Arista H. Shippy, P.E., M.S.

Vice President,
DiNatale Water Consultants

Arista Shippy, PE, is a water resources engineer and project manager and has worked in the water resources engineering field since 2010. Mrs. Shippy works on reservoir and water supply system operations, water rights engineering analysis, water resources planning and engineering, water rights and infrastructure valuation, and surface water modeling. She has specific expertise in efficiently operating clients' water rights and infrastructure to best utilize resources and meet legal obligations within the Colorado water law system. Mrs. Shippy has served as a consulting expert in multiple cases and has testified as an expert in Colorado Water Court.

Mrs. Shippy has been involved in numerous projects that address water supply involving groundwater, surface water, and their interaction. Her work has involved water supply planning, augmentation plans, water rights engineering analyses including water rights and infrastructure valuation, water rights operations, accounting, basin-wide hydrologic modeling, water allocation modeling, and developing substitute water supply plans and plans for augmentation for water court applications. Mrs. Shippy has utilized various modeling platforms including RiverWare, the State of Colorado's Decision Support System models StateMod and StateCU, IDS-AWAS, and advanced Excel spreadsheet models.

Experience

Vice President,
DiNatale Water Consultants, Inc.
2023 – present

Water Resource Engineer,
DiNatale Water Consultants, Inc.
2011-2023

Graduate Student Researcher,
Bureau of Reclamation,
2010-2011

Registrations

Professional Engineer: Colorado

Education

M.S. Civil Engineering
University of Colorado (Boulder)
2011

B.S. Environmental Science
University of Oregon
2006

Mrs. Shippy utilizes the experience she gained volunteering with Engineers Without Borders on international engineering projects in Nepal in her innovative work, flexibility, and ability to perform under pressure, and her eagerness to take on any challenge, be it large or small.

Relevant Project Experience

Water Rights Evaluations. Mrs. Shippy evaluated water rights and water operations for small businesses, landowners, developers, and ranchers in the South Platte and White river basins. After investigating historical diversion records, irrigated acreage, and water resources, Mrs. Shippy performed historical consumptive use analysis for irrigated lands and recommended actions to ensure maximum legal use of water rights and plans of augmentation to ensure compliance with all decrees.

Water Court Expert Engineer. Mrs. Shippy has served as an expert engineer for objectors and for applicants in numerous Water Court cases in the South Platte River Basin. Mrs. Shippy has participated in negotiations with opposers and co-applicants and assisted in securing necessary agreements and decrees. She has been qualified as an expert witness and testified on behalf of the United Water and Sanitation District in objection to a conditional water right being sought by a sand and gravel company due to a lack of demonstrated need.

East Cherry Creek Valley Northern Water Supply Project and Arapahoe County Water and Wastewater Authority FLOW. DiNatale Water Consultants is assisting the East Cherry Creek Water and Sanitation District and Arapahoe County Water and Wastewater Authority in the south Metro Denver area to develop a permanent renewable water supply through the development and implementation of an innovative alluvial aquifer recharge and augmentation program. Mrs. Shippy is leading the water supply planning and operations effort and helps to coordinate monthly accounting and current ditch, well, and reservoir operations along the South Platte and Cache la Poudre rivers. Mrs. Shippy has helped with the evaluation of water rights and potential infrastructure operations that will be needed at full buildout. She has also assisted in securing and negotiating water contracts and infrastructure use agreements for the project.

United Water and Sanitation District, Water Supply, Water Quality, Infrastructure and Operations Planning. DiNatale Water Consultants is assisting the United Water and Sanitation District in planning and implementation of water supply projects to the meet the needs of various Colorado water providers. The District's goals are to facilitate the acquisition, diversion, storage, carriage delivery, treatment, transmission, distribution and provision of water to those who use the system. Mrs. Shippy has helped with the quantification of water rights owned by water providers within the United Water District. She is also assisting the District on water supply planning and operations and has helped with the development of modeling tools to analyze and optimize alternative project configurations. She assists with the coordination of current ditch, well, and reservoir operations along the South Platte and Cache la Poudre rivers.

Substitute Water Supply Plans and Augmentation Plans. Mrs. Shippy is experienced in development and review of Substitute Water Supply Plans and Plans for Augmentation in Colorado Water Divisions 1 and 2. This includes developing plans for augmentation for water providers, residential developments, and commercial hot springs.

Water Rights Valuations. Mrs. Shippy has prepared several water rights valuations for municipal and ditch rights in the South Platte. Mrs. Shippy has been responsible for the acquisition of water rights with a current market value of over $5 million.

