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	PREPARED BY: HEALTH AND SAFETY TEAM	DATE OF ORIGIN: 02/02/2023	REVISION # 1
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PURPOSE

It is essential that all drivers understand the hazards present and the associated controls for those hazards when operating the mixer trucks.

SCOPE

Washout Water at Yard

Under no circumstance is any driver to discharge washout water anywhere in the yard at any point, other than the washout pond.

Please use the designated locations along the pond to washout a vehicle. If there are concerns or issues with the pond, please let the supervisor or dispatch know immediately.

Cement Dermatitis

Skin and eye contact with cement products, including ready-mixed concrete, has long been known to cause a range of health conditions among exposed workers. Concrete truck drivers may contact wet concrete during loading, unloading and cleanup operations.

Contact irritates the skin because:


- cement is a highly alkaline material (pH 12-14) when wet;
- it reacts with skin, mucous membranes, and eye moisture;
- it is hygroscopic, drawing moisture from skin;
- it's abrasive;
- it causes allergic skin responses because it contains hexavalent chromium, a powerful skin sensitizer.

There are four types of skin conditions caused by contact with cement products:

1. mild irritant contact dermatitis (MICD), characterized by dry or irritated skin which may include scaling, itching, burning and redness;
2. irritant contact dermatitis (ICD), a more intense condition which may be accompanied by pain, itching, blisters, rashes, fissures, and watery discharge;
3. allergic contact dermatitis (ACD), an immune response caused by sensitization to hexavalent chromium and other metals in the cement, which results in skin disruptions similar to ICD and is provoked by subsequent exposure to cement;
4. caustic burns, second and third degree burns resulting in blisters, dead or hardened skin, and/or black or green skin.

Protection from contact with cement products rests on using best practices:

- washing hands with running water and pH-neutral or mildly acidic soaps;
- wearing correct gloves (butyl or nitrile rubber);
- trying a neutralizing spray on the hand;
- wearing long sleeved shirts taped inside gloves;
- wearing rubber boots with pant legs taped inside;
- never letting cement or concrete stay on skin or clothes;

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- seeing a doctor for any persistent skin problems.
- workers should never use lanolin or petroleum jelly as a skin protector because it can seal cement residues to the skin.

Returning Concrete to Trucks from Crane Bucket Policy

Please be aware that some contractors may ask you to allow them to return concrete back into the truck from the crane bucket. This is not allowed under any circumstance.

This is a safety concern for the following reasons:

- the bucket will sway and is not in control
- there is no anchor point for a worker to be tied off effectively
- the bucket will move, causing struck by/pinch point hazards
- it is not possible to maintain 3-points of contact while holding the bucket above the truck
- the platform on the truck is far too small for an employee to move if the bucket were to sway towards them.

It is the driver's responsibility to work safe. If someone asks to put concrete back into the truck, you must refuse. Please call into Dispatch if it becomes a problem or if the contractor has issues with your refusal.

Safe Wash Down Areas

All trucks need to wash down after unloading. While most sites have designated areas to wash down, some sites don't always have this option.

To ensure that wash material is not left improperly onsite and that there are no company or municipal violations, it is the driver's responsibility to find a suitable wash down procedure PRIOR to unloading any concrete.

When you are on a job site and need to wash down, you must use:

- the Enviro Guard Wash Down System,
- a wheelbarrow, or
- an approved wash down area as designated by the project manager/client.

Municipalities have strict rules governing the control of contaminants entering storm sewers. Under NO circumstance is a worker allowed to wash down on, by, or near a storm sewer, including washing down upstream from a storm sewer, where the contaminant could flow down into the sewer, even if a client asks you too.

If you cannot find a suitable area to wash down, then you are not to unload.

PROCEDURE

When cleaning the mixer drum, please follow these procedures:

1. Suggested best time for entering mixer is A.M. when drum is clean and dry.
2. Dispatch must know who is cleaning the drum and where the cleaning is being done.
3. All equipment used must be inspected before use to ensure it is in good working order.
4. An electric air gun should only be used if armored cable is used.



