PROFESSIONAL PROFILE

CONTACT INFORMATION

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EDUCATION

MBA, 2011, University of California, Irvine
MS, 1999, Environmental Engineering, University of Cincinnati
BS, 1996, Civil Engineering, University of Pune (India)

PROFESSIONAL LICENSES

Professional Engineer, California

Jaydeep Purandare, PE

Principal Engineer

EXPERIENCE SUMMARY

Over twenty years of experience. Principal Engineer at Roux; Senior Engineer at Roux; Project and Staff Engineer at Avocet Environmental; Project Manager at Eco Designs India Pvt. Ltd. (India); Staff Engineer at England Geosystem, Research Associate at University of Cincinnati.

TECHNICAL SPECIALTIES

Implementation and management of soil and groundwater investigations and remediation at several sites; water, wastewater, and groundwater treatment system design; stormwater and sewer system evaluation and modeling; landfill design and permitting; vapor and methane intrusion mitigation; environmental design for Brownfields redevelopment.

REPRESENTATIVE PROJECTS

Site Investigation and Remediation

- Managed site assessments and remediation at several former dry cleaning sites and/or chlorinated impacted sites throughout southern California under the oversight of the Regional Water Quality Control Board. Site assessments included the use of cone penetration technique (CPT), membrane interface hydraulic profiling tool (MiHPT) technologies and conventional sampling techniques to characterization the site geology, hydrogeology and the nature and extent of contamination in soil, soil vapor and groundwater. Remediation has included or will include soil excavation, SVE, in-situ thermal remediation and in-situ chemical and bioremediation technologies.
- Responsible for the design, permitting and supervision of soil vapor extraction (SVE) and two dual-phase extraction (DPE) pilot studies at a former oil tank farm along California's central coast. The project involved installation of three extraction and 12 monitoring wells. The data generated was used to design a full-scale SVE/DPE system. Provide ongoing design support and reporting for the full-scale system.
- Prepared a feasibility study (FS) report for a focused area within a 95-acre former oil tank farm property along California's Central Coast to outline various alternatives to address existing soil and groundwater contamination issues including light nonaqueous-phase liquid (LNAPL) and dissolved-phase hydrocarbons.
- Designed, permitted, built, and operated a groundwater extraction and treatment system to destroy 1,4-dioxane and VOCs. The project involved evaluation of the existing groundwater conditions; conducting aquifer pumping tests for capture zone modeling; installing groundwater extraction wells; and the design, permitting, and construction of the treatment system. Responsible for groundwater monitoring of onsite and offsite wells, the operation and maintenance of the system, data management and evaluation, and quarterly NPDES reporting. The system includes a bag filter, an advanced oxidation unit, liquid-phase granular activated carbon (LGAC), and a SCADA and telemetry system.
- Assisted in preparing an FS report for a 95-acre former oil tank farm property along California's Central Coast to address various soil, soil gas, and groundwater contamination issues. Prepared evaluation tables, volume calculations and cost estimates for the various remedial alternatives that were evaluated as part of the FS.
- Assisted in preparing an FS report to outline various alternatives for the cleanup of a heavily impacted 320-acre oil tank farm along California's central coast. The report involved the conceptual engineering of a supported cap to separate contaminated soil from humans and ecoreceptors.

- Assisted in the preparation of remedial design reports for two former tank farm properties in San Luis Obispo County, California. Assisted in providing engineering design and grading support for the evaluated alternatives.
- Involved in several Phase I and Phase II environmental assessments for real estate property transfers or redevelopment at sites throughout southern California.
- Designed, permitted, and supervised an SVE pilot study at a heavily impacted oil tank farm along California's central coast. The project involved installation of four vapor extraction and 16 vapor monitoring wells, sampling and SVE system operation. The compiled data was evaluated to study the feasibility of a full-scale SVE system.
- Involved in the design, drafting, permitting, bid procurement, and construction oversight of different ground water and soil remediation systems at various gas stations throughout southern California.
- Involved in the design, drafting, and bid procurement of an in-situ chemical oxidation system to remediate a commingled plume in Hawthorne, California. The system utilizes the injection of ozone and hydrogen peroxide to oxidize the hydrocarbons in the groundwater.
- Responsible for reviewing and managing data, and preparing quarterly system status reports and NPDES reports for a soil vapor extraction and ultraviolet (UV) oxidation system at a site in Commerce, California.

