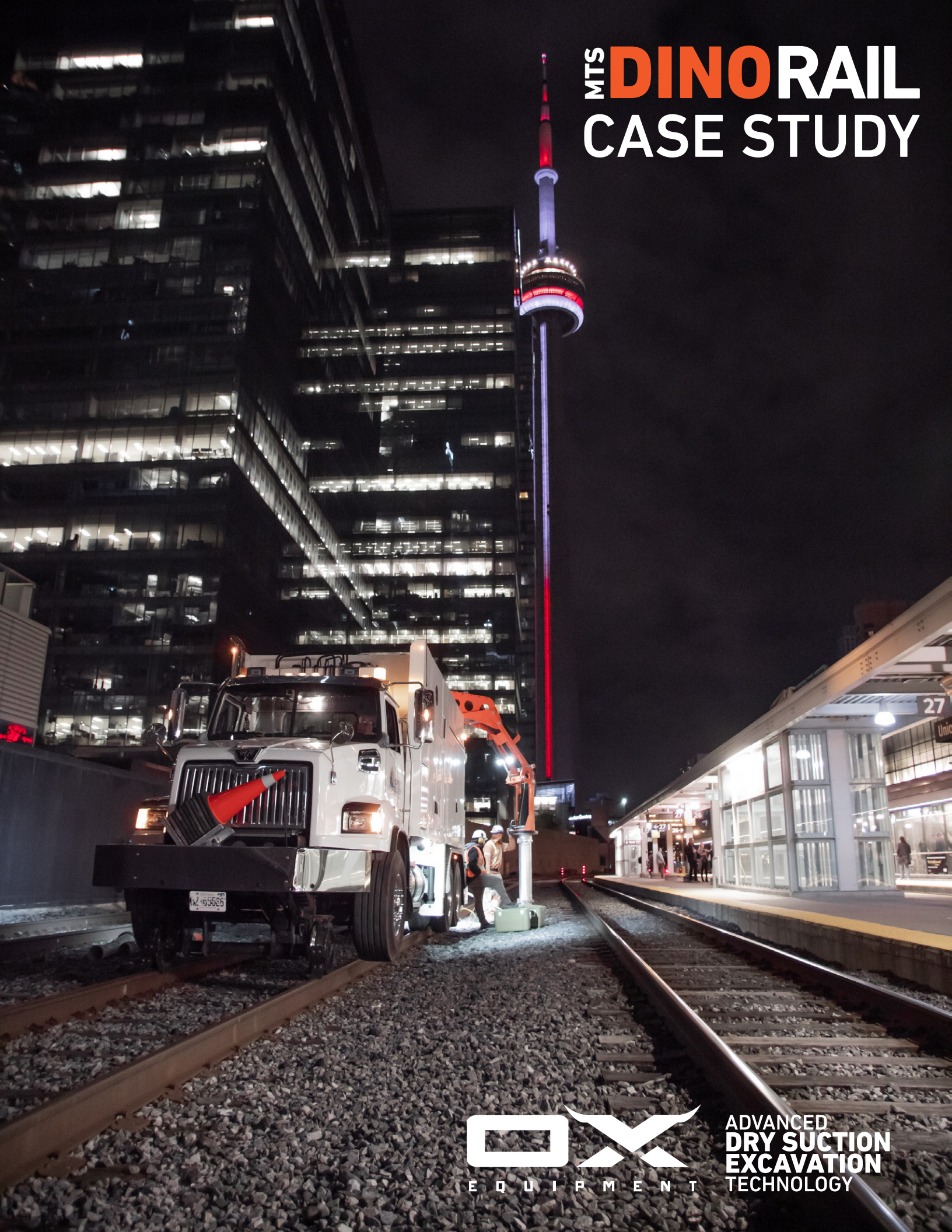


# MTS **DINO** RAIL CASE STUDY



**OX**  
EQUIPMENT

ADVANCED  
**DRY SUCTION  
EXCAVATION**  
TECHNOLOGY



## PROJECT DESCRIPTION

- The original job was scheduled to be completed in three (3) nights but using the Dino Rail put the project ahead of schedule which prompted the client to expand the initial request
- Operators were cleared to use the stabilizers and instructed to re-use excavated material as backfill
- A selection of equipment was assigned to this project including an MTS DinoRail Suction Excavator (SE), and a support vehicle with Skid Steer and trailer
- The initial project plan was to utilize the SE's Hi-Rail kit to mount the track, safely excavate a test pit, then dismount from the track and dump materials in a location that allowed the Skid Steer to backfill each test pit

