Lake Hayward
Second Beach Park
Hazard Identification and Risk Assessment

Hazard Identification	Applicable Standard Number	Applicable Standard Text	Injury Risk	Steps to Mitigate
General rust and wear	ASTM 1487 General	N/A	Rusty parts can pose a cut/abrasion hazard	Sand down rust and repaint

Hazard Identification	Applicable Standard Number	Applicable Standard Text	Injury Risk	Steps to Mitigate
Fall height is 87”	ASTM 1487 – Section 8.3.3	The maximum height of upper body devices for use by 2 through 5-year-olds shall be no greater than 60 in. (1524mm), measured from the center of the grasping device to the top of the protective surfacing below. The maximum height of upper body devices for use by 5 through 12-year-olds shall be no greater than 84 in. (2130 mm). Upper body equipment intended for users in wheelchairs shall have grasping devices no greater than 54 in. (1370 mm) above the accessible surface (see Fig. A1.50).	Fall from a height greater than the critical height of the surfacing can cause life threatening or debilitating injury.	Lower overhead ladder or add surfacing to bring into compliance.

Hazard Identification	Applicable Standard Number	Applicable Standard Text	Injury Risk	Steps to Mitigate
Take off distance is currently 12.5”	ASTM 1487 – Section 8.3.2	The horizontal distance from the leading edge of the take-off or landing structure, or both, out to the first handhold of upper body equipment shall be no greater than 10 in. (250mm). In addition, where the take-off or landing point is provided by means of rungs, the horizontal distance to the first handhold shall be at least 8in.(200mm) but no greater than 10in. (250 mm)	Fall to surfacing	Extend platform

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Current platform height is 39.75”	ASTM 1487 – Section 8.3.4	The maximum height of the take-off/landing structure for upper body equipment shall be no greater than 18 in. (460 mm) above the protective surfacing on equipment for 2 through 5-year-olds, and no greater than 36 in. (910 mm) above the protective surfacing on equipment for 5 through 12-year-olds.	Fall from a height greater than the critical height of the surfacing can cause life threatening or debilitating injury.	Add surfacing to decrease fall height

Hazard Identification	Applicable Standard Number	Applicable Standard Text	Injury Risk	Steps to Mitigate
General rust and wear	ASTM 1487 - General	N/A	Rusty parts can pose a cut/abrasion hazard. Also, potential structural damage.	Sand down rust and repaint.

Hazard Identification	Applicable Standard Number	Applicable Standard Text	Injury Risk	Steps to Mitigate
General rust and wear	ASTM 1487 - General	N/A	Rusty parts can pose a cut/abrasion hazard. Possible structural damage where horizontal bars meet upright post.	Sand down rust and repaint

Hazard Identification	Applicable Standard Number	Applicable Standard Text	Injury Risk	Steps to Mitigate
Top of climbing spiral fails protrusion test for child's eye socket.	ASTM 1487 – Section 6.3	Protrusions—There shall be no protrusions on public play equipment. Three projection test gauges (shown in Fig. A1.10) and a projection gauge (shown in Fig. A1.11) are required to determine whether projections are protrusions. Their use is described in this section.	Child could be impaled.	Find a way to increase diameter or remove the play feature.

Hazard Identification	Applicable Standard Number	Applicable Standard Text	Injury Risk	Steps to Mitigate
Climbing spiral entrapment hazard.	ASTM 1487 – Section 6.1	Head and Neck Entrapment—Public playground equipment shall be designed and constructed or assembled so that any accessible opening shall meet the following performance requirements to reduce the risk of accidental head or neck entrapment by either a head-first or feet-first entry into the opening. Openings between the protective surfacing and the bottom edge of the equipment (that is, rails, platforms, steps, and so forth) are exempt from this requirement as indicated by Fig. A1.1.	Child can fall in the spiral climb and get stuck causing strangulation.	Remove play feature.

Hazard Identification	Applicable Standard Number	Applicable Standard Text	Injury Risk	Steps to Mitigate
Climbing spiral takeoff height is currently 47”.	ASTM 1487 – Section 8.4.3	A sliding pole accessed from a platform shall rise 60in. (1524 mm) or greater above the surface of the platform.	Risk of hitting head while entering or exiting play feature.	Raise top bar 13” or remove play feature.

