



# DEL 6400 TRIBUTARY IMPROVEMENTS

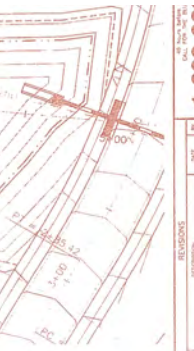
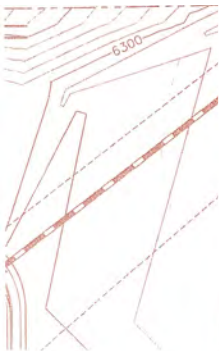


## Request for Proposal **STORMWATER MANAGEMENT PLAN**

**PROJECT NUMBER: TOGL-004**

Town of Grand Lake

March 30, 2023



### CONSULTANT ENGINEER CERTIFICATION

I hereby certify that these final construction plans were prepared under my direct supervision and that I am duly responsible for all work shown on these plans.



THESE PLANS ARE HEREBY APPROVED FOR ONE YEAR FROM DATE OF THE DIRECTOR OF DEVELOPMENT SERVICES APPROVAL.

RECOMMENDED APPROVAL:

ENGINEERING DIVISION DATE

APPROVED BY:

DIRECTOR OF DEVELOPMENT SERVICES DATE

	WSL	Q (CFS)	VOLUME (AC-FT)
WG	6255.30	41/4	0.11
10-YR	6257.64	31	0.80
100-YR	6259.55	46	1.50



**RG and Associates, LLC**

Del Norte • Wheat Ridge  
303-293-8107 • [www.rgengineers.com](http://www.rgengineers.com)





March 30, 2023

Attn: Town Clerk  
Town of Grand Lake  
1026 Park Avenue  
Grand Lake, CO 80447

**RE: Proposal for the Town of Grand Lake Stormwater Management Plan  
Town of Grand Lake Stormwater Management Plan  
Cover Letter/Signature Page RFP/Project #: TOGL-004**

To Whom It May Concern:

RG and Associates, LLC (RGA) is pleased to submit this proposal to provide professional engineering services for the Stormwater Management Plan for the Town of Grand Lake, Colorado.

Our team is well-qualified to serve the town. The RGA team has over 36 years of experience providing design and construction administration services for drainage improvement projects. Our owner and president, Mr. Ricardo J.F. Gonçalves, P.E. will be the Principal-in-Charge and Project Manager for this project, and the primary point of contact with the town. Mr. Gonçalves has over 50 years of experience providing planning, design, and construction administration for municipalities throughout Colorado. He will be supported by a highly-qualified team of engineers and technicians. RGA has worked in Colorado mountain towns like Grand Lake, including Idaho Springs, Central City, Black Hawk, Beaver Creek Ski Area, Arapahoe Ski Area, Buena Vista, Alma, Breckenridge, Eagle and Gypsum. And we have flood damage repair experience working in the towns of Estes Park and Nederland.

Additionally, we provided the Town of Grand Lake with on-call engineering and planning services in 2017 through 2019 and have been currently providing on-call services since 2021. This experience allows us to be uniquely qualified to assist the town with its Stormwater Management Plan.

Our official contact information is:

Principal:	Ricardo J.F. Gonçalves, P.E.	Email:	<a href="mailto:rickg@rgengineers.com">rickg@rgengineers.com</a>
Direct:	303-468-8484	Website:	<a href="http://www.rgengineers.com">www.rgengineers.com</a>
Mobile:	303-901-2367	Address:	4885 Ward Road, Suite 100
Fax:	303-293-8106		Wheat Ridge, CO 80033

We are confident that our staff has the expertise to successfully complete this project for the Town of Grand Lake. We appreciate the opportunity to submit this proposal.

Sincerely,

RG AND ASSOCIATES, LLC



Ricardo J.F. Gonçalves, P.E.  
President

## TABLE OF CONTENTS

### Town of Grand Lake Request for Proposal Stormwater Management Plan TOG-004 RG and Associates, LLC

#### SECTION

#### PAGE

#### SIGNATURE PAGE

<b>PROJECT UNDERSTANDING AND APPROACH .....</b>	<b>4</b>
<b>INTRODUCTION TO RG AND ASSOCIATES, LLC.....</b>	<b>4</b>
<b>INTRODUCTION TO CORVUS ENVIRONMENTAL CONSULTING, LLC .....</b>	<b>4</b>
<b>INTRODUCTION TO FLATIRONS SURVEYING, INC.....</b>	<b>5</b>
<b>INTRODUCTION TO KUMAR AND ASSOCIATES, INC.....</b>	<b>5</b>
<b>UNDERSTANDING OF PROJECT .....</b>	<b>5</b>
<b>ABILITY TO PERFORM ALL ASPECTS OF THE PROJECT .....</b>	<b>6</b>
<b>ABILITY TO MEET SCHEDULES WITHIN BUDGET.....</b>	<b>6</b>
<b>PROJECT APPROACH.....</b>	<b>6</b>
<b>SIMILAR EXPERIENCE .....</b>	<b>15</b>
<b>QUALIFICATIONS.....</b>	<b>22</b>

#### APPENDIX

##### RESUMES

#### FEE PROPOSAL PROVIDED AS A SEPARATE FILE.



## PROJECT UNDERSTANDING AND APPROACH

### INTRODUCTION TO RG AND ASSOCIATES, LLC

The **RG and Associates, LLC (RGA)** team has been providing award-winning engineering, planning and construction administration services to clients throughout Colorado for over 36 years. Our staff assists cities, counties, special districts, and private developers in the planning, engineering, design, and construction management of public infrastructure projects. It is our goal to work closely with our clients to provide services that are efficient, cost-effective and ensure reasonable engineering, planning, and construction administration projects.

#### RG and Associates, LLC provides expertise in the following disciplines:

- Municipal Engineering and Planning
- Special District Engineering
- On-Call Services
- Grant Application and Implementation
- Drainage and Hydrology Engineering
- Flood Recovery Experience
- Water and Wastewater Engineering
- Highway and Roadway Engineering
- Civil and Structural Engineering
- Building Inspections
- Construction Administration
- Stakeholder and Citizen Engagement

#### Regarding Drainage and Hydrology Engineering, RGA provides the following services:

- Master Drainage Studies
- Hydrology and Hydraulics
- Evaluation of Existing Drainage Systems
- Storm Drainage System Design
- Detention Storage Design and Analysis
- Floodplain and Drainageway Modeling
- Development Review
- Conditional Letter of Map Revision (CLOMR)
- Letter of Map Revision (LOMR)
- No-Rise Certifications
- Grading, Erosion, and Sediment Control (GESC)
- Stormwater Treatment and Management

RGA is a certified Disadvantage Business Enterprise (DBE) company through the Colorado Department of Transportation (CDOT) and the Regional Transportation District of Denver (RTD), as well as a Small Business Enterprise (SBE) and Minority/Women Business Enterprise (M/WBE) company certified through the City and County of Denver.

### INTRODUCTION TO CORVUS ENVIRONMENTAL CONSULTING, LLC

RGA has partnered with CORVUS Environmental Consulting, LLC (CORVUS) for this project. CORVUS provides expert ecological consulting services related to the full life cycle a project: from identifying potential natural resource constraints, field studies and data collection, agency scoping and coordination, compliance strategy and reporting, mitigation design, construction oversight, to post-construction monitoring and reporting. CORVUS is a 6-person firm providing professional natural resource consultation services for a wide variety of sectors and client types.

CORVUS' role for the Project will be to document baseline conditions in support of Clean Water Act Sections 401 and 404 permitting for the Project and includes the following:

- Consultation with the US Army Corps of Engineers (USACE), the Colorado Department of Public Health and the Environment (CDPHE), State Office of Historic Preservation (SHPO), and US Fish and Wildlife Service (USFWS) (if required);
- Preparation of a Permitting Approach

CORVUS will act as the primary point of contact for communication between the project team and the above regulatory agencies. CORVUS will work with the Client design team to optimize the compatibility of project design elements with an appropriate permitting approach.

### INTRODUCTION TO FLATIRONS SURVEYING, INC.

RGA has also partnered with Flatirons Surveying, Inc. (Flatirons) for this project. Flatirons Surveying, Inc., founded in 1983, has become one of the largest, independent and locally-owned professional surveying firms in the state of Colorado. They provide land surveying, GIS and aerial mapping for public, private and governmental clients. They offer:

- The experience of over 78,000 completed projects;
- 72 employees;
- 16 mobile field crews for rapid response;
- 6 licensed professional land surveyors
- Over \$1 million invested in the latest robotic and GIS surveying equipment and software.

Flatirons has the size and staffing to accommodate tight schedules and deadlines. They have extensive quality control procedures for field work, drafting and deliverables. They are currently CDOT Prequalified and have extensive knowledge and experience with CDOT requirements and regulations. They are currently or recently the on-call surveying firm for the City and County of Denver, Public Works Division, University of Colorado Facilities Management, Colorado Division of Wildlife, City of Boulder Public Works, Boulder County Open Space, the City of Longmont, City of Wheat Ridge, City of Thornton, Denver Public Schools, St. Vrain School District, Eagle County, and many others. They were chosen for Federal IDIQ contracts covering multiple states for the National Park Service, the USDA Forest Service, the Bureau of Reclamation, the Natural Resource Conservation Service, and the U.S. Fish & Wildlife service. They have worked on numerous topographic design surveys for a wide variety of projects in most cities along the Front Range.

### INTRODUCTION TO KUMAR & ASSOCIATES, INC.

RGA has also partnered with Kumar & Associates, Inc. (K+A) for this project. They are an employee-owned consulting engineering firm specializing in geotechnical engineer, environmental services, construction materials testing and observation, third-party inspections, and laboratory testing. Established in 1989, their staff consists of over 140 professional engineers and geologists, engineering technicians, environmental scientists, and support personnel. They have 17 registered professional engineers, and 80 certified engineering technicians. K+A has over 34 years of documented experience performing geotechnical engineering, engineering geology, and construction observation and material testing services for water and wastewater treatment facilities and large linear projects including water lines, pipelines, and roadway projects located in Denver, Colorado and throughout the State. K+A also has an extensive history of working with various water and sanitation districts along the Front Range and the Western Slope.

### UNDERSTANDING OF THE PROJECT

RGA understands that the town is seeking a Stormwater Management Plan for the west side of the town to improve the water quality reaching the adjacent lakes. We further understand that the water from Little Columbine Creek was impacted by the East Troublesome fire and, among other factors, is contributing to the sediment deposits in the Shadow Mountain Reservoir. Additionally, we understand that Woodpecker Hill runoff flows steeply down the face of the hill, along Park Avenue, and long a flat area of town via roadside ditches and culverts and drains into the Grand Lake Estates HOA marina (Shadow Mountain Reservoir).

We will provide cost-effective stormwater management solutions that emphasize low-impact development (LID) techniques that seek to mimic the natural hydrologic processes of the site, are context sensitive, and maximize the treatment of the stormwater for the study area indicated in the RFP. Additionally, these solutions will promote stormwater management practices that maintain predevelopment hydrology through site design and landscape design techniques that infiltrate, filter, store, evaporate, and detain stormwater close to its source. Lastly, the solutions will promote public safety from contaminants and sediment from entering the reservoir and reduce public expenditures in removing sediment or reducing sediment transportation from the stormwater drainage systems and natural resources areas.

### ABILITY TO PERFORM ALL ASPECTS OF THE PROJECT

RGA can provide a full range of planning and engineering services in-house. RGA has a staff of sixteen (16) personnel, which includes Professional Engineers, a Certified Floodplain Manager, an AICP-certified Planner, a Certified Operator in Responsible Charge, construction administrators, technicians, and administrative staff. Since over 90% of our services are primarily “on-call” and relatively short-term in nature, our personnel are not committed to large, long-term assignments. We have the flexibility to assign staff members to new projects with a relatively short lead time. Once personnel are committed to a project, they remain on the project until its completion.

We will be partnering with CORVUS Environmental Solutions, LLC (CORVUS), Flatirons, Inc. (Flatirons), and Kumar & Associates, Inc (K&A) to provide a full team for the full scope of this project. They will be providing environmental, surveying, and geotechnical services. We have worked successfully with each of these subconsultants on numerous occasions.

### ABILITY TO MEET SCHEDULES WITHIN BUDGET

RGA uses a team-based approach to performing design, and the team/project manager is responsible for preparing a project schedule prior to commencing any work. Projects are broken down by task, and personnel are selected based upon experience and expertise to perform the services required by each task. The estimated man hours to complete the tasks are entered into the schedule and represented on an *MS Project* spreadsheet. RGA evaluates each job individually, then creates a spreadsheet that includes all tasks, subtasks, staff, and associated man hours. This process has proved invaluable over the years, as RGA consistently finishes projects under budget.

For subconsultants, we evaluate each project, and then provide very specific RFP’s to subconsultants that delineate the necessary services, data and final product needed. We spend time meeting with all sub consultants to verify that they have the proper understanding of the scope, schedule, and information that we need to provide services to the town.

### PROJECT APPROACH

#### Task #1 – Inventory:

##### Baseline Data Collection of Site and Project Area

On-the-ground analysis will be completed to ensure that all current infrastructure and drainage ways are within the study area is included in the baseline data collection, including those on private property.

##### Meeting with the Team

Upon Notice to Proceed, RGA will coordinate a meeting with all necessary Town of Grand Lake and Three Lakes Watershed Association staff (the team) to fully understand the existing infrastructure problems and needs and determine areas of concern within the Town of Grand Lake. **This meeting can be completed in person and combined with the project area site visit, but virtual meetings are more time-efficient and encouraged.** Key milestones will be confirmed, and project tasks will be further refined. The project team will be introduced, and clear points of contact will be identified in areas where data coordination will take place to ensure a smooth project startup. Available and needed data will be identified for the successful design of the project documents and responsibility will be delegated and scheduled with the appropriate parties.

##### Pre-Construction Water Quality Report

- **Delineation of WOTUS** – CORVUS and Flatirons will complete a full jurisdictional delineation of WOTUS, including adjacent wetlands. The delineation will follow current USACE methods and guidance on performing a delineation of wetlands as well as the ordinary high water mark. CORVUS will provide the Client with AutoCAD/SHP files of the WOTUS boundaries for use in their impact and fill calculations.



- **ESA Compliance** – CORVUS will assess the study area for the potential to support species listed as threatened or endangered under the ESA and will prepare the results for later inclusion in the IP submittal to the USACE and the necessary documentation for the CLOMR, if required. *CORVUS assumes any consultation with the US Fish and Wildlife Service (USFWS) through the lead federal agency (USACE) will be informal (no Biological Assessment required).*
- **Project Meetings and Agency Pre-Application Coordination (6 meetings)** – CORVUS will participate in an estimated 6 virtual progress meetings or calls with the design team throughout the duration of the Project to provide insight and strategy for revegetation design, and potential environmental permitting requirements. Participation in project meetings provides CORVUS with an opportunity to develop a well-rounded and comprehensive Section 404 permitting approach before drafting the Individual Permit (IP) application. Additionally, participation results in the greatest predictability and efficiency for the design team when undergoing the Section 404 process. This task also includes up to 3 environmental permitting specific meetings (including one field meeting) with the project team, USACE, and CDPHE. This task includes the pre-application meeting(s) and the CSQT related meetings. This pre-application coordination allows the agencies to express any concerns about the environmental permitting, CSQT approach, or the Water Quality Certification (WQC) Request for the Project before submitting the Individual Permit application, Compensatory Mitigation Plan (CMP), CSQT package, or WQC Request.
- **Section 404 Permitting Approach** – Based on CORVUS' participation in progress meetings with the Project team, CORVUS will analyze the project background, proposed improvements, and anticipated impacts to WOTUS to develop a permitting approach for the Project that will serve as the basis of the Section 404 IP Application. This includes crafting a carefully worded project purpose and need statement; identifying key design elements, site, and design constraints; avoidance and minimization measures to WOTUS; and analyzing a set of practicable alternatives that comply with Section 404(b)(1) Guidelines. The USACE expects to see a good-faith effort to achieve the purpose and need with various approaches, including avoiding impacts to WOTUS. USACE cannot issue a permit for a preferred alternative if a practicable alternative exists that would have a less adverse impact on the aquatic ecosystem (known as the Least Environmentally Damaging Practicable Alternative [LEDPA]). As a result, the alternatives analysis in an Individual Permit must include at least three practicable alternatives for the Project and a detailed justification for why the selected alternative is the LEDPA. The set of alternatives included in the IP's Alternatives Analysis often does not directly overlap with the design alternatives prepared by the project engineer.
- **Individual Permit Application** – *Not included at this time.*
- **Survey, Document, and Record Potential Historic Properties Task Management** – CORVUS will coordinate and consult with PaleoWest Archaeology (PaleoWest), CORVUS' preferred heritage consulting firm. PaleoWest will be a sub-consultant to CORVUS and their fee is provided as an expense. As part of the CWA Section 404 compliance process, the USACE must comply with Section 106 of the National Historic Preservation Act (NHPA). To do this, the USACE typically requires prospective permittees to submit the results of a survey for potential historic properties in the USACE permit area (also known as the area of potential effect (APE). Potential historic properties include archaeological sites, farmsteads, irrigation ditches, transmission lines, and railroads. The APE will be surveyed in detail for potential historic properties. The following activities are included in PaleoWest's fee:
  - Request a file search of Office of Archaeology and Historic Preservation (OAHP) records for a 1- mile radius around the survey areas (permit area)
  - Conduct archival research, as needed, to determine if additional cultural resources are present within the project area
  - Conduct an intensive pedestrian inventory of the project area
  - Record the locations of any cultural resources encountered that are 50 years old or older
  - Prepare limited results survey form
  - A mitigation plan for adverse effects on historic properties is not included in this statement of work. *This assumes a Full Class III Documentation Report (triggered by 4 or more "isolated finds", or any "site") will not be required.*
- **Agency Coordination** – CORVUS will coordinate with the USACE and the Colorado Department of Public Health and Environment (CDPHE) to discuss project purpose and need, schedule, preliminary design concepts, potential impacts to WOTUS, and mitigation strategies for the project reach. This task includes all pre-application meeting

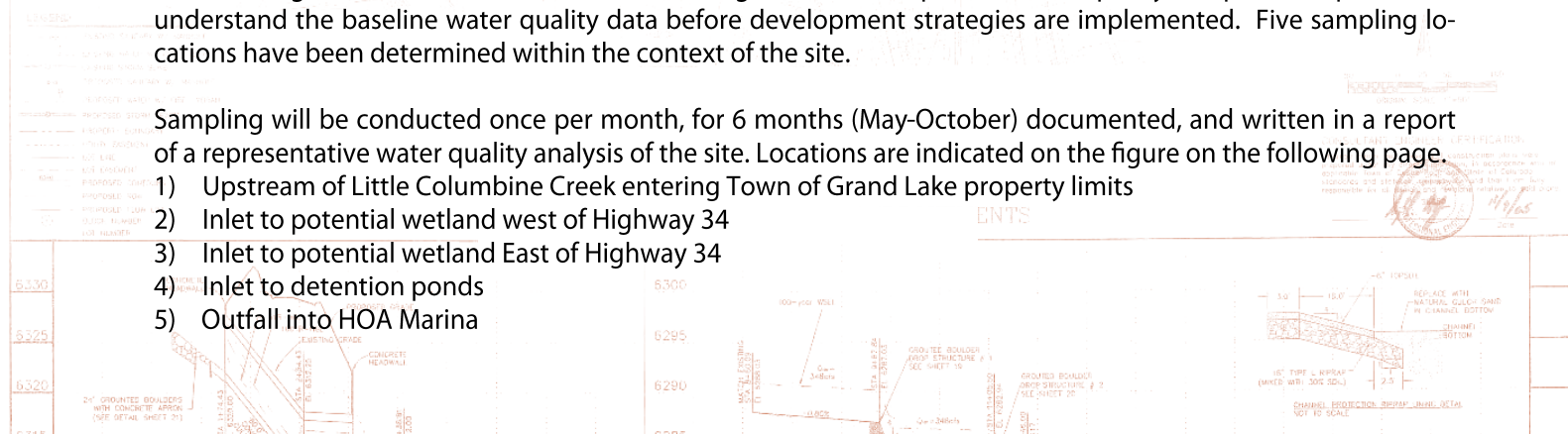


(s). This pre-application coordination allows the agencies to express any concerns about the environmental permitting or the Water Quality Certification (WQC) Request for the Project before submitting the Individual Permit application, Compensatory Mitigation Plan (CMP), CSQT package, or WQC Request.

