COMPLI@NCE

STORM WATER AWARENESS WEEK

BACK TO BASICS:

STORM WATER AND BMPS FOR MUNICIPAL CREWS

HISTORY

THE CLEAN WATER ACT

- Provides the framework to control pollutant discharges into the U.S. waters
- Sets quality standards to surface waters
- Originally was passed in 1948 as the Federal Water Pollution Control Act
- Major revisions and expansion in 1972
- Known as the Clean Water act after the 1972 amendments

THE CLEAN WATER ACT

- What did the 1948 Federal Water Pollution Control Act fail to stop pollution?
  - The federal government couldn’t directly regulate or penalize polluters, only states could
  - The were no permits or discharge limits, so industries operated unchecked
  - It was more of a suggestion than a requirement, many businesses simply ignored it because there were no real penalties

THE CLEAN WATER ACT

- What major events led to the amendments to the Clean Water Act?
  - Cuyahoga River Fire (1969) – The river in Ohio was so pullulated with oil and waste that it caught fire
  - Santa Barbara Oil Spill (1969)" A massive offshore drilling spill in California killed wildlife and polluted miles of coastline

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STORM WATER 101

UNDERSTANDING STORM WATER

- Definitions
  - Storm Water Conveyance System
    - A system that carries storm water and discharges it into U.S. waters
    - Owned and/or operated by a public agency
    - Includes streets, storm drains, catch basins, curbs & gutters, ditches, man-made channels, and retention basins.

UNDERSTANDING STORM WATER

- Discharge
  - When runoff leaves a property or site and enters the MS4 system
  - A direct discharge flows straight to a receiving waters through a pipe, channel, or ditch.

UNDERSTANDING STORM WATER

- Outfall
  - The final point where runoff exits the MS4 system and enters rivers, lakes, or oceans
  - Essentially, the last stop before storm water reaches natural waters

UNDERSTANDING STORM WATER

- Non-Storm Water
  - Any discharge to the conveyance system that is not entirely comprised of storm water
  - There are two categories of non-storm water discharges:
    - Allowable
    - Illicit Discharges

UNDERSTANDING STORM WATER

- BMP
  - “Best Management Practices”
  - A practice or combination of practices, that is effective and practicable to prevent or reduce the amount of pollution
  - Can be structural or procedural

UNDERSTANDING STORM WATER

- Storm water
  - Water from rain, melting snow, or ice that flows over land
  - Can soak into the ground, evaporate or run off into the streets and drains
  - Runoff often picks up pollutants like trash, oils, and chemicals
  - Travels through the MS4 system (storm drains, pipes, ditches) to rivers, lakes, or oceans – *untreated*
  - Urban storm water runoff is listed as a primary source of impairment for many rivers, lakes and reservoirs, and estuaries

UNDERSTANDING STORM WATER

- Common Storm Water Pollutants
  - Sediment & Solids
  - Trash
  - Oil & Grease
  - Pathogens/Bacteria
  - Pesticides/Nitrates
  - pH Altering Substances

POP QUIZ!

