## Gregory Panza, PE, PMP | Senior Project Manager

With more than 20 years of experience, Greg manages and master plans land development and municipal projects. He offers experience in both the engineering and construction realms. As a Professional Engineer, Greg has provided management of major civil infrastructure for healthcare, residential, recreational, training, and commercial projects. His project management, construction management, and general contracting experience, nearly 15 years in total, has included project sequencing for multi-year construction, including 5-years managing construction for the National Park Service's Intermountain Region. Greg has managed construction schedules, budgets, and on-site contractors for multi-million dollar projects. Greg brings a broad knowledge of the civil field, including drainage, construction inspection, surveying, and stormwater management analysis. His project experience ranges from hydrologic & hydraulic analysis, utility and drainage studies consistent with FEMA, Corps and local requirements, utility coordination, heavy civil utility construction, mass grading, and roadway design projects with construction costs of up to $20 million.

### EXPERIENCE

25 Years

### EDUCATION

BS, Civil Engineering, Ohio University- 1996

### REGISTRATION / LICENSE

Professional Engineer, CO, 37081, 2002

### SPECIALIZED TRAINING & CERTIFICATIONS

FAC Academy Program/Project Manager (FAC-P/PM)
Contracting Officer Representative (COR)

### SELECTED PROJECT EXPERIENCE

**171006.01**
**Home Place Ranch-Engineering - Goodwin Knight**
**Project Manager**
Home Place Ranch retained HR Green to provide Preliminary Engineering, Planning, and Landscape Design services required to seek Preliminary P.D. Site Plan approval form the Town of Monument for the Phase One area. Home Place Ranch is approximately 427 acres within the town of Monument, CO in northern El Paso County. It is bordered by Higby Road on the northern property boundary, Promontory Pointe and Jackson Creek communities on the south and southwest.

Greg was responsible for managing the infrastructure design and working with the client on phasing of development

### OTHER FIRM EXPERIENCE

**Todd Creek Village North | Adams County, CO**
Senior Project Manager for this 930-acre mixed-use master plan in north Denver metro area within the Todd Creek Metro District. Project includes a multi-phased development and infrastructure master plan. Initial phases of the project required on-site treatment of sanitary effluent and recirculation of effluent into an irrigation distribution system for a 180-lot and two commercial outlot development.

**Adams Crossing | Brighton, CO**

At the forefront of innovation, this 780-acre project will be Colorado's first true "Agriburbia Development", combining agricultural, residential, and urban development. The project is designed to take advantage of the disconnected impervious areas to improve water quality and decrease the need for flood attenuation along Second Creek.

The project requires drainage swales, sediment basins, detention and channel facilities and connections into existing regional trail system. HEC-RAS studies were conducted to verify flood boundaries based on the currently farmed land to determine consistency with FEMA FIRM panels. The detention pond areas are designed to straddle the 100-year flood limits to expand the floodplain boundary, decreasing the overall high water level.

**Mountain Sky | Ft. Lupton, CO**
Senior Project Manager for this 80-acre, 6 phase single-family subdivision within Ft. Lupton. This project is located at the
bottom of an 800-acre drainage basin and required upstream bypass flow routing through the development. High ground water conditions led to the design of cut-off walls and subdrainage underdrain system to make basement products an option. Bedrock located near the surface was mapped and grading was designed to eliminate the need for rock excavation during mass-grading operations. Offsite infrastructure included improvements to CDOT Highway 52 and installation of offsite irrigation and water distribution from one mile away.

**Big Horn Regional Northern Supply Pipeline | Worland, WY**
Construction Manager for this $8M regional water line spanning across four rural towns. One pump house, two pressure vaults, a one-million-gallon concrete storage tank, 17 miles of distribution piping, three river crossings, coordination with four towns, two counties, BLM, USDA, two regional water boards and multiple land owners. Coordinating schedules of 14 subcontractors and 19 suppliers. Responsible for value engineering analysis, subcontractor solicitations, construction means and methods, project submittals, scheduling, permitting, public affairs, project budget and personnel staffing. National Park Service project.