- **CSQT Assessment**– The CSQT is a spreadsheet-based calculator approved for use by the USACE to determine if proposed stream impacts would result in a permanent loss of Functional Feet (FF) (as opposed to linear feet) after completion of a project and therefore possibly require mitigation. The assessment of at least five specific parameters (within the “Reach Hydrology and Hydraulics” and “Geomorphology” Functional Categories) is required at all project sites evaluated for CWA Section 404 purposes, including Reach Runoff, Floodplain Connectivity, Lateral Migration, Bed Form Diversity, and Riparian Vegetation. Assessing these five parameters provides consistency between impacts and compensatory mitigation and allows for a more consistent accounting of functional change. ***This task is not included at this time, as it can be highly detailed and costly, and should not be conducted until the impacts are clearly understood. A high-level CSQT approach will be included as part of the Section 404 Permitting Approach.***
- **FACWet Analysis** – When permanent adverse impacts to wetlands are anticipated, the COMP v2 specifies that a Functional Assessment of Colorado Wetlands (FACWet) analysis be completed and submitted to assist in determining wetland functions impacted and compensatory wetland mitigation ratios required. Based on the results of the delineation and proposed impacts to WOTUS, if it is determined that FACWet may be required, CORVUS will conduct a FACWet analysis on wetlands within the property and provide FACWet data forms and mapping for the future 404 application submittal.
- **Compensatory Mitigation Plan (CMP)** – When permanent wetland impacts greater than 0.1-acre or when stream impacts greater than 0.03-acre are proposed, the USACE requires a CMP to comply with Section 404(b)(1) Guidelines to offset environmental losses resulting from unavoidable impacts to WOTUS. A CMP is not included at this time, and would be part of the 404 submittal package at a later date.
- **Water Quality Certification Request** – As part of the IP application process, a CWA Section 401 Water Quality Certification (WQC) must be obtained from the Colorado Department of Public Health and Environment (CDPHE). Based on email communication with CDPHE on December 2, 2021, the Water Quality Division is still following procedures established in the 2020 WQC Rule to process WQC Requests. ***A Water Quality Certification Request is not included at this time, and would be part of the 404 submittal package at a later date. However a high-level approach will be included in the Section 404 Permitting Approach.***
- **Planting Plan** – Based on the design plans and communication with the design engineer and a landscape architect, CORVUS will provide a planting plan and construction specifications (as needed) for revegetation items such as general notes and specifications for topsoil stockpiling, soil amendments, seedbed preparation, plant material, and seeding and mulching. CORVUS will also collect soil samples in the Project area and send them for testing to a reputable soil testing lab to determine suitable plant species and soil amendments. CORVUS will expense the cost of soil tests. CORVUS anticipates collecting no more than four soil samples.
- **Water Quality Sampling** – The water quality data will be used to quantify the effects of low-impact development strategies on the local watershed. Collecting accurate and precise water quality samples is important to understand the baseline water quality data before development strategies are implemented. Five sampling locations have been determined within the context of the site.

Sampling will be conducted once per month, for 6 months (May-October) documented, and written in a report of a representative water quality analysis of the site. Locations are indicated on the figure on the following page.

- 1) Upstream of Little Columbine Creek entering Town of Grand Lake property limits
- 2) Inlet to potential wetland west of Highway 34
- 3) Inlet to potential wetland East of Highway 34
- 4) Inlet to detention ponds
- 5) Outfall into HOA Marina





Three samples will be collected at each sample location and analyzed by an EPA-certified laboratory:

- Sample A -Total suspended solids, (TSS) - filtered .45micron
- Sample B – Chemical Analysis: Ammonia (NH3), Nitrate (NO3), Nitrite (NO2), Total inorganic nitrogen (TIN), total nitrogen (TN), Total Phosphorus (TP)
- Sample C - Microbiology Analysis – total aerobic, anaerobic, total denitrifying bacteria (CFU)

A final sample will be collected using field equipment following USGS small stream water quality sampling and monitoring guidelines testing for dissolved oxygen, pH, temperature, and clarity (turbidity).

Proposed equipment used for field samples/monitoring:

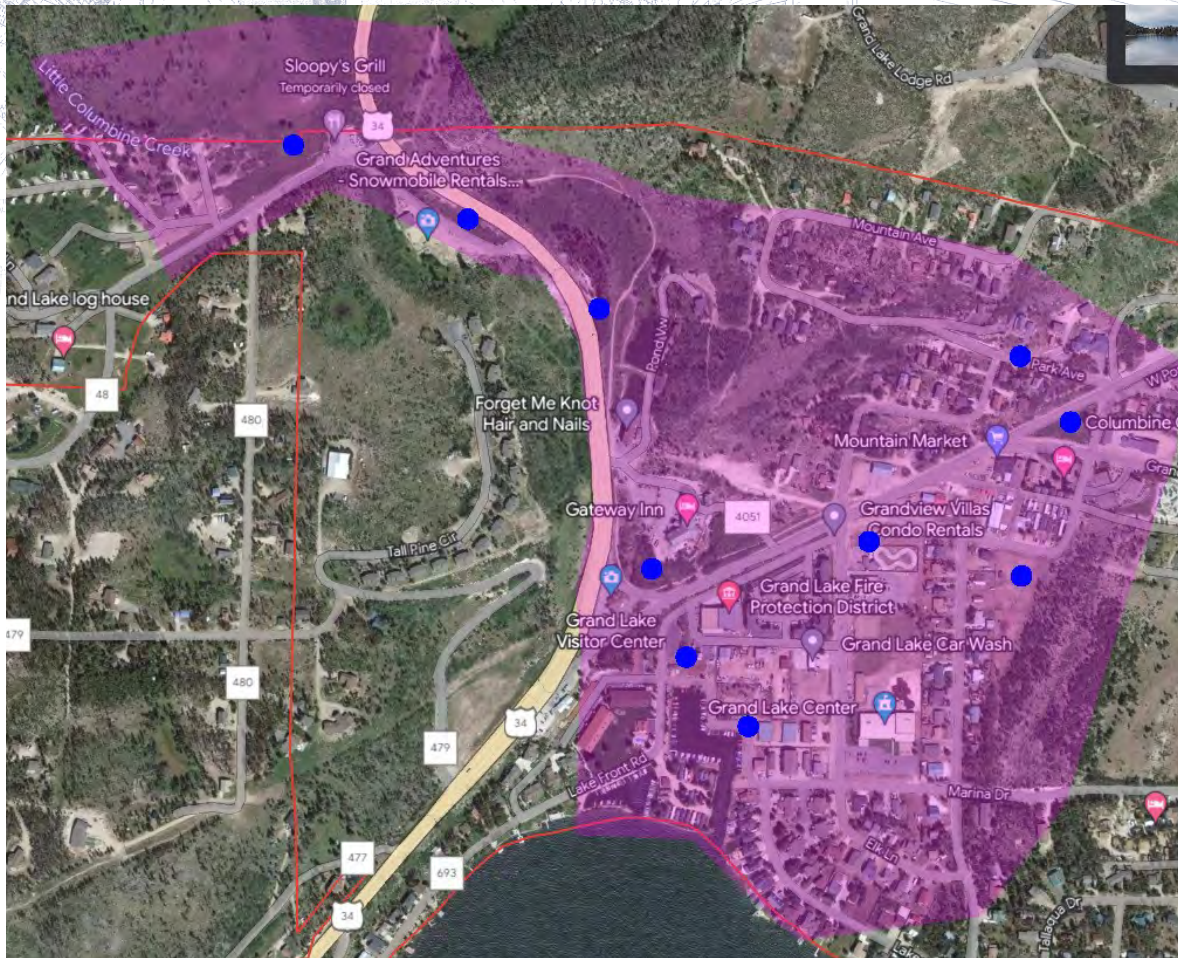
- HACH handheld D.O. meter (2968800) – Temperature and Dissolved Oxygen
- 2100Q Portable Turbidimeter (2100Q01) – Turbidity (Clarity)
- Pocket Pro+ pH Tester (9532000) - pH

### Topographic Map and GIS

Flatirons will prepare a Design Topographic Exhibit with 1' contours of the designated area of the site. They will establish a job site benchmark tied to NAVD 88 vertical datum, and data collect topographic site features, surface evidence of utilities (including physical characteristics of inverts), curbs, access and design features. They will identify the following items of primary focus on drainage facilities – Streams, drainage ways, road side ditches, culverts, bridges, ponds, lakes, water surfaces and bank areas on both public and private properties. Roads: including edge of asphalt, edge of gravel, centerline, etc. Parcel mapping based on publicly available Grand County GIS data will be included, however boundary determination is not a part of the above-described scope of services, and it is understood that this is not a Land Survey Plat in accordance with CRS 38-51-102.







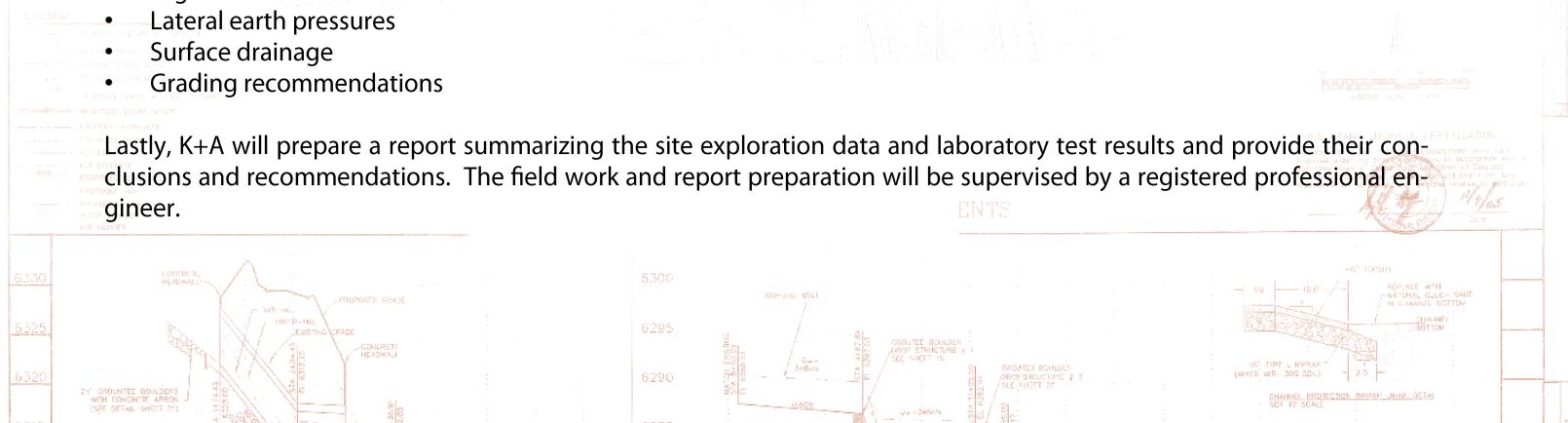
K+A will then conduct a laboratory testing program on selected samples obtained from the borings to determine:

- Moisture content and density of undisturbed fine-grained samples
- Gradation characteristics of coarse-grained samples
- Consolidation and/or swell potential (of fine-grained soil samples)
- Atterberg limits
- Soluble sulfates, pH and resistivity

K+A will then analyze the data obtained from the field and laboratory portions of the study to provide preliminary engineering recommendations for:

- Lateral earth pressures
- Surface drainage
- Grading recommendations

Lastly, K+A will prepare a report summarizing the site exploration data and laboratory test results and provide their conclusions and recommendations. The field work and report preparation will be supervised by a registered professional engineer.





### Monthly Invoices and Supporting Written Progress Reports

Invoices will be sent monthly for the time expended. Accounts will be due and payable within thirty (30) days after the date of the invoice. Whenever the account is more than thirty (30) days delinquent, RGA may suspend further work called for until such account is made current. The fact that RGA may continue to work beyond that time shall not be deemed to be a waiver of its rights hereunder. RGA will submit supporting written progress reports with each monthly invoice.

### Progress Meeting Minutes

RGA will hold periodic progress meetings with the team to ensure the project is proceeding smoothly and on budget. **This meeting can be completed in person, but virtual meetings are more time-efficient and encouraged. The proposed fee includes attendance via an online meeting platform. If in-person attendance is required, additional time and materials for travel time will be needed beyond the proposed fee.**

### Schedule Updates

RGA will provide schedule updates as requested by the team.

**NOTE: If additional baseline information, reports, approvals, or permits are required based upon the findings in Task #1, Task #2, from meetings with “the Team”, or as a result of public comment, additional time and materials beyond the proposed fee may be required and will be requested at that time.**

## Task #2 – Analysis:

### Analyze Existing Stormwater System

RGA will provide a comprehensive evaluation of the existing facilities related to stormwater runoff, stormwater storage and water quality treatment.

### Create Graphics/Maps Illustrating Existing Conditions

RGA will create graphics and/or maps illustrating the existing conditions of the project area.

### Evaluate Water Quality Needs and draft Water Quality Needs Report

CORVUS will evaluate the water quality needs based upon the data collected for the pre-construction water quality report and draft a water quality needs report. This will be sent to the team for review.

### Evaluate Monitoring Locations and Needs

CORVUS will evaluate the monitoring locations and needs based upon the data collected for the pre-construction water quality report, potential treatment locations and the water quality needs report. These locations will be sent to the team for review as a part of the 50-percent conceptual design phase.

### Develop Report and Map of Proposed Stormwater Solutions and Locations

RGA will utilize the information obtained from CORVUS, Flatirons, and K&A to make decisions on the feasibility of low-impact development solutions and other best management practices. We understand that the town's goals are to implement low-impact design solutions, wetlands, stormwater storage, channel design and integrated management practices that serve the stormwater needs of the Town while improving quality of life and lowering impacts on town resources and the surrounding environment within the study area. We will work with and prioritize these goals as hydrogeomorphology allows. We will utilize this information to recommend solutions to improve stormwater quality before reaching the Shadow Mountain Reservoir.

### **Develop Public Outreach Plan**

RGA will assist the team with obtaining input in the planning process for the Stormwater Management Plan. The proposed public involvement plan involves both community surveys and a community meeting.

A community survey will be developed to obtain more information on drainage problems in the project location, as well as to obtain opinions on the proposed stormwater solutions and locations. The survey will be able to be completed on-line or via paper. To cut down on consultant costs, RGA recommends that the Town print and mail any notifications of the survey or any paper surveys. A compilation of the community surveys will be presented to the Town.

We will work with the team throughout this project to identify any additional areas where community input may be beneficial.

## **Task #3 – Stormwater Management Plan**

### **Develop Preliminary Stormwater Management Plan and Report**

Our proposed team will evaluate the water quality and develop a preliminary Stormwater Management Plan. We will provide a 75% draft for public comment. The final report will address all items in the RFP and incorporate all feedback provided by the town staff and public comment.

### **Develop Preliminary Stormwater Management Construction Documents including Plans, Details, Specifications, Quantities, and Costs**

RGA will prepare preliminary engineering documents based on the solutions presented in the preliminary Stormwater Management Plan. Where deemed necessary, additional field data collection will be performed to expand on original findings and recommendations.

Preliminary drawings (75%) will be provided to the team for review. The drawings will incorporate all existing and proposed information into a complete working drawing set for review. Preliminary Technical Specifications (75%) will be provided in an integrated manner with the Town of Grand Lake's standards and specifications. The specifications will be created to eliminate repetition within the proposed specifications and provide for specific clarification where competing codes or standards conflict in requirement. Method of Measurement for payment for work will be provided in all areas that specify unit price contract items. A project description will be submitted along with a preliminary estimate of the construction schedule. A summary of modifications to the Special Conditions will be provided for review and discussion surrounding proposed contract terms and requirements. Additionally, a revised estimate of probable costs will be provided based upon the drawings and specifications. The revised estimate will also include the Schedule of Contract Items and Prices to begin formulation of the final bid schedule.

### **Create Proposed Plan Presentation for a Public Meeting**

RGA will create a proposed plan presentation for the public meeting. We will incorporate any feedback received from the team on the presentation.

### **Attend Public Meeting**

A community meeting will be completed that can be in-person, virtual, or both to increase attendance and participation at the preliminary 75% draft of the Stormwater Management Plan and Report. RGA will attend the public meeting. Graphic representations and materials will be provided to clearly communicate the proposed Stormwater Management Plan. We will answer any questions from the public and obtain public feedback.

Comments and discussions will be recorded by RGA, and a summary of the meeting will be provided to the project team. The project team is committed to working through and addressing any citizen concerns that are raised in cooperation with town staff.



## Task #4 – Stormwater Management Plan Final Design

### Address Preliminary Design Comments from Team and Public

Based on staff comments and the input obtained from the public meeting, RGA will prepare pre-final drawings and specifications. In the event previously undiscovered conditions or concerns arise, RGA will coordinate progress meetings among appropriate parties to provide resolve. Comments and decisions will be recorded from all parties. Meeting minutes will then be distributed to all attendees for review and consensus. An updated estimate of probable costs will be provided. The updated estimate will include further refinement in the form of work breakdown structures and project initialization and closeout costs.

### Finalize Stormwater Management Plan and Report

RGA will perform an in-house peer review by a professional engineer not involved with the project team. The review engineer will review the documents for quality, clarity, accuracy, and concept. Final revisions will then be completed to the Stormwater Management Plan and Report. The final deliverable will be provided as a PDF to the town.

### Finalize Stormwater Management Construction Documents, including Plans, Details, Specifications, Quantities, and Costs

RGA will perform an in-house peer review by a professional engineer not involved with the project team. The review engineer will review the documents for quality, clarity, accuracy, and concept. We will also have one of our construction administration personnel perform a constructability review of the plans and specifications and review of the estimate of probable cost. We strive to prepare construction documents that are complete, cost-effective, easy for the contractor to interpret, and minimize the need for change orders. Final revisions will then be completed to the Stormwater Management Construction Documents. The final deliverable will be provided as a PDF to the town.

### Develop Operations and Maintenance Manual

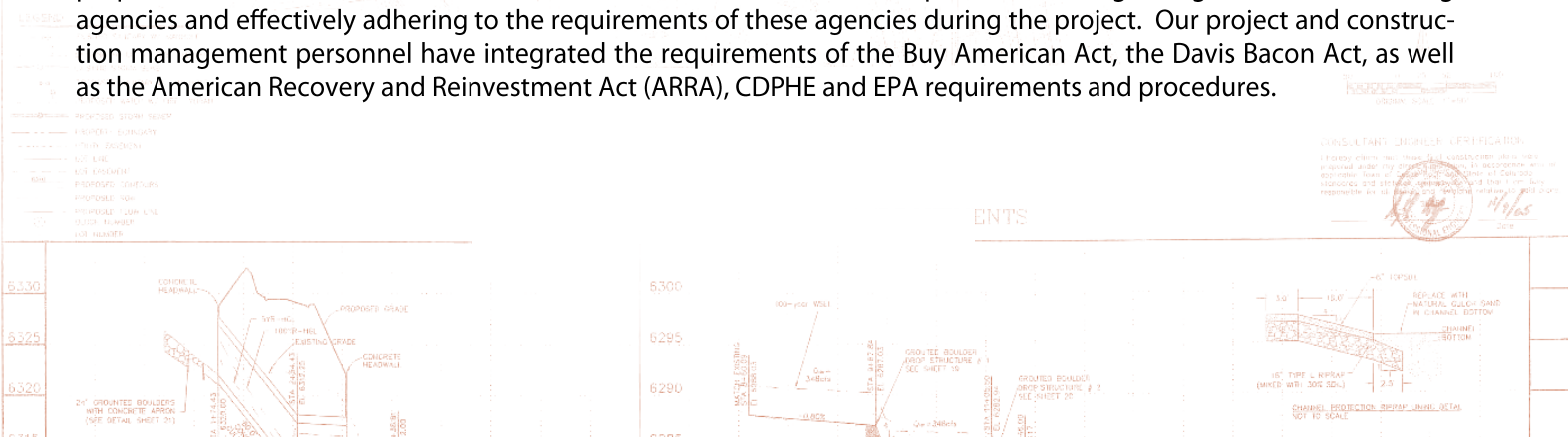
We shall provide a summary of maintenance items to be frequently addressed to maintain the functionality of the recommended design solutions. The final deliverable will be provided as a PDF to the town.

### Identify Available Funding Options

We shall provide a summary of the available grants and loan options from various agencies for recommended design solutions and the association Best Management Practices (BMPs). We have assisted our clients with obtaining grants and loans for a wide variety of projects, for various loan and grant agencies, totaling over \$35 million dollars.

## Bidding and Construction Administration (As-Needed, Future Agreement)

RGA can also assist with project permitting, project bidding, and construction phases of the implementation of the proposed stormwater solutions on a time and materials basis. RGA has experience working with governmental funding agencies and effectively adhering to the requirements of these agencies during the project. Our project and construction management personnel have integrated the requirements of the Buy American Act, the Davis Bacon Act, as well as the American Recovery and Reinvestment Act (ARRA), CDPHE and EPA requirements and procedures.



## SIMILAR EXPERIENCE

### REFERENCES FROM SIMILAR WORK

#### **Similar Project #1:** Roadway and Drainage Improvements and Drainage Master Plans (2013 – Current)

**Client:** Town of Buena Vista, Colorado

**Reference:** Shawn Williams, Public Works Director, 719-581-1049, [bvpwdir@buenavistaco.gov](mailto:bvpwdir@buenavistaco.gov)

**Project Description:** RGA has and continues to work on several projects with the Town of Buena Vista that include both roadway improvements and drainage master planning. These projects include improvements to Gregg Drive, Cedar Street, Arkansas Street, Rodeo Road, East Main Street, and Railroad Street. RGA has incorporated several innovative drainage solutions into these designs, that range from gutter “turnouts” that direct stormwater to tree lawns to capture runoff before it reaches the street; open bottom infiltration inlets; infiltration galleries in the gutter pans; and roadside ditches that capture and treat water via longitudinal gravel beds and the use of roadside ditches as linear detention/water quality facilities. RGA has developed the town’s drainage master plan, which directs and dictates numerous smaller facilities such as tree lawns, infiltration galleries, roadside ditch-controlled containment, use of baseball and sport fields for detention and water quality infiltration, instead of a one-size-fits-all regional facility. This approach uses a green storm water infrastructure, primarily retention and local water quality capture instead of large piped systems and discharges to the Arkansas River as fast as possible, this allows for beneficial using the storm water runoff by the town to supplement irrigation. An update to the drainage master plan is ongoing.

**Similarities with Grand Lake Stormwater Management Plan:** The Town of Buena Vista has experienced problems with alluvial erosion and mass wasting of sediments due the gravel / cobble soil composition and the limited ability of soils of that type to establish a stable robust vegetative cover. RGA has studied the soils, hydraulics and hydrology of the Town and surrounding area and determined through a master planned drainage analysis that there are different types of problems and different solutions for each (see description above). The climate for the Town does not promote the establishment of wetlands but the soil make up is well suited for infiltration and the Town has installed infiltration galleries, retention ponds, open bottom ed inlets, etc. to help control unwanted sediment migration and reuse storm-water runoff for groundwater recharge purposes.

