

THE EROSION PATROL! AND THE MYSTERY SEDIMENT PLUME





AUTHOR'S DEDICATION:

***TO THE LITTLE GIRLS WHO LOVE TO
PLAY OUTSIDE IN THE DIRT.***

***NEVER LET ANYONE DULL YOUR
SPARKLE...***

~ CAITLYN HENEY



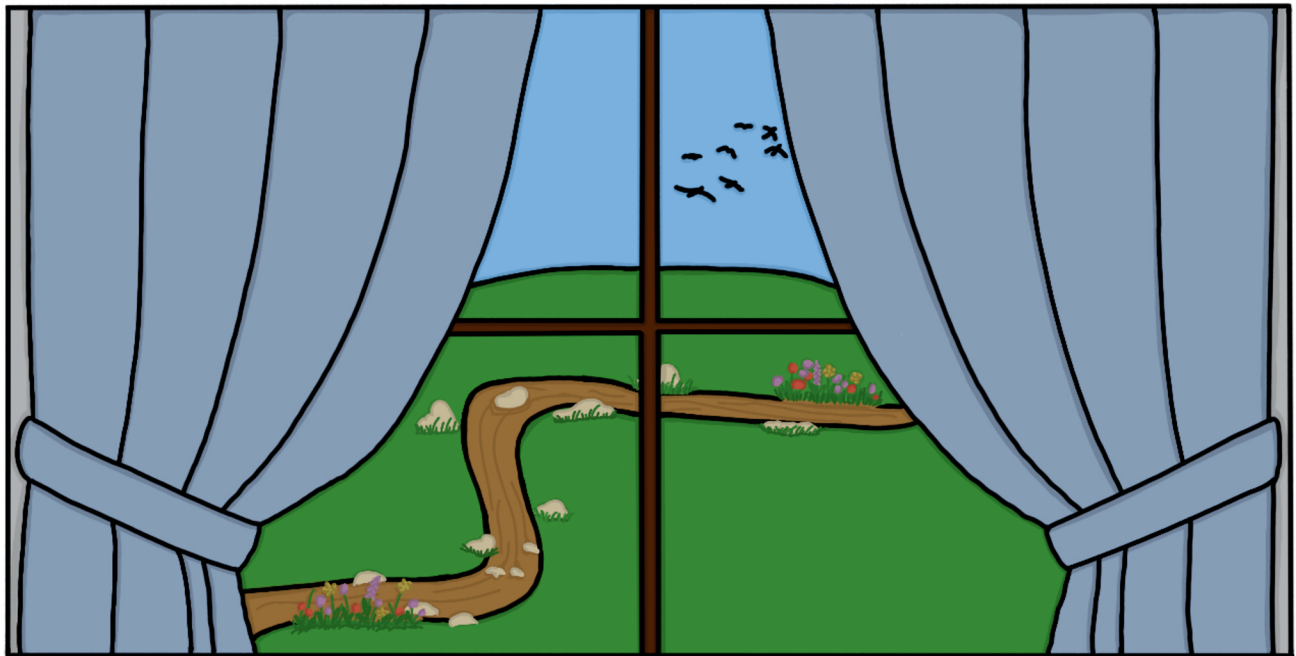
IT WAS A DARK AND STORMY NIGHT. WATER POURED FROM THE SKY, THUNDER RUMBLED AND LIGHTNING FLASHED.

INSIDE THE EROSION PATROL HEADQUARTERS, THE TEAM SLEPT SOUNDLY, EXHAUSTED FROM THEIR LONG WEEK OF FIELD RESEARCH.

LITTLE DID THEY KNOW, A BIG ENVIRONMENTAL PROBLEM WAS BREWING RIGHT OUTSIDE THEIR DOOR!

THE NEXT MORNING, THE STORM HAD CLEARED, LEAVING A BRIGHT SUNNY SKY AND BIRDS SINGING THEIR MORNING SONGS.

MORGAN, THE **GEOLOGIST**, RUBBED HER EYES AND STRETCHED AS SHE WALKED OVER TO LOOK OUT THE WINDOW. HER EYES WENT WIDE.



“TEAM! GET OVER HERE RIGHT NOW!” SHE YELLED, HER VOICE ECHOING THROUGHOUT THE LAB.

