

The Conduit: NYC DEPARTMENT OF ENVIRONMENTAL PROTECTION EH&S NEWS FOR BWSO

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NYC Department of Environmental Protection
Bureau of Water & Sewer Operations, Environmental Health & Safety

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Picture Taken by NYC DEP, BWSO, EH&S Staff 01.10.2008 11.01

"Every year there are over 50 fatalities and an average of 1,300 injuries due to excavation collapse."
—BWSO EH&S Staff



BUREAU OF WATER & SEWER OPERATIONS
ENVIRONMENTAL HEALTH & SAFETY DIVISION

In this issue:

The "Dirt" on Excavation Safety	1
Work Zone Safety	1
Spill Reporting	2
Confined Space Permit Checklist	2
Upcoming Training Classes	2
Items Available	2
Get Physical with...Nintendo Wii	3
BWSO EH&S Quiz	3
Ask the Deputy Commissioner...	3
Strange But True	3
My Life as a Construction Laborer...	4

The "Dirt" on Excavation Safety BWSO Environmental Health and Safety Staff

Cave-ins are probably the most feared excavation hazard as they frequently result in death. The reason for this—Soil is heavy! The weight of the soil compresses the chest and lungs to the point where it becomes impossible to breathe. A cubic foot of soil weighs between 80 and 120 lbs. One cubic yard of soil (i.e. 27 cubic feet) weighs between 2,160 and 3,240 lbs, depending on the density and moisture content. Every year there are over 50 fatalities and an average of 1,300 injuries due to excavation collapse. Of those 1300 injuries, 130 are permanently disabling.

Excavations which are less than 5 feet deep are not required to have protective shoring systems in place (OSHA 29 CFR 1926.652 (a) (1)) as long as examination by a competent person provides no indication of a potential cave in.

Continued on Page 2

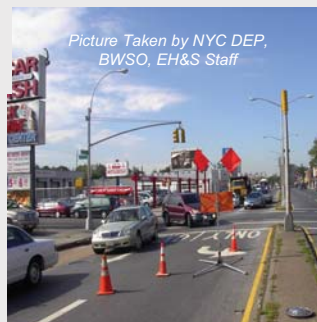
Work Zone Safety

BWSO, Environmental Health and Safety Staff

Lane closures and road work are not uncommon sights when you drive through the city that never sleeps. No matter what the hour, chances are there is a roadwork crew in your borough working hard to keep the city running.

National Work Zone Awareness Week is a national campaign to help increase public awareness of work zone safety needs from the driver and highway worker perspective (ATSSA.com). The Federal Highway Administration figures show fatalities from motor vehicle crashes in work zones nationwide rose from 989 in 2001 to 1,074 in 2005. Studies have shown that driver error is accountable for most of the vehicular accidents in work zones, causing 45% to 75% of traffic crashes in the United States. The four most frequent driver errors causing work zone crashes are inattentive driving, driving too fast, following too closely, and disregarding traffic signs, signals, or markings.

Over the years, temporary traffic control (TTC) measures have been



Picture Taken by NYC DEP, BWSO, EH&S Staff

developed and their effectiveness evaluated.

The primary function of these measures is to provide drivers safe and efficient movement through work zones while protecting workers and equipment.

Researchers have evaluated the effectiveness of several TTC methods commonly used in work zones and have found that:

~High visibility warning lights (flashers) were one of the most effective approaches for reducing speeds in work zones. A flasher device could reduce the odds of a severe crash resulting in fatalities by 58%.

~Channelizing devices, such as cones, are used to warn drivers of changed traffic conditions, and guide them safely through work zones. However, the devices only obtain maximum effectiveness when properly deployed as part of an array of devices which include traffic signs. Traffic signs are important because they warn drivers about interrupted traffic conditions.

A significant proportion of work zone crashes is attributed to driver error; preventing driver error in work zones should be a top priority for every driver. If used and maintained properly, TTC measures improve safety in the work zones. To keep this great city running, drivers and employees in a work zone must join together to ensure the highest level of safety on our city roads.

