LS3P

July 2020

SIX FEET APART, TOGETHER

MAXIMIZING YOUR CURRENT SCHOOLS WHILE PHYSICAL DISTANCING

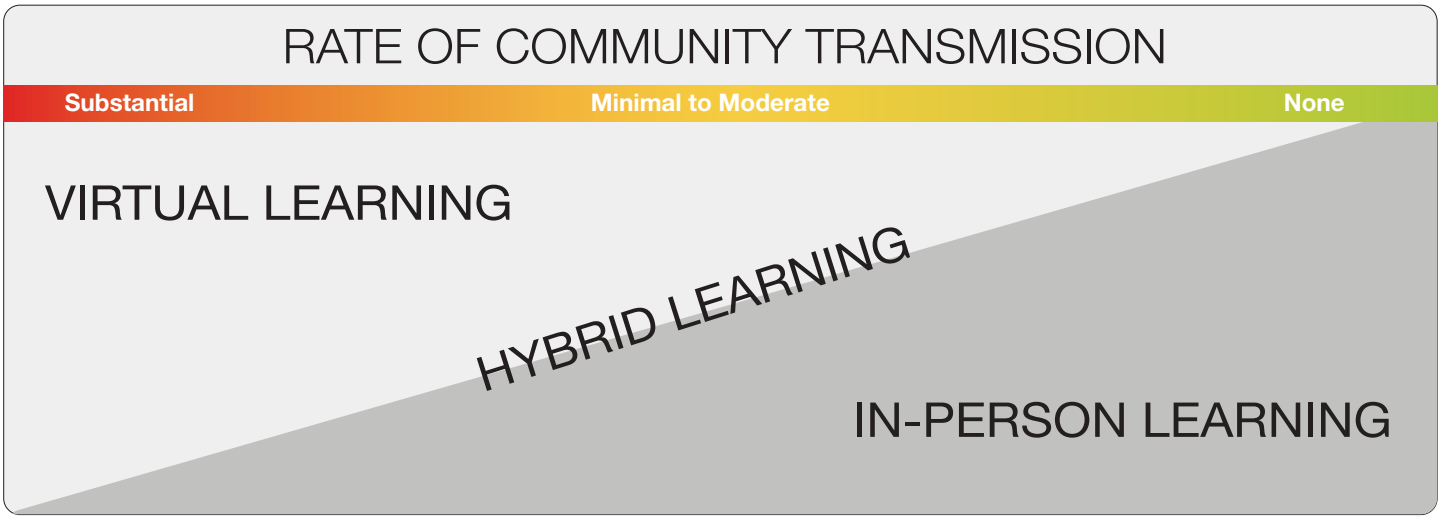
SUMMARY

PHYSICAL DISTANCING IN K-12 LEARNING SPACES

School systems around the nation are grappling with the complexities of opening their facilities to varying degrees this fall. Doing so as safely as possible will require creative solutions to implement CDC and other public health guidelines for physical distancing, face coverings, handwashing, and operational strategies for continuous cleaning. To assist K-12 systems in planning for lower space occupancies, LS3P has analyzed various scenarios for typical room types and furnishings.

Every space is different, and feet and inches matter for room layouts. Structure matters. Door placement matters. Safe egress matters. Circulation matters.

The chart below represents various options of re-opening schools based on the current rate of community transition within your local population.



THINGS TO THINK ABOUT

Work with local agencies and governments to develop the safest plan for your school.

Understand your facility capacity.

Understand how your schools can operate.

Understand that difficulties arise as soon as we leave our homes.

Prepare your school to reopen.

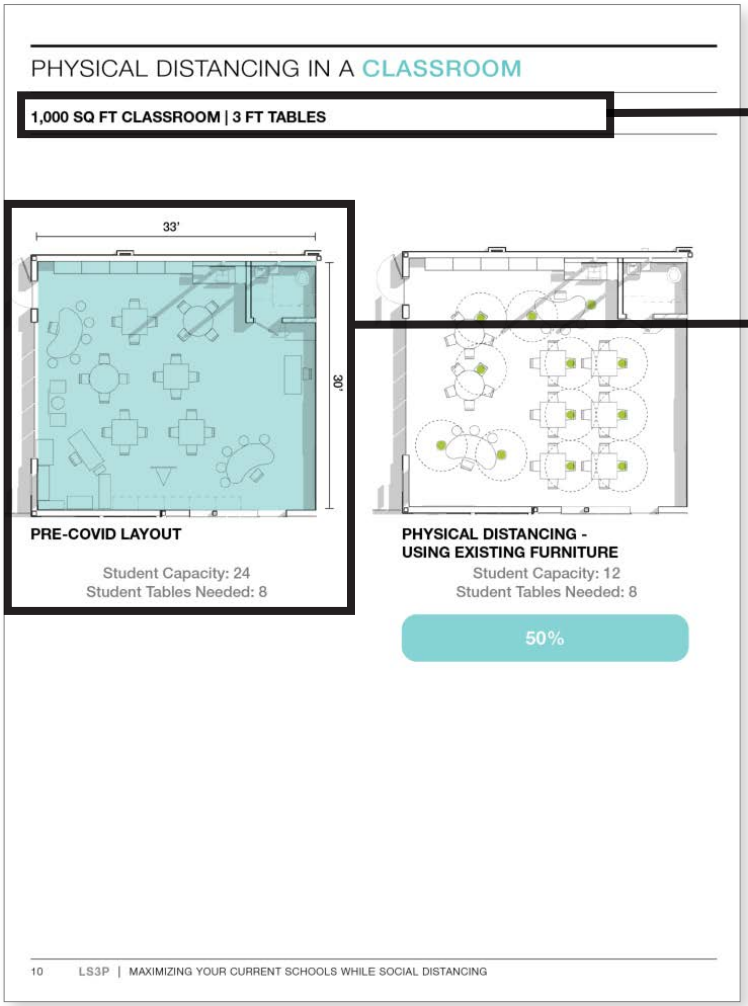
OVER communicate to staff, teachers, parents, and students.

PHYSICAL DISTANCING IN A CLASSROOM (GUIDE)

These scenarios explore potential layouts for typical spaces in elementary, middle, and high school settings, with analysis of various uses, sizes, and furnishings. To comply with current CDC guidelines, our studies use a 6' distance between students from the centerline.

Diagrams show potential space utilization with existing furniture, with additional furniture, and with physical barriers. We understand that every state, every school district, and every school is unique, and that there are no "one size fits all" solutions. Each system will need to work with local agencies to tailor solutions for each situation; however, public health guidelines will inform every step of this process.

These studies are for general planning purposes, and actual occupancies should be verified with existing room geometries and furnishings.



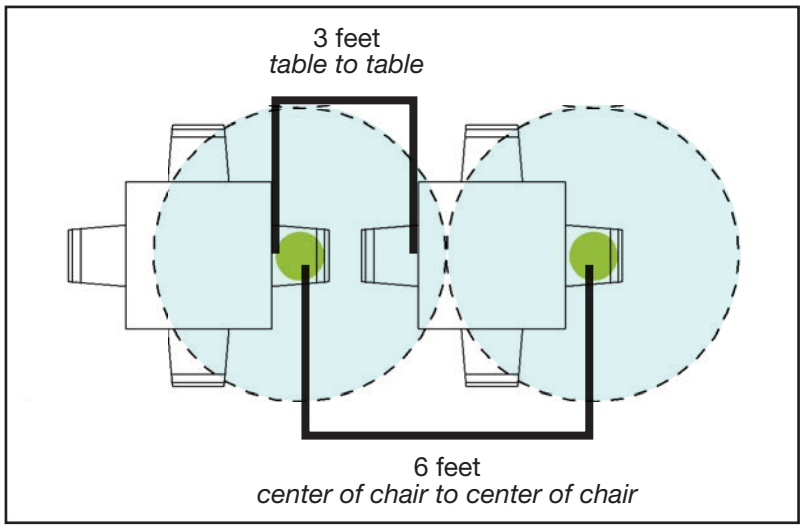
Size and Furniture layout

The blue layout on each page is the original layout of the classroom. Here you will see space dimensions used in the analysis.

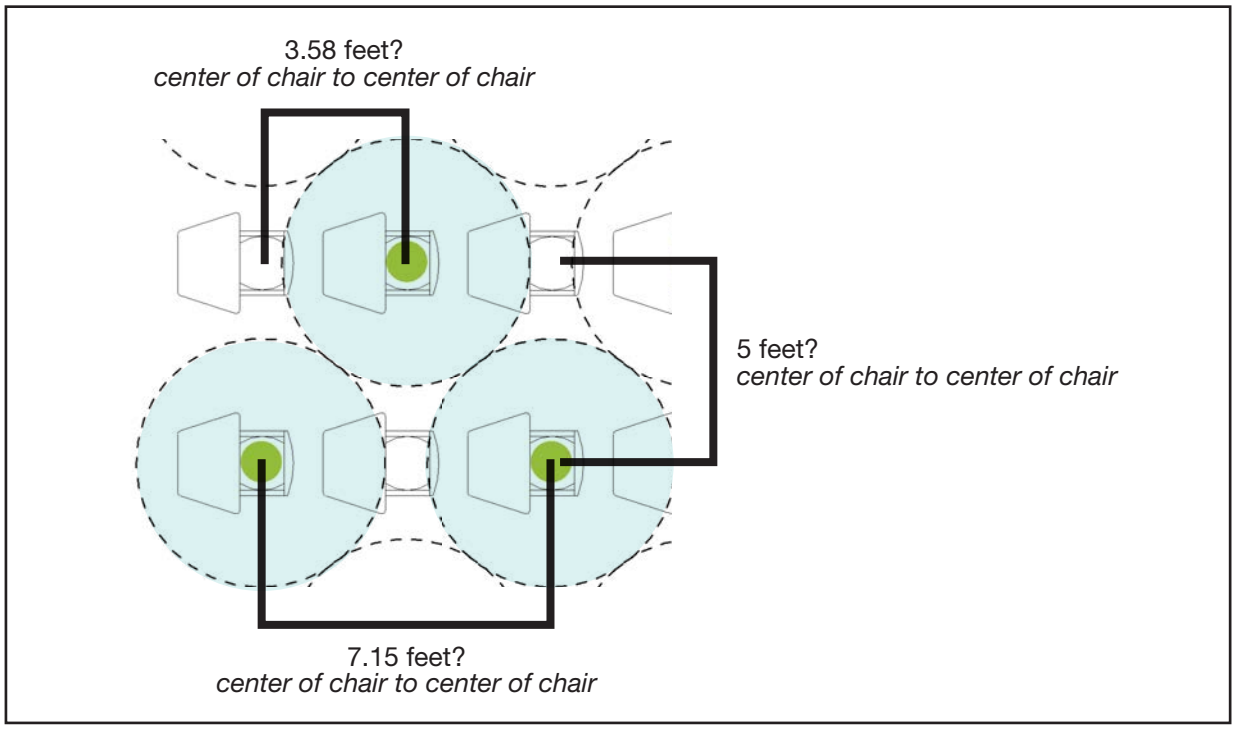
The additional floor plans utilize different strategies to maximize space using the space constraints of the original layout.

MEASUREMENTS WITHIN THE CLASSROOM

Using 3 ft Tables

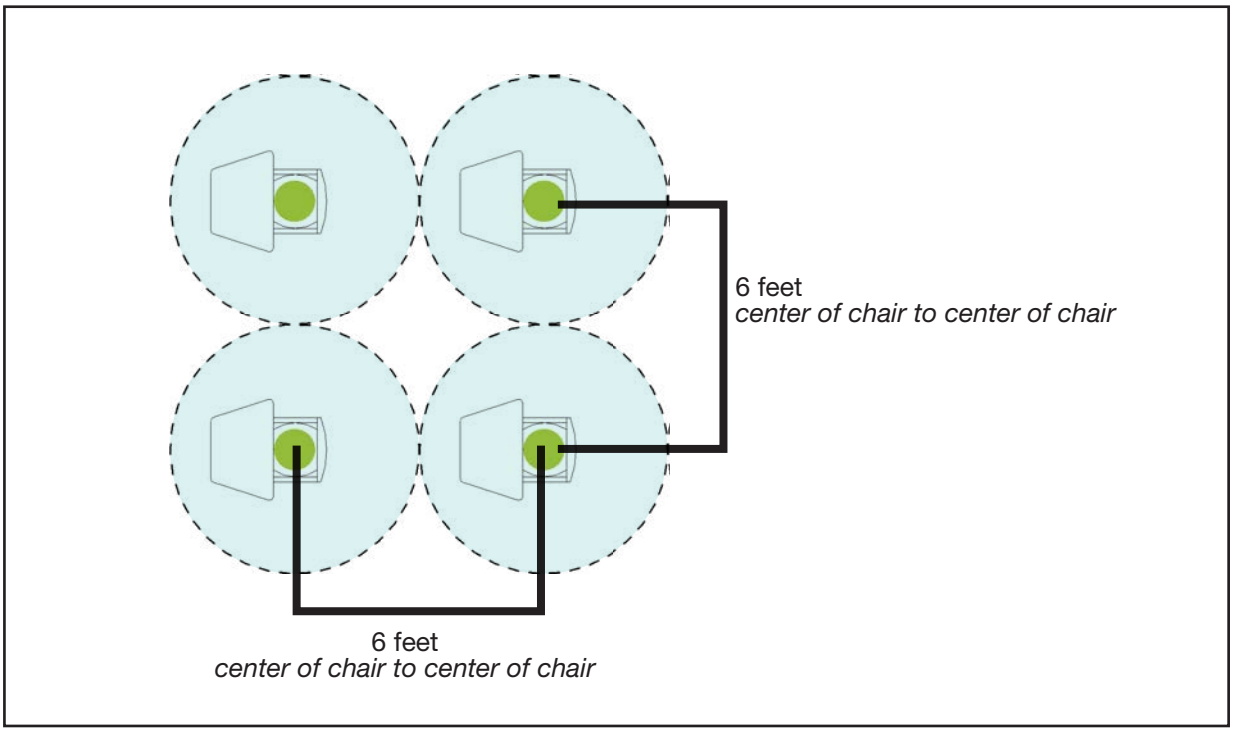


Using desk alternating

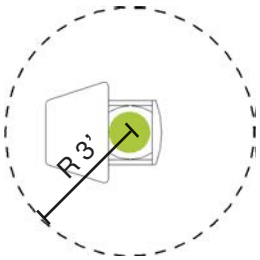


MEASUREMENTS WITHIN THE CLASSROOM

Using desks side by side



Note: For desk layouts we have used center of chair to center of chair to measure physical distancing due to varying desk sizes.




