Civil Engineering Solutions for Public Works

Submitted by:

MERRICK & COMPANY

www.merrick.com
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“Since 1955, Merrick has been heavily involved in the civil infrastructure for major public works projects and programs. It’s a commitment we made to the industry early on when Merrick’s professionals were planning and designing infrastructure for Vail, Colorado to improvements to the Cherry Creek Flood Control and Conveyance System. Today, we work closely with clients that include the City and County of Denver, the City of Aurora, the City of Centennial, Arapahoe County, and numerous others.

Merrick stays on the leading edge of the industry with a full spectrum of delivery services that provide clients with cradle to grave solutions from planning and design through construction management as needed to fit their demanding programs. At Merrick, you’ll find the in-house professional expertise to analyze and manage complex Public Works infrastructure projects with deliverables specifically tailored to address the particular needs of your organization and stakeholders. When you have questions or are ready to move forward with any of your Public Works civil infrastructure needs, give us a call. We enjoy solving challenges.”

Michael Martin, PE
Public Works Infrastructure
www.merrick.com
Overview

Merrick has provided Public Works civil infrastructure planning, design, and construction services to municipalities on an ongoing basis since its founding in 1955. The firm’s public sector clients include cities, counties, water and sanitation districts, metropolitan districts, state agencies, utilities, transportation districts, and redevelopment authorities. Merrick’s municipal service areas includes providing engineering services for the following types of projects:

Street and Roadway Design
- Arterial streets/roadways
- Collector streets
- Geometric design
- Plan and Profile design
- Pavement design
- Striping and signalization
- Local streets
- Rural roadways
- Intersections
- Structures
- Parking lots/Park-n-rides
- Transit facilities

Drainage Engineering
- Stormwater collection systems
- Piped storm water conveyance
- Open channels
- Hydraulic structures
- Erosion control systems
- Stormwater quality systems
- Detention/retention ponds

Water Resource Engineering
- Small dams and reservoirs
- Outlet/intake/diversion structures
- Raw water transmission lines
- Water treatment plants
- Potable water transmission lines
- Recycled water/irrigation water transmission lines
- Water distribution networks
- Pump stations
- Water storage tanks

Wastewater Engineering
- Collection systems
- Sanitary sewer systems
- Lift stations
- Treatment plants
- Force mains
- Interceptors/outfall lines
Municipal Facility Architecture & Engineering

Merrick understands the many challenges facing municipalities in today’s environment and our teams are prepared to work closely with clients to address these many challenges. From tight budgets and short schedules to communications with the community, transparency to constituents, and accountability to administrations, the Merrick team will partner with you and provide you with a cohesive team that serves your needs.

- Municipal buildings
- Operation centers
- Vehicle maintenance facilities
- Water treatment plant buildings
- Wastewater treatment plant buildings
- Architectural systems
- Mechanical systems (HVAC, piping, plumbing)
- Electrical systems (lighting, power, controls)
- Structural systems

A sampling of the firm’s clients includes:

- City of Aurora
- City & County of Denver
- City of Colorado Springs
- City of Thornton
- City of Greenwood Village
- City of Centennial
- City of Westminster
- Arapahoe County
- Jefferson County
- Adams County
- El Paso County
- Green Mountain
- Aspen/Snowmass
- Aurora Water
- Denver Water
- Bancroft-Clover Water & Sanitation District
- Bear Creek Water & Sanitation District
- Arapahoe County Water & Wastewater Authority
- Rampart Range Metro District
# Public Works Services

## Program Management

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## Engineering Services

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Examples of the firm’s experience includes:

**Public Works On-Call & Program Management Experience**

**City & County of Denver, On-Call Roadway & Drainage Engineering Services**
Merrick has had multiple repeat on-call contracts with the City & County of Denver Public Works Department from 1986-2012. Under these contracts, Merrick has provided roadway design, arterial street design, drainage engineering, utility engineering, construction management, surveying, mapping, and development review services. Merrick has been engaged on over 100 projects for Denver.