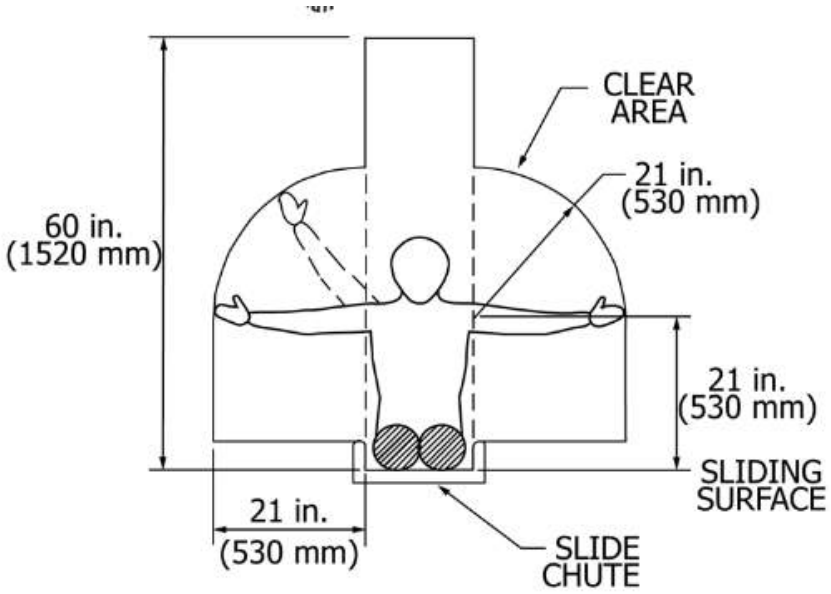
Hazard Identification	Applicable Standard Number	Applicable Standard Text	Injury Risk	Steps to Mitigate
Tic tac toe play feature has broken plastic.	ASTM 1487 – General	N/A	Broken plastic has sharp edges which can pose a cut hazard. Item can also trap water which attracts mosquitos.	Find replacement part or remove play feature.

Hazard Identification	Applicable Standard Number	Applicable Standard Text	Injury Risk	Steps to Mitigate
Area above tic tac toe feature is an entrapment hazard.	ASTM 1487 – Section 6.1	Head and Neck Entrapment—Public playground equipment shall be designed and constructed or assembled so that any accessible opening shall meet the following performance requirements to reduce the risk of accidental head or neck entrapment by either a head-first or feet-first entry into the opening. Openings between the protective surfacing and the bottom edge of the equipment (that is, rails, platforms, steps, and so forth) are exempt from this requirement as indicated by Fig. A1.1.	Risk of strangulation.	Add filler panel or remove play feature.

