

Joey Portillo

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EDUCATION

The University of Texas at Austin

Austin, Texas

Bachelor of Science, Civil Engineering

August 2019 – Present

AWARDS

The University of Texas at Austin Undergraduate Dean's List

February 2020

RESEARCH INTERESTS

- Direct potable reuse
- Biological PFAS remediation
- Desalination

RESEARCH EXPERIENCE

Kumar Lab, The University of Texas at Austin

Austin, Texas

Undergraduate Research Assistant

June 2023 – Present

- Lime-softening for RO pretreatment
- Decentralized water systems
- Bipolar membrane electrodialysis

PROFESSIONAL EXPERIENCE

Austin Water Utility

Austin, Texas

Process Engineering Intern

April 2022 – August 2023

- Assisted with the adaptation and execution of a fermentation rate test for Walnut Creek WWTP to understand the rate at which phosphorus is released from particulate to dissolved form in a sludge transfer line. This test also investigated the ammonification rate in a gravity thickener.
- Experimentally determined the nitrification rate of aeration basins in a conventional activated sludge process and a Ludzack-Ettinger process.
- Investigated an increase in effluent nitrate concentrations from a Ludzack-Ettinger process.
- Calibrated a GPS-X model for Hornsby Bend side stream treatment plant using available lab data.
- Completed a large asset management project with the goal of verifying the specifications and capacity of all process related infrastructure in the city's two 75 MGD, regional wastewater treatment plants and biosolids management plant.

DAVCAR Engineering**Austin, Texas***Engineering Intern**March 2021 – October 2021*

- Calculated restraint lengths for water lines and wastewater force mains.
- Calculated runoff volume with HEC-HMS to size stormwater drainage systems.
- Assembled project manuals and SWPPPs using applicable city codes and specifications.
- Designed and drafted construction prints for 30, 60, 90 and 100% design stages of various projects using AutoDesk Civil3D.
- Presented weekly updates to a multi-firm, road rehabilitation team.

RadiusHDD**Austin, Texas***Engineering Intern**September 2018 – August 2019*

- Created parametric models, assemblies, and shop drawings of HDD equipment with SolidWorks.

SKILLS

Software: MATLAB, HEC-RAS, HEC-HMS, Microsoft Excel, AutoDesk Civil3D, AutoDesk Inventor, Dassault Systems SolidWorks, HydroMantis GPS-X, Visual MINTEQ, Aqion, Bluebeam Revu

Technical: Dead-end filtration, lime-softening experiments via jar testing, ion chromatography