**City of Aurora, On-Call Roadway and Drainage Engineering Services**
Merrick has had multiple repeat on-call contracts with the City of Aurora Public Works Department from 1995-2010. Under these contracts, Merrick has provided roadway design, drainage engineering, utility engineering, construction management, and design review services.

**Arapahoe County Public Works, Roadway Engineering Services**
Merrick has had multiple repeat on-call contracts with the Arapahoe County Public Works Department since 1986. Under these contracts, Merrick has provided roadway design, arterial street design, drainage engineering, utility engineering, surveying, and mapping for major roadway improvement projects.

**Jefferson County Highway Department, General Roadway Engineering Services**
Merrick has had multiple repeat general service contracts with the Jefferson County Highway Department from 1999-present. Under these contracts Merrick has provided roadway design, arterial street design, drainage engineering, utility engineering, surveying, and mapping for major roadway improvement projects.

**RTD On-Call Engineering Services, Various Locations**
Merrick provided on-call engineering services to RTD under a series of four open-end contracts. Services included civil engineering, structural engineering, mechanical/electrical engineering, and architectural engineering service over an eight-year period. Projects varied in size and complexity, requirements, and schedules. Contracts included more than 40 task orders over four separate contracts.

**City of Centennial, On-Call Engineering Services**
Merrick is providing services for an on-call Public Works Support Services contract supporting the City of Centennial’s C.I.P. Program. Under this contract, Merrick assisted the City in evaluating alternatives to their contract with Arapahoe County to provide Public Works Services, developing performance standards that were incorporated into the RFP for the privatization of the Public Works operations for the City, evaluation of bids and award of contract, and periodic audit and work performance evaluations to ensure the private contractor’s compliance with the terms of the contract with the City.

**City of Castle Pines, On-Call Public Works and Engineering Services**
Merrick is providing on-call Public Works and Engineering Services to the City of Castle Pines. Under this contract, Merrick is acting as an extension of the City Staff and has provided roadway design, RFP bidding and contract award, construction management, parking lot design, and development/permit review services. Merrick is also currently assisting the City with snow removal planning and oversight services on approximately 118 lane-miles of City streets.
City of Colorado Springs, Engineering On-Call Services
Merrick has had multiple repeat on-call contracts with the City of Colorado Springs. Under these contracts, Merrick has provided roadway design, drainage engineering, surveying, mapping and construction management services.

Street and Roadway Experience (Typical)

Arapahoe Road Arterial Street Improvements (Colorado Blvd. to Holly St.)
Merrick provided design for the reconstruction of one mile of Arapahoe Road from Colorado Blvd. to Holly St. This project involved signage/striping/signal design, traffic engineering, concrete pavement design, drainage analysis/design, roadside landscape designs, irrigation systems modifications, preparation of drawings, specifications, coordination with businesses, 1,600 LF of storm sewer, retaining walls, pavement analysis, phased construction, and CDOT review/approval. The project was selected for a 2010 American Concrete Pavement Association Award. Total cost: $4.1M.

Union Avenue & Dayton Street Improvements
Merrick designed one mile of arterial street improvements for Union Ave. (Yosemite to Dayton) and Dayton St. (Union to Belleview Ave.), including two major signalized intersections. The improvements included new curb and gutter, raised landscaped medians, bike lanes, new traffic signals, improved accesses, retaining walls, storm sewer, and water quality features. Total cost: $2.6M.

Chatfield Avenue (Wadsworth Blvd. to South Everett Wy.)
Merrick provided design for widening improvements for Chatfield Avenue from Wadsworth Boulevard to S. Everett Way in Jefferson County, Colorado. The design includes 1.0 mile of 4-lane and 6-lane roadway sections with turn lanes and a landscaped median. Merrick provided surveying, ROW analysis, ROW acquisition plans, geometric design, traffic engineering (via subconsultant), pavement design (via subconsultant), preliminary engineering, drainage and utility engineering, landscape and irrigation plans (via subconsultant), signage and striping plans, final design, and construction administration assistance. Total costs: Phase 1: $1.1 million / Phase 2: $3.3 million.

