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## Practice Task: Stormwater Engineers

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### PART 1: RESEARCH

(approx. 60-90 mins)

#### Student Directions:

**Your assignment:**

Engineers are a key to problem solving in our environment. You will watch two informational videos about stormwater management and read the job description for a stormwater engineer, taking notes on these sources. Then you will respond to three research questions and write an article explaining the important work of a stormwater engineer.

**Steps you will be following:**

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To plan and write your essay, you will do all the following:

1. Watch two videos and read a job description for a stormwater engineer.
2. Answer three questions about the sources.
3. Plan and write your article.

**Directions for beginning:**

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You will now watch two videos and read a job description, taking notes from these three sources. You may use these notes in responding to the three questions and in writing your article. You can refer to any of the sources as often as you like.

**Source Information:**

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**Source #1:**            **Stormwater Runoff 101 (3:07)**  
Video #1            <https://www.youtube.com/watch?v=V6DggjiWrTs>

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**Source #2:**            **Water Resources Engineer CAREERwise Education (4:50)**  
Video #2            <https://www.youtube.com/watch?v=jQCKhGVp8c0>

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**Source #3**  
Reading            City of Happyville Stormwater Engineer Job Posting

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## NOTE TAKING TOOL

Video #1: Stormwater 101

Engineer

Video #2: Water Resource

Reading #1: Job Posting

What stormwater is	Why stormwater pollution is a problem	Ways to manage stormwater pollution
What a Stormwater Engineer does	Why this job is important	Key Qualifications

# Job Posting: Stormwater Engineer

**Department:** Public Works, City of Happyville, USA  
**Start Date:** Immediately After Hiring  
**Salary Range:** \$64,776 to \$85,356

## Job Description:

*The stormwater engineer is responsible for designing solutions to complex stormwater management problems. This person will provide leadership for managing surface water runoff including designing gray and green stormwater solutions. Gray solutions may include storm drains, culverts, and pervious pavement; green solutions may include rain gardens, green roofs and bioswales to name a few. The stormwater engineer will manage all projects within the local watershed including watershed planning and stream restoration.*

## Qualifications:

### Candidates must have knowledge of the following:

- Stormwater drainage systems and erosion control
- Gray and Green stormwater solutions
- Federal, state, and local laws and codes related to stormwater management including water quality standards and the Endangered Species Act
- Water quality testing methods
- Best Management Practices (BMP's) for maintaining a clean and healthy environment
- Computer programs including computer aided drafting and design software and Geographic Information Systems (GIS)
- Principles of environmental science
- Office software programs such as Outlook, Word, Excel, and PowerPoint

## Skills and Abilities:

- The ability to analyze problems and come up with creative solutions (Complex Thinker)
- Exceptional communication and interpersonal skills, both written and verbal (Effective Communicator)
- The ability to read and interpret civil engineering plans and designs (Effective Communicator)
- The ability to work as a member of a team (Collaborative Worker)

## Education and Experience:

- Bachelor's Degree in Civil Engineering or Environmental Science or other education and training that results in the ability to demonstrate the knowledge and skills outlined in this job description
- Two years prior experience working in a public works or stormwater environmental department









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### PART 2: ESSAY

(approx. 60-90 mins)

#### Student Directions:

You have 60-90 minutes to review your notes and sources, and plan, draft, and revise your article. You may also refer to the answers you wrote to the questions in Part 1, but you cannot change those answers. Now read your assignment and the information about how your essay will be scored.

#### Your assignment:

You have been asked by the City of Happyville to write an article for hiring a stormwater engineer. Your article should explain what a stormwater engineer does and why this job is important to the wellbeing of the environment. Include the following information:

- Problems we face from stormwater pollution
- Role of the engineer in solving these problems (stormwater solutions)
- Important qualities stormwater engineer needs to be successful in the job

#### Essay Scoring

##### How your essay will be scored:

The people scoring your essay will be assigning scores for

- Statement of Purpose/Focus*** – how well you clearly state and maintain your controlling idea or main idea
- Organization*** – how well the ideas progress from the introduction to the conclusion using effective transitions and how well you stay on topic throughout the essay
- Elaboration of Evidence*** – how well you provide evidence from sources about your topic and elaborate with specific information
- Language and Vocabulary*** – how well you effectively express ideas using precise language that is appropriate for your audience and purpose
- Conventions*** – how well you follow the rules of usage, punctuation, capitalization, and spelling

#### Now begin work on your essay.

Manage your time carefully so that you can:

- Plan your essay
- Write your essay
- Revise and edit for a final draft



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### PLANNING MY ESSAY

**Introduction—Statement of Purpose:**

**Problems we face from stormwater pollution:**

**Role of the engineer in solving these problems (stormwater solutions):**

**The most important qualities a stormwater engineer needs to be successful in the job:**

**Conclusion:**

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