URBANSYSTEMS.

Greenhouse Parking Lot Infiltration Gallery

University of British Columbia

KEY PERSONNEL

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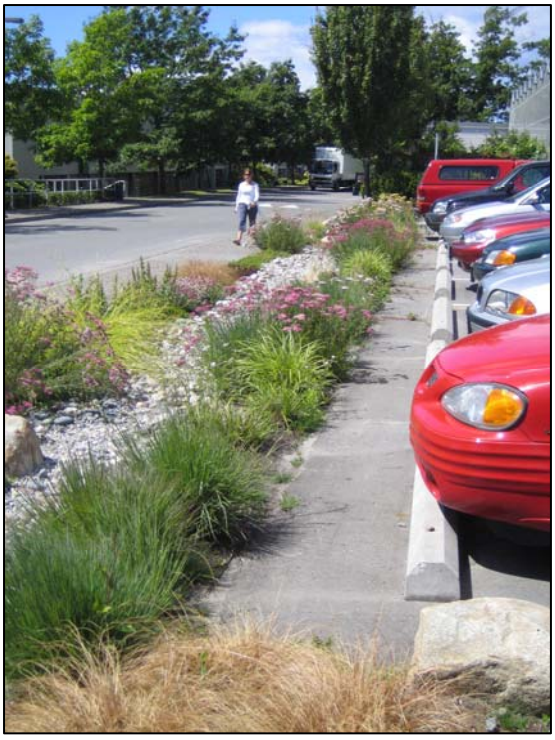
SCHEDULE

July 2003 – September 2003



client
University of British Columbia

project
Greenhouse Parking Lot Infiltration Gallery

services
Detailed Design

year
2003

file
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In order to meet the growing parking demand on campus, a parking lot was planned to replace vacant greenhouse buildings at the University of British Columbia (UBC). A traditional drainage design had already been completed for the parking lot, which included curb and gutter, catch basins and storm sewers, however, concern about the impacts that the site would have on the existing downstream storm sewer infrastructure and the surrounding cliffs led to the UBC's desire to develop a low impact design for stormwater management at the site. The ultimate goal of the project was to capture and retain as much runoff as practically possible, thereby decreasing both the peak flow rate and volume of stormwater runoff reaching the storm sewer system and the cliffs.

Urban Systems prepared a revised drainage design which replaced the hard landscaped areas with depressed vegetated swales and underground drain rock galleries to encourage infiltration and retention of stormwater on site. The concrete curbs and gutters were removed to allow runoff to sheet flow off impervious parking surfaces into the vegetated swales and all traditional drainage infrastructure components that were specified in the original design were removed. With the revised design, approximately 50% of the mean annual rainfall (MAR) can be stored within the drain rock galleries and swales, which amounts to roughly 70% of the total rainfall that UBC receives each year.

The project was successfully constructed in September 2003.