a 1,200-acre development in Aurora, Colorado. The design included storm sewer, detention ponds, regional detention ponds, and regional natural channel design.

Watershed Study for Upper Reaches of West Fork, North Branch, Chicago River (WFNB) in Waukegan IL. Brian completed comprehensive modeling and analysis of flood areas in Waukegan Illinois in the WFNB watershed and provided alternatives analysis and recommendations for long term planning to reduce flooding. Brian also provided engineering support to complimentary project to construct online wetland detention area as part of the master plan.

Multiple Railroad Facility and Mainline Capacity Expansion Projects | Canadian Pacific Railroad, BNSF | Multiple States. Brian was the Water Resources Technical Lead providing drainage design, hydraulic bridge design, stormwater detention, erosion control planning, and permitting for railroad projects in Wisconsin, Illinois, Tennessee, Missouri, Louisiana, Iowa, Texas, Ohio, Indiana, Montana, North Dakota, and South Dakota.

Santa Fe South Master Development | Toll Brothers, | Littleton, Colorado. Brian led his team in developing all aspects of drainage design for a 600-acre development in Aurora, Colorado. The design included storm sewer, treatment swales, detention ponds, and regional natural channel design Including routing of offsite runoff through development. This project also included updating Flood Hazzard Area Delineation (FHAD) regional flood mapping.

Transport Colorado | Western Transport CO, LLC| Aurora, Colorado. Brian assisted the team in developing a master drainage design for a 6.000 acre mixed commercial/light industrial development in Aurora Colorado. The design elements included design of multiple regional channels, regional detention ponds, and FEMA/USACE jurisdictional stream reaches.



Karlene Thomas, PE
Principal in Charge/QAQC

PROFESSIONAL EXPERIENCE

Karlene Thomas is an Environmental Professional and licensed Professional Engineer with over 30 years of consulting and project management experience and five years of mechanical design experience. Karlene is a principal at Pinyon leading the Strategic Implementation Team and is also in charge of Pinyon’s rigorous QA/QC program. She has experience in regulatory compliance including hazardous and universal waste, air, wastewater, stormwater, oil storage and spill prevention in addition to environmental audits. Karlene has extensive experience in wastewater, surface water and groundwater permitting, stormwater management, environmental site assessments, hazardous material assessments, SPCC, methane, radon, and soil-vapor mitigation. Karlene provides oversight and project management guidance on small to multi-million-dollar projects.

Karlene is a water quality leader in Colorado and on the board of directors for the Colorado Watershed Assembly and Cherry Creek Stewardship Partners. She is also a member of the Colorado Water Quality forum, Colorado Water Congress, and Water Education Colorado. Karlene works regularly with the various divisions of the CDPHE; these relationships provide valuable benefits as client’s interests are represented in legislation and the establishment and reform of policy impacting our industry. Karlene is the PIC on the UCCWA Upper Clear Creek Watershed Nine Element Plan update project. Karlene’s experience has led to being skilled at solving complex problems – including identifying strategies to reduce project costs, expedite environmental permitting, and negotiate practical solutions with regulatory agencies.

Karlene has conducted quality control (QC) reviews on hundreds of deliverables in a multitude of technical service areas. Karlene has enhanced and refined Pinyon’s QC program and has implemented a rigorous quality assurance program to provide quality deliverables to our clients. In addition, Karlene provides oversight and project management guidance on small to multi-million-dollar projects.

PROJECT EXPERIENCE

Aurora Eastern Utilities Extension | Aurora Water | Aurora Colorado

Karlene was the project manager on an approximate 13-mile-long water line extension project, responsible for environmental compliance during both design and construction phases. Karlene and her team conducted comprehensive environmental permitting review, hazardous material, environmental screening and natural resources assessments to support pipeline corridor alignment planning while avoiding impacts to sensitive resources and hazardous materials. Pinyon led subsurface investigations, wetland delineations and 404 permitting, in addition to species documentation, including raptor nests, prairie dogs and burrowing owls. Pinyon also provided erosion control plans, stormwater management strategies, and environmental permit management to facilitate project development in alignment with USACE and Endangered Species Act requirements.

AREAS OF EXPERTISE

Quality Control/Quality Assurance
Environmental Compliance Manager
Regulatory Compliance Auditing
Regulatory Reporting and Permitting
Hazardous Waste and Hazardous Materials
Construction Stormwater Management Plans
MS4/Water Quality
Surface Water Quality
Construction Dewatering
Stormwater Management
NPDES Permitting and Compliance
Soil- Vapor Mitigation
SPCC Plans and Training
Drainage Design

YEARS EXPERIENCE

32

YEARS WITH PINYON

25

EDUCATION

MS, Mechanical Engineering, Rochester Institute of Technology
BS, Design Engineering Technology, Brigham Young University

LICENSES AND REGISTRATIONS

Professional Engineer Colorado, License #31909

**TRAININGS &
CERTIFICATIONS**

RCRA Hazardous Waste
Manager Training

Colorado Hazardous Waste
Regulations

Groundwater Dewatering
During Construction

Stormwater Management
Plan Design, Mountain
States Chapter of the
International Erosion
Control Association

CDOT Certified SWMP
Preparer

40-Hour OSHA Health &
Safety Training

**PROFESSIONAL
ORGANIZATIONS**

American Council of
Engineering Companies
(ACEC) Colorado

Colorado Watershed
Assembly
Board Member

Cherry Creek Stewardship
Partners

ACEC Colorado Water
Resources Committee

ACEC National Water,
Energy, Environment
Committee
Colorado Water Quality
Forum

Colorado Water Congress

American Water Resources
Association

Water Education Colorado

Conduit Projects | Denver Water | Colorado. Pinyon has provided environmental services to Denver Water for multiple conduit (pipe that are more than 24 inches in diameter) projects. Services have included managing dewatering permits, stormwater management design, completing construction stormwater management plans, completing Materials Management Plans to provide guidance during construction, and more. As Pinyon's Utilities Market Manager, Karlene serves as the Principal-in-Charge for utilities related projects like these, and provides senior technical advisory oversight and QA/QC of project deliverables. Specific examples include:

- Conduit 16/22 Stormwater Management Plan | Jefferson County
- Conduit 18 Environmental Services | Denver
- Conduit 77 Relocation – Sanderson Gulch Improvements | Denver
- Conduit 94 Investigation & Pipe Replacement | Denver

Utilities Projects | Multiple Clients | Multiple Locations. Karlene serves as the Principal-in-Charge for utilities related projects and provides senior technical advisory oversight and quality assurance/quality control of project deliverables. Relevant projects include:

- Water Quality, Permitting, and Regulatory Support | Town of Erie | Boulder County, Colorado
- Water Quality Permitting and Compliance and Regulatory Matters | Mt. Crested Butte Water and Sanitation District | Gunnison County, Colorado
- Water Quality, Permitting, Compliance, and Regulatory Matters | Eagle River Water and Sanitation District | Summit County, Colorado
- Technical Support Discharge Permitting | Town of Crested Butte | Crested Butte, Colorado

Environmental Consulting Services | Commerce City | Commerce City, Colorado. The City contracted with our team to complete air and quality analyses and policy recommendations with the goal of providing better information and improving environmental conditions for their community. Karlene acted as technical advisor, focused on two distinct water quality goals. The first was integration of low impact development (LID) into the City's planning and development process, including alignment with the City's drainage criteria manual. The second goal was focused on impacts to the City's watershed through reviewing and identifying both point and non-point sources that have the potential to degrade water quality. This information was provided to the City for use in improving their watershed and master planning process.

Water Quality Program Services | CDOT | Multiple Locations, Colorado. Karlene provided expertise and assistance for the CDOT State-wide Water Quality Program Services contract. MS4 permit compliance areas include the Illicit Discharges Program (also known as Illicit Discharge Detection and Elimination), and Stormwater Outfall Reconnaissance Inventory Program. Karlene worked with CDOT to define CDOT stormwater outfalls and mapping criteria to meet MS4 goals of outfall mapping in Phase I and Phase II municipalities. Karlene investigated and documented illicit discharges in the field, including wastewater characterization, reviewed as-built drawings, and completed maintenance manuals. Karlene also has provided inspection services and completed maintenance manuals for permanent water quality features and authored and reviewed MS4 permit required program documentation.



Faye Estes
Grant Specialist

AREAS OF EXPERTISE

Grant Administration and Management
Grant Writing
Budget Preparation and Management
Compliance and Technical Assistance
Development and Implementation of financial best practices

YEARS EXPERIENCE

15

YEARS WITH PINYON

<1

EDUCATION

BS Business Management,
University of Alaska
Anchorage, 2009

TRAININGS & CERTIFICATIONS

N/A

PROFESSIONAL ORGANIZATIONS

N/A

PROFESSIONAL EXPERIENCE

Faye Estes has 15 years of experience providing grant management, administration, and proposal services to clients across the US. Faye excels at researching grant opportunities; creating project objectives, timelines, and budgets for grant proposals; and using extensive project management skills to ensure clients meet grant requirements. Faye has worked on a variety of federal and state program areas including transportation and mobility, sustainability and energy, aging services, aviation, weatherization, zero emission, and rural housing. She has also helped to develop program-specific best practices to ensure grant compliance and reporting accuracy.

Faye Estes is backed by the experts at Pinyon. She can provide grant support services including research to identify relevant grant funding opportunities; alignment of grant program priorities with project objectives; stakeholder collaboration and input; and preparing grant proposals. Her work has included coordinating with stakeholders across many sectors and grant writing for a wide variety of concentrations. Faye successfully submitted 11 grant applications to various funding agencies in 2024, securing 9 awards.

Faye specializes in aligning grant opportunities with client goals and can provide expertise in creating competitive grant proposals. After a grant is awarded, Faye uses grant-specialist project management tools and stakeholder engagement skills to provide administrative support and to ensure the successful fulfillment of grant requirements. From planning grants to implementing grants and beyond, Faye has a unique skill set that pairs client projects with funding opportunities and supports grant-funded project teams through effective and practical administrative assistance.

PROJECT EXPERIENCE

Grant Writing Services | Commerce City | Commerce City, Colorado. Pinyon, in partnership with Lotus Sustainability, offered grant writing services for Commerce City to apply to CDPHE Environmental Justice grant program. All the required application documents were prepared, reviewed and submitted in partnership with Commerce City and the relevant project partners. This grant program aims to help communities disproportionately affected by pollution and climate change. The grants focus on various environmental topics, including air and water quality, waste management, climate change, and land use. Faye was the grant coordinator for this project.

