

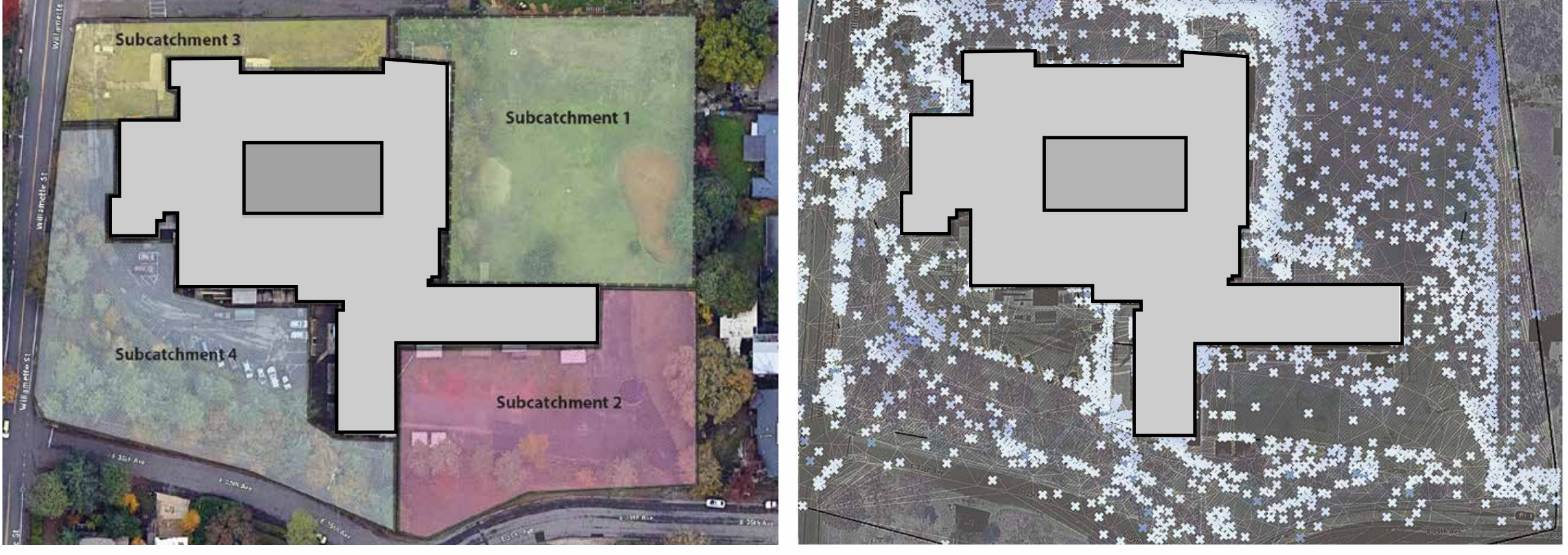
