

# Hydrosphere Project

## Stormwater Infrastructure Design

**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 a site in Montpelier and you will work to re-design/improve upon existing design and implement green stormwater infrastructure that is functional, aesthetically pleasing, and useful for generations of Montpelier students like yourself.

### Project Requirements

**Describe** your site: Location in town, photos or drawings of your site etc.

**State** the overall problems you are trying to solve at your site.

- This includes a detailed description of all of the stormwater runoff problems you identified on the site.
- For each problem you identify, be sure to explain **HOW** this problem will contribute to stormwater runoff
- For each problem you identify, be sure to explain **HOW** this problem will contribute to water pollution.

Problem/issue #1
Problem/issue #2

Add additional sheet(s) if there are more issues at your site. There may be more or less depending on the site but you need to adequately address all issues

**Identify** and explain each of the design ideas you propose to help solve the runoff problems. Be sure to explain how the design incorporates Green Stormwater Infrastructure and how it will reduce pollution.

- **Describe** (where applicable) how your proposed design will increase evapotranspiration, increase infiltration and increase storage and reuse.
- How will these design elements reduce pollution.

**#1: Describe** proposed design element

Where will it be implemented at your site?

What are its benefits and drawbacks?

Is it expensive to install?

Is it expensive to maintain?

If you are modifying an element of GSI that was present in the design, be sure to explain the original design, its role in reducing runoff and why your modifications are an improvement.

**Describe** how your proposed design will increase evapotranspiration

**Describe** how your proposed design will increase infiltration

**Describe** how your proposed design will increase storage and reuse

How will these design elements reduce pollution.

Write an explanation of HOW this GSI will reduce surface runoff on the site.

**#2: Describe** proposed design element

Where will it be implemented at your site?

What are its benefits and drawbacks?

Is it expensive to install?

Is it expensive to maintain?

If you are modifying an element of GSI that was present in the design, be sure to explain the original design, its role in reducing runoff and why your modifications are an improvement.

**Describe** how your proposed design will increase evapotranspiration

**Describe** how your proposed design will increase infiltration

**Describe** how your proposed design will increase storage and reuse

How will these design elements reduce pollution.

Write an explanation of HOW this GSI will reduce surface runoff on the site.

Helpful Resources:

[Montpelier Stormwater Master Plan](#) [Low Impact Development Guide](#)

[GSI for projects in VT](#)

Draw a diagram of the GSI you propose. Include both a birds-eye-view (top view) and a profile (side view) for each GSI design on the site.

Design Element #1

Design Element #2

Add additional sheet(s) if there are more design elements that could be implemented at your site.