Arterial Roadway Improvements, Quincy Ave. (S. Simms St. to Kipling Pkwy)
Merrick provided the design of 1.0 miles of roadway widening improvements to Quincy Avenue from South Simms Street to South Kipling Parkway in Jefferson County, Colorado. The improvements included design of a four-lane section for the eastern 0.5 mile segment of the project and the design of an interim two-lane asphaltic concrete roadway section for the western 0.5 mile segment of the project. The four-lane section included a raised median and turn lanes. The project included an 8-foot wide concrete detached bike path. The western 0.5 mile roadway segment was realigned to the north, to be further away from Harriman Lake. The project includes new bicycle lanes, storm drainage improvements, concrete box culverts at Weaver Creek and Johnson Ditch, and pedestrian sidewalks. The project provides for four through lanes on West Quincy Avenue to the South Nelson Street intersection. Continuing west to South Simms Street, the roadway was constructed as a two lane roadway (one lane in each direction) expandable to a four lane section in the future. The alignment was coordinated to accommodate Excel Energy’s existing high-voltage transmission line towers. Total Cost: $3 million.
Quincy Ave. (Reservoir Rd. to Gun Club Rd.) Improvements
Merrick provided conceptual and preliminary design of 2.6 miles of arterial roadway corridor improvements to widen and improve Quincy Ave. (Reservoir Rd. to Gun Club Rd.). The project involved a six-lane, asphalt paved, cross-section roadway with a center median and several intersections.

Belleview Ave., Yosemite St. to Dayton St.
Merrick designed one mile of roadway widening improvements to Belleview Ave. (Yosemite St. to Dayton St.). The project consisted of a four-lane arterial street with several intersections. The project included landscaped medians, pedestrian trail, and an extensive new storm sewer system. Total cost: $1.6M.

Yale Avenue, Federal Blvd. to Sheridan Blvd.
Merrick provided design for street reconstruction improvements for Yale Avenue from Federal Boulevard to Sheridan Boulevard, in the City and County of Denver. Merrick designed 1.5 mi. of 2 and 3-lane roadway section utilizing a full-depth asphalt pavement section, and an improved storm sewer system in the western 1/3 of the project. Services included improvements to three intersections and numerous crossing streets, new ramps, curbs, gutters, and sidewalk sections at various locations.

Holly Street, Evans Ave. to Cherry Creek South
Merrick provided the design for street reconstruction improvements for Holly Street from Evans Avenue to Cherry Creek Drive South, in the City and County of Denver. For this project, Merrick designed 1.15 mi. of 2, 3, and 4-lane roadway section utilizing both full-depth concrete and asphalt pavement sections, and an improved storm sewer system (30", 36", and 48" RCP). Merrick’s design work included improvements to five intersections, including new signals at the intersection of Holly St and Jewell Ave, and new ramps, curbs, gutters, and sidewalk sections at various locations. Total Cost: $3.3 million.

56th Avenue Widening Improvements (Quebec to Tower Rd.)
Merrick has been assisting the City and County of Denver in the 56th Avenue corridor beginning with a six mile conceptual engineering study in 2003 from Quebec Street to Pena Boulevard. Since then, Merrick has provided utility engineering and surveying for the final design and Phase I construction of the Quebec Street to Havana Street improvements and is currently working with the City on a Task Order to provide conceptual design of the Pena Boulevard to Tower Road corridor.