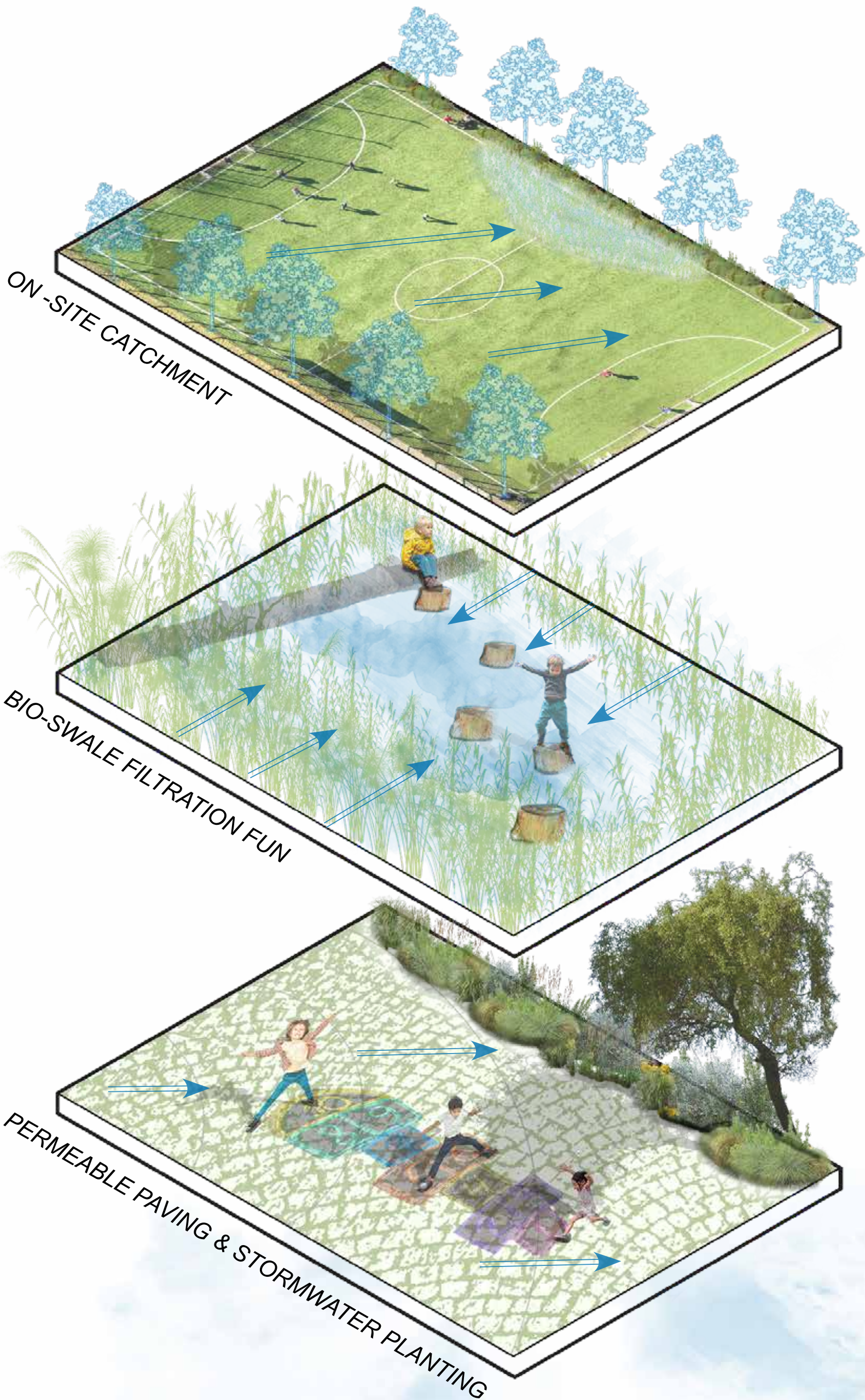
# Rainy Days, Nature's Ways:

## Regional Context & Stormwater Analysis at Eugene, Oregon

### REGIONAL ANALYSIS:

The Village School play area collects water from the surrounding community due to its location and topography.

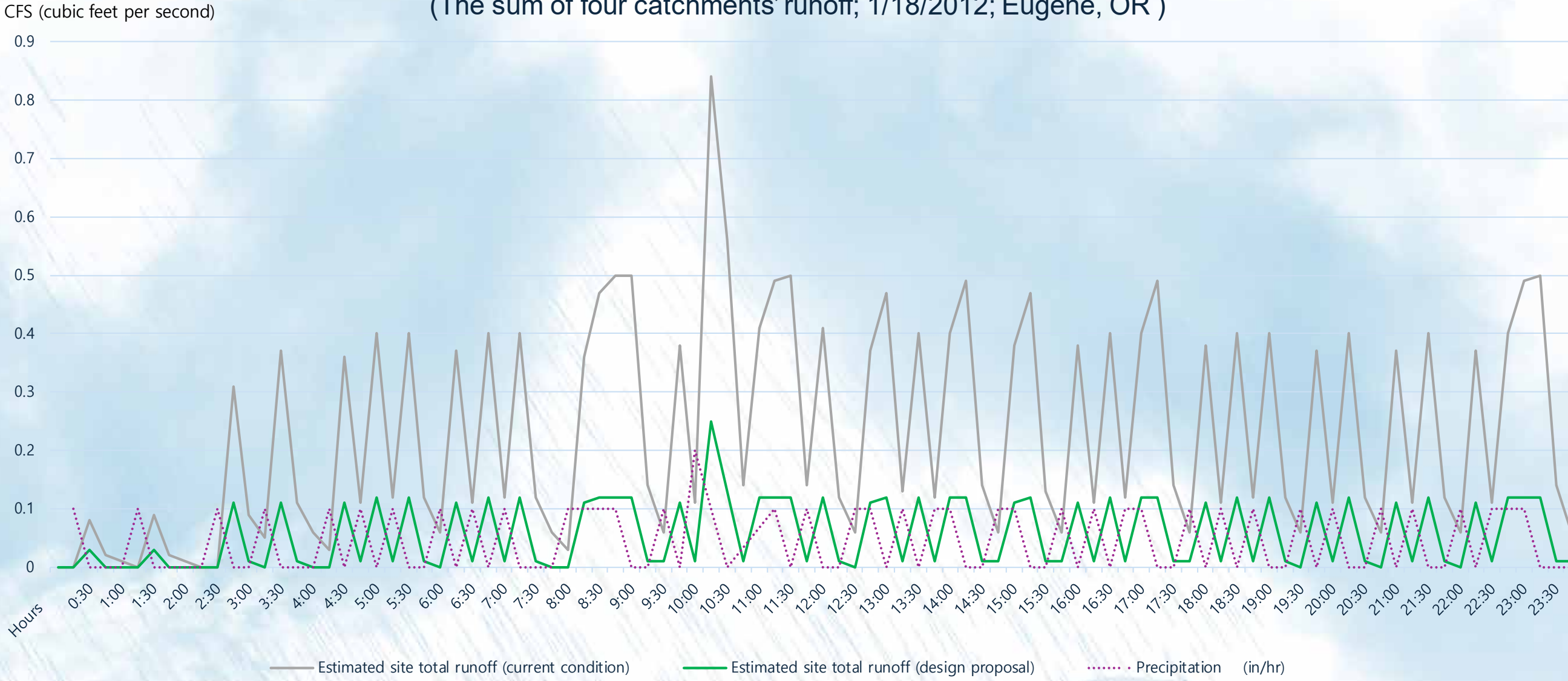
### THE VILLAGE SCHOOL EXISTING CONDITIONS



SUBCATCHMENT 1: Schoolyard	SUBCATCHMENT 2: East Parking Lot	SUBCATCHMENT 3: North Parking Lot	SUBCATCHMENT 4: South Parking Lot
Existing impervious area	Proposed impervious area	Reduction in impervious area (sq. ft., %)	LID application
Subcatchment 1 (1 ac)	Subcatchment 2 (0.8 ac)	Subcatchment 3 (0.3 ac)	Subcatchment 4 (1 ac)
20%	50%	30%	50%
15%	20%	20%	25% (after LID)
2,214, 5%	1,015, 30%	1,415, 10%	10,529, 25%
Rain garden & infiltration trench	Rain garden	Rain garden	Rain garden & Permeable pavement

Our design can reduce peak rainwater runoff by up to 0.64 cubic feet per second, delay peak flow rates by 20 minutes, and increase infiltration rates, potentially cutting peak runoff by 75% during intense rainfall.