## CLIENT PROBLEM(S)

This particular project required excavation to be done on the tracks in a utility-dense area without interfering with the scheduled run of trains. With a drilling program pending it was necessary for the client to visibly evaluate a series of test pits to confirm the locations were clear of all utilities.

## CHALLENGES FACED

### *Hazard Assessment*

When rail companies require projects to be carried out directly on the tracks, time of day is very important so as not to disrupt commuter traffic flow. This generally means that the tracks will remain operational during construction so deadlines for getting work done are constrained by the predetermined scheduling of the trains. Leaving the tracks operational during construction also means that there are a lot of hazards to mitigate for the trains, the workers, and the traveling public, so the most effective control to put in place is to allow for the work to be done at night. Implementing an excavation at night then creates a lot of obstacles especially when working in a utility-dense area as it calls for a specialized technology that demonstrates safe digging.

### *Site Safety*

In most cases of digging safe, the extracted materials would be altered and therefore require to be stored overnight due to the majority of disposal facilities being closed, or too far away. Once excavated materials are properly managed, you would then need to bring equipment in to handle the backfilling and also put controls in place to organize the congestion of equipment on the job site, as well as manage the limited and restricted access to the site for access and egress.

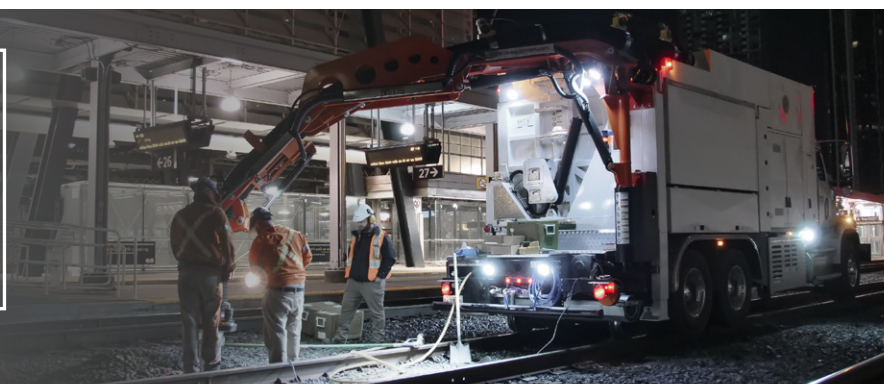
### *External Conditions*

Other problems that would occur within a project to be done at night would include needing sufficient lighting, as well as the noise levels generally associated with construction work.

## OBJECTIVE

Daylight 8 soft surface test pits to expose various utilities and a tie-back anchor.