Intersection & Safety Improvements Experience (Typical)
Alameda Avenue/Sable Boulevard Intersection Operation Improvements, Public Works Department, City of Aurora, CO
Merrick provided the design for the widening of the Alameda Avenue/Sable Boulevard intersection to accommodate additional northbound and southbound left turn lanes, and to widen the existing bike lanes. This was a $700,000 federally funded project and was designed to comply with federal and state requirements such as: FHWA, CDOT, NEPA, CDPHE, etc. The project involved widening of Sable Boulevard to the east for additional turn lanes/wider bike lanes. Additional right-of-way was not acquired for this job; Merrick’s task was to design the project to keep all travel lanes within the existing right-of-way. Easements were acquired from adjacent property owners for the sidewalks.
**Intersection Design, Titus Blvd. & Sheridan Ave. Roundabout, Fort Carson Army Post**
Merrick provided the design of a roundabout intersection at Titus Boulevard and Sheridan Avenue on the Fort Carson Army Post Campus (Colorado Springs, CO). The roundabout is located at the intersection of two major arterial roadways on the south end of the campus. This was a design-build project for the US Army Corps of Engineers; the contractor was Tepa Constructors. Services included preparing a final design, providing construction documents, providing construction phase engineering services, and providing as-built drawings.

**Stormwater Projects (Typical)**

**East Iowa Avenue Extension Storm Sewer, City and County of Denver.**
Merrick provided engineering services for a project to construct a new storm sewer system from the intersection of Iowa Avenue and Broadway running south and east to the intersection of Asbury Avenue and Corona Street. The project involved completing a final drainage report for this watershed, performing a design and preparing construction plans, a bid schedule and engineers estimate of probable cost to install the system and eliminate or abandon the existing inlets and siphons within the sub-area. The design involved the installation of over 6,500 LF of storm sewer pipe (ranging in size from 18” RCP to 78” x 48” arch pipe) including 30 manholes and 45 inlets. It also involved the removal and replacement of over 1500 LF of 6” curb and gutter. Additionally, the design required coordination with several major utilities, particularly Denver Water.

**North Tributary to Massey Draw - Channel Improvements, Chatfield Avenue**
Merrick designed channel improvements on this major drainageway crossing of Chatfield Avenue in Jefferson County. The project included improvements per County and Urban Drainage criteria to stabilize 500 LF of channel and to provide a major culvert crossing of Chatfield Avenue. The project included 2 grouted sloping boulder drop structures (6’ in height), 1 road crossing (single 20’x4’ RCBC), and a floodplain (HEC-RAS) analysis of the drainageway.

**First Creek Detention Pond Upstream of I-70**
Merrick is currently providing hydrologic evaluation of a six-square mile drainage basin, evaluation of alternative solutions and preparation of preliminary and final design for regional detention pond(s) on First Creek upstream of the crossing of First Creek and I-70. This detention pond(s) will be the first of several within the First Creek watershed as part of the Master Plan and a prior IGA between Aurora, Denver and UDFCD. These ponds will detain First Creek flows to an agreed upon release rate to help alleviate existing downstream flooding. This project will also include the preparation of a CLOMR to define the floodplain after the construction of the pond(s). The final planned detention facility will be designed to aesthetically fit into the existing surroundings and will likely result in a jurisdictional dam embankment(s) due to size (130-230 Ac-Ft), depth (> 10 Ft) and area (> 20 Ac).

**Stormwater Quality System Engineering, West Gate Village**
Merrick provided planning, design, and construction management of a 21st Century stormwater quality system for RidgeGate, a master planned community in the City of Lonetree and Douglas County, CO. Stormwater elements include multiple regional and sub-regional detention ponds, multiple conveyance channels, multiple stormwater quality facilities, and a regional trail system. The overall project includes a six-square-mile site, four watersheds, 22 sub-watersheds, five regional detention ponds, ten sub-regional detention ponds, multiple outfall systems, water quality facilities, sediment collection systems, and numerous detention ponds. The West Village area is the first phase of the
overall project. The West Village stormwater system includes stormwater quality detention ponds, large diameter outfall pipe system (72” and 96” diameter), river rock cobblestone trickle channels, outfalls to micro-pools, several detention ponds, and, in some locations, the use of fore-bay sediment collection systems. This project was awarded an American Public Works Association Project Excellence Award.

