

LWM-1

Title

Senior Vice President

Education

M.S., Environmental Engineering,
Stanford University, 1975

B.S., Civil Engineering, University of
the Pacific, 1975

Registration

Professional Civil Engineer,
California, #27169, 1976
Diplomate, American Academy of
Environmental Engineers

Experience

33 years

Affiliations

American Public Works Association
American Society of Civil Engineers
American Water Works Association
Water Environment Federation

Summary

Lyndel Melton specializes in civil, environmental and water resources engineering involving the planning and design of water resource management projects. These projects include water supply, water treatment, recycled water, and flood protection facilities. His career has been focused primarily in California, with extensive experience in planning, permitting, and implementation of municipal projects. He has significant experience in institutional interfaces among regional entities, including interagency agreements for water exchange and banking.

Relevant Experience

Water for Monterey Water Project, Marina Coast Water District, Monterey County Water Resources Agency, California American Water Company

Project Manager. Lyndel lead the planning effort for development of a new regional water supply program that integrates the needs for increased urban water supplies and preservation and enhancement of available agricultural water supplies. The planning effort was designed to overcome institutional hurdles while addressing long-term water supply needs for northern Monterey County. The program included internal and external stakeholder processes, Board and Council workshops, alternatives development, screening and prioritization, development of phased project implementation, and environmental review. The planning process incorporated sustainability, reliability, cost, economics, public acceptability, legal institutional acceptability, and environmental impacts. The recommended program incorporates a combination of new surface water supplies, desalination of combined ocean and brackish groundwater, expanded use of recycled water, groundwater banking, and possible future pot able reuse.

Urban Water Augmentation Project, Marina Coast Water District

Principal-in-Charge. Lyndel's role on this project includes overseeing preliminary design and providing overall management for a new water supply for the redevelopment of the former Fort Ord military installation which is being converted to civilian use. The project includes development of additional recycled water supplies for irrigation purposes and implementation of a new ocean based desalination facility for potable uses. Critical to the success of this project is the negotiation of a water exchange and interagency agreement necessary for delivery of recycled water, potential for wheeling of advanced treated recycled water for groundwater replenishment, and use of an existing wastewater ocean outfall for brine disposal. Brine management options include injection into the beach sands, deep well injection, and use of the existing Monterey Regional wastewater outfall. The options are being compared based on cost, ability to obtain necessary institutional agreements, ability to obtain necessary

permits, reliability, and flexibility.

Strategic Water Resource Plan, Palmdale Water District. *Water Supply Planning Lead.* Lyndel's role in the development of this Strategic Water Resources Plan is to lead the identification and evaluation of water supply options, including development of water transfer opportunities and internal and external water banking opportunities. The Strategic Water Resources Plan is being used to evaluate alternative water management strategies to meet its future water needs, including increased levels of conservation, recycled water use, groundwater replenishment, additional water importation, and water exchange programs. Alternative strategy analyses are being completed with the assistance of MODFLOW and WEAP modeling tools.

Coastal Aqueduct Extension, Central Coast Water Authority

Project Manager. Lyndel managed preliminary and final design of facilities to deliver California State Project water to San Luis Obispo and Santa Barbara Counties. The project involved significant interfacing with permitting agencies and the US Bureau of Reclamation and California Department of Water Resources. Lyndel worked closely with legal counsel to obtain approval from the Bureau of Reclamation for moving State Project Water through federal facilities through provisions contained in the Warren Act.

Randall-Bold Water Treatment Plant, Contra Costa Water District

Project Manager. Lyndel lead the technical aspects in the negotiation of a water supply and exchange agreement between the Contra Costa Water District and the Diablo Water District (formerly Oakley Water District) that served as the basis for cost sharing of this regional water treatment facility. Lyndel also managed preliminary and final design of the 40-mgd direct filtration water treatment plant that includes deep bed carbon filters, ozonation, and chloramination as a residual disinfectant.

Salinas Valley Water Project and Basin Management Plan, Monterey County Water Resources Agency

Project Manager. The Salinas Valley Water Project (SVWP) addresses the water supply imbalance in the greater Salinas Valley. The project provides incremental water supplies necessary to meet the agricultural and urban water needs of the agriculturally rich Salinas Valley. Salinas Valley agriculture includes a wide variety of raw vegetable crops and high value wine grapes. Lyndel worked with growers and land-owners to craft a water supply strategy and to obtain the support necessary for a land-based assessment that provides the financial backing for project implementation. Lyndel was also involved in the public process that resulted in wide public support and an 85% yes vote for the project.

