

## RAYSSA BRANDAO, EIT



### Education

MS - Environmental Engineering, Virginia Tech, USA, 2020  
BS - Environmental Engineering, Federal University of Brasilia, Brazil, 2017  
Split-site Environmental Engineering Undergraduate Program – Brazilian  
Scientific Mobility Program (Scholarship Holder): Saint Francis University, USA, 2016

### Professional Licenses

Engineer-In-Training - EIT

### Specialty Certifications

EPA Method 9 Visible Emission Certification, Tennessee Department of Environment & Conservation (TDEC)  
OSHA HAZWOPER 40-hour certification  
Erosion and Sediment Control and Stormwater Manager Combined Administrator, Certified by Virginia DEQ

### Professional Affiliations

International Solid Waste Association

### Professional Experience

Rayssa Brandao is a Project Professional in SCS's Midlothian office in Landfill Gas Group who works closely with SCS' municipal clients on various landfill and landfill gas engineering projects. Projects typically involve landfill gas monitoring, surface emissions monitoring, Title V compliance, emissions inventories, stormwater permitting, and spill prevention plans (SPCC). Rayssa's experience includes conducting site inspections for air and stormwater compliance at various facilities such as airports, landfills, recycling facilities, and private (goods) distribution sites. Rayssa has extensive experience building facility maps using CAD and ArcGIS. Notable projects are described below.

#### Landfill Engineering

**City of Bristol, Virginia, ISWMF, Gas Well Consulting.** Updating landfill gas remediation plan on behalf of the City of Bristol to the Virginia DEQ regarding methane gas releases above compliance levels. Corrected implementation action schedule and edited existing monitoring network.

#### Landfill Gas Engineering

**City of Bristol, Virginia, ISWMF, Greenhouse Gases Reporting.** Reviewing new input data for reporting greenhouse gas emissions (e.g., area settlement, solid waste tonnage, LFG control devices, flow data gathering and organization, and annual emission statements). Submitting facility's greenhouse gas emissions annual report.

**Region 2000 Landfill, Virginia, Title V Permit Compliance.** Assisting with letter response to Virginia DEQ regarding Title V permit items under the open flare design to control landfill emissions. Items included flare technical details (e.g., net heating value, air flow exit velocities, emission destruction

efficiencies), as well as recordkeeping items such as landfill capacity and the twelve-month rolling emissions data.

## Air Compliance

**City of Virginia Beach, Virginia, Air Compliance.** Annual emission statements and annual update reporting.

## Prior Experience

**Engineering Associate, Barge Design Solutions. Nov 2022–Dec 2023.** Assisted industrial clients with applicable federal and state regulations regarding stormwater, spill prevention, and air quality. Performed visible emissions opacity testing (EPA Method 9) on behalf of waste management and wooden pallet manufacturing facilities. Developed criteria for air pollutant and HAP emission inventories. Assessed performance and feasibility of the best available control technology under the NSR program. Volunteered for Rebuilding Together Nashville Non-Profit Organization (Young Professionals Board).

**Environmental Engineer, AARC Environmental Inc. May 2022–Sept 2022.** Inspected industrial facilities for compliance with stormwater, SPCC, hazardous waste, and air quality regulations. Evaluated and assisted with compliance overview of stormwater and air quality permits for existing and new facilities.

**Environmental Technician. Site and Infrastructure Development, Virginia Polytechnic Institute and State University. June 2021–April 2022.** Implemented a regular inspection schedule for the entire active university construction area. Inspected construction sites and stabilized areas for stormwater compliance within the university. Reviewed site design plans.

**Research Assistant, Applied Interdisciplinary Research in Air-AIR2, Virginia Polytechnic Institute and State University. Feb 2021–April 2021.** Compiled data, processed, and generated statistical results on the relationship between indoor relative humidity and the number of COVID-19 cases in the U.S.

**Graduate Research Assistant, Applied Research Lab on Flow Systems-AIRFlowS, Virginia Polytechnic Institute and State University. Dec 2019–Dec 2020.** Investigated qualitative and quantitative differences in NO<sub>2</sub> and particulate matter concentrations during COVID-19 scenario in Southeastern Brazil. NO<sub>2</sub> atmospheric satellite and ground measurements were retrieved and analyzed using R-software programming and Excel software. Presented findings at the American Geophysical Union Conference and published results in Atmosphere Journal.

**Intern-Water Loss Management, Environmental Sanitation Company of The Federal District, Brazil. Jan 2017–July 2017.** Applied the ArcGIS Software for water supplying data consultation; validation and editing of flow-meters and water pressure zones; new registry of manometric water pressures. Calculated Distrito Federal's water balance and water loss indicators. This information is included in the "2016 Annual Water Loss Report of Distrito Federal."

**Research Assistant, Infrastructure Laboratory of University of Brasilia, Brazil. Aug 2014–Aug 2015.** Revised worldwide waterway feasibility project proposals and developed methodological recommendations for Brazilian waterway studies in collaboration with research advisors. Prepared scientific article content for publication and conference presentation (Congreso de Ingeniería del Transporte- Universitat Politècnica de València, España).

**Intern-Transportation Planning, TRACTEBEL - ENGIE GROUP, BRASILIA, BRAZIL. April 2013–April 2014.** Reviewed commercial waterway economic, technical, and environmental feasibility compliance reports. Calculated air pollutant emissions reduction when road loads were transferred to the waterway and the resulting carbon credit (GHG footprint). Promoted better view of relevant harbor locations within the Mamore, Madeira, and Guapore River Waterway Feasibility Study using vector maps in the SPRING GIS software.

## Publications and Presentations

ARAGÃO, J. et al. Fiscal Feasibility Assessment Applied to Transport Infrastructure Projects. In Actas del XII Congreso de Ingeniería del Transporte-Universitat Politècnica de València, España, 2016, 1st Edition. Available at: <<http://dx.doi.org/10.4995/CIT2016.2016.4116>>.

BRACARENSE, L. et al. Feasibility Study for Waterway Infrastructure: International Overview and Methodological Recommendations. In Transportation Research Procedia, 2016, 18, 305-311 and in Anais do XXVIX Congresso ANPET 2015 - Ouro Preto, MG, 2129-2140. Available at: <<https://doi.org/10.1016/j.trpro.2016.12.040>>.

BRANDAO, R.; Foroutan, H. Air Quality in Southeast Brazil During COVID-19 Lockdown: A Combined Satellite and Ground-Based Data Analysis. Atmosphere, 2021, 12, 583. Available at: <http://doi:10.3390/atmos12050583>.