**Channel Improvements, Sand Creek Channel**
Merrick provided the design of 1.1 miles of major channel improvements for Sand Creek, a major natural drainageway on the eastern boundary of the City of Colorado Springs. The channel carries 3,600 cfs (with detention). The project included open-channel design, buried riprap erosion protection, buried concrete and sheet pile check structures, two baffled chute concrete drop structures, grouted sloping boulder drop structure, bridge structures, maintenance of natural channel configuration, creation of wetland mitigation areas, and a multi-use trail system. Services included surveying, conceptual design, hydrology, hydraulic analysis (HEC-II, HEC-RAS software), preliminary engineering, final design, specifications, cost estimates, construction management, COE-404 permit submittal, floodplain development permit, and FEMA conditional letter of map revision.

**Stormwater Outfall System, 56th Avenue (Utah Junction - Clay Street)**
Merrick provided the design of a $1.1M major stormwater outfall system. This outfall system conveys stormwater from the 56th Avenue street corridor (between Federal Boulevard and Zuni Street) north to Clear Creek. Merrick provided hydraulic analysis, hydraulic engineering, and conveyance piping design for this project. The system was designed for a 5-year event with a discharge of 200 CFS. The project involved storm drainage improvements consisting of over 5,000 LF of large diameter storm water conveyance pipe (up to 60” diameter), detention pond, box culverts, open channel sections, railroad crossings, and ditch crossings.

**Baseline Reservoir North Dam Reconstruction**
Areas were identified on the downstream slope of the North Dam by the Baseline Land and Reservoir Company, and the project civil and project geotechnical engineers. Prior to joining Merrick, McLaughlin Water Engineers (MWE) performed design and SEO submission to complete the following tasks: flatten downstream embankment from its current condition, install additional piezometers to monitor dam performance, install additional dam measurement markers to monitor dam performance; install toe drains and measurement weirs along the toe of the north dam; and grade the crest to a uniform elevation with drainage to the upstream slope.

**Cherry Creek Valley Water and Sanitation District - Hydrology Study and Storm Sewer Design**
Prior to joining Merrick, McLaughlin Water Engineers (MWE) was selected to perform a Hydrology Update and Storm Sewer Project for this development. MWE prepared a build-out conditions hydrologic analysis of stormwater runoff flows generated from future development conditions. This analysis was used as the basis for preparing a final design project to fill the existing detention pond, and construct a storm sewer to route flows to a new detention pond. Final design drawings; grading, erosion, and sediment control drawings; and a report were generated for permitting through Arapahoe County and SEMSWA. Total Cost: $100,000.
City Park Drainageway Rehabilitation, Urban Drainage; Bank and Channel Stabilization
To improve the reach of the channel, MWE prepared a predesign report which outlined the alternatives for UDFCD and the City of Broomfield to review and select. The predesign report was coordinated with the City Park master plan and provided a design to allow the improvements to safely pass a 100-year flow event. Along with the predesign report, a 404 permit was applied for and granted. Initially a boulder-lined channel was selected but, for permitting reasons, was eliminated. The selected alternative was soil lift banks along with grouted sloping boulder checks. Two checks were designed, one in conjunction with a new pedestrian bridge. The channel also incorporated pockets of wetlands along the reach. A concrete mow edge was requested by the City of Broomfield Parks Department and was incorporated at the edge of the soil lift bank. Total Cost: $230,000.

Bridge and Pond Design and Construction – Drainageway 2 Finch Ave. Bridge and Wild Ridge Detention Pond Retrofit
MWE prepared final design drawings and specifications for the new pedestrian bridge along Drainageway 2 in Lafayette, CO. In addition to the bridge design, MWE prepared final design drawings and specifications for a pedestrian wetlands crossing as well as a detention pond outlet works retrofit and increase in pond volume. MWE modeled the pedestrian crossings with HEC-RAS to ensure that construction had no adverse impact on the 100-year water surface elevation, and in fact, the 100-year water surface elevation at the pedestrian bridge location was lowered as a result of the project.