East Cherry Creek Valley Water and Sanitation District 2018 and 2025 Water Conservation Plans. In accordance with Colorado Water Conservation Board (CWCB) guidelines, Mrs. Shippy worked closely with East Cherry Creek Valley staff to make updates the District's Water Conservation Plan that was initially developed in 2011. The Plan update was funded in part by a grant from the CWCB. Plan updates included the District's existing water system and proposed facilities, current and historical water demand and use by customer class, water loss calculations, existing and planned water conservation programs and activities, and water conservation goals. Mrs. Shippy helped determine demand forecasts based on baseline demands, climate change factors, the current conservation program and various levels of conservation programs, and estimates of water savings based on select water efficiency activities and potential impact of various water conservation measures.

Rio Grande Basin Implementation Plan. In May 2013, Governor Hickenlooper issued an Executive Order directing the Colorado Water Conservation Board (CWCB) to commence work on the Colorado Water Plan by utilizing the Interbasin Compact Committee (IBCC) and the Basin Roundtables (BRT). The CWCB provided financial support to each of the Basin Roundtables to develop its own Basin Implementation Plan (the Plan) through a bottom-up approach. DiNatale Water Consultants served as the Basin Planning Team lead for the Rio Grande Basin Implementation Plan and worked with the Rio Grande Basin Round Table (RGBRT), Steering Committee, and Subcommittees to develop goals and measurable outcomes, and to identify needs, opportunities and constraints in the basin. The Rio Grande Basin Plan focuses on projects and methods recommended by the RGBRT to address consumptive and non-consumptive needs. The Plan is intended to help the basin proactively meet water needs, through completion of currently planned projects, re-prioritized

projects, and development of new projects, operational agreements, flow protections, or other methods as needed. The Basin Plan also utilizes existing information developed for the Rio Grande Decision Support System (RGDSS) Groundwater modeling, the Rio Grande Cooperative and Radar Projects and other information that is available and relevant to the process. Additionally, more detailed surface water and stream-flow modeling analyses was conducted that will build on these efforts. Mrs. Shippy worked closely with the Steering Committee and subcommittees to incorporate their goals and measurable outcomes into the Plan. Mrs. Shippy aided the Environmental and Recreation Subcommittee in their development of the Basin's water environmental and recreational needs evaluation. She did substantial research and drafted information for the Plan regarding constraints and opportunities within the Basin, including dust on snow, beetle kill, soil health, and alternative cropping. Mrs. Shippy also developed a project sheet to be used for all current and proposed projects and filled in data for many of the projects that are included in the Plan as well as summarized project information such as goals and basin needs met and total funding required on an annual basis for each project and for all projects combined.

Rio Grande Cooperative Project. The San Luis Valley Irrigation District (Irrigation District) and Colorado Parks and Wildlife (CPW), with the financial assistance of the Colorado Water Conservation Board (CWCB) is developing the Rio Grande Cooperative Project. The CWCB is providing grants and loans that will be used to fund the rehabilitation of Rio Grande and Beaver Park Reservoirs. DiNatale Water Consultants is serving as the project manager on the Rio Grande Cooperative Project, a collaborative effort between the Irrigation District and CPW to develop operational scenarios designed to optimize the operations of Rio Grande and Beaver Park Reservoirs to enhance yields for the Irrigation District, CPW and other water users and provide for environmental and recreational enhancements. Mrs. Shippy developed a water rights and operations model of the mainstem Rio Grande River in Colorado to analyze the impacts of alterative scenarios of coordinated operations for municipal and industrial uses, augmentation, environmental and recreation purposes, Rio Grande River Compact compliance, and overall river administration. The model includes augmentation accounts in Rio Grande Reservoir for the San Luis Valley Water Conservation District, the Town of Monte Vista and Colorado Parks and Wildlife. Based on model results, optimal storage account volumes in Rio Grande Reservoir for CPW and other water users were determined and proposed operational scenarios will be developed to maximize the beneficial use of stakeholders' water rights and provide for multiple benefits.

Farmers Reservoir Irrigation Company Alternative Agricultural Transfer Methods Project. DiNatale Water Consultants lead a team of consultants and Colorado State University researchers on the analysis of alternative transfer methods. The project included interviews of agricultural and municipal and industrial users, water market experiments, analysis of the water court transfer challenges and development of an operations model to retime deliveries using alluvial recharge. Specifically, Mrs. Shippy analyzed survey results from municipal and industrial water providers and collaborated in writing and editing the final project report.

Professional Activities

American Water Resources Association, Colorado Section