Arch 464
ECS
Spring 2001 Name_____

Quiz #3

"Falling Water, Running Water"

For this problem you are the storm water consultant to the Foundation that administers Fallingwater, Frank Lloyd Wright's masterpiece on Bear Run.

The Foundation wants to install a new parking lot—72' x 44' that can accommodate one bus and six autos. Your role is to advise them about the water quality problems inherent in parking lot installation, help them specify a location for the lot, and to recommend good storm water control practices.

Fallingwater overhangs Bear Run as it begins a series of water falls. The stream, Bear Run, "is slight and swift, fed by mountain springs, and its entire course is only 4 miles. It flickers down the western slopes of the ridge called Laurel Hill to join the Youghiogheny River, and it moves fast because it falls from about 2500 feet above sea level to about 1070 feet. … And so Bear Run is both obscure and unexceptional, or so it might have been. But at a place where it flows at 1298 feet above sea level, then breaks to fall about 20 feet, a house was built from plans by Frank Lloyd Wright. He called it Fallingwater."

The current parking consist of a four-car carport attached to the guest wing which is uphill from Fallingwater. The approach to the site is over a bridge across Bear Run, under Fallingwater's cantilever, up a switchback drive to the carport. A railroad track passes to the north of the guest wing.

Analysis

3 points

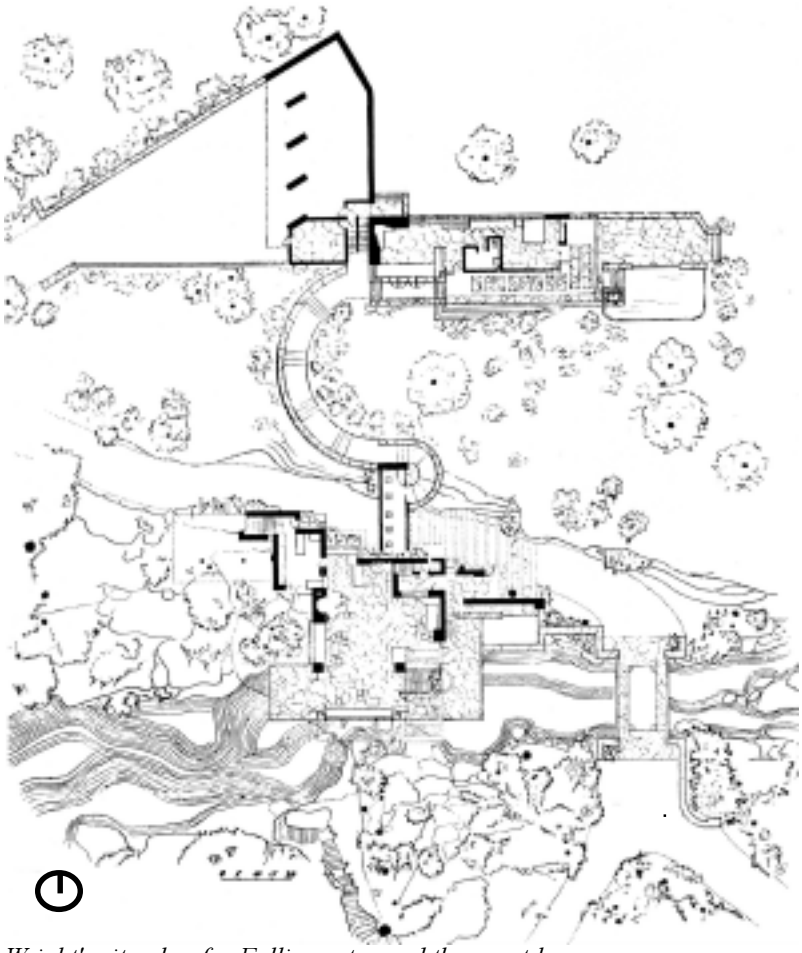
1. Advise your client about the three stormwater problems inherent in parking lot installation on this site. Name each problem and describe it.

Fallingwater (foreground) and the guest wing are situated on a steep, heavily forested ridgeside above Bear Run. The forest, pictured in early winter, is mostly deciduous.

Siting

4 points

2. Make a recommendations for siting the parking lot. Explain why the site is appropriate. Show your parking proposal on the site plan and in the air photo (p. 2).



Wright's site plan for Fallingwater and the guest house.

A 44' x 72' rectangle drawn at the scale of the site plan.

Mitigation

3 points

3. Make three suggestions for stormwater control on site that will mitigate the problems that your parking proposal may cause. Make a diagram to help explain each suggestion.