JONATHAN THE **ENGINEER**, LILY THE **SOIL SCIENTIST**, AND ROWAN THE **FIELD TECHNICIAN** SPRANG UP INSTANTLY. JOSE AND ALEISHA, THE **HYDROLOGISTS**, RUSHED OVER CLOSE BEHIND. THEY ALL CROWDED AROUND THE GLASS, GASPING AT THE SIGHT BELOW.

"LOOK AT THE RIVER, IT'S ALL BROWN!" EXCLAIMED JONATHAN.

JOSE AND ALEISHA LOOKED AT EACH OTHER WITH WORRY.

"IT MUST BE A **SEDIMENT PLUME**...", SAID JOSE.

"BUT WHERE DID IT COME FROM?" ASKED ALEISHA.

"I DON'T KNOW, BUT WE MUST FIND OUT! IF WE DON'T STOP THE SOURCE OF THE **SEDIMENT** SOON, MORE **EROSION** COULD OCCUR AND THE RIVER'S **ECOSYSTEM** WILL BE IN BIG TROUBLE!" SAID LILY.

ROWAN NODDED AND SAID, "ALL THE PLANTS AND ANIMALS THAT LIVE IN THE RIVER MUST BE STRUGGLING IN THAT MUDDY WATER! WE HAVE GOT TO DO SOMETHING!"



THE TEAM QUICKLY PUT ON THEIR **FIELD GEAR**, GRABBED THEIR **TESTING TOOLS**, AND RUSHED OUT TO THE EROSION PATROL TRUCK.

ONCE AT THE RIVERBANK, JOSE, ALEISHA, AND LILY QUICKLY GOT TO WORK. JOSE AND ALEISHA COLLECTED WATER SAMPLES FROM SEVERAL LOCATIONS ALONG THE RIVER TO MEASURE THE **TURBIDITY** LEVELS.

NEARBY, LILY SCOOPED SAMPLES DIRECTLY FROM THE MUDDY WATER TO TEST THE SUSPENDED **SEDIMENT** AND CHECK FOR CLUES OF WHERE IT COULD HAVE COME FROM.



“THE **TURBIDITY** IS OFF THE CHARTS! IT KIND OF LOOKS LIKE CHOCOLATE MILK!” SAID JOSE.

ALEISHA MADE A DISGUSTED FACE. “IF YOU DRINK IT, IT DEFINITELY WON’T TASTE LIKE CHOCOLATE MILK!”

AS THE TEAM CHATTERED AWAY ABOUT THEIR FIELD TASKS, LILY FOCUSED ON STUDYING THE WET **SEDIMENT** USING HER **HAND LENS**. HER SAMPLE TUBES WERE FILLED WITH A HEAVY, ORANGE-RED SUBSTANCE.

"THIS ISN'T REGULAR RIVER **SAND**," LILY SAID. "THESE **PARTICLES** ARE VERY SMALL, AND THIS RED **CLAY** LOOKS LIKE IT CAME FROM A CONSTRUCTION SITE. I THINK WE MAY HAVE FOUND OUR CLUE!"



"THERE IS A NEW CONSTRUCTION PROJECT FURTHER UP THE RIVER FOR A NEW SCHOOL. I WONDER IF IT CAME FROM THERE?" JONATHAN SAID AS HE LOOKED UPSTREAM.



MORGAN GASPED, HER EYES WIDENING. "IF IT'S COMING FROM THE PLAYGROUND HILL BEHIND THE SCHOOL, THAT'S A BIG PROBLEM! WHEN THAT RED CLAY GETS TOO WET, THE WHOLE HILLSIDE CAN GET SLIPPERY. WE NEED TO CHECK THE SLOPE BEFORE IT SLIDES RIGHT INTO THE RIVER!"

ROWAN NODDED. "I'M ON IT, MORGAN! I'LL GRAB A DRONE TO MAP THE HILL AND GET OUR TOOLS READY TO HELP YOU TEST THE GROUND."

JOSE AND ALEISHA PICKED UP THE SAMPLES THEY COLLECTED. "WE'LL TAKE THESE BACK TO THE LAB AT HQ TO TEST FOR ANY OTHER **POLLUTANTS**," JOSE SAID.