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5. If a diesel compressor is used, it must be positioned so that fumes are not drawn into mixer. It must be stationed at least 25 feet away.
6. Personal protective equipment required:
 - safety boots
 - safety goggles
 - hearing protection (i.e. earmuffs)
 - proper gloves
 - respirator, either N95 or half-facepiece cartridge type
 - hardhat, if falling concrete is a hazard
7. Only one person to be in the mixer at any one time.
8. A person outside the mixer drum must act as an attendant for the person inside the mixer drum.
9. A means of communication between the attendant and the person inside must be established. A portable radio must remain in the drum with the worker until they have completed.
10. Before entering drums, it should be determined how evacuation will occur if necessary.
11. Inform Dispatch when the worker starts the cleaning.
12. Keys for the mixer truck must be out of the ignition and on the person inside the mixer drum.
13. The front air piston that controls the mixer rotation on the front of the truck, located on the hydraulic pump, must be disconnected, and a lock and tag placed on the plunger. The person inside the mixer drum must hold the lockout key.
14. The hatch MUST be off and positioned towards bottom for easy access and ventilation.
15. Hazards to look for and assess inside the drum:
 - sharp fins
 - unbalanced or improper footing
 - any overhead concrete which may fall
16. When complete, remove all tools/PPE from the drum, remove lock and tag and return drum to operational status.
17. Inform Dispatch when the worker has finished the cleaning.

Acid Wash Procedures

Heavy Acid

Wind can cause some challenges when applying Acid or ZEP, therefore this must be completed on a calm day.

1. Park ready-mix truck in designated area at ZEP Station
2. Put on proper protective equipment:
 - Clothing (rain suit)
 - Eye protection
 - Fitted Respirator
 - Hard hat
 - Safety boots
3. Wash down truck
4. Open Acid Container – Hydrochloric Acid
5. Use acid pump and distribute a very small amount into a pail (you may dilute with water if too strong)

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6. Using your acid brush, apply the acid to the built-up area. Allow acid to sit (approx. 10 minutes)
7. Re-apply acid
8. Power wash the entire vehicle
9. Rinse off your rain suit, arms, pants, etc. to remove any possible contact.

ACID or ZEP must NEVER touch any chrome, aluminum, cab, or body paint. Treat only the built-up areas and be aware of excess acid dripping off the treated area. Rinse thoroughly making sure all product is flushed away.

ZEP Acid

Wind will cause some challenges when applying ZEP, as it is a foam and will blow around, therefore this must be completed on a calm day.

1. Park ready-mix truck in designated area at ZEP Station
2. Put on proper protective equipment:
 - Eye protection
 - Hard hat
 - Safety boots
 - Long sleeves are highly recommended to cover exposed skin
3. Check to ensure the proper chemical is connected; "HEAVY DUTY TRUCK FOAM"
4. Connect the air line from the reel, to the fitting on your truck
5. Turn on the foaming dispenser
6. Using the wand, proceed to spray the fenders, drums, pedestal, conveyor, back of truck (Do not spray chrome, aluminum, cab)
7. Using your acid brush, scrub the area. Allow to sit (approx. 10 minutes)
8. Re-apply ZEP if needed
9. Power wash the entire vehicle


You may also use the Purple Power at this time to wash the cab, rims, tanks, etc. Use a ratio of 1-part Purple Power to 10 parts water, or 1-part Purple Power to 5 parts water.

Hazardous Material Handling

Acids and Caustics

- Do not store acids or caustics in glass, near heat or steam pipes, or in direct sunlight. Expansion in the containers due to the heat may cause a fire or explosion.
- Rubber gloves, aprons, safety boots and a face shield shall be worn when handling acids or caustics.
- Drums or containers should be emptied by gravity only.
- Acid or caustic carboys should not be moved unless they are securely stoppered and wired.
- Never pour water on top of acid. The acid should be added to water in small quantities.