#### **Similar Project #2:** Water Quality Ponds 6 and 7 Drainage Improvements (2022)

**Client:** Conservatory Metropolitan District

**Reference:** AJ Beckman, District Manager, Public Alliance, 303-877-6284, [aj@publicalliancellc.com](mailto:aj@publicalliancellc.com)

**Project Description:** RGA assisted with the design and bidding of drainage improvements to the District’s Water Quality Ponds 6 and 7. Improvements to Pond 6 included the following: removal of a portion of the trickle channel and replacement by extending the 48-inch Reinforced Concrete Pipe (RCP) approximately 80 linear-feet, installation a new manhole, reuse of the existing flared-end section (FES), pouring a concrete transition between the FES and the trickle channel, armoring the area around the new location of the FES with a concrete headwall/24-inch stacked boulders, installing Type M soil riprap, overall improvements to prevent sedimentation and improve water quality. Improvements to Pond 7 included the following: removal and disposal of sediment/vegetation, re-grading of pond bottom, erosion control and re-seeding of pond, site restoration and re-seeding access road, and traffic control.

**Similarities with Grand Lake Stormwater Management Plan:** The Conservatory Metropolitan District has had problems with prior stormwater design that has created excessive erosion and sedimentation in two of the District’s ponds. RGA designed a system that corrects a storm design flaw and surfaces flow problems that has led to the undermining of irrigation piping and a pedestrian trail. The corrective stormwater design has fix problems with sediment transport and erosion with protective hardened surface protection and storm piping mitigation to improvement water quality of the ponds and reduce the need for future maintenance.



## RECENT RELEVANT EXPERIENCE - RG AND ASSOCIATES, LLC

**Project:** Hilltop Estates Subdivision (2020)**Client:** David Hubbard/Adamo Homes

**Description:** The RGA team provided design and grading layout for a minor development with four single-family home lots. We provided Construction Drawings, a Phase III Drainage Report, Grading, Erosion, and Sediment Control Report and plans and assisted with coordination with Douglas County.

**Project:** Red Hawk Filing No. 3, Phase 5 (2020)**Client:** Lennar Homes, Castle Rock, Colorado

**Description:** RGA assisted Lennar Homes with drainage, utility, and traffic conformance letters, updated construction plans, GESC report and GESC plans for the development of Phase 5 within Red Hawk Filing No. 3. RGA also assisted with the original work in 2005, which consisted of a Final Drainage Report for 103 acres and approximately 193 single-family and multi-family homes. The project included several difficult aspects such as encroachment on a Town-owned golf course, application for Federal Emergency Management Association floodplain revision, mountainous terrain, and extensive coordination with adjacent developments for utility connections and design of interconnecting roadways. The development includes a regional drainage system comprised of storm sewer and five detention ponds.

**Project:** On-Call Engineering and Planning Services (2019)**Client:** Clear Creek County, Colorado

**Description:** RGA provided on-call engineering and planning services to the Community Development Department related to development, driveway, excavation, and floodplain applications. This included review of construction drawings, drainage reports, transportation, impact reports, and other similar documents associated with land development projects to ensure compliance with regulations and conditions for approval. This also included review of plans and reports, verification of compliance with regulations, administration of BMP's, driveway, grading, drainage, and storm-water management, retaining walls, and floodplain development permits. We also completed site inspections to confirm BMPs and compliance with approved site plans. RGA also assisted the county with an update to their site development and grading standards.

**Project:** 2013 Flood Repair Project (2015)**Client:** Town of Estes Park, Colorado

**Description:** This project consisted of 22 separate repair areas. Work included establishing construction easements, survey pins, repairs and replacements for roadways, trails, retaining walls, repairs to asphalt, concrete, bridges, swales, embankments, and slope and bank stabilization. RGA provided design services including survey, geotechnical and environmental reports and evaluations. RGA produced design plans, contract documents, cost estimates, and has advertised, bidding services and full-time construction management for the town. As part of this work, RGA coordinated with the Town of Estes Park, CDOT, FEMA, all utility providers and obtained required clearances and permits. On behalf of the Town, RGA produced temporary construction easements and exhibits and met with affected property owners to explain the project and obtain signatures for the temporary construction easements. RGA assisted the Town with quarterly reports, scope change requests, and documentation for entry into the EMGrantsPro system. In addition, RGA assisted the Town to ensure that all work complied with the Town of Estes Park, CDOT, FHWA and FEMA requirements and regulations.

**Project:** Massey Draw Drainageway Improvements (2013)**Client:** Deer Creek Metropolitan District, Jefferson County, Colorado

**Description:** Drainageway improvements to Massey Draw were required to repair major erosion and protect existing trail crossings. The project consisted of grouted, stacked boulder armorment of the trail embankment and a grouted boulder drop structure with creative channel bank treatment and stabilizing channel head cutting protection. This project involved review and permitting through Jefferson County Planning and Engineering, Federal Emergency Management Association, and the Urban Drainage Flood Control District (now Mile High Flood District).

**Project:** McCully/Schell Boulder Creek Floodplain (2013)

**Client:** Patricia and Jim McCully, Weld County, Colorado

**Description:** This improvement project included the placement of a boulder retaining wall to protect a lake/rail rights-of-way along and within the Boulder Creek floodplain. The design involved mapping the floodplain and floodway for approximately a mile and a half of Boulder Creek in an area that had previously only been designated as an approximate floodplain with no floodway. The modeling incorporated a roadway/bridge crossing, an old railroad embankment, several temporary gravel stockpiles, and excavated gravel pits. This project included review and approval of HEC-RAS modeling and project design through Weld County, Federal Emergency Management Association, and the Town of Fredrick.

**Project:** Meadows Filing No. 20 Regional Detention Pond (2012)

**Client:** Castle Rock Development Company, Castle Rock, Colorado

**Description:** RGA prepared modification plans for the outlet structure and regional detention pond to bring it into conformance with existing criteria. The modifications involved the installation of the boulder wall forebay, concrete water quality structure and concrete sedimentation basin.

**Project:** Bond Park Phases I and III (2012)

**Client:** Town of Estes Park, Colorado

**Description:** RGA provided the engineering design for storm sewer, channelization, and infiltration system to eliminate existing drainage problems; replacing asphalt; incorporating parking delineation in decorative stone pattern to eliminate typical painted stripes; eliminating curb and gutter; rock boulder bollards; and flowing curvilinear roadway, sidewalks and planter beds. This project included roadway, drainage, landscape, and streetscape improvements. The work included Macgregor Drive which is directly west of Town Hall. RGA and Winston Associates worked closely with the Stakeholder Committee and Town Staff to complete a detailed design for Phases I and III that was on time, within budget, functional, high-quality, and integrates seamlessly with Estes Parks' downtown.

**Project:** Master Drainage Plan (2010)

**Client:** Town of Estes Park, Colorado

**Description:** RGA developed the Estes Park Drainage Master Plan, which provides an overall guidance plan for the regionalized study areas to aid in the planning of future actions and improvements. The Plan coordinates the use of open spaces, rights of way, drainage tracts and easements to recommend environmentally conscious hydraulic design to remedy existing problems and/or areas where problems may be incurred. The study area is 1,400 acres and considers planning for open spaces, transportation, water quality, water storage, flood plain mitigation, wildlife and other emerging urban/commercial considerations. RGA provided study analysis and design and coordinated the approvals with the Town of Estes Park and Larimer County.

**Project:** Meadows Town Center

**Client:** Castle Rock Development Company, Castle Rock, Colorado

**Description:** This project included approximately 420 single-family and 2,402 multi-family dwelling units with 23 acres of commercial development. RGA provided engineering services for all civil design from sketch plan through construction document approval. Design challenges included balancing earth work activities over 1,200,000 cubic yards of material, connection of major infrastructure utilities through the property and incorporating a meandering drainageway. Drainage improvements included piping the 100-year upstream contributions through the property.

**Project:** Meadows Filing No. 20

**Client:** Castle Rock Development Company, Castle Rock, Colorado

**Description:** The RGA team prepared a Final Drainage Report for 298 acres and approximately 420 single-family and 2,400 multi-family homes. The development included a regional drainage system comprised of central riparian drainage channel corridor between two (2) regional ponds that are approximately 49 acre-feet in size.



**Project:** Bromley Park Master Drainage Plan

**Client:** Bromley Park Metropolitan District, Brighton, Colorado

**Description:** RGA developed the Master Drainage Plan for the Bromley Park Metropolitan District within the City of Brighton. This plan included Regional Detention Ponds for a 2,600-acre drainage area under development. Development consisted of a diverse mixture of single family, multi-family commercial, industrial, and office land uses. The drainage basin is intersected by I-76 and bounded by the Burlington Northern Santa Fe (BNSF) Railroad main line, which required innovative solutions for discharging stormwater from the regional ponds under both I-76 and BNSF embankment and ultimately into the Beebe Draw. The Master Plan also involved wetlands mitigation, water quality issues, and the hydrological aspects of the Beebe Draw that is a major conveyance of the discharge from Barr Lake.

**Project:** Sulphur Gulch Channel Improvements – Phase II

**Client:** Town of Park, Colorado and the Urban Drainage and Flood Control District (now Mile High Flood District)

**Description:** Severe erosion along the banks of Sulphur Gulch exposed abandoned irrigation lines and caused the collapse of a portion of the pedestrian trail, as well as damage to the embankment of the Bar CCC reclaimed water pond. The RGA team acted as design engineer and construction manager for the channel improvements, which included a sculpted concrete drop structure, a grouted riprap grade control structure, and buried riprap channel revetment to increase channel stability. The improvements resulted in a lower water surface elevation during the 10-year storm event. The project also required habitat restoration, wetlands mitigation, and protection of the regional trail system. RGA designed 850 LF of channel improvements along Sulphur Gulch adjacent to the Bar CCC Park. The project involved evaluation of the alignment, approvals from federal, state and local agencies, and construction management. Channel improvements included a sculptured concrete drop structure, grouted riprap grade control structure and buried riprap channel revetment. Design parameters included design coordination with existing bridge abutments and piers, the connection and re-alignment of the Town of Parker Regional Trail System, access from the Bar CCC parking area, and the synchronization with the existing Parker Water and Sanitation District mixing station and associates out-fall/channel improvements to Sulphur Gulch at the termination of this project.

**Project:** Longs Way Tributary

**Client:** Town of Park, Colorado and the Urban Drainage and Flood Control District (now Mile High Flood District)

**Description:** RGA provided the design and construction management for the installation of two (2) regional detention ponds. The regional facility improvements consist of two detention ponds, 600-feet of storm sewer, and a connection structure to the existing Town of Parker drainage system. The detention ponds provide 6.0 acre-feet of storage and 1.2 acre-feet of water quality treatment.

**Project:** 20-Mile Regional Storm Water Facility

**Client:** Town of Park, Colorado and the Urban Drainage and Flood Control District (now Mile High Flood District)

**Description:** RGA designed two (2) cell inter-connected regional detention ponds along Plaza Drive adjacent to Cherry Creek. The project involved evaluation of the alignment and hydraulics, approvals from federal, state and local agencies, and construction management. The project included the installation of a 40.5 acre-feet regional detention facility. The basin analysis for the 395 tributary acres was modeled using CUHP and SWMM hydrology for the existing and proposed land uses as dictated by the Newlin & Baldwin Gulches and Basin 4600-09 Outfall System Planning Study. The facility consisted of hydraulically connected dual detention ponds with sediment collection cells and 10.0 acre-feet of controlled release water quality storage. The design also included box culverts and a 54-inch storm sewer system. The 570 cubic-feet per second released into an environmentally sensitive area of Cherry Creek from the detention facility is controlled by a concrete multi-staged weir and a grouted sloping boulder drop structure.

## RECENT RELEVANT EXPERIENCE - CORVUS ENVIRONMENTAL, LLC

### Big Thompson Confluence Mitigation Bank - Weld County

Coordinated with the development of a sustainable ecological restoration solution to satisfy regulatory requirements for a wetland and stream mitigation bank under Section 404 CWA. Prepared prospectus and mitigation banking instrument (MBI) documents and presented these to the Inter-Agency Review Team. Conducted wetland delineation, functional assessment of wetlands (FACWet) and streams (CSQT) to determine functional lift and conducted habitat assessments for Preble's meadow jumping mouse, Ute lady's tress orchid, and the Colorado butterfly plant. *This is the first mitigation bank approved in the Denver metro area in 20 years.*

### Northgate Detention Pond - USAFA / CDOT / El Paso County

Technical expert providing natural resource consultation and compliance for US Fish and Wildlife (USFWS) Section 7 consultation in occupied Preble's Meadow Jumping Mouse (PMJM) habitat, wetland delineation and clean water act (CWA) Section 404 Permitting, CDOT NEPA Categorical Exclusion documentation, and US Air Force Academy (USAFA) consultation and agency compliance.

### US 36 Wetland Mitigation Construction – CDOT Region 1, Boulder County

Owner's representative for CDOT on the oversight team for the construction, planting, and corrective actions for the 20-acre wetland mitigation project required as compensatory mitigation for impacts related to US 36 widening and improvements. Of the 20 total acres, 15 acres are regulated wetlands per a USACE permit. The project complies with USACE and City of Boulder permitting criteria.

### Sand Creek Interceptor Sanitary Sewer Improvements Natural Resources Inventory - City of Aurora

Evaluated and documented the presence of regulated natural resources along three proposed alternative alignments of the Sand Creek sanitary sewer interceptor. Regulatory resources emphasized included wetlands, federally threatened or endangered species and habitat, migratory bird nests, and active and inactive black-tailed prairie dog burrows. Mapped the location of each resource and provided an analysis of the regulatory and permit implications for each proposed alignment.

## RECENT RELEVANT EXPERIENCE - FLATIRONS SURVEYING, INC.

- Pueblo West Metropolitan District, Pueblo, CO – topographic survey
- Southeast Metro Stormwater Authority, Jamison Tributary Drainage, Centennial – construction survey
- City of Louisville, Louisville Rec Center Playground – topographic design survey
- City of Louisville, Wastewater Treatment Plant on Empire Drive & Highway 42 – topographic survey
- Chartered Homes, Nelson and Airport Road, Boulder County – Drainage study
- Green Mountain Drainage Way, Lakewood, Colorado – topographic design survey
- Montclair Storm Drainage Project, E. 17<sup>th</sup> Ave. to Colfax, Denver, Colorado – construction survey
- Front Range Airport Drainage Study, Watkins, Colorado – Environmental survey
- South Platte River and Erger's Pond, Brighton, Colorado – topographic survey
- South Platte River, Globeville Phase III, Denver, Colorado – design topographic survey
- St. Vrain Greenway Phase 7B to 11, Longmont, Colorado – topographic survey
- Silver Lake Ditch, Boulder, Colorado – design survey
- Frisco Ditch at Interlocken, Broomfield, Colorado – topographic survey
- Community Ditch Area at Marshall Lake, Boulder, Colorado – topographic survey



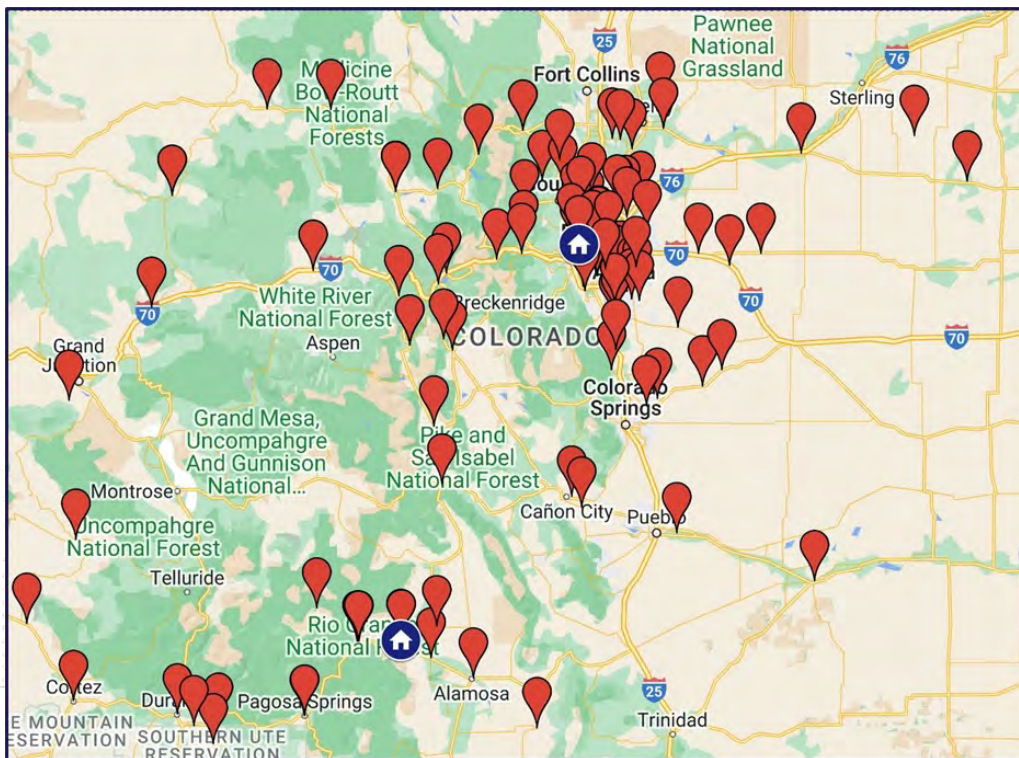
- TOWN OF GRAND LAKE**  
Stormwater Management Plan  
RFP TOGL-004  
March 30, 2023

## RGa's EXPERIENCE WORKING WITH SMALLER-SIZED MUNICIPALITIES

We have extensive experience serving small-sized municipalities throughout Colorado.

- City of Brush!
- City of Castle Pines
- City of Creede
- City of Delta
- City of Leadville
- City of Louisville
- City of Sheridan
- Clear Creek County
- Town of Bayfield
- Town of Buena Vista
- Town of Center
- Town of Dillon
- Town of Dove Creek
- Town of Erie
- Town of Estes Park
- Town of Grand Lake
- Town of Hot Sulphur Springs
- Town of Kiowa
- Town of Jamestown
- Town of Johnstown
- Town of Lochbuie
- Town of Lyons
- Town of Meeker
- Town of Minturn
- Town of Mountain View
- Town of Pagosa Springs
- Town of Palmer Lake
- Town of Parachute
- Town of Poncha Springs
- Town of Red Cliff
- Town of South Fork
- Town of Superior

A map of our representative clients is included below. Our representative experience can be found on our website: [www.rgengineers.com](http://www.rgengineers.com).





## QUALIFICATIONS

RGA proposes to utilize the following individuals to provide professional services to the Town of Grand Lake for this project. We will utilize our sub-consultants, CORVUS Environmental, Flatirons Surveying, and Kumar & Associates. Resumes are included in the appendix of this proposal.

### Key Personnel

**Ricardo J.F. Gonçalves, P.E.,** President, Principal-in-Charge, Project Manager

Mr. Gonçalves will be the Principal-in-Charge and Project Manager for this project and primary point of contact with the town. He will be the overall team leader. He has chosen to be the Project Manager for this project principally due to his extensive civil engineering experience with mountain communities like Grand Lake. Mr. Gonçalves serves as the Chairman of the Technical Advisory Committee of the Cherry Creek Basin Water Quality Authority and an active member of the American Consulting Engineers Council, the American Waterworks Association, Water Environment Federation, and the American Society of Civil Engineers.

Mr. Gonçalves has over 50 years of experience in the planning, design and construction management of a broad range of civil engineering projects. Expertise includes water and wastewater treatment plants, pumping and storage facilities, water and wastewater collection and distribution systems, roadway design, airport planning and design, storm drainage facilities, residential and commercial site planning and development, and recreational space projects. He personally acts as the City Engineer or District Engineer for a number of municipalities and special districts.

**James R. Landry, P.E.,** Senior Project Manager, Chief Operating Officer

Mr. Landry will act as a project manager and assist Mr. Gonçalves with the technical production of the work, managing schedules and communicating with subcontractors. Mr. Landry is a civil engineer with 27 years of experience in utility and roadway design, hydraulic and drainage engineering, and construction management. He has been involved in the preliminary, final design, and construction for a wide range of public and private sector projects. Mr. Landry also represents cities and special districts as their Engineer and/or Manager. He is currently the District Engineer, District Manager and Operator-in-Responsible-Charge for Applewood Sanitation District, the Town Engineer for the Town of Mountain View, and the Operator-in-Responsible-Charge for Cherry Hills Heights Water and Sanitation District and Westridge Sanitation District.

**Gary Welp, P.E., CFM,** Senior Project Manager

Mr. Welp will act as a project manager and assist Mr. Gonçalves with the technical production of the work, managing schedules and communicating with contractors. Mr. Welp has over 26 years of civil engineering design and management experience in master drainage studies, regional drainage, water systems, utility pipe lines, sewer interceptors, and residential and commercial subdivisions. Mr. Welp's responsibilities include hydraulic analysis, drainage studies, floodplain studies, development review, and design of drainage and municipal projects for the company. He is also a Certified Floodplain Manager (CFM).

**Joy McGee, AICP,** Planning Project Manager

Ms. McGee will be the planning project manager and lead public engagement for this project. Ms. McGee has extensive experience as a land use and planning professional with Colorado municipalities. She has a deep knowledge base of best practice planning methods and experience in the interpretation of land use, zoning and subdivision code sections for the review of development applications. She has handled the referral process for many municipalities and has experience with special districts.

**Ernie Kern, P.E., LEED AP, Civil Engineering Manager and Building Official**

Mr. Kern will provide engineering support for all projects. He has 45 years of professional civil engineering experience working for consulting engineering firms and municipalities. He has served in capacities ranging from construction inspection, plan review, and engineering design through project management. He has also completed retrofit designs to alleviate problems in developed areas due to unforeseen growth or inadequate design. Mr. Kern has completed design and project management for various types of engineering projects, including residential and commercial subdivisions; water distribution systems, pump stations, and storage facilities; wastewater collection systems and lift stations; street improvements; and drainage systems, including channels, culverts, drop structures, storm sewers, and detention facilities.