Miss Mack's Classroom
Welcome
Can you do it?
I can do it!
I can identify numbers and letters.
I can count and sing my ABCs.
I am thankful for Ms. Taft
ONE LUCKY GIRL

CLASS SPACE CONSIDERATIONS

To allow for proper physical distancing and eliminate multiple touch points in elementary classrooms, schools may need to consider **temporarily closing learning / activity centers and removing associated furniture that are often found inside the classroom.**

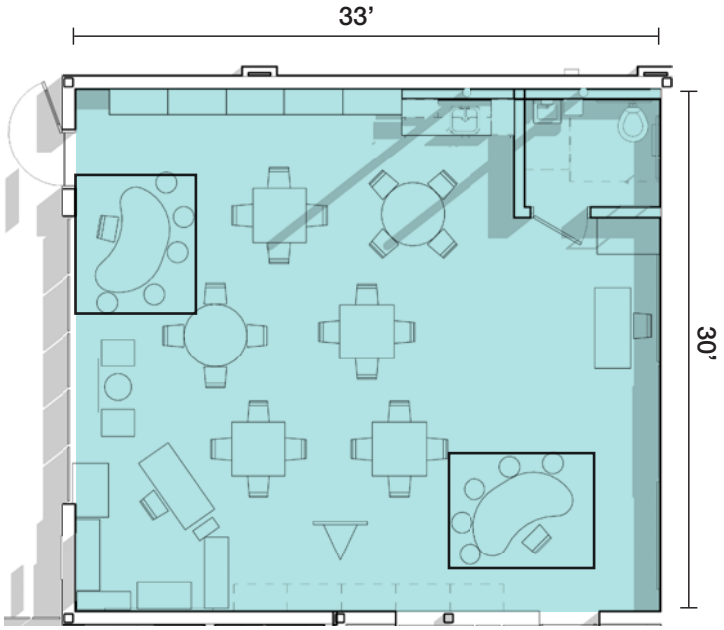
In comparing **desks with tables, desks offer more flexibility for physical distancing.** If extra desks are available, consider moving these into spaces that would traditionally only have tables. Refer to page 10-27 for physical distancing diagrams.

Circulation, both within the classroom and in corridors, will require additional planning. Even if desks configurations allow for 6’ of physical distancing, students may be required to wear face coverings when moving around the classroom where circulation space may be constrained. Refer to pages 30-31 for diagrams addressing circulation.

Use **assigned desk seating** within the classroom to eliminate shared surfaces.

PHYSICAL DISTANCING IN A CLASSROOM

1,000 SQ FT CLASSROOM | 3 FT TABLES



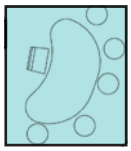
PRE-COVID LAYOUT

Student Capacity: 24
Student Tables Needed: 8

PHYSICAL DISTANCING - USING EXISTING FURNITURE

Student Capacity: 12
Student Tables Needed: 8

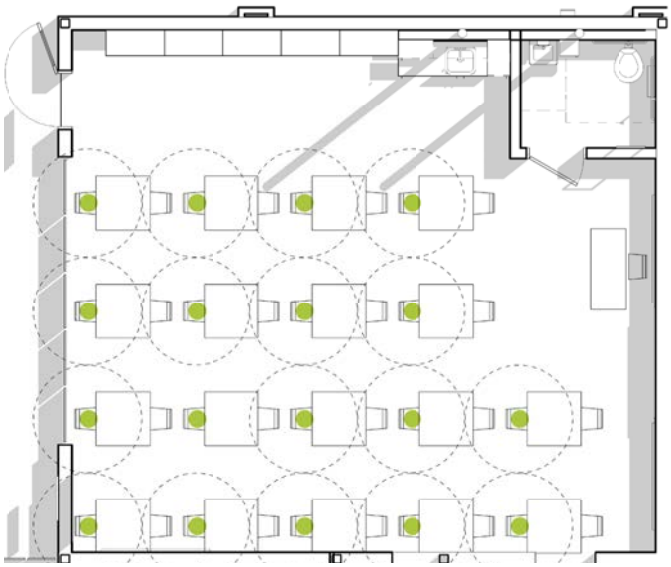
50%



These tables are not used during traditional class instruction and would not count towards classroom capacity. While having to implement physical distancing in the classroom consider using these tables for traditional class instruction if they are not able to be replaced. See the following diagrams for examples of this.

PHYSICAL DISTANCING IN A CLASSROOM

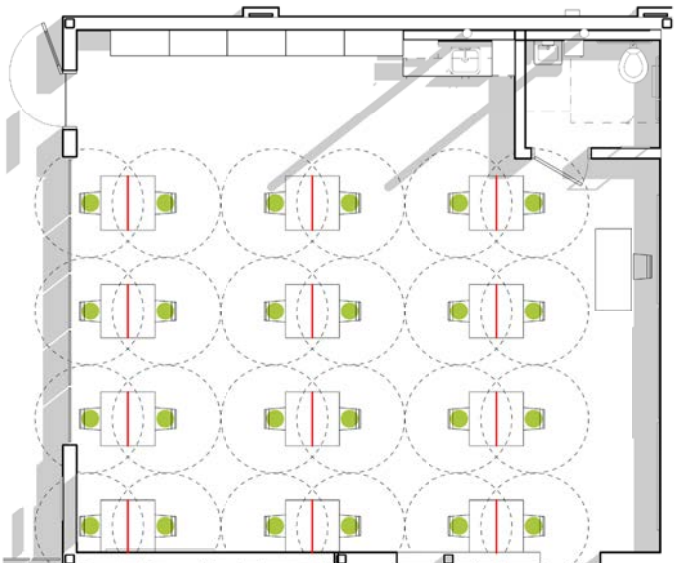
1,000 SQ FT CLASSROOM | 3 FT TABLES



PHYSICAL DISTANCING - MAXIMIZING

Student Capacity: 18
Student Tables Needed: 18

75%



PHYSICAL BARRIERS

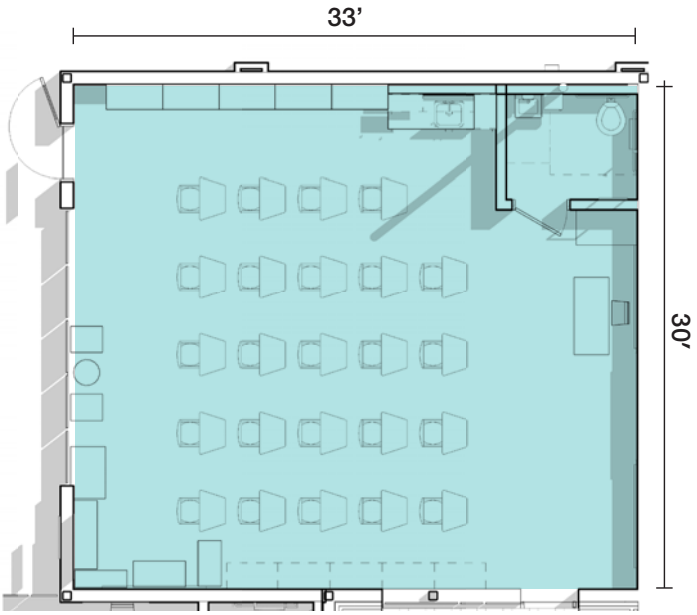
Student Capacity: 24
Student Tables Needed: 12

100%

The red lines in the diagram above indicate physical barriers such as plexiglass dividers.

PHYSICAL DISTANCING IN A CLASSROOM

1,000 SQ FT CLASSROOM | DESK



PRE-COVID LAYOUT

Student Capacity: 24
Student Desk Needed: 24

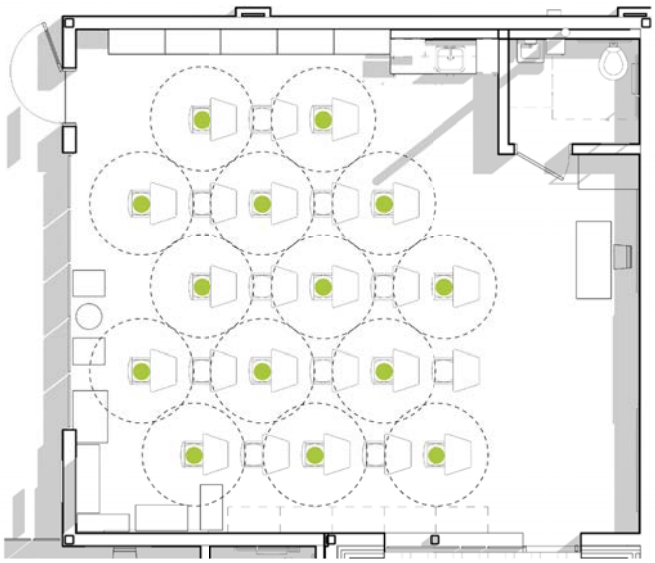
PHYSICAL DISTANCING - REMOVING DESK

Student Capacity: 15
Student Desk Needed: 15

62.5%

PHYSICAL DISTANCING IN A CLASSROOM

1,000 SQ FT CLASSROOM | DESK



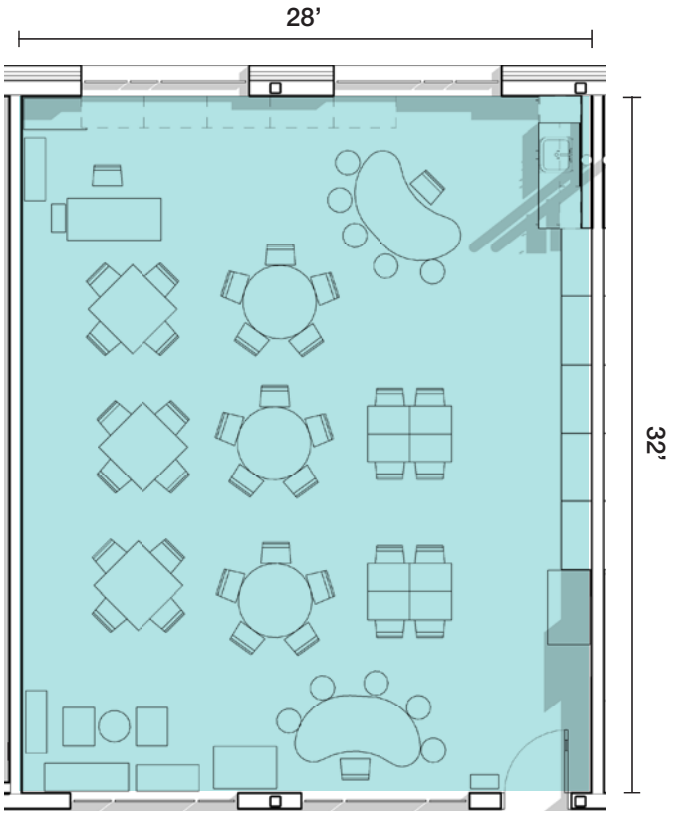
PHYSICAL DISTANCING - ALTERNATING DESK

Student Capacity: 13
Student Desk Needed: 24

54%

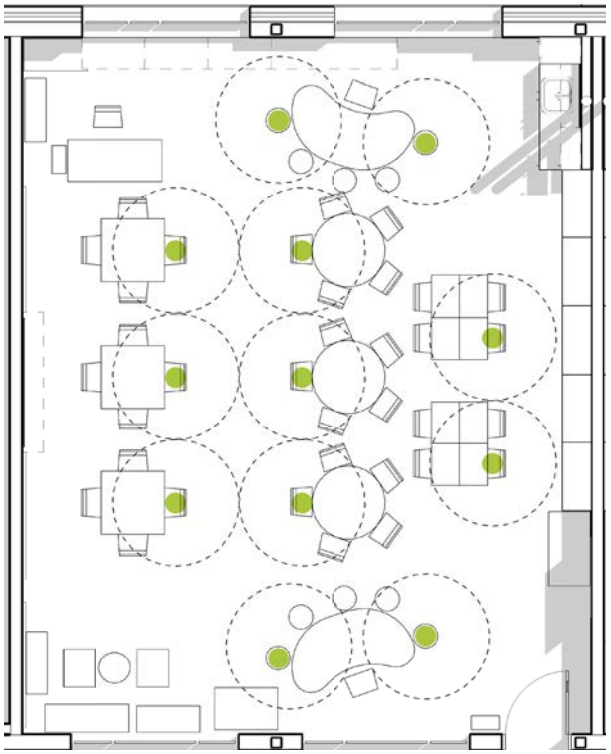
PHYSICAL DISTANCING IN A CLASSROOM

900 SQ FT CLASSROOM | 3’ TABLE



PRE-COVID LAYOUT

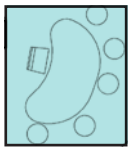
Student Capacity: 35
Student Tables Needed: 10



PHYSICAL DISTANCING - USING EXISTING FURNITURE

Student Capacity: 12
Student Tables Needed: 10

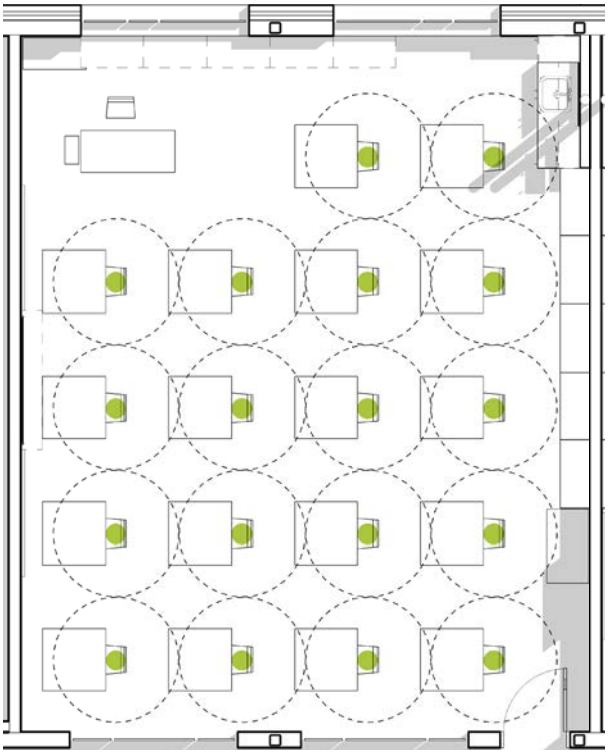
34%



These tables are not used during traditional class instruction and would not count towards classroom capacity. While having to implement physical distancing in the classroom consider using these tables for traditional class instruction if they are not able to be replaced. See the following diagrams for examples of this.