Grant Funding Research for Stormwater Master Plan | City of Pueblo | Pueblo, Colorado. The City of Pueblo is in the process of updating their Stormwater Master Plan. This project is a high priority, but funding has been a barrier. To help move the project forward Faye has assisted in the research of potential funding opportunities. The research included:

- A list of all the federal, state, and local grant opportunities
- Details and application information for each grant
- Prioritization of the best options for the project

Grant Specialist - Denver International Airport (City and County of Denver) | DEN | Denver, Colorado. In her role as Grant Specialist, Faye provides oversight and management of all Denver International Airport's federal, state and local grants; works with awarding agencies to ensure compliance; assists in the development of all grant proposals; develops, implements and evaluates policies, procedures, accounting and financial information systems in accordance with any federal, state or local grant programs; serves as the primary liaison with federal funding and regulatory agencies, state agencies and private agencies regarding financial assistance matters; provides professional assistance and training to departments in grant management areas; assists with the development and implementation of reporting within the financial management software system; and maintains the County's mandatory registrations with SAM, Grants.gov, Duns & Bradstreet, and other various required Federal systems for obtaining and retaining Federal funding.

Senior Grant Accountant for Douglas County Finance Department | Douglas County | Douglas County, Colorado. In this role, Faye provided oversight and management of all of Douglas County's contracts and federal, state, and local grants; management of all federal COVID relief funding including CARES and American Rescue funds; management of all state and federal Douglas County Health Department funding; budget forecasting and spending authority management; monthly grant and contract reconciliation; assisting departments with the preparation of grant applications, contracts, Intergovernmental Agreements and Sub Grantee Agreements; development of Countywide Sub Recipient monitoring materials and Risk Assessments; SEFA preparation and audit participation; managing the rollout and training of the County's new grant management system; sitting on various special project committees and grant review teams as the Finance representative; and assisted all departments with grant application preparation and any other needed accounting functions.

Mobility Program Manager/Grant Support Specialist for Douglas County Department of Community Development | Douglas County | Douglas County, Colorado. In this role, Faye provided program and grant management for federal, state and county transportation grants; oversight of all applicable regulations and requirements to ensure grant and contract Compliance; yearly grant budget preparation and forecasting; monthly grant reconciliation and required monthly, quarterly, or annual reports with supporting documentation in a variety of reporting portals; in-kind and cash match management for federal grants; preparation of requests for proposals, grants, subgrantee agreements, and contracts; provided technical assistance to transportation and senior service sub grantees; maintained accounting systems including budgets, vouchers, draws and reimbursement requests; created all on-site monitoring materials and conducted yearly sub grantee monitoring; maintained systems to track program and budgets; provided customer service to Douglas County residents; management of Douglas Counties' Local Coordinating Council, Douglas County Transit Solutions (DCTS); and participated in team, division, department, and County meetings; worked collaboratively with other programs in the department and throughout the County.



Diane Kiely

Watershed Technical Expert/Grant Support

AREAS OF EXPERTISE

Watershed Management
Nonpoint Source Pollution
Remediation
Clean Water Act/208
Management Agencies
Project Management

YEARS EXPERIENCE

30

YEARS WITH PINYON

1

EDUCATION

BA, History, Slippery Rock
University of Pennsylvania

PROFESSIONAL ORGANIZATIONS

Consultant, Colorado
Watershed Assembly

Manager, Upper Clear
Creek Watershed
Association

Consultant, Clear Creek
Watershed and Forest
Health Partnership

Manager, Bear Creek
Watershed Association

PROFESSIONAL EXPERIENCE

Diane Kiely has over 30 years of experience in business operations, project development, strategic planning, and grant management. In 2007, she launched her consulting business, Kiely Diversified Projects. She supports organizations with strategic business planning and implementation, serves as project liaison, and facilitates discussions on planning, process, and project development. Diane served as a Project Manager for the Clear Creek Watershed Foundation (CCWF) from 2007 through 2019, managing project agreements with organizations including the US Environmental Protection Agency, US Department of Agriculture-Forest Service, CDPHE, and Colorado Division of Reclamation, Mining & Safety. Projects for CCWF including remediation of large scale nonpoint source pollution contributing to the State of Colorado's 303(d) list of impaired waters for trace metals.

Since 2015, Diane has worked with the Colorado Watershed Assembly (CWA), a statewide organization that supports collaborative efforts to protect and improve the conservation values of our state's land, water, and other natural resources. As a Program Manager for CWA, Diane organizes and coordinates the Colorado Healthy Rivers Fund program and the Chatfield Watershed Authority program. She is the Manager for the Upper Clear Creek Watershed Association, a 208 Management Agency of the Clean Water Act. She is also working with the Clear Creek Watershed and Forest Health Partnership, performing project development activities, including field reconnaissance, drafting statements of work for projects, conducting outreach to landowners, and coordinating to develop mitigation partnerships.

PROJECT EXPERIENCE

Upper Clear Creek Watershed Plan 319 Nonpoint Source Pollution Grant Application | UCCWA | Colorado. The UCCWA required grant funding to complete the planning process for their 2024 watershed plan update. Pinyon used the project goals to find grant programs that aligned to provide a competitive advantage for the project. Pinyon was selected by UCCWA to be their Fiscal Agent and identified the CDPHE 319 Nonpoint Source Pollution grant program and prepared the grant proposal to fund this impactful watershed project. A second grant application was prepared and submitted to the Colorado Watershed Assembly Colorado Healthy Rivers Fund to obtain additional funding to help UCCWA meet the match required by the 319 Nonpoint Source Pollution grant. Diane provided Pinyon with grant identification and writing support for this project.

Program Manager | Colorado Watershed Assembly | Colorado. From July 2015 to present, Diane has served as the Program Manager. In this role she organizes and coordinates the Colorado Healthy Rivers Fund program and Chatfield Watershed Authority program. Diane provides strategic guidance and supports the progress of Assembly operations.

Multiple Roles | Clear Creek Watershed Foundation | Colorado. Diane held several roles between October 2007 - 2019.

- Targeted Watershed Grant Projects: Project Manager through agreement with the U.S. Environmental Protection Agency for remediation of large-scale nonpoint source mill tailings and waste rock pile segments contributing to the Upper Clear Creek Watershed 303(d) list of impaired waters for trace metals.
- Upper Trail Creek Nonpoint Source Grant Project: Project Manager through agreement with Colorado Division of Reclamation, Mining and Safety for remediation of designated high priority impaired waters listed for exceedance of trace metals standards. Responsible for implementation of Abandoned Mined Land Reclamation Best Management Practices for reducing the amount/rate of metals, sediments, and acidity entering Upper Trail Creek from numerous “orphan” mine sites.
- Grizzly Gulch Habitat Restoration Project: Project Manager for restoration project in cooperation with the United States Department of Agriculture - Forest Service. Managed the construction activities necessary for rehabilitation of sensitive riparian areas under consideration for greenback cutthroat trout re-introduction.
- West Gold Project: Project Manager for reclamation work at the West Gold Mine on National Forest System land in Clear Creek County, Colorado. Completed removal of unsafe structures, construction of containment walls, and installation of run-on and run-off water control structures.
- Lower Clear Creek Basin Initiative: Project Development Lead initiating stakeholder engagement to catalogue project concepts through watershed mapping and stakeholder outreach in the lower Clear Creek Watershed basin.
- DREI Initiative: Project Development Lead responsible for the design and implementation of a plan to execute a Distributed Renewable Energy Generation Infrastructure (DREI) throughout the Clear Creek Watershed mountain region that addressed the technology, siting, transmission, economic, policy, environmental and public relations issues surrounding energy efficiency and renewable energy development.

Project Manager | Clear Creek Watershed & Forest Health Partnership | Colorado. Diane has served the Clear Creek Watershed & Forest Health Partnership from July 2022 – Present. Project development activities including field reconnaissance, drafting statements of work, outreach to landowners, and coordinate and develop mitigation partnerships.

Manager | Bear Creek Watershed Association | Colorado. Diane serves as a manager for the Bear Creek Watershed Association from December 2024 – Present. Maintain records for Section 208 Management Agency of the Clean Water Act. Duties include record keeping, official recording of formal decisions and proceedings, and financial account management.

Multiple Roles | Colorado Water Conservation Board | Colorado. Diane has been active in the Colorado Water Conservation board from July 2015 – Present.

- Metro Roundtable Recorder
- South Platte Basin Roundtable Recorder



Jennifer Hale, ENV SP

Sustainability and Resilience

AREAS OF EXPERTISE

Sustainability
Resilience
Environmental, Health, and
Safety Compliance
Community Outreach
Project Management
Site Remediation

YEARS EXPERIENCE

25

YEARS WITH PINYON

3

EDUCATION

BS, Ecology and
Evolutionary Biology,
University of Arizona

AA, General Studies,
Central Arizona College

TRAININGS & CERTIFICATIONS

Certified Envision®
Sustainability Professional
(ENV SP) by the Institute for
Sustainable Infrastructure
(ISI)

ISI Envision® Verifier

Natural Capitalism
Solutions, Sustainability
Leadership and
Implementation,
partnership with University
of Denver

ISO Lead Auditor

First Aid and CPR Trained

PROFESSIONAL EXPERIENCE

Jennifer brings over 24 years of experience in developing and implementing sustainability and resilience programs and strategies for a diverse range of clients, including state and local governments, commercial and industrial sectors, non-profits, and transportation agencies. With a passion for conservation, community education, and sustainable infrastructure innovation, she excels at guiding project teams in assessing impacts and risks while delivering solutions that enhance sustainability and resilience performance.

Jennifer's expertise extends beyond strategy—she helps clients identify and secure funding opportunities to turn sustainability and resilience goals into actionable projects. Her strengths in systems thinking, strategic planning, and fostering collaborative stakeholder partnerships enable teams to develop and implement long-term visions that improve community well-being, environmental outcomes, and economic performance.

She is eager to apply her holistic approach and expertise to the Norwood Water Commission, supporting the implementation of key initiatives and securing financial resources to advance the Commission's long-term goals.

PROJECT EXPERIENCE

48th Avenue Outfall | City and County of Denver (CCD) | Denver, Colorado.

The 48th Avenue Outfall project is located in the Globeville neighborhood in northwest Denver, near the location of Lincoln Street and 48th Avenue moving east towards Washington Street, and then downhill to the South Platte River. The CCD set out to meet several goals for this project including designing stormwater improvements to address historical drainage and flooding issues experienced by this community for decades. In addition, CCD has worked closely with the community to develop strategies to meet community goals to expand the green space and walkability of the neighborhood. The project supports CCD's vision to provide a "unique, strong, connected and healthy Globeville." As an ENV SP, Jennifer led the application and development of sustainability strategies using ISI's Envision® Framework. The approach for this project includes Envision® credit applicability, identification of achievement levels, and determination of additional sustainability elements that the project might accomplish. Pinyon collaborated with the project engineer, CCD staff, and other design team members to drive sustainability improvements into the project to meet CCD's Envision® goals of achieving the Verified Award level.

Sloans Lake Water Quality | CCD | Denver, Colorado.

CCD Parks and Recreation Department (Parks) retained Pinyon to conduct bathymetric and sub-bottom profiling, sediment volume calculations, water quality assessments, and provide preliminary options for dredging and future management decisions for Sloan's Lake. Pinyon worked with Parks and stakeholders to develop goals and objectives to guide project planning and to collect information and input to explore high level planning alternatives.

