



## **Material containment and storm water protection: policies, procedures, and practices**

*This booklet looks at what Confer Plastics does and expects to protect the environment from accidental exposure to plastic resin.*

**Version: July 2021**

## Introduction

Plastics pollution is a critical environmental issue. The average person associates it with bottles, bags, and other single-use products sully parks and public spaces or filling waterways and oceans.

But, it is much more than that. If the consumer looks further upstream in the supply chain, they can see exposures potentially being created at resin producers, trucking hubs, railyards, and plastics processors if resin pellets, sometimes called “nurdles”, are released into the environment at points of delivery or transfer. Those pellets can also escape from within buildings if proper controls are not utilized.



Storm water flows – run-off from rain or melt or, in some cases, processes – can put those pellets into watersheds if they reach ditches, streams and sewers.

The key to preventing such exposures is to eliminate pellet loss. The goal is always zero lost pellets. But, accidents happen: A truck driver can have a ruptured line while filling a resin silo....a silo can overfill...a spill can happen within the facility adjacent to a door....and so much more.

It's the policies and infrastructure that are put into place that can prevent those incidents from exposing the environment to waste.

This booklet will summarize the procedures and investments that Confer Plastics has utilized to keep resin loss at bay to protect the Niagara River and its feeder streams.

## Silos: The point of delivery and the greatest risk



Confer has on site 6 material silos outside the building as well as multiple ports that feed material to smaller silos within the building. These silos inventory the pellets until they are used in manufacturing, at which time they are placed into material bins by augers or vacuum conveyance systems.

These silos or actions associated with them provide the greatest risk for environmental exposure. Therefore, these locations receive the greatest attention, in terms of eyes, efforts, and enforcement. Most rogue beads collected outdoors come from silo events.

There are three primary silo events: One, spills at time of delivery (which account for more than 95% of all incidents); two, spills that come from overfilling; and, three, spills that come from a broken infrastructure (such as a pipe).

Spills occur at delivery by two means. A feed tube from the tractor trailer (bulk truck) can come loose from either the silo's feed port or the truck's outlet. More likely, a few beads can spill from the truck's hose when it is disconnected from the silo feed port.

To mitigate these exposures, there are multiple things undertaken.

From a structural standpoint, the areas near the silos, and the driveways, are blacktopped. Previously, blacktop had been in intermittent sections, as much of the driveway and back roadway was gravel. In spring of 2021, Confer Plastics invested \$92,000 in full blacktopping of all areas around, near, and to the silos. The hard, flat surface of blacktopping (versus stones and gravel) allows for better clean-up if there is a spill in the vicinity.





Also, containment areas are found underneath all silo feeds tubes. These structures are walls that will catch and keep the beads within that pen. Any spilled beads within the pens can be collected by the driver or at daily clean-up.



If the silo overfills during the process of filling, pellets are blown-out through an evacuation port atop the silo. All silos are designed in this manner...and designed poorly. The evacuation port is basically a mouth at the top of the silo that sprays excess material anywhere and everywhere. From 40 feet up, this can create a significant situation as dozens, if not hundreds, of pounds material can be put out into the world if a truck driver is not on top of his or her game.

Overfills are rare at Confer Plastics. There may have been only 3 such occurrences in the 2000s.

Regardless, we developed a means to contain these events and overcome the silos design flaws: We installed PVC outlets on every silo that run from the evacuation port down to ground level where, if an overflow did occur, it would go to a specific and narrow spot – a garbage can that is always located underneath these ports.



Preventing and containing any silo spill takes more than just infrastructure – it also takes procedure, it takes people.

It all begins with the truck driver. Most bulk truck drivers who make deliveries here have experience delivering plastic and the environmental concerns that come with that. But, we cannot assume that they do and know (they may have delivered other bulks like foodstuff); that other plastics processors have stringent rules; or, that the driver is a stickler for details.

So, upon arrival, whichever Confer Plastics employee takes delivery provides to someone known to be a new-to-us truck driver a tri-fold laying out our expectations of the driver regarding spills and communications. The Confer employee will inspect the area around that silo prior to hook-up.

The Confer employee also begins to fill out a “material delivery inspection report”. That paper will ultimately be stapled to every receiver, and copies will be provided to management – Confer and that of the trucking and resin firms – if there is an issue. The “material delivery inspection” report will list:

- Date and time of arrival and pre-inspection
- Material type and its manufacturer
- Trucking firm and driver
- Time stamp of post-inspection
- Space to list any issues associated with inspection or delivery
- Sign-off by Confer employee

To complete that form, the Confer Plastics employee must inspect the area once the trucker has restored his or her truck to normal (as in, hoses retracted).

The truck driver is supposed to pick-up after himself. To aid in that practice, in the event that the driver doesn't have such tools in his cab, we have closets at each silo station in which cleaning tools and trash cans are stored.







If the truck driver left material behind or has a sizable spill that he alone cannot pick up, a Confer employee will be assigned to clean-up any spills.

Significant incidents, or driver neglect, will be reported accordingly.

Designated Confer employees are trained on these practices on 2<sup>nd</sup> and 3<sup>rd</sup> shift as well in the event a material delivery is absolutely necessary after hours.

The third spill event mentioned concerned broken infrastructure. Broken pipes can occur over time (from vacuum pressure changing) or from destruction from a major storm. These pipes receive regular, daily inspections from ground level, with inspections by lift occurring quarterly.



## Protecting the water

Donner Creek, or more accurately, *a drainage ditch and marsh that used to be Donner Creek*, is immediately adjacent to the facility and part of Confer Plastics property. This wetland flows into the Niagara River by traveling under River Road and Gratwick Park, terminating in a culvert at the river shore.

