



# Infrastructure Projects

## Southern



# ENVIRONMENTAL

## Toolbox Talks

June 2016



## **Toolbox Talks**

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# Infrastructure Projects Southern Toolbox Talk

## How to give a toolbox talk

25 May 2016

### Why me!



**WORKING WITH CONCRETE** 12 January 2016

**Wet concrete is dangerous!**

In IP Southern, an individual was kneeling on a concrete slab whilst carrying out concrete finishing works. Due to heavy rainfall, concrete runoff was washed onto the area where he was working. As the operative was not wearing waterproof trousers, his clothes became contaminated with the concrete slurry.

Some hours after leaving site, the operative began to suffer significant discomfort to both knees. Upon attending hospital it was confirmed he has suffered concrete alkali burns.

**Assess the risk...**

These tasks where concrete will be used must be identified and a risk assessment carried out. If possible, do not use concrete or reduce the amount to be used. Plans for contact with concrete should be minimised. Individuals should also be checked for any existing skin or allergy problems.

**So...what can you do to stop concrete burns?**

Always wear the right PPE for any task involving wet concrete:

- Gloves should be waterproof and suitable for use with high alkaline substances (they should be marked with EN388:2003). They should be long and/or light fitting at the end to prevent concrete being trapped between the glove and the skin.
- Footwear such as Wellington boots should be used. If they leak or get soft change them immediately.
- Waterproof trousers must be worn over the top of boots and not tucked in. This stops the concrete getting into them.
- Use knee pads or a waterproof mat if you have to kneel for finishing.
- Ensure there is access to good washing facilities and any concrete on the skin is washed off as soon as possible.

Wet concrete is extremely corrosive and highly caustic when alkali. Typically it causes areas of skin to become red and itchy with some acute attacks causing deep sores or blisters that never heal.

**Wet concrete can cause serious burns**

Wet concrete is highly alkaline in nature. A serious burn if it is trapped against the skin. In extreme cases, these burns may need a skin graft or can even prove a limb to be amputated. Wet concrete can also cause chemical burns to the eyes.

**What you need to do if you get concrete on your skin or in your eyes...**

- If it is on your skin – wash it off at once with warm soapy water.
- In your eyes – report to a first aider and wash your eyes out with clean water.
- If you suffer any symptoms of inflammation or burns then seek further medical advice and assistance.

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- Toolbox talks need to be given by experienced workers. People will pay more attention when talks are delivered by people they respect and trust
- Most people underestimate the risks they take on the job. Getting people to think about the risks can make it more real
- Everyone wants every member of their team to get home safely, every day. Your brief could prevent an accident or incident – but you will never know if it did!

### Effective communications

- First impressions count. Be enthusiastic and deliver a clear message about the importance of your topic
- Know your audience. If English is not their first language then think carefully about how to get your message across
- Keep it simple. Use short, straightforward words and phrases avoiding slang or jargon
- Show respect. Listen to what your audience has to say
- Use the right tone of voice
- Pace your delivery. Do not rush
- Use open questions that people can't just answer 'yes' or 'no' to
- Remember that some people may need more of an explanation than others. Do not be impatient with them
- Keep positive. Focus on what people can do to create a safe working environment and not the negatives

### How do I deliver a really good brief?

Toolbox talks are a useful way of keep health and safety at the forefront of your team's minds and making them aware of the current risks and hazards. Your talk should be:

- **Relevant.** Make sure the brief is relevant. It should relate to the worksite and work that is being undertaken
- **Brief.** Toolbox talks should be brief and focus on a single topic
- **In the right place.** It should be delivered in a place and environment where the audience can concentrate on your message
- **Engaging.** Engage with the audience by being interactive. Pose a problem and ask for inputs or possible solutions
- **Include stories.** Tell a story to make the issue more real
- **Kept under control.** Manage the meeting so that everyone is involved. Keep it focussed by keeping the discussions relevant
- **Continuously improve.** Listen and act on feedback

**Remind people that if at any time they consider they are working in an unsafe way, that puts themselves or others at risk, they should stop work immediately and take a time out.**



# Infrastructure Projects Southern Toolbox Talk

## Adders and the danger of snake bites

03 May 2016

### Did you know?

- Adders are the only venomous snake native to Great Britain. They are extremely widespread and can be found on some of our construction sites
- They are unlikely to bite unless they are alarmed or disturbed; bites can be painful but are rarely fatal
- Adders are protected by law from being killed or injured



### What is the danger?

Only 10 cases of human death from an adder bite have been recorded in the last 100 years. However, although an adder's venom poses little danger to a healthy adult human, the bite is very painful and requires urgent medical attention.

Bites appear to happen when adders are surprised and they don't have time to retreat.