Brownfield Redevelopment

- Engineer-of-record for environmental design components of a proposed redevelopment of approximately 87-acres of a former landfill site in Southern California for recreational use under DTSC's regulatory oversight. Environmental design components include mass grading, landfill cover systems, drainage, excavation and waste reconsolidation, landfill gas collection and control system, and building protection systems.
- Provide technical support for environmental design components of a proposed redevelopment of a Superfund site in Southern California for commercial use under U.S. EPA and DTSC's regulatory oversight. Environmental design components include mass grading, replacement of landfill cover systems, drainage, excavation and waste reconsolidation, and building protection systems.
- Provide technical support for environmental design components of a proposed 14-acre redevelopment of a former oil waste sludge management site in Southern California for commercial use under DTSC's regulatory oversight. Environmental design components include mass grading, drainage, abandoning former oil wells, and building protection systems.
- Provide technical support for environmental design and construction oversight for several methane/vapor intrusion mitigation systems throughout Southern California including HVAC system optimization, use of indoor fans with carbon treatment, slab epoxy liners, passive and active sub-slab venting systems, and building protection systems.

Hydrologic and Hydraulic Projects

- Inspected and evaluated the existing sewer system at the California Army National Guard Camp Roberts facility in California to identify and address issues pertaining to sewer flows and system failures. The study included identifying the existing manholes, sewer pipes, and conducting smoke tests. The study identified issues related to the existing sewer system including sources of potential infiltration and inflows into the sewer and provided recommendations to address the same.
- Evaluated and modeled the existing and post-development hydrology at a 95-acre site at Avila Beach in California, using Bentley's SewerGEMS software. The model incorporated existing drainage ponds and stormwater management features to estimate peak flows, runoff volumes, and hydrographs.
- Designed and drafted AutoCAD drawings and specifications for erosion repair and stormwater improvements for a California Army National Guard Armory in Lakeport, California. The project included stabilizing a severely eroded side-slope and improving the stormwater discharge infrastructure.
- Inspected, evaluated and modeled the existing sewer system at the 1,324-acre Joint Forces Training Facility (JFTB) at Los Alamitos in California to identify and address issues pertaining to sewer flows and system failures. The study included identifying the existing manholes, sewer pipes, and lift stations and conducting smoke tests and recording invert elevations for model development. The model was built using Bentley's SewerGEMS software and incorporated existing lift stations and sewer management features to estimate peak flows, runoff volumes, and hydrographs.
- Designed a stormwater management system capable of handling the 100-year, 24-hour storm event associated with the Camp Roberts landfill. The stormwater management system includes stormwater drainage features and detention ponds associated with the North and South Units and borrow area.
- Modeled the existing storm drainage system at a large refinery located in Wilmington, California. The drainage system was comprised of over 1,000 individual catch basins that drained to an oil recovery unit, where oil and water were separated. Used StormCAD to model peak flows through the system at specific storm events.
- Assisted in providing solutions for stormwater management issues at a 144-acre construction site in Riverside, California.

Conducted an onsite pilot study to demonstrate the effectiveness of a flocculant for removing pesticide impacted sediment in surface runoff. Responsible for preparing a Stormwater Pollution Prevention Plan and Water Quality Management Plan for the site.

- Responsible for the preparing Spill Prevention Control and Countermeasure Plans (SPCCs) for two of Boeing's facilities in Long Beach. The projects involved inspecting the above ground storage tanks, evaluating the existing spill prevention measures and recommending upgrades.
- Assisted in the preparation of a site-specific Flood Contingency Plan for a development property in Los Angeles County, California.
- Assisted in the design and construction of a stormwater management system for a fuel dispensing area at Camp Roberts, California. The system included the construction of an oil/water separator to capture possible spills from the fueling stations.