PHYSICAL DISTANCING IN A CLASSROOM

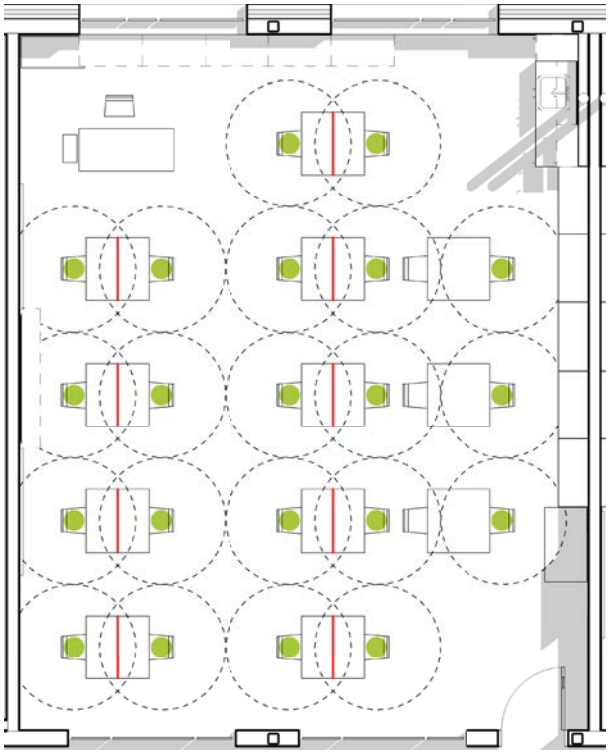
900 SQ FT CLASSROOM | 3' TABLE



PHYSICAL DISTANCING - MAXIMIZING

Student Capacity: 18
Student Tables Needed: 18

51%



PHYSICAL BARRIERS

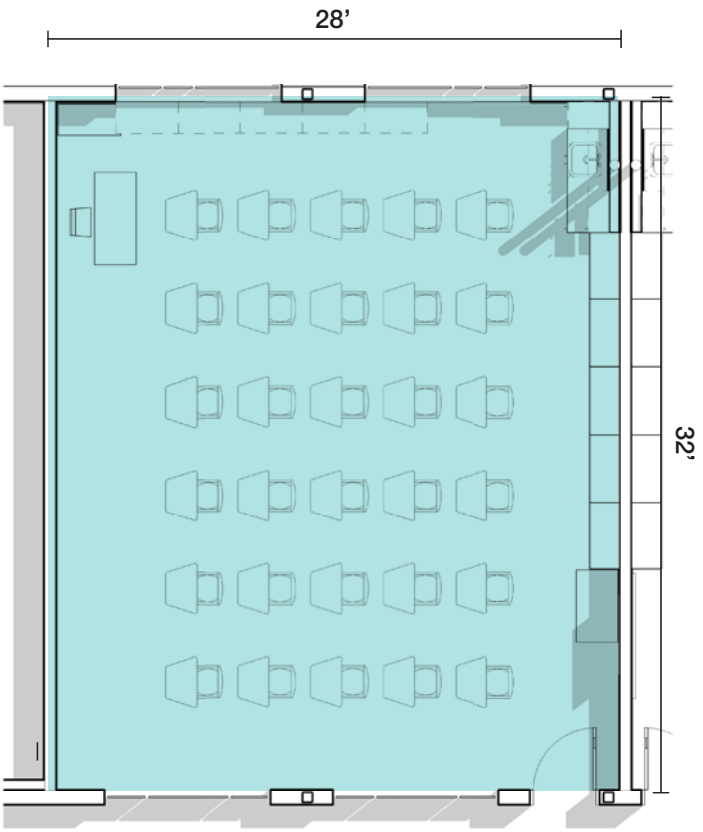
Student Capacity: 24
Student Tables Needed: 12

68%

The red lines in the diagram above indicate physical barriers such as plexiglass dividers.

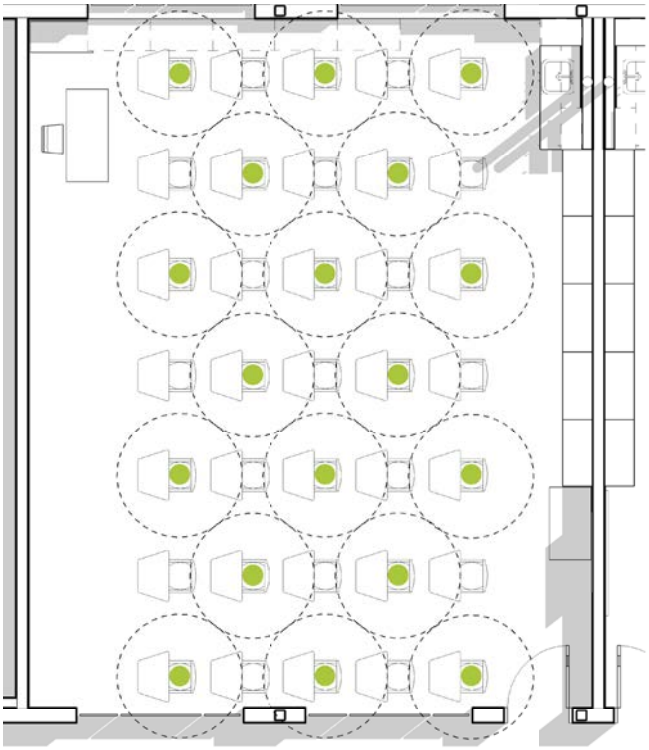
PHYSICAL DISTANCING IN A CLASSROOM

900 SQ FT CLASSROOM | DESK



PRE-COVID LAYOUT

Student Capacity: 30
Student Tables Needed: 30



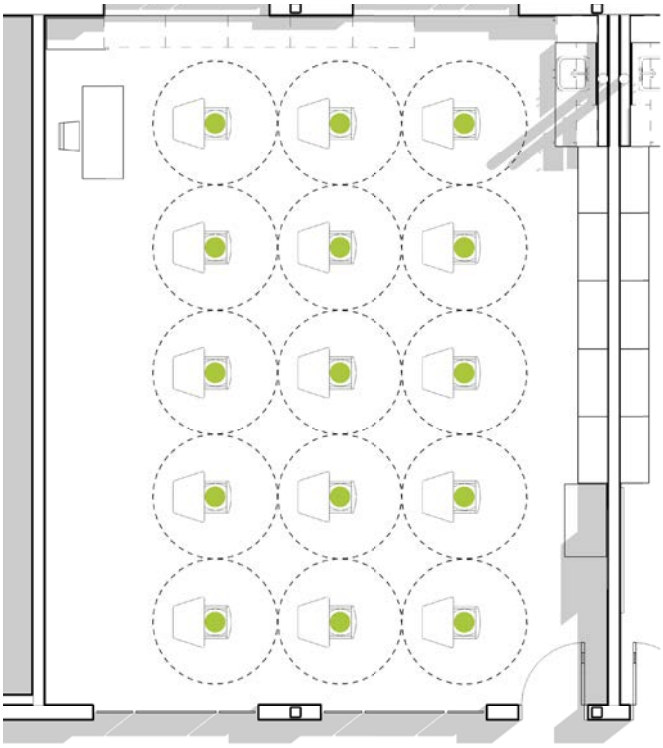
PHYSICAL DISTANCING - ALTERNATING DESK

Student Capacity: 18
Student Tables Needed: 30

60%

PHYSICAL DISTANCING IN A CLASSROOM

900 SQ FT CLASSROOM | DESK



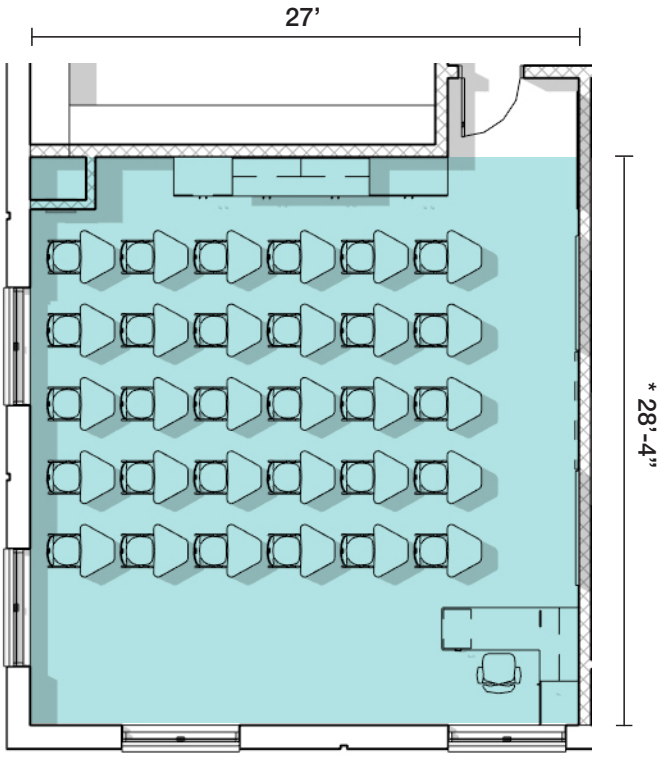
PHYSICAL DISTANCING - REMOVING DESK

Student Capacity: 18
Student Tables Needed: 18

60%

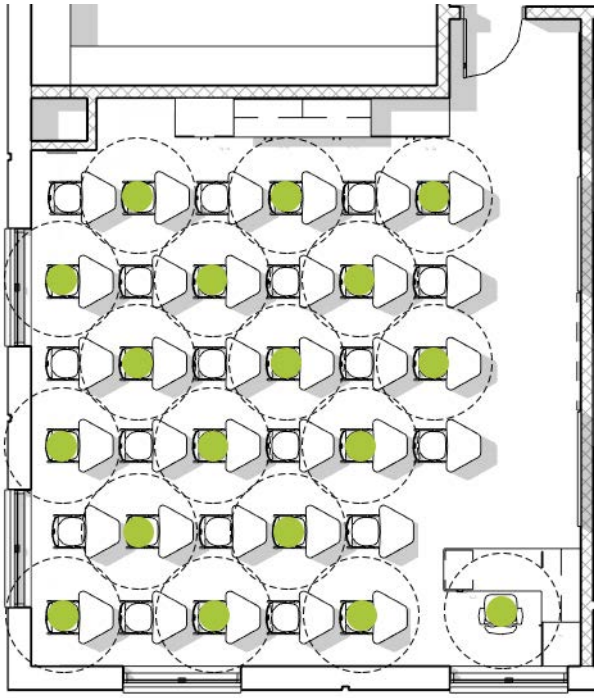
PHYSICAL DISTANCING IN A CLASSROOM

765 SQ FT CLASSROOM | DESK



PRE-COVID LAYOUT

Student Capacity: 30
Student Desk Needed: 30



PHYSICAL DISTANCING - ALTERNATING DESK

Student Capacity: 17
Student Tables Needed: 34

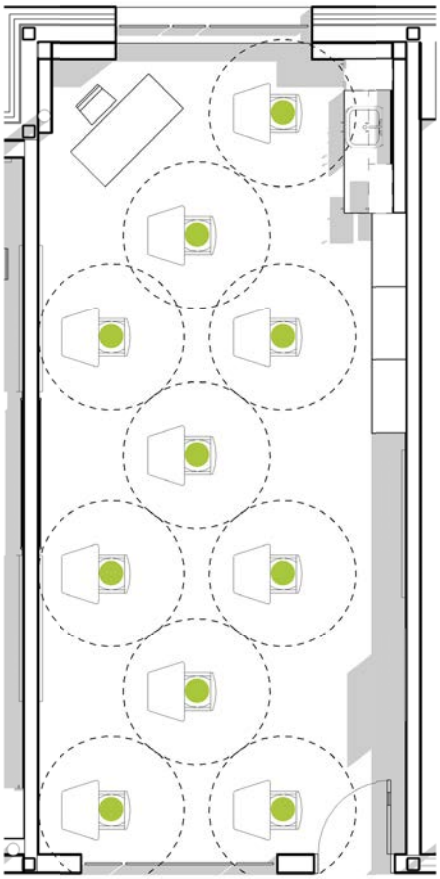
56%

* This dimension does not include the classroom entry vestibule found at the top right of this diagram.