**Sable Blvd & Alameda Pkwy Waterline Relocation for Sable Basin & City Center Project (MESA IV PROJECT) | Aurora, CO**
Utility infrastructure for a 362,500 SF open space and TOD. Lowering of a 36” potable waterline, considering the various forces acting on the pipe and bends to design restraints, thrust blocks, and add a blow off and air vac. Rerouting of an 8” waterline, adding various bends to the line. Also: 2300 LF of 84-108” RCP for stormwater, pipe hydraulics, H&H, pressure pipe flow, UDSewer calculations, outfall analysis, watershed analysis, and construction plans and specs. Internal Project Management.

**Pelican Lake Ranch | Weld County, CO**
This project consisted of a 2,700-acre residential estate home project surrounding Milton Lake Reservoir. A CUHP and SWMM analysis was conducted, modeling critical overflow routes, eventually making its way to Milton Lake Reservoir. Improvised erosion control BMP’s to control sandy soil conditions were implemented throughout this catchment.

This project was intertwined with gas and oil field tanks, derricks and piping. Coordination with five oil and gas companies for the rerouting and/or preservation of existing lines and derricks was required to create a safe community, assuring pipelines were not exposed due to sediment transport during large rain events.

**Griswold Water Treatment and South Satellite Improvements | Aurora, CO**
This project was experiencing major sediment transport and environmental concerns. Both of the sites were impacted by lack of vegetation, a prairie dog colony, steep slopes, poor stormwater conveyance and a lack of irrigation. Increased runoff was transporting mineral and organic sediment as well as asphalt millings and vehicle runoff across the site to the Cherry Creek drainageway.

A sub-watershed study was completed for the area tributary to the Griswold Water Treatment Plant and the South Satellite Maintenance Facility. Solutions included redirecting, regrading and installing approximately 6,000 SY of erosion control matting to facilitate spawning of vegetation. Hyporheic baffles were installed to settle out phosphorus and sulfides and plantings installed along the drainage channels to uptake undesired soluble minerals. Five-acres of restoration resolved erosion transport issues.

**Sewer Improvements for Lima Alley and Paris Alley at Montview Boulevard | Aurora, CO**
Project Manager for this project consists of resolving clogging and capacity issues of the sanitary sewer system within the alleys of Lima Street and Paris Street to increase overall capacity along East Montview. Project required analyzing upstream tributary basins and designing a 3-mile sanitary sewer bypass system through the existing infrastructure of old-town Aurora.

**Oxford Station Transit Oriented Development | Englewood, CO**
Project Manager for this project demonstrates Greg's experience on TOD projects for private developers. The 3.5-acre in-fill site at Oxford Light Rail Station is constrained on three sides and consists of 40,600 SF industrial warehouse facilities and 9500 SF commercial facilities, as well as the addition of two proposed buildings (24,100 SF and 26,400 SF). Infrastructure design includes utility design and location, easement services, drainage, traffic impact study, erosion control, storm water master plan, water and sewer utilities, grading, and hydrology & hydraulics (H&H). There is a large sewer line crossing on the north side of the site, and the existing storm sewer floods often. Requires analysis of impact to the Platte River.

**Blake Street Artisan, Denver, CO**
Located in the LoDo section of Denver, this infill project required creative flood attenuation and water quality treatment to be viable. The project is situated on an existing contaminated manufacturing warehouse. Infiltration of stormwater was prohibited due to the spreading of soil contamination. A series of ground level water quality gardens and separators were installed to facilitate initial treatment. Stormwater was directed to sand filters, gravity drained to underground detention storage and released to non-contaminated areas via level spreaders, eventually sheet flowing to the Platte River.

**Cherry Creek Vista Filing 17-B, Greenwood Village, Colorado**
This project consisted of a 30-acre infill residential development along Cottonwood Creek within the Cherry Creek reservoir drainage basin. Project included 108 single family homes, utilities, roadway system, water quality and detention pond system. Coordination with the Army Corp of Engineers was required to re-establish wetlands and create new wetlands.

## Christian McFarland, PE | Lead Engineer

Chris is a dedicated and creative Professional Engineer with design expertise in drainage, floodplain management, grading, erosion control, utility design and roadway design. Wide range of experience that includes simple intersections and pad site design to master planning multiple section land development projects, and complex roadway expansions. He has proven ability to design and deliver projects on time and on budget.