RULES

- There will be a total of two quiz questions in the section.
- The first person to send the answer to Gabriella Teravskis using the Zoom chat will win a $5.00 digital gift card to Starbucks.
- There will be only one winner per quiz question .
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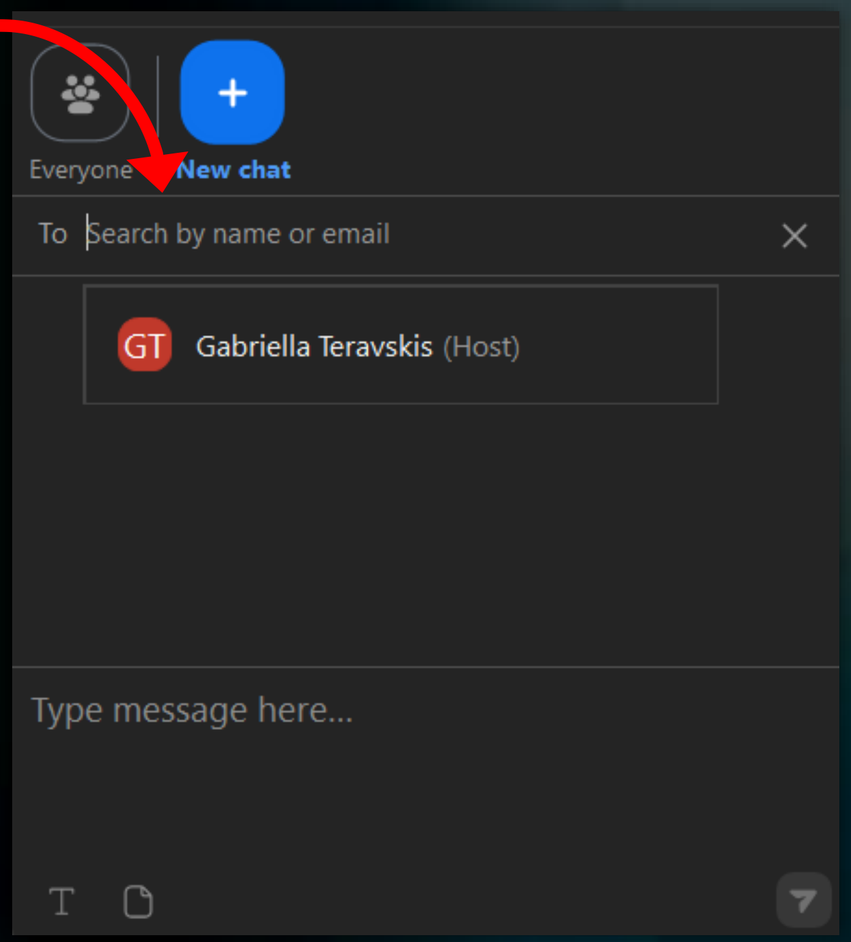
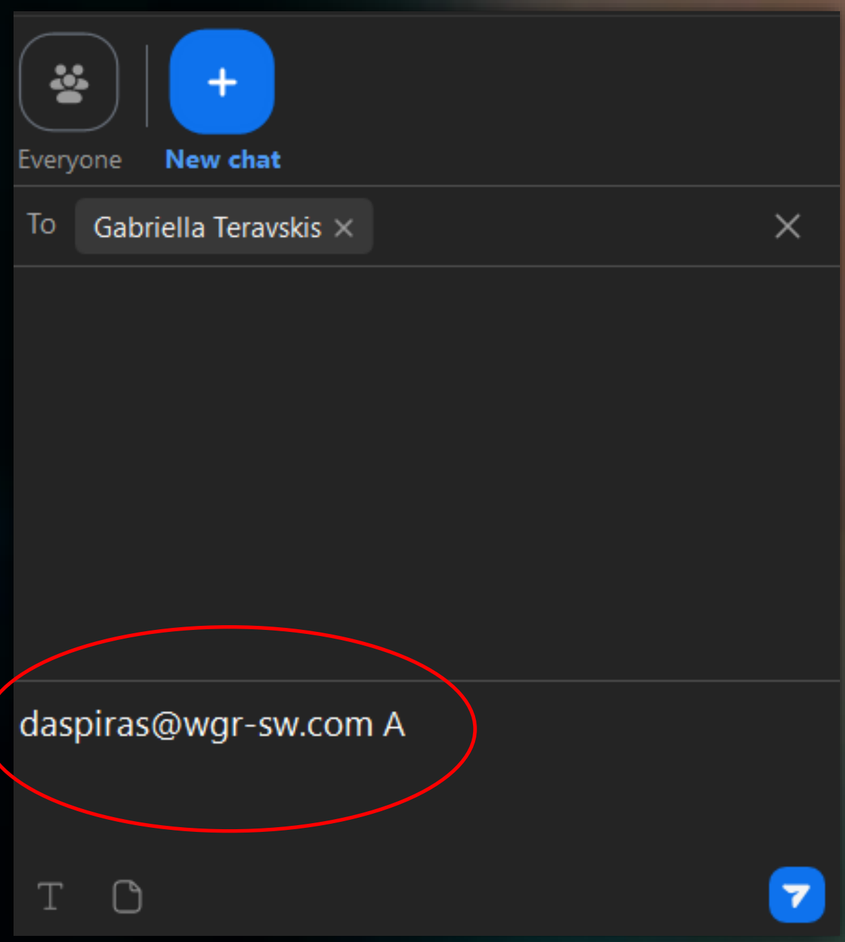
SET UP

- If you are on a computer, go to “Chat” , search for Gabriella Teravskis





QUIZ QUESTION #1

What are the two categories of non-storm water discharges?