**Jordan Schneider, P.E., Project Engineer**

Mr. Schneider will provide engineering support for all projects. Mr. Schneider has six years of civil engineering experience, including: drafting construction documents and plan sets, basic design calculation, development review, and construction inspection for sewer and water line installation, wastewater treatment plant improvements, sewer lift station improvements, and vault improvements.

**Karl Kluge, Senior Construction Manager/Design Engineer**

As Design Engineer, Mr. Kluge will assist with the design and perform constructability reviews and construction estimates on several of the projects. As Construction Inspector, Mr. Kluge will provide constructability reviews. Mr. Kluge has spent the last 22 years with RGA as a design engineer, AutoCAD technician, construction manager, and senior construction observer of water, sanitary and storm sewer utilities, street construction, water tanks, diversions dams, bridges, water and wastewater treatment facilities, effluent pond lining, storm water structures and erosion control features. Responsibilities include contract document administration and compliance, bidding services, pay applications and change order processing, daily documentation and coordinating construction to final completion and warranty acceptance.

**Gaimé Esparza, Construction Manager/Observer**

Mr. Esparza will conduct constructability reviews. Mr. Esparza has 35 years of construction and project administration and observation experience, including bridge, roadway, general infrastructure, drainage, utility and building design & construction. This includes management of associated personnel, conducting pre-construction conferences, bid coordination, contract and specifications preparation, pay estimate preparation, site coordination and inspection, contract management, project management, and program management.

**Sara Constantine, E.I.T., Design Engineer**

Ms. Constantine will provide engineering support for all projects. She has three years of design engineering experience. She is proficient in ArcGIS, SQL, Coordinate GPS systems, Spatial analysis, Database Management and Microsoft Office.

**Alex Wilde, E.I.T., Design Engineer**

Mr. Wilde will provide engineering support for all projects. He has three years of design engineering experience, including project administration, review of reports and plan sets, basic design calculations, and sanitary sewer inspections. He has knowledge of soils, materials, and testing standards. He is proficient in the use of ArcGIS and Microsoft Office Suite.

**Krystal Welp, Engineering and Planning Technician**

Ms. Welp will assist with project administration, preparation of public engagement and public meeting materials, and preparation of the project deliverables. Ms. Welp has extensive experience providing technician review services through review of municipal codes and criteria manuals and has assisted several clients with the creation of standards and specifications. Additionally, she provides graphic support for all aspects of community plans, ranging from the creation of the project outreach website, design of community outreach materials, to the design of the final document.



### **CORVUS Environmental Consulting, LLC. - Environmental Subconsultant**

#### **Tim DeMasters, Principal, Senior Ecologist**

Tim joined CORVUS in 2018 as a seasoned senior ecologist with 15 years of experience working on projects ranging from large hard rock mines in AK, coal mines in WY, pipelines in IL and TX, to many trail, road, solar, stream, reservoir, and other water related projects in CO over the last 9 years. Tim provides expertise in compliance with federal and state environmental regulations related to biological resources, including wetlands, threatened and endangered species, and wildlife. Tim's experience includes working on numerous local agency projects in compliance with federal and local regulations as well as Colorado Parks and Wildlife (CPW) compliance statewide for various sectors. Tim has established strong working relationships with federal and state regulators and wildlife district managers and brings a creative solution-based approach to projects from a high-level down to the specifics.

### **Flatirons Surveying, Inc. - Surveying Subconsultant**

#### **Tom Willis, PLS, Director of Operations and Chief Estimator**

Registered Land Surveyor with more than 34 years of professional experience in Surveying, Mapping and GPS/GIS. Also serves as Director of Operations and Chief Estimator for Flatirons Surveying, Inc.

#### **James Z. Gowan, PLS, CFedS, Vice President**

Registered Land Surveyor with more than 31 years of professional experience in Surveying, Mapping and GPS/GIS. CFedS Certified for work on Federal lands. ALTAs, subdivisions, annexations, topographic mapping, aerial mapping, Hazwoper sites, flood repair sites, construction layout, office and field, rural and urban. Also held leadership roles ranging from Project Manager to Vice President.

### **Kumar and Associates, Inc. - Geotechnical Subconsultant**

#### **James A. Parker, P.E., P.G., Senior Engineer Geotechnical**

Mr. Parker has over **22 years of experience** in geotechnical and geological engineering, geological hazards assessment and materials testing and inspection in Colorado, Arizona and Oregon. He is responsible for planning, management and review of geotechnical and geologic assessments, and project management and engineering review of materials testing and special inspection on private and public projects throughout western and central Colorado.

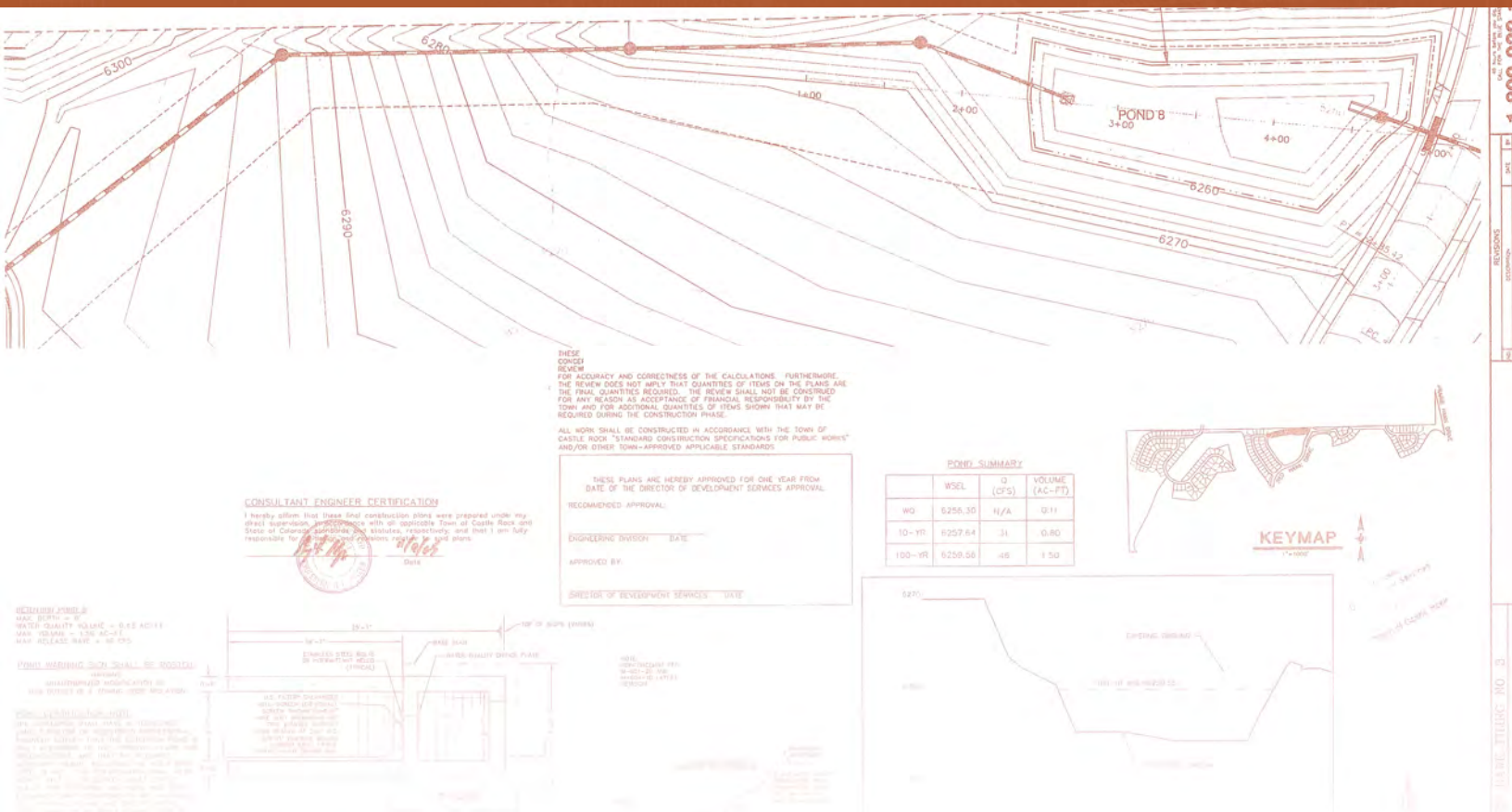
### **RGA's Company Resources**

RGA has a staff of 16 professional engineers, designers, planners, and construction administration and support personnel who are providing on-call services to our existing special districts and municipal clients. Almost all of the services are for projects of short duration which allow us the flexibility to reassign personnel to new projects on short notice, and we have the in-house depth of resources to ensure that qualified RGA staff members will be available for the duration of each project.

All design work completed by RGA will utilize the latest in civil engineering software provided in AutoCAD Civil 3D. The project team has the support of additional designers and CADD technicians who will use the software to complete all tasks efficiently and on time. RGA also has the latest Bentley/Haestad, MWH Soft storm drainage and EPANET modeling software at its disposal. There is a high-speed large format printer to produce all prints necessary in a short amount of time. RGA has the ability to produce full-size color maps and reports when needed.



## RESUMES





## **RICARDO J.F. GONÇALVES, P.E.**

PRESIDENT



### **EDUCATION**

#### **B.S., Civil Engineering**

University of Colorado at Boulder

Post-Graduate Studies, Sanitary Engineering

### **PROFESSIONAL REGISTRATION**

**Registered Professional Engineer:** Colorado, New Mexico

### **PROFESSIONAL EXPERIENCE**

Mr. Gonçalves has over 51 years of experience in the design and construction management of a broad range of civil engineering projects. Expertise includes water and wastewater treatment plants, pumping and storage facilities, water and wastewater collection and distribution systems, roadway design, airport planning and design, storm drainage facilities, residential and commercial site planning and development, and recreational space projects. Mr. Gonçalves also has specialized expertise in municipal and special district engineering and administration. He personally acts as the City Engineer or District Engineer for a number of municipalities and special districts.

Mr. Gonçalves has traveled extensively throughout Europe and Africa and is fluent in the Spanish, Portuguese, French, and Italian languages.

### **MUNICIPAL ENGINEERING**

- **Parker Water and Sanitation District, Todd Creek Village Metropolitan District, Cherry Creek South Metropolitan District, Superior Metropolitan District No. 1, Lincoln Park Metropolitan District, Stonegate Village Metropolitan District, East Alamosa Water and Sanitation District and Paint Brush Hills Metropolitan District.** District Engineer for the design and construction management of water and sewer facilities, rate studies, master planning, and general on-call engineering services.
- **Cities of Edgewater and Dacono, and the Towns of Mountain View, Kiowa, Superior and Buena Vista, Colorado.** City/Town Engineer for water and sewer facilities, streets and traffic, drainage, hydrology, construction administration, inspection, rate studies, master planning, and general engineering services.
- **Stonegate Village Metropolitan District, Douglas County, Colorado.** Project Manager for the design and construction of a 1,600 acre development. Projects included eight well facilities, 4.0 MGD water treatment facility, 6.1 MG of potable water storage tanks, water distribution system, 1.1 MGD advanced wastewater treatment system, wastewater effluent reuse system, water pump stations, sewage pump stations, wastewater collection systems, major and minor arterial streets, and the preparation of two service plans for the formation of two separate metropolitan districts. Prepared a drainage study to establish street grades and drainage

basins. Calculated required detention basins, recommended the location of detention ponds, and prepared sizing of storm sewer pipe and road crossings.

- ***Parker Water and Sanitation District, Parker, Colorado.*** District Engineer for the design and construction management for district infrastructure serving a town of 30,000 people. Over a period of 20 years, projects have included design and construction administration of a 2.0 MGD advanced wastewater treatment plant, 9,000 GPM well system, 9.0 MG of buried treated water storage tanks, over 20 miles of 16-inch to 30-inch water transmission mains and 15-inch to 33-inch sewer trunk mains, pump stations, and preliminary design of 55,000 ac-ft surface water storage reservoir. Also prepared rate studies and assisted in operations and maintenance of the District's facilities.

#### **WATER/WASTEWATER ENGINEERING**

- ***Parker Water and Sanitation District, the Stonegate Village Metropolitan District, the Town of Breckenridge, the City of Monte Vista, the City of Edgewater, Todd Creek Village Metropolitan District, Black Hawk-Central City Sanitation District, Lincoln Park Metropolitan District, Buckhorn Valley Metropolitan District, Freemont Sanitation District, the Town of Florence, Southern Ute Reservation, and the Town of Eckley.*** Prepared water, raw water, sewer, and drainage rate studies.
- ***Town of Buena Vista, Colorado.*** Well Facilities, storage and waterline improvements. Project manager for a new wellhouse treatment facilities, 750,000 gallon water storage tank, and several thousand feet of 6-8" waterline replacements.
- ***Paint Brush Hills Metropolitan District, Colorado.*** New well and treatment facility, master water plan, water rate study, 5,000 square foot administration building, 4000 gpm booster pump station, 0.5 MG water storage tank. Project Manager for design and construction.
- ***Rawlins, Wyoming.*** 10 MGD Water Treatment Plant; Project Manager providing process design, architectural and structural design and hydraulic engineering. Process design included pre-sedimentation, chemical addition, coagulation, sedimentation, conventional filtration and chlorination.
- ***Black Hawk-Central City Sanitation District, Black Hawk, Colorado.*** 0.5 MGD Activated Sludge Wastewater Treatment Plant. As Project Manager provided design and construction administration. The plant was designed to operate in contact stabilization mode during high flows and in the extended aeration mode during low flows.
- ***Costilla County Water and Sanitation Assessment Area, Costilla County, Colorado.*** As Project Manager, provided the design and construction observation of 15 miles of sanitary sewer line and a 150,000 GPD three-cell aerated lagoon wastewater treatment plant system.
- ***Parker Water and Sanitation District South Wastewater Treatment Plant, Douglas County.*** Design Evaluation, Value Engineering and Program Management of Colorado. As Project Manager, provided recommendations that saved \$1.5 million in project costs.
- ***Rangely, Colorado.*** 2.2 MGD Water Treatment Plant and 1.0 MG Water Storage Tank. As Project Manager, provided design, survey and construction management. Process design included pre-sedimentation, chemical addition, coagulation, sedimentation, traveling bridge continuous backwashing sand filter and chlorination. Also designed river intake and raw water pump station.



- **Costa Dorado, Mexico.** 1.6 MGD Wastewater Treatment Facility, As Project Manager, provided evaluation of old facility, and performed preliminary design for a new activated sludge/physical treatment new tertiary reuse facility.
- **Parker Water and Sanitation District, Parker, Colorado.** 2.0 MGD South Wastewater Tertiary Treatment Plant, utilizing, chemical addition, coagulation, two package upflow clarification and dual media filters, and UV disinfection. Project Manager from design through construction.
- **Parker Water and Sanitation District, Parker, Colorado.** 4.0 MG Post-Tensioned Water Storage Tank. Project Manager from design through construction.
- **City of Westminster, Colorado.** Northwest Water Treatment Plant. Provided program management and third-party consultation for the design/build of a 20 MGD WTP utilizing membrane filtration with chemical addition, coagulation and sedimentation pretreatment.
- **City of Westminster, Colorado.** Reclaimed Water Treatment Facility, Provided program management and third-party consultation for the design and construction of 6.0 MGD tertiary effluent treatment, storage and distribution for the reuse system.
- **Parker Water and Sanitation District, Parker, Colorado.** 2.0 MGD North Wastewater Treatment Plant. Provided program management and third-party consultation from design through construction.
- **Beaver Creek Metropolitan District, Avon, Colorado.** Designed a 100 gpm cartridge filtration water treatment system, creek diversion and infiltration gallery, and a 2.0 mgd diatomaceous earth water treatment plant with chlorination for disinfection, and a river diversion and raw water pump station for snow making operations.
- **Town of Nucla, Colorado.** Design manager for 500 gpm river diversion, infiltration gallery and raw water pump station. Also designed 500 gpm Trident package water treatment plant, utilizing pre-sedimentation, chemical addition, coagulation, sedimentation, conventional filtration and chlorination.

## **JAMES R. LANDRY, P.E., CWP**

CHIEF OPERATING OFFICER



### **EDUCATION**

**B.S., Engineering, Civil Option**  
Colorado School of Mines (1993)

### **PROFESSIONAL REGISTRATION**

**Registered Professional Engineer**  
Colorado

### **CERTIFICATIONS**

Class 1 Wastewater Collection System Operator  
Class 2 Wastewater Collection System Operator

### **PROFESSIONAL EXPERIENCE**

Mr. Landry is a civil engineer with 26 years of experience in utility and roadway design, hydraulic and drainage engineering, and construction management. He has been involved in the preliminary, final design, and construction for a wide range of public and private sector projects. Mr. Landry also represents cities and special districts as their Engineer and/or Manager. He is currently the District Engineer, District Manager and Operator-in-Responsible-Charge for Applewood Sanitation District, the Town Engineer for the Town of Mountain View, and the Operator-in-Responsible-Charge for Cherry Hills Heights Water and Sanitation District and Westridge Sanitation District.

### **MUNICIPAL ENGINEERING**

- *District Manager, Engineer, and Operator in Responsible Charge, Applewood Sanitation District.* Responsible for design and construction management of annual improvement projects. Review of all engineering consultants' designs. Technical representative for the District.
- *Town Engineer for the Town of Mountain View.* Review all subdivision and commercial construction plans for compliance with town design standards. Coordinate review team to produce comment letters. Reviews focused on utilities, grading, streets, and drainage improvements. Comment letters generated to ensure compliance with the Town master plans and future development. Coordination with town manager, attorneys, and planners.
- *City-Wide Capital Improvement Plan, Town of Mountain View.* Performed an evaluation of the city's streets, utilities, drainage and traffic facilities. This initial work included geotechnical evaluations of the existing pavement, the development of pavement condition index (PCI) for each street, and coordination with all utility providers. Established a ranking system for the replacement of roadways that factors in the PCI, drainage, utilities conditions and replacement schedule, economic activity rating and traffic volumes.



**UTILITY ENGINEERING**

- *2021 Water Main Capital Improvement Project, East Alamosa Water and Sanitation District, Alamosa, Colorado.* Project engineer for the design of improvements to the district's drinking water distribution system and associated components, including 12,627 LF of 6" water main.
- *2020 Phased Replacement of Collection Lines, Pagosa Springs Sanitation General Improvement District, Pagosa Springs, Colorado.* Project Manager for the completion of a phased replacement plan for the district's 82,277 LF of sanitary sewer pipelines.
- *ARRA and DOLA Water Main Replacement, Town of Kremmling, Colorado.* Project Manager and Design Engineer for 22,000 LF of 8-inch PVC water main, tie-ins, and the replacement of 260 water services and meter pits.
- *Strontia Springs Dredging Inspection, Denver Water, Colorado.* Project Oversight for Construction Administration for dam dredging.
- *Long Lake Feeder Ditch Diversion Structure Replacement, Denver Water, Colorado.* Construction management and inspection of a new diversion structure in Ralston Creek for Long Lake.
- *Conduit No. 94 – Acoustic Fiber Option (AFO) Monitoring System, Denver Water, Colorado.* Construction management and inspection of modifications to Conduit 94 to accommodate the installation of an acoustic fiber option monitoring system.
- *Conduits 31, 94, 72, and 125 Repairs, Denver Water, Colorado.* Project Oversight for various large diameter transmission main repairs.
- *Foothills Treatment Plant Phases I and II, Denver Water, Colorado.* Project Oversight for installation of a weir wall in the chlorine contact basin and installation of 15-inch RCP storm sewer pipe.
- *RTD Northwest Corridor – Conduit No. 94, Denver Water, Colorado.* Project Oversight of Conduit 94 modification due to the Eagle P3 Northwest Corridor Project.
- *Highway 79 Sanitary Sewer Extension Line, Town of Bennett, Colorado.* Project Manager and Engineer for 1,500 LF of 15-inch and 18-inch sanitary sewer outfall line. This project included a 100 LF bore under the Union Pacific Railroad.
- *Lowry Redevelopment Authority, Sanitary Outfall.* Project Engineer for the design of 4,800 LF of 18-inch to 24-inch PVC sanitary sewer outfall line.
- *CDOT State HWY No. 40 Colfax Avenue at Cherry Creek.* Project Engineer for the design of 150 LF of 20-inch waterline under the Colfax Bridge.
- *E-470 Business Metropolitan District Sanitary Sewer and Water Main Improvements.* Design Engineer for the production of plans for 23,100 LF of 12-inch and 16-inch water line; 9,700 LF of 10-inch, 12-inch, and 15-inch sanitary lines; and 5,300 LF of 10-inch force main.
- *Parker Water and Sanitation District, 20 Mile Effluent and Raw Water Lines – Phases I & II.* Project Engineer for the production of plans and specifications for effluent and raw water lines consisting of 23,000 LF of 16-inch pipe, 3,000 LF of 24-inch pipe, and 2,000 LF of 12-inch pipe.

- *Union Pacific Railroad Sanitary Sewer Crossing.* Project Manager and Engineer for 600 LF of 12-inch PVC sanitary sewer line replacement. This project included a 100 LF bore under the Union Pacific Railroad.

**UTILITY ENGINEERING –SOUTHWEST METROPOLITAN WATER AND SANITATION DISTRICT**

- *2020 DCIP Water Main Replacement Project.* This project included the replacement of 1500 LF of water main replacement.
- *2019 DCIP Water Main Replacement Project.* This project included the replacement of 755 LF of 12" PVC, 60 LF of 6" PVC and 262" LF of 4" PVC water mains.
- *2018 West Parkhill Avenue Sanitary Sewer Main Replacement Project.* This project included the replacement of 266 LF of 12" sewer line and 169 LF of paving, with appropriate roto-milling, overlay, and markings.
- *2018 South Pierson Street Water Main Replacement Project.* This project included the replacement of 957 LF of 8" water line and 23 ¾" water services.