### How do I recognise an adder?

- A stocky snake, the adder is easily identified by the dark zigzag line passing along the back bordered by rows of spots
- The adder is typically active during the day when it hunts, mainly for small mammals
- The adder hibernates in winter, typically from September/October to March

### What are the symptoms of a bite?

- Pain, redness and swelling in the area of the bite
- Nausea and vomiting
- Dizziness and fainting

**Seek urgent medical attention**

### Do

- ✓ If you see an adder, stop work and report it to a supervisor
- ✓ The adder should be left to move of its own accord
- ✓ Any harm or injury that does occur to an adders must be reported
- ✓ In the event of being bitten by an adder, seek immediate professional medical help

### Do not

- ✗ Injure or harm the snake in any way – this is illegal
- ✗ Handle adders – if this is necessary leave it to trained professionals

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# Infrastructure Projects Southern Toolbox Talk

## Badgers

03 May 2016

### Did you know?

It is illegal to carry out any construction work close to a badger sett (burrow) without taking steps to positively avoid damage and without an appropriate licence from Natural England.

### How can you identify a badger sett?



- A badger sett entrance is usually D-shaped and at around 300 millimetres wide by 200 millimetres high
- There may be signs of freshly excavated material at the entrance or piles of leaves, dry grass, straw or bracken, which the badgers take inside to use as bedding.

### Why does this matter?

Badgers are protected and so are the setts they live in. Under the Protection of Badgers Act 1992, in England and Wales it is an offence to:

- Willfully kill, injure or take a badger or attempt to do so
- Cruelly ill-treat a badger
- Dig for a badger
- Intentionally or recklessly damage or destroy a badger sett, or obstruct access to it
- Cause a dog to enter a badger sett
- Disturb a badger when it is occupying a sett

***This can lead to fines of up to £5000 per badger or up to six months in prison***

### Do

- ✓ Immediately stop work and report any badger sett found on site or close to the site boundary
- ✓ Seek guidance from a competent person before any work within 30 metres of a badger sett

### Don't

- ✓ Carry out any works that are likely to disturb, damage or destroy a badger sett
- ✓ Use heavy machinery within 30 metres
- ✓ Use light machinery within 20 metres
- ✓ Work within 10 metres of a badger sett without checking whether a licence is necessary

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# Infrastructure Projects Southern Toolbox Talk

## Bats

03 May 2016

### Did you know?

- ***In the UK all species of bat are protected by law***
- They tend to return to the same roosts each year, and these sites are also protected whether bats are present or not



### Where can they be found?

- They can be found in holes/cracks in trees, roofs, walls of houses and buildings, under bridges, in underground caves and old railway tunnels. Bats can crawl into holes only 15 millimetres wide
- Look out for bat droppings – dark brown/black, about four to eight millimetres in length – crumble easily
- A strong odour and large numbers of moth wings discarded by feeding bats may also be present near a bat roost
- They are commonly found under railway bridges, in viaducts and signal box roofs

### Why does this matter?

It is a criminal offence for anyone without a licence to:

- Kill, injure or handle a bat
- Be in possess of a bat (whether alive or dead)
- Disturb a roosting bat
- Damage, destroy or obstruct access to any place used by bats for shelter, whether they are present or not

***This can lead to fines of up to £5000 per bat and/or up to six months in prison***

### Do

- ✓ If a bat or a roost is found stop all works in the area immediately and report it

### Don't

- ✗ Touch or handle a bat as they are very delicate and this can cause them serious harm – it is also against the law
- ✗ Disturb any place used by bats, whether they are present or not



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# Infrastructure Projects Southern Toolbox Talk

## Cement and Wet Concrete

03 May 2016

### Did you know?

**Cement and wet concrete are highly alkaline and very corrosive**



If cement or concrete is allowed to enter a watercourse in an uncontrolled manner, it can have a devastating effect on wildlife.

### What you must never do

- Hose down spills of concrete or cement into watercourses, gullies and drains.
- Allow washout water to flow into watercourses, gullies or drains.
- Allow ready-mix trucks to washout anywhere other than in areas designated for the purpose.
- Wash off any tools or plant in watercourses.

### Why does this matter?

- Water contaminated with cement is highly alkaline and can be toxic to fish, plants and animals living in watercourses. Cement particles entering a watercourse can clog fishes' gills and destroy their spawning grounds
- It is illegal to allow cement, unset concrete or washout water containing cement to enter a watercourse or drain
- Permission is always needed before construction can take place in a watercourse

**A 'Working with wet concrete' toolbox talk that includes the danger to individuals, PPE requirements and first aid is also available on the website**

### Do

- ✓ Be aware of all gullies, watercourses and drains before starting work
- ✓ Store bulk and bagged cement additives at least 10m away from gullies, watercourses and drains
- ✓ Undertake mixing or batching works well away from gullies, watercourses and drains
- ✓ Ensure gullies, watercourses and drains are protected from any concreting works
- ✓ Ensure special mixes are used for underwater concreting works
- ✓ Use designated areas for concrete washout and ensure concrete delivery drivers are aware of this .
- ✓ Protect nearby drains against washout water running into them
- ✓ Report immediately any concrete spillages or concrete washouts