When acid gets on any part of the body, including the eyes, flush immediately with plenty of water and seek medical attention if needed.

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Concrete Delivery to Site

When employees deliver concrete to a job site, the following items are required prior to off-loading:

- Instructions on any relevant job site hazards;
- Adequate access to the entrance and exit of the job site;
- A safe level operating area for the concrete truck;
- Adequate lighting, especially during dawn, dusk, and night;
- Signalers provided as required for all reversing;
- The discharge area (communicated if possible, to the driver prior to delivery);
- Location of a proper and designated wash down area;
- Minimum setbacks must be maintained from any overhead electrical conductors or wires as required by legislation;
- Only the concrete driver is to access the concrete truck platform, ladder, or truck;
- The concrete truck driver shall only perform tasks related to concrete delivery and shall not handle or operate any other equipment on site;
- A clear walkway around the truck shall be provided for all stationary work. This may result in only one truck at the discharge point at one time;
- A one metre separation is suggested between trucks at all times.

Concrete Delivery to a Crane Bucket Policy

- Must have a 12-15 foot “pick point” landing area behind the back of the cement truck.
- The concrete bucket “swamper” is the only person able to handle, signal, raise or land a concrete bucket.
- Concrete drivers must not go beyond the rear of the truck while the bucket is being hoisted or landed.
- Under no circumstances are crane loads or concrete buckets permitted to be lifted over the truck or driver at any time.
- If the concrete load is required to be checked by climbing onto the truck, the driver must do so only when all concrete buckets are placed securely on the ground and not moving.


Concrete Delivery to Floors / Sidewalks Policy

A communication plan must be established between the work crew and all concrete drivers that includes:

- the appropriate level of concrete to be poured at all times;
- when to start and stop pouring.

The policy should also include:

- limiting the need for concrete trucks to reverse;
- adequate ventilation inside the buildings in order to avoid the accumulation of carbon monoxide;
- communication with the driver noting all potential overhead hazards. Elimination of the hazard to prevent contact with the truck is preferred.
- a safe lane for the discharging of concrete, to avoid interaction with pedestrian and vehicular traffic.
- ensuring all chutes are scraped clean and locked in position on the driver’s side of the truck to ensure they are not free moving when the truck leaves the pour site.

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Concrete Delivery to a Pump Truck Policy

- the pump truck boom should never be moved over the concrete truck or driver;
- the pump truck must maintain the proper setback from overhead electrical wires;
- a communication plan must be established between the pump operator and concrete driver that includes determining the appropriate level of concrete to be maintained in the pump at all times, and when to start and stop pouring;
- drivers must be made aware of the emergency stop locations on the pump truck prior to discharging concrete;
- concrete must not be poured into the pump truck hopper until the pump operator has primed the pump to avoid plugging or back pressure, that could cause projectile hazards.
- unused concrete in the pump may only be discharged back into the concrete mixer if workers have been trained and follow safe practices found within the specific work instruction.

Concrete Delivery to Curb or Paver Machine

- a communication plan must be established between the curb or paver machine operator and the concrete driver that includes determining the appropriate level of concrete to be maintained in the pump at all times, and when to start and stop pouring;
- no worker is permitted to go between the truck and the curb or paver machine while the truck is in motion;
- the driver will be required to lock and unlock the concrete truck chute when making turns.

Discharging Concrete

Discharging concrete is typically done using three processes:

1. Discharge Moving: A worker is driving the ready-mix truck to discharge concrete (curb and wall machines, sidewalks, floors).
2. Discharge Stationary from Ground Level: A worker is located on the ground next to the truck to discharge concrete (wheelbarrows, buggies, crane bucket, tele-belt, and conveyor).
3. Discharge Stationary from Back or Top Truck Platform: A worker is situated on their truck platform to discharge concrete (pump truck, crane bucket).

