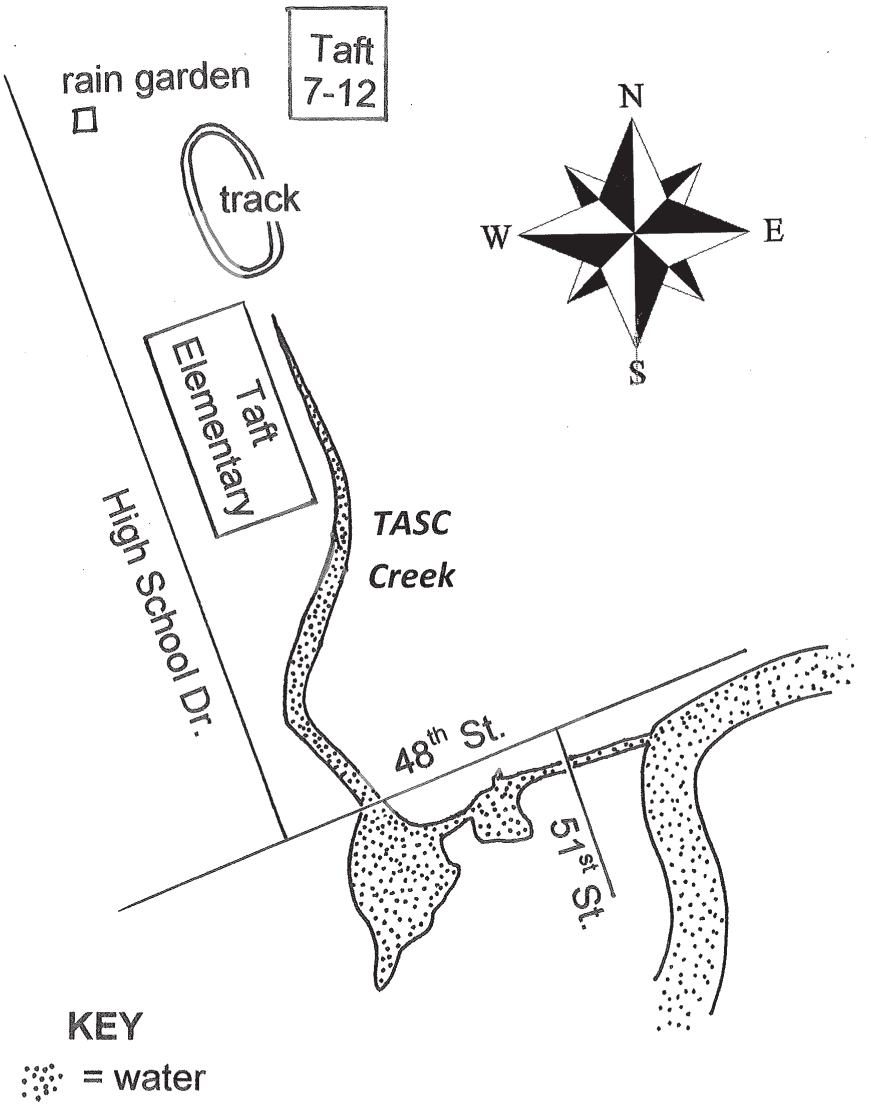
# Taft Stormwater Quest

Use this map to help you solve the following Quest!

# Taft Stormwater Quest MAP



# Taft Stormwater Quest

**Established: March 2012 by fourth- through sixth-graders attending the 21st Century After School program at Taft Elementary (Adia, Allena, Antonio, Bobbie Jo, Chellsea, Chloe, Clayton, Edson, Kevin, Majla, Ruben, Toni, Savanna, and Victor), with help from Bailey, Starla, Jim, Kary, Teri, and Oregon Coast Quests.**

**Box Monitor: Susan Roebber, Taft Elementary School**

This Quest begins at Taft Elementary School, located at 4040 SE High School Drive in Lincoln City. It was created by fourth- through sixth-grade students attending the Taft After School Club (TASC). Through direct exploration and map study, we learned what happens to the rain water that falls on Taft Elementary School. This Quest will show you what we found. Bring a 2-liter bottle of tap water with you on your walk so you can participate in some of the "Try This" activities along the way.

**Follow the directions and collect the letter clues to fill the numbered squares on page 48.**

Begin your Quest outside the front of the school. Stand between the two flagpoles and look above the doors for two large words. What is the most common letter in the second word? Write that letter in square number 1.

Taft Elementary is part of a **watershed**, which is an area of land where all the water that is under it or drains off it goes into the same place. What happens to the rain that lands on our school? Where does the water go?

Look around for some of the highest surfaces you can see in this watershed. For example, the roof of the school is pretty high. When rain lands on the roof, it can't collect up there in a giant puddle, because that would be too heavy for the roof to support. Instead, **stormwater** collects in gutters and drains down the downspouts that run down the side of the building walls. Do you see the downspouts?

Then where does that water go? Count four square **storm drain grates** in the grass and peek inside them to find the answer.