PROFESSIONAL ORGANIZATIONS

Colorado Pollution Prevention Advisory Board Member, State of Colorado (2022-Present)

Risk and Resilience Committee, Rocky Mountain Section, American Water Works Association (2022-Present)

Office of Sustainability Advisory Council Member, City and County of Denver (2018-2020)

Sustainability Team Founder & Team Chair, Harvey Park Improvement Association Board Member (2014-2017)

Association of Zoos and Aquariums Green Scientific Advisory Group Member, Served as Chair 2012-2014 (2010-2019)

Pinyon is progressing the preferred alternative by developing design interventions tools that can be utilized to implement small piolet projects that are focused on water quality improvements. Some of the interventions include bank restoration, water quality wetlands, habitat refuges, floating wetlands, buffer implementation, turf conversions, and modifying/relocating recreation programming. Jennifer's role on this project included the evaluation of how site strategies and design interventions supported Park's commitments towards climate, sustainability, and improved resilience. Jennifer provided guidance and recommendations to the project design team focused on prioritizing nature-based solutions to improve ecological system services and value to the community for improved long-term sustainability.

Sustainability & Resilience Specialist – Envision® | Multiple Clients | Colorado. Local municipalities are increasingly committed to integrating sustainability and resilience into their infrastructure projects through the ISI Envision® framework, a performance-based system that provides clear benchmarks and metrics for measuring project sustainability and resilience. Jennifer has successfully facilitated teams in identifying, planning, designing, and implementing sustainability, resilience, and equity strategies across various projects. She employs structured facilitation methods to encourage active participation and critical thinking, ensuring diverse perspectives contribute to the decision-making process. Jennifer's experience in tailoring the Envision® framework to fit each project's unique context, from master planning and conceptual design to construction, enables her to guide teams toward meaningful, project-specific solutions. She emphasizes evaluating projects at a watershed scale, considering diverse needs and concerns, and facilitates discussions that help teams understand potential environmental and social impacts, and climate risks. Through this collaborative approach, Jennifer drives the development of innovative, holistic strategies that improve overall project performance. Examples include CCD | University Neighborhood Safer Streets, Denver International Airport (DEN) | Runway 17L-35R Rehabilitation Project (Package 1 and 2), West Gates Deicing Waste Pond Expansion, Design of Economy Parking Lot Pavement Rehabilitation (Phase 1), DEN Pena Blvd Phase 1B-Jackson Gap; and Adams County | West 70th Avenue between Pecos Street and Kidder Drive, Zuni and West 70th Avenue, Explorador Calle Bridge, and 120th Avenue Safety and Multimodal Corridor.

Director of Safety and Sustainability | Denver Zoological Foundation | Denver, Colorado. Jennifer developed the vision and strategies for the Denver Zoo's award-winning sustainability programs. She successfully embedding the vision into the culture and daily operations of the zoo by establishing buy-in and support with executive leadership, management, and staff to ensure effective program implementation to support zoo's sustainability and EH&S policies. These efforts resulted in the growth of her initial position at the zoo into a dedicated sustainability department with two direct reports. She also directed the Safety and Sustainability Team in the management of all the EH&S and sustainability programs under Denver Zoo's ISO 14001 and ISO 45001 dual-certified Sustainable Management System (SMS). Her work received national and local recognition for accomplished sustainability initiatives with the first Association of Zoos and Aquariums (AZA) Green Award in 2011, The League of American Bicyclists Silver Bicycle Friendly Business Award, DRCOG Way to Go Employer Champion Award, and CDPHE Sustainability Champion Award.

Appendix B. Schedule of Unit Rates

Employee Type	Rate
General Labor Categories	
Assistant Technical Specialist	\$65
Administration	\$80
Project Support	\$85
Project Support I	\$90
Project Support II	\$100
Project Assistant	\$110
Project Assistant I	\$120
Project Controller	\$130
Computer Assisted Drafting	
CAD Assistant	\$90
CAD Assistant I	\$100
CAD Assistant II	\$110
CAD Specialist	\$125
CAD Specialist I	\$140
CAD Specialist II	\$155
CAD Specialist III	\$170
Geographic Information Systems	
GIS Designer	\$95
GIS Designer I	\$105
GIS Designer II	\$115
GIS Specialist	\$130
GIS Specialist I	\$145
GIS Specialist II	\$160
GIS Specialist III	\$175
Cultural Resources	
Assistant Historian/Archaeology Technician	\$65
Assistant Historian/Archaeology Technician I	\$75
Assistant Historian/Archaeology Technician II	\$85
Assistant Historian/Archaeology Technician III	\$95
Cultural Field Specialist	\$105
Cultural Field Specialist I	\$115
Cultural Resource Specialist	\$125
Cultural Resource Specialist I	\$140
Cultural Resource Specialist II	\$155
Cultural Resource Specialist III	\$180
Cultural Resource Specialist IV	\$205

Employee Type	Rate
Industrial Hygiene	
Regulated Materials Specialist	\$95
Regulated Materials Specialist I	\$105
Regulated Materials Specialist II	\$115
Industrial Hygienist	\$145
Industrial Hygienist I	\$155
Industrial Hygienist II	\$190
Industrial Hygienist III	\$230
Landscape Architecture	
Landscape Designer	\$110
Landscape Designer I	\$125
Landscape Designer II	\$140
Landscape Architect	\$150
Landscape Architect I	\$165
Landscape Architect II	\$190
Landscape Architect III	\$220
General Science and Engineering	
Assistant Field Technician	\$65
Assistant Field Support	\$75
Assistant Field Support I	\$85
Assistant Field Support II	\$100
Field Specialist	\$110
Field Specialist I	\$115
Field Engineer/ Scientist	\$125
Field Engineer/ Scientist I	\$130
Field Engineer/ Scientist II	\$135
Field Engineer/ Scientist III	\$145
Engineer / Scientist	\$155
Engineer / Scientist I	\$170
Engineer / Scientist II	\$200
Engineer / Scientist III	\$250
Engineer / Scientist IV	\$270
Engineer / Scientist V	\$285
Project Management	
Task Manager	\$180
Project Manager	\$200
Project Manager I	\$215
Project Manager II	\$230
Program Manager	\$245

Lump-sum Equipment Charges	
General Field Visits (general projects, asbestos sampling kit [bulk sampling])	\$50/day
Biological Field Visit (includes sub-meter GPS, wetland flags, field notebook, and other incidentals)	\$250/day
Field Visit (Biology CQST Mapping)	\$350/day
Soil Logging/Screening (during drilling/test pits; includes PID or other instruments, GPS, and other incidentals)	\$250/day
Groundwater Sampling (includes YSI field measurements, water level meter, bailers, and other incidentals)	\$250/day
Noise Monitoring	\$250/day
Asbestos Air Monitoring Field Kit	\$115/day
Mileage (passenger car)	Current IRS rate
Outside Expenses (e.g., shipping, rental equipment, travel, subcontractor/subconsultant, laboratory fees)	Cost + 10%
<i>Specialty in-house equipment billed as indicated in project-specific proposals</i>	

Appendix C. Sample Work



RFA #42262: NPS Program Watershed Planning Project Application

Request for Application Cover Sheet and Signatures Page

Date RFA Published: 10/23/2023
RFA #: 42262
Electronic Submittal Deadline: December 4, 2023
CDPHE Contact: Kenan Diker, Kendra Kelly, and Kate MacDonald
cdphe_wqcd_nonpointsource+managers@state.co.us
303-692-2864

All applicants must attest to the following by signing and dating below:

By signing and submitting the attached application, the authorized official agrees that the information provided in this application is, to the best of the applicant’s knowledge and based on reasonable inquiry, true, accurate and complete. By signing and submitting, the authorized official also agrees the project meets the eligibility and contracting requirements identified in Section III of the Request for Applications.

Print Name and Title of Authorized Official: Karlene R. Thomas, P.E., Principal

Signature of Authorized Official:  Date 12/1/2023



RFA #42262: NPS Program Watershed Planning Project Application

Project Title	Upper Clear Creek Watershed Nine Element Watershed-based Plan 2024
Category:	Category 3 (update)

1.0 - Project Proposal Summary

Project Sponsor			
Organization Name	Pinyon Environmental, Inc.		
E-mail address	info@pinyon-env.com		
Mailing Address	3222 S. Vance St., Suite 200		
City, State and Zip	Lakewood, CO 80227		
Telephone Number	303.980.5200		
Tax ID Number: 84-1243729	SAM Unique Entity ID: TSYVJJBLEML8		
Project Coordinator			
Name	Kate Cheney		
Title	Grant Specialist		
E-mail Address	cheney@pinyon-env.com		
Mailing Address	3222 S. Vance St., Suite 200		
City, State and Zip	Lakewood, CO 80227		
Telephone Number	303.350.4085		
Type of Entity (check one)			
<input type="checkbox"/>	Intergovernmental Agency (e.g. conservation districts, special districts, conservancies...)		
<input type="checkbox"/>	Interagency & Local Public Health Agencies (e.g. state agencies, institutions of higher education...)		
<input checked="" type="checkbox"/>	Non-profit or for-profit entities		
Project Start Date	April 2025	Project End Date	November 2027

Project Funding	
NPS Funds Requested \$112,500 + Match (cash/in-kind) \$37,500 = Total Project Cost \$150,000	
Federal Funds (please do not include in the total) \$0.00	
Other Funds (please describe) \$0.00	



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Project Location	
<p>WQCC Regulation River Basin</p> <p>* = receive priority points</p>	<p>Regulation 32: Arkansas River Basin*</p> <p>Regulation 33: Upper Colorado River & North Platte River Basins</p> <p>Regulation 34: San Juan and Dolores River Basins</p> <p>Regulation 35: Gunnison River/Lower Dolores River Basins</p> <p>Regulation 36: Rio Grande Basin*</p> <p>Regulation 37: Lower Colorado River Basin</p> <p>X Regulation 38: South Platte Basin</p>
Latitude (in decimal degrees): 39 44' 25.07"	Longitude (in decimal degrees): 105 30' 32.35"
<p>9-Element Watershed-Based Plan (WBP) if applicable</p>	<p>Category 3 was selected because there is a pre-existing watershed plan for this watershed. UCCWA created a watershed plan in 2006 and updated the plan in 2014. However, the plans did not include all of the Nine Elements required for a Watershed-based Plan; this project will update the current watershed plan to have all nine elements.</p>
<p>12 digit USGS Hydrologic Unit Codes (HUCs)</p>	<p>12-digit HU (Subwatershed): Clear Creek Canyon-Clear Creek HUC12, 101900040402</p> <p>12-digit HU (Subwatershed): Silver Gulch-Clear Creek HUC12 101900040104</p> <p>12-digit HU (Subwatershed): West Fork Clear Creek HUC12 101900040103</p> <p>12-digit HU (Subwatershed): Headwaters Clear Creek HUC12 101900040102</p> <p>12-digit HU (Subwatershed): South Clear Creek HUC12 101900040101</p> <p>12-digit HU (Subwatershed): North Clear Creek HUC12 101900040206</p> <p>12-digit HU (Subwatershed): Headwaters Chicago Creek HUC12 101900040203</p> <p>12-digit HU (Subwatershed): Mill Creek-Clear Creek HUC12 101900040202</p> <p>12-digit HU (Subwatershed): Fall River HUC12 101900040201</p> <p>12-digit HU (Subwatershed): Soda Creek HUC12 101900040205</p> <p>12-digit HU (Subwatershed): Upper Ralston Creek HUC12 101900040301</p> <p>12-digit HU (Subwatershed): Trail Creek-Clear Creek HUC12 101900040207</p>