- ✓ Allowable and Illicit

QUIZ QUESTION #2

Which of the following would not be considered a “Common Pollutant”?

A. Sediment

B. Residential Car washing

C. Trash

D. Pathogens

IMPACTS

ENVIRONMENTAL IMPACTS

- Storm water runoff caries sediment, chemicals, trash, bacteria, and many other pollutants into rivers, lakes, and oceans.
- These pollutants disrupt delicate ecosystems.
  - Sediment can smother fish eggs, and aquatic plants
  - Fertilizers cause algal blooms, which lower oxygen and kill fish
  - Oil & grease can coat the gills of fish and aquatic insects
- Over time, these pollutants lead to loss of habitat for birds, fish, and other wildlife.

PUBLIC HEALTH IMPACTS

ECONOMIC IMPACTS

- Pullulated storm water isn't just bad for our health and the environment, it also hits us in the wallet!
- Costly Cleanup – Cities spend thousands to clean debris and contaminants from storm drains and waterways.
- Trash amendments – Full capture systems can cost well over 1 million dollars after installation.
- There can potentially be regulatory fines for non-compliance with this MS4 permit.

ECONOMIC IMPACTS

New Report: California Communities Spend Nearly $500M Annually in Keeping Trash Out Of Waterways

The report, *Waste in our Water: The Annual Cost to California Communities of Reducing Litter that Pollutes our Waterways*, surveyed 95 California communities ranging in size from just over 700 residents to over 4 million. The analysis found that, regardless of their size and distance from the ocean, these communities are collectively spending nearly $500 million dollars annually cleaning up litter and preventing it from entering waterways. The report examined the cost of six activities related to reducing solid waste in waterways: river and beach clean-up; street sweeping; installation of stormwater capture devices; stormwater drain cleaning and maintenance; manual cleanup of litter; and public education.

BMPS FOR CITY CREWS

RIGHT-OF-WAY MAINTENANCE

- If possible, schedule maintenance activities during dry weather.
- Be sure before starting work, locate all storm drains in the area that may be impacted by these maintenance activities if potential pollutants is a concern. If needed berm the work area if runoff may be an issue.
  - Sidewalk repairs, sprinkler repairs, paving, concrete cutting, etc.
- Be sure to bring a shop vac to clean up any saw cutting slurry.
- Depending on the length of work, do you have material needed to cover left over stockpiles, back fill trenches, protect DI's?
- Come overprepared!

TRASH AND RECYCLING BINS

- Do not use you trash bins for things that may be considered as hazardous waste!
  - Oily debris
  - Oily vehicle parts
  - Oil pads or booms
  - Empty oil containers exceeding 5-gallons in size, if less than 5-gallons in size, it can go into the general trash if the yare “California empty”
    - ✓ When there is no longer a pourable or spillable product left in the container
    - ✓ Semi-solid materials must be completely scarped out
    - ✓ Aerosol cans must have no propellant or product left

TRASH AND RECYCLING BINS

- For hazardous waste materials, ensure they are stored in a proper container.
- Don’t leave hazardous waste in storage containers that they are not meant to be stored in.
  - For example, don’t leave waste oil in those 5-gallon plastic buckets from home depot, these are not meant to be used for hazardous waste storage.
- Don’t leave absorbent material on the ground for too long
- Be sure to have waste profiled by a hazardous waste hauler if it is a new waste.
- Dispose all your hazardous waste within the proper time frame.

TRASH AND RECYCLING BINS

- Universal waste cannot go into the general trash.
  - Fluorescent lamps
  - Batteries (not lead-acid batteries)
  - Aerosol Cans (Non-empty)
  - Mercury Switches
- Do not store you trash bins near storm drains.
- Do not leave you waste bins uncovered, especially when they are not actively being used.
- Be sure to regularly inspect these bins for damaged lids and leaks.

MATERIAL STORAGE

- Check labels on containers regularly to make sure they are clear, accurate, and still in good condition.
- Store containers in secondary containment whenever they’re not in use to help prevent spills from spreading.
- Watch for Leaks or spill and clean them up right away to keep the area safe and prevent pollution.