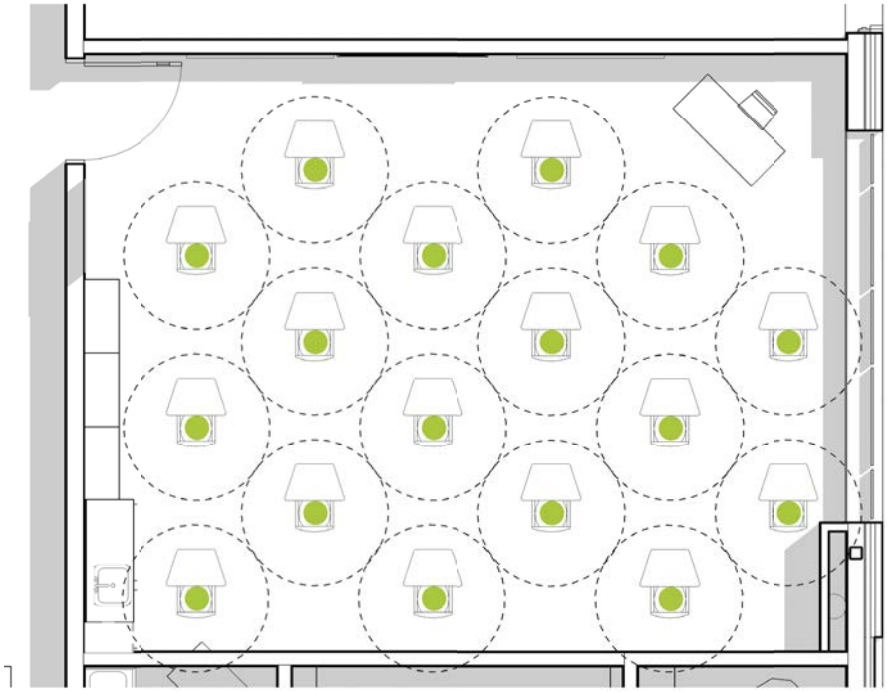

Gaston
County
Schools

PHYSICAL DISTANCING IN A CLASSROOM

VARIOUS CLASSROOM SIZES | DESK



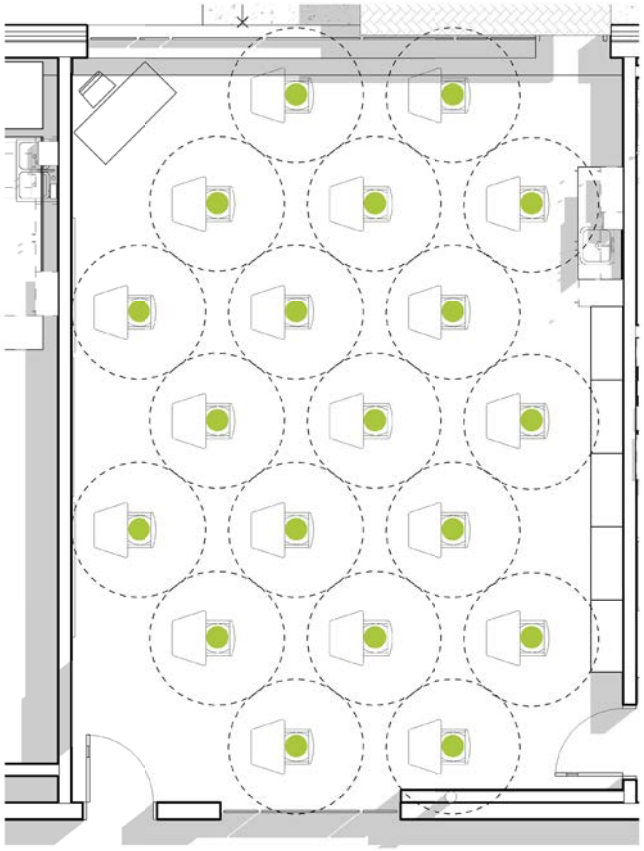
500 SQ FT
Student Capacity: 10



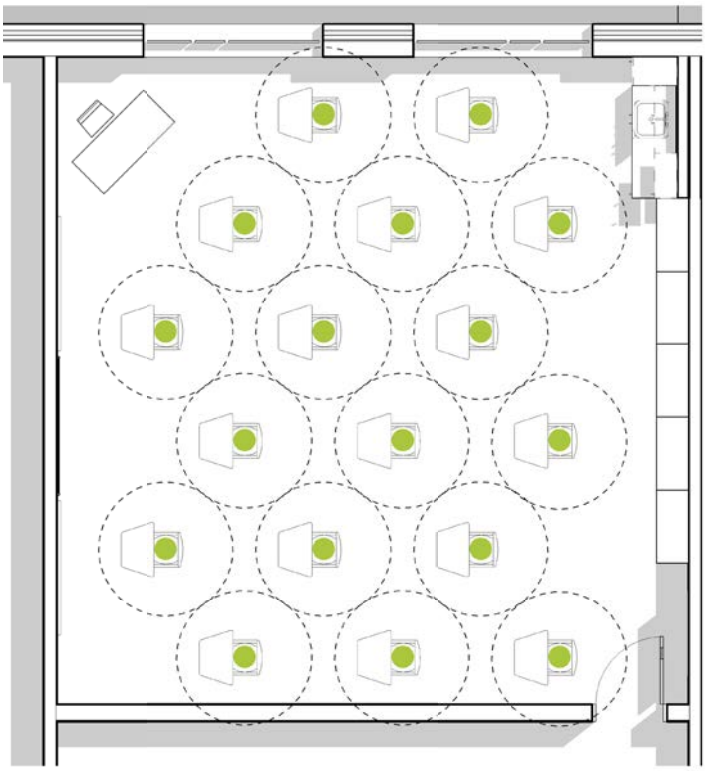
750 SQ FT
Student Capacity: 17

PHYSICAL DISTANCING IN A CLASSROOM

800 SQ FT CLASSROOM | DESK



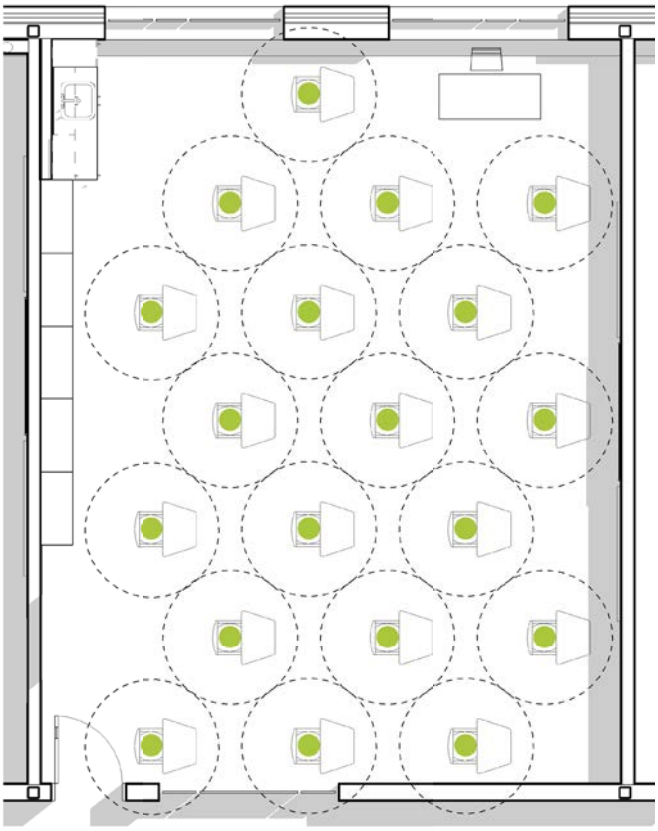
800 SQ FT - RECTANGLE
Student Capacity: 19



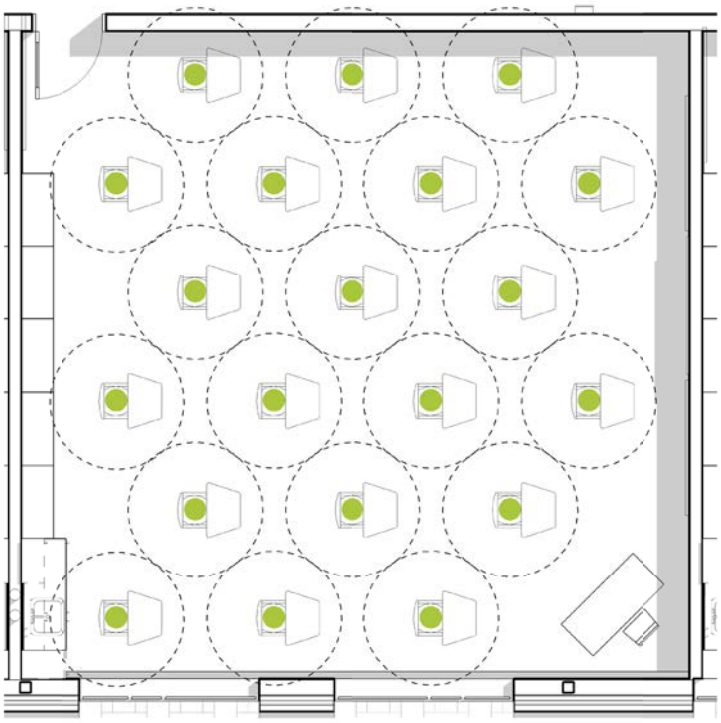
800 SQ FT - SQUARE
Student Capacity: 17

PHYSICAL DISTANCING IN A CLASSROOM

850 SQ FT CLASSROOM | DESK



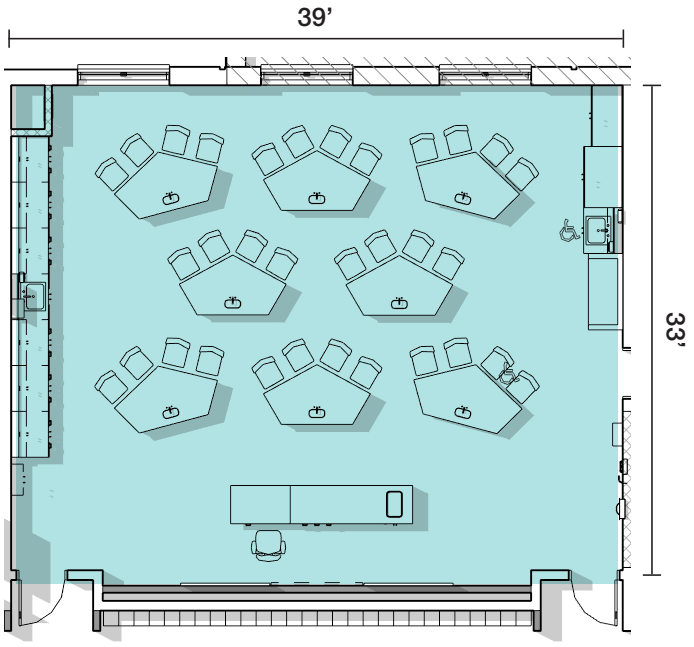
850 SQ FT - RECTANGLE
Student Capacity: 19



850 SQ FT - SQUARE
Student Capacity: 20

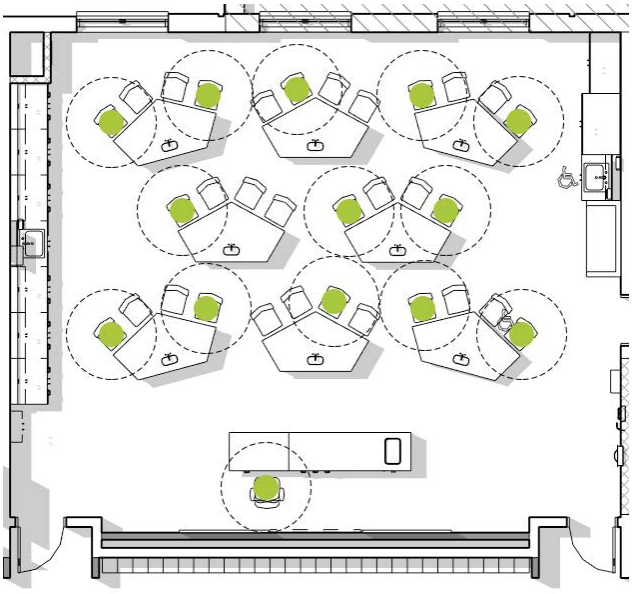
PHYSICAL DISTANCING IN A CLASSROOM

1,287 SQ FT | SCIENCE CLASSROOM



PRE-COVID LAYOUT

Student Capacity: 32
Science Tables: 8



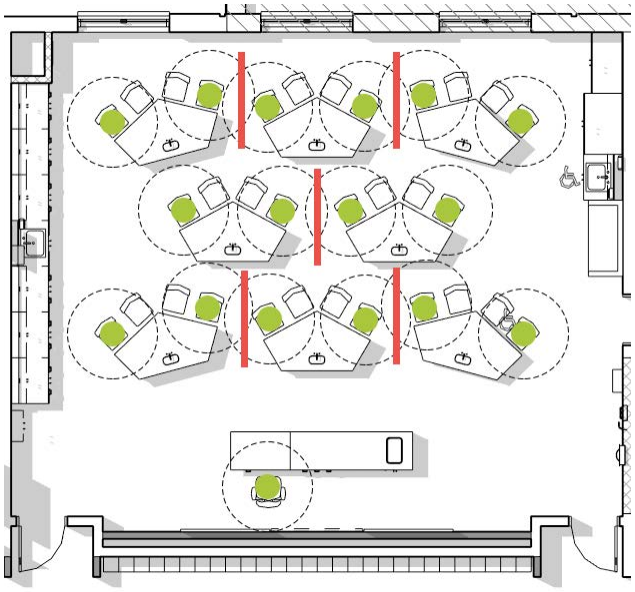
PHYSICAL DISTANCING

Student Capacity: 13
Student Tables Needed: 8

41%

PHYSICAL DISTANCING IN A CLASSROOM

1,287 SQ FT | SCIENCE CLASSROOM



PHYSICAL BARRIER

Student Capacity: 15
Student Tables Needed: 8

47%

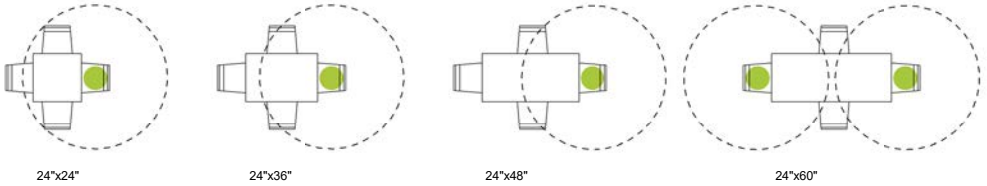
The red lines in the diagram above indicate physical barriers such as plexiglass dividers.