- ▶ 7 pits @ 10 feet in depth
- ▶ 1 pit @ 19 feet in depth





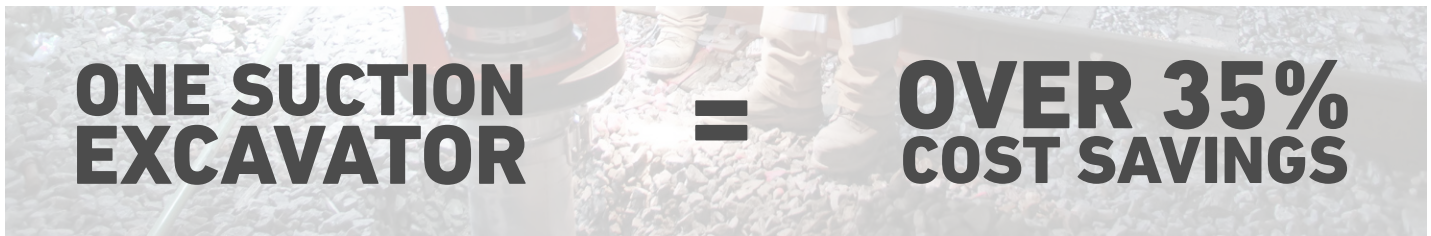
**INCREASED  
PRODUCTIVITY**

Upon site assessment of the MTS DinoRail SE, the client approved the usage of the SE's stabilizer system and side dumping capabilities to leave the equipment on the track and continuously working. The powerful compressor and CFM of the SE easily handled the excavated materials and with the on-board pneumatic tamper was enabled operators to tamp backfill as required. Along with the hydrostatic drive and precision positioning capabilities, the MTS DinoRail SE was the only piece of equipment required to carry out the project in its entirety, none of the other equipment was needed.



**DECREASED  
PROJECT COSTS**

The efficiency and versatility of the MTS DinoRail SE allowed the contractor to accomplish more work for the client, within the original timeframe than initially planned, thus resulting in a lower overall cost for the project. The ability to reuse excavated materials and dump directly back into the test pits conforms with applicable environmental government agencies' suggested practices, and with the use of the powerful onboard compressor and tool attachments, further cost savings were realized by the client as no other equipment was mobilized to carry out excavated material logistics or backfill (traditional methods call for 3 additional pieces of equipment, including hi-rail swing loader, rail cart and backfill equipment).



**UNCOMPROMISING  
SAFETY**

The MTS DinoRail SE is equipped with features that allowed for an extremely safe work environment while preventing damage to any underground utilities in the area. With the compressor's low decibel rating, work could be completed in this urban area, keeping noise exposure levels to a minimum. Bright, truck-mounted LED lights kept the entire worksite illuminated. Digging with air rather than mechanical digging, or even high-pressure water, ensured any underground utilities remained unharmed. And as one of the leading causes of workplace fatalities in construction excavation is "struck-by heavy equipment", the MTS DinoRail SE is equipped with sensors that prevent the equipment from moving during excavation when there's an obstacle in its path.



**ENVIRONMENTALLY  
RESPONSIBLE**

Since only the one piece of equipment was used for the project, only one crew was needed to complete the job which resulted in the work being done faster, no utilities being damaged, and avoiding work site congestion which was very much appreciated by the rail authority. With the MTS DinoRail SE doing the work from start to finish without the need for potable water, or material transport and disposal, it remained on site which drastically reduced the carbon footprint of this project and allowed for full site restoration.

## CLIENT TESTIMONIAL

*By having a suction excavator on our job we were able to visibly evaluate our boreholes, in a particularly utility dense area, in order to have full confidence our locations were clear before the commencement of our drilling program. The ability of the suction excavator to dump the soil cuttings in tight quarters greatly sped up the backfilling process which allowed us to meet strict project deadlines. Furthermore, the dumping capabilities of the truck led to an overall cleaner and safer workspace as minimal housekeeping was necessary upon completion of the daylighting program.*

*-Environmental Scientist (Client)*



# MTS **DINO** SERIES

**DIG SAFE.  
DIG DRY.  
DUMP ON SITE.  
STAY ON SITE.**

**Ox Equipment Inc.** is the exclusive North American distributor for industry leading MTS Dino Series of Dry Suction Excavators. Currently the global standard and preferred option for safety, dry suction excavation utilizes powerful vacuum technology without the use of water, and eliminates issues related to slurry disposal as well as overweight truck loads while it remains on site until the job is finished. The innovative Twin-Fan System generates over 24,000 CFM used in conjunction with a 10-inch diameter suction hose which is manipulated with precision via the mechanical Power Arm. The MTS Dino Series also features side-tipping functionality along with many other onboard elements that elevate the level of safety and productivity when using this equipment.

**Ox Equipment Inc.** has over 50 years of combined experience in the utility construction business which enables them to be as performance driven as the cutting-edge excavation technology they're delivering throughout North America. Ensuring that the many benefits of this innovative equipment is being realized by its end users from municipalities, utilities, and the contactors who serve them.



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