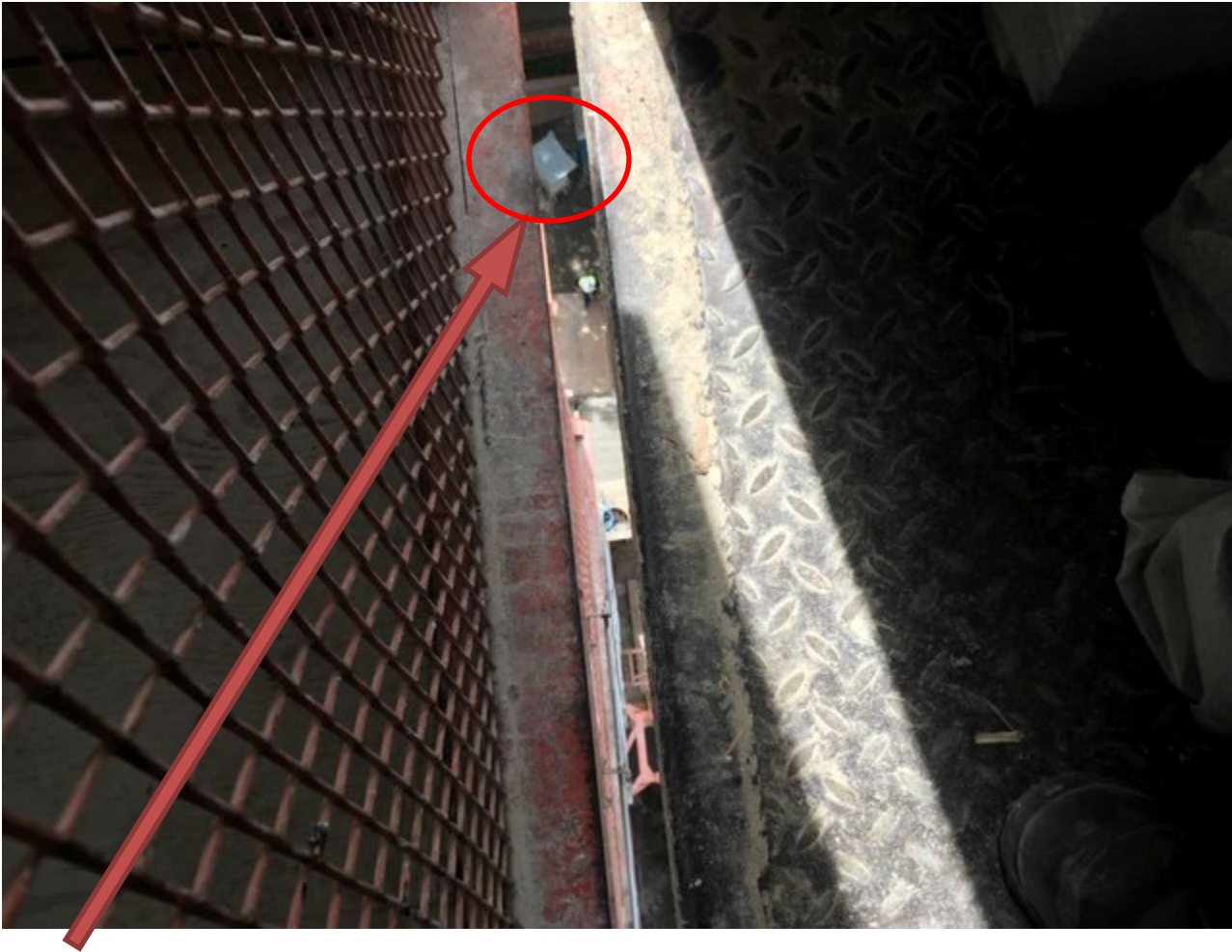


Incident Summary #II-1028261-2020 (#18434) (FINAL)