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# Infrastructure Projects Southern Toolbox Talk

## Giant Hogweed

03 May 2016

### Did you know?

Giant hogweed sap contains toxic chemicals which react with light when in contact with human skin, causing blistering within 48hrs



### How is it identified?

- The stem starts growing in March/April and is green, but develops dark red/purple spots or blotches during summer. It is hollow, furrowed or ribbed and has sparse spiky hairs
- Leaves are dark green, have deeply cut lobes with ragged edges, can be one metre across and form in a rosette
- Flowers are white, umbrella like and up to 500 millimetres across and appear from June in the fourth year

### Why does it matter?

- **Environmental harm:** the plant endangers the survival of native plants and this may lead to excessive erosion of soil as the giant hogweed dies back in winter. It can also cause significant harm to grazing animals
- **Prosecution:** it is illegal to plant or otherwise encourage the growth of giant hogweed. This includes moving surrounding soil that may contain either seeds or plant material unless as part of an eradication process
- **Health Hazard:** the plant contains large amounts of poisonous sap that, on contact with the skin and in the presence of sunlight, causes severe irritation, swelling and painful water blisters. This reaction can occur up to 24 hours after exposure to sunlight. Contact with eyes can cause temporary blindness

### Do

- ✓ Immediately stop all work near to any plant you suspect may be giant hogweed
- ✓ If you come into contact with the sap, cover the affected area to prevent a reaction with sunlight. Wash with soap and water and seek medical advice

### Do not

- ✗ Enter an identified area of giant hogweed during treatment
- ✗ Excavate or move soil that may contain seeds or other plant material
- ✗ Stockpile material suspected to containing giant hogweed within 10 metres of watercourses, gullies or drains.
- ✗ Move plant through Giant Hogweed

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# Infrastructure Projects Southern Toolbox Talk

## Great Crested Newts

03 May 2016

### Did you know?

- **Great crested newts and their habitats are protected by law**
- The great crested newt is the largest and the rarest of the three species of newts found in the United Kingdom
- Numbers have been declining rapidly over the past 30 years due to loss of habitat



### Where can they be found?

- Ponds and very slow moving watercourses (spring to autumn)
- Woodland, scrub, hedgerows, rough grass land, piles stone/ballast and derelict sites surrounding ponds and watercourses

### Why does this matter?

- It is an offence to intentionally or recklessly kill, injure, capture, trade or even to disturb a great crested newt
- Or to damage, destroy or obstruct habitats where great crested newt live or breed

***This could lead to a fine of up to £5000 per newt and/or up to six months in prison.***

### Do

- ✓ If you think that you have seen a great crested newt then stop work and report this to your supervisor
- ✓ Keep a careful look out when moving logs, stones or rubble or clearing a site near to ponds as these are favourite habitats for great crested newts

### Do not

- ✗ Try to touch or otherwise disturb any great crested newts you come across
- ✗ Move log piles or rubble on site if great crested newts are present.

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# Infrastructure Projects Southern Toolbox Talk

## Himalayan Balsam

03 May 2016

### Did you know?

*Himalayan Balsam is one of the most invasive species in the UK as it dominates habitats, grows densely and shades out native plants*

- It thrives because each plant produces more than 500 seeds before it dies in the autumn. When the seed pods are ripe, the slightest touch causes them to burst open catapulting and dispersing the seeds up to seven metres away
- It is often found growing along rivers, disused railway lines or in similar linear corridors



### How is it identified?

- It grows up to 2.5 metres during spring to autumn
- The stem is pink/red, hollow, sappy and brittle. Leaves occur in two's or three's from the same point on the stem. They are spear shaped with serrated edges, shiny and dark green with a reddish mid-rib.
- Flowers, which are similar to a Foxglove or a large Busy Lizzie, are purplish pink, carried on long stalks and appear from June to October.

### Why does it matter?

It is illegal "to plant or otherwise encourage" the growth of Himalayan Balsam. This could include cutting the plant or roots and disturbing or moving surrounding soil that may contain root material unless as part of an eradication process.

### Do

- ✓ Immediately stop any work within seven metres of the suspect plant and report it

### Do not

- ✗ Enter an area of Himalayan Balsam during treatment
- ✗ Disturb the seedpods.
- ✗ Excavate or move soil that may contain seeds or other plant material without specific instruction
- ✗ Stockpile any material suspected of containing Himalayan Balsam within ten metres of gullies, watercourses or drains



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# Infrastructure Projects Southern Toolbox Talk

## Japanese Knotweed

03 May 2016

### Did you know?

- Japanese Knotweed grows 20 millimetres a day forming dense clumps over three metres high, which crowd out native plants.