North Monterey County Water Supply Project, Monterey County Water Resources Agency

Project Manager. Lyndel managed the master planning process to develop the North Monterey County Water Supply Project. Lyndel's primary role in this project was to provide engineering support and to facilitate stakeholder meetings of the North Monterey County Ad Hoc Committee. The purpose of the discussions was to allow the committee to reach agreement on a definition of the North County water supply problem, select a series of alternative projects that could address the defined problem, and define an approach to evaluating the identified alternatives and reaching agreement on a recommended project.

Water Supply Project Implementation, Marina Coast Water District

Program Manager. Lyndel is leading implementation of a new desalination and treated surface water supply for the Marina Coast Water District. This effort focuses initially on implementation of a new 3 mgd desalination facility utilizing vertical wells in a coastal aquifer. The wells are projected to deliver a blend of 85% ocean water and 15% brackish groundwater. The surface water treatment facility will be a 14 mgd, membrane filtration facility designed to treat Salinas River water. The facilities are being developed on a fast-track to allow for project implementation in 2011.

Granite Ridge Water Project, Monterey County Water Resources Agency *Project Manager*. Lyndel has been working to assist in the development of a new groundwater supply and water distribution system to serve the greater Granite Ridge area of northern Monterey County. The project includes a new groundwater well, a new distribution system, including piping, pumping, and storage. The project has been developed to support a potential Proposition 218 ballot initiative as a source of funding, along with application for California State grants potentially available under Proposition 84.

Groundwater Demineralization Feasibility Study, San Benito County Water District and Santa Clara Valley Water District *Project Manager*. Lyndel lead his evaluation of the feasibility of implementing groundwater demineralization to develop a new potable supply from high TDS, non-potable groundwater in San Benito County. The project included pilot testing of reverse osmosis membranes, evaluation of alternative brine management and disposal strategies, including an analysis of salt recovery strategies by Lawrence Livermore National Laboratory, and evaluation of implementation strategies and project beneficiaries. The project goal was to develop up to 4,000 AFY of new water supply for the greater Hollister area and to provide multiple project benefits to San Benito County and Santa Clara Valley Water Districts and the California Department of Water Resources. Central to future implementation of this project is development of an institutional agreement between the San Benito County Water District and the Santa Clara Valley Water District.

Hollister Urban Area Water and Wastewater Master Plan, San Benito County Water District *Technical Consultant*. Lyndel has been working to assist in the development of a master plan for implementation of water supply and wastewater management improvements to the greater Hollister area within San Benito County. His work has centered on water exchange agreements and other implementation issues associated with groundwater demineralization and recycled water implementation, with an emphasis on delivery of recycled water to agricultural water users. Of particular importance is development of agreements between the four interested parties – City of Hollister, San Benito County, the San Benito County Water District, and the Sunnyslope County Water District. These agreements are intended to guide project implementation, facilities sharing, and operations responsibilities.

Groundwater Demineralization Project, Zone 7 Water Agency *Project Manager*. Managed preliminary design, permitting and environmental compliance of the groundwater demineralization project which includes a 10-mgd reverse osmosis facility to remove salt from extracted groundwater. Of critical importance was brine management and disposal via blending with secondary effluent through an existing deep water outfall. This disposal method required modification of the NPDES permit for the deep water outfall for acceptance and disposal of the brine. The project included significant institutional interface between regional interests to ensure the support necessary for project implementation.

Infrastructure Reliability Project, Santa Clara Valley Water District, *Principal in Charge, Project Manager*. Lyndel served a Principal in Charge for the first Phase of the Infrastructure Reliability Project, then served as Project Manager and Principal in Charge for the second Phase of this work. This project examined the reliability of the SCVWD raw and treated water systems to determine the reliability of water supply following major natural disasters, including a major seismic event. The project also indentified alternative project portfolios for improving the system reliability through improvements to the SCVWD's infrastructure, including cooperative agreements with the retail customers that provide water to customers within the SCVWD service area.

Pajaro River Watershed Integrated Regional Water Management Plan, San Benito County Water District, Santa Clara Valley Water District and Pajaro Valley Water Management Agency

Principal-in-Charge/Project Manager. The Pajaro River Watershed Integrated Regional Water Management Plan (IRWMP) was developed through the efforts of a three-agency partnership of San Benito County Water District, Pajaro Valley Water Management Agency, and Santa Clara Valley Water District. RMC facilitated formation of a stakeholder steering committee; worked with cooperating agencies to develop a regional, watershed-wide integrated water resource management plan; identified an approach to optimize Proposition 50 project funding; and developed an integrated water supply project concept with multiple benefits. The project included development of a prioritization process which was used to prioritize projects in the IRWMP and facilitated the evaluation of projects using that process. Lyndel also assisted with the preparation of the region's successful Proposition 50, Chapter 8 Planning Grant and Implementation Grant applications.