For more information:

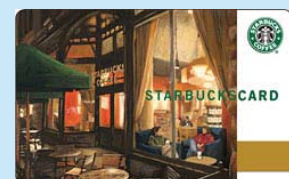
<http://www.cdc.gov/niosh/face/stateface/ny/04ny012.html>

<http://safety.fhwa.dot.gov/wz/index.htm>

NINTENDO WII can aid in physical rehab? —Article on page 3.



"Wii has sent several patients well on their way to successful recoveries—all while having fun!"
—BWSO EH&S Staff



WIN FREE STARBUCKS GIFT CARD! TAKE QUIZ ON PAGE 3.

Ever wonder what to do when you come across a leak or spill?

First, determine if you are safe. Is it gasoline? Are you standing in the middle of it? If yes, GET AWAY! Call from a safe distance. Your first obligation in ANY situation at DEP is your safety.

Second, call the **Bureau EHS On-Call Phone at (646) 879-3248**. Anyone can report a spill! The more details the better, so call and give us what you've got.

When you are reporting a spill/leak, it is most important to let us know if you or anyone else has been injured or affected. Other basic information we need from you is:

- **Name & Phone Number**
- **Location--Street Address, Cross Streets, Location, Borough**
- **Identifiers**
 - Highway mileage marker
 - A section of the borough

Besides location, time is a great indicator when reporting a spill/leak.

- **Approximately what time did it happen?**
- **What time did you become aware of the incident?**

If someone else pointed out the incident to you, let us know his/her name and what information was exchanged. Provide anything else you may feel is pertinent.

Other common questions asked to gain details about the spill/leak are:

- **What did you see?**
- **What happened?**
- **Examples include:**
 - You saw hydraulic fluid leaking from a truck
 - You observed an outfall pipe discharging a viscous purple fluid
- **What material was released?**

If you don't know—No Problem! Describe it in the best terms you can—green slime will do fine if that's all you've got!
- **Can you estimate the spill quantity?**
 - Did all the fluid in the truck spill out?
 - Was the discharge pipe dripping for a minute or forcefully flowing for an hour?

Besides yourself, the environment can also be endangered. We would like to know the steps you took to prevent the leak/spill from endangering the environment and potentially the community.

- **Was the environment affected?**
 - Did it hit soil?
 - Did it go into any water body, a sewer, a grate?
- **How far did the spill flow?**
 - Did it flow into the nearest sewer or down two blocks?
- **Any cleanup?**
 - Did you use our spill kit, close a valve, etc?
- **Did you notify anyone else?**
 - Depending on the situation, you might have called 911, your supervisor, BWT Avenue V Pump Station, etc.

The questions above are necessary steps in gaining information on a leak/spill. All the information you provide is valuable to help EHS to take control of the situation.

Excavations less than 5 feet are very rarely implicated in fatalities, but are still vulnerable to wall collapse and subsequent injury under these conditions:

- **Shallow water table, proximity to surface water, or groundwater entering the excavation.**
- **Heavy rains (runoff) prior to or during the work shift.**
- **Vibration from heavy equipment or traffic nearby.**
- **Spoils or equipment placed less than 2 feet from the excavation.**
- **Very loose or granular soil (e.g. gravel, sand).**

The competent person should consider the above conditions when assessing the need for protective systems for excavations less than 5 feet.

Additionally, once the work has started, the competent person should be aware of signs of wall failure, such as:

- **Tension cracks or fissures in the wall or on the surface near the edge of the excavation.**
- **Changes in shape or bulging of the excavation wall.**
- **Clumps of soil/rocks dropping off the wall.**
- **Unexpected water seepage or "boiling" (water coming up through the bottom).**

If any of these conditions are observed, employees should be directed out of the excavation until an assessment is done and proper protective measures are taken.

When water enters an excavation from any source, the competent person must take steps to remove it. Employees shall not work in excavations of any depth, in which there is accumulated water (OSHA 1926.651(h)) unless protective measures have been taken (shoring and/or water removal).

Finally, inspections must be conducted and recorded on the excavation checklist by the competent person prior to the start of work and after each and every rain event for the entire duration of the job.