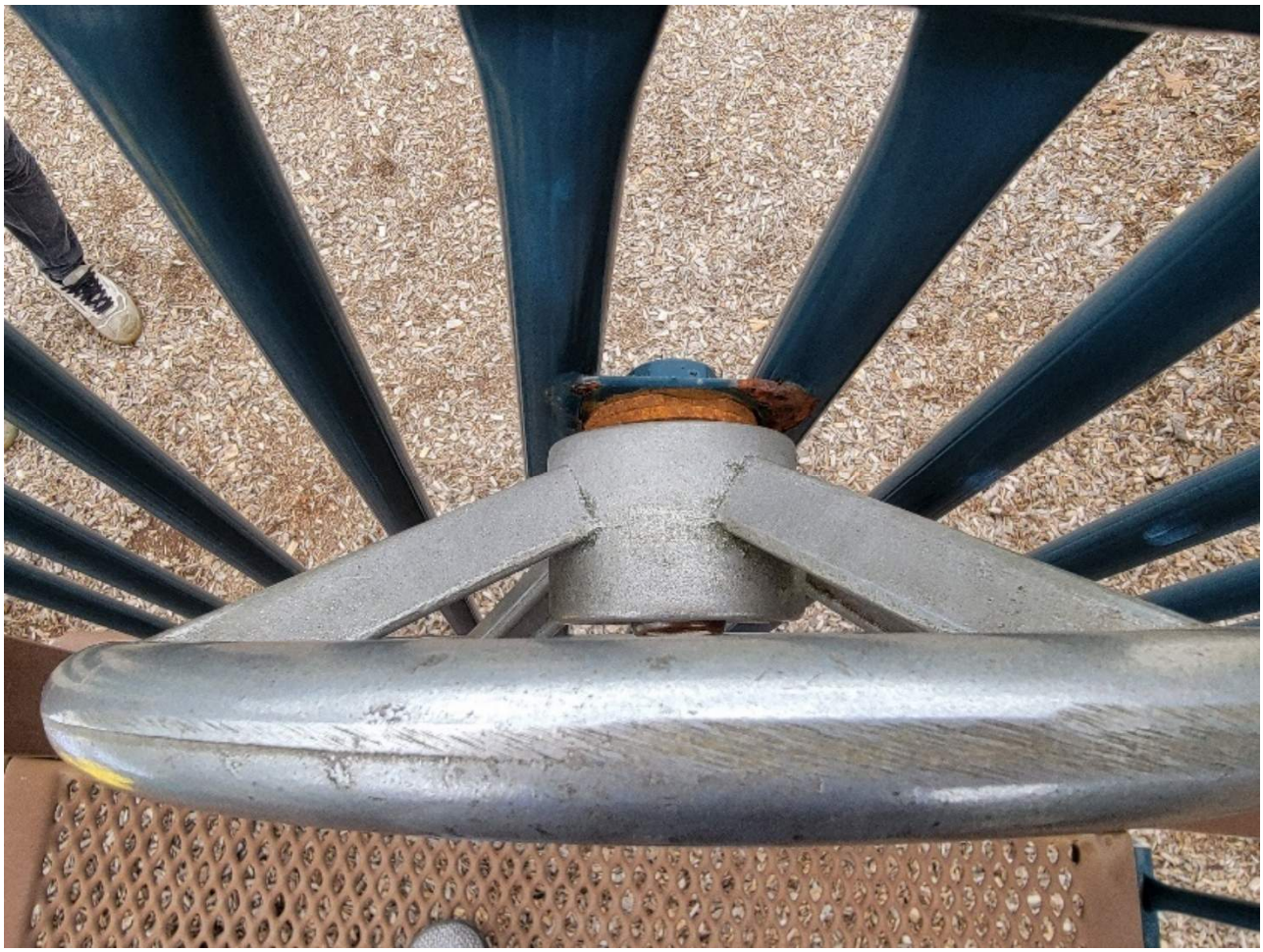
Hazard Identification	Applicable Standard Number	Applicable Standard Text	Injury Risk	Steps to Mitigate
Area in tic tac toe feature is an entrapment hazard.	ASTM 1487 – Section 6.1	Head and Neck Entrapment—Public playground equipment shall be designed and constructed or assembled so that any accessible opening shall meet the following performance requirements to reduce the risk of accidental head or neck entrapment by either a head-first or feet-first entry into the opening. Openings between the protective surfacing and the bottom edge of the equipment (that is, rails, platforms, steps, and so forth) are exempt from this requirement as indicated by Fig. A1.1.	Risk of strangulation.	Add filler panel or remove play feature.

Hazard Identification	Applicable Standard Number	Applicable Standard Text	Injury Risk	Steps to Mitigate
Top of slide fails protrusion test for child's eye socket.	ASTM 1487 – Section 6.3	Protrusions—There shall be no protrusions on public play equipment. Three projection test gauges (shown in Fig. A1.10) and a projection gauge (shown in Fig. A1.11) are required to determine whether projections are protrusions. Their use is described in this section.	Child could be impaled.	Find a way to increase diameter or remove the play feature.

Hazard Identification	Applicable Standard Number	Applicable Standard Text	Injury Risk	Steps to Mitigate
Area where slide meets structure has an entanglement hazard which could catch on a child's clothing.	ASTM 1487 – Section 6.4.1.2	Slides shall be constructed in such a manner as to provide a continuous sliding surface (roller slides exempted) and shall minimize the likelihood of entanglements.	Child could be strangled.	Fill the gap to eliminate entanglement hazard.