PHYSICAL DISTANCING IN A CLASSROOM

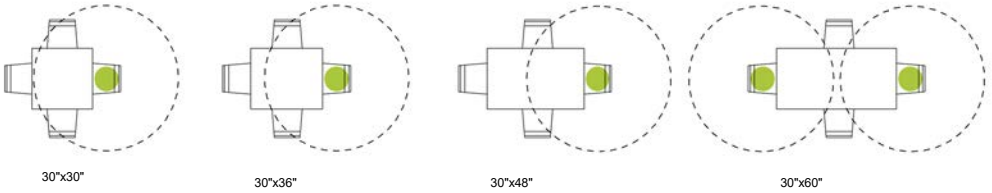
TABLE GUIDE

Square/Rectangle

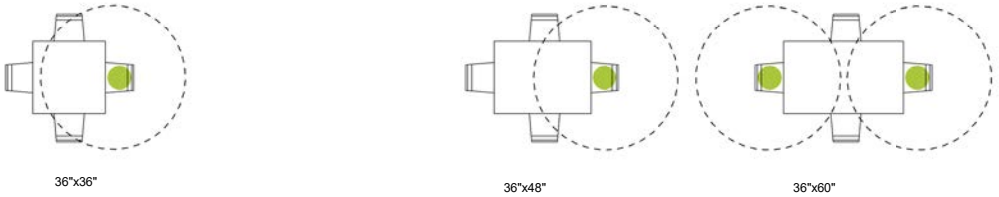
24”



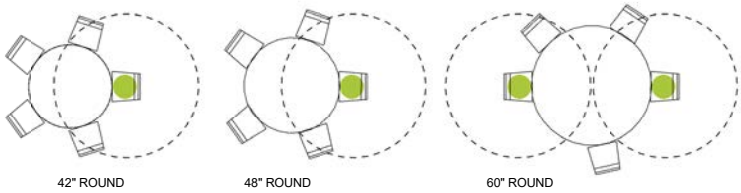
30”



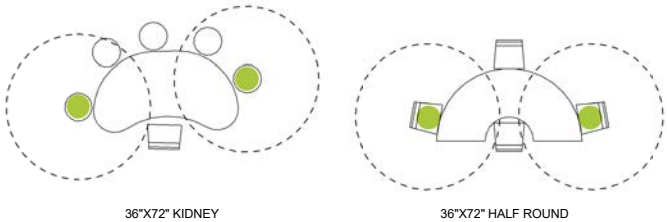
36”

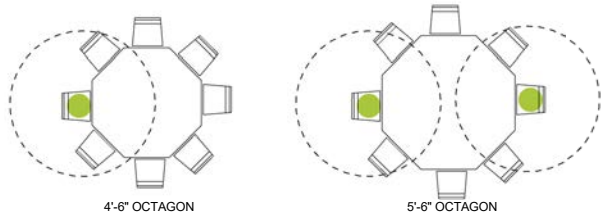


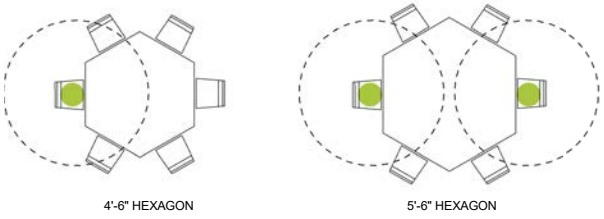
Round



Varied

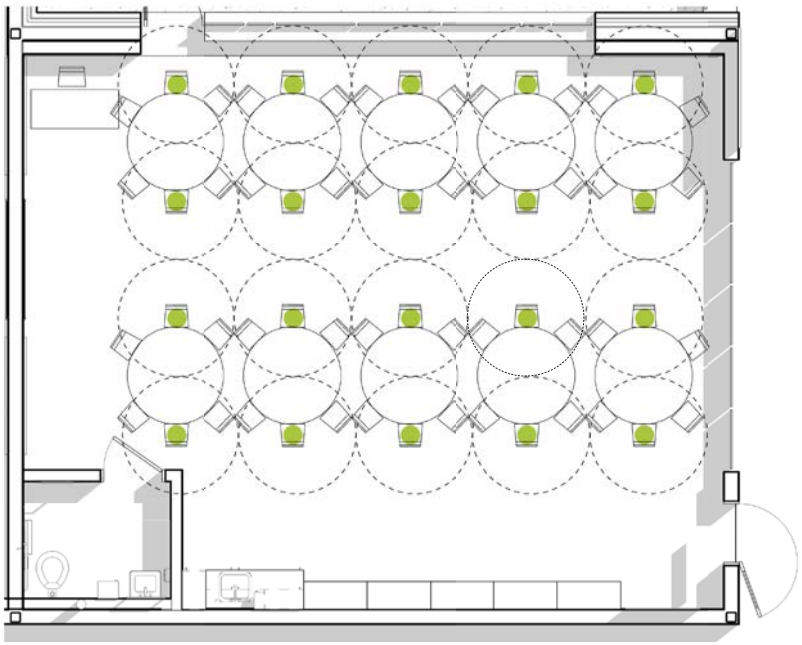




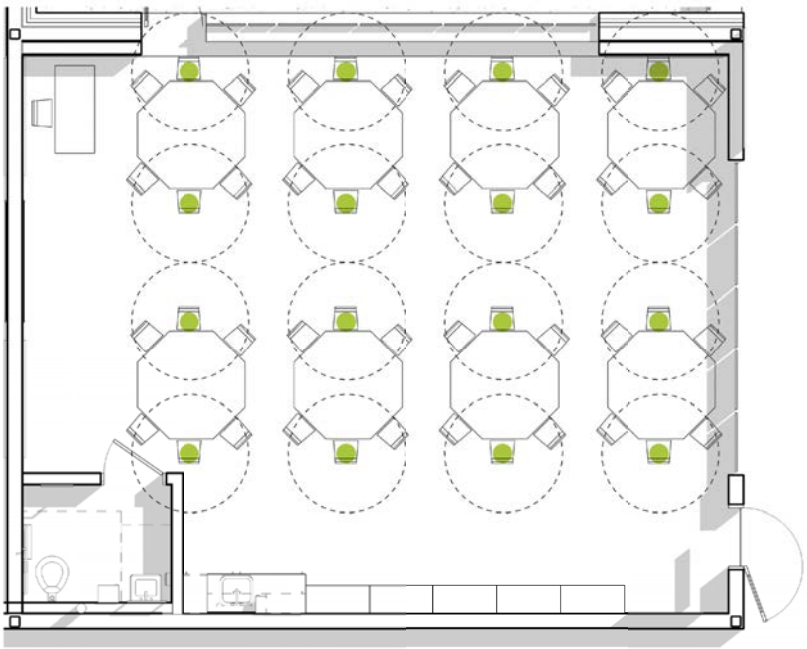


PHYSICAL DISTANCING IN A CLASSROOM

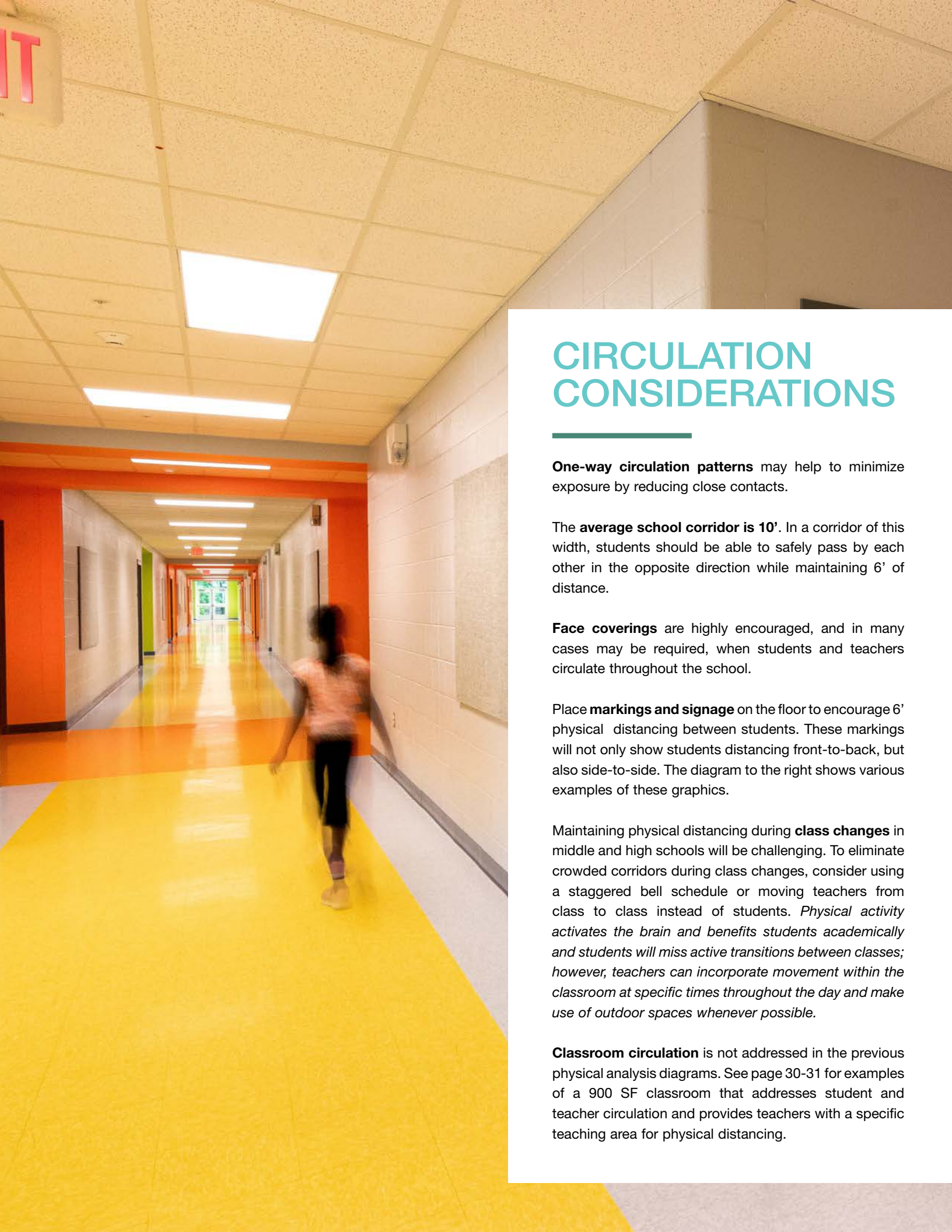
1,000 SQ FT CLASSROOM | VARIOUS TABLE SIZES



PHYSICAL DISTANCING - 5’ ROUND TABLES



PHYSICAL DISTANCING - 5’- 6” HEXAGON TABLE



CIRCULATION CONSIDERATIONS

One-way circulation patterns may help to minimize exposure by reducing close contacts.

The **average school corridor is 10'**. In a corridor of this width, students should be able to safely pass by each other in the opposite direction while maintaining 6' of distance.

Face coverings are highly encouraged, and in many cases may be required, when students and teachers circulate throughout the school.

Place **markings and signage** on the floor to encourage 6' physical distancing between students. These markings will not only show students distancing front-to-back, but also side-to-side. The diagram to the right shows various examples of these graphics.

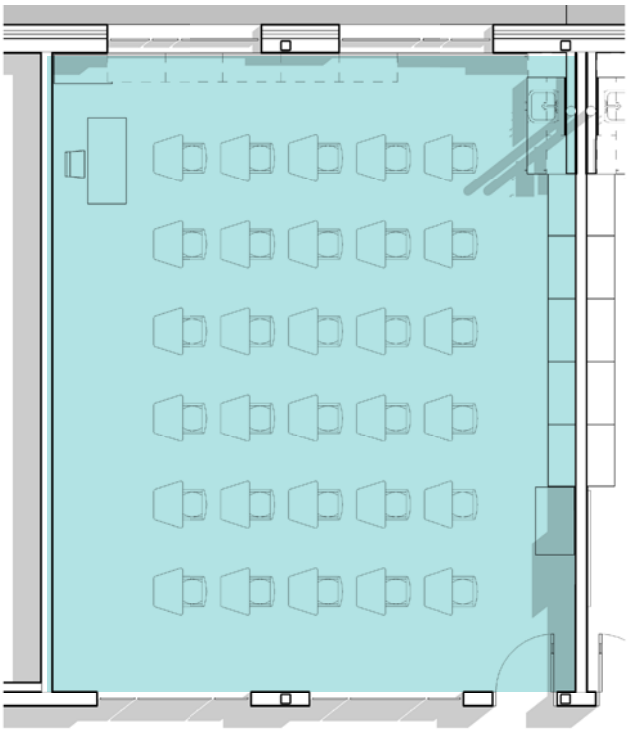
Maintaining physical distancing during **class changes** in middle and high schools will be challenging. To eliminate crowded corridors during class changes, consider using a staggered bell schedule or moving teachers from class to class instead of students. *Physical activity activates the brain and benefits students academically and students will miss active transitions between classes; however, teachers can incorporate movement within the classroom at specific times throughout the day and make use of outdoor spaces whenever possible.*

Classroom circulation is not addressed in the previous physical analysis diagrams. See page 30-31 for examples of a 900 SF classroom that addresses student and teacher circulation and provides teachers with a specific teaching area for physical distancing.