Please call your EHS contact if you have any additional questions or would like more information on excavation safety!



CONFINED SPACE PERMIT CHECKLIST

For proper completion of the permit, please ensure that all of the following items are being addressed:

- The most updated version of the permit is being used (Revision 1, dated 09/28/05, is the most current).
- The permit # is filled out.
- All information in **Section A** is filled out, with no blanks, including:
 - Location
 - Confined Space #
 - Description
 - Start Date/Time
 - Expiration Date/Time
 - Nature of work
 - Entry Supervisor
 - Authorized Attendants
 - Authorized Entrants
- Section B** (activities that may produce hazardous conditions), **Section C** (special requirements), and **Section D** (equipment checklist) are appropriately filled out.
- 4-Gas Meter readings are logged every 15 minutes in **Section E**.
- Section F** is filled out in the event of an Alternate Entry Procedure or Temporary Reclassification.
- Supervisor's name, signature, and date are filled out in **Section G**, authorizing entry.
- The names of all entrants are filled out in **Section H**, the Entry/Exit log, along with the Time of Entry and Exit for each entrant.

Upcoming Training Seminars: April & May 2008

- Chain Saw Safety
- Traffic Work Zone Safety
- EH&S Awareness

Contact Nelson Leon x5544 for any questions.

The following items are available for use by BWSO personnel:
[For shoe laces call EH&S:](#)



FIELD OPERATIONS

Tired of using a 55 gallon drum to store 2 batteries? GS-1 will be issuing 5 gallon buckets with lids to each yard.



If you haven't heard about the Wii (pronounced "wee"), it's the newest fad for individuals of all ages. Created by Nintendo, it's an interactive game that uses a T.V. screen to display games such as tennis, baseball, golf, bowling, and boxing. Players hold a wand that picks up their body movements, and translates that into action on the T.V. In the bowling game, for example, you go through the motions of bowling while holding a wand, and "your" ball flies across the room, depending on how well you've "bowled." What's the big deal?—These games require players to use the actual movements required in the actual sport!

Recently, the Nintendo Wii has been a big hit for medical rehabilitation hospitals across the U.S. Physical and occupational therapists have been using the game console in an effort to help patients recover from illnesses, strokes, accidents, and combat injuries. As of today, Wii has sent several patients well on their way to successful recoveries—all while having fun.

The simple motions help the most sedentary patients/individuals get mild increases in aerobic output. The journey begins with a small step, and for those who feel that they cannot do much of anything; it's a great way to start. For the most basic patients, Wii can be used to get their hands

off of their canes or walkers and to get them to use their arms while trying to maintain a non-supported base of support.

For the rest of us, Nintendo Wii can help us incorporate regular physical gaming activity into our lifestyles. The best part – there's no need to travel too far away from our couches!

A study in the British Medical Journal compared a Wii "workout" with real exercises. The small study looked at about a dozen girls and boys ages 13 to 15 and measured how many calories they burned playing Wii tennis, boxing and bowling. At rest, the children expended an average of about 72 calories per hour. Playing a sedentary Xbox game increased the average to 107, while Wii tennis consumed 179 calories per hour, and Wii boxing, 174. However, a real game of doubles tennis used 318 calories per hour, and punching a boxing bag used 382. Although active gaming may not be as good as the real thing, it is definitely better than the couch and maybe even more fun.

Please also keep in mind that it is important for individuals to know their own limitations. Wii injuries (such as Wii-elbow: elbow strain from playing the Wii), and muscle soreness are not uncommon complaints from Wii-gaming.

Dear Deputy Commissioner,

Why doesn't BWSO purchase the industry standard 3" x 7" timbers that are safer and work better in the area that we are in and for the type of work we do? The metal boxes are good for new construction or for repair jobs in less congested areas; but difficult to use for repair jobs in an urban environment. Repair crews need a system that is flexible to set up safely and efficiently in excavations with existing infrastructure and other obstacles.