- The plant spreads rapidly because any fragments of its stem or root will grow to form a new plant (a piece as small as 0.8 grams can regenerate) making it very difficult to eradicate.
- Japanese Knotweed grows in any type of soil and is often found along railways, river-banks, roads and particularly on derelict sites it can grow through joints in tarmac and mortar

### How is it identified?

- It forms dense clumps and grows up to three metres tall; the stem is hollow, looks like bamboo and breaks easily
- In spring it is fleshy and red tinged and in summer it is green with purple speckles
- Flowers are cream coloured and appear in drooping clusters towards the end of August; the plant dies before November often leaving behind the upright brown, hollow, woody stems

### Why does this matter?

- **Environmental harm:** it kills native plants by producing a dense canopy of leaves. Although not toxic to humans or animals, it offers a poor habitat for insects, birds and mammals
- **Prosecution:** it is illegal "to plant or otherwise encourage" the growth of Japanese Knotweed. This could include cutting the plant or roots and disturbing or moving surrounding soil that may contain root material unless as part of an eradication process
- **Structural damage:** the plant is strong enough to grow through foundations, walls, roads and drainage pipework

### Do

- ✓ If you suspect Japanese Knotweed stop all work within seven metres and report it

### Do not

- ✗ Enter an identified area of Japanese Knotweed during treatment
- ✗ Excavate or move any soil from within 7m of a Japanese Knotweed plant without instruction
- ✗ Stockpile material suspected to containing Japanese Knotweed within 10 m of watercourses, gullies or drains
- ✗ Move plant through any area containing Japanese Knotweed

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# Infrastructure Projects Southern Toolbox Talk

## Nesting birds

03 May 2016

### Did you know?

***It is illegal to kill or disturb birds or damage their nests or eggs***

- While birds usually nest in trees or hedges they can also be found nesting on the ground, in equipment, amongst materials, in cabins, under eaves or behind drain downpipes
- All birds are protected when nesting and work must be stopped



### When is bird nesting season?

Most birds tend to build nests and lay their eggs between March and July. The peak months for breeding are May and June. However, some birds can nest all year round.



### Why does this matter?

- A **fine of up to £5000** may be given for each offence, each bird may be deemed a separate offence
- Any vehicle that is involved in the damaging or destruction of birds, their eggs or their nests, may be forfeited

***Bird nesting surveys must be carried out before work commences and any active nests clearly marked with an exclusion zone.***

### Do

- ✓ Check that no nesting birds or active nests are present before carrying out site clearances of potential nesting sites
- ✓ Stop all construction and work in the immediate area if nesting birds are present
- ✓ Report the presence of nesting birds to a supervisor

### Do not

- ✗ Kill, injure or capture any wild bird
- ✗ Take, damage, destroy or disturb a nest or eggs of any wild bird
- ✗ Move any machinery, scaffolding or equipment if birds are found nesting

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# Infrastructure Projects Southern Toolbox Talk

## Waste Hierarchy

03 May 2016

### Did you know?

Construction generates a very large amount of waste annually with a sizeable proportion of material simply thrown away without being used. The true cost of waste is more than just the disposal cost. It is made up of:

- The original purchase price of the material
- Unloading, handling, storage and transporting of the material
- Reloading, moving and storing waste on site
- Disposing of the waste including tipping charges and landfill taxes
- Replacing damaged and wasted materials

### You can minimise waste by...

#### 1. **Prevention**

- ✓ Store materials neatly to avoid damage and loss
- ✓ Think of ways to reduce waste
- ✓ Reduce the amount of waste created on site
- ✓ Keep materials in their packaging to protect from damage

#### 2. **Prepare for reuse**

- ✓ Keep significant offcuts for use elsewhere
- ✓ Reuse materials until no longer fit for purpose such as fencing
- ✓ Reuse materials for alternative purposes

#### 3. **Recycle**

- ✓ Always recycle materials where possible
- ✓ Segregate different waste types
- ✓ Store waste in appropriate skip/container until removed from site
- ✓ Ensure skips are labelled clearly
- ✓ Add 'housekeeping' to site checklists
- ✓ Clear up when work is carried out

#### 4. **Other Recovery**

- ✓ Consider other recovery such as energy recovery

#### 5. **Disposal**

- ✓ When all other options have been considered, disposal of the waste to landfill



### Do not

- ✗ Put waste materials into the wrong waste container
- ✗ Open new cans or pallets before the ones in use are empty
- ✗ Leave materials unprotected and where they are likely to be damaged by, for example, rain or mud
- ✗ Burn or bury waste – it's illegal
- ✗ Mix different types of waste – it prevents recycling
- ✗ Leave materials at risk from site traffic movement

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# Infrastructure Projects Southern Toolbox Talk

Working around Trees and Hedgerows

20 June 2016

## Did you know?

Trees and hedgerows are an important part of the environment and the countryside. They provide a vitally important habitat for wildlife and many trees and hedgerows are protected by legislation enforced by the local authority. They provide shelter and pathways for insects, amphibians, mammals and birds.