The questions below assess the best location to work from, prior to the start of concrete discharge:

1. Performing Work
Is it necessary to perform work from the back or top platform?
If NO, work from the ground
2. Platform Condition
Do the platforms meet all of the following?
 - in good condition and free of obstructions (including any part of the chute)
 - level, slip resistant tread (expanded metal surface)
 - free of excess contamination (oil, grease, excess mud, concrete build up, etc.)
 - back platform minimum dimension is 60 cm x 90 cm (24" x 36")
 If any question is NO, work from the ground
3. Fall Prevention
 - are safety boots in good condition? (adequate slip resistant tread – free of excess contamination)
 - can platform be safely accessed from the truck ladder?



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- is an adequate handrail installed to provide stability while working on the platform?
- can a balanced body posture be maintained while on the platform?
- will concrete be removed from the chute prior to swinging the chute?
- will 3-point contact be maintained at all times while swinging the chute? (both feet planted on the platform and one hand gripping the handrail)

If any question is NO, work from the ground

Locking Chutes When Moving

There are concerns about trucks exiting jobs, especially with uneven ground present, because the chute can move or swing potentially causing injury or damage.

Please ensure people are not standing or working near your chutes, when you have them folded down, especially when extra chutes are attached. Also, drivers are to ALWAYS have their chute LOCKED when moving! This becomes more dangerous when chutes are added, as now the chute is longer, heavier, and swings much faster.

For pump jobs, this is not an issue as there is no need to fold down the chute.

Towing/Pulling Vehicles Policy

This policy is for any worker that is going to use a tow strap to pull or assist another vehicle or piece of equipment.

When pulling a heavy truck or machine, please use the shackles and nylon straps provided. Always hook up the shackle and tow strap to the proper location on the vehicle (i.e. engineered tow hooks).


When you are pulling with a strap, before you put force into the pull, there is to be no slack on the strap. Putting slack on the strap, then accelerating, will not only guarantee damage to the truck, but may cause an injury if the strap fails, or the hook is pulled from the truck.

Enviro Guard Wash Down System Procedure

The Enviro Guard Chute Wash System lets you clean your chutes efficiently without creating an environmental hazard. The stone is retained in the lightweight bucket while the cementitious slurry and sand is pumped back into the drum.

Procedure for Use:

- 1) When empty proceed to wash down area.
- 2) Put on safety glasses.
- 3) Hang discharge line onto your hopper.
- 4) Attach the containment bucket to the concrete chute on truck.
- 5) Close the lower valve on the side of the pump.
- 6) Connect suction pipe to the hopper of truck then to lower suction line on the pump.
- 7) Connect the discharge hose to the upper discharge connection on the pump.
- 8) Connect air to the pump from the air supply from your truck. Turn on air supply.
- 9) Turn the pump on using the valve and proceed to wash down the chutes and the truck. All slurry water and sand is pumped from bucket into mixer drum.

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- 10) When completing wash down, the pump must be cleaned out using water. Hang the bucket off your chute from one side, so the water flows towards the suction line. Flush system with clean water to remove all the sand, so only stone remains. Only stone should remain in the containment bucket.
- 11) Dump the stone on the ground.*
- 12) Flush the system again for a minimum of 30 seconds with fresh water.
- 13) Turn off truck supply air and disconnect the airline.
- 14) Open lowest valve to drain system.

*You may only dump the stone if you are in an area that is currently gravel. If it is not, see the project supervisor.

If you are the last truck.....

- 15) Disconnect suction line from the pump and containment bucket and drain the line by lifting the lineup.
- 16) Disconnect discharge line, while leaving it in the hopper, and drain the line.
- 17) Open the lower valve and tilt the pump towards the valve to drain remaining water.
- 18) Roll up airline and place on top of pump.
- 19) Remove discharge line from hopper and put in designated area.
- 20) Store all the equipment neatly in the tool trailer.

Report to dispatch any issues or potential problems with the system, at your next call-in.