THROUGHOUT CORRIDORS - TWO-WAY CIRCULATION

UNDERSTANDING CIRCULATION

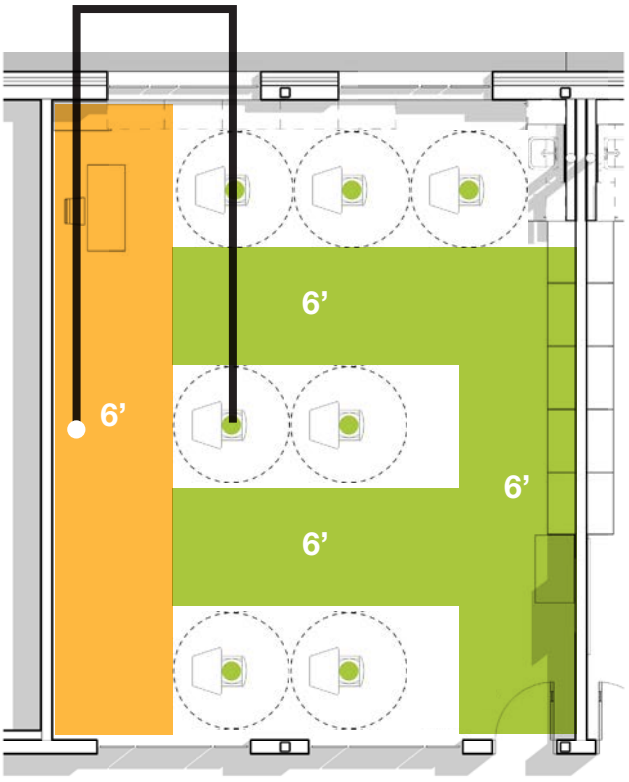
WITHIN A CLASSROOM | 900 SQ FT



PRE-COVID LAYOUT

Student Capacity: 30

approx. 8 feet
if teacher is standing at whiteboard or close to wall



6’ STUDENT CIRCULATION
6’ TEACHER AREA

Student Capacity: 7

23%

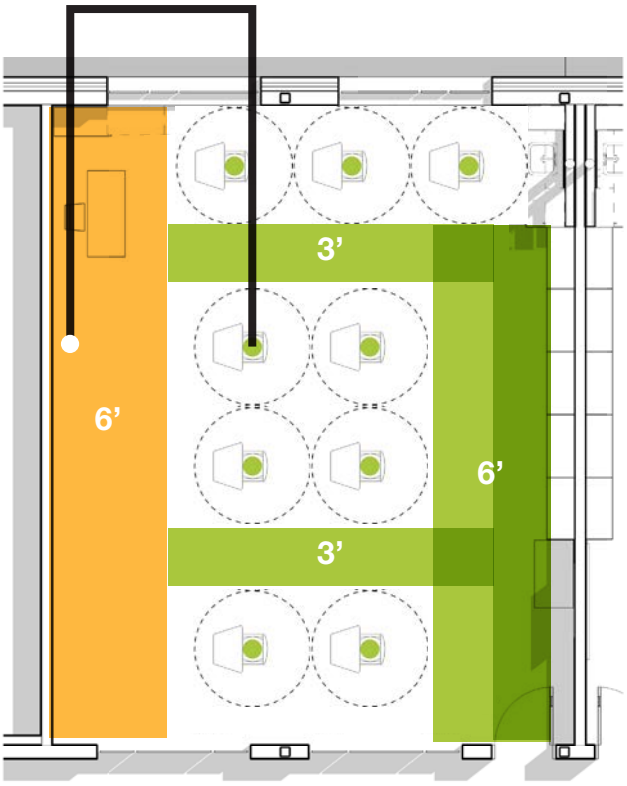
STUDENT CIRCULATION

TEACHER AREA

UNDERSTANDING CIRCULATION

WITHIN A CLASSROOM | 900 SQ FT

approx. 9.5 feet
if teacher is standing at whiteboard or close to wall

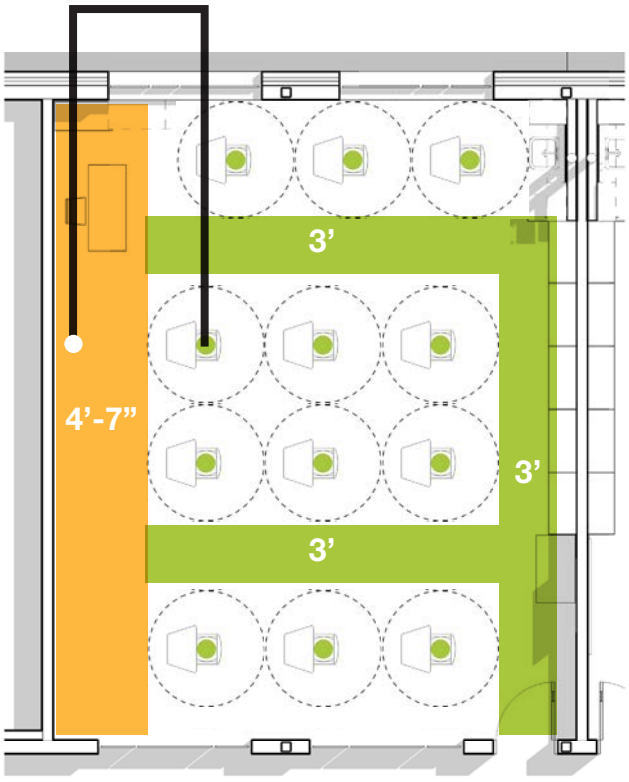


3’ STUDENT CIRCULATION
6’ TEACHER AREA

Student Capacity: 9

30%

approx. 7 feet
if teacher is standing at whiteboard or close to wall



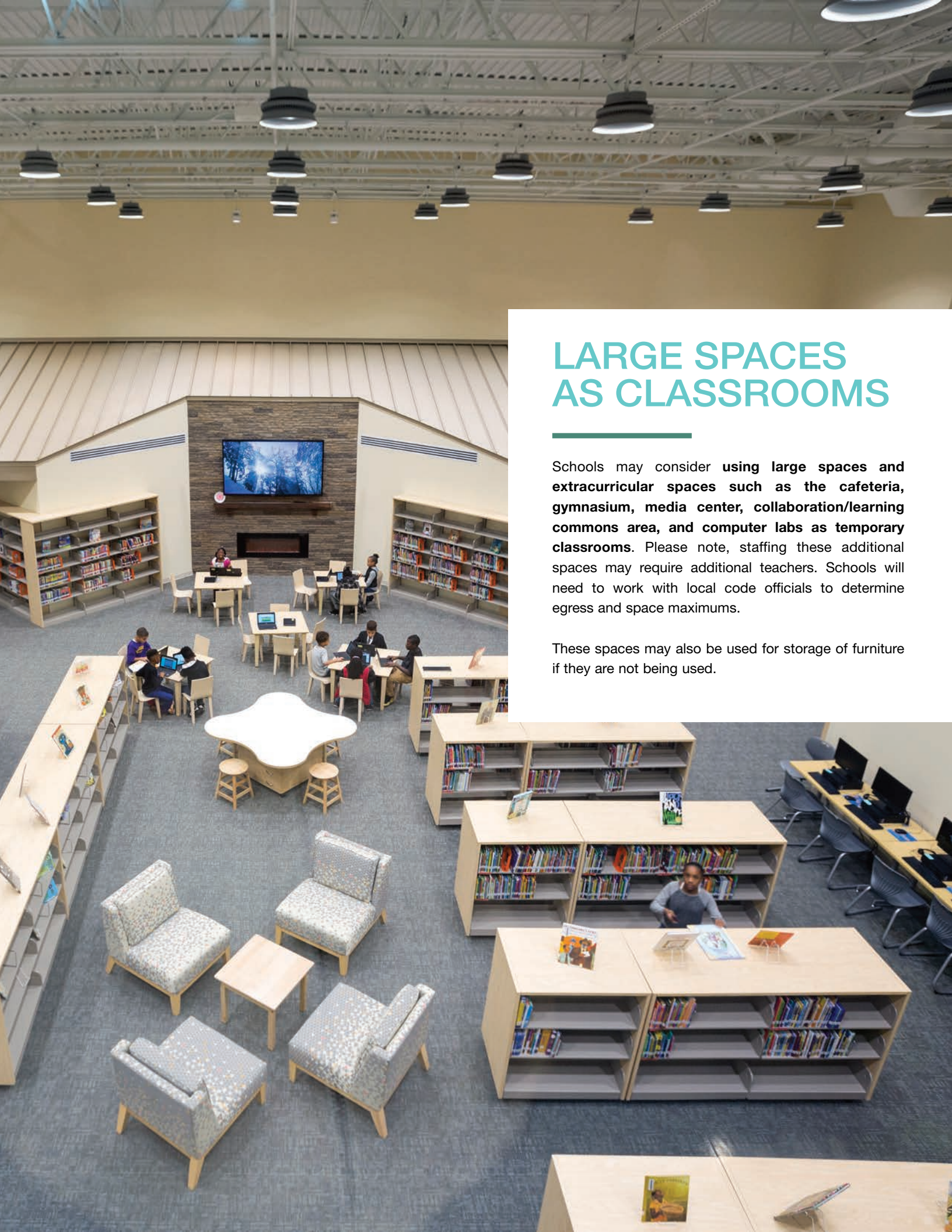
3’ STUDENT CIRCULATION
4’-7” TEACHER AREA