## What do you need to do?

Always check:

- Before felling any trees or removing any hedgerows to ensure permission has been obtained
- Before excavating near to trees and hedgerows
- For nesting birds and if any are found stop work immediately

## Why does it matter?

### You can cause environmental harm

During certain times of the year trees and hedgerows may contain nesting birds. Nesting birds are protected by law against disturbance.

### You can be prosecuted

It is illegal to cut down or wilfully damage trees protected by law under a Tree Preservation Order, trees in a conservation area or to pull up certain countryside hedges except with the consent of the local planning authority.

### There is a safety risk

Damaged trees may become unstable and potential hazards and can kill or injure people or animals. Trees can be damaged by compaction of roots and other damage to the root system, by pollution and through impact by machines.

## Do

- ✓ Check what protection is required for trees and hedgerows before you start work.
- ✓ Ensure plant and machinery is kept out of any excluded areas.
- ✓ Store all fuels and oils and other potential pollutants away from root systems.
- ✓ Hand dig only around root systems.

## Do not

- ✗ Undertake tree felling or hedgerow clearance without permissions in place
- ✗ Never undertake tree felling or hedgerow clearance during the bird nesting season.

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# Infrastructure Projects Southern Toolbox Talk

## Washing Down Plant and Machinery

20 June 2016

### Did you know?

Washing down plant and machinery, hosing down concrete truck mixers or degreasing engines can all lead to serious pollution incidents if it is not carried out correctly.

Contaminated water could discharge directly into local streams, rivers or other watercourses.

Surface water entering drains and road gullies could also encourage the spread of invasive weeds to new areas.



### What can you do?

- Check that there is a place designated for washing down plant and machinery
- Ensure that any wash down slurry/residue is contained and cannot enter watercourses, gullies or drains

### • Remember

#### It can cause environmental harm

Dirty water can contain mud, grease, oils, invasive weeds, toxic chemicals and other materials. These pollutants could kill fish and other aquatic life and may also seriously affect the surrounding environment.

#### You can be prosecuted

It is an offence to allow polluting matter to enter a watercourse, gully or drain. It is also illegal to cause invasive weeds to spread to new areas.

#### Costs can be high

The cost of cleaning up a pollution incident can far exceed the cost of putting proper control measures in place.

### Do

- ✓ Check with a supervisor before using degreasing or cleansing solutions – don't just assume they can be used.
- ✓ Report any washing down that may cause a pollution incident.
- ✓ Ensure waste slurry/mud (invasive weeds) is disposed of appropriately.

### Do not

- ✗ Use any more water than is necessary – reduce waste.
- ✗ Use anywhere other than the designated place for washing down plant and machinery.

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# Infrastructure Projects Southern Toolbox Talk

## Storage of Waste

20 June 2016

### Did you know?



Untidy, polluted sites are unsafe sites. They can cause nuisance to neighbours and give a poor public image of what we do.

Allowing waste to escape into the atmosphere also has the potential to pollute the environment.

### What can you do about it?

- Keep sites tidy and collect waste regularly
- Use a skip with a lid or cover them with sheets or nets to prevent dust and litter being blown out
- Place liquid hazardous waste containers within bunds or on drip trays
- Do not throw materials into the wrong container/skip
- Do not burn or bury waste – it's illegal
- Do not give waste away, all waste taken off site needs to be accompanied by paperwork



### Why does it matter?

#### You can be prosecuted

It is the responsibility of all waste producers to prevent their waste escaping into the environment and to store waste appropriately.

#### But you can also save money through:

- The reduction of disposal costs and landfill tax payments by preventing the contamination of inert wastes
- Re-using and recycling materials
- Seeing how much of each type of waste is being produced and where efforts to reduce waste need to be targeted

### Do

- ✓ Use waste containers or skips suitable for the type of waste being stored.
- ✓ Check that containers and skips are not corroded or worn out to minimise the risk of accidental spillages or leaks.
- ✓ Ensure labels on containers and skips are kept in good order.
- ✓ Locate skips away from watercourses, gullies and drains.

### Do not

- ✗ Mix hazardous with non-hazardous waste – it's illegal.
- ✗ Give waste away, all waste taken off site needs to be accompanied by paperwork.

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# Infrastructure Projects Southern Toolbox Talk

## Spill Control

20 June 2016

### Did you know?

Accidental releases of oils and chemicals from construction sites make up a large number of the pollution incidents that occur each year.