Hazard Identification	Applicable Standard Number	Applicable Standard Text	Injury Risk	Steps to Mitigate
Slide clearance zone is only 10” and is required to be 21”	ASTM 1487 – Section 8.5.6	See above image	Child could be injured while going down slide.	Move the slide.



Hazard Identification	Applicable Standard Number	Applicable Standard Text	Injury Risk	Steps to Mitigate
Loose steering wheel poses a risk for entanglement.	ASTM 1487 – Section 6.4	There shall be no entanglement hazards on public play equipment. Three test gauges, a feeler gauge, and the means to accurately measure a 0.12 in. (3.0 mm) extension are required to determine whether entanglement hazards exist. Any of the conditions described in this section constitutes an entanglement hazard.	Child could be strangled.	Tighten wheel to remove entanglement hazard.

Hazard Identification	Applicable Standard Number	Applicable Standard Text	Injury Risk	Steps to Mitigate
Bolts connecting the slide to the top of the structure currently fail the requirements for slide entanglement.	ASTM 1487 – Section 6.4.1.1	A projection that meets both of the following requirements is an entanglement hazard: (1) One of the three projection gauges (see Fig. A1.10) passes over the projection and contacts the initial surface. (2) The projection extends perpendicular (65°) from the initial surface more than 0.12 in. (3.0 mm). The thickness of the projection gauge (see Fig. A1.11) may be used to measure the 0.12 in. (3.0 mm) extension	Child could be strangled.	Replace bolts with lower profile bolts.

Hazard Identification	Applicable Standard Number	Applicable Standard Text	Injury Risk	Steps to Mitigate
Sliding surface contains entanglement hazard.	ASTM 1487 – Section 6.4.1.2	Slides shall be constructed in such a manner as to provide a continuous sliding surface (roller slides exempted) and shall minimize the likelihood of entanglements.	Child could be strangled.	Fill gap in slide.

Hazard Identification	Applicable Standard Number	Applicable Standard Text	Injury Risk	Steps to Mitigate
Spiral slide has broken plastic.	ASTM 1487 – General	N/A	Broken plastic has sharp edges which can pose a cut hazard. Item can also trap water which attracts mosquitos.	Find replacement part or cover broken plastic in some way.

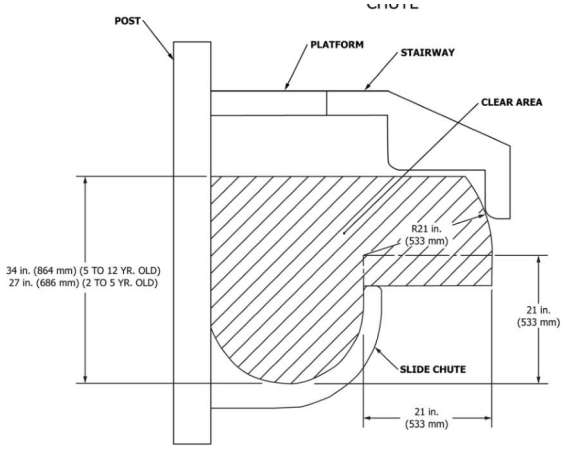


FIG. A1.27 Slide and Spiral Slide Clearance
Reference Paragraphs 8.5.6.1 and 8.5.6.2

Hazard Identification	Applicable Standard Number	Applicable Standard Text	Injury Risk	Steps to Mitigate
Spiral slide has a clearance zone of 17” and is required to be 21”	ASTM 1487 – Section 8.5.6.2	Spiral slides with open chutes shall maintain a clear area, free of equipment, as defined by Fig. A1.27 (bottom illustration). The clear area shall extend through the slide exit clearance zone.	Child can become injured while going down slide.	Move feature or remove tic tac toe board

As an engineer and CPSI, my recommendation would be to replace the park. Due to the age of the park, it is unlikely that replacement parts will be available. Many items on the playground were likely installed in accordance with previous versions of the ASTM 1487 standard, that are no longer applicable. The cost associated with remediating the above issues will likely be illogical when compared to a price of a new park.

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