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<p>Waterbody ID (WBIDs)/Assessment Unit ID (AUIDs)</p>	<p>The information below was pulled directly from the Map of Stream Segmentation.</p> <p>All Attaining: AUID, COSPCL01_A AUID, COSPCL01_B AUID, COSPCL06_A AUID, COSPCL04_A AUID, COSPCL05_A AUID, COSPCL06_D AUID, COSPCL06_B AUID, COSPCL08_A AUID, COSPCL09a_A AUID, COSPCL13a_B AUID, COSPCL12b_A</p> <p>303d Listed: AUID, COSPCL02a_B AUID, COSPCL05_B AUID, COSPCL06_C AUID, COSPCL03b_A AUID, COSPCL03a_B AUID, COSPCL02a_C AUID, COSPCL02b_C AUID, COSPCL02b_B AUID, COSPCL10_A AUID, COSPCL09b_A AUID, COSPCL02c_F AUID, COSPCL02c_C AUID, COSPCL09a_C AUID, COSPCL09a_B AUID, COSPCL02c_E AUID, COSPCL11_A AUID, COSPCL12a_B AUID, COSPCL11_A AUID, COSPCL13a_C AUID, COSPCL13b_C AUID, COSPCL13b_B AUID, COSPCL13b_D</p> <p>M&E: AUID, COSPCL12a_A AUID, COSPCL12b_B</p> <p>TMDL: AUID, COSPCL03a_A AUID, COSPCL03a_C</p>
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	<p>Not Enough Information to Assess: AUID, COSPCL07a_A AUID, COSPCL19_A AUID, COSPCL21_A AUID, COSPCL22_A</p>
<p>Restoration and/or Protection?</p>	<p>Restoration and Protection: The Upper Clear Creek Watershed contains both impaired (category 4a and 5) and unimpaired (category 1, 3a, and 3b) stream segments. Therefore, this project will include both the restoration and protection of this watershed.</p>
<p>Disproportionately Impacted Communities? And how your project benefits DI Communities</p>	<p>This Watershed-based Plan will prepare for and aim to reduce the impacts of climate change and improve the water quality for the disadvantaged communities within the Upper Clear Creek watershed. The EnviroScreen tool, Climate and Economic Justice Screening Tool, and Enterprise Zone Program were used to identify the disadvantaged communities and the issues that impact them. These tools show that the communities within this watershed are at an increased risk of climate change impacts, are overburdened with nonpoint source pollution, and are economically disadvantaged. This project will help protect these communities by identifying projects that equitably address water quality issues and climate change adaptation and mitigation for the most overburdened communities.</p> <p>According to the EnviroScreen tool, all the counties in the Upper Clear Creek Watershed have sensitive populations that face a combination of environmental exposures, effects, and climate vulnerabilities. For example, all counties have communities with high vulnerability to climate change impacts, with a greater wildfire risk than 88-98% of Colorado. Furthermore, the counties in this watershed have a higher rate of polluted streams and rivers, closer proximity to hazardous waste and mining locations, and exposure to air and water pollution, such as metals and sedimentation.</p> <p>In the Climate and Economic Justice Screening Tool, the City of Idaho Springs in Clear Creek County is identified as disadvantaged because it meets the burden threshold for legacy pollution, low-income, and climate change hazards, including wildfires, flooding, building losses, and reduced economic value. Their expected population loss rate for fatalities and injuries from natural hazards each year is in the 98th percentile. Their flood risk to properties from projected floods, rain, riverine, and storm surges within 30 years is in the 88th percentile. Flood risk is of more significant concern in Clear Creek County, given</p>



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	<p>they are in the 91st percentile. The area was also flagged for people in households where income is less than or equal to twice the federal poverty level.</p> <p>A large portion of the upper Clear Creek Watershed is in one of Colorado’s Enterprise Zones. The Colorado legislature created the Enterprise Zone Program to encourage development in economically distressed areas of the state. The States’s 16 designated enterprise zones have high unemployment rates, low per capita income, or slow population growth. Unfortunately, Clear Creek County is defined as an enhanced rural enterprise zone due to additional economic distress criteria.</p> <p>Using data from Colorado's Decision Support Systems, Future Avoided Cost Explorer: Colorado Hazards Explore website, hazards for Clear Creek, Gilpin, and Jefferson counties were reviewed. This included economic impacts of flood, drought, and wildfire in 2050, in addition to drought, flood, and wildfire hazards for both moderate and more severe climate scenarios. The forecasts consider bridges, buildings, cattle, crops, rafting, skiing, and wildfire suppression. The estimates include low, moderate, and high population growth scenarios. The drought scenarios in Clear Creek County, a rural mountain community at the Continental Divide headwaters with 9,400 residents, have forecasted drought damages to be \$9.1 million.</p> <p>Nuances of climate change to be expected, as conveyed through the Colorado Department of Natural Resources webpage on climate, particularly relevant to flooding and water storage is the timing of runoff, which is predicted to occur earlier in the spring, reducing late summer stream flows regardless of changes in precipitation. Flood damage with moderate climate change and low population growth is projected at \$7.0 million. A flood predicted with more severe climate change and high population growth increases the damage estimate to \$9.0 million. A worst-case scenario for Clear Creek County with a more severe climate and high population growth by 2050 is total damages, all factors included, of \$24 million. More extreme financial damage is expected downstream as the watershed enters the urban communities of Jefferson County. The forecast for floods in Jefferson County in a more severe climate and high population growth by 2050 is estimated at \$20 million in total damages. Wildfire for Jefferson County for the same parameters, more severe climate, and population growth is estimated at \$54 million in total damages. Drought, flood, and wildfire combined for Jefferson County for this scenario is estimated at \$76 million in total damages.</p>
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NPS Pollution Source categories to be addressed			
	Agriculture	X	AML
X	Atmospheric Deposition	X	Forestry (includes wildfires and flooding)
X	Hydromodification (changes to water flow as in reservoir, diversions, etc.)	X	Habitat Alteration (drainage/filling wetlands, stream bank destabilization)
X	Urbanization		Other:
NPS Pollutants to be addressed			
x	Nitrogen		Pesticides
x	Phosphorus		Selenium
X	Sedimentation	X	Temperature
X	Pathogens/Bacteria	X	pH
X	Metals	X	Habitat impact
	Low dissolved oxygen		Other:

Project Description:

The Upper Clear Creek Watershed Association (UCCWA) aims to expand the Upper Clear Creek Watershed Plan using the Nine Element Watershed-based Plan (WBP) from the U.S. Environmental Protection Agency (EPA). This plan will include the necessary Nine Elements, identifying nonpoint sources of pollution within the watershed, water quality targets, and best management practices, and creating a plan for implementation projects that restore rivers and streams with impaired water quality. Acting as a roadmap, this Category 3 watershed-based plan update will be developed using stakeholder outreach with particular attention to the most critical needs of the watershed and disadvantaged communities within the watershed, including hazard reduction and disaster preparedness and prevention. Through stakeholder engagement and observation of nonpoint sources of pollution, the plan will entail actionable items for protecting and preserving impacted habitats and communities.

2.0 - Statement of Need

The Nine Element Watershed-based Plan for Upper Clear Creek will integrate the existing Upper Clear Creek Watershed Plan (2006) and Plan Update (2014) to include newly completed wildfire studies and water quality data. The 2006 Plan met five of the nine elements, and the 2014 Update was not funded to address the nine minimum elements of watershed planning.



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When the plan is complete, UCCWA will have a watershed-based plan that can be used to implement additional projects that address water quality impairments in addition to integration with other planning efforts underway. The purpose of these planning efforts is to address water quality and pre-wildfire planning, including increased threats of highway sedimentation and magnesium chloride exposure from continued Interstate 70 expansions that is threatening already disadvantaged communities with increased NPS pollution.

2.1 - General Watershed Information

Part of the larger South Platte River Basin, the Clear Creek watershed is a 575 square-mile drainage basin from the 14,000-foot headwaters on the Continental Divide, through the canyon mouth and urbanized plains near the City of Golden, and onto the confluence at the South Platte River. The Upper Clear Creek watershed is characterized by beautiful mountain scenery. Four hundred square miles of the watershed are located in the mountains west of Golden, and over one-third of the upper watershed comprises the Arapaho and Roosevelt National Forests.

Early efforts in the watershed focused on orphan/abandoned mine site remediation. The demand for clean water impacts other activities in the watershed, including forest management, transportation, energy generation, etc. Importantly, Clear Creek supplies water to over 400,000 residents in the metropolitan Denver area. The Upper Basin of the watershed is the portion above the headgates for three canals supplying Standley Lake, which provides drinking water for residents in the Cities of Northglenn, Thornton, and Westminster. Significant industries reliant on Clear Creek include recreation, such as fishing, rafting, and skiing, as well as the mining and brewing industries.

Many point-source pollution sites have been addressed. Nevertheless, nonpoint source pollution impacting water quality is critical for this watershed. The most imminent threats to water quality and the overall sustainability of the Clear Creek Watershed include ongoing Interstate 70 expansion, potential large-scale wildfires, flooding with inevitable metals, sediment and nutrient loading, drought, and toxic spill incidents.

Drinking water utilities and communities that rely on surface water supplies from forested watersheds are increasingly confronted with the threat of wildfires. Water providers and watershed communities experience severe consequences from burns in source watersheds, including immediate and long-term water quality degradation and destructive post-fire storm runoff. A report from the Colorado School of Mines (CSM), [Wildfire Planning and Risk Mitigation: Increasing the Resilience of Public Drinking Water Systems](#), reviewed case studies of three water utilities in the State of Colorado who recently experienced wildfires that impacted their systems. They found that “post-fire storm runoff may contain damaging levels of ash, sediment, and debris, and may also be contaminated with heavy metals, hydrocarbons, increased nutrients, and dissolved organic carbon. These source water disturbances can compromise critical water supply infrastructure and water treatment systems” (CSM Report, p. 3). In the heart of the Colorado mineral belt, the communities in the Clear Creek Watershed are at greater risk of increased metals in storm runoff.



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With no significant fires in the Clear Creek basin over the last 3 decades, the watershed is particularly vulnerable to catastrophic wildfire and post-wildfire flooding and water quality impairments, debris flows, and economic impacts. With the compounding impacts of climate change, communities in the watershed and communities dependent on Clear Creek for water resources face increasing wildfire risk. Post-fire flooding could cause critical waterway damage from sediment and metal loading.

