JOHN ROGERS

Teacher Guide

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How to Use This Guide

This guide supports the Community Waters Science Unit Teacher Manual with information, maps, and images specific to your school and neighborhood. It is written for teachers; its goal is to provide a better understanding of what is happening with stormwater in and around your school. The points of interest and walking field trip route are suggestions and should be adapted as desired.

If you have any questions about these maps, accompanying lessons, or stormwater around your school, contact IslandWood staff at communitywaters@IslandWood.org.

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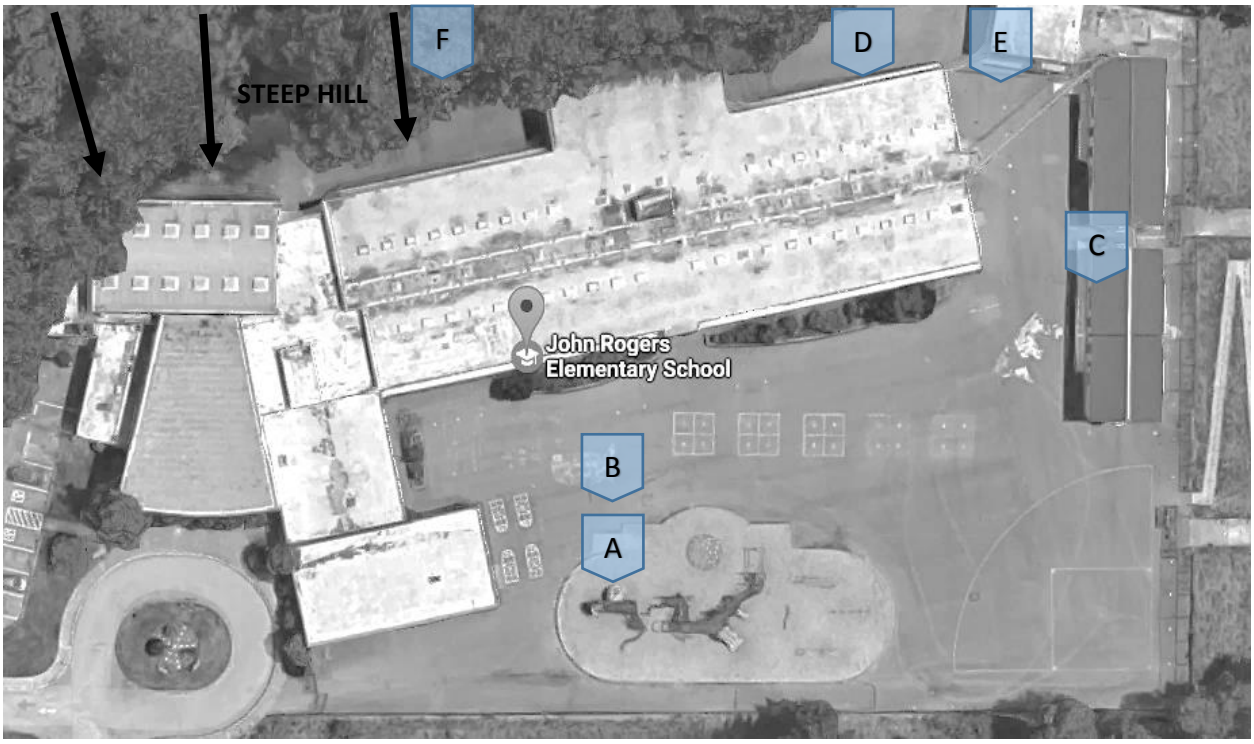
Stormwater in the Schoolyard– Lesson 3

This map and points of interest (photos and info) can be used to guide your class' exploration of the schoolyard. You will find the student worksheet for this lesson following the teacher guide version. Please use the extra space on the pages to add your own notes and questions!



A. Pervious ground

Consider the several types of surfaces used in the schoolyard. How does water move differently on asphalt, woodchips, dirt? Pour some water out to see!

B. Impervious ground

Compare to the pervious ground.

C. Gutter/Downspout

What do gutters do? Where does the water go after it falls on the roof?

D. Oil on the ground

How'd the oil get here? What happens to the oil on the ground when it rains?

E. Storm drains (in various places)

Think about the water that goes down these drains. Where's it coming from? What might be going with it? Is the drain working properly? What is in the drain? There are several drains around the schoolyard. Compare the drains.

F. Steep slope (no picture)

Check out the steep slope behind and leading down to the school. Do you see signs of erosion here? Could there be any concerns about water running down this hill?