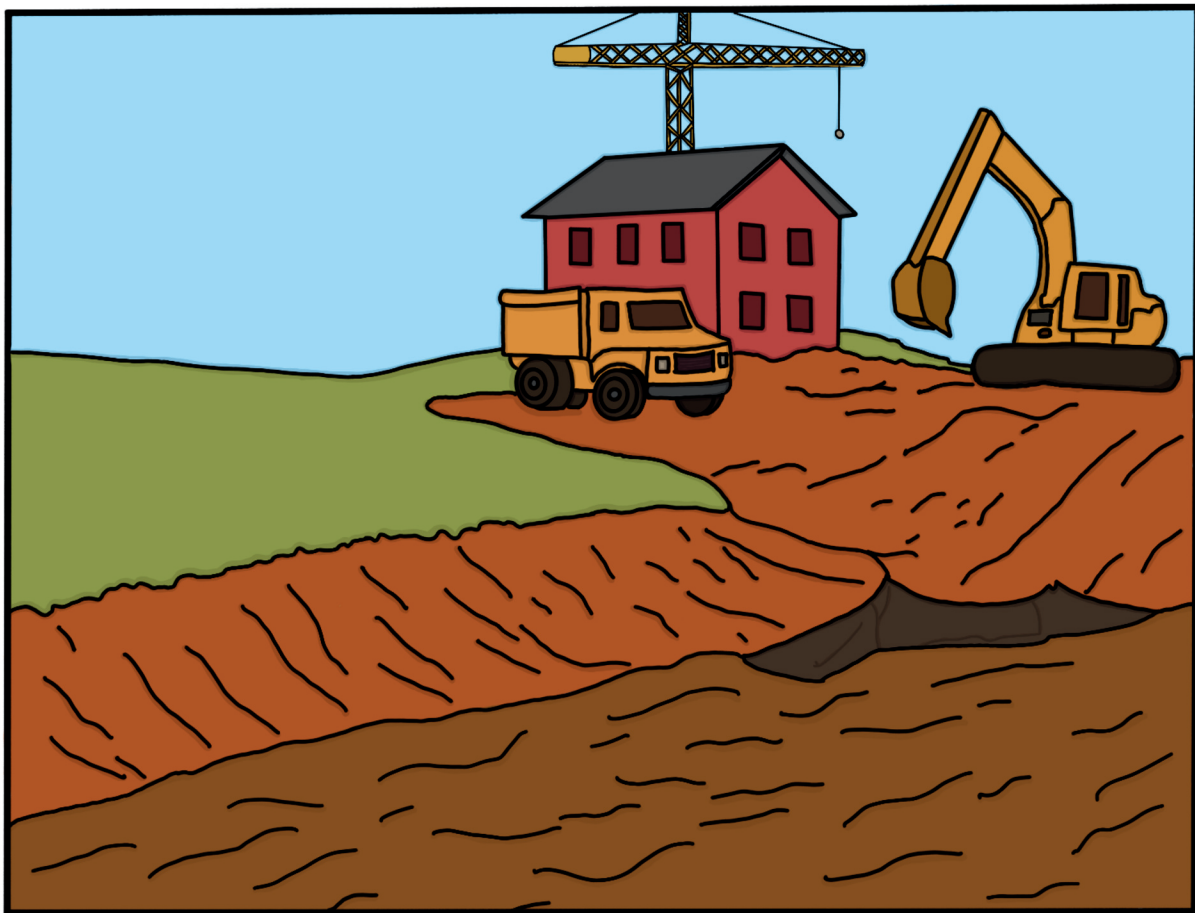
"GOOD PLAN," LILY REPLIED. "THE REST OF US WILL HEAD UPSTREAM TO THE CONSTRUCTION SITE."