MATERIAL STORAGE

- Labeling
  - Original Containers received should have:
  - Product identifier
  - Signal Words (DANGER & WARNING)
  - Hazard Statements
  - Pictograms
  - Precautionary Statements
  - Name, address, and telephone number of manufacture, importer or other responsible party

MATERIAL STORAGE

- Workplace Containers should have:
  - Product identifier
  - Words, pictures, symbols, or combination thereof, which provide at least general information regarding the hazards of the chemicals, and which, in conjunction with the other information immediately available to employees.
  - Portable containers into which hazardous chemicals are transferred from labeled containers, and which are intended only for the immediate use of the employee who performs the transfer are not required to be labeled.

CONTRACTORS

- It is the reasonability of the City to communicate to its onsite contractors all BMP expectations.
- How do we do this?
  - Contract language
  - Verbal discussions
  - Pre-Job walks
  - Facility signage
  - Job inspections
  - Be sure expectations are properly communicated, if not your City could be held liable for discharges of pollutants or spills of hazardous materials or wastes.

ILLICIT DISCHARGE DETECTION

- What is an illicit discharge?
  - Any discharge of materials other than clean storm water to the MS4 conveyance system (expect for the list of “allowable discharges”).
    - Allowable discharges can vary from City to City
    - Some allowable discharges are air conditioning condensation, dechlorinated swimming pool discharges, diverted stream flows, rising ground waters or springs, water line flushing and other discharges from potable water sources, etc.
- Common source of illicit discharges are from industrial or commercial sites and Sanitary Sewer Overflows (SSOs).

ILLICIT DISCHARGE DETECTION

- Immediately report any flows that may pose a serious risk to human health or the environment.
  - Notify the local Health Department Right away when these types of flows as discovered
- Prioritize and investigate any non-storm water discharges suspected to contain sewage or significant contamination
- Begin investigations within 72 hours of all other suspected illicit discharges once they are identified.

SPILL PREVENTION

- How do you respond to a spill of hazardous material or waste?
  - Stop the flow if it is safe to do so
  - Call 911 if you believe a life is threatened or if there will be impacts to a local waterbody
  - Create a spill zone and isolate the material
  - Clean up the material using appropriate spill kit materials
  - Store containment material in the proper storage drums
    - You potentially may need to have the waste profiled or if it is a common waste, label the drum with the appropriate hazardous waste label

SPILL PREVENTION

- Is that it are we done now?
- Did the spill reach a storm drain?
- Should we be concerned about other sources of pollution once cleanup is completed?
- Do we need to make external notifications?
  - Reportable spills of oil-based products are 42-gallons to the surface or any amount of spilled material to a drain.
  - NRC, Cal OES, County EHD, State Waterboard

SPILL PREVENTION

- For spills of hazardous materials or wastes be sure you have a spill kit that is sized for the most likely spill.
  - Check these spills kits regularly
  - Replenish missing material as needed or replace degraded material if not longer usable

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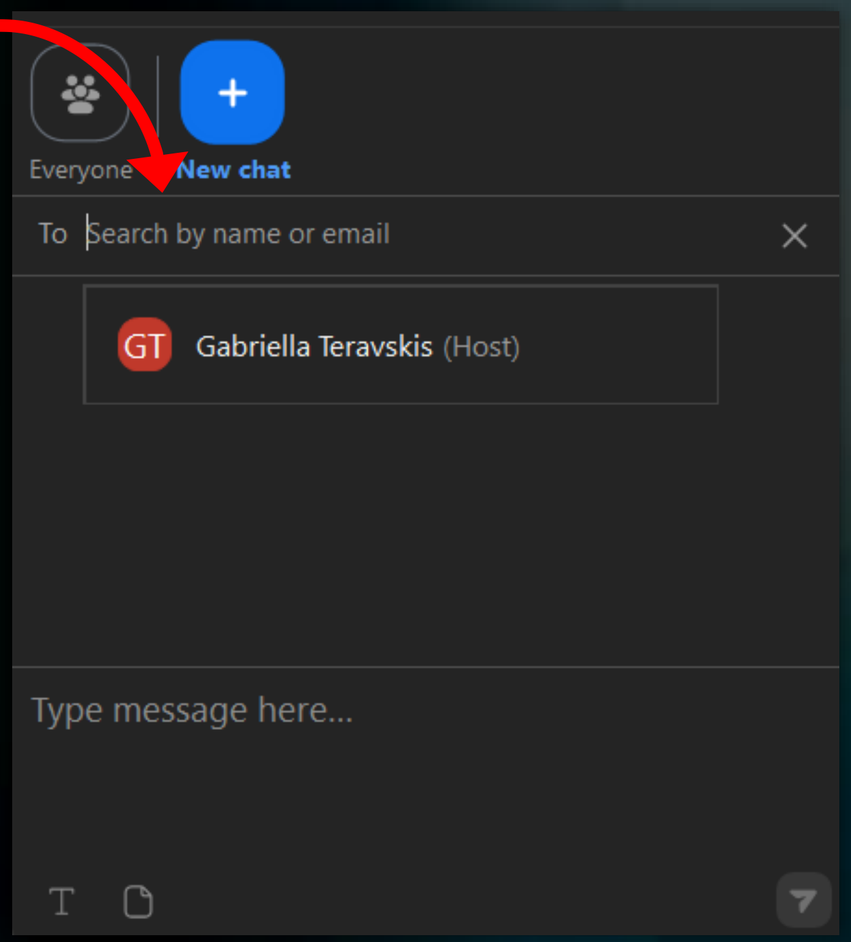