Expansion is currently and consistently underway through Clear Creek County along I-70. UCCWA, in partnership with Trout Unlimited, is bringing concerns to the Colorado Department of Transportation to discuss further degradation of Clear Creek due to roadway deicing. The primary concern is the increased use of additional deicer to the Clear Creek corridor, due to roadway expansion and increased traffic volumes. Magnesium chloride levels are suspected to be above already toxic levels for most aquatic life. Planning for I-70 expansion allows CDOT, the Clear Creek watershed community, UCCWA, the State, and Trout Unlimited to collaborate and develop environmentally sound solutions for roadway deicer impacts. UCCWA is interested in supporting and participating in this collaborative effort. Funding through this grant would be impactful in helping us design a monitoring program to address this issue.

2.2 - Water Quality Priorities and Problems

In the Upper Clear Creek Watershed in Colorado, several water quality problems have been identified, stemming from various sources and environmental factors. Key water quality issues in the watershed include sedimentation, heavy metals contamination, nutrient pollution, temperature increases, microbial contamination, aquatic habitat degradation, stormwater runoff, and pH imbalance. Sediment runoff from transportation and construction activities, mining sites, and eroding streambanks contributes to increased sediment levels in the water. Furthermore, unstable streambanks, exacerbated by deforestation and urban development, can result in sedimentation and nutrient loading, impacting water quality downstream, reducing water clarity, degrading aquatic habitats, and impairing aquatic ecosystems.

Historic mining activities in the area have left a legacy of heavy metal contamination, including elevated lead, cadmium, and zinc levels. These contaminants can be toxic to aquatic life and pose health risks to humans. Excessive nutrients, primarily nitrogen and phosphorus, enter the watershed from wastewater discharge and stormwater. Nutrient pollution can lead to algal blooms, oxygen depletion, and degraded water quality.

As the landscape changes in the upper Clear Creek watershed with residential and commercial development increasingly moving west, alteration and loss of riparian and aquatic habitats due to urbanization and land development diminishes the availability of suitable habitats for native aquatic species. In addition, the urbanization and impervious surfaces in the watershed contribute to increased stormwater runoff, which can carry pollutants like oil, chemicals, and debris into streams and rivers, affecting water quality. Changes in pH levels, often associated with past mining-related contamination, can harm aquatic life and affect the overall chemical balance of the water.



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Addressing these water quality problems in the Upper Clear Creek Watershed requires a coordinated effort involving various stakeholders, regulatory agencies, and community engagement. A comprehensive watershed plan, coupled with ongoing monitoring and adaptive management strategies, is essential to mitigate these issues and protect the ecological health of the watershed. Local buy-in and stakeholders as member organizations of UCCWA include Albert Frei & Sons; Town of Black Hawk; Black Hawk/Central City Sanitation District; Central City; Colorado Department of Transportation; Clear Creek County; Clear Creek Ski Corp.; Town of Empire; Town of Georgetown; Gilpin County; City of Golden; Henderson Mine; City of Idaho Springs; Jefferson County; Molson Coors; Silver Plume; St. Mary’s Water & Sanitation District; and Trout Unlimited.

This watershed plan will build on the previous watershed plan completed in 2006 and updated in 2014. It will incorporate changes since the last plan update and identify existing nonpoint source pollution impacts and a monitoring strategy. Based on EPA guidance, this watershed plan update will add implementation projects completed to date, including all research and reports released since 2014. For example, in addition to annual reports, in 2019, the UCCWA commissioned a pre-wildfire risk evaluation study that identified specific vulnerabilities, priority mitigation project options to manage fuels, stream channels, and Wildland-Urban Interface (WUI), and integrating the findings into this watershed plan is a high priority. The plan will also highlight the effects of sediment and nutrients in addition to metals, add wildfire planning related to water quality, reevaluate the current watershed health, and develop a list of new projects and potential partnerships to benefit the watershed.

The full [Regulation 93 Dashboard](#) for the Upper Clear Creek Watershed is provided in Appendix D.

WBID/AUID	Beneficial Uses	WQ Impairment(s) or Protection Need	TMDL Load Allocation (if applicable)
AUID, COSPCL02a_B	Recreational Use, Agricultural Use, Water Supply Use	Cadmium	
AUID, COSPCL05_B	Recreational Use, Agricultural Use	Copper	
AUID, COSPCL06_C	Recreational Use, Agricultural Use	Arsenic, Cadmium, Copper, Iron, Lead, Manganese, Nickel, Sulfate, Zinc	
AUID, COSPCL03b_A	Recreational Use, Agricultural Use	Cadmium, Copper	



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AUID, COSPCL03a_B	Recreational Use, Agricultural Use, Water Supply Use	Copper	
AUID, COSPCL02a_C	Recreational Use, Agricultural Use, Water Supply Use	Cadmium, Macroinvertebrates	
AUID, COSPCL02b_C	Recreational Use, Agricultural Use, Water Supply Use	Zinc	
AUID, COSPCL02b_B	Recreational Use, Agricultural Use, Water Supply Use	Zinc	
AUID, COSPCL10_A	Recreational Use, Agricultural Use	Copper	
AUID, COSPCL09b_A	Recreational Use, Agricultural Use	Cadmium	
AUID, COSPCL02c_F	Recreational Use, Agricultural Use, Water Supply Use	Cadmium	
AUID, COSPCL02c_C	Recreational Use, Agricultural Use, Water Supply Use	Cadmium	
AUID, COSPCL09a_C	Recreational Use, Agricultural Use, Water Supply Use	Macroinvertebrates	
AUID, COSPCL09a_B	Recreational Use, Agricultural Use, Water Supply Use	Copper, Lead	
AUID, COSPCL02c_E	Recreational Use, Agricultural Use	Arsenic, Cadmium, Copper, Lead, Manganese, Nickel, Sulfate, Zinc	
AUID, COSPCL11_A	Recreational Use, Agricultural Use, Water Supply Use	Cadmium, Temperature	



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AUID, COSPCL12a_B	Recreational Use, Agricultural Use	Cadmium, Copper, Iron, Lead, Manganese, Nickel, Selenium, Sulfate, Zinc	
AUID, COSPCL11_A	Recreational Use, Agricultural Use, Water Supply Use	Cadmium, Temperature	
AUID, COSPCL13a_C	Recreational Use, Agricultural Use	Cadmium, Zinc	
AUID, COSPCL13b_C	Recreational Use, Agricultural Use	Cadmium	
AUID, COSPCL13b_B	Recreational Use, Agricultural Use	Cadmium, Iron, Macroinvertebrates, Temperature	
AUID, COSPCL13b_D	Recreational Use, Agricultural Use	Cadmium	
AUID, COSPCL12a_A	Aquatic Life Use, Recreational Use, Agricultural Use	Manganese	
AUID, COSPCL12b_B	Aquatic Life Use, Recreational Use, Agricultural Use	Manganese	
AUID, COSPCL03a_A	Aquatic Life Use, Recreational Use, Agricultural Use, Water Supply Use	Zinc	TMDL
AUID, COSPCL03a_C	Aquatic Life Use, Recreational Use, Agricultural Use, Water Supply Use	Zinc	TMDL

2.3 - Map of Watershed Location

A map of the watershed can be found in Appendix B.

3.0 - Project Description

The Upper Clear Creek Watershed Plan Project will include five activities to complete a Nine Element watershed-based plan. Activity one consists of a review of the existing watershed



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plans, community outreach, and interviews with key stakeholders. Activity two covers project management tasks of facilitating four progress meetings and ongoing project management support. Activity three includes watershed analysis through the compilation of completed projects, research on existing watershed documentation, preliminary implementation project list, identification of priority project areas, and preparation of a preliminary watershed plan. Activity four entails completing the watershed plan, project map, and watershed stakeholder contact list. Lastly, activity five covers the grant administration aspects of this project, including submitting progress reports and invoices, distributing reimbursements to project partners, and semi-annual and final reporting.

3.1 - Goal, Objective, Activities, Sub-activities and Deliverables Table

Goal: Update the Upper Clear Creek Watershed Plan to include all Nine Elements of the EPA guidelines for watershed-based plans.			
Objective: No later than the expiration date of this contract, develop a nine-element watershed-based plan (WBP) for the Upper <i>Clear Creek</i> watershed that updates the preexisting incomplete plans from 2006 and 2014.			
		Responsible Party	Deliverables/ Products
Activity 1	Review Existing Watershed Plans	RESPEC & Pinyon Environmental	Interviews, Community Outreach, Existing Watershed Plans Compilation
<i>Sub-activity 1</i>	Review the watershed plans from 2006 and 2014.	RESPEC & Pinyon Environmental	Interviews
<i>Sub-activity 2</i>	Perform interviews with relevant agencies and facilitate community outreach.	Pinyon Environmental	Community outreach, Existing Watershed Plans Compilation
Activity 2	Project Management	RESPEC & Pinyon Environmental	Progress Meetings, Project Management



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<i>Sub-activity 1</i>	Facilitate four progress meetings	RESPEC & Pinyon Environmental	Four Progress Meetings
<i>Sub-activity 2</i>	Ongoing project management	RESPEC & Pinyon Environmental	Project Management
Activity 3	Watershed Analysis	RESPEC & Pinyon Environmental	List of Completed Projects, Research on Existing Watershed Documents, Preliminary Project List and Priority Project Area List, GIS Based Map of Potential Project Sites, Online education, Preliminary Watershed Plan
<i>Sub-activity 1</i>	Compile list of completed projects	RESPEC & Pinyon Environmental	List of Completed Projects
<i>Sub-activity 2</i>	Perform research on existing watershed documents	RESPEC & Pinyon Environmental	Research on Existing Watershed Documents
<i>Sub-activity 3</i>	Prepare preliminary implementation project list	RESPEC & Pinyon Environmental	Preliminary Project List
<i>Sub-activity 4</i>	Prepare priority project areas list	RESPEC & Pinyon Environmental	Priority Project Area List
<i>Sub-activity 5</i>	Prepare GIS map of potential project sites for online education	RESPEC & Pinyon Environmental	GIS Based Map of Potential Project



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			Sites, online education
<i>Sub-activity 6</i>	Prepare preliminary watershed plan	RESPEC & Pinyon Environmental	Preliminary Watershed Plan
Activity 4	Watershed Plan and Map	RESPEC & Pinyon Environmental	Final Watershed Plan, Final Watershed Project Mapping, Complete Watershed Contact List
<i>Sub-activity 1</i>	Prepare and provide final watershed plan	RESPEC & Pinyon Environmental	Final Watershed Plan
<i>Sub-activity 2</i>	Prepare and provide final watershed project mapping	RESPEC & Pinyon Environmental	Final Watershed Project Mapping
<i>Sub-activity 3</i>	Prepare and provide final watershed contact list	RESPEC & Pinyon Environmental	Complete Watershed Contact List
Activity 5	Administration	Pinyon Environmental	Reimbursements, progress reports and invoices, semi-annual reports, final report
<i>Sub-activity 1</i>	Distribute reimbursements to coordinating partners as fiscal agent	Pinyon Environmental	Reimbursements
<i>Sub-activity 2</i>	Submit progress reports with paired invoices for reimbursement	Pinyon Environmental	Progress reports and invoices
<i>Sub-activity 3</i>	Submit semi-annual reports	Pinyon Environmental	Semi-annual reports
<i>Sub-activity 4</i>	Submit final report	Pinyon Environmental	Final report



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3.2 - Lead Project Sponsor Qualifications

Since 1993, Pinyon Environmental, Inc. has provided environmental consulting services to a wide variety of clients in both the private and public sectors. Well-adapted for watershed projects, the company employs approximately 100 multidisciplinary professionals, including Professional Engineers, biologists, NEPA specialists, planners, grant specialists, geologists, environmental scientists and technicians, historians, archaeologists, landscape architects, sustainability professionals, air quality and noise specialists, and industrial hygiene professionals. Headquartered in Lakewood, Colorado, Pinyon serves clients in federal, local, and state government, as well as the energy, transportation, utilities, mining, commercial, and industrial market sectors. Uniquely equipped with the support of experts in many fields, Pinyon's specialists can provide comprehensive watershed research and watershed plan preparation services.

