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MEMORANDUM

DATE: March 29, 2021
TO: Lincolnwood SD 74
Board of Education Facilities Committee
FROM: Athi Toufexis, AIA, LEED-AP
RE: Todd Hall and Rutledge Hall Drinking Fountains

At the request of the Facilities Committee, we have completed an analysis of the existing drinking fountains at Todd Hall and Rutledge Hall Schools. This analysis evaluated the quantity of existing fixtures with the requirements of the Illinois Plumbing Code (IPC) and the accessibility requirements of the 2018 Illinois Accessibility Code (IAC).

Rutledge Hall

Illinois Plumbing Code Review

There are eight existing drinking fountains at Rutledge Hall. These units are all single-spout/individual drinking fountains. Five of these units have a bottle filler feature.

The prescribed occupancy of Rutledge Hall is as follows:

- (18) Core Classrooms @ 24 students each.....432 persons
- (1) NTDSE Classroom @ 15 students each.....15 persons
- Note: Special Services Rooms, Interventionist Rooms, GATE classrooms, Music, Art, Gym, Library Rooms are assumed to be non-concurrent use, meaning a student is not permanently assigned to these rooms and is already accounted for in a Core or NTDSE classroom above.*
- Staff (Administrators, Teachers, Support & Kitchen Staff).....51 persons

Total Prescribed Building Occupancy = 498 persons

For 498 persons, the IPC requires seven drinking fountains. Rutledge Hall is in compliance with the quantity of drinking fountains required as there are eight existing drinking fountains.

Illinois Accessibility Code Review

The IAC requires that 50% of drinking fountains are accessible to wheelchair users, and 50% of drinking fountains are accessible for standing persons. The following notes some of the specific requirements for each condition:

- 1) Wheelchair Accessible:
 - a. Front approach required, with a 27" minimum clear knee clearance
 - b. Spout Height 36" maximum above floor
- 2) Standing Accessible:
 - a. Spout Height between 38" – 43" above floor

The spout heights and knee clearances of the existing drinking fountains were measured to be as follows:

Drinking Fountain	Knee Clearance	Spout Height	Wheelchair Compliant	Standing Compliant
1 st floor – 3 rd grade corridor (north)	26 3/16"	32 3/16"		
1 st floor – 3 rd grade corridor (south)	25 3/16"	31 3/16"		
1 st floor – Specials corridor	26 11/16"	32 11/16"		
1 st floor – Gym	24"	37"		
1 st floor – MPR	0" (recessed)	35 1/2"		
2 nd floor – 4 th grade (north)	25 11/16"	31 11/16"		
2 nd floor – 4 th grade (south)	25 3/16"	31 3/16"		
2 nd floor – 5 th grade	26 3/16"	32 3/16"		

Based on the current Illinois Accessibility Code requirements, none of the existing drinking fountains at Rutledge Hall are in compliance.

Todd Hall

Illinois Plumbing Code Review

There are five existing functional drinking fountains at Todd Hall. These units are all single-spout/individual drinking fountains. Three of these units have a bottle filler feature. In addition, there is one drinking fountain which has been blocked and is not currently functional.

The prescribed occupancy of Todd Hall is as follows:

- (1) CCDC Infant Room @ 8 students each.....8 persons
- (1) CCDC Toddlers Room @ 15 students each.....15 persons
- (1) CCDC Two's Room @ 16 students each.....16 persons
- (2) CCDC Preschool Rooms @ 20 students each.....40 persons
- (3) Preschool Classrooms @ 20 students each.....60 persons
- (6) Kindergarten Classrooms @ 20 students each.....120 persons
- (12) 1st-2nd Classrooms @ 24 students each.....288 persons

Note: Special Services/ESL Rooms, Interventionist Rooms, GATE classrooms, Music, Art, Gym, Library Rooms are assumed to be non-concurrent use, meaning a student is not permanently assigned to these rooms and is already accounted for in a Core classroom above.