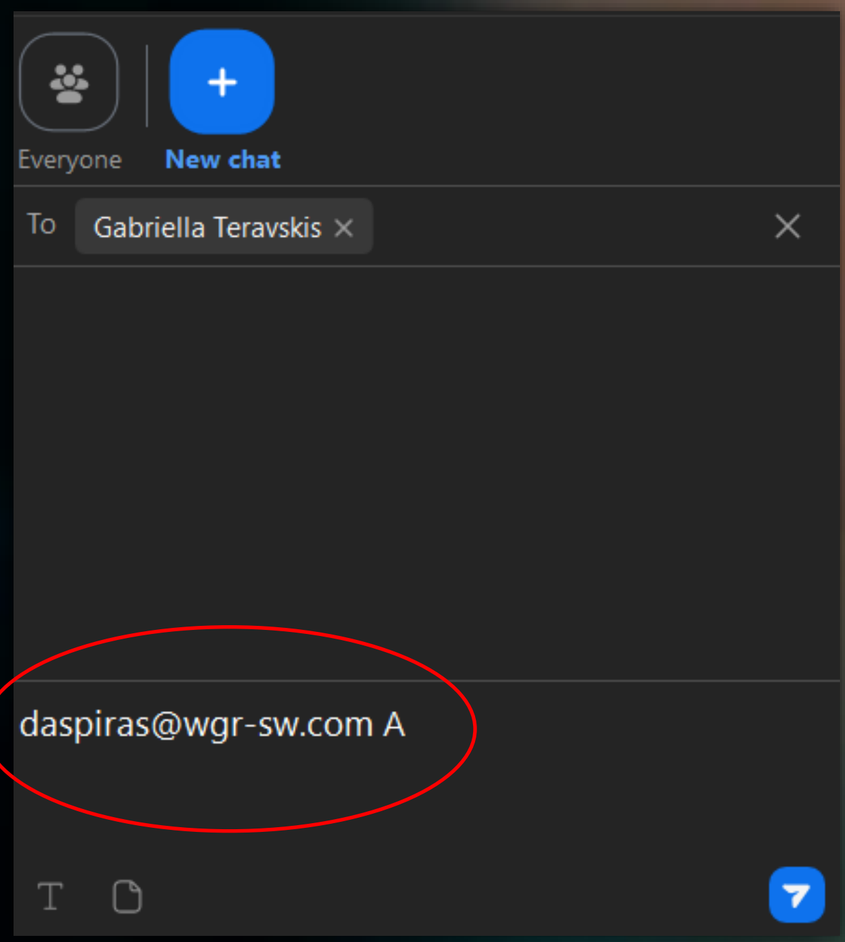

QUIZ QUESTION #3

When looking at hazard communication labels, which signal word indicates the most severe level of hazard?

A. Caution
B. Warning
C. Danger
D. Notice

QUIZ QUESTION #4

When a City becomes aware of a suspected illicit discharge, an investigation must be conducted within which time frame?

A. 24 hours

B. 1 Week

C. Whenever the City feels like it

D. 72 hours

WRAP-UP

Q&A