It is important that everyone on site knows what preventive measures are in place on their work site and how to control a spill to minimise its impact.



### What can you do?

- Take part in annual spill response drills to ensure you understand what to do in the event of a spill
- Ensure that you have the correct spill clean-up equipment on site
- Dispose of all contaminated materials correctly
- When you clean up a spill, use absorbent granules/pads. Large pools of oil or spills that cannot be absorbed should be removed by a gulper
- Do not ignore spills – **stop work and take action immediately**
- However, do not tackle spills if it is not safe to do so

### Why does this matter?

#### You can harm the environment

Spills spread very quickly and can cause damage to the environment

#### You could face prosecution

Fines and clean-up costs can be expensive.

### Do

- ✓ If possible and safe to do so contain the spill in accordance with the spill plan.
- ✓ If spillage is flammable, extinguish/remove all sources of ignition.
- ✓ Protect sensitive areas (e.g. watercourses or surface water drains), and use drain covers or earth and sand to construct a bund.

### Do not

- ✗ Hide the incident – ensure it is reported to and that controls implemented.
- ✗ Hose down spills of concrete or cement into surface water drains.

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# Infrastructure Projects Southern Toolbox Talk

Silt

20 June 2016

## Did you know?

Silt is the term used for very fine particles of soil. On our worksites, if it mixes with water to form of mud, it can be washed off into nearby watercourses and drains. This is illegal.

## How is pollution by silt caused?

- Pollution can be caused by rainwater runoff from uncovered areas of the topsoil stripped site.
- It could also be caused by pumping out and dewatering excavations or by tunnelling operations and cleaning of ditches and drains.



## What you need to do

- Report it immediately if you see silty water is seen entering a watercourse or drain
- Only discharge silty water into designated settlement systems
- Check the site drainage and settlement systems are working. Any discolouration may indicate high pollution loading
- Monitor weather forecasts and plan work accordingly

## Why does it matter?

### You can cause environmental harm

High levels of silt suspended in water can remove essential oxygen from the water suffocating fish and killing plants, animals and insects by stopping sunlight reaching them. Silt often combines with other pollutants such as oils and chemicals potentially causing even greater pollution than silt alone.

### You could be prosecuted

It is illegal to allow silt to enter a watercourse or drain. Silt pollution is easily traceable to the site from where it originated.

## Do

- ✓ Consider installing cut-off trenches or silt fences to prevent silty surface runoff.
- ✓ Regularly check watercourses that could be affected by dewatering operations or rainwater runoff.
- ✓ Ensure drain cleaning operations have systems in place to intercept polluted water.

## Do not

- ✗ Store soil, stone or similar materials within 10m of watercourses or drains.
- ✗ Dig a trench to release trapped water to a watercourse or drain.

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# Infrastructure Projects Southern Toolbox Talk

## Segregation of Waste

20 June 2016

### Did you know?

Separating wastes into hazardous, non-hazardous and inert for disposal can help minimise costs and maximise the opportunities for recovery and recycling of wastes.



Standard signs are being introduced across the UK to encourage and improve the segregation of waste.

### Why does this matter?

#### You can cause environmental harm

Incorrectly disposing of hazardous waste could cause pollution and damage habitats. Landfills and waste treatment centres are specially designed to handle specific wastes without causing environmental harm.

#### You can be prosecuted

It is illegal to mix hazardous waste with other waste types that are to be sent directly to landfill. A fine of up to £20,000 and imprisonment for up to five years could be incurred.

#### You can re-use some waste

Separating wastes can maximise recycling and can also allow certain types of waste to be recycled and reused on site.

### Do

- ✓ Where possible separate wastes into the different types.
- ✓ Check what skips there is on site and ensure the correct wastes are placed in the correct skips.
- ✓ Close lids or doors on skips to prevent waste getting wet or escaping.
- ✓ Ask your supervisor for advice if unsure about correct waste segregation on site.

### Do not

- ✗ Overfill skips.
- ✗ Put liquids and flammable liquid wastes into skips.
- ✗ Mix non-hazardous and hazardous waste.

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# Infrastructure Projects Southern Toolbox Talk

## Pumping and Water Contamination

20 June 2016

### Did you know?

Excavations often require the pumping out of any rainwater or groundwater. However, this water may contain silt and/or other contaminants so must not be discharged into watercourses, gullies, drains or sewers without a permit or prior authorisation.



Incorrect disposal could result in pollution of controlled waters including rivers, streams, groundwater, lakes or the sea.

### Why does this matter?

#### You may cause environmental harm

- Water pumped from excavations can be muddy and could be contaminated. It can cause serious pollution to watercourses
- Over pumping is often required to maintain flows of sewage. If this is allowed to escape it may find its way into a watercourse and can have a devastating effect on wildlife

#### You can be prosecuted

It is illegal to allow polluted water to enter watercourses, gullies or drains, even where consent to pump has been gained.