Monterey County Water Resources Agency, Salinas Valley Integrated Regional Water Management Plan

Project Manager. Lyndel served as project manager for the Salinas Valley Integrated Water Management Plan preparation. The development of this plan included guiding the goals and objectives development and providing input for project selection for plan implementation. The plan was prepared for a partnership between the Monterey County Water Resources Agency, Marina Coast Water District and Castroville Water District. Lyndel also assisted with the preparation of the region's successful Proposition 50, Chapter 8 Implementation Grant application. The application resulted in a grant award of \$12.5 million for the Salinas Valley Water Project, the Soledad Recycled Water Project, the Salinas River Fisheries Monitoring Project, and a new inland well system for the Marina Coast Water District.

Water Supply Project Implementation Feasibility Analysis, Northern California Water District

Project Manager. Lyndel is leading the development of a potential new water supply project in northern California. The project would develop up to 160,000 AFY of new water supplies. Lyndel is presently working with the Water District to develop water agreements necessary for project implementation. The Project includes the construction and operation of a rock-fill dam, surface water storage reservoir, and hydroelectric power facilities. A private partner has been identified for participation in development of the power generation facilities.

2005 Urban Water Management Plan, City of Modesto

Project Manager. Lyndel managed preparation of Modesto's 2005 UWMP. In addition to meeting the requirements of the Urban Water Management Planning Act, the City desired a functional document that supports water supply assessments, water supply verification, and General Plan updates. Challenges facing the City include surface and groundwater quality; wastewater disposal capacity, treatment and infrastructure; regulatory requirements, and stakeholder issues.

2005 Urban Water Management Plan, City of Lodi

Principal-in-Charge. RMC is completing the City of Lodi's 2005 UWMP update. Water demands for the city are expected to more than double between 2005 and 2040, and the groundwater table has been dropping. The city desires a functional document to support the General Plan update, as well as future water management planning studies, including a reclaimed water master plan and an integrated water resource plan.

2005 Urban Water Management Plan, City of Waterford

Principal-in-Charge. Waterford is in the process of annexing and planning for the development of approximately 1,460 acres of undeveloped land that will add an additional 15,000 people to its population. RMC recently completed the first Urban Water Management Plan for the newly formed City of Waterford Water Department. Tasks included conducting supply and demand analyses, assessing water

quality, and developing a water shortage contingency plan and management measures in keeping with 2005 UWMP requirements.

Revised Basin Management Plan, Pajaro Valley Water Management Agency

Project Manager and Principal-in-Charge. Lyndel lead development of the Revised Basin Management Plan. The Plan addresses basin overdraft and resulting seawater intrusion problems caused by groundwater pumping in the valley, and recommends supply options to meet existing and future water supply needs. The plan focuses on new water supply options for agricultural water users, and includes recommendations for development of in-basin surface and recycled water supplies, importation of Central Valley Project (CVP) supplies, increased levels of water conservation, in-basin and out-of-basin water banking, and potential for development of ocean desalination facilities. He developed strategies and coordinated three separate EIR documents, a federal EIS prepared under the Bureau of Reclamation, Section 7 consultation with NOAA Fisheries and USFWS, Corps 404 (including 404(b)(1) alternatives analysis) and 401 permit processes, and obtaining a California DFG Stream Alteration Agreement.

Imported Water Supply Development, Pajaro Valley Water Management Agency

Project Manager. Lyndel provided technical assistance to the PVWMA in identifying, evaluating and negotiating a transfer of CVP water contract from a Central Valley water agency to PVWMA. The total water contract was for approximately 26,000 AFY of CVP, south of Delta agricultural water delivery. The proposed assignment would provide a long-term water supply to meet the needs of the PVWMA land owners to off-set groundwater pumping and provided a balanced groundwater basin.

Water Facility Supply and Reliability Improvements and Seismic Evaluation Project, Phase II, Contra Costa Water District

Project Manager. Lyndel managed the effort to develop a basis for evaluating the District's infrastructure, including how to incorporate seismic and reliability criteria for use in the evaluation of existing facilities and the design of new facilities. This effort became the basis for the District's Treated Water Master Plan update, providing a road map for implementation of improvements to treated water distribution within the District's service area. The project also included evaluation of the main canal's capacity and seismic reliability for transporting raw water supplies to the District's Bollman Water Treatment Plant.