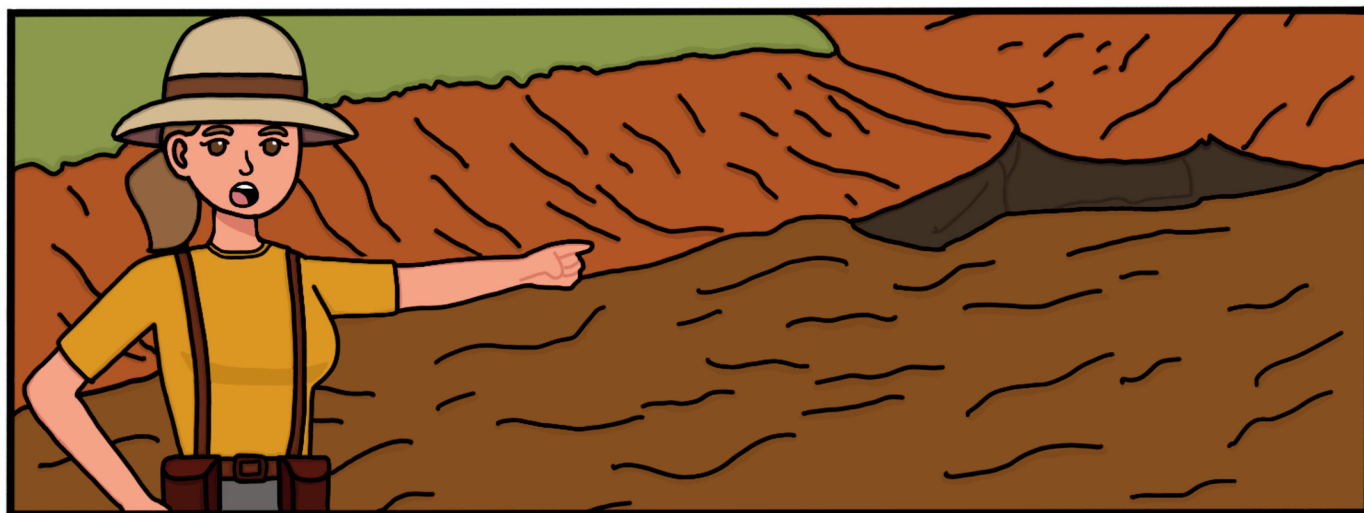
WITH THEIR MISSION CLEAR, THE TEAM HOPPED INTO THE EROSION PATROL TRUCK AND RACED TOWARD THE SCHOOL CONSTRUCTION SITE TO SAVE THE RIVER!

AS THE EROSION PATROL TRUCK ROLLED UP TO THE NEW SCHOOL CONSTRUCTION SITE, THE SOURCE OF THE **SEDIMENT PLUME** WAS INSTANTLY OBVIOUS. A LONG BLACK FABRIC **SILT FENCE** OVER BY THE EDGE OF THE CONSTRUCTION SITE HAD COMPLETELY FALLEN APART DURING THE STORM.

WITHOUT THAT BARRIER, THICK, WET RED **CLAY** WAS TRICKLING DOWN THE HILLSLOPE LIKE HOT FUDGE ON A SUNDAE, POURING STRAIGHT INTO THE RIVER BELOW!

MORGAN HOPPED OUT OF THE TRUCK AND QUICKLY GOT TO WORK ANALYZING THE HILL'S STRUCTURE, WHILE ROWAN GRABBED THEIR DRONE AND BEGAN FLYING IT TO HELP MAP THE HILLSIDE.





MORGAN POINTED AT THE CRUMBLING EDGE WHERE A GULLY WAS FORMING. "LOOK AT THIS SLOPE. THE SILT FENCES ARE A GOOD START, BUT WE NEED MORE BEST MANAGEMENT PRACTICES TO CONTROL THE EROSION."

JONATHAN STUDIED THE DRAINAGE DITCH FOR A MOMENT. "IF WE ADD RIPRAP HERE, IT WILL SLOW THE WATER DOWN BEFORE IT REACHES THE RIVER. THAT SHOULD HELP STOP MORE SOIL FROM WASHING AWAY."

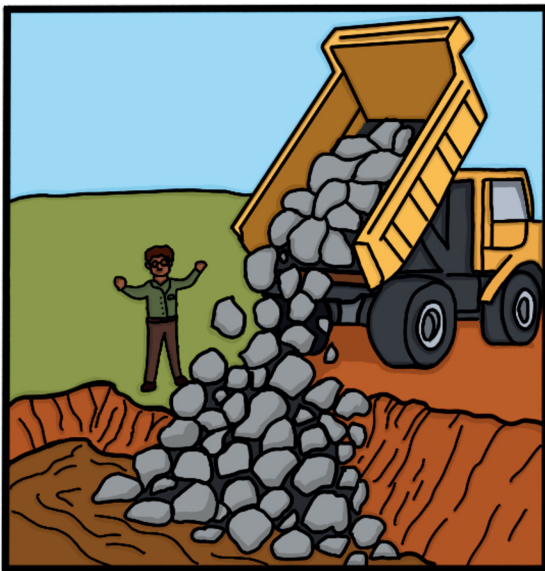
ROWAN NODDED, CHECKING THE ANGLE OF THE HILL. "GREAT IDEA, JONATHAN! THIS AREA LOOKS STRONG ENOUGH TO SUPPORT RIPRAP. PUTTING SOME BIG ROCKS HERE WOULD HELP SLOW DOWN RAINWATER AND STOP SHEET EROSION FROM WASHING AWAY THE TOP LAYER OF SOIL IF WE GET ANOTHER STORM LIKE LAST NIGHT!"

