NORTHEAST TRANSPORTATION WORKFORCE CENTER

Environmental Work in the Transportation Sector

CAREER PROFILE

NAME: Paige Cornell
DEGREE: Environmental Science, Geology & Geospatial Technologies
TITLE: Environmental Scientist, Waste Assessment, Management, & Remediation
COMPANY: Vanasse Hangen Brustlin, Inc. (VHB)

VHB is known as an American civil engineering consulting and design firm with offices throughout the country. Founded in 1978, the company primarily focuses on transportation and land development, working on a variety of transportation civil engineering projects in the Northeast and along the East Coast of the United States.

VHB "aspires for a sustainable world in all that (they) do. It is inherent to who (they are) and (their) generational company philosophy—founded on stewardship. "VHB helps their clients take action to improve health and well being, contribute to economic vitality, and promote environmental stewardship.

Source: www.vhb.com/Pages/home.aspx

Q. What is your current role at the organization?

A. I am currently an environmental scientist in our remediation and assessment division. We do the assessment of properties to determine if there are any impacts from oil and/or hazardous materials (OHM). For transportation-specific work, our team would assess for the potential to encounter OHM during construction phases of the project and facilitate the proper handling, regulatory documentation, and health and safety plans required. This is also important when soil disposal is required as there is often a cost contingency associated with contaminated soils.

Q. How did you get to this point in your career? Any key points along that pathway?

A. I went to the University of Vermont and majored in environmental science with a concentration in geology and a minor in geospatial technologies. After I graduated, I went to work at an environmental consulting agency where I focused more on doing emergency response which involved the response to small-scale oil spills and doing property assessments, similar to my current position.

Q. Were there any experiences that helped to best prepare you for the work that you do?

A. During my time at UVM I had a lot of internship experience. My first job out of college doing more of the emergency response work gave me a lot of experience working in a field environment and assessing soils lithologic characteristics.

I had one internship at the New York State Department of Environmental Conservation. I spent two summers there. I worked in pesticide applications, and remediation assessment—the latter of which is what I am doing now. I also worked in two different graduate departments during my time as an undergrad at UVM. One internship was for the Plant and Soil Science department where I evaluated invasive earthworms throughout Vermont, and the other was working in the Geospatial Laboratory where I processed large scale imagery.

Q. What does a day in the life of your position look like?

A. The great part about my position is that not every day looks the same. Some days, you can be out on a drill rig collecting samples, groundwater sampling, or construction oversight at a remediation site. Another day, you could be in the office processing data and writing it up into a technical report to give to a client.

Q. What skills have you gained in the work? Are these unique or transferable to other disciplines?

A. I would say that what is unique to this work is probably being able to balance working at different locations: field work versus office work, and being able to manage your time between both. I'd say that this is a good skill that not a lot of other jobs have.

Q. What do you enjoy most about your job?

A. Probably the variability in work and that not every day is the same. I enjoy that I am not at my desk every day. I also enjoy the problem solving that is involved with our line of work, as there are a lot of ways to approach a situation. I also really enjoy the historical research component of our work, as we often have to dive into old records and resources to uncover a potential source of contamination.

Q. What are some of the challenges you have faced in the work? How did you overcome them?

A. Due to the large variety of our work, there can be a lot of obstacles—whether it is an angry contractor, difficult client, or complicated data. It's really about learning how to be patient and working with your team to determine the best way to solve a challenge.

Q. What are some of your own personal characteristics and values that make you a good fit for this type of work?

A. I would say patience and flexibility are some characteristics that make me a good fit for this type of work.

Q. What is something that you want people to know about the work that you do?

A. I would say that my work is extremely interesting but also very rewarding. At the end of the day you could be the one who's identified contamination that was not previously identified and assist in remediating the contamination while protecting workers who would have potentially come in contact with the material.

Overview of Position as it Relates to Transportation

The regulations regarding remediation wastes are essential to ensure that facilities properly clean up contaminated areas. To provide regulatory flexibility while protecting human health and the environment, Environmental Protection Agency (EPA) updated the Requirements for Management of Hazardous Contaminated Media Rule and issued Amendments to the original Corrective Action Management Units Rule. In addition, the EPA issued a series of regulations and policies to address these issues. The EPA is working to provide greater flexibility for non-media remediation wastes (such as remedial sludge), address certain statutory permitting provisions, and provide more appropriate treatment requirements for remediation wastes.

The Resource Conservation and Recovery Act (RCRA) Regulations are primarily focused on prevention rather than response or cleanup of wastes already released. However, the waste generated from the cleanup of environmental contamination, known as remediation waste, is an important part of the RCRA hazardous waste program, because environmental media contaminated by the release of a hazardous waste often retains the classification of hazardous waste. As opposed to on-going waste management, remediation activities often involve less concentrated wastes, one-time activities, and shorter-term activities. EPA or an authorized state oversees remediation activities.

Source: www.epa.gov/hw/guidance-remediation-waste-management-resource-conservation-and-recovery-act-rcra-corrective

Hazardous Material

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—Paige Cornell

Field Scientists

Field scientists in waste management and remediation perform internal environmental assessments of assigned facilities and perform site assistance visits to ensure implementation/efficacy. Field scientists might also work on developing rules and regulations. They can also provide general environmental support activities to clients and serve as a point of contact for environmental agencies, organizations, contractors and other agents. Field scientists might also provide all technical assistance necessary to fully programs and associated projects, including research, analysis, development, coordination, and management.