-DEP Repairs Employee

Dear DEP BWSO Repairs Employees,

I know the question about sheeting and shoring has been raised many times, so I am glad I have been asked to speak to it in the "Conduit". First, it is essential for all to understand that our aim in implementing the use of the pre-fabricated aluminum trench box/shoring systems had two primary objectives; safety and compliance. Practicality and the ability of workers to use the system were important to us as well, as they affect productivity. We do not want the work to be difficult, but we need to ensure we are compliant with the regulations. Second, the use of these systems is common in urban environments, so if there are particular examples of situations where you felt there were difficulties with doing the assigned work using these systems, please notify your supervisors and/or EHS so we can look at and possibly refine a solution to a specific type of problem.

As many of you know the OSHA regulations for sheeting and shoring are found in OSHA 29 CFR 1926 (Subpart P). The objective in promulgating these rules was to ensure worker safety against trench collapses. As background, on average each year there are approximately 1300 injuries resulting from trench collapses. Of that 1300, 10% (or roughly 130 persons) suffer injuries that are permanently disabling and sadly, there are an average of 50-75 fatalities. As you can see, this is a serious topic.

When we looked at the way in which wood systems were being utilized we were dissatisfied with several things we felt detracted from our ability to be consistent and to ensure that we were compliant in the various soil types, etc. that work crews experience in the field. There are many variables that are difficult to measure from location to location (soil type, moisture content, groundwater conditions, uniformity of the wood materials we used, etc.). We wanted a system that was certified to OSHA standards as defined in OSHA 29 CFR 1926 (Subpart P) and applicable to the most severe soil conditions we might encounter. I assure you, that how the use of this system would impact your work was considered, but in the end, the most critical question was whether our shoring systems adequately address engineering issues which govern what is allowed and not allowed. Several members of the senior engineering staff, who have extensive experience in construction, considered the issue at length before concluding that the solution that provided the highest degree of certainty that we would be "safe and compliant" was the utilization of the pre-fabricated systems.

So, that is the explanation to the sheeting issue. It is important that workers know that the decision was made with their health and safety foremost in mind and management is committed to continuously evaluating all feasible options which achieve our operational goals; as well as safety and compliance. If we can find a better system that meets these two goals and is viewed more favorably by workers we will pursue it.

-James J. Roberts, P.E.

Have an EH&S question? Please write to us! We'd love to hear from you!

TAKE THIS QUIZ: THE FIRST THREE PEOPLE TO SUBMIT CORRECT ANSWERS AFTER 9am, APRIL 22nd, WILL WIN FREE STARBUCKS GIFT CARDS!

BE SURE TO INCLUDE YOUR FULL NAME AND WORK ADDRESS. FAX: (718) 595-5541 OR EMAIL: BWSOEHS_suggestions@dep.nyc.gov

1) What is NOT a work zone Traffic Control device?

- A. Cones
- B. Open Trench
- C. Flaggers
- D. Back-up trucks/work vehicles

2) If excavations exceed _____, a Competent Person shall determine the potential for hazardous atmosphere/oxygen deficiency (e.g. based on nearby landfills or hazardous substances storage).

- A. 2 feet
- B. 4 feet
- C. 5 feet
- D. None of the above

3) When reporting a spill, EH&S requires the following information:

- A. Material spilled.
- B. Time lost (in work hours) as a result of the spill
- C. Approximate quantity of material spilled
- D. A and C
- E. All of the above

4) All underground utilities should be identified prior to the start of an excavation by calling the NYC One Call Center _____.

- A. Between 2 to 10 working days before the excavation is started
- B. 24 hours before the excavation is started
- C. Between 1 to 2 working days before the excavation is started
- D. The morning the excavation is scheduled to start

Answers for February 2008 Newsletter Quiz: 1)D 2)B 3)B



Strange But True!

Group Seeks Volunteers to Get Malaria

The Seattle Biomedical Research Institute will pay volunteers as much as \$4,000 to be bitten by mosquitoes infected with Malaria. Scientists say no lives are in danger because the condition is curable. The institute is testing which vaccines work fastest.