### EXPERIENCE

14 Years

### EDUCATION

BS, Civil Engineering, Colorado State University- 2006

### REGISTRATION / LICENSE

Professional Engineer, CO, 44947, 2011

### SPECIALIZED TRAINING & CERTIFICATIONS

Drainage Related:
UDFCD Stream Academy
HEC-RAS 2D Modeling
EPASWMM Advanced Modeling Techniques
Green Infrastructure and Low Impact Development Design
Best Management Practices for Construction in Waterways
Certified Floodplain Manager (License lapsed, need to renew fall 2019)

Federal Government Related:
UFC-Minimum Antiterrorism and Force Protection Standards for DOD Buildings SpecsIntact

### PROFESSIONAL AFFILIATIONS

Society of American Military Engineers
Colorado Association of State Floodplain Managers

### SELECTED PROJECT EXPERIENCE

**180382.02**
**CDN Red Rocks LP - CDN Rooney Gulch - CDN Red Rocks LP**
**Project Engineer**
This 800-unit master planned multifamily community is located along the main corridor along the hogback. leading into the mountains. One of the primary features of this community is an approximate one-mile stretch of gulch within the Rooney Gulch Watershed. HR Green was contracted to provide a sustainable solution for stabilizing the gulch, anticipating the development to occur within the entire corridor. HR Green worked with Urban Drainage and Flood Control District on establishing a bio-engineered approach to managing the increased run-off as a result of development.

Chris was responsible for design and calculations for the grade control and bank stabilization structures proposed within the gulch. Chris also assisted in analyzing the SWMM model for the hydrologic analysis of the site to size numerous detention and water quality facilities for the overall development.

### OTHER FIRM EXPERIENCE

**I-25 & Erie Parkway Master Plan – Erie, CO**
***Project Manager***
Chris was responsible for early planning and engineering for future master development led by the Town of Erie. The I-25 and Erie Parkway Master Plan encompasses the 1,280 acres of land located at the northwest corner of I-25 and Erie Parkway. The Town's intent is to create a regionally-scaled retail and employment center at Erie's eastern gateway servicing the Northern Colorado marketplace that is recognized as a true destination where businesses and people flourish. The vision for the development future of the Plan area is one that maximizes the site's revenue generating potential while employing sound land use and high quality design principles.

**Land Development Project – Commerce City, CO**
***Project Manager***
Chris was the lead designer for a ~350 single family home development in Commerce City. Worked with adjacent developers, Commerce City and UDFCD to design a major outfall channel and detention standards for a large drainage area for multiple developments.

**Meridian Village Development – Denver, CO**
***Project Engineer***
Chris provided site utility engineering, over lot grading for Meridian Village development. Located south of Lincoln Avenue & east of I-25 the will feature rolling home sites, spectacular views of the Front Range Mountains, and Downtown Denver.

**Christian Brothers Automotive – Various Locations**
**Project Manager**
Chris provided project management and lead design for various Christian Brothers Automotive shops within the state of Colorado. Chris led all planning processes and partners on the projects for plat approval, site development design and preparation of construction documents.

**Cannon Air Force Base SOPS Training Facility**
***Project Manager***
Responsible for design and management of a large base expansion at Cannon Air Force base including site layout, grading, utility design, specification preparation and construction Administration.

**Municipal Project and Light Rail Addition – Aurora, CO**
***Project Manager***
Responsible for master drainage analysis for a 2.5 square mile drainage basin, new Light Rail Station connection to the Aurora Municipal Center and design of a large pre-cast structure beneath a 6 lane arterial road.

**Hospital Expansion – Cortez, CO**
***Project Manager***
Responsible for design and project management including parking lot site layout and grading, drainage design, utility construction, erosion control design, specification preparation and construction administration services.

**Tinker Air Force Base – Oklahoma City, OK**
***Project Manager***
Responsible for design included grading, drainage, utilities, site layout, specification preparation and construction administration services to accommodate KC-46A airplane.

**Toll Gate Creek Bank Stabilization - Aurora, CO**
***Lead Designer***
Responsible for design, alternative analysis, and modeling for a river bank stabilization project within the City of Aurora.