Paige is an experienced Environmental Scientist in VHB's Remediation and Assessment Group. She works on both public and private projects performing all phases of environmental assessment and mitigation planning and oversight ranging from Phase I Site Assessments to data collection and analysis. Paige is adept at developing and implementing soil mitigation strategies which often includes working with the Massachusetts Contingency Plan (MCP) and has authored numerous complex regulatory submittals. Paige's diverse skill set allows her to develop comprehensive sampling and mitigation plans and coordinate with contractors to implement them.

Overview of General Skills and Requirements

Field scientists such as Paige require certain educational credentials such as: as B.S. in Environmental Science, Engineering or a related degree. At a certain level a Masters of Science is preferred by employers.

Other qualifications include: Strong written and verbal communication skills and the ability to interface and effectively communicate with individuals from all levels of the organization; Confidence, willingness, and ability to conduct presentations and provide training sessions to small and large groups of people.

Types of Projects Carried Out by VHB, Inc.

SOUTH COAST RAIL PROJECT

This project is currently the largest in the state of Massachusetts, and one of the more complex undertakings of the Massachusetts Bay Transportation Authority (MBTA). For this project VHB is acting as a project manager and is assessing environmental conditions for property acquisitions, sampling soil within the rail corridor for disposal, and more, in order to restore commuter rail service between Boston and southern Massachusetts.

GLOSSARY

- **Remediation Assessment** – the assessment and management of environmental conditions associated with building materials, indoor air quality, soil, and groundwater, and their potential effects on human health and the environment.
- **Mitigation Plan** – the process of developing options and actions to enhance opportunities and reduce threats to project objectives.

About VHB, Inc.

VHB is an environmental consulting firm focused on making a positive impact on its surrounding communities, making the most out of opportunities to grow personally and professionally, while build a network of lifelong colleagues. VHB is known for collaborating across disciplines to develop and implement effective strategies, problem-solving techniques and solutions through, “a combination of technical and personal skills to help build a successful consulting team.”

Source: www.vhb.com/Pages/Trends/Students-and-New-College-Grads.aspx

Key Skills

- **Reading Comprehension** – Reading work-related information.
- **Complex Problem Solving** – Noticing a problem and figuring out the best way to solve it.
- **Critical Thinking** – Thinking about the pros and cons of different ways to solve a problem.
- **Active Listening** – Listening to others, not interrupting, and asking good questions.
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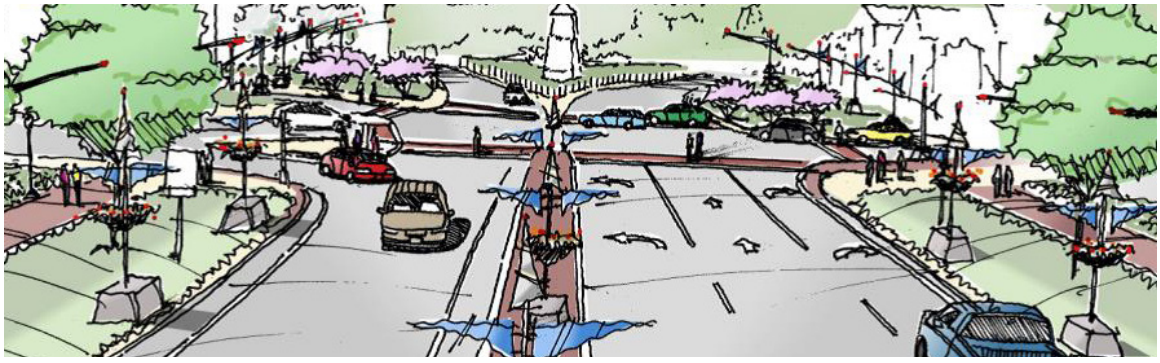
- **Judgment and Decision Making** – Thinking about the pros and cons of different options and picking the best one.
- **Coordination** – Changing what is done based on other people's actions.
- **Active Learning** – Figuring out how to use new ideas or things.
- **Systems Evaluation** – Measuring how well a system is working and how to improve it.
- **Systems Analysis** – Figuring out how a system should work and how changes in the future will affect it.
- **Time Management** – Managing your time and the time of other people.
- **Monitoring** – Keeping track of how well people and/or groups are doing in order to make improvements.

Abilities Needed for Success

- **Written Comprehension** – Reading and understanding what is written.
- **Oral Expression** – Effective spoken communication.
- **Written Expression** – Effective communication in written form.
- **Deductive Reasoning** – Using rules to solve problems.
- **Inductive Reasoning**– Making general rules or coming up with answers from lots of detailed information.
- **Oral Comprehension** – Listening and understanding what people say.
- **Problem Sensitivity** – Noticing when problems happen.
- **Fluency of Ideas** – Coming up with lots of ideas.
- **Near Vision** – Seeing details up close.
- **Originality** – Creating new and original ideas.
- **Information Ordering** – Ordering or arranging things.
- **Visualization** – Imagining how something will look after it is moved around or changed.



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