JONATHAN NODDED IN AGREEMENT. "I'M ON IT. I'LL GO TALK TO THE CONSTRUCTION CREW RIGHT NOW TO SEE IF THEY HAVE ANY HEAVY ROCK AGGREGATE ON-SITE THAT WE CAN USE!"

MOMENTS LATER, THE SOUNDS OF RUMBLING CONSTRUCTION TRUCKS MADE THEIR WAY TO THE PLAYGROUND'S CONSTRUCTION SLOPE.

JONATHAN WAVED HIS ARMS, DIRECTING THE HEAVY TRUCKS RIGHT UP TO THE EDGE OF THE **GULLY**. WITH A LOUD BANG, THE TRUCKS DUMPED LOADS OF LARGE ROCKS DOWN THE MUDDY TRENCH. THE HEAVY **RIPRAP** LOCKED TOGETHER LIKE GIANT PUZZLE PIECES, SLOWING THE FLOW OF MUDDY RAINWATER BEFORE IT COULD REACH THE RIVER.

MEANWHILE, ROWAN, MORGAN, AND LILY WORKED SIDE-BY-SIDE WITH THE CONSTRUCTION CREW, HAMMERING THICK METAL STAKES INTO THE GROUND TO HELP REBUILD THE BROKEN **SILT FENCES**.



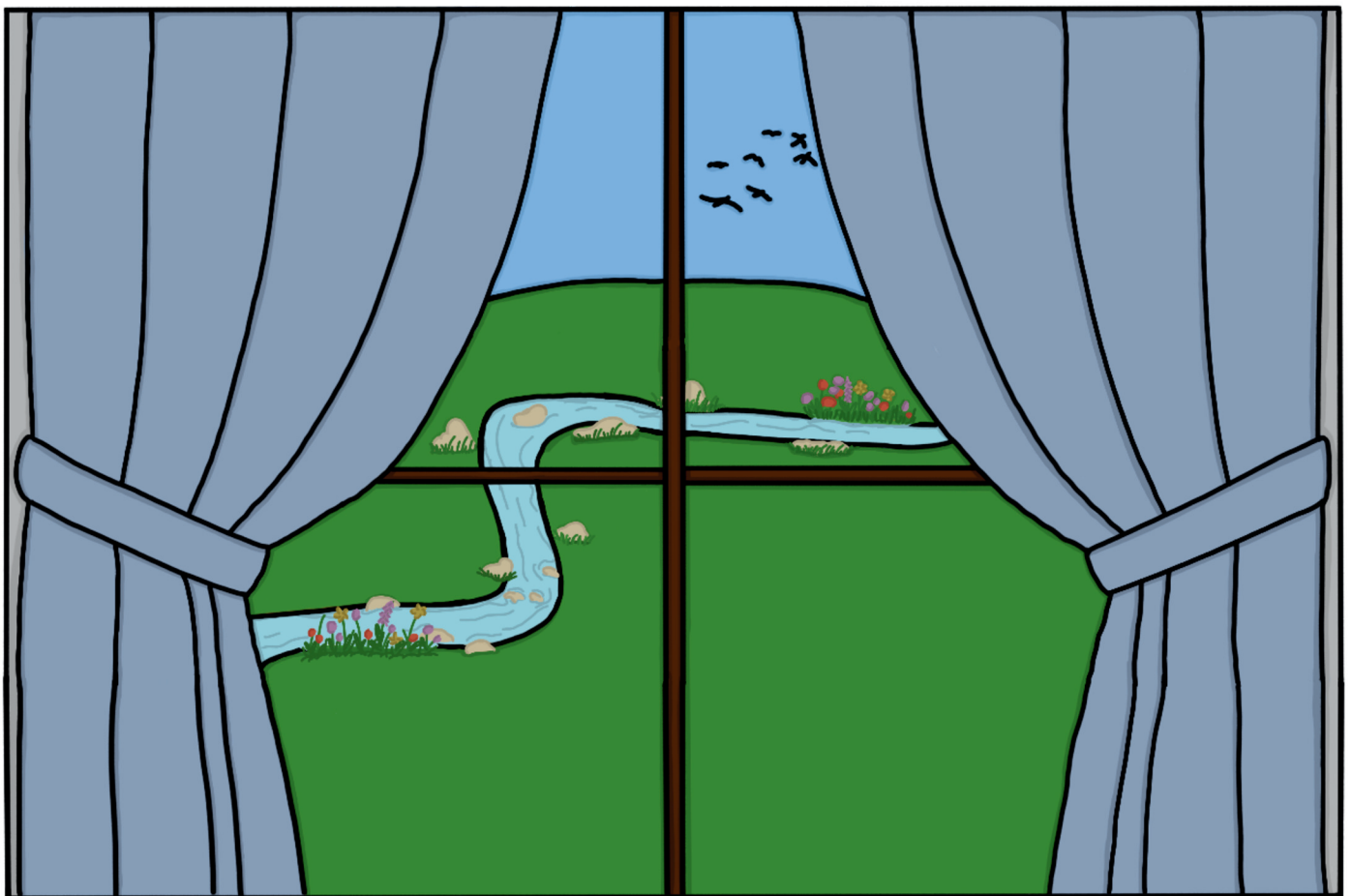
WIPING A SMUDGE OF RED **CLAY** OFF THEIR FOREHEAD, ROWAN LOOKED BACK AT THEIR HARD WORK. "GREAT WORK, TEAM!" THEY SAID WITH A PROUD SMILE. "THAT **SEDIMENT** ISN'T GOING ANYWHERE NOW."

