Native Appalachian Garden

Design by: MECHS 2017-2018 Earth/Environmental Science for Biology Classes
Lithosphere: current state

- Extremely rocky
- One half is dry due to direct sunlight
- The other half is damp due to shade
- Little vegetation & many weeds
Lithosphere
Recommendations

- Use plants that survive well in rocky and dry soil
- Research types of native plants that work well in the circumstances we're working with
- Incorporate more nutrients
- Prevent soil from eroding into drain

Picture: http://beselfsufficient.net/all-about-soil/
Hydrosphere

- Not much evaporation because of shade
- Impervious surfaces surrounding the lot
- Runoff from roof and the hill above
- Temperature: moderate and cool
- Drainage system is offset toward the school and sloped inward
- Water draining from downspouts located on the walls of the school
- Needs a way of equalizing the moisture
- Main tree may cause issues with the drainage system
Biosphere

• Uses currently include water drainage (there is a grate in the middle, as well as being filled with fill dirt, and being surrounded by concrete)

• Covered in sparse grasses, mostly weeds

• Our goal is to change it into a Rich Cove Forest on the shaded side

• Mimic a Grassland on the sunny side

• Potential species include Lobelia, Echinacea, Maple, Bee Balm, and different Grass species
Atmosphere and Space

- Mostly shaded due to the surrounding buildings
- Small amount of full sunlight on the entire area
- Moderate rainfall, approximately 40 inches a year
- Little to no irrigation needed
- Surrounded by impervious surfaces
- Wind speeds average at about 11.71 mph.
- This data may be altered due to being in between two buildings
Suggested plantings and layout.

Works Cited

• Title art by Isabelle Mackenzie

• Michael P. Schafale and Alan S. *Classification of The Natural Communities of North Carolina Third Approximation*. Weakley. 1990


• Helmling, Sydney. "Lithosphere and hydrosphere"

• [https://gardens.uncc.edu](https://gardens.uncc.edu). Susie Harwood garden