**UTILITY ENGINEERING – PLATTE CANYON WATER AND SANITATION DISTRICT**

- *2020 DCIP Water Main Replacement Project.* This project included the replacement of 3,681 LF of water main with 6" PVC and 1,005 LF of water main replacement with 8" PVC.
- *2020 Depew Water Street Replacement Project.* The existing waterline under the Depew Street Bridge, between West Canyone Drive and West Elmhurst Avenue was replaced.
- *2019 DCIP Water Main Replacement Project.* This project included the replacement of 2,313 LF of 8" PVC and 1,093 LF of 6" PVC water mains.
- *2019 South Sheridan Boulevard Sanitary Sewer Main Replacement Project.* This project included the removal of 300 LF of 16" sewer line, installation of 300 LF of 15" sewer line, two existing manhole connections, and 4 4" sewer services.

**UTILITY ENGINEERING – CRESTVIEW WATER AND SANITATION DISTRICT**

- *2015 Water and Sanitary Sewer Replacement Project.* This project included the replacement of 6000 LF of 8 and 10" water line and 1200 LF for 8" sanitary sewer mains.
- *2015 Water District Model.* Assemble a water distribution and sanitary sewer collection system computer model for district. This work included updating of existing mapping with as-built data and coordination with Denver Water.
- *District Water and Sanitary Sewer Model.* The City of Westminster investigated using CWSD lines to eliminate a lift station, as the District's Engineer, RGA reviewed the modeling and associated report.
- *General Construction Projects.* Responsible for the design, bidding and construction management and administration services for all phases of the District's annual sanitary sewer rehabilitation projects.

- *Crestview Sanitation District/City of Westminster Interconnect.* Design of water interconnects between the Crestview Water and Sanitation District and the City of Westminster.
- *Review of Water and Sanitary Construction Projects by Others.* Review designs of water and sanitary relocation projects by others, when they are constructed providing construction inspection and administration services.
- *2014 Sanitary Sewer Replacement Project.* Design of approximately 1,750 L.F. 12" diameter sanitary sewer main to replace aging infrastructure.
- *West 63<sup>rd</sup> Avenue Sanitary Sewer Main Replacement Project.* Design, estimation, construction management and observation/inspection for approximately 615 LF of 12-inch PVC sewer mains, including 150 LF of 24-inch diameter bore and casing under Federal Boulevard. Also included design of storm drain replacement and street repairs associated with the sewer main.
- *2013 Watermain Replacement Project.* Project Manager and Design Engineer for 6,000 LF of 8-inch and 6-inch PVC watermain and lateral tie-ins, 2,000 LF of 20-inch waterline, and roughly 103 water services.
- *2011 Watermain Replacement Project.* Project Manager and Design Engineer for 6,000 LF of 8-inch and 6-inch PVC watermain and lateral tie-ins and roughly 103 water services.
- *2011 Samuel Drive and Canosa Court Sewer Main Replacement Project.* Project Manager and Design Engineer for 1,300 LF 12-inch SDR 35 PVC sewer main.
- *2011 Pecos Street Sewer Main Replacement Project.* Project Manager and Design Engineer for 718 LF of 12-inch SDR 35 PVC sewer main.
- *West 63<sup>rd</sup> Avenue Sanitary Sewer Replacement Project.* Project Manager and Design Engineer for 600 LF of 12-inch PVC with 130 LF bore under Federal Boulevard. Project included utility research and potholing, as well as coordination and approvals from Adams County and CDOT.
- *Goat Hill Phase IIB Waterline Replacement.* Project Manager and Design Engineer for 5,600 LF of 6-inch and 8-inch PVC water main and lateral tie-ins and 119 water services and meter pit relocations.
- *2009 Lowell Boulevard Water Main Replacement.* Project Manager and Design Engineer for the design and construction management of 4,500 LF of 8-inch PVC pipe, lateral tie-ins and services to replace an existing 50 year-old water main in a heavy traffic area.
- *2009 Water Main Replacement.* Project Manager and Design Engineer for 16,760 of 10-inch and 8-inch PVC water mains and lateral tie-ins and roughly 250 water services to replace existing 50 year-old lines in residential areas.
- *2008 Sewer Replacement Project.* Project Manager and Design Engineer for miscellaneous sewer pipe and manholes, in conjunction with Adams County.
- *2007 Water Main Replacement Project.* Project Manager and Design Engineer for the installation of 4900 LF of 8-inch PVC. This work includes reconstruction of portions of Pecos Street, south of I-36. Also, a Project Manager and Design Engineer for miscellaneous sanitary sewer replacements.



- *2006 Water Main Replacement Project.* Design, estimation, construction management and observation/inspection for 6,100 LF of 8-inch and 6-inch PVC water mains replace existing 50-year-old lines in residential neighborhoods.
- *2010 Pecos Street Grade Separation Project.* Project Manager and Design Engineer for the design and construction management of approximately 1,500 LF of a 20-inch Flex Ring locking DIP transmission main replacement, including 150 LF of 36-inch bore and casing under the Union Pacific Railroad.
- *2009 Sewer Rehabilitation Project.* Project Manager and Design Engineer for 11,500 LF of 8-inch cured-in-place pipe, 1,800 LF of 10-inch cured-in-place pipe, and 1,300 LF of 12-inch cured-in-place pipe.
- *2010 Sewer Rehabilitation Project.* Project Manager and Design Engineer for 13,000 LF of 8-inch cured-in-place pipe.
- *2008 Sewer Rehabilitation Project.* Project Manager and Design Engineer for 4,000 LF of 15-inch cured-in-place pipe and 1,200 LF of 18-inch cured-in-place pipe.
- *8-inch Waterline Plans and West 64<sup>th</sup> Avenue Improvements.* Project Manager and Design Engineer for the installation of 3,000 LF of 8-inch PVC in conjunction with roadway and drainage improvements to West 64<sup>th</sup> Avenue between Lowell Boulevard and Pecos Street.

#### **ROADWAY ENGINEERING**

- *Roadway Improvements for Kiowa-Bennett Road and East 72 Avenue, Albert Frei & Sons, Adams County, Colorado.* Project Manager for the design and construction plans for improvements to Kiowa-Bennett Road and East 72<sup>nd</sup> Avenue in Adams County, Colorado.
- *Deceleration and Acceleration Lane Design, Albert Frei & Sons, Adams County, Colorado.* Project Manager for the design and construction plans for a deceleration lane on East 88<sup>th</sup> Avenue and an acceleration lane for Monaco Street in Adams County, Colorado.
- *Roadway Improvements: Railroad Street, Town of Buena Vista, Colorado.* Project manager for roadway improvements, intersection re-design and drainage improvements.
- *Sheridan Bond Improvement Project (SBIP) Zone 1/1A, City of Sheridan, Colorado.* Design Engineer for 15,000 LF of roadway reconstruction and drainage improvements. The zone addresses immediate areas of concern within the City, specifically focusing on West Princeton Place, South Clay Street, South Irving Street and drainage concerns in the Bottoms drainage area.
- *2013 Bond Projects, Town of Buena Vista, Colorado.* Design Engineer for 15,000 LF of utility and roadways, including drainage studies.
- *West Oxford Avenue Reconstruction, City of Sheridan, Colorado.* Project Manager and Project Engineer for the design of 1,400 LF of a major collector road that included complete replacement from right-of-way to right-of-way.
- *Lowell Boulevard Improvements at Mountain Terrace, City and County of Broomfield, Colorado.* Project Manager and Project Engineer for widening Lowell Boulevard between 125<sup>th</sup> and 128<sup>th</sup> to the standard connector section. Work included a geotechnical assessment and pavement design report and a drainage study.

- *West 64<sup>th</sup> Avenue Improvements, Adams County, Colorado.* Project Manager and Project Engineer for the widening of 6,000 LF of roadway.
- *Street Rehabilitation Project, City of Dacono, Colorado.* Project Manager and Design Engineer for 31,000 LF of roadway water main, fittings and valves, fire hydrants, services, and new meters.
- *Quebec Street Improvements.* Project Engineer for redesign of Quebec Street between Alameda and 1<sup>st</sup> Avenue. Work included water, sewer and storm drain improvements for the corridor.
- *Tower Road Phase I and II, Denver, Colorado.* Project Engineer for the development of roadway plans for 16,000 ft of street improvements. Plans included storm, sanitary and waterline improvements. Responsibilities included coordination of 13 team members, sub-consultants, and coordination of all public agencies and utility companies.
- *Stonegate District Roads, Douglas County, Colorado.* Project Manager/Engineer for the development of roadway plans for 14,000 ft of street improvements. Plans included storm, sanitary and waterline improvements. Responsibilities included coordination of all sub-consultants, coordination of all public agencies and utility companies.
- *Starbird, 3<sup>rd</sup> and 4<sup>th</sup> Avenues, Gilcrest, Colorado.* Project Engineer for the development of horizontal and vertical alignment drainage improvements and grading for 1,000 LF of street improvements.
- *West 11<sup>th</sup> Avenue Court, Place and Drive, Broomfield, Colorado.* Project Engineer/Designer for the rehabilitation of 4000 ft. of existing streets and drainage problems.
- *Woodman Road and Academy Boulevard Redesign, Colorado Springs, Colorado.* Project Manager and Design Engineer for the design and drafting of construction drawings, coordinated and conducted pre-construction meeting, coordinated all field verification of existing utilities, coordinated with City and State entities prior to construction.
- *Trail and Parks Improvement Projects, City of Sheridan, Colorado.* Project Manager and Project Engineer for the design of 4,800 LF of pedestrian trails throughout the City.

#### **DRAINAGE STUDIES**

- *Country Club Ranch, Filing No. 2 Master Drainage Plan, Trinidad, Colorado.* Project Manager. Produced drainage study covering over 300 acres, identified 100-year water surface elevation, performed all hydrologic and hydraulic calculations.
- *Bromley Park Master Drainage Plan, Brighton, Colorado.* Project Engineer. Produced drainage study for 3,170 Acres. Performed all hydrologic and hydraulic calculations for study.
- *Hudson Master Drainage Plan, Hudson, Colorado.* Project Engineer. Performed hydrologic analysis, drafted drainage maps and wrote drainage plan.
- *Letter of Map Revision, Cottonwood Creek, Colorado Springs, Colorado.* Project Manager/Engineer. Performed hydraulic analysis, submitted all necessary forms to complete the letter of map revision in the vicinity of Rangewood Drive.
- *Van Buren Channel Renovation, Colorado Springs, Colorado.* Project Manager/Engineer. Prepared construction drawings and documents, coordinated/conducted pre-construction meeting, conducted bid opening, tabulated contractors bid packages, and performed construction inspections for 100 ft. of channel.

**LINCOLN PARK METROPOLITAN DISTRICT**

- *Lincoln Park Outfall Line.* Project Manager and Design Engineer for production of plans, specifications, and easements for 5,500 LF of 12-inch PVC pipe to service north portion of the District.
- *District Facilities Relocation.* Project Manager and Design Engineer for production of plans and specifications for 1,500 LF of 12-inch raw water line, 500 LF of effluent line, and a recirculation manhole to service the effluent pond and provide irrigation water for District open space.

**STONEGATE VILLAGE METROPOLITAN DISTRICT**

- *3.6 MG Water Storage Tank.* Project Manager and Project Engineer for coordinating with S.D.G. to produce plans and specifications for a 3.6 MG concrete tank and associated yard piping.
- *24-inch Water Line.* Project Manager and Project Engineer for production of plans and specifications for 9,220 LF of 24-inch water line. The water line supplies the 3.6 MG tank with water from existing facilities.
- *Sewer and Waterlines.* Project Manager for the development of utility plans for over 5,000 LF of sanitary sewer lines and 15,000 LF of water lines.

**AIRPORT ENGINEERING**

- *Juan Santamaría International Airport, San José, Costa Rica.* Project Manager/Engineer for design, rehabilitation, expansion of the loading ramp and associated taxiway designs.

**LAND DEVELOPMENT ENGINEERING**

- *Red Hawk Filing 3, Castle Rock, Colorado.* Project Manager for a 196-lot subdivision located in Castle Rock, Colorado. Project included several difficult aspects including encroachment on Town owned golf course, application for FEMA floodplain revision, mountainous terrain, and extensive coordination with adjacent developments for utility connections and design of interconnecting roadways.
- *King's Point Filing No. 2 and No. 4, Aurora, Colorado.* Project Manager/Engineer for 353 detached units on approximately 224 acres, including contextual site plan, final plat, and construction drawings. Design of streets, water distribution, sanitary sewer collection, storm sewer system, and a major drainageway improvement, including 3 drop structures. Filing No. 4 included 302 detached units on 269 acres, with significant drainage improvements and pedestrian bridge.
- *Anthology, Parker, Colorado.* Project Engineer for 3,000-acre master-planned development including up to 6,200 residential units, as well as various commercial development.
- *Mission Viejo, Highlands Ranch, Colorado.* Design Engineer for the single-family residential development for Filing 118G, including street plans, sanitary sewer systems and storm drain systems for 495 lots.
- *Filing 4 at Bromley Park, Brighton, Colorado.* Project Manager for the residential development for Filing 4, containing 44 lots. Plans included street drainage and utility improvements.



**CONSTRUCTION MANAGEMENT/ENGINEERING**

- *On-Call Construction Services for Denver Water.* Project Manager for various Denver Water rehabilitation projects.
- *On-Call Construction Services for City and County of Broomfield, Colorado.* Project Manager for construction inspection services for residential developments.
- *City and County of Denver, Colorado.* Received, logged, and analyzed calls from public concerning damaged curb, gutter and walk for the Curb and Gutter Replacement Program. Managing database using dBase IV and developing construction documents.
- *MCI, Phase VI, Buildings C & E, Colorado Springs, Colorado.* Performed all surveying required for the construction of these two buildings. Maintained a current "As-Built" set of drawings.

## **GARY E. WELP, P.E., CFM**

SENIOR PROJECT MANAGER



### **EDUCATION**

#### **B.S., Civil Engineering**

University of Colorado at Denver (1993)

### **PROFESSIONAL REGISTRATION**

**Registered Professional Engineer: Colorado**  
**Certified Floodplain Manager (CFM)**

### **PROFESSIONAL EXPERIENCE**

Mr. Welp has over 25 years of civil engineering design and management experience in master drainage studies, regional drainage, water systems, utility pipelines, and sewer interceptors, and residential and commercial subdivisions. Mr. Welp's responsibilities include hydraulic analysis, drainage studies, floodplain studies, development review, and design of drainage and municipal projects for the company. He is proficient in the use of Adobe Acrobat and Reader, AutoCAD, Haestad StormCAD, NeoUDSewer, HydroPond, CUHP, EPA SWMM 5.0, HEC-RAS, HEC-HMS, Haestad Culvertmaster and Haestad FlowMaster.

- *On-Call Engineer and Development Review, Town of Buena Vista, Colorado.* Project manager for providing on-call staff support services to the town. This includes all aspects of the development review process, from pre-application, engineering review, referral agency coordination, and applicant and developer correspondence. Managing the creation of a Development Handbook, which lays out the engineering standards for development within the town. Created Master Drainage Studies for both east and west of Highway 24. Provides review of applications within the town's floodplain.
- *Development Review, City of Littleton.* Project Manager. Assists the City's Public Works Department with the review of drainage reports, site development plans, subdivision exemptions, stormwater management plans, construction plans and erosion control plans. Prepares comment letters and PDF redline comments and attends meetings or site visits with applicants or their engineers.
- *District Engineer, Westridge Sanitation District, Jefferson County, Colorado.* Project manager for the design and construction management of annual improvements projects, and the administration of annual maintenance and videoing. This work also includes development review from the City of Wheat Ridge and review and construction administration for proposed commercial additions/improvements within the district.
- *District Engineer, Deer Creek Metropolitan District, Jefferson County, Colorado.* Project manager for the design and construction management of annual district maintenance projects, and the administration of storm sewer maintenance and videoing.

- *District Engineer, Highland Park Metropolitan District, Arapahoe County, Colorado.* Project manager for the maintenance of the district's pond systems and infrastructure.
- *District Engineer, Lincoln Park Metropolitan District, Douglas County, Colorado.* Project manager for engineering and construction management services for the district, including administration of and annual reporting for the district's MS4 permit.
- *Storm Drainage Improvements, Conservatory Metropolitan District, Arapahoe County, Colorado.* Project manager for the design and construction administration of storm drainage improvements to the district's Water Quality Control Ponds 6 and 7, including permitting through the City of Aurora.
- *2020 Water Distribution Project, East Alamosa Water and Sanitation District, Alamosa, Colorado.* Project engineer for the design of improvements to the district's drinking water distribution system and associated components, including 12,627 LF of 6" water main.
- *Asset Inventory Report, Town of Center, Colorado.* Project engineer for the creation of an asset inventory for the town. This report summarized the inventory, overall age, and condition of each of the capital assets owned and operated by the town. Provided prioritization of improvements and/or replacements of any aging, damaged or otherwise insufficient assets.
- *US 160 and SH 17 Intersection Project, East Alamosa Water and Sanitation District, Alamosa, Colorado.* Project manager for the design and construction management for the replacement of 675 LF of 8" sanitary sewer and four manholes. This work was completed in partnership with CDOT.
- *2019 Roadway Repairs Project, Lincoln Park Metropolitan District, Douglas County, Colorado.* Project manager for the transfer of ownership for all district roadways to Douglas County. This project included contract document creation and bidding, and construction administration for all improvements to the roadways, sidewalks, cross pans, and curb and gutter.
- *Access in CDOT Right of Way and Gravel Access Road Extension, Rio Grande County, Colorado.* Project manager for the design and construction administration of access to Flying W Ranch from State Highway 160 and extension of the gravel access road on the property. This included coordination with Colorado Department of Transportation (CDOT) for an Access Permit, Notice to Proceed and culvert installation and coordination with San Luis and Rio Grande Railroad Company for a railroad crossing.
- *RedHawk Filing No. 3, Phase 5, Castle Rock, Colorado.* Project manager for 29-lot subdivision within the Red Hawk Filing No.3. The project consists of roadway, sanitary sewer, water line design and regional detention pond improvements.
- *Legends Club Subdivision, Douglas County, Colorado.* Project Manager for the design and grading layout for a minor development with four single-family home lots. Provided construction drawings, a Phase III Drainage Report, grading, erosion and sediment control report and plans and coordination with Douglas County.
- *Elm Road Reconstruction, Brush!, Colorado.* Project Manager for the reconstruction of Elm Road to address drainage issues, provide paved roadway and ADA compliance for non-conforming sidewalks, handicapped ramps and crosspans.
- *Meadows Filing No. 20 Phase 2, Area 2, Plat Amendment 7, Oakwood Cluster West, Castle Rock, Colorado.* Project Manager for the re-plat and construction plans for 56 lots of residential cluster



homes within the Meadows No. 20 development. The project consisted of the re-use and development of previously installed infrastructure, adjacent to regional detention pond.

- *2013 Flood Mitigation, Nederland, Colorado.* Project Manager is providing the Town of Nederland design and construction management assistance for recovery from the 2013 flooding and coordination with FEMA in the contractual aspects of project funding. The project consists of removal of 2900 tons of material to restore road to pre-flood conditions and to also mitigate future flooding event by improving the drainage system and installing a series of new culverts.
- *Meadows Filing No. 20 Parcel D and E, Castle Rock, Colorado.* Project Manager for the re-plat and construction plans for 50 lots of residential cluster homes within the Meadows No. 20 development. The project consisted of the re-use of previously installed infrastructure, next to a community pool site.
- *Meadows Filing No. 20 Phase 1B and 2B, Castle Rock, Colorado.* Project Manager for the re-plat and construction plans for 137 lots of residential cluster homes within the Meadows No. 20 development. The project consisted of the re-use of previously installed infrastructure, a new park and new roadway layout.
- *East Alamosa Water and Sanitation District, Alamosa, Colorado.* Re-design, replacement and approval of the District's two primary lift stations and the proposed rehabilitation of the portions of the District's water system and sewer system.
- *Town of Buena Vista, Colorado.* Project Manager. Master Drainage Reports for the east side of the Town tributary to the Arkansas River and the west side of the Town tributary to Cottonwood Creek.
- *Berkeley Homes, Parker, Colorado.* 33 lot subdivisions. Construction management to facilitate construction and construction of sub-dividers for developer and new infrastructure and development in Parker, Colorado.
- *Massey Draw Erosion Mitigation Drainageway Restoration Project.* Project Manager. The project was the restoration of to major trail crossing in Massey Draw that had severely eroded. The mitigation included the installation of new culverts, grouted drop structure, grouted slope protection and site stabilization and re-grading. The project required coordination with ACOE, UDFCD, Jefferson County and the Foothill Park and Recreation District.
- *Development Plan for Colorado Motor Sports Park in Deer Trail, Colorado.* Project Manager. The development plan studies 243 acres of on-site proposed raceway, enclosed grandstands and 2000 space parking lot that included developed and undeveloped areas off-site as it may impact regional detention ponds.
- *Redhill Forest POMWACA PER and EA, Fairplay, Colorado* Project Manager. The Study covers the entire subdivision and the securing funding through USRDA for the replacement of 40-percent of the water lines that were incorrectly installed and froze on a regular basis.
- *East Alamosa Water and Sanitation District Capital Improvement Master Plan.* Project Manager. The Study the entire district and studies the conditions of the water lines, sewer lines and lift station to provide a program of maintenance and replacement of aging infrastructure within the District.
- *McCully and Schell Floodplain Analysis, Weld County, Colorado* Project Manager. The Study provide analysis of the existing and proposed floodplain and established a floodway for approximately two miles of Boulder Creek near WCR 20 ½.