Student Capacity: 12

40%

STUDENT CIRCULATION

TEACHER AREA

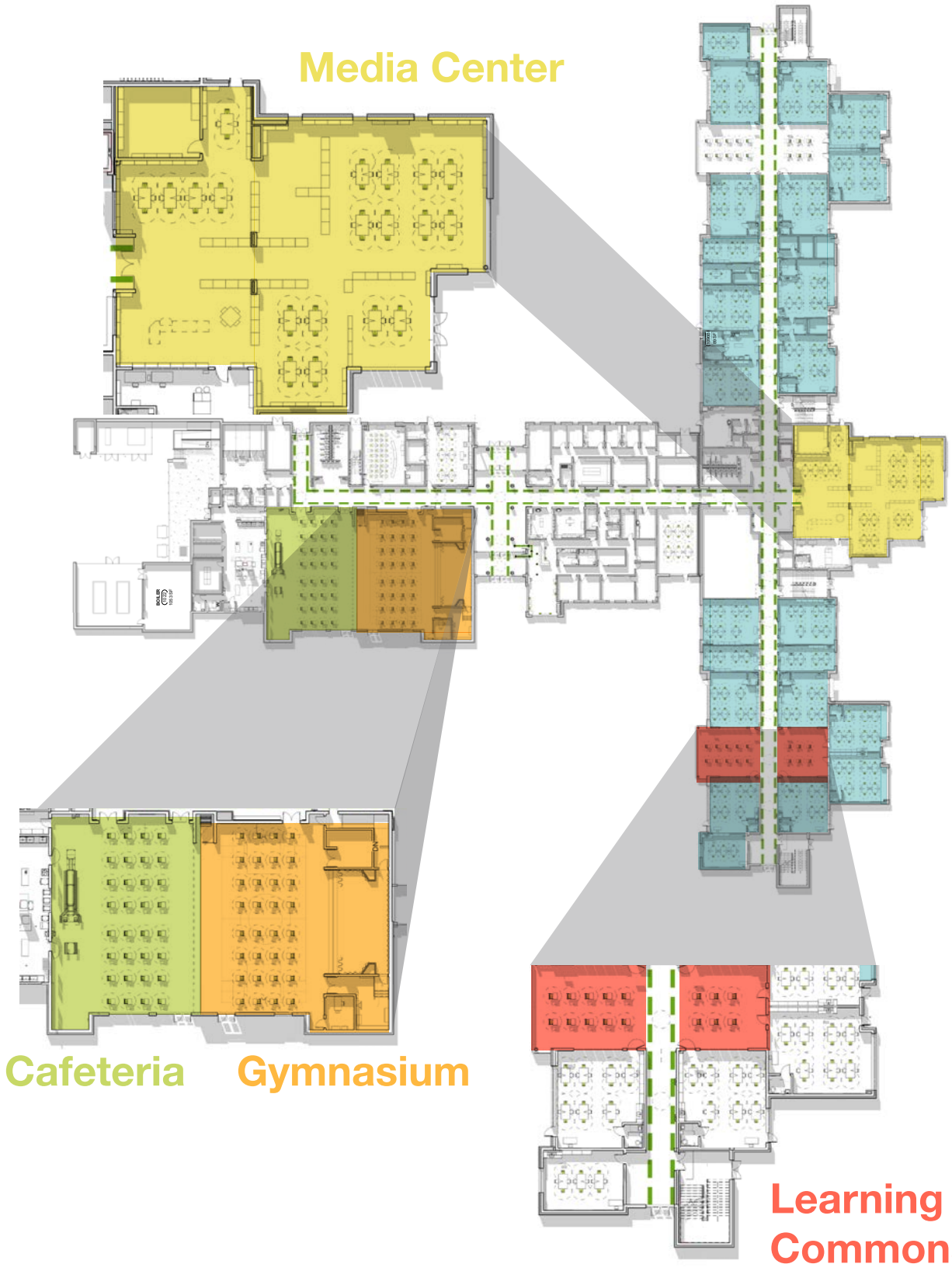


LARGE SPACES AS CLASSROOMS

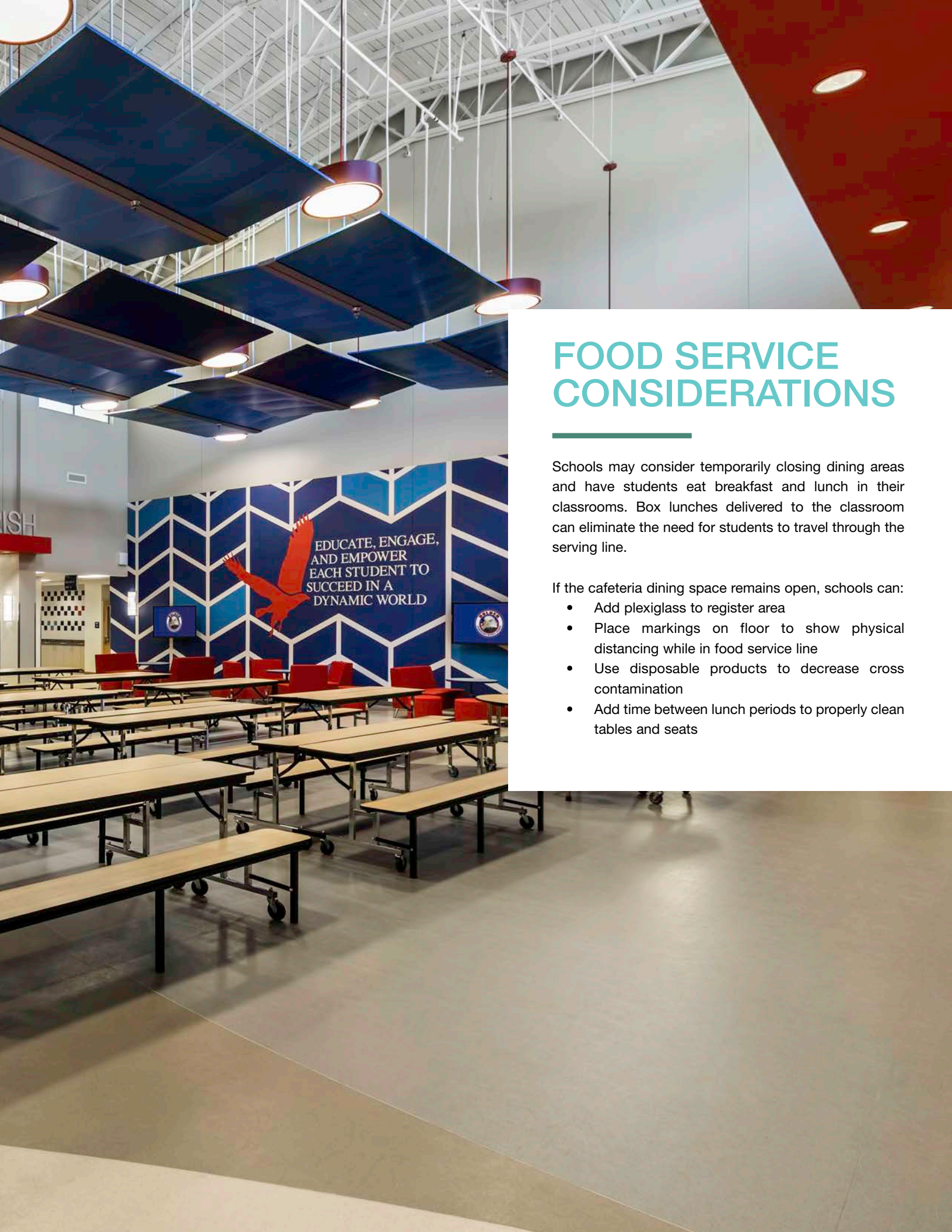
Schools may consider **using large spaces and extracurricular spaces such as the cafeteria, gymnasium, media center, collaboration/learning commons area, and computer labs as temporary classrooms**. Please note, staffing these additional spaces may require additional teachers. Schools will need to work with local code officials to determine egress and space maximums.

These spaces may also be used for storage of furniture if they are not being used.

PHYSICAL DISTANCING THROUGH THE SCHOOL




ENRICH
NOUR
EXIT



FOOD SERVICE CONSIDERATIONS

Schools may consider temporarily closing dining areas and have students eat breakfast and lunch in their classrooms. Box lunches delivered to the classroom can eliminate the need for students to travel through the serving line.

If the cafeteria dining space remains open, schools can:

- Add plexiglass to register area
- Place markings on floor to show physical distancing while in food service line
- Use disposable products to decrease cross contamination
- Add time between lunch periods to properly clean tables and seats

PHYSICAL DISTANCING IN A DINING SPACE

2,388 SQ FT | CAFETERIA

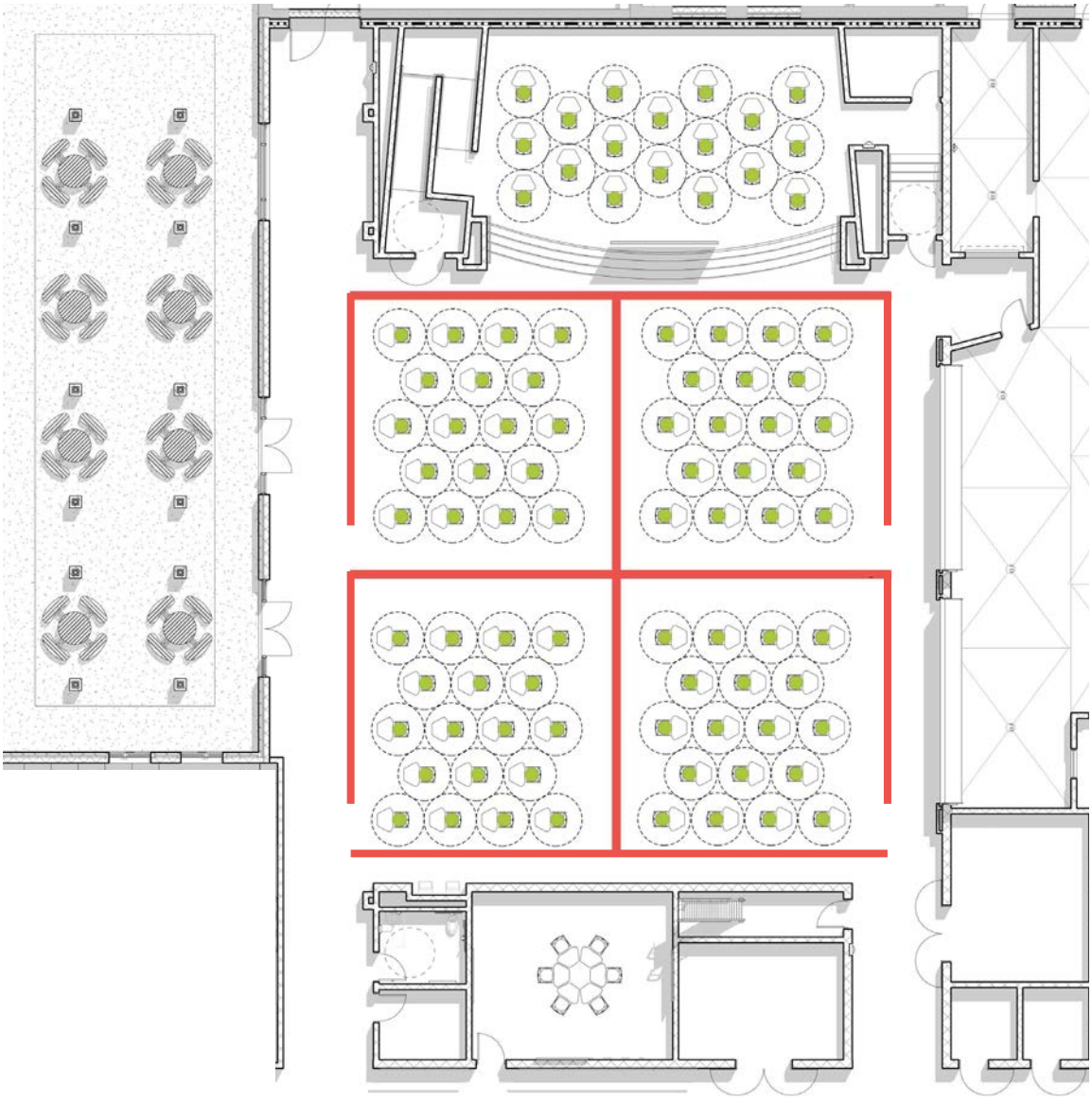
If cafeteria is used seat and dismiss this side of cafeteria first to decrease circulation.