Drainageway 2 Downstream Planning, UDFCD, Planning Study
MWE was contracted by the Urban Drainage and Flood Control District (UDFCD) and local stakeholders to investigate the current flooding issues in the Colorado counties of Lafayette and Boulder. The flooding problem existed along Drainageway 2 within the lower part of the basin to its confluence with Coal Creek. Along with its investigation, MWE was tasked with providing a recommendation to address future flooding concerns. The project required an investigation of a previous master planning study to determine proposed improvements along this reach, and use these proposed improvements as a basis for addressing flooding within the lower watershed. This project was also intended to be a planning document and guide for future stormwater infrastructure improvements along the drainageway.

Transit Station Infrastructure Engineering
Pedestrian Bridge and Elevator Tower Structure, County Line LRT Station, Park Meadows, Regional Transportation District, Lone Tree, CO
Merrick provided site and architectural facility design of the pedestrian bridge and elevator tower structure connecting County Line Station to the Park Meadows Shopping Center for the Regional Transportation District. The facility will provide access and egress to and from the Park Meadows Shopping Center for passengers using the Light Rail Transit at County Line Station. Merrick’s design work was performed under a subcontract to Parametrix, which was responsible for the bridge and structural systems design. Merrick provided surveying, civil engineering, architecture, mechanical, and electrical systems engineering.
Belleview Station Transit Oriented Development (TOD), Madre Metropolitan District, Denver, CO

Merrick provided civil engineering services for the Belleview Station Transit Oriented Development (TOD) project. This is a 50-acre mixed-use development located at the Light Rail Station near I-25 and Union Avenue in Denver, CO. Development program included the following: 50-acre Transit Oriented Development; Mixed-Use Development, Zoned TMU-30; 1,800 residential units; 2,200,000 SF of office space; 250,000 SF of retail space; 2 Hotels; Adjacent to Light Rail Station at I-25 and Union Avenue. The owner of the project is Front Range Land & Development Company; the metro district is the Madre Metropolitan District. This phased project includes commercial zones, retail zones, and residential zones. Merrick provided a full range of civil infrastructure engineering services to the metropolitan district for this project including grading analysis, street design, drainage engineering, water distribution system design, and sanitary sewer collection system design. The stormwater system design includes collection, conveyance, detention, and stormwater quality design.

Light-Rail Transit Oriented Development (TOD), RidgeGate Development, West Village, Lone Tree, CO

Merrick provided the site civil engineering for Tract J of the West Village Light-Rail Transit Oriented Development (TOD) located at the southwest corner of I-25 and Lincoln Avenue in the City of Lone Tree, CO. This project is a 40-acre mixed use TOD development that includes provisions for a key RTD light-rail transit station. It also includes associated parking, access roads, development pads with multi-family residential apartments, two hotels, and several commercial retail areas. Merrick provided surveying, platting, preliminary engineering, final design, and permitting assistance for this project. Design Workshop provided planning services; traffic engineering was provided by FHU.

Construction Management Projects (Typical)

I-225/Colfax Avenue Interchange, Phase 1 Construction Management

Merrick provided construction management support to the City of Aurora Public Works Department for the first phase of a multi-phase interchange construction project. The new I-225/Colfax Avenue interchange is a $40M transportation project to improve and provide interstate highway access to the Fitzsimons Medical Campus (Fitzsimons Campus). Phase 1 of this interchange improvement project totals $1.3M and includes widened southbound ramps from I-225 to Colfax Avenue, and from Colfax Avenue to I-225. These improvements include new embankments, grading, concrete pavement, new signals, drainage systems, storm water quality facilities, utility relocations, and other associated construction elements. This project was funded by an American Recovery and Reinvestment Act (ARRA) grant. As such, Merrick assisted the City of Aurora in reporting for the administration of this grant.