**Aurora High Line Canal Improvements - Aurora, CO**
***Project Manager***
Responsible for design, alternative analysis, project management, and plan preparation for approximately 4 miles of regional parks trail. Work included coordination and design for an at-grade rail road crossing, at-grade crossing of a major collector including traffic signalization, and a grade separated crossing of I-70, a major interstate Highway.

**First Creek Interceptor - Aurora, CO**
***Project Manager***
Responsible for design, alternative analysis, project management, and plan preparation for a new 36" gravity sewer line for the City of Aurora. Work included alternative analysis of various routing options and construction methods, plan preparation, and coordination with the local health department and other various stakeholders for approval.

**Ground Water Recharge System – Fort Morgan, CO**
***Project Engineer***
Responsible for design, alternative analysis, and plan preparation for a groundwater recharge system for various land owners and farmers near Fort Morgan Colorado. Design included ~3.5 miles of non-potable water line, river intake and pumping system in order to carry water to various groundwater recharge ponds for future irrigation purposes.

## Trevor Igel, EIT I Staff Engineer II

Trevor has a variety of hands on experience ranging from the physical analysis of hydraulic phenomena, to stream, wetland and general ecosystem restoration. His experience also includes computational hydraulic and hydrologic analysis, drainage design, grading, erosion control, surveying and construction inspection. Trevor is proficient in AutoCAD, Civil 3D, GIS, 1 and 2 Dimensional HEC-RAS analysis and SWMM modeling.

### EXPERIENCE

2 Years

### EDUCATION

BS, Environmental Engineering, Colorado State University - Fort Collins- 2019

### REGISTRATION / LICENSE

Engineer In Training, CO, N/A, 2019

### PROFESSIONAL AFFILIATIONS

ACEC Scholarship Review Committee

### SELECTED PROJECT EXPERIENCE

**160473**
**Nevada WWTF and Trunk Sanitary Sewer Improvements - City of Nevada, IA**
**Staff Engineer**
Facility planning, antidegradation alternative analysis, SRF loan for new 8.5 mgd plant to meet the needs of new effluent limits, nutrient removal requirements, future growth and industrial expansion. Conveyance package includes pump station, force main, and trunk sewer from old plant to new plant approximately 3.5 miles south. Design elements include:

- Administration & Maintenance Building
- Headworks Building (Screening and Grit Removal)
- 3-Stage Oxidation Ditches for nutrient removal
- Secondary Treatment Building (with laboratory)
- Secondary Clarifiers
- Ultraviolet (UV) Disinfection Building
- Aerobic Digesters with integral thickening system
- Solids Processing Building
- Biosolids Storage Tank
- New outfall

The project also involved process modeling, easements, survey, and geotechnical soil borings.

Trevor was the Staff Engineer on this project.

**171006.01**
**Home Place Ranch-Engineering - Goodwin Knight**
**Staff Engineer**
Home Place Ranch retained HR Green to provide Preliminary Engineering, Planning, and Landscape Design services required to seek Preliminary P.D. Site Plan approval form the Town of Monument for the

Phase One area. Home Place Ranch is approximately 427 acres within the town of Monument, CO in northern El Paso County. It is bordered by Higby Road on the northern property boundary, Promontory Pointe and Jackson Creek communities on the south and southwest.

Trevor was responsible for site grading, preparation of the preliminary utility plans, drainage analysis, and preliminary construction drawings.

**180382.02**
**CDN Red Rocks LP - CDN Rooney Gulch - CDN Red Rocks LP**
**Staff Engineer**
This 800-unit master planned multifamily community is located along the main corridor along the hogback. leading into the mountains. One of the primary features of this community is an approximate one-mile stretch of gulch within the Rooney Gulch Watershed. HR Green was contracted to provide a sustainable solution for stabilizing the gulch, anticipating the development to occur within the entire corridor. HR Green worked with Urban Drainage and Flood Control District on establishing a bio-engineered approach to managing the increased run-off as a result of development.

Trevor was responsible for the hydraulic analysis of the project site as well as the analysis of the changes development poses on the sites hydrology. Trevor also assisted in the development of the preliminary planset for proposed gulch stabilization, water detention and quality facilities as well as site grading.