The head of the program, Dr. Patrick Duffy, says volunteers will spend several nights under medical supervision in a hotel.

All of the human trials will be reviewed for safety by the Food and Drug Administration.



NYC Department of Environmental Protection

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Jay Cureton joined the Bureau of Water and Sewer Operations in 1988. He is a busy Construction Laborer for Queens South Sewer Maintenance located in Queens, NY. Prior to working for Queens South, Jay served in the 2 year Apprentice Construction Laborer program, where he trained at Brooklyn Repairs, Brooklyn Water Maintenance, Queens South Sewer Maintenance, and Queens Sewer Repair Yard (Glendale) in 6 month intervals. He plays a critical role in the daily operations of the Queens South yard. Through hard work, Jay has been rewarded with taking a key role in coordinating EH&S compliance functions for Queens South Sewer Maintenance. Jay is also the head of a charitable organization named Urban Knights, which was established in 2000 to aid the NYC community. He is well regarded by his DEP peers and known for his dependability and attention to detail in his EH&S duties! Jay was born in New Jersey and is of Caribbean descent. He currently resides in Richmond Hill, NY.



Picture Taken By BWSO EH&S Staff

Jay Cureton, Construction Laborer

Know a BWSO employee who should be highlighted? Please let us know!

Q: Where are you from?

A: I was born in New Jersey, but I grew up in New York City. I currently live in Richmond Hill (Queens), New York.

Q: Where did you attend school?

A: I attended Richmond Hill High School in Queens, New York.

Q: Any hobbies and/or interests? What do you do in your spare time?

A: In my off time, I'm the head of a charitable organization named Urban Knights which was established in 2000, and is based out of South Queens. We serve wherever we're needed in the community, and if we can't provide a result, we'll put you in touch with someone who can. Some other charities I deal with support arthritis/lupus, young adult parents, and children heading back-to-school in the community. This year our book-bag drive was held at Baisley Park for the kids. I am also part an organization called Riders Who Care that deals with women's issues.

A: In my spare time, I like to do home improvement. I also enjoy jet

skiing, motorcycle riding, and camping.

Q: What is your current job title? And what are your current responsibilities?

A: My title is Construction Laborer, but right now I'm in charge of receiving supplies for Queens South Sewer Maintenance yard. My job has become more than just construction.

Q: What made you choose a career at the DEP?

A: Cause I didn't want to work for Highways, and I didn't want to work outside! But, I ended up working outdoors anyway! I started through the BWSO apprentice laborer program, which required 6 months training each at a water yard, repair yard, and sewer yard. First I was located at Brooklyn Repairs, then Brooklyn Water Maintenance, then Queens South Sewer Maintenance, then Queens Sewer Repair Yard (Glendale), and eventually back to Queens South Sewer Maintenance.

Q: Have you achieved and/or met your career goals?

A: No, due to the small number of people at DEP, I think it's harder for people to advance in my position. But I'm content. No complaints!

Q: Wow! Congratulations! What do you plan to do when you retire?

A: When I retire, I plan to travel a little more, and help support other charities.

Q: What types of EH&S duties have you participated in?

A: Anything to do with safety, I'm the connection at Queens South. I'm the person under the safety guy. I help maintain the garage, and make sure it is up-to-date with safety codes. For example: 10-day inventory, and materials and supply handling.

Q: What do you consider your greatest achievements at the NYC DEP and in life?

A: The learning experience and knowledge I have acquired. Throughout the years, my co-workers have showed me nothing but respect. In life, I enjoy just being happy, and satisfied with myself.



Please send us your feedback on this newsletter and/or general EH&S suggestions.

We want to hear from you!

FROM: _____



**NYC DEPARTMENT OF ENVIRONMENTAL PROTECTION
 BUREAU OF WATER AND SEWER OPERATIONS
 ENVIRONMENTAL HEALTH AND SAFETY
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Attn: Jenny Lai, 3rd Floor Low-rise

SHOULD BWSO EH&S HAVE A SAFETY MASCOT? YES NO
 You can also e-mail us at BWSOEHS_suggestions@dep.nyc.gov