### Comparsion of the site rainwater runoff by SWMM (The sum of four catchments' runoff; 1/18/2012; Eugene, OR )



### CO-DESIGN WITH THE VILLAGE SCHOOL CHILDREN

**STORMWATER MANAGEMENT**  
Roof Fed Stormwater Facilities  
Urban Ecology  
Stem Education

**NATURE PLAY & EDUCATION**  
Child Development  
Connection to Nature  
Educating Local Community

**COMMUNITY**  
Local & Regional Community  
E.W.E.B  
City of Eugene Stormwater



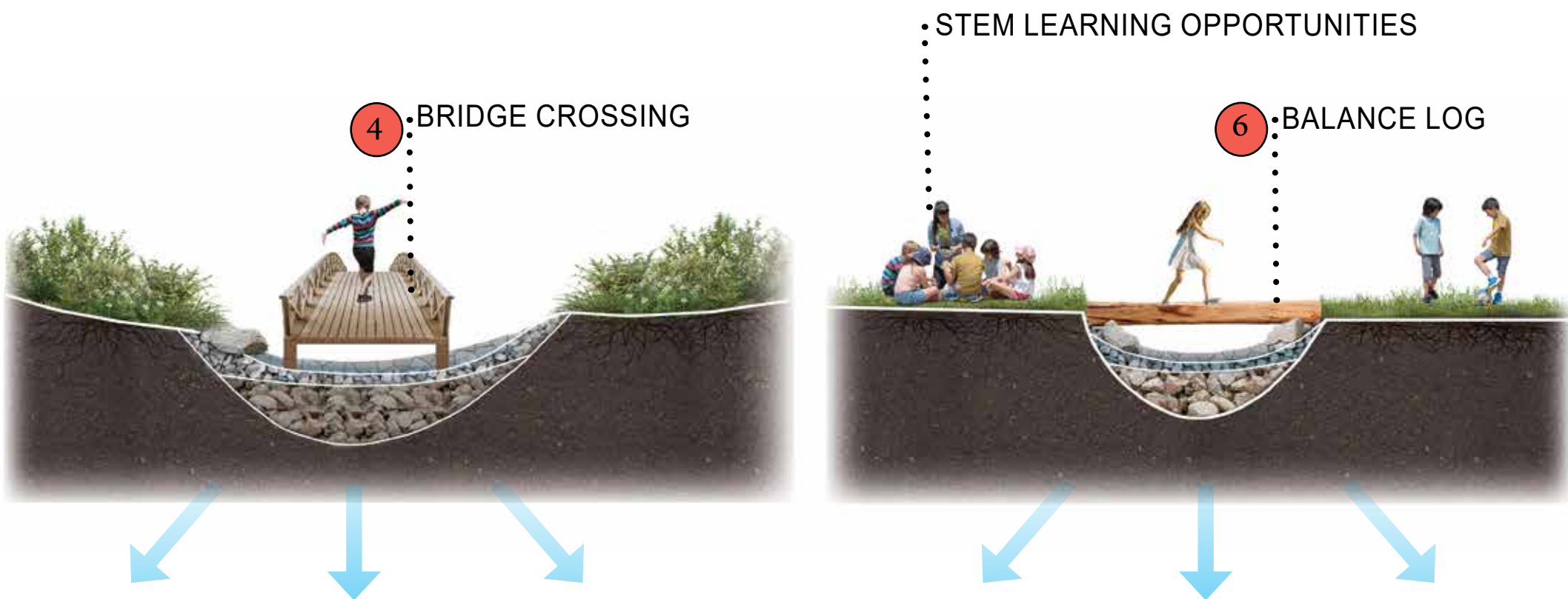
# Rainy Days, Nature's Ways:

Embracing Stormwater & Play at The Village School, Eugene Oregon



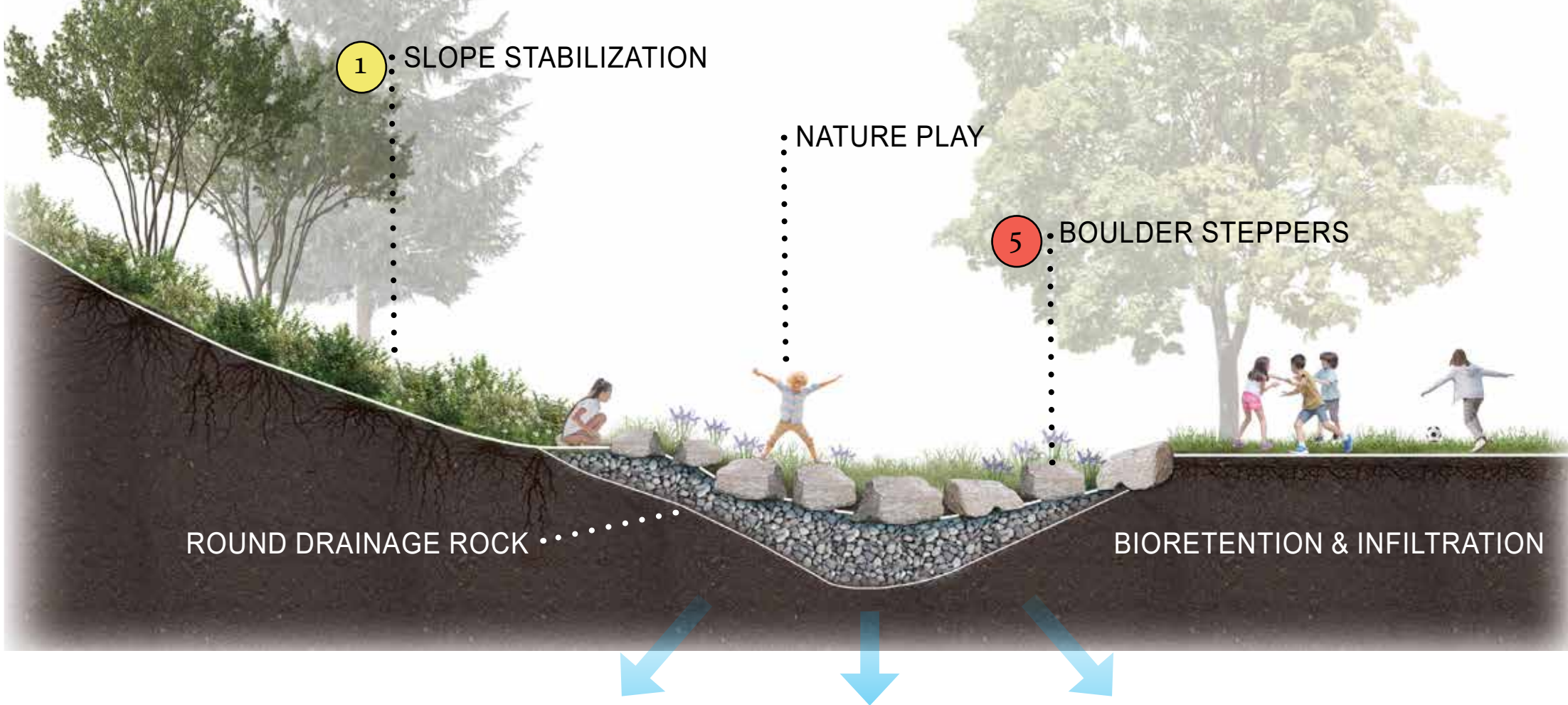
## 14 ROOF-FED 'DRY CREEK' INFILTRATION TRENCH

CLEAN ENOUGH FOR PLAY



## 12 COURTYARD-FED INFILTRATION RAIN GARDEN

CLEAN ENOUGH FOR PLAY



### PHASE 1: SITE ELEMENTS:

#### SLOPE STABILIZATION

- 1 STABILIZATION + PLAY
- 2 LOG JAM
- 3 LOGS ON CONTOUR

#### NATURE & STEM PLAY

- 4 BRIDGE OVER STORMWATER FEATURE
- 5 BOULDER STEPPERS
- 6 BALANCE LOGS OVER DRY CREEK

#### PERMEABLE SURFACES

- 7 SPORTS TURF SURFACING
- 8 NATURAL TURF AREA
- 9 CRUSHED ROCK ADA PATH
- 10 ENGINEERED WOOD FIBER
- 11 HARDSCAPE PLAY AREA

#### GREEN INFRASTRUCTURE

- 12 RAIN GARDEN
- 13 VEGETATED SWALE
- 14 'DRY CREEK' INFILTRATION TRENCH
- 15 SUBDRAIN OUTLETS
- 16 WATER CATCHMENT UNDERGROUND CISTERN



### PHASE 1: LAYING THE FOUNDATION

(1-2 years)

- Subcatchment 1: Play Yard**
- Construction of ADA access ramp
  - Slope grading and soil preparation
  - Installation of subdrainage system
  - Installation of sports field
  - Plant primary trees on slope and swale vegetation
  - Installation of boulders and logs



### PHASE 2: PLANTING SEEDS OF CHANGE

(3- 5 years)

- Subcatchment 1: Play Yard**
- Maintenance of plant coverage for slope stabilization
  - Maintenance of plant coverage in stormwater facilities
  - Performance inspections and cleanout of subdrains
  - Planting additional trees on slope and swale vegetation



### PHASE 3: CREATING SAFE POOLS

(6+ years)

- Subcatchment 1: School Yard**
- Maintenance of subdrain; water flow testing and probing
- Subcatchments 2 & 3: East & North Parking Lot**
- Installation of raingarden and vegetation planting
  - Removal of asphalt and installation of permeable surface
- Subcatchment 4: South Parking Lot**
- Install raingarden in vegetated zone
  - Adding trees and plants in vegetated zone