#### You can cause flooding

If water is discharged into a sewer or gully of insufficient capacity then flooding will occur. This can also cause pollutants to enter watercourses or create flooding in worksite or on adjacent land.

### Do

- ✓ Check with a supervisor what treatment systems are required before final discharge of pumped out water before pumping.
- ✓ Regularly check that any treatment systems are working and that water being discharged is clear of any pollutants and not causing damage.
- ✓ Report it immediately if:
  - Pollution is occurring.
  - The discharge is causing flooding.
  - Pipework is damaged.
- ✓ Check that the point of discharge is in the correct location to the sewer, manhole or gully.
- ✓ Check that all couplings and other pipework fittings are secure.

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# Infrastructure Projects Southern Toolbox Talk

## Noise and Vibration

20 June 2016

### Did you know?

Noise and vibration can disturb local residents and give rise to complaints and delay your project.

Repeated exposure to noise can also cause irreversible damage to your hearing. Always wear the correct PPE including ear defenders.



### What can you do about it?

- Keep noise to a minimum – no shouting and care to be taken when unloading tools and equipment. Whenever possible, deliveries to site should be during the day
- Locate noisy equipment such as generators away from people's homes or screen off or enclose equipment
- When arriving on site, arrive quietly, ensure that vehicles are not left running, radios are turned off and doors are not slammed
- Generator doors must also be kept shut whenever they are running
- Make sure that all plant and equipment is well maintained and regularly serviced. Plant and equipment in good order will always be quieter than poorly maintained equipment
- Switch off all plant and equipment immediately after use
- If a member of the public approaches you to make a complaint that you cannot deal with, ask them to call the National Helpline on **03457 11 41 41**.



### Why does this matter?

**You can be prosecuted** for failing to meet noise constraints.

**The local authority has the power to stop works** if noise from the site is causing a nuisance.

### Do

- ✓ Ensure that neighbours have been pre-notified of any works.
- ✓ Be respectful to our neighbours if they voice concerns. Ask them to call the National Helpline
- ✓ If possible, restrict noisy activities to certain times of the day – some sites are only consented to work at certain times.
- ✓ Minimise drop heights and other noisy activities

### Do not

- ✗ Make more noise than is absolutely necessary particularly during unsocial hours.
- ✗ Undertake activities that could cause damage to nearby structures through vibration.

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# Infrastructure Projects Southern Toolbox Talk

## Storage of Fuel and Oil

20 June 2016

### Did you know?



Incorrect storage, lack of care during refuelling, vandalism and poorly maintained plant can all result in a fuel spillage.

Bulk fuel and oil storage tanks need to be bunded and the bund should have a capacity of 110% of the tank. All containers of oil and fuel should also be kept in a secure, bunded area.

### Why can you do?

- Regularly check tanks, containers and bunds for damage and leaks
- Lock containers and tanks when not in use
- Ensure a spill kit is provided adjacent to fuel storage
- Never pour waste fuel or oil down drains
- Do not store fuel and oil, or carry out refuelling, within ten metres of a watercourse or drain.

### Why does it matter?

#### You can cause environmental harm

Even a small spillage of oil or fuel can cause damage to the environment and harm plants, animals, fish, and humans.

#### You can be prosecuted

A spillage or the incorrect storage of fuel or oil can result in a prosecution, a fine, and damage to your company's reputation.

#### The costs can be excessive

Spillages are likely to lead to be clean-up costs, which can be significant, often several times greater than the fine.

### Do

- ✓ Supervise all fuel and oil deliveries.
- ✓ Place a drip tray or absorbent mat under all plant during fuelling.
- ✓ Use a funnel when refuelling small plant.
- ✓ Use an automatic shut off or pistol grip delivery system when refuelling plant.
- ✓ Arrange for the removal of contaminated water from bunds and trays by an appropriate contractor.

### Do not

- ✗ Locate fuel and oil tanks/storage area near to vehicle routes.

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# Infrastructure Projects Southern Toolbox Talk

## Dust and Air Quality

20 June 2016

### The Facts

Dust, odours and other emissions can cause health risks, particularly at very high concentrations.

Dust can also damage vegetation and crops and effect on local wildlife and watercourses.



### What can you do?

- Clean up or damp down any spillage of dry dusty materials
- Store any bulk cement and bentonite in silos, and position silos and stockpiles away from residential areas or watercourses
- Store fine dry materials within buildings or provide adequate protection from the wind
- Ensure cutting and grinding operations are adequately shielded or wetted

### Why does it matter?

#### It can cause environmental harm

Emission of dark smoke from plant, chimneys and fires is illegal. Dust can damage the ecology of a watercourse and affect plant growth

#### It can delay you project

Regulators have the power to stop works if dust or other emissions are causing a nuisance

#### It's a health hazard

Dust can be carcinogenic and may cause eye irritation or make asthma worse. Odours may cause nausea, dizziness or fainting.