OVER THE NEXT FEW DAYS, THE RIVER SLOWLY BECAME CLEARER AS LESS **SEDIMENT** ENTERED THE WATER AND MUCH OF THE SUSPENDED SEDIMENT SETTLED TO THE BOTTOM.

JOSE AND ALEISHA CALLED A TEAM MEETING AND HAPPILY REPORTED THE GOOD NEWS.

"WE WENT OUT AND COLLECTED NEW WATER SAMPLES THIS MORNING," SAID JOSE.

"AND WE ARE HAPPY TO REPORT THAT THE **TURBIDITY** IS BACK DOWN TO NORMAL LEVELS!" EXCLAIMED ALEISHA.





“ALL THE PLANTS AND ANIMALS THAT CALL THE RIVER HOME MUST BE MUCH HAPPIER!” SMILED LILY.

THE WHOLE TEAM SMILED AND CELEBRATED THEIR HARD WORK. BY WORKING TOGETHER AND USING THEIR DIFFERENT SKILLS, THE EROSION PATROL HAD SOLVED THE MYSTERY SEDIMENT PLUME AND STOPPED THE **EROSION** AT ITS SOURCE.

“ANOTHER MISSION COMPLETE!” ROWAN CHEERED.

THE RIVER WAS CLEANER, THE WILDLIFE WAS SAFER, AND THE CONSTRUCTION SITE WAS PROTECTED FROM FUTURE STORMS. AS THE SUN SET OVER THE WATER, THE EROSION PATROL HEADED BACK TO HEADQUARTERS, READY FOR WHATEVER CHALLENGE CAME NEXT.

THE END

**BE AN EROSION
PATROL SCOUT!**

**HOW CAN
YOU HELP?**

YOU CAN HELP PROTECT THE EARTH BY:

- **STICKING TO THE TRAIL:** ALWAYS STAY ON DESIGNATED PATHS. WALKING OFF-TRAIL CRUSHES PLANTS AND LOOSENS THE SOIL.
- **LEAVE NATURE'S SHIELD:** KEEP PLANTS, GRASS, AND ROCKS WHERE THEY ARE. THEY ACT LIKE A BLANKET THAT PROTECTS THE SOIL UNDERNEATH.
- **PLANT FOR THE FUTURE:** HELP PUT NATIVE PLANTS IN THE GROUND. THEIR DEEP ROOTS WORK LIKE FINGERS TO HOLD SOIL IN PLACE!

REPORTING FOR DUTY:

KEEP YOUR EYES OPEN FOR LOOSE MUD OR WASHED-AWAY SOIL! IF YOU SEE SEVERE EROSION NEAR A CONSTRUCTION SITE, ASK AN ADULT TO REPORT IT IMMEDIATELY TO THE NORTH CAROLINA EROSION PATROL HOTLINE AT: **1-866-STOP-MUD**