Fitzsimons Parkway Construction Management

Merrick provided full owner’s representation and construction inspection services for 2.0 miles of arterial street that traverses the outer edge of Fitzsimons campus on the east and north boundaries. This project included a four-lane arterial street section, landscaped median, eight intersections, four signalized intersections, full-depth concrete roadway, 10,225 LF RCP storm sewer (18” – 78” diameter), and 11,800 LF of water transmission line (12” – 30” diameter). This project was selected for an American Public Works Association Project Excellence Award and a Colorado Construction Gold Hard Hat Award. Total cost: $18M.
Thornton Arterial Street Program Improvements (Sales Tax Projects)
Merrick provided full owners’ representation services for six major roadway improvement projects as part of Thornton’s 2002 – 2006 Street Improvement Bond and Sales Tax Program Projects. These projects included Holly Street extension (Riverdale Rd. to 104th Ave.); 126th/124th Avenue extension (Lafayette St. to Claude Ct.); Thornton Parkway widening (Downing St. to Colorado Blvd.); and 136th Avenue widening (Washington St. to Colorado Blvd.). Specific projects included street widening improvements as well as new extensions. Streets included three-, four-, and six-lane streets. Improvements included new alignment, extensions, cross-section modifications, new pavements, new vehicle lanes, intersections, turn lanes, new traffic signals, medians, box culvert structures, curb and gutter, storm drainage systems, utility relocations, sidewalks, landscaping, and other improvements. Total cost: $19.8M.

Program Management Experience (Typical)

Rampart Range Metropolitan District – Infrastructure Program Management
Merrick serves as Program Manager and District Engineer for the Rampart Range Metropolitan District. Merrick has provided program management services from 2006 to the present. This District covers over six square miles of area and was formed to construct over $300M of major roads, utilities, and drainage systems for the RidgeGate Development project, located south of Lincoln Avenue and on both the east and west sides of Interstate 25 in Douglas County and the City of Lone Tree. Merrick provides program management support and district engineering services consisting of capital planning, master planning, design contract coordination, construction contract coordination, design review, engineering, project administration, construction observation, pay estimate reviews, project coordination, close-out, and warranty inspections.

City of Aurora – Facility Bond Projects Program Management
Merrick provided Program Management and Owner’s Representation Services for the City of Aurora’s 2002 – 2005 Bond Program. This $120M program included a new city hall and administration building and several new municipal facilities including libraries, fire stations, maintenance facilities, and municipal service centers. Most of the projects utilized a design-build project delivery approach, resulting in a shortened project schedule and controlled approach to the budget for each project.

Bancroft Water and Sanitation District – Program Management
Merrick currently serves as Program Manager and District Engineer for the Bancroft-Clover Water and Sanitation District. Merrick has provided program management services from 2004 to the present. This District covers 4,500 acres including both commercial and residential land uses and over 110 miles of water lines and 105 miles of sewer lines. The 2005 – 2010 Construction Program included over $10M of improvements including water line replacements, pump station upgrades, sanitary sewer line replacements, new water lines, and new sanitary sewer lines.
Arapahoe County Water and Wastewater Authority Program Management
Merrick serves as a program management consulting engineer for the Authority, which covers over 5,000 acres and includes over 80 miles of water lines and 60 miles of sanitary sewer lines. Merrick has provided program management services from 2002 to the present. Merrick’s responsibilities include planning, design, development reviews, specifications, construction administration, and inspection services.

Bear Creek Water and Sanitation District – Program Management
Merrick currently serves as Program Manager and District Engineer for this water and sanitation district, which covers 2,700 acres and includes 55 miles of water lines and 45 miles of sewer lines. The firm has provided program management services from 1995 to the present. Merrick’s responsibilities involve planning, design, contract administration, construction inspection, development reviews, preparation of CADD maps, and other general consulting.

The following pages provide more specific detail about Merrick’s experience.
Merrick & Company is a $111 million engineering, architecture, design-build, surveying, planning, and geospatial solutions firm. The employee-owned company serves domestic and international clients in the national security, energy, life sciences, nuclear, and sustainable infrastructure markets.