Proposition 218 Engineers Report, Salinas Valley Water Project, Monterey County Water Resources Agency

Project Manager. Managed preparation of a Proposition 218 Engineer's Report and provided support to the Ad Hoc Cost Allocation Committee for the project. The Cost Allocation Committee provided a definition for evaluation of water supply and flood protection benefits received from ongoing project operations and from the proposed projects. These benefit definitions were then used for the 218 process which resulted in an 85% voter approval.

Castroville Seawater Intrusion Project, Monterey County Water Resources Agency

Project Manager. The Castroville Seawater Intrusion Project is one of the largest reclamation/irrigation projects in California, and serves to reduce groundwater pumping to decrease seawater intrusion into the Salinas Basin groundwater aquifer. The project included preliminary and final design of 40 miles of recycled water distribution system to serve approximately 12,000 acres of prime agricultural land in the northern Salinas Valley. Lyndel was responsible for preparing the preliminary and final design documents and for obtaining necessary permits, including Corps 404, Coastal Development, and Regional Board permits.

Granite Basin and Lyons Reservoir Water Supply Studies, Tuolumne Regional Water District

Project Manager. Managed a series of studies evaluating water demand throughout Tuolumne County, as well as methods of meeting future demands. Work included identifying potential sources of increased supply and evaluating potentially available water rights, particularly for projects that would add supply from the South Fork of the Stanislaus River. Alternatives included increased reservoir yield, new reservoirs, canal capacity expansion and loss reduction, reclaimed water, and transmission system development. Two specific projects were identified: Lyons Dam expansion and a new dam and diversion upstream of Strawberry, California. Lyndel also led the design of a new water treatment plant that serves the central portion of Tuolumne County in the area that surrounds Twain Harte.

Reach 5b, Coastal Aqueduct Extension, Central Coast Water Authority

Project Manager. Managed the fast-track design of 26 miles of 42-inch diameter pipeline, a pressure control facility, two metered turnouts, and two 2.5 mg prestressed concrete reservoirs as a part of the Coastal Aqueduct Extension, providing treated California Water Project water to San Luis Obispo and Santa Barbara Counties. The pipeline and pressure control facilities were designed to operate at up to 400 psi. In addition, the project, including the reservoirs, was constructed in a seismically active, environmentally sensitive area with special considerations for contractor training and environmental monitoring during construction. Under his leadership, the Central Coast Water Authority realized a cost savings of nearly \$20 million and met its scheduled commitment for water delivery to residents of the two counties. The Reach 5 facilities for Central Coast Water Authority represent the first State Water Project facilities owned by the State and designed and constructed by a participating entity.

Coyote Watershed Program, Santa Clara Valley Water District

Program Manager. The Coyote Watershed Program consists of over \$200 million in flood protection projects on five separate waterways in eastern Santa Clara County. The Santa Clara Valley Water District is developing flood protection projects for the creeks within the Coyote Watershed, providing a wide range of benefits, from flood protection to stream enhancement to providing community recreational facilities. The program also included development of the Coyote Watershed Stream Stewardship Plan, a plan that guides development and management of areas that drain into the creeks within the watershed. Working with the watershed manager and senior project manager of the Santa Clara Valley Water District, Lyndel was responsible for development of the overall program and served as program manager until 2002. While in that role, his responsibilities included oversight of planning, design, permitting, construction, and facilities start-up of 10 separate projects within the Coyote Watershed. During this time, his work included overseeing and coordinating an EIR and an EIR/EIS, Section 7 consultation with NOAA Fisheries and USFWS, Corps 404 and 401 permit processes, and obtaining a California DFG Stream Alteration Agreement.

Northern San Joaquin Valley Recycled Water Project, City of Modesto

Project Manager. Lyndel is working with the City of Modesto in coordinating the project with neighboring cities and communities to explore the possibility of a regional reclamation plant to reduce agency sewer treatment and disposal costs, simplify permitting, and optimize the use of recycled water.

Sunol Valley Water Treatment Plant Improvements, San Francisco Public Utilities Commission

Project Manager. Managed preliminary and final design of improvements to the 160-mgd Sunol Valley Water Treatment Plant. The project included a wide-range of process and chemical feed improvements to improve overall plant performance.

