The SDSU Mission Valley Campus Master Plan has been developed to transform the Mission Valley community into a connected area with the new Snapdragon Stadium, a research district, an apartment living community, and the recently proposed Water Reuse Research Facility. San Diego State University decided to fund this project to expand research opportunities for the university and create an environment for faculty, students, and industry professionals to collaborate in the lab and develop testing and treatment solutions utilizing real-world current and future technologies.

Building this water reuse facility will be a great opportunity for SDSU to help progress San Diego's efforts to reuse water by testing various water types, including stormwater and wastewater. The existing condition of the site involves a 25,000 square foot vacant area of land, along with a natural basin that sits just west of the site.

Purpose and Objective
Fortitude Engineering has collected a variety of data and information to understand the facility requirements and necessary design needed for this project. Furthermore, the team has located design manuals, local standards, and state specifications to understand the site requirements and calculations needed to create a building of integrity. Fortitude Engineering has expertise in the software applications of AutoCAD, Sketchup, Infraworks, Primavera 6, and Bluebeam to solidify the design process and understand the project requirements to the highest extent. Fortitude Engineering will also implement strategies from a wide range of experience and skill sets to perform a quality design for the project.

Findings
Fortitude Engineering has developed a schematic design that will accommodate the desires of the owner while also meeting the requirements to become a LEED-Certified building. The design of the Mission Valley Water Reuse Facility and Living-Learning Laboratory will include lab spaces to house all research needs and state-of-the-art equipment, and classrooms and conference rooms to support collaboration and education.

Faculty/Advisors/ Clients/ Sponsors
Marc Filanc  
San Diego State University  
Christy Dykstra  
Matthew Verbyla  
Patrick Stanford  
Brandon Whiteley  
Joshua Woodruff