- *Master Drainage Study for High Plains Raceway, Colorado Amateur Motor Sports Association.* Project Engineer. The Study encompassed 900 acres of on-site proposed raceway developed and undeveloped off-site as it may impact regional detention ponds and a major drainageway.
- *Bond Park Phases I and III, Estes Park, Colorado.* Project Manager. This project included: storm sewer, channelization and infiltration system; underground conduit bank for irrigation control wires, utilities, fiber options, and electrical system; replacing asphalt pavement; eliminating curb and gutter; 3-foot high rock boulder bollards, curvilinear roadway, sidewalks, and planters.
- *20-Mile Regional Detention Pond, Parker, Colorado.* Project Engineer. Designed, performed modeling and coordinated the 50 ac-ft storm detention facility for the Urban Drainage and Flood Control District and the Town of Parker.
- *Sulphur Gulch Drainageway Improvements, Parker, Colorado.* Project Manager/Engineer. Performed hydraulic and HEC-RAS analysis for extensive improvements at the confluence with Cherry Creek. The project was in Prebles Jumping Mouse habitat and required environmental permitting. Also performed construction services for this project.
- *CLOMR and LOMR – 6400 South Tributary, Castle Rock, Colorado.* Project Manager/Engineer. Performed hydraulic and HEC-RAS analysis needed to complete the conditional letter of map revision for the Red Hawk subdivision.
- *Zone 3 High-Pressure 30-inch Water Transmission Pipeline – Parker Water and Sanitation District, Parker, Colorado.* Project Manager for 49,000 LF of 30-inch water transmission main. High-pressure (300 psi) transmission main connecting two separate 5 MG tanks to the water system via pressure-reducing vaults. The project required design and construction within limited rights-of-way, two major roadway bores, and river crossings at Cherry Creek and Oak Gulch. Coordinated with geotechnical and environmental sub-consultants, and utility companies.
- *West Interceptor – Parker Water and Sanitation District, Parker, Colorado.* The West Interceptor is a 14,000 LF 30-inch to 18-inch sanitary sewer along the banks of Cherry Creek in Douglas County. In addition to the design function, the project was in Prebles Jumping Mouse habitat and required extensive environmental permitting.
- *General Engineering Services, Deer Creek Metropolitan District, Highland Park Metropolitan District, Green Valley Metropolitan District.* Project Manager for general services regarding metropolitan district operation. Duties include planning, estimating anticipated capital expenditures, fee optimization, and project oversight for construction of major facilities within the District.
- *20 Mile Effluent and Raw Water Lines, Phase I & II, Town of Parker and Urban Drainage and Flood Control District.* Project Engineer. Produced plans and specifications for effluent and raw water lines consisting of 23,000 LF of 16-inch pipe, 3,000 LF of 24-inch pipe and 2,000 LF of 12-inch pipe. Facilities interconnect the wastewater treatment plant and proposed well facilities to the existing effluent pond.

#### **DRAINAGE ENGINEERING**

- Storm Drainage Improvements, Conservatory Metropolitan District, Arapahoe County, Colorado
- RedHawk Filing No. 3, Phase 5, Town of Castle Rock, Colorado
- Legends Club Subdivision, Douglas County, Colorado
- Meadows Filing No. 20, Upland Park, Town of Castle Rock, Colorado
- Meadows Filing No. 20, Amendment 7, Town of Castle Rock, Colorado

- Meadows Filing No. 20 Casing Pipe
- Meadows Filing No. 20 – Phases 1 to 4
- Meadows Filing No. 20 Phase IB, Town of Castle Rock, Colorado
- Meadows Filing No. 20, Town of Castle Rock, Colorado
- Meadows Town Center, Town of Castle Rock, Colorado
- Bromley Park Storm Drainage Master Plan – Channel and Detention Design, Bromley Park
- Final Drainage Study for Bromley Park Filing No. 4, Filing 101, and Filing 203, City of Brighton
- Phase III Drainage Study for Stonegate Roads Phase I & II, Douglas County
- Trinidad Master Drainage Plan and Major Channel Analysis, City of Trinidad
- Highlands Ranch Filing No. 118, 118L, 118K, 134, and Floodplain Study, Douglas County
- Highlands Ranch Golf Course Clubhouse, Douglas County
- Longs Way Tributary Regional Detention Pond Design and Specifications
- Cottonwood OSP Basin Mapping, Town of Parker
- Coal Creek Floodplain Mapping, Town of Superior

**TECHNICAL MANUAL REVIEW AND MANUAL REVISION FOR SEVERAL MUNICIPALITIES IN COLORADO:**

- Town of Parker, Storm Drainage and Environmental Criteria Manual
- Town of Parker, Trails, Parks, and Open Space Manual
- Town of Hudson, Drainage Manual
- Town of Dacono, Drainage and Construction Manual
- City of Trinidad, Storm Drainage Design Criteria Manual
- Town of Superior, Storm Drainage Design Criteria Manual
- Clear Creek County, Standard and Criteria Manual
- City of Leadville, Criteria and Construction Standards
- City of Littleton, Storm Drainage and Criteria Manual

In the Denver area, Mr. Welp has also aided in the preparation of numerous drainage studies for Highlands Ranch, Cross Creek, Red Hawk, Meadows, Colorado Technical Center and Bromley Park.

**TECHNICAL DEVELOPMENT REVIEW FOR MUNICIPALITIES IN COLORADO:**

Mr. Welp assists with on-call development review services to a wide variety of municipalities and special districts. He is well versed at reviewing land development documents, drainage and erosion control plans and reports, and floodplain applications. He has or is currently providing development review for the following municipalities:

- |  |                                 |
|--|---------------------------------|
| • City of Brighton                       | • Town of Dacono                |
| • City of Brush!                         | • Town of Buena Vista           |
| • City of Leadville                      | • Town of Gilcrest              |
| • City of Littleton                      | • Town of Hayden                |
| • City of Sheridan                       | • Town of Kersey                |
| • Clear Creek County                     | • Town of Lochbuie              |
| • Grand County                           | • Town of Parker                |
| • Lincoln Park Metropolitan District     | • Town of Red Cliff             |
| • Paintbrush Hills Metropolitan District | • Town of Superior              |
| • Rio Grande County                      | • Westridge Sanitation District |
| • Town of Bennett                        |                                 |



**Joy McGEE, AICP**  
PLANNING PROJECT MANAGER



**EDUCATION**

**Masters Work in Architecture**  
University of Colorado at Denver

**Bachelor of Environmental Design**  
University of Colorado Boulder

**German Architectural Studies**  
University of Regensburg, University of Munich and University of Stuttgart

**PROFESSIONAL REGISTRATION**

**American Institute of Certified Planners (AICP)**

**PROFESSIONAL EXPERIENCE**

Ms. McGee has extensive experience as a land use and planning professional with Colorado municipalities. She has a deep knowledge base of best practice planning methods and experience in the interpretation of land use, zoning, and subdivision code sections for the review of development applications. She has handled the referral process for many municipalities and has experience with special districts.

Ms. McGee has or is currently providing on-call development review services for the following municipalities:

- Town of Buena Vista
- Town of Center
- Town of Grand Lake
- Town of Kiowa
- Town of Lochbuie
- Town of Palmer Lake
- Town of Poncha Springs
- City of Brush!
- City of Leadville
- *City of Leadville, Colorado.* Planning consultant to provide on-call development review services. Assisting with code revisions to reduce conflicts within their municipal code, including short-term rentals and accessory dwelling units.
- *Town of Buena Vista, Colorado.* Planning consultant to provide on-call development review services. Attends weekly development review team meetings, manages referral agency process and is working with town staff to create a more efficient development review process. Assisting with the preparation of the Development Standards Handbook, which lays out the planning and engineering standards for development within the town. Assisting with code revisions for clarity on process items and the removal of unnecessary development standards.

- *Town of Lochbuie, Colorado.* Planning consultant to provide expertise for development proposals. Conduct pre-application meetings with developers and work with town staff members in the review of new subdivision and commercial retail projects.
- *City of Greenwood Village, Colorado.* Planning manager for the land use entitlement approval process, metropolitan district interface, long-range planning and planner-of-the-day functions, Master Development Plan and redrafting of the Land Use Development Code.
- *Reutzel and Associates, LLC.* Project manager for real estate entitlement application processing and provided planning oversight on development cases and codes.
- *City of Aurora, Colorado.* Project Manager in the Office of Development Assistance, managed land use development review projects and city department coordination.
- *The Transit Expert.* Transportation Planner, prepared transportation planning documents, presentation graphics and maps, Community Sustainability Assessments, and assisted with funding and network design of transit services.
- *Peak Investments Corporation.* Vice President for Planning, managed entitlement process applications and FDIC construction status and assessments.
- *City of Steamboat Springs, Colorado.* Acting Planning Director, managed the planning department for the city, development review, Comprehensive Plan Update, and the Recreational Trail Plan.

## **ERNIE KERN, P.E., LEED AP**

CIVIL ENGINEERING MANAGER AND BUILDING OFFICIAL



### **EDUCATION**

**B.S., Civil/Environmental Engineering and Construction Administration**  
University of Wisconsin (1974)

### **PROFESSIONAL REGISTRATION**

**Registered Professional Engineer:** Colorado, Wisconsin

### **PROFESSIONAL EXPERIENCE**

Mr. Kern has 45 years of professional civil engineering experience working for consulting engineering firms and municipalities. He has served in capacities ranging from construction inspection, plan review, and engineering design through project management. He has also completed retrofit designs to alleviate problems in developed areas due to unforeseen growth or inadequate design. Mr. Kern has completed design and project management for various types of engineering projects, including residential and commercial subdivisions; water distribution systems, pump stations, and storage facilities; wastewater collection systems and lift stations; street improvements; and drainage systems, including channels, culverts, drop structures, storm sewers, and detention facilities.

### **MUNICIPAL ENGINEERING**

- Building Department Services: Town of Superior, Colorado, City of Dacono, Colorado, Town of Hudson, Colorado, City of Golden, Colorado, City of Edgewater, Colorado, City of Lafayette, Colorado, Park County, Colorado
- 24<sup>th</sup> Avenue And Sheridan Boulevard Water Line Replacement, City of Edgewater, Colorado
- Pavement Management System Rating, City of Denver, Colorado
- 22<sup>nd</sup> Avenue Rehabilitation, 17<sup>th</sup> Avenue Rehabilitation, City of Edgewater, Colorado
- 30-Inch Ashland Drain Rehabilitation, City of Edgewater, Colorado
- 600-Acre Drainage Study and Design, Stonegate Village Metropolitan District, Douglas County
- Drainage and Erosion Control Plan, Bramalea – 155-Acre Mall Site, Brighton, Colorado
- Grading Plan and Earthwork, Stonegate Village Metropolitan District – 360-Acre Mixed-Use Development, Arapahoe County, Colorado
- Grading Plan and Earthwork, Dawson Ridge – 280-Acre Mixed Use Development, Douglas County
- Storm Drainage Detention Facilities, E-470 Public Highway Authority, Douglas County
- Tower Road Design, Denver International Airport, Colorado
- Apron and Roadway Grading, Hayden Centennial Airport, Colorado
- Master Drainage Study, Dawson Ridge – 1,700-Acre Development, Town of Castle Rock
- Dawson Boulevard, 2 Miles, Dawson Ridge Subdivision, Castle Rock, Colorado
- 2<sup>nd</sup> Avenue Bridge, Town of Superior, Colorado



## JORDAN SCHNEIDER, P.E.

PROJECT ENGINEER



### EDUCATION

#### **B.S. Civil Engineering**

University of Wyoming, Laramie, WY

### PROFESSIONAL REGISTRATION

#### **Registered Professional Engineer**

Colorado

### PROFESSIONAL EXPERIENCE

Mr. Schneider has five years of civil engineering experience, including: drafting construction documents and plan sets, basic design calculation, development review, and construction inspection for sewer and water line installation, wastewater treatment plant improvements, sewer lift station improvements, and vault improvements. He is proficient in AutoCAD Civil 3D, Adobe Photoshop, Bluebeam Revu, Bentley WaterCAD, and Microsoft Office. He also has experience with ArcGIS, Microstation, Matlab, SpecsIntact, and Solid Works.

#### KEY PROJECT EXPERIENCE

- *2021 Water Main Capital Improvements Project, East Alamosa Water and Sanitation District, Alamosa, Colorado.* Design/Project Engineer. Drafted a capital improvements plan set for approximately 10,000 LF of water main for the East Alamosa Water and Sanitation District. Coordinated with the District, subsurface utility contractor, and surveyor to develop preliminary base mapping and determine proposed alignment for new waterline in AutoCAD.
- *Maple Grove Park Irrigation Water Bypass, Prospect Recreation and Park District, Wheat Ridge, Colorado.* Design Engineer. Evaluated design survey for the feasibility of rerouting an irrigation water supply to a roadside drainage swale. Drafted construction plans for the installation of piping and a construction cost estimate.
- *Water Quality Pond #6 Improvements Project, Conservatory Metropolitan District, Aurora, Colorado.* Design Engineer. Preliminary plan and profile design for the extension of an existing storm pipe and concrete FES outlet, per Aurora Water Storm Drainage Infrastructure Standards.
- *Planned Development Disinfection System for Well, Town of Buena Vista, Colorado.* Design Engineer. Drafted well disinfection system piping, appurtenances, and details for a proposed development in Buena Vista, Colorado.
- *DCIP 2021 Water Main Replacement, Platte Canyon Water and Sanitation District, Jefferson County, Colorado.* Design Engineer. Corresponded with subsurface utility contractor to develop existing utility base mapping and environmental consultant to meet Clean Water Act Section 404 compliance for the relocation of a water line across Lilley Gulch.

**PREVIOUS EXPERIENCE**

- *Engineer I, Calibre Engineering, Inc.* Designed the irrigation and potable water systems for single-family, mixed-use, and commercial-use developments using WaterCAD. Drafted roadway, storm, potable water, irrigation water, sanitary sewer, and erosion and sediment control drawings for PUD developments and U.S. Military improvement projects using AutoCAD. Prepared a storm water pollution prevention plan for a Squadron Operations Facility at the Cannon Air Force Base in New Mexico. Using National CAD Standards, prepared construction drawings for the demolition of outdated buildings at the Omaha, Nebraska VA Medical Center. Drafted water plans and overall utility plans per Denver Water Standards.
- *Staff Engineer, TST Infrastructure, LLC.* Drafted construction documents, drawings, and specifications for design-bid-build construction projects in various water and sanitation districts. Produced preliminary design reports, feasibility studies, GESC reports, location and extent requests, county permit requests, engineering cost estimates, change orders, pay requisitions, project closeout documents, as-built drawings, and other construction project related tasks. Reviewed product submittals, pay applications, RFIs, and CORs. Inspected the installation of sewer and water lines, wastewater treatment plant improvements, sewer lift station improvements, vault improvements, and corresponded daily with the contractor, operator, and owner. Led pre-bid, bid opening, pre-construction, and weekly progress meetings for construction projects.
- *Civil Engineering Intern, HDR Engineering, Inc.* Compiled Project Manuals, construction agendas, and plan sets, reviewed quantity requirements, bid tabulations, daily and monthly progress reports, and wrote letters to city officials and contractors, inspected construction projects, attended city council meetings and weekly contractor meetings, and surveyed job sites. Used Civil 3D to calculate quantities of specific project items and updated sheets in a sheet set.

## KARL KLUGE

SENIOR DESIGN ENGINEER, SENIOR CONSTRUCTION MANAGER AND SENIOR CONSTRUCTION OBSERVER



### EDUCATION

**B.S.E.T., Civil Engineering Technology, Structural Option**

Wentworth Institute of Technology (1980)

**A.E., Civil Engineering Technology, Construction Option**

Wentworth Institute of Technology (1978)

### REGISTRATION

**WASH-Erosion Control Certification Training**, Boulder County (2006, 2009)

**Certificate, Basic Principles of Occupational Safety**

Southern Maine Technical College (1998)

Completed Auto CAD 2D and 3D courses  
Southern Maine Technical College (1997)

Complete Civil 3D Fundamentals (2016)  
Comm-Tech – Auto Desk Training Center

**PCI-Precast/Prestressed Concrete Institute Technician/Inspector**

Level I & II (1992)

### PROFESSIONAL EXPERIENCE

Mr. Kluge has spent the last 21 years with RGA as a design engineer, AutoCAD technician, construction manager, and senior construction observer of water, sanitary and storm sewer utilities, street construction, water tanks, diversions dams, bridges, water and wastewater treatment facilities, effluent pond lining, CIPP lining, storm water structures and erosion control features. Responsibilities include contract document composition, administration and compliance, project layout and design, plan review, development review, including FDP, plats and easements, construction and engineering cost estimates, bidding services, pay applications and change order processing, daily documentation, standard and detail updating and coordinating construction to final completion and warranty acceptance.

Mr. Kluge has provided field engineering and design for projects with budgets over \$10 million and specializes in reinforced concrete, precast/pre-stressed and post tensioned concrete, structural steel, pressure piping and supports, prefabricated metal buildings, drilled piers and caissons, precast piles, steel H and sheet piles, soil densification, pressure grouting, foundations and retaining walls, historic and industrial building restoration, timber and masonry building and bridge construction.



**WATER TRANSMISSION**

- *2021 Water Main Capital Improvement Project, East Alamosa Water and Sanitation District, Alamosa, Colorado.* Design engineer for the design of improvements to the district's drinking water distribution system and associated components, including 12,627 LF of 6" water main.
- *2020 DCIP Water Main Replacement Project, Southwest Metropolitan Water and Sanitation District, Littleton, Colorado.* Design engineer and construction administrator for the replacement of 1500 LF of water main replacement.
- *2020 DCIP Water Main Replacement Project, Platte Canyon Water and Sanitation District, Littleton, Colorado.* Design engineer and construction administrator for the replacement of 3,681 LF of water main with 6" PVC and 1,005 LF of water main replacement with 8" PVC.
- *2019 DCIP Water Main Replacement Project Southwest Metropolitan Water and Sanitation District, Littleton, Colorado.* Design engineer and construction administrator for the replacement of 755 LF of 12" PVC, 60 LF of 6" PVC and 262" LF of 4" PVC water mains.
- *2020 Depew Water Street Replacement Project, Platte Canyon Water and Sanitation District, Littleton, Colorado.* Design engineer and construction administrator for the replacement of the existing waterline under the Depew Street Bridge, between West Canyone Drive and West Elmhurst Avenue.
- *2019 DCIP Water Main Replacement Project, Platte Canyon Water and Sanitation District, Littleton, Colorado.* Design engineer and construction administrator for the replacement of 2,313 LF of 8" PVC and 1,093 LF of 6" PVC water mains.
- *2018 Water System Improvements, Buena Vista, Colorado.* Design Engineer on 4 fire hydrant additions to the system, 410 LF of new 6" DI pipe water line and 750 LF of replacement of existing water line with 6" DI pipe. Work included 21 water service re-connections, curb, gutter and sidewalk replacement, and 3,600 SY of asphalt pavement.
- *2018 S. Pierson Street Water Main Replacement Project, Southwest Metropolitan Water and Sanitation District, Littleton, Colorado.* Design Engineer, Field Engineering, and on-call observer for the replacement of 960 LF of 8" water main with 3 water main and 23 water service re-connections. The work was subjected to Denver Water approval. Miscellaneous other projects included a 4" air vent and vault replacement, a water main connection that consisted of 10", 12", and 16" asbestos pipe (ACP) removal and replacement, fitting and gate valve installations. The project included asphalt patching, milling and street overlay in accordance with Jefferson County.
- *2018 6<sup>th</sup> Avenue Water Line Improvement, Monte Vista, Colorado.* Design Engineer for replacement of existing waterline, connections, gate valves in an intersection and adjoining side streets.
- *2016-2017 Water System Improvement Projects, Buena Vista, Colorado.* Designer of water line additions, upgrades and replacements within the town. Work deals with CI pipe and subgrade mixed in with boulders.
- *2015 Water and Sanitary Sewer Main Replacement Project, Crestview Water and Sanitation District, Adams County, Colorado.* Designer, Contract and Construction Manager for 3,800LF of 8" and 6" PVC water mains replacement with multiply tie-ins to a 10 "water main and 97 water service reconNECTIONS. 950LF of 12" sanitary sewer main replacement, bypass pumping, existing sewer line removal and reconnecting 15 sanitary sewer services. MH removal, replacement and lining. 5000 SYs of removal and patch paving. Street roto-milling and a 2" Sx overlay. Miscellaneous concrete sidewalk replacement

- *January 2015 - June 2015, Estes Park, Colorado.* Construction Manager and Senior Construction Inspector for flood damage repair projects. Projects included retaining walls and rip rap replacement in Fall Creek and miscellaneous asphalt pavement and concrete replacement projects thought out the Town of Estes Park. Projects follow CDOT, FEMA and FHWA standards.
- *April 2013 - December 2014, City and County of Broomfield, Colorado.* Inspector. Part Time County Inspector of developments located in Broomfield County. Inspected sanitary sewer, water, storm lines and structures, and street construction projects. Structures included pond inlets and outlets features, CDOT wing walls, box MHs, inlets and precast box culverts. Inspected over lot grading, subgrade and road base to streets, asphalt pavement, along with curb, gutters and sidewalks and trails.
- *2012-2015 Eagle P3 Fastracks- Northwest Rail Electrified Segment, Denver Transit Partners/Crestview Water and Sanitation District, Adams County, Colorado.* 2012- 2015. Design Reviewer, Construction and Contract Representative for CWSD and Coordinator with DTP/CWSD on 20"and 14" water main and 21" and 15" sanitary sewer main relocations from the proposed electrified rail systems. Miscellaneous items included 980LF of 36" borings and casings for water and sanitary line crossings under creeks and railroad ROWs; landfill relocation for water and sanitary line crossings and a 20" water line crossing above Clear Creek by suspending the water line/casing from an existing 4 span precast concrete bridge.
- *Trailside Academy, Crestview Water and Sanitation District, Adams County, Colorado.* 2018-2019. Design reviewer and on call Field Engineer for sanitary sewer and water main connections and services into the school property. Reviewed architecture and landscape plans.
- *Midtown Development, Filing 1, 2, 3, 4, 5, 6, 7 & 8, Crestview Water and Sanitation District, Adams County, Colorado.* 2013-Present. Design reviewer for the District. Review of the construction water and sanitary sewer plans supplied by the developer. Developed the review and comment letter for correction to the Developer's engineer.
- *2014 Water Main Replacement, Schedule A & B, Crestview Water and Sanitation District, Adams County, Colorado.* Contract and Construction Manager, and Senior Construction Observer for 800LF of 16" and 820LF 6" PVC water mains with multiply tie-ins, including a 16" tie in to a 3.25MG steel water tank and 11 water service reconnections. Miscellaneous items included 1,000 SY of temporary and permanent asphalt patching, painting and weld inspections. Designer of the tank connection.
- *2013 Water Main Replacement, Schedule A & B, Crestview Water and Sanitation District, Adams County, Colorado.* Designer, Auto Cad Reviewer, Contract and Construction Manager, and Senior Construction Observer for 3,600LF of 20", 14", 12", 10", 8" and 6" PVC water mains with multiply tie-ins and 103 water service reconnections. Miscellaneous items included 6,000 SY of temporary and permanent asphalt patching. Work started in the winter and continued to the summer of 2013.
- *2012 Goat Hill Phase 2B Water Main Replacement, Crestview Water and Sanitation District, Adams County, Colorado.* Water main designer, Construction and Contract Manager and Coordinator with Adams County. Contract reviewer and Senior Construction Observer for 5,500 LF of 8" and 6" PVC water main, tie-ins and 123 water services relocations to replace an existing 50-year-old CI water main in a residential neighborhood under complete street replacement and storm water system improvements.
- *2011 Water Main Replacement, Crestview Water and Sanitation District, Adams County, Colorado.* Designer, Contract and Construction Manager and Senior Construction Observer for 5,600 LF of 8' and 6" PVC water main and tie-ins and 106 water services to replace an existing 50-year-old CI water main in a residential neighborhood.