Mapping Your Schoolyard John Rogers

Name: Date:

Include on your map:

- Symbols from the Key including surfaces, flow of water, and storm drains.
- Partially pervious surfaces can be shown with less dots.
- Label locations of litter, pollution and places where puddles form.
- Sketch any specific **stormwater problems** you see or are aware of.
- Sketch larger plants and bushes.

Map Key

Impervious Surface

Pervious Surface

Direction of water flow

Storm Drain

Add your own symbol here!

Local Stormwater Systems – Lesson 5

What happens with the Stormwater Pipes around your school?

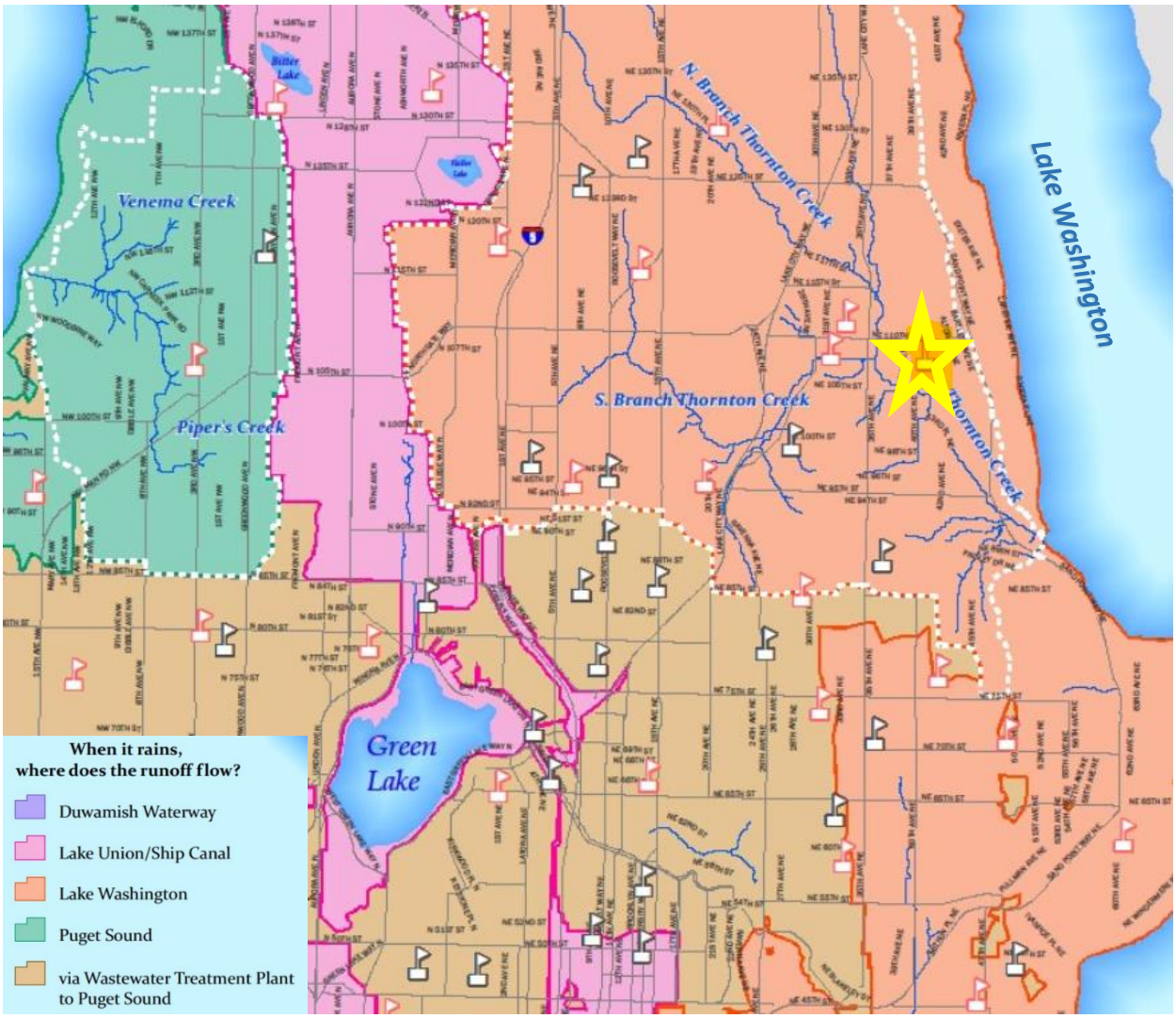
- Stormwater that leaves your site will drain into Thornton Creek (southwest corner of your property).
- There is also a large storm Pipe on your map that goes from the big circular drain under the walkway at Meadowbrook Pond directly into Lake Washington. When Stormwater from the North and South branches of Thornton Creek is too much for the flood retention capacity of Meadowbrook Pond the drain functions like the overflow drain in a bathtub to reduce flooding in the surrounding community.