4.0 - Coordination Plan

The coordination plan for this project will include the UCCWA, Pinyon Environmental, Inc., and RESPEC. The Lead Project Sponsor, Pinyon Environmental, Inc., and Cooperating Partner, RESPEC, will work together throughout activities one through four to update the preexisting watershed plan to include all Elements of an EPA watershed-based plan. UCCWA will oversee the watershed plan and provide the matching funds. Project Managers will coordinate the project throughout each activity, facilitating quarterly progress meetings. A Grant Administration team will complete progress reports, invoicing, distribution of reimbursement funds, and semi-annual and final reporting.

4.1 - Lead Project Sponsor and Cooperating Organizations

Lead Project Sponsor and Cooperating Organizations are detailed in Appendix C.

4.2 - Coordination with Other Watershed Projects and Organizations

Pinyon Environmental, Inc. is preparing this WBP with the assistance of experts from RESPEC and UCCWA to ensure that the planning and consideration of implementation efforts on the plan are thoroughly researched and explored within diverse stakeholder groups.

The UCCWA is qualified to update the watershed plan for the Upper Clear Creek watershed due to its extensive experience and expertise in watershed management, environmental conservation, and community engagement. The organization has a proven track record of collaborating with stakeholders, conducting research, and implementing strategies to protect and improve the watershed's ecological health.

RESPEC employee-owners have been involved in watershed modeling for over 40 years and have experience with H&H analyses, floodplain modeling, and a broad spectrum of water resource projects. They have developed plans, specifications, and cost estimates for bioengineered stream bank stabilization, river and riparian restoration, urban stormwater management (including low-impact development techniques), transportation-related drainage, wetland mitigation design, bridge replacement projects, channel stabilization, trail



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design, permanent water quality design, and other various local, state, and federal government stormwater infrastructure projects.

Project partners will coordinate at the local level by establishing partnerships and engaging with key stakeholders, including local government agencies, community organizations, and residents. This coordination will involve regular meetings, workshops, and information sharing to ensure that the watershed plan aligns with the needs and priorities of the local community. Additionally, the association will seek input and feedback from local stakeholders to make informed decisions and foster a sense of ownership and commitment to watershed management efforts.

Coordination with other watershed organizations will continue when the watershed plan is completed, and implementation projects are underway. As an implementation arm and capacity builder, the Clear Creek Watershed & Forest Health Partnership (CCWFHP) strongly supports the UCCWA. The Clear Creek Watershed & Forest Health Partnership's mission, to protect Clear Creek's watershed and forest health and improve wildfire resilience through community collaboration, aligns with this watershed plan and will increase the opportunities for collaboration with their member organizations throughout many communities in the Clear Creek Watershed.

5.0 - Project Evaluation and Data Management

5.1 - SAP Development

There is no Sampling Analysis Plan needed for this planning project.

5.2 - Monitoring Strategy

The coordinating project partner, RESPEC, has experts in surface water data collection and analysis who will spearhead the planning of the monitoring strategy used to evaluate the proposed implementation projects. The monitoring strategy will include mapping to prepare for collecting and analyzing water quality impairment.

5.3 - Data Management Strategy

The data management strategy will create an online data input structure that informs the proposed implementation projects and is compatible with State data storage criteria. The data management strategy that will follow the implementation projects proposed in the watershed plan will include monitoring discharges, utilizing sediment controls, post-project inspections, and pollution prevention practices.

5.4 - Models

With the expertise of RESPEC's team members, water quality watershed models of nonpoint source characteristics and land use of the watershed will be utilized to identify the priority areas for implementation projects. RESPEC has developed watershed-based water quality models to provide the necessary data and results from which effective and implementable nonpoint source control measures and projects can be identified and justified. These watershed models predict load and concentration reductions of nonpoint source projects used for regulatory compliance and monitoring.

5.5 - Watershed Plan Maintenance



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Watershed plan maintenance is a critical aspect of ensuring the long-term effectiveness of a watershed management strategy. It involves ongoing efforts to monitor, assess, and adapt the plan to changing conditions and emerging challenges. The watershed plan will be stored in a secure server and will be available to the public through the UCCWA's website. The watershed plan will be maintained through tracking of implemented projects and water quality issues that change and emerge. Water quality changes from implementation projects will be tracked for evaluation. Updates and accomplishments will be tracked and compiled with substantial updates to the plan will occur every ten to fifteen years.

6.0 - Budget

6.1 - Budget Table

The NPS Program Watershed Plan Project Budget Spreadsheet Excel document for this project can be found in Appendix A.

7.0 - Public Involvement

The process for stakeholder involvement will involve interviews with key stakeholders, public outreach workshops, direct communication to gather comments, and publishing the completed plan and map of prioritized areas for implementation projects on the UCCWA website. The input from key stakeholders and public outreach will be incorporated into the watershed plan update during activity four when the plan and maps are finalized.

Appendices:

A) Budget Table

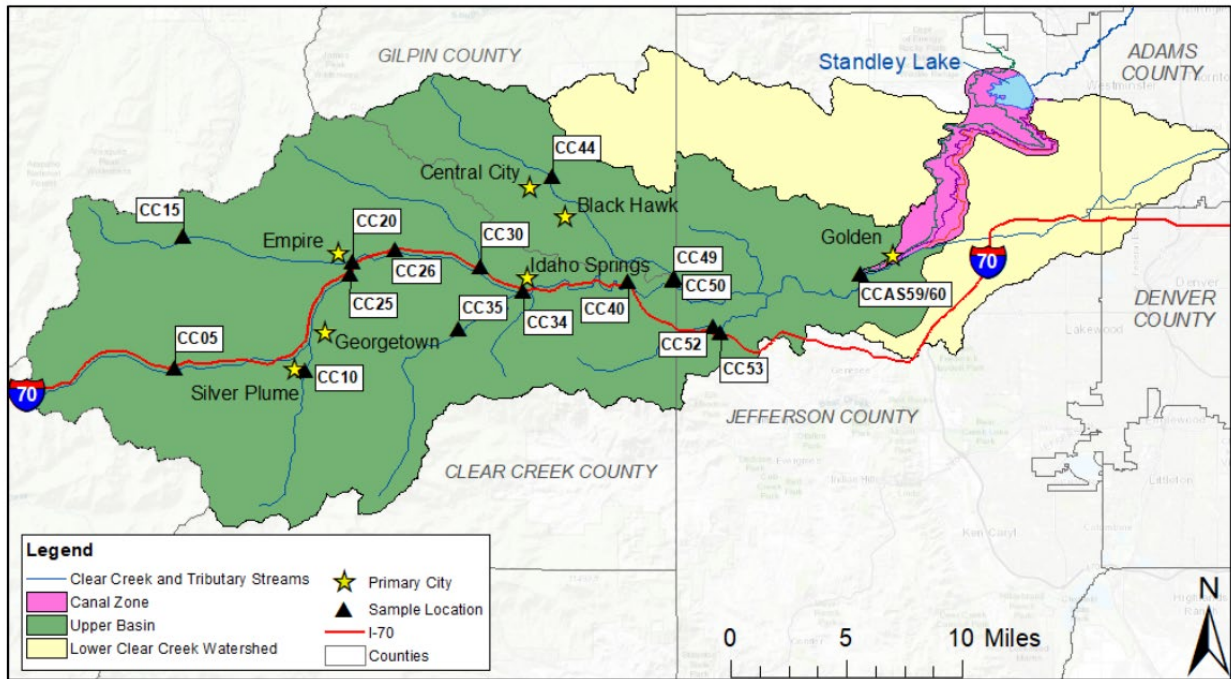
The NPS Program Budget Spreadsheet for this project is attached to submission.



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B) Project Map

CLEAR CREEK WATERSHED AND THE UPPER BASIN





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C) Lead Project Sponsor and Cooperating Organizations

Lead Sponsor			
Agency Name	Pinyon Environmental, Inc.		
Agency Address	3222 S. Vance St., Suite 200, Lakewood, CO 80227		
Role/contribution	Manager		
Contact Person	Karlene Thomas	Telephone	719-331-2172
E-mail address	Thomas@pinyon-env.com		
Match (non-federal)	\$ 0.00	Describe:	<input type="checkbox"/> Cash <input type="checkbox"/> In-Kind
Other Federal Funds	\$ 0.00	Describe:	

Cooperator			
Agency Name	UCCWA (UCCWA)		
Agency Address	P.O. Box 3058, Idaho Springs, CO 80452		
Role/contribution	Project oversight and cash match		
Contact Person	Diane Kielty	Telephone	303-916-4645
E-mail address	UCCWA@live.com		
Match (non-federal)	\$37,500	Describe: Cash and volunteer efforts	<input checked="" type="checkbox"/> Cash <input checked="" type="checkbox"/> In-Kind
Other Federal Funds	\$0.00	Describe:	

Cooperator			
Agency Name	RESPEC		
Agency Address	720 S. Colorado Blvd., Suite 410S, Denver, CO 80246		
Role/contribution	Project Manager		
Contact Person	Alan Leak	Telephone	720-775-6406
E-mail address	Alan.leak@respec.com		
Match (non-federal)	\$ 0.00	Describe:	<input type="checkbox"/> Cash <input type="checkbox"/> In-Kind
Other Federal Funds	\$ 0.00	Describe:	



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D) The full [Regulation 93 Dashboard](#) for the Upper Clear Creek Watershed.