- *2010 Pecos Street Grade Separation 20" Water Transmission Main Replacement, Crestview Water and Sanitation District, Adams County, Colorado.* District Design Reviewer, Contract and Construction Manager, and Senior Construction Observer for 1,130 LF of 20" DI-restrained water main for relocation around a County Grade Separation over the Union Pacific, Burlington Northern, and Santa Fe Railroads. The 20" water main project includes 150 LF of 36" bore and casing under the railroad ROW and 4 unique tie-ins each completed within 8 hours to have the existing main back in service. Project was completed in April of 2011 due to phasing.
- *ARRA and DOLA 2009 Water Main Replacement, Town of Kremmling, Colorado.* Designer, Senior Construction Observer. Performed construction management, administration, on-call problem-solving, and inspection for 22,000 LF of 8" PVC water main, tie-ins, and 260 water services to replace an existing 50-year-old water system and street pavement replacement. Unique features of this project were the unknown locations of the existing 4" and 6" CI waterlines and appurtenances.
- *2009 Water Main Replacement, Schedule A and B, Crestview Water and Sanitation District, Adams County, Colorado.* Senior Construction Observer. Performed construction management and administration services, inspections, daily documentation, and problem-solving for 5,900 LF of 10" and 8" PVC water main and tie-ins and 96 water services to replace an existing 50-year-old line in a residential neighborhood.
- *Lowell Boulevard Water Main Replacement, City of Westminster, Colorado.* Construction Manager and Senior Construction Observer for the replacement of an existing 60-year water main with 1,400 LF of 12" PVC pipe. Miscellaneous items included a valve vault, water services, directional bore, and paving for the trench and street.
- *2009 Lowell Boulevard Water Main Replacement, Crestview Water and Sanitation District, Adams County Colorado.* Construction Manager and Senior Construction Observer/Inspector for 4,300-LF of 8" PVC pipe, lateral tie-ins and services to replace an existing 50-year water main on a heavily travelled boulevard that was under construction for street, sidewalk and storm sewer replacement by another contractor.
- *20-Mile Road Effluent and Raw Waterlines, Parker Water and Sanitation District, Colorado.* Senior Construction Observer for 11,600 LF of dual 16" PVC Effluent and 5,500 LF of 24", 16" and 12" PVC Raw Waterlines. Miscellaneous items included 600 LF of 54" diameter tunneling and casing under existing streets.

#### **UTILITIES/TREATMENT/COLLECTION**

- *2019 South Sheridan Boulevard Sanitary Sewer Main Replacement Project, Platte Canyon Water and Sanitation District, Littleton, Colorado.* Design engineer and construction administrator for the removal of 300 LF of 16" sewer line, installation of 300 LF of 15" sewer line, two existing manhole connections, and 4 4" sewer services.
- *2018 Collection System Improvements Project, Monte Vista, Colorado.* One of the design engineers that worked on sanitary sewer video evaluation for 12,000 LF of 6", 8", 10", and 15" lines for CIPP lining with 186 re-established service connections. Work also included 41 manhole rehabilitation and point repairs. Established a usable city base map of the collection system.
- *2018 W. Parkhill Avenue Sanitary Sewer Main Replacement, Southwest Metropolitan Water and Sanitation District, Littleton, Colorado.* Designer and on-call field engineer and observer of existing 225 LF of 12" VC pipe removal and replacement. Project included asphalt trench patching, milling and street overlay.



- *2018 Annual Cleaning and Videoing and 2018 Annual Root Cutting, Applewood Sanitation District, Jefferson County, Colorado.*  
Design Engineer for establishing contract documents and plans/exhibits for bidding. Work continued into construction management and evaluation of videos to update the overall system conditions spreadsheet used to determine the following annual maintenance schedule. Also established manhole observation data sheets for individual manhole evaluation and record.
- *2018 Sanitary Sewer Line Excavation, Point & CIPP Repair, Applewood Sanitation District, Jefferson County, Colorado.* Design Engineering, Construction Manager & Observer for 5 point repairs on sanitary sewer lines and manhole. Work included 4,600 LF of cured-in-place (CIPP) pipe with service reconnections. The work was established from annual system status report, from yearly videos reviews.
- *2018 Sanitary Sewer Rehabilitation, Columbine Water and Sanitation District, Littleton, Colorado.* Design Engineer for 6,600 LF of 8" cured-in-place (CIPP) pipe with 79 services to be reestablished. Work included evaluation of 31 brick manholes and specifying lining rehabilitation.
- *2017, 2018, Applewood Sanitation District, Golden, Colorado.* Perform engineering, plan review, contract document and bid composition for maintenance of the sanitary sewer system. Revise and update District standards and details. Also, the Locate Technician for daily locate requests.
- *2017 Capital Improvement Project, Applewood Sanitation District, Golden, Colorado.* Designer, Construction Manager and Observer for sanitary sewer point repair and CIPP/slip-lining project.
- *2017, 2018 On Call Engineering, Observation and Development Review, Crestview Water and Sanitation District, Adams County, Colorado.* Development reviews and observation of sanitary and water facilities based off Crestview Water and Sanitation District standards. Provided engineering development of standards and details.
- *2016-2017, Wastewater Treatment Plant Rehabilitation, Fairways Metropolitan District, Boulder, Colorado.* Construction management and observation for the rehabilitation of a 0.17 MGD wastewater treatment plant, tertiary filtration and effluent lift station project. Project included sludge removal, pond grading, synthetic lining and reconstruction of piping and diversion vaults at 2 lagoons, a wetland and a settling pond. Also, work included the construction of the foundation and the pre-engineered/fabricated steel building, preformed payroll verification, interviews, pay application and change order processing.
- *2016 Water Storage Improvements, Jamestown, Colorado.* Construction management and inspection for the complete removal of interior paint and the repainting of a .15MG steel water tank and interior spot coating repair of a .070 MG steel water tank. All coating and disinfection in accordance with AWWA. Also, preformed pay application and change order processing. Work included management of cleaning and disinfection during subfreezing temperatures and coordination with the town.
- *2014, Long Lake Feeder Ditch Diversion Structure Replacement, Denver Water, Denver, Colorado.* On call structural inspector of a steel reinforced concrete diversion dam.
- *Semper Water Treatment Plant Sedimentation Basin Buildings, City of Westminster, Colorado.* Senior Construction Observer and Special Inspector for the construction of two (2) 7,500 SF pre-engineered metal buildings over existing concrete sedimentation basins. Duties included the inspections of the special epoxy paint over the structural steel and the unique HVAC system to minimize the humidity.

- *40 MG Effluent Pond Relining, Stonegate Village Metro District, Parker, Colorado.* Senior Construction Observer for the relining of the pond with a sandwiched liner below the subgrade.
- *93<sup>rd</sup> and Wadsworth Parkway Interceptor, City of Westminster, Colorado.* Senior Construction Observer for 220 LF of 30" diameter boring and casing and the relocation and improvement to 350 LF of an existing 10" sanitation sewer line.
- *Cherry Creek Diversion Dam, Parker Water and Sanitation District, Parker, Colorado.* Senior Construction Observer/Inspector for a 300' inflatable diversion dam to divert raw water into a pump station to provide water to the Rueter-Hess Reservoir. Construction consisted of subgrade improvements by vibratory installed stone columns, sheet piles, a 30' x 300' concrete apron for the inflatable dam, a 20' retaining and wing walls, a bypass sluice area, grouted rip rap armor, and site restoration in compliance with the Army Corp. of Engineers, with special environmental conditions present. Main duties included the observation and inspection.

#### **TRANSPORTATION – PAVING – STREET MAINTENANCE**

- *2018 Birch-Stockton Intersection Project, Gilcrest, Colorado.* One of the designers, reviewers, and construction managers for street, curb and gutter rehabilitation.
- *2016 Town Square Park, Jamestown, Colorado.* Construction management and observation for a central park in the town. Work included observations on concrete foundations and features along with timber retaining walls, trimming, fencing and a timber pavilion.
- *2016 Jamestown Roadway Rehabilitation, Jamestown, Colorado.* Construction management and inspection for roadway rehabilitation after the waterline replacement project. Processed change orders and payment applications.
- *2013 Flood Damage Repair, Town of Estes Park, Colorado. 2013-2015.* Design and Contract Reviewer and on call Senior Construction Observer of the repairs to the structural retaining walls, boulder features in streams, pavement repairs and road construction.
- *City and County of Broomfield, Broomfield Colorado, 2013-2015.* Senior Construction Observer of all public improvements in 9 developments within the City and County ROWs, including sanitary sewer, water, storm sewer, services, curb-gutter, trails, concrete structures and asphalt pavement.
- *Hamilton Place Bridge Feasibility and Construction Cost Study, City of Sheridan, Colorado. 2012 & 2014.* Engineer on the research and cost analysis for the feasibility of rehabilitation of a 2-100' span precast girder bridge constructed in 1965 crossing the S. Platte River.
- *River Point at Sheridan Subdivision, City of Sheridan, Colorado and Sheridan Redevelopment Agency, 2008-2013, Bi Annual Inspections.* Senior Construction Observer and representative of the City and SRA for the inspection of the maintenance and repairs by the Developer of storm and sanitary sewers, roadways, ROW features, detention ponds and drainage swales for Initial and Final Acceptance of a Commercial Development over the former Arapahoe County Landfill.
- *Bear Creek Pedestrian Bridge Replacement, City of Sheridan, Colorado, 2012-2013.* Researcher, Designer, Construction Manager and Senior Construction Observer for the removal and replacement of a 38 years old double tee pedestrian/fork lift loaded bridge with a pre-engineered/fabricated 10' x 70' steel truss bridge with vehicle loading. The deficient bridge was identified and grant money was obtained. Coordinated the temporary relocation of utilities in two phases while the piles were driven and abutments were poured. Final bridge placement and concrete work occurred during the winter and special concrete practices were recommend by RGA and implemented for the completion in the end of January 2013.

- *88<sup>th</sup> Street and Rock Creek Parkway Roundabout, Town of Superior, Colorado.* Construction Manager and Senior Construction Observer for the removal of a four (4) and 2-lane signalized intersection with a 130' inner circle, 2-lane roundabout with a truck apron, retaining wall, drainage improvements, pattern pavement cross walks, curb, gutters, bike ramps, striping and signage, landscaping, and street lights.
- *Stonegate Market Roads, Phase 3 and Phase 4, Parker, Colorado.* Construction Manager and Senior Construction Observer for subgrade preparations, over excavation, curb gutter and sidewalk concrete paving, asphalt paving, striping and signage, and site restoration for 2,100 LF of District roadways.
- *Stonegate Filing 14A & B Curb and Sidewalk Replacement and Pavement Repairs, NewLand Communities, Parker, Colorado.* Construction Manager and Senior Construction Observer for 800 LF of mountable curb-sidewalk removal and replacement and 1,200 SF of pavement patching and repair and crack sealing to obtain Douglas County final acceptance/full term maintenance.
- *West Interceptor Line, Parker Water & Sanitation District, Parker, Colorado.* Senior Construction Observer for 20,600-LF of 36" and 24" Contech A2000 and 18" PVC pipe for a sanitary sewer interceptor constructed within a 30' easement to the Army Corp. of Engineers Nation Wide Permit #12, with special environmental conditions present. Miscellaneous items included a 245' Steadfast pedestrian steel truss bridge with two (2) 42" steel casings below, 110 LF of 48" diameter boring, a 12" effluent force main relocation, 15" sanitary sewer laterals, and wetland and site restoration.
- *State Highway 52 and Glen Creighton Drive Roadway Improvements, City of Dacono, Colorado.* Senior Construction Observer for subgrade replacement and paving for acceleration and deceleration lanes at the intersection at Glen Creighton Drive. Construction management for CDOT local agency.
- *Sharpe Subdivision Filing 2, City of Dacono, Colorado.* Senior Construction Observer for 3,500 LF of 8" PVC water and sanitary sewer lines, street curbing, subgrade replacement and paving. Miscellaneous items included water and sanitary services and 500 LF of storm sewer and signage and striping.

#### **DEVELOPMENT REVIEW**

- *Clear Creek Crossing, Applewood Sanitation District, Jefferson County, Colorado.* Review engineer for all submittals and construction observer for 2,000 LF of 2-21" sanitary sewer infrastructure within the Clear Creek Crossing development. Monitored Denver Water 84" conduit crossing.
- *Midtown Filings 1 through 12, Crestview Water and Sanitation District, Adams County.* Review Engineer for the District on water and sanitary sewer lines construction drawings in a development.
- *2018 Pomponio Terrace, Filing 3&4, Crestview Water and Sanitation District, Adams County, Colorado.* Review Engineer for the District on water and sanitary sewer lines construction drawings in a development. Water line upgrade also reviewed and observed waterline upgrades along Federal Boulevard. Work included asbestos cement pipe plan review and replacement.
- *2018 Trailside Academy, Crestview Water and Sanitation District, Adams County, Colorado.* Review Engineer for the District on water and sanitary sewer line connection and services into the academy buildings. Review FD Plans, plats and easements, and architecture and landscape plans for District compliance.

**GAIMÉ ESPARZA**  
CONSTRUCTION MANAGER



**EDUCATION**

**Architectural Design Program**  
Texas Tech. University

**Architectural Technology Program**  
Arapahoe Community College

**TRAINING**

- Hot plant/ batch plant operations inspection.
- Plant aggregate and mix sampling.
- Field paving equipment inspection, operation and calibration.
- Field sampling, monitoring and inspection according to CDOT specifications.
- Rolling pattern design, monitoring and adjustments
- Training (AASHTO T 310-01)

**CERTIFICATIONS**

WAQTC – Western Alliance for Quality Transportation construction  
All Materials field certifications including concrete (ACI), asphalt (CAPA) and soils testing.  
Certified Asphalt Technician I & II (CAT-1 & CAT II)  
Certified Aggregate Technician (CAgT)  
Certified Embankment Technician (CEBT / WAQTC)  
CDOT Asphalt Inspector Certification  
CDOT Safety and Nuclear Gage Certification  
**CDOT / CAPA : Asphalt Certifications:**

- Level A – Laydown
- Level B – Asphalt Plant Materials Control

**PROFESSIONAL EXPERIENCE**

Mr. Esparza has 35 years of design, construction and project administration and observation experience, including bridge, roadway, general infrastructure, drainage, utility and building design & construction. Mr. Esparza also has experience with ArcGIS and AutoCAD. Mr. Esparza's duties have included supervision of design, building and infrastructure inspection, testing and construction. This includes management of associated personnel, conducting pre-construction conferences, bid coordination, contract and specifications preparation, pay estimate preparation, site coordination and inspection, contract management, project management, and program management.



**CONSTRUCTION MANAGEMENT/CONSTRUCTION ADMINISTRATION**

- *Observer and Inspector*; Performed construction and site observations/inspections for buildings, site layout, driveways and sanitary sewer for the following clients:
  - *Applewood Sanitation District*
  - *City of Littleton*
  - *City of Sheridan*
  - *City of Wheat Ridge*
  - *Clear Creek County*
  - *East Alamosa Water and Sanitation District*
  - *Paint Brush Hills Metropolitan District*
  - *Town of Superior*
  - *Town of Creede*
  - *Town of Silverthorne*
  - *Town of Mountain View*
  - *Town of Center*
  - *Town of Minturn*
  - *Westridge Sanitation District*
- *160 and SH 17 Intersection Project, East Alamosa Water and Sanitation District, Alamosa, Colorado*; Performed construction management services for the replacement of 675 LF of 8" sanitary sewer and four manholes. This work included partnership and coordination with CDOT.
- *Construction Manager and Inspector, City of Littleton*; Performed construction management services and erosion control review for all new construction for several new subdivisions which included new and new addition of buildings, sanitary sewer mains and sanitary services, associated manholes, including installation of new storm sewer systems and settling ponds. The work also included the installation of new infrastructure including new sidewalks, ramps, curb & gutter, crosspans and complete installation of new streets from grading to final striping and signage.
- *Construction Manager and Inspector, Town of Lochbuie*; Performed construction management services for all new construction for several new subdivisions which included new water and sanitary sewer mains, water and sanitary services, associated manholes and fire hydrants, including installation of new storm sewer systems. The work also included the installation of new infrastructure including new sidewalks, ramps, curb & gutter, crosspans and complete installation of new streets from grading to final striping and signage.
- *Construction Manager and Inspector, Town of Jamestown*; Performed construction management services which included, inspections, conducting meetings, reviewing submissions, materials, traffic control and roadway restoration for the new water main and services in the town
- *Senior Public Improvement Inspector, City of Aurora, Colorado*; Responsible for inspection of city capital improvement projects and inspection, observation and technical assistance for private and public improvement projects and general infrastructure for the city.
- *Roadway Asphalt & Concrete Paving and Structural Inspector, PSI, Inc (E470 and Northwest Parkway)*; Asphalt, bridge, roadway, concrete and structural construction inspection, observation, reporting and quality control assurance. Responsible for monitoring hot plant operations and engineering technician testing, lab results and associated construction management responsibilities.
- *Co-Owner and Manager, Colorado Territory Log Homes, Inc*; Responsible for all the company's operations including architectural design of homes and commercial buildings, generation of Auto CAD construction plans, building design, sales, marketing and management of employees, projects and subcontractors. I was also the main source of customer sales and relations.
- *Senior Engineering and Environmental Technician, Entech Engineering, Inc*; Project Manager; Main duties included quality control and construction inspection of construction methods, adherence

to engineers' specifications, drafting, maintaining building plans, geo-technical lab & field work and responsible for all environmental site assessments.

- *Project Representative, GMS Associates;* Project Management including monitoring and coordinating financial, scheduling and engineering compliance of several civic infrastructure and public improvement projects in various towns throughout Colorado.
- *Engineering Technician, ATEC Associates, Inc. (Denver International Airport);* Construction inspection, observation, reporting and quality control and geo-technical lab & field work. Drafting of engineering, environmental and geo-technical plans and graphics for engineering reports.

#### **UTILITY LOCATES**

- Fields Colorado 811 (CO811) locate emails via WebTMS, determines out-of-district locate requests and responds to CO811, reviews utility mapping and as-builts prior to site visit, performs locate markings and refresh markings, sends positive response to CO811 and documents each locate.
  - *Applewood Sanitation District*
  - *Deer Creek Metropolitan District*
  - *Highland Park Metropolitan District*
  - *TrailMark HOA*
  - *Westridge Sanitation District*

## **SARA CONSTANTINE, E.I.T.**

DESIGN ENGINEER



### **EDUCATION**

#### **M.S. Civil Engineering**

University of Colorado, Denver, CO

### **PROFESSIONAL EXPERIENCE**

Ms. Constantine has three years of design engineering experience. She is proficient in ArcGIS, SQL, Coordinate GPS systems, Spatial analysis, Database Management and Microsoft Office.

### **KEY PROJECT EXPERIENCE**

- *2022 DCIP Water Main Replacement, Platte Canyon Water and Sanitation District, Jefferson County, Colorado.* Design/Project Engineer. Drafted the contract documents, performed bid tabs comparison, set up bid openings and preconstruction meetings, finalized contract bonds with the contractor's lawyer.
- *Valley Sanitation for West Oxford Avenue Sewer Relocation, The Town of Sheridan, Colorado.* Design Engineer. Corresponded with the utility contractor to plan potholes along the intended relocation route. Coordinated with the CAD designer to produce a quality base map and proposed alignment.
- *Applewood Sanitation District, Development Review, Jefferson County, Colorado.* Reviewal of various plan sets for compliance with district engineering standards. Plan sets included, but are not limited to Lifetime Fitness, Dutch Bros. Coffee, and general site wide sanitary sewer infrastructure.
- *Colorado Parks and Wildlife, Lake Pueblo State Park, Pueblo County, Colorado.* Design Engineer. Assisted in the preparation of site application, sizing requirements, and area research in order to replace the current lift station and wastewater treatment equipment.

