

### Implementing Green Stormwater Infrastructure

Target	1	2 (all of 1 plus)	3 (all of 2 plus)	4 (all of 3 plus)
<b>LE 5.7 Preparedness</b>	Does not complete formative or summative in an effortful and timely manner, is not engaged, does not arrive on time with class materials ready to learn, does not communicate when issues arise	Completes formative or summative in an effortful or timely manner, is sometimes engaged, sometimes arrives on time with class materials ready to learn, sometimes communicates when issues arise	Completes formative or summative in an effortful and timely manner, remains engaged, arrives on time with materials ready to learn, communicates when issues arise	Completes formative or summative in an effortful and timely manner, remains engaged, arrives on time with materials ready to learn, communicates when issues arise, and is reflective on strengths and challenges within your preparedness skill
<b>LE 7.4 Connections</b>	Recognizes that multiple ideas may be connected	Recognizes that connecting multiple ideas may provide deeper meaning	Recognizes connection between multiple ideas, systems or solutions to construct meaning	Connects multiple ideas, systems or solutions that provoke meaning in novel ways (i.e. demonstrating empathy by synthesizing complexity, metaphoric thinking, applying patterns)
<b>Hydro 11 Project</b>	I can <b>identify</b> ways human activities affect Earth's systems.	(all of 1 plus) I can <b>identify</b> ways human activities affect Earth's systems and collect data as evidence.	(all of 2 plus) I can <b>analyze</b> geoscience data and correlate to the health of an Earth System. <i>For example, I can analyze water quality data and suggest possible sources of the pollution.</i>	(all of 3 plus) I can <b>analyze</b> geoscience data and correlate to the health of an Earth System. I can propose potential solutions to areas of concern. <i>For example, I can analyze water quality data and suggest possible sources of the pollution and mitigation of pollution.</i>
<b>Hydro 12 Project</b>	I can <b>identify</b> a technological solution that reduces impacts of human activities on natural systems	(all of 1 plus) I can <b>identify</b> a flaw in a technological solution that reduces impacts of human activities on natural systems	(all of 2 plus) I can <b>evaluate</b> or <b>refine</b> a technological solution that reduces impacts of human activities on natural systems	(all of 3 plus) I can <b>evaluate, refine, and defend</b> changes in a technological solution that reduces impacts of human activities on natural systems

#### Resource List

- Vermont Low Impact Development Guide booklet – Teacher have copies of these for you to borrow
- City of Vermont Press Release – hard copies / digital (Montpelier\_SWMP\_PressRelease)
- Stormwater Master Plan for City of Montpelier – digital (link in the press release) and some hard copies available

Over the next weeks we are going to be working on a project that applies all of the knowledge you have gained over the Hydrosphere Unit. In an attempt to allow for some choice in the project we have created two options that we would like you to choose from. The options are as follows:

#### MHS Parking Lot: Engineering Design (Hydro 12 Rubric)

**Background:** In this option you will be working to apply your understanding of watersheds. You will identify the problems in regards to potentially harmful runoff from the parking area. You will work to re-design/improve upon existing designs and implement green stormwater infrastructure that is functional, aesthetically pleasing, and useful for generations of Montpelier students like yourself.

#### Water Quality Testing: Chemistry to Better the Winooski (Hydro 11 Rubric)

**Background:** We all spend the majority of our day within the Winooski watershed. It is our responsibility to be responsible stewards to this land to protect the river for future generations. In this project you will be identifying potentially harmful substances/conditions in the Winooski water. You will then research these substances/conditions, and test for their presence and status in the Winooski. You will also identify potential sources of these substance/conditions of concern and propose potential solutions to mitigate them.

To introduce the concepts to be addressed in the project, review the Stormwater Master Plan for Montpelier. **Review the information on pages 24-25 that address high priority sites.** And then address the following...

**Questions:**

**Site #1**

1. Identify a site in the Stormwater Master Plan (pages 62-114). \_\_\_\_\_
2. Identify the stormwater runoff issue at the site you chose.
  - a. Summarize the issue.
  
  - b. Why is this issue a problem at the site?
  
3. Identify what the stormwater may be carrying with it that would be potential pollutants or have a negative effect on the Winooski water quality.
  
4. Summarize a solution to the stormwater issue that you identified at the site you chose.

**Site #2**

1. Identify a site in the Stormwater Master Plan (pages 62-114). \_\_\_\_\_
2. Identify the stormwater runoff issue at the site you chose.
  - a. Summarize the issue.
  
  - b. Why is this issue a problem at the site?
  
3. Identify what the stormwater may be carrying with it that would be potential pollutants or have a negative effect on the Winooski water quality.
  
4. Summarize a solution to the stormwater issue that you identified at the site you chose.