#### We need to respecting our neighbours

Dust can settle on neighbours' properties and vehicles. Poorly controlled emissions and odours from plant or works may lead to valid complaints

### Do

- ✓ Sheet over lorries carrying dry materials to or from site.
- ✓ Keep to site speed limits.
- ✓ Use a wheel wash if it is appropriate.
- ✓ Make sure dust suppression systems are working and are effective on crushers and screeners.
- ✓ Report and Close Call it if work activities are causing poor air quality.

### Do not

- ✗ Burn materials on site without approval.
- ✗ Leave plant and vehicles running if not in use.
- ✗

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# Infrastructure Projects Southern Toolbox Talk

## Control of Road Sweeper Arisings

20 June 2016

### What are Road sweeper arisings?

Road sweeper arisings are the materials that the road sweeper picks up while being used. This could include harmful or contaminated material.

If not disposed of properly they can be deposited and transported around and off the worksite by plant and other site vehicles.



### What can you do?

- Always use the correct procedure for disposing of sweeper arisings
- Do not dispose of arisings into or near drains or watercourses as this may cause pollution
- Do not use a road sweeper to clean up oil, fuel or chemicals spills – use the appropriate spill kit

### Why does this matter?

#### It can cause environmental harm

Inappropriate discharge of arisings may result in water or ground contamination as the arisings may contain harmful substances such as fuel residues or road salt.

#### You could be prosecuted

Waste producers have a responsibility to dispose of arisings at an appropriate facility.

### Do

- ✓ Use a road sweeper to keep site accesses clean and free from mud and standing water.
- ✓ Report it if arisings have or are being disposed on inappropriately on or off site.

### Do Not

- ✗ Dispose of arising on site unless authorised.
- ✗ Allow deposit of arisings directly on to bare ground.

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# Infrastructure Projects Southern Toolbox Talk

## Bentonite

20 June 2016

### What is Bentonite?

Bentonite is a type of clay that swells and gels when dispersed in water. It acts like a liquid when agitated or stirred and like a solid when left at rest.

As “mud” it is used as a lubricant when drilling or pipe pushing and as “slurry” it is used to fill and support the sides of excavations during the construction of diaphragm walls, cut off walls or piles.



It is delivered to site as a powder or as granules before being mixed with water. The mud or slurry is pumped to where it is being used and then the excess is cleaned up.

Its use can lead to spillage around operational areas and around mixing, pumping and storage equipment. Any incidents where bentonite is seen entering a watercourse, drain or is becoming airborne should be reported immediately.

### Why does this matter?

#### It can cause environmental harm

Liquid Bentonite is highly polluting and if it enters watercourses or drains it can cause damage to plants and animals.

#### You can be prosecuted

If not correctly managed, bentonite in powder form can become airborne causing dust nuisance to local residents leading to legal action by the Local Authority.

### Do

- ✓ Keep dry powder or granule containers closed so that Bentonite cannot become airborne or be damaged by rain or moisture.
- ✓ Ensure that Bentonite does not spill onto the ground and ensure there are contingency plans in place to ensure spillages are promptly cleared up.
- ✓ Protect watercourses and drains from any spillage or escape of liquid Bentonite.
- ✓ IMMEDIATELY report any form of spillages.

### Do not

- ✗ Give Bentonite away to third parties without getting the correct approval.

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# Infrastructure Projects Southern Toolbox Talk

## Archaeology

20 June 2016

### What is meant by archaeology?

Archaeology is the scientific study of human history and early history through the excavation of sites and the analysis of physical remains.

Where no other records exist, it is often the only source of information about the previous occupation of areas; from the earliest inhabitants to recent times.



### A railway case study



*Roman skull found on Crossrail*

Crossrail, have found over 10,000 artefacts right across the route.

The finds uncovered from work sites include prehistoric animal bones, Roman remains, human remains from the infamous 'Bedlam' psychiatric hospital and remnants of Britain's industrial past.

An extremely rare piece of UK amber, estimated to be 55 million years old, was also found.

### Why is this important?

- Valuable and irreplaceable archaeological remains can easily be damaged or lost forever
- It is illegal to disturb human remains, remove treasure and to damage certain monuments and historical structures or buildings

### Do

- ✓ Stop work if anything is found that might be archaeological and report it.
- ✓ Fence off that part of the site which may contain any archaeological artefacts.

### Do not

- ✗ Remove any 'finds' such as coins, pottery, or bones from the site – it is illegal
- ✗ Use vibrating equipment or dewater as this may cause cracking.
- ✗ Drive vehicles through protected sites or assume any artefacts or features discovered are unimportant.

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EVERY DAY**