### **PREVIOUS EXPERIENCE**

- *Jefferson County Transportation and Engineering, Associate Civil Engineer, Golden, CO.* Project management for small to medium sized roadway improvement projects, weekly reviews of contractor submittals, daily construction efforts, reviewal of project plan sets, utility coordination for various permits throughout the County. Weekly coordination with various design engineers and companies.
- *Staff Engineer, Miner and Company, Lakewood, CO.* Helped with the construction administration and management functions for a residential development project. Supported the implementation of a 9-year program plan to improve the town of Bow Mar's roadway infrastructure and assist with the drainage, erosion control plans and construction drawings for the annual improvements. Assisted in analysis, engineering, planning, and project management assignments related to horizontal, sitework, and land development engineering and construction initiatives.



## ALEX WILDE, E.I.T.

### DESIGN ENGINEER



#### EDUCATION

##### **B.S. Civil Engineering**

University of Minnesota Duluth, Duluth, MN

#### PROFESSIONAL EXPERIENCE

Mr. Wilde has three years of design engineering experience, including project administration, review of reports and plan sets, basic design calculations, and sanitary sewer inspections. He has knowledge of soils, materials, and testing standards. He is proficient in the use of ArcGIS and Microsoft Office Suite.

#### KEY PROJECT EXPERIENCE

- *Applewood Sanitation District, Jefferson County, Colorado.* Provides design engineering services for the annual system inspection and maintenance of the District. This includes manhole inspections, review of sanitary sewer video inspections, and the production of the annual Line System Status Report.
- *2022 Lift Station Analysis, East Alamosa Water and Sanitation District, Alamosa, Colorado.* Design Engineer. Assisted with the preparation of the Lift Station Analysis Report, which analyzed and recommended improvements for each of the District's Lift Stations (excluding Lift Stations No. 1 and 2, which had been recently rebuilt). This work included calculations of the overall flows within the system and the capacities of each of the lift stations.

#### PREVIOUS EXPERIENCE

- *Estimator & Project Manager Intern, Fehn Companies.* Duties included the examination of plans/specifications for accurate cost analysis, coordination with contractors on projects in bidding and construction phases, completion of take-offs on Agtek software to assist Project Managers with time-sensitive bids, calculation of quantities for various materials (including cut/fill and import/export), entering of bids into Bid-2-Win program to analyze and interpret costs of bidding projects, and visitation of job sites to review typical construction techniques on infrastructure projects.
- *Engineering Technician Aide, Hennepin County Public Works.* Assisted the Transportation Planning Department. Work included the weekly deployment of six (6) traffic counting equipment sets throughout the County, processing of traffic videos for turning movement and pedestrian counts, creation and maintenance of Excel templates, creation and presentation of memos and observations to the Safety Operations Committee, and the development of maps using GIS software (including data entry and data management).
- *University of Minnesota Duluth:* Civil engineering coursework included an emphasis on Water Resources, including Watershed Engineering, Hydraulic Design, Open Channel Hydraulics, and Water Resources Engineering.



## KRYSTAL WELP

DEVELOPMENT REVIEW COORDINATOR/ENGINEERING AND PLANNING TECHNICIAN



### EDUCATION

**BS, University of Colorado at Denver**

Denver, Colorado

**AS, Red Rocks Community College**

Lakewood, Colorado

### PROFESSIONAL REGISTRATION

Adobe Certified Associate

Notary Public

### PROFESSIONAL EXPERIENCE

Ms. Welp has extensive experience providing technician review services through review of municipal codes and criteria manuals and has assisted several municipalities with the creation of standards and specifications. Additionally, she provides graphic support for all aspects of community plans, ranging from the creation of project outreach websites, design of community outreach materials, to the design of the final document. She has 11 years of experience in administrative support, marketing, project coordination, printing and photography services for the planning, engineering, and construction management fields.

- *Development Review Coordinator.* Provides administrative support for a wide spectrum of development review projects. Support includes organization of submittals and review due-date calendars, input of review comments, finalization of review comments, redlines and/or letters, and coordination with client and referral agencies. Additionally, provides technician review services through review of submittals to municipal codes and criteria manuals. She has or is currently assisting with development review for the following municipalities:
  - Clear Creek County
  - City of Brighton
  - City of Brush!
  - City of Sheridan
  - City of Littleton
  - City of Leadville
  - Paintbrush Hills Metropolitan District
  - Rio Grande County
  - Town of Buena Vista
  - Town of Gilcrest
  - Town of Grand Lake
  - Town of Lochbuie
  - Town of Hayden
  - Town of Poncha Springs
  - Lincoln Park Metropolitan District
  - Westridge Sanitation District
- *Code Revision Assistance.* Provides administrative and technician support for code revisions.
  - *Development Handbook*, Town of Buena Vista, Colorado (ongoing)
  - Short-Term Rental and Accessory Dwelling Units Code Amendments, City of Leadville, Colorado (2020)
  - *Land Use Development Code Update*, Rio Grande County, Colorado (2019)
  - *Site Development and Grading Standards*, Clear Creek County, Colorado (2019)
  - *Land Use Code Assessment*, Rio Grande County, Colorado (2017)
  - Mixed-Use Zoning District Creation, City of Sheridan, Colorado (2017)

- *Comprehensive and Master Planning.* Provide graphic support for all aspects of community plans, ranging from design of the document to the design of community outreach materials. Create and maintain project websites with a blog section and a community review section for drafts of the Plan, along with surveys and a general comment section. Projects include:
  - *Parachute Design Guidelines*, Town of Parachute, Colorado (2019)
  - *Comprehensive Plan Update*, Town of Bayfield, Colorado (2018)
  - *Comprehensive Plan Update*, Town of Kersey, Colorado (2016)
  - *Joint Master Plan*, Rio Grande County, Colorado (2016)
  - *Comprehensive Plan Update*, City of Sheridan, Colorado (2015)
  - *Parks, Recreation and Open Space Master Plan*, Town of Hot Sulphur Springs, Colorado (2015)
  - *Housing Needs Assessment*, Town of Milliken, Colorado (2014)
- *District Engineer, Westridge Sanitation District, Jefferson County, Colorado.* Engineering technician and administrative support for the design, bidding, and construction administration of annual improvement projects. Assists with the administration and review of the annual maintenance and videoing.
- *Annual District Maintenance, Deer Creek Metropolitan District, Jefferson County, Colorado.* Engineering technician for the evaluation, bidding, and management of annual repairs to the district's facilities.
- *Asset Inventory Report, Town of Center, Colorado.* Engineering technician for the creation of an asset inventory for the town. This report summarized the inventory, overall age, and condition of each of the capital assets owned and operated by then town. Provided prioritization of improvements and/or replacements of any aging, damaged or otherwise insufficient assets.
- *2019 Roadway Repairs Project, Lincoln Park Metropolitan District, Douglas County, Colorado.* Engineering technician for the transfer of ownership for all district roadways to Douglas County. This project included contract document creation and bidding, and construction administration for all improvements to the roadways, sidewalks, cross pans, and curb and gutter.
- *Marketing Materials.* Completed the design and production of marketing collateral and promotional materials, website, social media, and other graphic work for RGA. Prepared and submitted Statements of Qualifications and Proposals in response to RFPs/RFQs, including editing, writing, and graphic layout. Completed redesign of RGA's website in 2015 and 2020.
- *General Administrative Duties.* Answering phones, processing invoices, coordinate shipments, process mail, monitor and maintain office supply inventory, and coordinate company events and meetings.
- *Event Coordination.* Manage all site selection, coordination, and budget for public and private company events. This includes annual private holiday party and annual public receptions at local conferences.

## SKILLS

Adobe Acrobat, InDesign, Illustrator, Lightroom, Photoshop, and Premiere Pro; Wordpress; Wix; Weebly; Microsoft Word, Excel, PowerPoint, Publisher, Project, OneNote, Outlook, OneDrive, and Teams; Google Docs, Sheets, and Drive; Windows Operating Systems (Vista – 10); and TRAKiT and eTRAKiT software.



### Key Skills

- ✓ Wetland Delineations and Functional Assessments
- ✓ State Listed Species
- ✓ Federally Listed Species
- ✓ CPW SB 40 Certification
- ✓ CWA Section 404 Compliance
- ✓ Black-tailed Prairie Dog Management Plans
- ✓ Noxious Weed Plans
- ✓ Migratory Bird Treaty Act Compliance

### Education

B.S. Environmental Sciences,  
Trinity Western University,  
Langley, British Columbia, Canada,  
2004.

EMT-Basic, Arapahoe Community  
College, Littleton, Colorado, 2004

40-Hour Wetland Delineation  
Course



**CORVUS**  
Environmental Consulting LLC

## Timothy J. DeMasters

### Principal / Senior Ecologist

Tim joined CORVUS in 2018 as a seasoned senior ecologist with 15 years of experience working on projects ranging from large hard rock mines in AK, coal mines in WY, pipelines in IL and TX, to many trail, road, solar, stream, reservoir, and other water related projects in CO over the last 7 years.

Tim provides expertise in compliance with federal and state environmental regulations related to biological resources, including wetlands, threatened and endangered species, and wildlife. Tim's experience includes working on numerous local agency projects in compliance with federal and local regulations as well as Colorado Parks and Wildlife (CPW) compliance statewide for various sectors. Tim has established strong working relationships with federal and state regulators and wildlife district managers and brings a creative solution-based approach to projects from a high-level down to the specifics.

### Select Project Experience

#### US 36 Wetland Mitigation Construction – CDOT, Boulder County

**Ecologist.** Owner's representative for CDOT on the oversight team for the construction, planting, and corrective actions for the 20-acre wetland mitigation project required as compensatory mitigation for impacts related to US 36 widening and improvements. Of the 20 total acres, 15 acres are regulated wetlands per a USACE permit. The project complies with USACE and City of Boulder permitting criteria.

#### Upper Four Mile Canyon Stream Restoration, Boulder County Transportation (Emergency Watershed Protection [EWP] Funded) – Boulder County

**Ecologist.** Delineated wetlands and other waters of the US as well as noted likely restoration areas along the stream corridor in support of the mirrored stream repairs along the road repair project segments. Conducted Pre-Construction Notification/Nationwide Permit Concurrence request.

#### Lower Four Mile Canyon Stream Restoration, Fourmile Watershed Coalition (EWP Funded) – Boulder County

**Ecologist.** Delineated wetland and other waters of the US as well as noted likely restoration areas along the stream corridor in support of the mirrored stream repairs along the road repair project segments. Conducted Pre-Construction Notification/Nationwide Permit Concurrence request.

## Affiliations

Society of Wetland Scientists (SWS)

GIS Colorado (GISCO)

Society for Conservation GIS

Colorado Association of Stormwater and Floodplain Managers (CASFM)

*"Tim is an excellent biologist with a strong technical knowledge of botany, wetland ecology, and wildlife biology. He can navigate environmental regulations deftly. Working on the US36 Wetland Mitigation site gave me an opportunity to observe his problem solving skills of ecological restoration, not to mention his communication skills and promptness in product delivery. I highly recommend Tim for any project that needs strong biological or ecological talent."*

-Brian Fauver

NEPA Specialist; Section 4(f) and Section 6(f) Program Manager at Colorado Department of Transportation

## East Boulder Ditch at Baseline Road Culvert Replacement – Boulder County Transportation - Boulder County

**Ecologist.** Delineated wetlands and other waters of the US, assessed habitat for Federally-listed threatened and endangered species, coordinated Section 106 cultural resources. Lead the agency coordination, including submitted Pre-Construction Notification/Nationwide Permit Concurrence request.

## Airport Road Design/Build Bridge Replacement over Plum Creek – Douglas County

**Lead Biologist.** This project was permitted through National Environmental Policy Act (NEPA) as a Categorical Exclusion, under FHWA, administered by CDOT. Tim worked closely with project members to complete all environmental tasks for the bridge replacement project, including onsite project agency meetings and scheduled project coordination phone calls. Tim was the lead biologist responsible for Colorado Parks and Wildlife (CPW) Senate Bill 40 data collection; US Army Corps of Engineers (USACE) (Section 404) wetlands and other waters of the US delineation, impact analysis, reporting, and permitting; threatened and endangered species presence or absence surveys, reporting, and Section 7 consultation; noxious weed mapping and reporting; and Geographic Information Systems (GIS) data preparation, data collection, and management.

## South Boulder Canal Siphon 4 Replacement Project, Denver Water - Boulder County

**Lead biologist.** Performed USACE wetland and other Waters of US delineation under Section 404 of the CWA as well as Threatened or Endangered Species (TES) Surveys for Colorado Butterfly Plant (CBP) and Ute Ladies Tresses orchid (ULTO) to facilitate in the client's Section 7 ESA Consultation.

## Natural Resource Strategy Team – Denver International Airport (DEN), Denver Real Estate – City and County of Denver

**Senior Ecologist / Principal.** Providing ecological consulting and high-level strategy for the 25 square-mile commercial real estate portion of Denver International Airport (DEN). Acting member of a multi-disciplinary team responsible for existing conditions assessment and analysis. Sitewide challenges addressed include compliance with Federal Aviation Administration (FAA) DEN wildlife hazard mitigation plan while developing and improving operational recommendations such as mowing and soil restoration, as well as recommending a native prairie plant palette for restoration and resiliency throughout planned development districts.





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## TOM WILLIS, PLS

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### SUMMARY OF QUALIFICATIONS

**Registered Land Surveyor** with more than 34 years of professional experience in Surveying, Mapping and GPS/GIS. Also serves as Director of Operations and Chief Estimator for Flatirons Surveying, Inc. *Specific areas of expertise include:*

- Management of projects for timely & cost effective completion
- Project cost estimating
- Colorado PLS 34991
- South Carolina PLS 11078
- Extensive CAD, office and field experience
- Individual, Commercial and Government client projects
- AutoCAD and other industry software
- North Carolina PLS L-3079
- Texas PLS 4903
- Experience in State, City and County roadway projects

### PROFESSIONAL EXPERIENCE

**Flatirons, Inc., Surveying, Engineering and Geomatics**  
Boulder, CO

2000 – Present

*President*

Extensive experience in conducting surveys for **highway projects (including CDOT, County and City), bike paths and multi-use trails**, local parks and open space lands. Supervises field and office personnel; prepare project estimates/project scope documents; performs boundary analysis; proof and review survey work for quality control; ensure effective communication with clients and timely completion of projects.

*A partial list of specific Flatirons, Inc. projects:*

- **Valmont Road**, East of 75<sup>th</sup>, (Land Survey Plat, design survey, topography), Baseline Road from Lawn to Platt Middle School (Topography), Cherryvale Road, Land Survey Plat, for Boulder County Transportation Department;
- **Highway 66 and Hover Street - Right of Way mapping** for CDOT;
- **Interstate 25 north of 20<sup>th</sup> Street in Denver**, 3D Laser scanning and design survey for CDOT, All completed with no disruptions to traffic;
- **City Limits Trailhead** - Improvement Survey Plat with topo at one end of the Hwy. 93 project area, for the City of Boulder Open Space and Mountain Parks Department;
- **CDOT ROW map, section of the Peak to Peak Highway**;
- **St. Vrain Greenway, Boulder and Weld Counties** - Topographic surveys and construction staking for this 5-mile bike path project, for Loris & Associates.
- A variety of numerous other projects of varying size and scope, in multiple states.

### Education

Clemson University, BS in Forestry Management, 1981  
Ongoing Continuing Education courses for surveying and mapping



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zgowan@flatironsinc.com

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## JAMES Z. GOWAN, PLS, CFEDS

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### SUMMARY OF QUALIFICATIONS

**Registered Land Surveyor** with more than 31 years of professional experience in Surveying, Mapping and GPS/GIS. CFedS Certified for work on Federal lands. ALTAs, subdivisions, annexations, topographic mapping, aerial mapping, Hazwoper sites, flood repair sites, construction layout, office and field, rural and urban. Also held leadership roles ranging from Project Manager to Vice President. *Specific areas of expertise include:*

- Management of projects for timely & cost effective completion
- High Definition Surveying
- Colorado PLS 29038
- Idaho PLS 12548
- **CFedS** Certified, 2011 No. 1477
- OSHA 40 hr qualified (CFR 1910.120)
- Real Time Kinematic (RTK) Global Positioning Systems (GPS)
- Trimble Robotic Total Station
- Utah PLS 6403366-2201
- Washington PLS 44342
- North Dakota PLS LS-6263
- Cost Estimating

### PROFESSIONAL EXPERIENCE

**Flatirons, Inc., Surveying, Engineering and Geomatics**  
Boulder, CO

1986 – Present

*Vice President and co-owner of Flatirons, Inc.*

Supervise field and office personnel, prepare estimates/project scope documents, boundary analysis, proof and review survey work, ensure effective communication and timely completion of projects for municipalities, governments, and private clients.

- Bureau of Reclamation, Range line surveys on the Rio Grande in New Mexico;
- National Park Service topographic surveys in CO, UT, NM, WY, AZ, OK and TX;
- National Forest Service, central and eastern Colorado;
- Rocky Flats Environmental Technology Site, Jefferson County, Colorado;
- U.S. Fish & Wildlife Service surveys in Montana, Colorado;
- Boulder County, repair/restoration surveys after 2013 flood.
- Office, commercial development projects;
- Water and sanitation projects;
- Wind farm and commercial solar projects.

### Education

Associate Arts & Sciences Degree, Suffolk Community College  
Certified Federal Surveyor (CFedS)  
OSHA 40 Hour Certification



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## JASON HANNAHOE

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### SUMMARY OF QUALIFICATIONS

**Land Surveyor** with over 9 years of varied experience in surveying and mapping. Work environments include: public and private sector projects, construction layout, subdivision infrastructure, office and field, rural and urban. *Specific areas of expertise include:*

- Boundary & topographic surveys
- Forest land surveys/mineral claims
- Management of field surveyor teams
- Construction stake-out services
- Colorado PLS #38498
- Real Time Kinematic (RTK) and Static GPS surveying
- Trimble Robotic Total Station
- Efficient and timely completion of assigned projects

### PROFESSIONAL EXPERIENCE

#### **Flatirons, Inc., Surveying, Engineering and Geomatics**

Boulder, CO

2003 – present

##### *Survey Party Chief*

Manages multiple teams of surveyors in Colorado and surrounding states. Field surveys, primarily boundary and topographic projects and construction stake-out projects, but includes all phases of surveying in private and public sectors.

#### **Representative projects:**

USDA Forest Service Region II surveying projects, including Mineral Surveys;

Surveying of range lines along the Rio Grande for the Bureau of Reclamation in New Mexico;

#### **Glorso Murray Surveys LLC.**

2002-2003

Aurora, CO

##### *Land Surveyor*

- Responsible for various survey tasks including boundary and topographic surveys, and construction stake-out services.

### Education

Pennsylvania Institute of Taxidermy (accredited school), Ebensburg, PA, 1997

James A. Parker,  
P.E., P.G.  
Senior Engineer  
Geotechnical



## Education

Arizona State University  
B.S., Geology, 2001

## Professional Registration

Registered Professional Engineer:  
Colorado, Arizona, Oregon

Registered Professional Geologist  
Colorado

## Qualifications Summary

Mr. Parker has over **22 years of experience** in geotechnical and geological engineering, geological hazards assessment and materials testing and inspection in Colorado, Arizona and Oregon. He is responsible for planning, management and review of geotechnical and geologic assessments, and project management and engineering review of materials testing and special inspection on private and public projects throughout western and central Colorado.

## Professional Experience

- **Three Lakes Wastewater Treatment Plant Expansion** (Granby, CO): Geotechnical engineering study for wastewater treatment plant building expansion. Recommendations provided for foundation design, support of utilities, retaining walls, and site grading.
- **Proposed Bridge Replacement Grand County Road 667** (Grand Lake, CO): Geotechnical engineering study for a new bridge along a Grand County Road to replace an outdated bridge.
- **Lake County Road 11 and Lake Fork Creek Bridge Replacement Project** (Leadville, CO): Geotechnical engineering study for foundation design of a box culvert bridge crossing. The new box culvert replaced an existing outdated crossing.
- **Miners Creek Pedestrian Bridge Replacement** (Frisco, CO): geotechnical engineering study for a new pedestrian bridge to replace the existing outdated bridge at Miners Creek and Summit Blvd.
- **Lake County Road 9 and Arkansas Creek Bridge Replacement Project** (Leadville, CO): Geotechnical engineering study for foundation design of a box culvert bridge crossing. The new box culvert replaced an existing outdated CMP crossing
- **Summit County Transit Center** (Frisco, CO): Geotechnical engineering study for a new Transit Center building at the Summit County Light Industrial Commons Campus.
- **Summit County Sand Storage Building and Peak One Drive Relocation** (Frisco, CO): Geotechnical engineering study for foundation design of a new sand storage building retaining wall recommendations and pavement section design for the relocation of Peak One Drive.
- **East Peak 8 Development** (Breckenridge, CO): Geotechnical engineering study for an 8-story hotel over a parking garage, including foundation recommendations, retaining wall and shoring recommendations, and pavement design.
- **CDOT Vehicle Storage Facility Improvements** (Silverthorne, CO): Geotechnical consultation on subgrade stabilization for retaining wall, foundation, pavement, and building pad areas.
- **Village at Wintergreen Affordable Housing** (Keystone, CO): Geotechnical engineering study for a multi-family employee housing project. Study included foundation design recommendations, pavement design and grading recommendations.
- **Town of Frisco Maintenance Building Addition** (Frisco, CO): Geotechnical engineering study for an addition to the existing Frisco Maintenance Building. Recommendations provided for foundations, retaining walls, site grading and pavement.
- **Frisco Marina Building** (Frisco, CO): Geotechnical engineering study for a new marina building at the Frisco Marina. Recommendations provided for foundation design, drainage, site grading, retaining walls, and utilities.
- **Slifer Square Improvements** (Vail, CO): Geotechnical engineering study for utility improvements at Slifer Square in Vail. Recommendations also provided for pavement and site grading