**181211.17**
**Aerotropolis Area Coordinating Metropolitan District - The Aurora Highlands - Miscellaneous - Aerotropolis Area Coordinating Metropolitan District**
**Staff Engineer**
HR Green is providing Engineering Services for the Aurora Highlands Master Planned Community located in Aurora, Colorado. The Aurora Highlands consists of approximately 3,150 total acres within the City of Aurora. This project includes the development of a Framework Development Plan Manual including Master Drainage Study, Master Utility Study and, Public Improvement Plan. Kristine was responsible for all H&H analysis and development of the master drainage plan report requiring approval from the City of Aurora and UDFCD.

Trevor assisted in the analysis of site hydrology as well as the development of a site drainage plan, sanitary sewer design, and the master drainage and master utility studies.

## Sarah Fernandez I Design Technician I

Sarah is an analytical and detail-oriented individual with acute knowledge of drafting technologies. She will support the design and construction services task lead to ensure that tasks are completed efficiently and accurately. Her diverse background in communication and design is an asset in producing clear, detailed plans. Sarah has experience in digital drafting and 3-D modeling in AutoCAD and Civil 3D.

### EXPERIENCE

1 Years

### EDUCATION

MA, Literature, University of Colorado- 2016
BA, Humanities, University of Colorado- 2013
AAS, Drafting Technologies, College of Southern Idaho- 2020

### SELECTED PROJECT EXPERIENCE

**180582**
**Fountain Mesa Road and Caballero Ave. Design On-Call - El Paso County, CO**
**Design Technician**
HR Green was retained by the County of El Paso, CO to provide Civil Engineering Planning and Design services for the Fountain Mesa Road/Caballero Avenue Intersection project. HR Green's services included project coordination, project management, traffic study, conceptual and preliminary design.

Sarah assisted in developing and editing plan sets for the project by importing and analyzing survey data and design elements. She ensured clarity and accuracy of plans sets for final submittal. She also attended a webinar on roundabout design concepts in consideration of this project.

**181211.37**
**Aerotropolis Area Coordinating Metro District - The Aurora Highlands - Prairies Water Relocation - Aerotropolis Area Coordinating Metropolitan District**
**Design Technician**
Sarah played an integral role in developing the sheet set for this project and organizing various data references and design elements to ensure plans were clear and straightforward. She applied her research skills to ensure the large-scale project made considerations for the upstream and downstream impacts of the pipeline.

**191850**
**All Pro Capital - Woodmen Heights Commercial Center - All Pro Capital**
**Design Technician**
As Design Technician, Sarah collaborated with professionals in various engineering disciplines to ensure that Landscaping, Water, and Land Development needs were addressed succinctly in the Woodmen Heights Commercial Center plans. She exercised critical attention to detail in revising plan sets for Water, Sanitary, Utility, Grading and Erosion, and Roadway Design.

**19P0781**
**UDFCD, CO - Rooney Gulch FBP Section - Mile High Flood District, CO**
**Design Technician**
Sarah was responsible for transferring design elements from Autodesk Civil 3D into GIS. She communicated with the client to ensure the files were accessible and the file type suited their needs.

**200106.01**
**Inland Group, CO - Copper Apartments at Greeley - Copper Platte Apartments, LLC**
**Design Technician**
Sarah worked to set up sheet layouts and preliminary design elements to expedite the plan development process. Through this project, she gained valuable insight into elements of Land Development to add to her knowledge of Water Operations.

**200192**
**Westminster, CO - On-call Engineering Services - City of Westminster, CO**
**Design Technician**
Sarah used project data to develop maps and exhibits demonstrating the most effective grouping of projects for maintenance of various city drainage and storm sewer networks.

**200192.01**
**Westminster, CO - Legacy Ridge Golf Course Drainage - City of Westminster, CO**
**Design Technician**
Sarah was responsible for the layout, design, and revision of the plan sheets involved in the portion of this project. She gained insight into sustainable water retention design through Total Hydrology Planning and Green Drainage Systems trainings and applied her knowledge in her reviewing of the project plan sheets.

**200548**
**Lafayette, CO - Copper Stone Apartments Floodplain - Inland Group**
**Design Technician**
Sarah assisted in compiling the necessary information and digital exhibits to submit a completed a LOMC floodplain revision application. She worked to gain a greater knowledge of FEMA standards and familiarize herself with the process of floodplain management by attending the ASFPM webinars.