Segment ID	Attainment Portion Description	Affected Use	Analyte	EPA Category	Cycle First Listed
COSPCL02a	02a_B. Mainstem of Clear Creek, including all tributaries and wetlands, from the I-70 bridge above Silver Plume to the inlet of Georgetown Lake, except for listings in Segments 3a and 3b.	Aquatic Life Use	Cadmium (Dissolved)	5. - 303(d) List	2010
COSPCL02a	02a_B. Mainstem of Clear Creek, including all tributaries and wetlands, from the I-70 bridge above Silver Plume to the inlet of Georgetown Lake, except for listings in Segments 3a and 3b.	Aquatic Life Use	Dissolved Oxygen	3b. - M&E list	2020
COSPCL02a	02a_B. Mainstem of Clear Creek, including all tributaries and wetlands, from the I-70 bridge above Silver Plume to the inlet of Georgetown Lake, except for listings in Segments 3a and 3b.	Aquatic Life Use	Lead (Dissolved)	4a. - TMDL	2006
COSPCL02a	02a_B. Mainstem of Clear Creek, including all tributaries and wetlands, from the I-70 bridge above Silver Plume to the inlet of Georgetown Lake, except for listings in Segments 3a and 3b.	Aquatic Life Use	Zinc (Dissolved)	4a. - TMDL	1998
COSPCL02a	02a_C. Mainstem of Clear Creek, including all tributaries and wetlands, from the outlet of Georgetown Lake to a point just above the confluence with West Fork Clear Creek, except for listings in Segments 3a and 3b.	Aquatic Life Use	Cadmium (Dissolved)	5. - 303(d) List	2010
COSPCL02a	02a_C. Mainstem of Clear Creek, including all tributaries and wetlands, from the outlet of Georgetown Lake to a point	Aquatic Life Use	Dissolved Oxygen	3b. - M&E list	2020



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	just above the confluence with West Fork Clear Creek, except for listings in Segments 3a and 3b.				
COSPCL02a	02a_C. Mainstem of Clear Creek, including all tributaries and wetlands, from the outlet of Georgetown Lake to a point just above the confluence with West Fork Clear Creek, except for listings in Segments 3a and 3b.	Aquatic Life Use	Lead (Dissolved)	4a. - TMDL	2006
COSPCL02a	02a_C. Mainstem of Clear Creek, including all tributaries and wetlands, from the outlet of Georgetown Lake to a point just above the confluence with West Fork Clear Creek, except for listings in Segments 3a and 3b.	Aquatic Life Use	Macroinvertebrates	5. - 303(d) List	2020
COSPCL02a	02a_C. Mainstem of Clear Creek, including all tributaries and wetlands, from the outlet of Georgetown Lake to a point just above the confluence with West Fork Clear Creek, except for listings in Segments 3a and 3b.	Aquatic Life Use	Zinc (Dissolved)	4a. - TMDL	1998
COSPCL02b	02b_B. Mainstem of Clear Creek from the confluence with West Fork Clear Creek to a point just below the confluence with Mill Creek, except for listings in Segments 4 through 8.	Aquatic Life Use	Copper (Dissolved)	4a. - TMDL	1998
COSPCL02b	02b_B. Mainstem of Clear Creek from the confluence with West Fork Clear Creek to a point just below the confluence with Mill Creek, except for listings in Segments 4 through 8.	Aquatic Life Use	Zinc (Dissolved)	5. - 303(d) List	2004
COSPCL02b	02b_C. All tributaries and wetlands to Clear Creek, from the confluence with West Fork Clear Creek to a point just below the confluence with Mill Creek,	Aquatic Life Use	Zinc (Dissolved)	5. - 303(d) List	2004



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	except for listings in Segments 4 through 8.				
COSPCL02c	02c_B. Turkey Gulch below Rockford Tunnel.	Aquatic Life Use	Cadmium (Dissolved)	5. - 303(d) List	2010
COSPCL02c	02c_B. Turkey Gulch below Rockford Tunnel.	Aquatic Life Use	Copper (Dissolved)	5. - 303(d) List	2016
COSPCL02c	02c_B. Turkey Gulch below Rockford Tunnel.	Water Supply Use	Iron (Dissolved)	5. - 303(d) List	2016
COSPCL02c	02c_B. Turkey Gulch below Rockford Tunnel.	Aquatic Life Use	Iron (Total)	5. - 303(d) List	2016
COSPCL02c	02c_B. Turkey Gulch below Rockford Tunnel.	Aquatic Life Use	Macroinvertebrates	5. - 303(d) List	2016
COSPCL02c	02c_B. Turkey Gulch below Rockford Tunnel.	Water Supply Use	Manganese (Dissolved)	5. - 303(d) List	2016
COSPCL02c	02c_B. Turkey Gulch below Rockford Tunnel.	Aquatic Life Use	Nickel (Dissolved)	5. - 303(d) List	2016
COSPCL02c	02c_B. Turkey Gulch below Rockford Tunnel.	Aquatic Life Use	Zinc (Dissolved)	5. - 303(d) List	2016
COSPCL02c	02c_C. Mainstem of Clear Creek from the confluence with Mill Creek to a point just above the Argo Tunnel discharge.	Aquatic Life Use	Cadmium (Dissolved)	5. - 303(d) List	2010
COSPCL02c	02c_C. Mainstem of Clear Creek from the confluence with Mill Creek to a point just above the Argo Tunnel discharge.	Aquatic Life Use	Copper (Dissolved)	4a. - TMDL	1998
COSPCL02c	02c_E. Virginia Canyon from its source to its confluence with Clear Creek.	Water Supply Use	Arsenic (Total)	5. - 303(d) List	2020
COSPCL02c	02c_E. Virginia Canyon from its source to its confluence with Clear Creek.	Aquatic Life Use	Cadmium (Dissolved)	5. - 303(d) List	2010
COSPCL02c	02c_E. Virginia Canyon from its source to its confluence with Clear Creek.	Water Supply Use	Cadmium (Total)	5. - 303(d) List	2020
COSPCL02c	02c_E. Virginia Canyon from its source to its confluence with Clear Creek.	Aquatic Life Use	Copper (Dissolved)	5. - 303(d) List	2020



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COSPCL02c	02c_E. Virginia Canyon from its source to its confluence with Clear Creek.	Water Supply Use	Iron (Dissolved)	3b. - M&E list	2020
COSPCL02c	02c_E. Virginia Canyon from its source to its confluence with Clear Creek.	Aquatic Life Use	Iron (Total)	3b. - M&E list	2020
COSPCL02c	02c_E. Virginia Canyon from its source to its confluence with Clear Creek.	Aquatic Life Use	Lead (Dissolved)	5. - 303(d) List	2020
COSPCL02c	02c_E. Virginia Canyon from its source to its confluence with Clear Creek.	Aquatic Life Use	Manganese (Dissolved)	5. - 303(d) List	2020
COSPCL02c	02c_E. Virginia Canyon from its source to its confluence with Clear Creek.	Aquatic Life Use	Nickel (Dissolved)	5. - 303(d) List	2020
COSPCL02c	02c_E. Virginia Canyon from its source to its confluence with Clear Creek.	Water Supply Use	Nickel (Total)	5. - 303(d) List	2020
COSPCL02c	02c_E. Virginia Canyon from its source to its confluence with Clear Creek.	Water Supply Use	pH	3b. - M&E list	2020
COSPCL02c	02c_E. Virginia Canyon from its source to its confluence with Clear Creek.	Water Supply Use	Sulfate	5. - 303(d) List	2020
COSPCL02c	02c_E. Virginia Canyon from its source to its confluence with Clear Creek.	Aquatic Life Use	Zinc (Dissolved)	5. - 303(d) List	2020
COSPCL02c	02c_F. All tributaries and wetlands of Clear Creek, from a point just below the confluence with Mill Creek to a point just above the Argo Tunnel discharge, except for Virginia Canyon, Turkey Gulch below Rockford Tunnel, and listings in Segments 9a, 9b, and 10.	Aquatic Life Use	Cadmium (Dissolved)	5. - 303(d) List	2010
COSPCL02c	02c_F. All tributaries and wetlands of Clear Creek, from a point just below the confluence with Mill Creek to a point just above the Argo Tunnel discharge, except for Virginia Canyon, Turkey Gulch below Rockford Tunnel, and listings in Segments 9a, 9b, and 10.	Aquatic Life Use	Macroinvertebrates	3b. - M&E list	2016



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COSPCL03a	03a_A. Mainstem of South Clear Creek, including all tributaries and wetlands, from the source to Lower Cabin Creek Reservoir, except for the listings in Segments 3b and 19.	Aquatic Life Use	Zinc (Dissolved)	4a. - TMDL	2002
COSPCL03a	03a_B. Mainstem of South Clear Creek, including all tributaries and wetlands, from a point just above Clear Lake to the confluence with Clear Creek.	Aquatic Life Use	Copper (Dissolved)	5. - 303(d) List	2010
COSPCL03a	03a_B. Mainstem of South Clear Creek, including all tributaries and wetlands, from a point just above Clear Lake to the confluence with Clear Creek.	Aquatic Life Use	Zinc (Dissolved)	4a. - TMDL	2002
COSPCL03a	03a_C. Mainstem of South Clear Creek from Lower Cabin Creek Reservoir to Clear Lake.	Aquatic Life Use	Macroinvertebrates	4b. - 4b plan	2016
COSPCL03a	03a_C. Mainstem of South Clear Creek from Lower Cabin Creek Reservoir to Clear Lake.	Aquatic Life Use	Zinc (Dissolved)	4a. - TMDL	2002
COSPCL03b	03b_A. Mainstem of Leavenworth Creek from source to confluence with South Clear Creek.	Aquatic Life Use	Cadmium (Dissolved)	5. - 303(d) List	2020
COSPCL03b	03b_A. Mainstem of Leavenworth Creek from source to confluence with South Clear Creek.	Aquatic Life Use	Copper (Dissolved)	5. - 303(d) List	2010
COSPCL03b	03b_A. Mainstem of Leavenworth Creek from source to confluence with South Clear Creek.	Aquatic Life Use	Lead (Dissolved)	4a. - TMDL	2002
COSPCL03b	03b_A. Mainstem of Leavenworth Creek from source to confluence with South Clear Creek.	Water Supply Use	Manganese (Dissolved)	3b. - M&E list	2016
COSPCL03b	03b_A. Mainstem of Leavenworth Creek from source to confluence with South Clear Creek.	Aquatic Life Use	Zinc (Dissolved)	4a. - TMDL	2002



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COSPCL05	05_B. West Fork of Clear Creek from Hoop Creek to the confluence with Clear Creek.	Aquatic Life Use	Copper (Dissolved)	5. - 303(d) List	2016
COSPCL05	05_B. West Fork of Clear Creek from Hoop Creek to the confluence with Clear Creek.	Water Supply Use	Manganese (Dissolved)	3b. - M&E list	2020
COSPCL06	06_C. North Empire Creek.	Water Supply Use	Arsenic (Total)	5. - 303(d) List	2020
COSPCL06	06_C. North Empire Creek.	Aquatic Life Use	Cadmium (Dissolved)	5. - 303(d) List	2020
COSPCL06	06_C. North Empire Creek.	Aquatic Life Use	Copper (Dissolved)	5. - 303(d) List	2016
COSPCL06	06_C. North Empire Creek.	Aquatic Life Use	Iron (Total)	5. - 303(d) List	2020
COSPCL06	06_C. North Empire Creek.	Aquatic Life Use	Lead (Dissolved)	5. - 303(d) List	2020
COSPCL06	06_C. North Empire Creek.	Aquatic Life Use	Manganese (Dissolved)	5. - 303(d) List	2020
COSPCL06	06_C. North Empire Creek.	Aquatic Life Use	Nickel (Dissolved)	5. - 303(d) List	2020
COSPCL06	06_C. North Empire Creek.	Water Supply Use	pH	3b. - M&E list	2020
COSPCL06	06_C. North Empire Creek.	Water Supply Use	Sulfate	5. - 303(d) List	2020
COSPCL06	06_C. North Empire Creek.	Aquatic Life Use	Zinc (Dissolved)	5. - 303(d) List	2020
COSPCL09a	09a_B. Silver Creek.	Aquatic Life Use	Copper (Dissolved)	5. - 303(d) List	2008
COSPCL09a	09a_B. Silver Creek.	Aquatic Life Use	Lead (Dissolved)	5. - 303(d) List	2010
COSPCL09a	09a_C. Mainstem of Fall River from the source to the confluence with Clear Creek.	Aquatic Life Use	Copper (Dissolved)	4a. - TMDL	2004
COSPCL09a	09a_C. Mainstem of Fall River from the source to the	Aquatic Life Use	Zinc (Dissolved)	5. - 303(d) List	2020