Go to the storm grate that is the furthest south on the lawn. (Hint: it's close to a bench.) From here, walk 30 steps south over the grass to a small shore pine tree.

**TRY THIS:** Ask a question. "What happens to rainwater that lands on grass?" Predict what you think will happen. Test your prediction by pouring a few cups of the tap water from your bottle directly onto the grass. Observe the results. What happened to the water?

Now, move to the sidewalk nearby. What happens to rainwater that lands on the sidewalk? Make a prediction and test it with some more tap water. What happened?

Go to the metal square that interrupts the yellow curb. This metal square is another kind of **storm drain inlet**. You can test how it works by pouring some of your tap water into the street's gutter. Where does the water go?

You may notice that water poured on the sidewalk and street tends to roll downhill. Follow the sidewalk in the direction the water rolled. What direction are you walking? Write the first letter of your answer in square number 2.

Continue walking down the sidewalk and stop when you get to a hill that has many small pine trees growing on it.

**TRY THIS:** If you have any water left in your bottle, make a prediction about what will happen when you empty it here on the grassy hill. Then test your prediction. Were the results what you expected? Do you think you might have different results it you poured a LOT of water on this hill instead of just a little?

Like the grass, these trees were planted here on purpose. One reason might be to help control **erosion**. Erosion is when materials on the surface are picked up and moved to another location. In heavy rainstorms, water can pick up soil, needles, litter, and oils on surfaces and move them downstream. Trees and grass can help hold soil in place and keep it from being pulled down hill. What do you call the part at the bottom of a tree that helps it get water and also helps it hold on to the soil? Take the first letter of this structure and write it in square number 3.

Look on the street for a word spelled out in white. What shape is each bump? The first letter of the name of the shape is clue number 4.

Continue down the sidewalk until X marks the spot at big concrete blocks. Stop here and look down into the woods. What do you see down there? What do you hear? Check the map to see how this little creek runs behind Taft Elementary School. The downspouts from the back part of our school empty rainwater into this creek, and now the water is moving south, just like we are. Look on your map to find out the name we gave this creek. Write the second letter of the second word in square number 5.

Keep walking on the sidewalk. After a bit, you will see an arrow painted on the street. Why is the arrow pointing the direction it is? Take the fourth letter of the first word near the arrow and write it in square number 6.

Stop at the intersection and carefully cross 48th Street in the crosswalk. Turn left and follow the sidewalk to a yellow sign with a black shape on it. If you could turn this shape upside-down, it would look like a lower-case letter. Write this letter in square number 7.

Look over the green rail; what do you see below? The creek that runs behind our school runs underneath the street and creates a **wetland** here, on the south side of the road. When it rains, stormwater from the street also adds to the water you see below. How many storm drain inlets do you see nearby?

Sometimes people mistakenly think that grates in the road lead to sewers, and that it's OK to dump pollutants and chemicals down these drains because the pipes will lead to a place where the water will get cleaned up. But these drains don't lead to sewers. Where does our stormwater end up? Let's keep walking to find out.

Ahead, near a utility pole, check the cement for a strange impression. Write the second letter of the body part that made this print in square number 8.

Near a white fence, look down to find a round drain cover with a picture of a fish and a message. What does this message mean? After you've passed the first white fence, find another fishy drain cover on the ground. Write the second letter of its second word in square number 9.

At the second white fence, you may be able to get a better look at the water we are following. Can you see the water? You may be able to see (or smell) wetland plants like skunk cabbage below. Perhaps you can hear frogs.

At the bottom of the hill, turn right onto 51st street. The sidewalk is gone, but you should be able to see our little creek again. Find where the water enters the **culvert** and travels under the road. Care-

fully cross the road to greet the water as it spills out again. Then let your eyes follow the water as it flows away from you. Where is the water going now?

Can you see how our little creek meets up with a bigger creek ahead? This creek is where our stormwater ends up, and your collected letters spell out its name. Now you know not only the name of the creek, but also the name of the watershed in which Taft Elementary School is located!

### Question for the Curious:

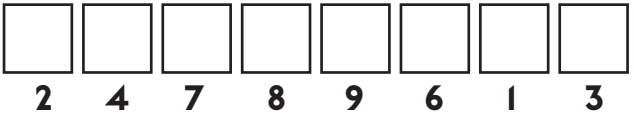
**Where does the water in this larger creek end up?**

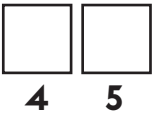
*The answer is in the Quest Box at the end of your journey!*

Turn back to the intersection and find a green sign above cement walls. Search for your box just below it! After you have explored the box and signed the log book, please return all the contents, close it tightly, and return it to its hiding spot for the next person to find. Remember to keep the location of the Quest clues and box a secret!

QUESTion: Where does stormwater from Taft Elementary School end up?

Answer:




Stamp page 206 of this book to record your find!

*Many thanks to Ellen Hamilton of the Taft Elementary 21st Century Afterschool Program for helping with this Quest.*