Means to Control Salinity without Desalination Processes in Reuse Projects

Abstract: Salinity is a major concern with many water reuse projects. The City of Dixon, a small agriculturally based community in the Central Valley of California, uses infiltration basins to recycle its treated municipal effluent back into the area's groundwater resource for a wide range of beneficial uses, primarily agricultural and domestic uses. Salinity, particularly sodium and chloride, were effluent constituents of concern. Dixon, California, implemented feasible means to control sources of wastewater salinity and reduce evaporative losses of water during wastewater treatment and infiltration such that the firm capacity/yield of the area's groundwater resource has increased by 800 AF/yr with lower salinity, sodium, and chloride concentrations.

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Vijay serves as Stantec's water reuse technology leader and National Technical Lead for Water Regulations with over 15 years of experience. Vijay currently serves as the task force chair of the Water Environment Federation Water Reuse Roadmap publication, which will be released in Fall of 2017. Vijay has been working on development of alternative technologies for salinity control and potable reuse since 2007. He is currently pursuing his PhD in Environmental Engineering at the University of Nevada, Reno working on the advanced treatment technology development for potable reuse applications in Nevada.

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Joseph has more than 20 years of experience as project engineer, project manager, and construction manager. He has been involved in the City of Dixon wastewater treatment plant planning, design, and compliance since 1990s. He specializes in salinity control, equipment and process analysis, startup, troubleshooting, and system modeling.