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	confluence with Clear Creek.				
COSPCL09b	09b_A. Mainstem of Trail Creek, including all tributaries and wetlands from the source to the confluence with Clear Creek.	Aquatic Life Use	Cadmium (Dissolved)	5. - 303(d) List	2006
COSPCL09b	09b_A. Mainstem of Trail Creek, including all tributaries and wetlands from the source to the confluence with Clear Creek.	Water Supply Use	Cadmium (Total)	5. - 303(d) List	2020
COSPCL09b	09b_A. Mainstem of Trail Creek, including all tributaries and wetlands from the source to the confluence with Clear Creek.	Aquatic Life Use	Copper (Dissolved)	4a. - TMDL	2006
COSPCL09b	09b_A. Mainstem of Trail Creek, including all tributaries and wetlands from the source to the confluence with Clear Creek.	Aquatic Life Use	Zinc (Dissolved)	4a. - TMDL	2006
COSPCL10	10_A. Mainstem of Chicago Creek, including all tributaries and wetlands, from the source to the confluence with Clear Creek, except for listings in Segment 19.	Aquatic Life Use	Copper (Dissolved)	5. - 303(d) List	2016
COSPCL10	10_A. Mainstem of Chicago Creek, including all tributaries and wetlands, from the source to the confluence with Clear Creek, except for listings in Segment 19.	Water Supply Use	Manganese (Dissolved)	3b. - M&E list	2020
COSPCL10	10_A. Mainstem of Chicago Creek, including all tributaries and wetlands, from the source to the confluence with Clear Creek, except for listings in Segment 19.	Aquatic Life Use	Zinc (Dissolved)	3b. - M&E list	2020
COSPCL11	11_A. Mainstem of Clear Creek from a point just above the Argo Tunnel discharge to the Farmers	Aquatic Life Use	Cadmium (Dissolved)	5. - 303(d) List	2010



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	Highline Canal diversion in Golden, Colorado.				
COSPCL11	11_A. Mainstem of Clear Creek from a point just above the Argo Tunnel discharge to the Farmers Highline Canal diversion in Golden, Colorado.	Aquatic Life Use	Temperature	5. - 303(d) List	2016
COSPCL11	11_A. Mainstem of Clear Creek from a point just above the Argo Tunnel discharge to the Farmers Highline Canal diversion in Golden, Colorado.	Aquatic Life Use	Zinc (Dissolved)	4a. - TMDL	1996
COSPCL12a	12a_A. All tributaries to Clear Creek, including all wetlands, from the Argo Tunnel discharge to the Farmers Highline Canal diversion in Golden, Colorado, except for Gilson Gulch and listings in Segments 12b, 13a, and 13b.	Water Supply Use	Manganese (Dissolved)	3b. - M&E list	2016
COSPCL12a	12a_B. Gilson Gulch and its tributaries.	Aquatic Life Use	Cadmium (Dissolved)	5. - 303(d) List	2016
COSPCL12a	12a_B. Gilson Gulch and its tributaries.	Water Supply Use	Cadmium (Total)	5. - 303(d) List	2020
COSPCL12a	12a_B. Gilson Gulch and its tributaries.	Aquatic Life Use	Copper (Dissolved)	5. - 303(d) List	2016
COSPCL12a	12a_B. Gilson Gulch and its tributaries.	Water Supply Use	Iron (Dissolved)	5. - 303(d) List	2020
COSPCL12a	12a_B. Gilson Gulch and its tributaries.	Aquatic Life Use	Lead (Dissolved)	5. - 303(d) List	2016
COSPCL12a	12a_B. Gilson Gulch and its tributaries.	Water Supply Use	Lead (Total)	5. - 303(d) List	2020
COSPCL12a	12a_B. Gilson Gulch and its tributaries.	Water Supply Use	Manganese (Dissolved)	5. - 303(d) List	2020
COSPCL12a	12a_B. Gilson Gulch and its tributaries.	Aquatic Life Use	Nickel (Dissolved)	5. - 303(d) List	2016



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COSPCL12a	12a_B. Gilson Gulch and its tributaries.	Water Supply Use	Nickel (Total)	5. - 303(d) List	2020
COSPCL12a	12a_B. Gilson Gulch and its tributaries.	Aquatic Life Use	pH	3b. - M&E list	2016
COSPCL12a	12a_B. Gilson Gulch and its tributaries.	Aquatic Life Use	Selenium (Dissolved)	5. - 303(d) List	2016
COSPCL12a	12a_B. Gilson Gulch and its tributaries.	Water Supply Use	Sulfate	5. - 303(d) List	2020
COSPCL12a	12a_B. Gilson Gulch and its tributaries.	Aquatic Life Use	Zinc (Dissolved)	5. - 303(d) List	2016
COSPCL13a	13a_C. Chase Gulch, including all tributaries and wetlands, from its source to its confluence with North Clear Creek.	Aquatic Life Use	Cadmium (Dissolved)	5. - 303(d) List	2020
COSPCL13a	13a_C. Chase Gulch, including all tributaries and wetlands, from its source to its confluence with North Clear Creek.	Aquatic Life Use	Copper (Dissolved)	3b. - M&E list	2020
COSPCL13a	13a_C. Chase Gulch, including all tributaries and wetlands, from its source to its confluence with North Clear Creek.	Water Supply Use	Iron (Dissolved)	3b. - M&E list	2020
COSPCL13a	13a_C. Chase Gulch, including all tributaries and wetlands, from its source to its confluence with North Clear Creek.	Aquatic Life Use	Zinc (Dissolved)	5. - 303(d) List	2020
COSPCL13b	13b_B. Mainstem of North Clear Creek from a point just below the confluence with Chase Gulch to the confluence with Clear Creek, except for the listings in Segment 13a.	Aquatic Life Use	Cadmium (Dissolved)	5. - 303(d) List	2006
COSPCL13b	13b_B. Mainstem of North Clear Creek from a point just below the confluence with Chase Gulch to the confluence with Clear Creek, except for the listings in Segment 13a.	Water Supply Use	Iron (Dissolved)	5. - 303(d) List	2022
COSPCL13b	13b_B. Mainstem of North Clear Creek from a point just below the confluence	Aquatic Life Use	Macroinvertebrates	5. - 303(d) List	2020



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	with Chase Gulch to the confluence with Clear Creek, except for the listings in Segment 13a.				
COSPCL13b	13b_B. Mainstem of North Clear Creek from a point just below the confluence with Chase Gulch to the confluence with Clear Creek, except for the listings in Segment 13a.	Aquatic Life Use	Manganese (Dissolved)	4a. - TMDL	1996
COSPCL13b	13b_B. Mainstem of North Clear Creek from a point just below the confluence with Chase Gulch to the confluence with Clear Creek, except for the listings in Segment 13a.	Aquatic Life Use	Temperature	5. - 303(d) List	2016
COSPCL13b	13b_C. Gregory Gulch, Russell Gulch, and Silver Gulch, including all tributaries and wetlands, from their sources to their confluences with North Clear Creek.	Aquatic Life Use	Cadmium (Dissolved)	5. - 303(d) List	2020
COSPCL13b	13b_C. Gregory Gulch, Russell Gulch, and Silver Gulch, including all tributaries and wetlands, from their sources to their confluences with North Clear Creek.	Aquatic Life Use	Copper (Dissolved)	3b. - M&E list	2020
COSPCL13b	13b_C. Gregory Gulch, Russell Gulch, and Silver Gulch, including all tributaries and wetlands, from their sources to their confluences with North Clear Creek.	Aquatic Life Use	Iron (Total)	4a. - TMDL	2002
COSPCL13b	13b_C. Gregory Gulch, Russell Gulch, and Silver Gulch, including all tributaries and wetlands, from their sources to their confluences with North Clear Creek.	Aquatic Life Use	Lead (Dissolved)	3b. - M&E list	2020
COSPCL13b	13b_C. Gregory Gulch, Russell Gulch, and Silver Gulch, including all tributaries and wetlands, from their sources to their confluences with North Clear Creek.	Aquatic Life Use	Manganese (Dissolved)	4a. - TMDL	1996



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	confluences with North Clear Creek.				
COSPCL13b	13b_C. Gregory Gulch, Russell Gulch, and Silver Gulch, including all tributaries and wetlands, from their sources to their confluences with North Clear Creek.	Aquatic Life Use	pH	3b. - M&E list	2020
COSPCL13b	13b_C. Gregory Gulch, Russell Gulch, and Silver Gulch, including all tributaries and wetlands, from their sources to their confluences with North Clear Creek.	Aquatic Life Use	Zinc (Dissolved)	4a. - TMDL	1996
COSPCL13b	13b_D. All tributaries and wetlands to North Clear Creek from a point just below the confluence with Chase Gulch to the confluence with Clear Creek, except for Gregory Gulch, Russell Gulch, Silver Gulch, and the listings in Segment 13a.	Aquatic Life Use	Cadmium (Dissolved)	5. - 303(d) List	2020
COSPCL13b	13b_D. All tributaries and wetlands to North Clear Creek from a point just below the confluence with Chase Gulch to the confluence with Clear Creek, except for Gregory Gulch, Russell Gulch, Silver Gulch, and the listings in Segment 13a.	Aquatic Life Use	Iron (Total)	4a. - TMDL	2002
COSPCL13b	13b_D. All tributaries and wetlands to North Clear Creek from a point just below the confluence with Chase Gulch to the confluence with Clear Creek, except for Gregory Gulch, Russell Gulch, Silver Gulch, and the listings in Segment 13a.	Aquatic Life Use	Manganese (Dissolved)	4a. - TMDL	1996
COSPCL13b	13b_D. All tributaries and wetlands to North Clear Creek from a point just below the confluence with	Aquatic Life Use	Zinc (Dissolved)	4a. - TMDL	1996



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	Chase Gulch to the confluence with Clear Creek, except for Gregory Gulch, Russell Gulch, Silver Gulch, and the listings in Segment 13a.				
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