Waterman Water Treatment Plant, City of Fairfield

Project Manager. Managed preliminary and final design of improvements to the 20-mgd Waterman Water Treatment Plant, including the addition of ozonation and chloramines feed systems for use as a residual disinfectant.

North Bay Regional Water Treatment Plant, City of Fairfield

Principal in Charge. Lyndel served as Principal in Charge for final design and initiation of operations of the 30-mgd North Bay Regional Water Treatment Plant. The plant includes pre and post ozonation, deep bed carbon filters, and chloramine feed systems for use as a residual disinfectant.

Alternative Water Supply Study, Amador County Department of Water Resources

Project Manager. Managed a study evaluating the availability of water supply from the Mokelumne River, including a review of water rights, alternatives for new dams, and opportunities for the development of hydropower potential.

Water Supply Feasibility Study, City of Fresno

Project Manager. Developed treatment and distribution options for providing treated surface water to the City of Fresno that included development of raw water demands by use classification and development of treatment and distribution options. Raw water was conveyed through an existing canal system. This feasibility study also included a 60 mgd water treatment plant.

South Bay Mobile Home Park Flood Protection Project, Santa Clara Valley Water District.

Principal-in-Charge. Project included the fast-track design of a floodwall to protect homes adjacent to Coyote Creek from the 100-year flood event for the Santa Clara Valley Water District. Activities involved securing right-of-way from Union Pacific Railroad and private landowners, utility coordination, design of an architecturally treated wall, and significant community outreach. Through the outreach efforts, the SCVWD was able to acquire the right-of-way at no cost and on an accelerated schedule.

Storm Water Management Facilities Design, City of Pittsburg

Project Engineer. Planning and design of storm water management facilities. This project included evaluation of flow conditions and development of peak wet weather flows for a 20-year return frequency storm, identification and evaluation of alternatives for managing the identified flows, and design of the recommended facilities. The design included a piping, pumping, and flow equalization facilities to minimize the size of the pumping and piping required to accommodate the peak flow.

Yosemite National Park Water System Improvements, US National Park Service

Project Manager. Managed the engineering development, design and engineering services during construction of the rehabilitation of the domestic water distribution system for Yosemite Valley, California. The project included conversion to a groundwater supply, design of over 15 miles of distribution system improvements, two new wells, and a 2.0 mg prestressed concrete storage reservoir. The project was designed to minimize its visual, noise, and aesthetic impacts upon the Yosemite Valley experience.

Water Storage and Pumping Facilities, City of Yuba City

Project Engineer. Provided project engineering for planning and design of a 2.0 mg prestressed concrete treated water storage reservoir and 1.5 mgd pumping station. This project was designed to provide improved levels of service to the southern end of the City of Yuba City's water system. Due to its proximity to the Feather River, the reservoir foundation required over excavation and an engineered fill to provide a uniform foundation.

Alameda Creek Siphons, San Francisco Public Utilities Commission

Project Manager. Managed evaluation of alternatives for replacing the existing Alameda Creek Siphons that deliver Hetch Hetchy water to the greater San Francisco Bay area. The Alameda Creek siphons cross the Calaveras faults and connect the Coastal Tunnel with the Irvington Tunnel and the Bay Division Pipelines. The proposed replacement siphons are each 60-inch diameter welded steel pipeline designed to accommodate the vertical and horizontal displacements associated with a major seismic event on the two splays of the Calaveras Fault.

Kern Oilfield Water Supply Project, Texaco USA, Bakersfield, CA

Project Manager. Managed predesign of ten miles of 60-inch diameter welded steel pipeline to deliver a combination of recycled and Kern River water for well-field use. The project included analyses of alternative pipeline alignments, evaluation of potential environmental impacts, and cost analyses.

San Ramon Valley Recycled Water Project, Dublin San Ramon Sewer District-East Bay Municipal Utility District Recycled Water Authority (DERWA)

Project Manager. Lyndel managed preparation of a facilities plan for a new recycled water project in the greater Dublin/San Ramon area of Alameda and Contra Costa Counties. Included in this effort was support for negotiation of the agreement between the East Bay Municipal Utility District and the Dublin San Ramon Sewer District. Lyndel was responsible for overall project delivery, including engineering, environmental and public outreach for a recycled water distribution system project that will provide 4,100 AFY of recycled water to schools, cities, and developers for landscape irrigation. The project also considered water banking thru the use of non-potable fringe basin aquifers to store winter recycled water for later use during the higher demand summer months.