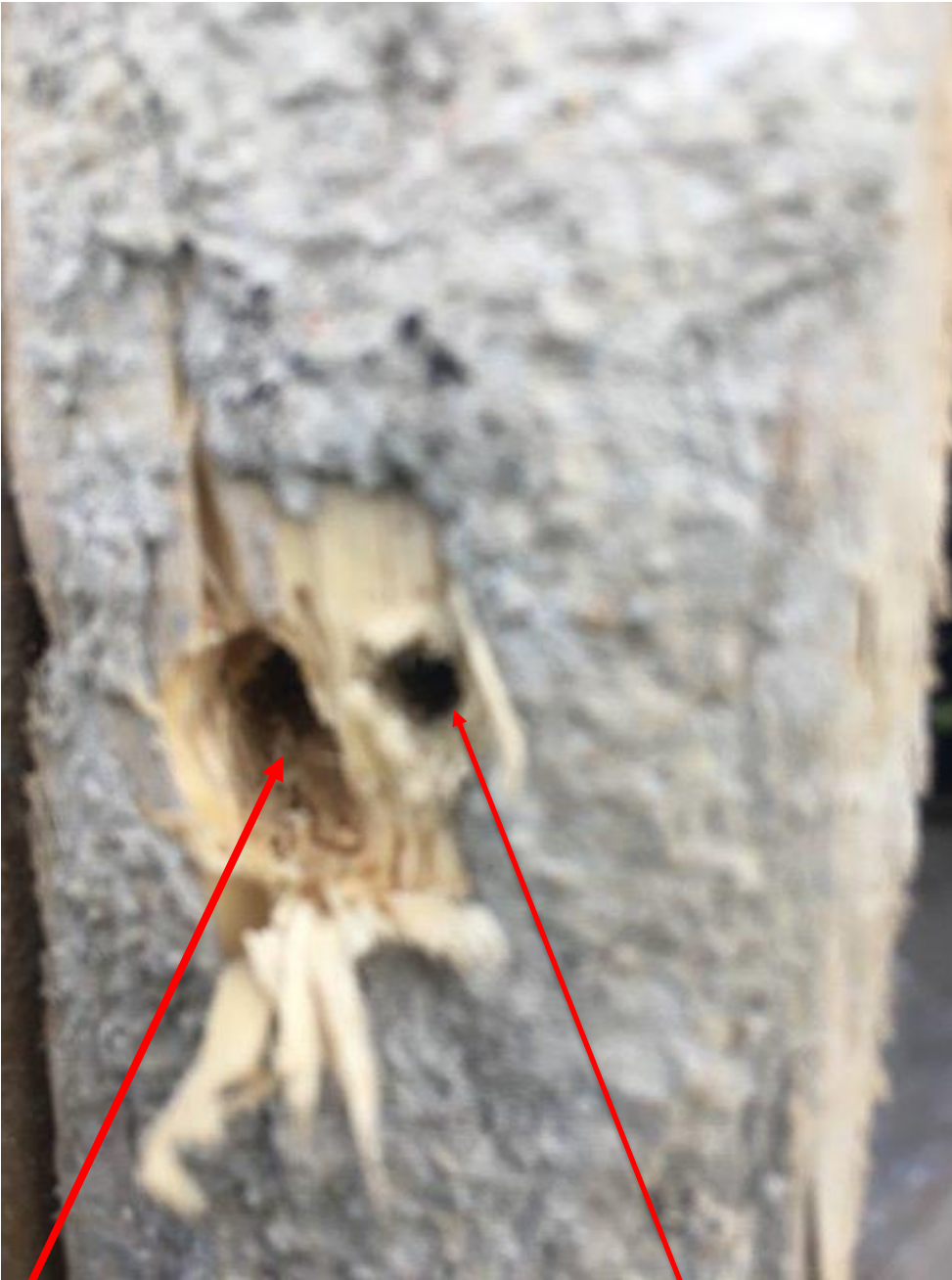
SUPPORTING INFORMATION	Incident Date	June 19, 2020	
	Location	Vancouver, BC	
	Regulated industry sector	Elevating devices - Construction / personal hoist/ man lift	
	Impact	Qty injuries	0
		Injury description	None
		Injury rating	None
	Damage	Damage description	Landing gate was dislodged from its supporting structure due the car impacting a gate lock. Damage to gate frame/hoarding and gate lock.
		Damage rating	Moderate
Incident rating	Moderate		
Incident overview	During the operation of the hoist, as the operator was going in the up direction, the car struck the 9th floor gate and pulled it from the wood frame.		
INVESTIGATION CONCLUSIONS	Site, system and components	<p>A construction hoist is a temporary elevating device that is normally installed on the outside of a building under construction to provide transporting of construction personnel and construction material.</p> <p>Gates are installed at each landing that the hoist services. Gates are fastened to temporary hoarding that is installed at the edge of the building, along the path of the hoist to prevent construction personnel and construction material from falling from the building when the car is not at that landing as well as preventing the car from striking construction personnel when the car passes landings. Code outlines minimum and maximum distance between the car sill and the adjacent landing gate sills. These requirements prevent the car from striking the gates while keeping the sill gap small enough to mitigate tripping hazards when personnel are entering/exiting the hoist.</p>	
	Failure scenario(s)	During the operation of the unit, the opening and closing of the gate caused the screws to loosen/move away from the hoarding structure which resulted in the gate to car clearance decreasing. Due to this decrease in clearance, as the car traveled in the up direction it struck the gate lock. The impact of the car and gate lock broke the gate fasteners and subsequently tore the gate from the hoarding.	
	Facts and evidence	<p>During an inspection in February 2020 it was noted that sill gaps were not within code requirement of 0.5" to 2". The gap was from 2.5" – 2.75" during the inspection. The contractor was informed that they needed to decrease this sill gap to within code requirements. The contractor subsequently installed shims to bring the sill gaps into compliance.</p> <p>Based on my conversation with the elevating devices contractor, they have stated that the screws used were the same screws that were originally installed on the gates which were 2.5" in length. Since the gates were shimmed out by as much as 1" this left only 1.5" of screw engagement. The manufacturer recommends at least 2" of engagement into the wood frame. Based on my conversation with the site, they stated that this information was not conveyed to them.</p>	
	Causes and contributing factors	It is highly probable that landing gates being installed with undersized fasteners contributed to this incident. It is probable that the elevating devices contractor not communicating the minimum fastener length requirement to the general contractor contributed to this incident.	



Gate dislodged from hoarding



Gate Lock Contact Point – Gate Lock torn from the gate assembly



Anchoring point after first inspection to space the gate out to comply to sill to sill gap requirement

Anchoring point during first inspection



Lag screw used



Location of anchoring point