- Staff (Administrators, Teachers, Support & Kitchen Staff).....61 persons
- CCDC Staff (Administrators, Teachers).....18 persons

Total Prescribed Building Occupancy = 626 persons

For 626 persons, the IPC requires nine drinking fountains. The actual student enrollment at Todd Hall has ranged from 406 – 427 students plus a maximum of 97 persons (students and staff) in CCDC the last 5 years. If adjusting the occupancy to actual enrollment of 430 students and 61 staff,

plus 97 CCDC occupants, total occupancy reduces to 588 persons. For 588 persons, the IPC requires eight drinking fountains. Todd Hall is not in compliance with the quantity of drinking fountains required in either enrollment analysis, as there are only five functional drinking fountains.

Illinois Accessibility Code Review

In facilities primarily used by children 12 years of age or younger, drinking fountains that meet the wheelchair accessibility requirement are permitted to be mounted with the spout 30” maximum per the Illinois Accessibility Code with side approach for children in lieu of knee clearance for forward approach. There is not an exception though for the standing height accessibility requirements; therefore 50% of drinking fountains must still meet standing accessibility requirements.

The spout heights and knee clearances of the existing drinking fountains were measured to be as follows:

Drinking Fountain	Knee Clearance	Spout Height	Wheelchair Compliant (children’s use)	Standing Compliant
Corridor - CCDC	N/A (nonfunctional)	N/A		
Corridor - offices	23 3/16”	29 3/16”	X	
Corridor - outside MPR	24 3/16”	30 3/16”		
MPR	0” (recessed)	29”	X	
Corridor-outside Gym	20 3/16”	26 3/16”	X	
Corridor - 2 nd grade	23 3/16”	29 3/16”	X	

Based on the current code requirements, four of the existing drinking fountains at Todd Hall are in compliance with the current Illinois Accessibility Code for wheelchair access for children’s use. No drinking fountains are in compliance with the standing height accessibility requirements (50% of fountains required) though.

Recommendations

The Illinois Plumbing Code has required 1 drinking fountain for every 75 persons since the code was first enacted in 1959. It is unknown if Todd Hall previously had a lower prescribed occupancy count at the time of its newest addition in 1992 which could have resulted in the building being in compliance with the IPC at the time of construction. Any alterations to existing plumbing systems are required to comply with current codes per the Illinois Plumbing Code. If any alterations occur to the existing drinking fountains at Todd Hall, the District will be required to install minimum three additional drinking fountains at that time to bring the quantity of fixtures into current code compliance.

Similarly, the Illinois Accessibility Code requires any alterations or new construction to comply with current codes. Some of the existing drinking fountains at Todd Hall appear to be original construction, dated 1955, which would precede the Illinois Accessibility Code. The installation date of the majority of the drinking fountains at Todd Hall and Rutledge Hall is unknown, but may also precede the enactment of the IAC in 1997 as the latest additions at both buildings were completed in 1993. As the District looks to replace drinking fountains as part of upcoming renovations, new fountains shall comply with current IAC requirements at that time. At Rutledge Hall, this will require minimally raising four of the fountains to wheelchair height, and raising four others by an average of



7" to standing height requirements. At the four drinking fountains to be raised to standing height, additional IAC compliance for protruding objects may also be required as the drinking fountains will now be outside of the cane detection zone. This could entail installing wing walls or panels. Similarly, 50% of all drinking fountains at Todd Hall shall be raised to standing height.

It is also recommended that the District replace existing galvanized water piping at the time of these upgrades. The galvanized water piping was included as a 'b' violation in the 2017 Decennial Survey at both Todd Hall and Rutledge Hall. In the District's Master Facilities Plan, this piping was scheduled to be replaced in 2023 at Todd Hall and 2024 at Rutledge Hall.

As an item of note, we would like to bring to the District's attention that in prior plumbing projects over the last three years, various IDPH plumbing inspectors have differed in their interpretation of what constitutes a 'single' drinking fountain plumbing fixture. To satisfy the more stringent interpretation, it is recommended that individual drinking fountain fixtures (with or without bottle fillers) be installed, and no combination hi-lo fixtures.

As of this writing, we have been informed that bottle filler demand far exceeds manufacturer supplies across the United States. Our manufacturer representatives have noted 16-week lead times on bottle fillers. Efforts are being made to increase production, but it is unknown how quickly the supply chain will catch up with demand.

We look forward to further discussing the above findings with the Facilities Committee at an upcoming meeting. Thank you.

Cc: Pat Callahan, StudioGC