Where does the stormwater runoff end up?

- The map on the next page shows where the runoff from different parts of the city ends up.
- Water from your school flows into Thornton Creek below Meadowbrook Pond before emptying into Lake Washington at Matthew's Beach. Water from Lake Washington flows through the Montlake Cut into Lake Union and then through the Chittendam Locks into Lake Washington.
- In a big storm to much water in Thornton Creek can wash away salmon eggs, cause erosion of creek banks erosion, and flood streets and houses near the creek.
- **Video:** Since stormwater runoff from your community has a big effect on Thornton Creek, we suggest watching the video about "Effects of Urbanization on Urban Streams" to minute 2:57 with your students during Lesson 5 (see OPTION A in the lesson for details).

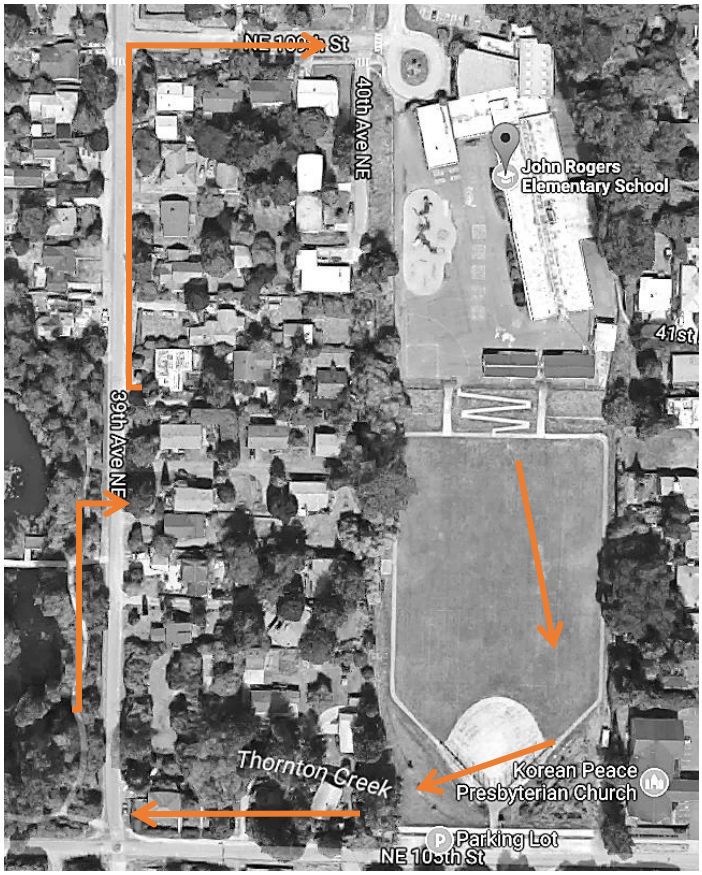
Lesson 5: Stormwater Runoff Destination Map

John Rogers has a yellow star around it on the map.



Stormwater in Our Community – Lesson 6

Please use this map and points of interest as suggestions for your walking field trip, recognizing there may be other things of importance to note in other areas. It may be useful to bring the stormwater pipes map with you for reference. Questions posed are intended to be posed to students as desired.



Suggested Route: Walk from school through field to wetland at southeast corner of field; Walk west along NE 105th, noting Thornton Creek and the houses and roads; To trail at Meadowbrook Pond/Park; Walk along trail to Pond viewing platform (drain for pond is directly under the platform) Walk up trail/39th Ave NE to NE 109th, noting ditches, slopes, houses, gardens, trees, etc. End at school.

Points of Interest

A. Storm drains (in various places): Think about the water that goes down these drains. *Where's it coming from? What might be going with it? Is the drain working properly? What is in the drain?*

B. Wetland – Describe what a wetland is. *What do you notice about it? What does it do for this area? Does it remind you of any other features discussed?*

C. Thornton Creek – *How does water enter this creek? Where does it go?*

D. A drain to compare to the previous one. Where is the water coming from? Where is it going?

E. Entry trail to Meadowbrook Pond – There's a good view of Thornton Creek from a bridge where you can see a marker for the rise and fall of the water level. *Why is it there? When does the water level change and why? Where does water come from and where does it go?*

F. Pipe and Ditch – *What goes on here? Where does water come from? Where does it go?*