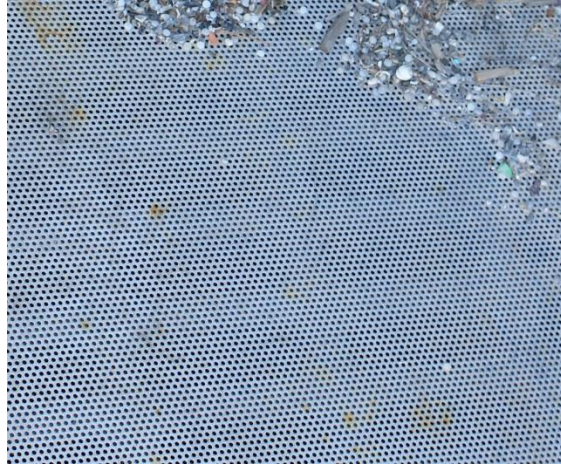
In order to protect this small watershed and then the greater one, there are some further precautions taken beyond those previously listed and those coming.

Berms have been built of earth and stone to prevent ground surface stormwater from taking pellets into Donner Creek.



*This berm next to the driveway and Donner Creek is 10" to 24" high*

All loading docks and the parking lot have stormwater drains that feed Donner Creek. Those drains are covered with small screens that collect pellets – and all other debris – to prevent their transmission to the creek.



*This photo demonstrates how effective a screen can be at catching waste*

The drain screens are cleaned daily of all debris (not only resin, but cigarette butts, sticks, whatever might accumulate) and the ends of the drain pipes are inspected regularly to see if any resin made it through the screens.

The terminal ends of the pipes that come from those drainage systems are also covered with a mesh bag to add a redundant level of protection/prevention in the event there's a failure in the screen or the concrete around it fractures.



In late-summer of 2021, following the breeding season of Canada geese, mallards, and herons frequenting the Donner Creek marsh, a skirt will also be placed within it to one, verify that all measures are working, and, two, collect anything that may have sneaked past any measures. It is more of a verification tool than anything.

## Garbage collection

We have a small dumpster that is collected once per day, five days a week. This dumpster, which is kept outdoors, could see some loss of debris when filled and emptied.

The area adjacent to the dumpster is cleaned daily after dumping. There is also a wall, with a stone berm around it to prevent windblown and storm water-driven waste from escaping the area and making its way to Donner Creek (which, as mentioned is also protected by a berm).





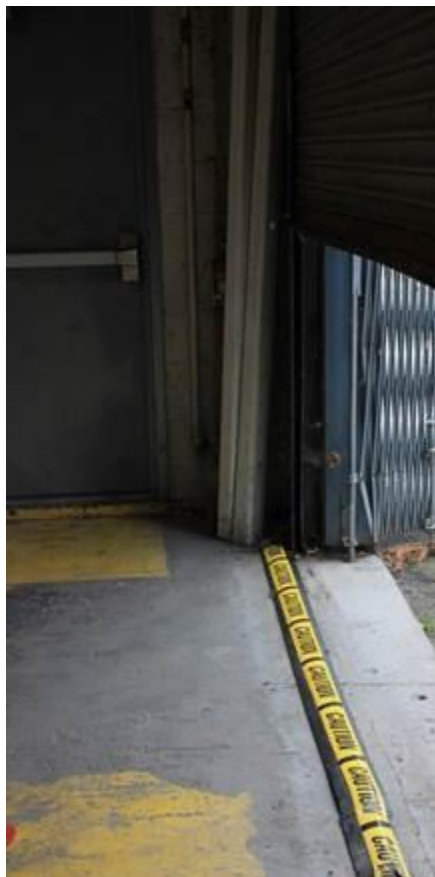
*Note: Beginning in September 2021, garbage collection will no longer be a thing at our facility to mitigate the potential of exposures to Donner Creek. Instead, totes will be sent to our Wheatfield facility where they will be put into an enclosed compactor that is within that building, preventing any or all outside exposure.*

## **Preventing the inside from getting out**

Material spills, cutting waste, and trimmings are part of the manufacturing process. There's no way around it with extrusion blow molding.

But, precautions are taken to make sure that anything that happens in the factory stays in the factory.

They include but are not limited to:



At time of waste management, to prevent the wind from catching plastic fuzz that may have been created by processes of routing and cutting plastic parts, machines that create such fuzz have that waste put into large polybags before being tossed into the dumpster.

Bumpers or glorified dams are placed at overhead doors to prevent beads of material from escaping.

Material handlers and other towmotor operators blow off all towmotors, skids, and other items before taking them outside to eliminate the potential for pellets, regrind, or fuzz coming off of the machinery or what it's transporting. Company policy is also that raw material and regrind cannot be transported outside.

All cleaning by staff sees sweeping inward, not outward, so no beads are projected outdoors.



## Daily outdoors clean-up

To double-check all potential spills around the silos and to clean any spills by the dumpster, the grounds & environment steward cleans and maintains all areas where exposures might occur as well as the protective infrastructure in place such as screens, berms, material pens, and the like.

The steward is also empowered to audit and enforce related to tasks and behaviors that could cause materials to come out from within the building. He educates and corrects individuals, while ensuring polybags are available and all dumpsters are in proper working order.

The steward has been provided the necessary tools, including a high-powered, propane-driven vacuum cleaner, cleaning supplies, and a work vehicle to aid in cleaning of spills.



Management audits and inspects on a regular basis all material containment activities and infrastructure and seeks continuous improvement or refinement.

## **Questions? Contact info**

If there are any questions or concerns about the policies or investments contained within this program, contact:

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