Water and Wastewater Treatment

- Responsible for reviewing and evaluating a $6M upgrade to an aging wastewater treatment plant (WWTP) at Camp Roberts designed to handle flows ranging from 0.005 to 2 MGD. The work involved reviewing the design for Phase 1 of a planned phased upgrade to the WWTP, recommending design modifications, providing commissioning oversight, and assisting in leak identification. Was also responsible for drafting a comprehensive O&M manual for the operators. The work resulted in obtaining design services for the Phase 2 upgrade of the plant including a feasibility study to evaluate various treatment alternatives to address design issues identified during Phase 2 construction. The design is expected to include a membrane bioreactor (MBR) with a sludge handling and a water reclamation system for onsite reuse.
- Responsible to evaluate the existing water production, storage and distribution system at Camp Roberts. The potable water system includes four production wells with a combined production capacity of approximately 1,800 gallons per minute (gpm), several thousand feet of subsurface pipelines and three large aboveground storage tanks. The evaluation report identified issues with the system and provided recommendations for future actions related to infrastructure improvements, operations and maintenance to ensure a high-quality drinking water throughout the facility. Was also responsible for drafting a comprehensive O&M manual for the operators.
- Assisted in the design and construction oversight of approximately 3,300 feet of a new waterline to connect the existing potable water distribution system to the firing ranges at the Camp Roberts Main Garrison. The new waterline provided high-quality potable water in place of a non-potable water supply from an old production well with inferior water quality. The design included construction of the potable waterline, two fire hydrants and a water truck fill station.
- Assisted in the design of water supply improvements intended to serve an upgraded fire suppression system for a large hangar structure at the Los Alamitos JFTB in California. The major elements of the water supply design included connection to the existing potable water supply, two 135,000 gallons aboveground steel fire water storage tanks, three 2,000 gpm centrifugal pumps, power and communications.
- Involved in the design and supply of a low-profile air stripper system to remove styrene from effluent water generated at a styrene butadiene rubber manufacturing plant in Panipat, India. The NEEP shallow tray air stripper was designed for a maximum water flowrate of 44 gpm for 99.9% styrene removal and included a 4,500-cfm blower. The air stripper system was successfully imported and installed within the proposed budget.
- Involved in the design of a 6,500-gpm wellhead treatment system associated with three water production wells at Baldwin Park. The system has been designed to treat perchlorate using ion-exchange technology. The project also involved evaluating, designing and upgrading the existing water production wells and providing water sampling and data evaluation support.
- Involved in the design of a 2,800-gpm wellhead treatment system upgrade for the City of Monterey Park. The design included an air-stripper, vapor phase carbon treatment and upgrade to their existing SCADA system.
- Involved in the design, drafting, and construction of a 90-gpm wellhead treatment system to treat chlorinated VOCs at a site in Henderson, Nevada. Responsible for designing, conducting, and reporting the results of a biocide injection study at the wellhead to eliminate problems associated with excessive biofouling of the LGAC vessels.
- Involved in the design, drafting, equipment procurement, permitting, and construction oversight of a 250-gpm groundwater treatment and recharge system to treat chlorinated VOCs at a site in Henderson, Nevada. The system includes a shallow-tray air stripper, LGAC, vapor-phase GAC, automated control valves, and a SCADA and telemetry system.

Landfills

- Provided ongoing support, permitting and design of the Camp Roberts landfill for the California Army National Guard.
- Involved in the preparation of a Joint Technical Document (JTD), in accordance with requirements of the California Code of Regulations (CCR) Title 27, for the California Army National

Guard to continue landfill operations at Camp Roberts, California.

- Responsible for the design and permitting of the South Unit upgrade of the Camp Roberts landfill. Technical efforts for the project have included a clay liner test pad, Joint Technical Documents, construction plans and specifications, a CQA Plan, and construction management services.
- Responsible for the grading design, volume calculations, permitting, and construction oversight for the final cover of the North Unit of the Camp Roberts landfill.
- Responsible for designing and providing construction oversight of a landfill leachate management system to temporarily store and handle leachate generated by the landfill at Camp Roberts. The system includes five 10,000 gallons aboveground storage tanks with a containment berm and associated transfer pumps. The leachate pumps are powered by solar panels and a backup generator due to the lack of a power supply at the remote landfill location.
- Involved in the design and construction oversight for two large municipal solid waste landfill closures in Pune, India.
- Involved in evaluating and designing a landfill gas extraction system for a closed municipal solid waste landfill in Mumbai, India. Project involved performing an economic analysis for the client to help in finalizing the preferred landfill gas handling system.
- Involved in the design of a municipal solid waste bioreactor landfill cell at a solid waste landfill in Mumbai, India. The design included retrofitting and converting an operating cell into a bioreactor cell and providing the required elements for leachate extraction and gas collection.

PROFESSIONAL TRAININGS

OSHA 40 Hour Health and Safety Trained

PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers

American Water Works Association

Solid Waste Association of North America

Groundwater Resource Association