Civil Engineering Solutions Overview

Merrick’s Civil Engineering team provides services to public and private sector clients. The team focuses on municipal, district, water resources, and land development engineering, with overall services including:

- Master infrastructure planning/feasibility studies
- Conceptual design
- Preliminary engineering
- Final design
- Construction management
- Program management
- Photogrammetric and aerial mapping services
- Legal surveys (Boundary/ROW)
- Topographic surveys/plan and profile surveys

Merrick builds long-term relationships and assists clients through the life-cycle of a project. These services include surveying, feasibility studies, concept studies, preliminary design, final design, and preparation of construction documents, construction specifications, final drawings, and construction estimates. In addition, Merrick provides full construction support services including bid assistance, construction surveying, construction monitoring/inspection, testing, progress reports, pay estimate reviews, final punch list, final walk through inspections, and warranty inspections. Merrick is organized for responsiveness, efficiency, and client service. See the following chart for a breakdown of our civil team:

This group of professionals has been involved in projects ranging in size up to $200 million, with the firm’s projects including new construction, renovation of existing systems, and expansion of existing systems.

Merrick is known for keeping pace with technology in order to provide clients with accurate, clear, and efficient data and documentation.
Technical Library
Merrick maintains a large technical library on the firm's intranet that includes codes, standards, orders, regulations, procedures, drafting manuals, engineering manuals, and vendor catalogs to support the firm's design teams.

Estimating
Merrick utilizes in-house professional cost estimators to prepare construction cost estimates. The firm's in-house estimators utilize a variety of software programs including CostPro and Timberline. In addition, the firm uses cost guides and local bid tracking systems (CDOT, UDFCD) to assist in preparing labor and materials estimates for local market conditions.

Scheduling
Merrick utilizes in-house professional schedulers and programs to prepare detailed project schedules. Scheduling software includes Primavera Sure-Trak, MS-Project, and other software.

Project Management
Merrick utilizes BST Enterprise software for cost accounting on its projects. This system provides weekly and monthly cost reports to project managers.

Sustainable Infrastructure
Merrick’s civil engineering team is focused on Sustainable Infrastructure Solutions. This commitment goes well beyond the terminology of renewable or green solutions. We're committed to effective sustainable infrastructure solutions that will perform as intended over the life of each project.
Merrick is ranked in the top 125 of Engineering News Record’s “Top 500 Design Firms” and the firm has received numerous local, regional, and national awards for planning, engineering, architecture, and geospatial technologies. The following is a sampling of the awards recently received by Merrick.

**Top 300 Architectural Firms (#94) 2013**
Architectural Record

**Top 500 Engineering Firms (#103) 2013**
Engineering News-Record

**Top Design Firms Colorado/Wyoming (#3) 2013**
Engineering News-Record

**Top Engineering/Architecture Firms (#9) 2013**
Building Design + Construction

**Engineering Excellence Award 2013**
American Council of Engineering Companies of Colorado (ACEC/CO)
Chattahoochee River Ecosystem Restoration project

**Engineering Excellence Award 2013**
American Council of Engineering Companies of Colorado (ACEC/CO)
Tri-State NERC LiDAR Surveying and Modeling Project

**Segmented Retaining Walls Commercial/Industrial Award Winner 2013**
Hardscape North America
RidgeGate Commons Retaining Wall

**Honor Award 2013**
American Council of Engineering Companies (ACEC) National Award
Hartland Dam Fish & Boat Passage project

**Hexagon Award, 1st Place, Civil/Survey, 2012**
Leica Hexagon Awards

**Engineering Excellence Awards (First Place), 2012**
American Council of Engineering Companies (ACEC), Colorado Chapter
Hartland Dam Fish & Boat Passage project

**Project Excellence Award 2011**
American Public Works Association – Colorado Chapter
Brick Masonry Neighborhood Fence Program, Aurora

**Project Excellence Award 2010**
American Public Works Association – Colorado Chapter
Bancroft Clover Water and Sanitation District, Master Program, Lakewood, CO
With the resources of 500 professionals and support staff, Merrick easily serves its clients’ needs on a local, regional, national, and international basis.