Pre-COVID Seating Capacity: 276
Seating Capacity with 6 ft distancing: 78

28%

PHYSICAL DISTANCING IN A DINING SPACE

2,388 SQ FT + 910 SQ FT (STAGE) | CAFETERIA AS A CLASSROOM

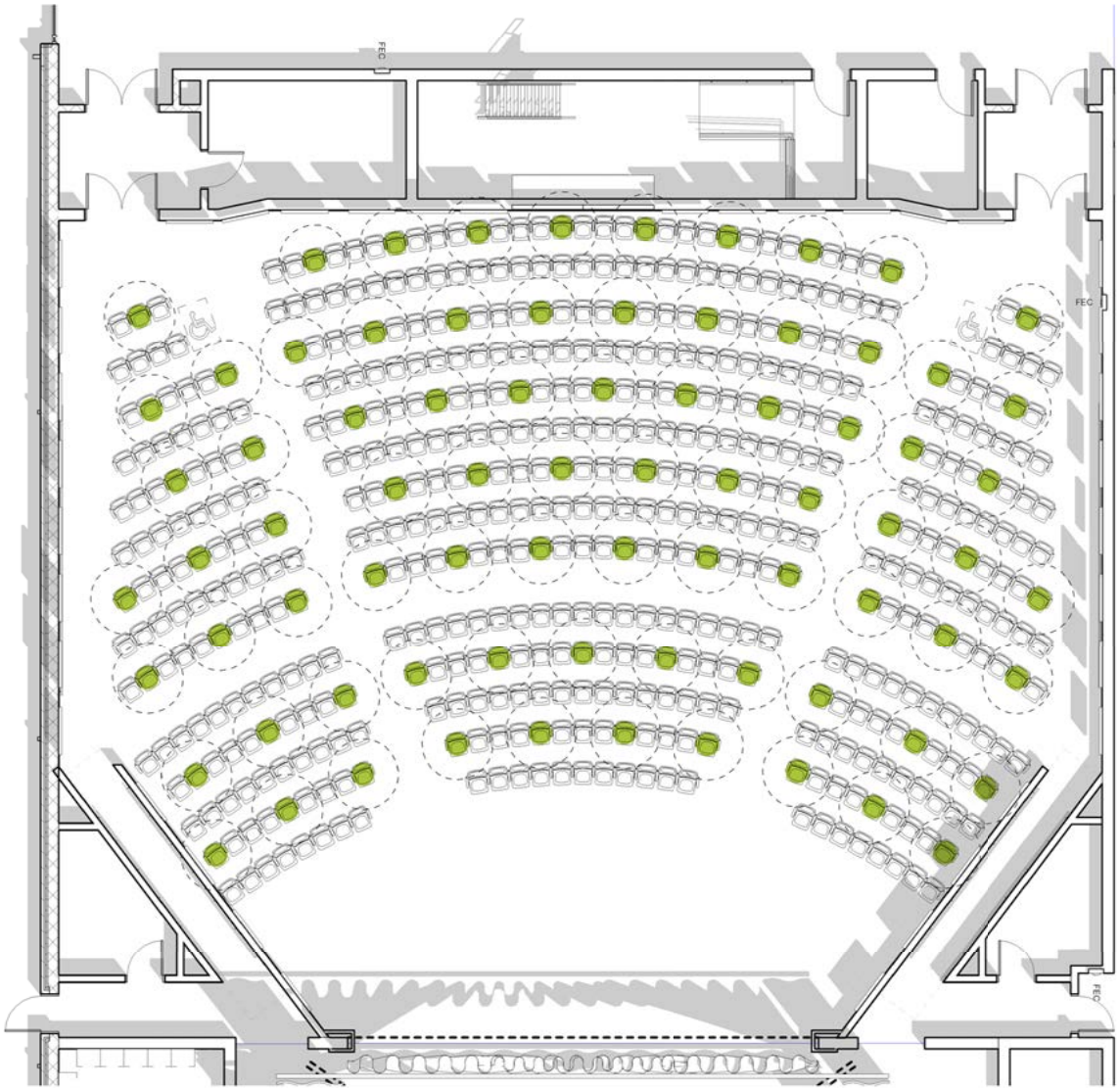


CAFETERIA AS CLASSROOMS

Additional Student Capacity: 90
Additional Teachers Needed: 5

PHYSICAL DISTANCING IN AN AUDITORIUM

5,900 SQ FT | AUDITORIUM



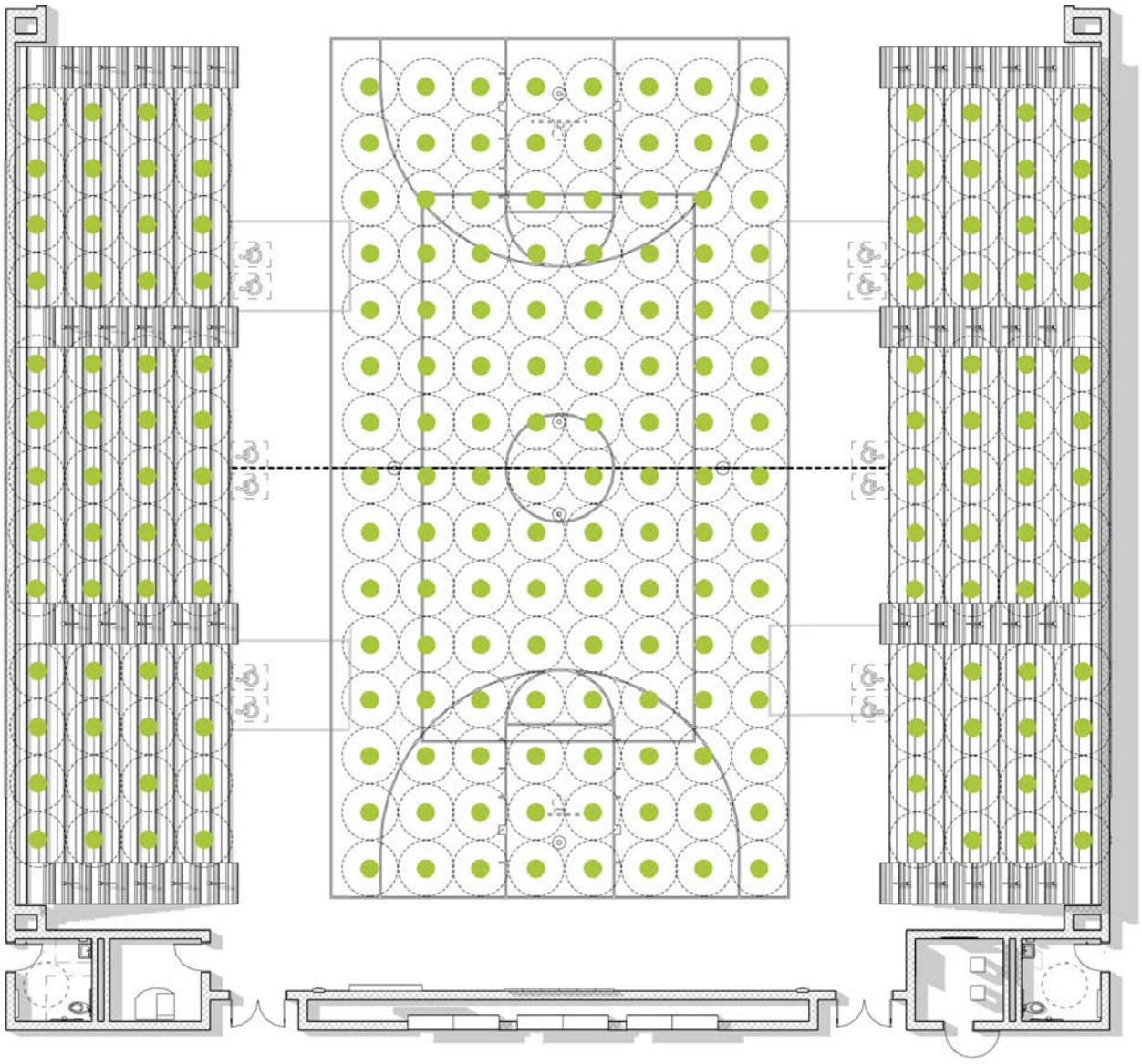
Pre-COVID Seating Capacity: 538
Seating Capacity with 6 ft distancing: 78

14.5%


7TH GRADE
GIRLS VOLLEYBALL
CONFERENCE
CHAMPIONS
8TH GRADE
GIRLS VOLLEYBALL
CONFERENCE
CHAMPIONS
44

PHYSICAL DISTANCING IN A GYMNASIUM

13,303 SQ FT | BLEACHERS AND FLOOR SEATING



BLEACHERS

Pre-COVID Bleacher Capacity: 726
Bleacher Capacity with 6 ft distancing: 104

14%

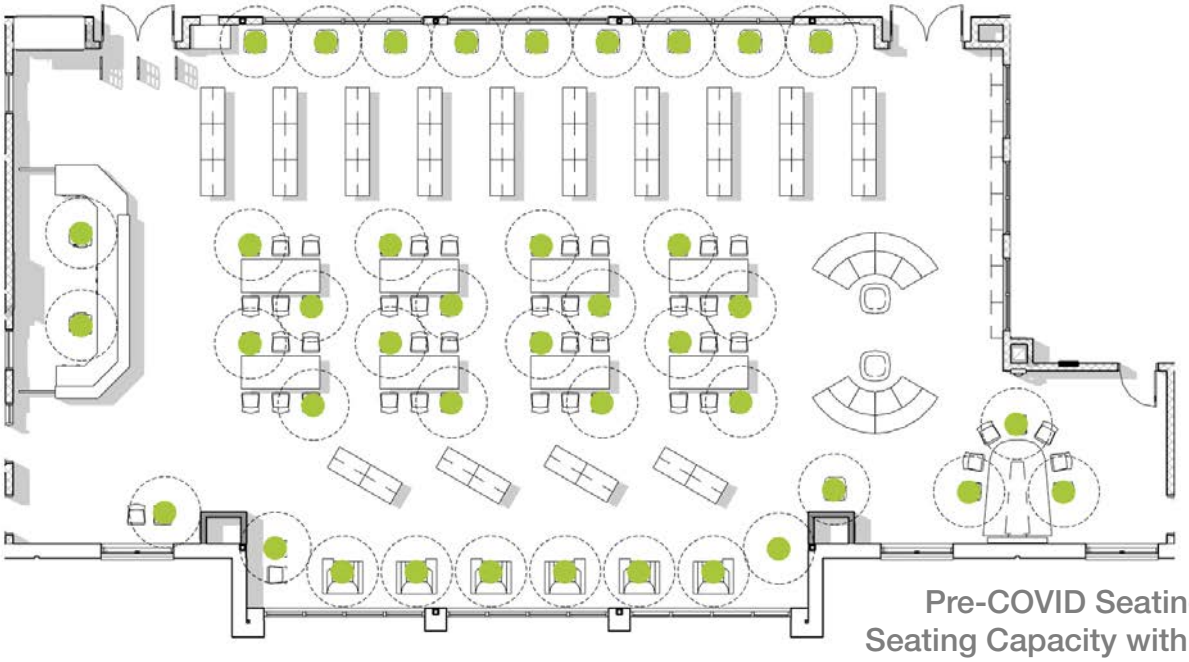
FLOOR SEATING

Pre-COVID Floor Seating Capacity: 240
Floor Seating Capacity with 6 ft distancing: 120

50%

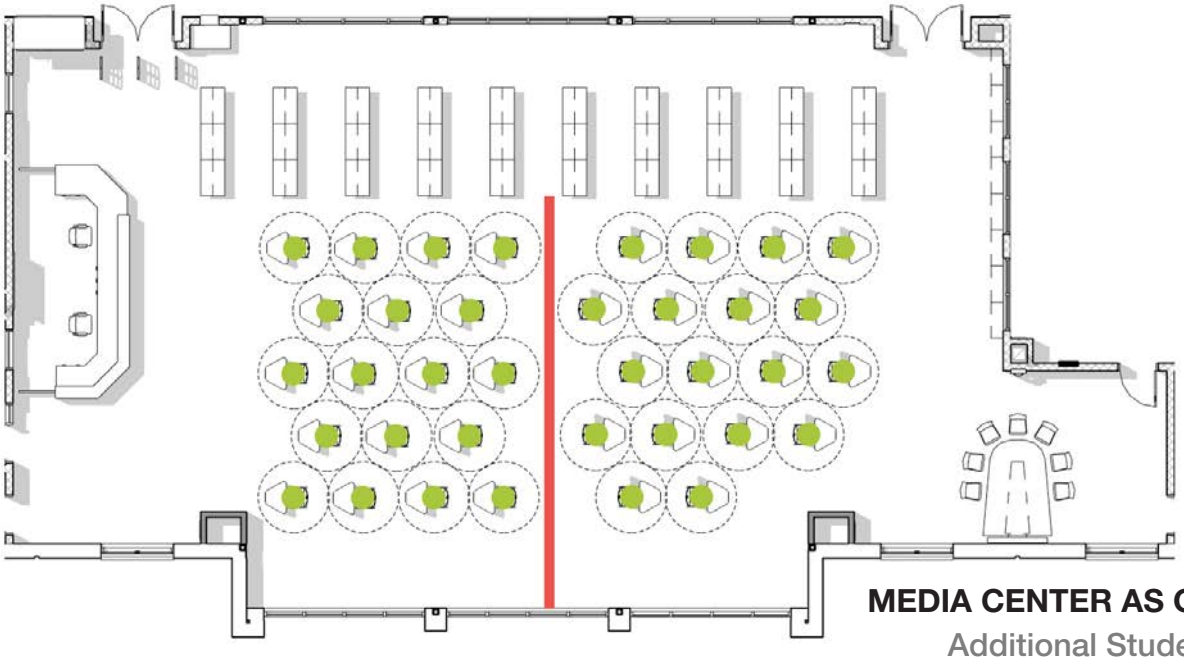
PHYSICAL DISTANCING IN A MEDIA CENTER

3,905 SQ FT



Pre-COVID Seating Capacity: 76
Seating Capacity with 6 ft distancing: 40

53%

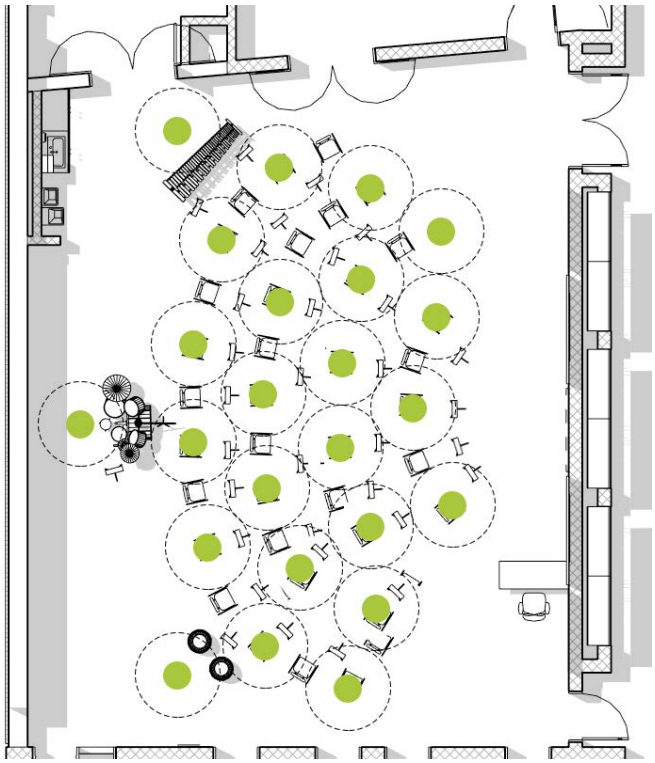


MEDIA CENTER AS CLASSROOM SPACE

Additional Student Capacity: 36
Additional Teachers Needed: 2

PHYSICAL DISTANCING IN A BAND ROOM

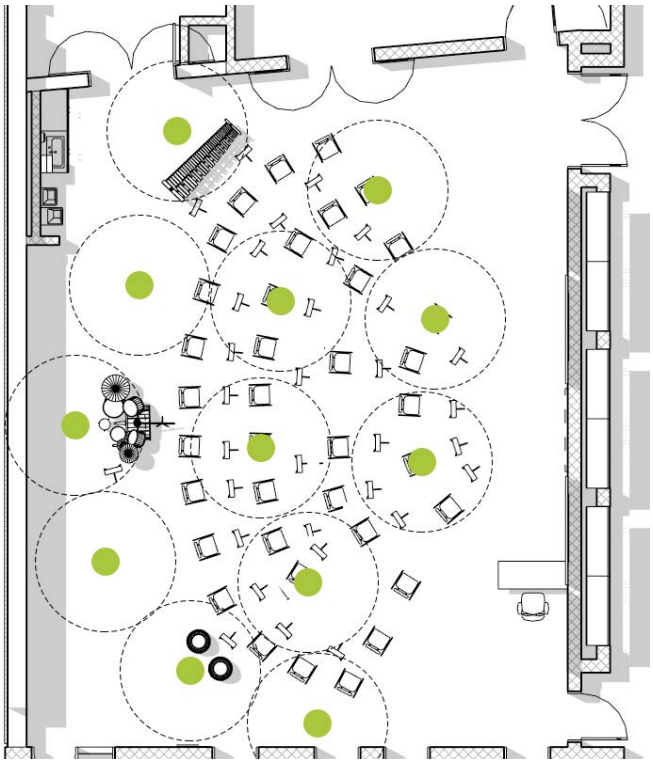
1,894 SQ FT



6 FT DISTANCING

Pre-COVID Capacity: 39
Capacity with 6 ft distancing: 24

62%



10 FT DISTANCING

Pre-COVID Capacity: 39
Capacity with 10 ft distancing: 12

31%

RESTROOM CONSIDERATIONS

In elementary schools, encourage students who have **classroom restrooms** to use only those bathrooms. Use hall restrooms for these students only in emergency situations.

Schools will need to **create a schedule for cleaning** group/hall restrooms hourly throughout the building, and will need to work with custodians to create a plan for closing the bathrooms during these times.

Schools will also need to implement strategies to **limit and control the number of students** in the restroom at one time.

Create as many **no-touch solutions** as possible. Fixtures that can be retrofitted to be touchless include:

- Toilets
- Sinks
- Soap Dispensers
- Towel Dispensers
- Trash cans

Drinking fountains are often found outside of restrooms. As these drinking fountains are not monitored closely, consider working with code officials to determine the safest possible options for providing drinking water. Please see page 49 for more information regarding drinking fountains.

Provide wayfinding and age-appropriate informational **signage**.

The CDC is currently recommending that toilets have lids that can be closed during flushing.

Do not allow students to congregate in the restrooms.

Continuously run **exhaust fans.**

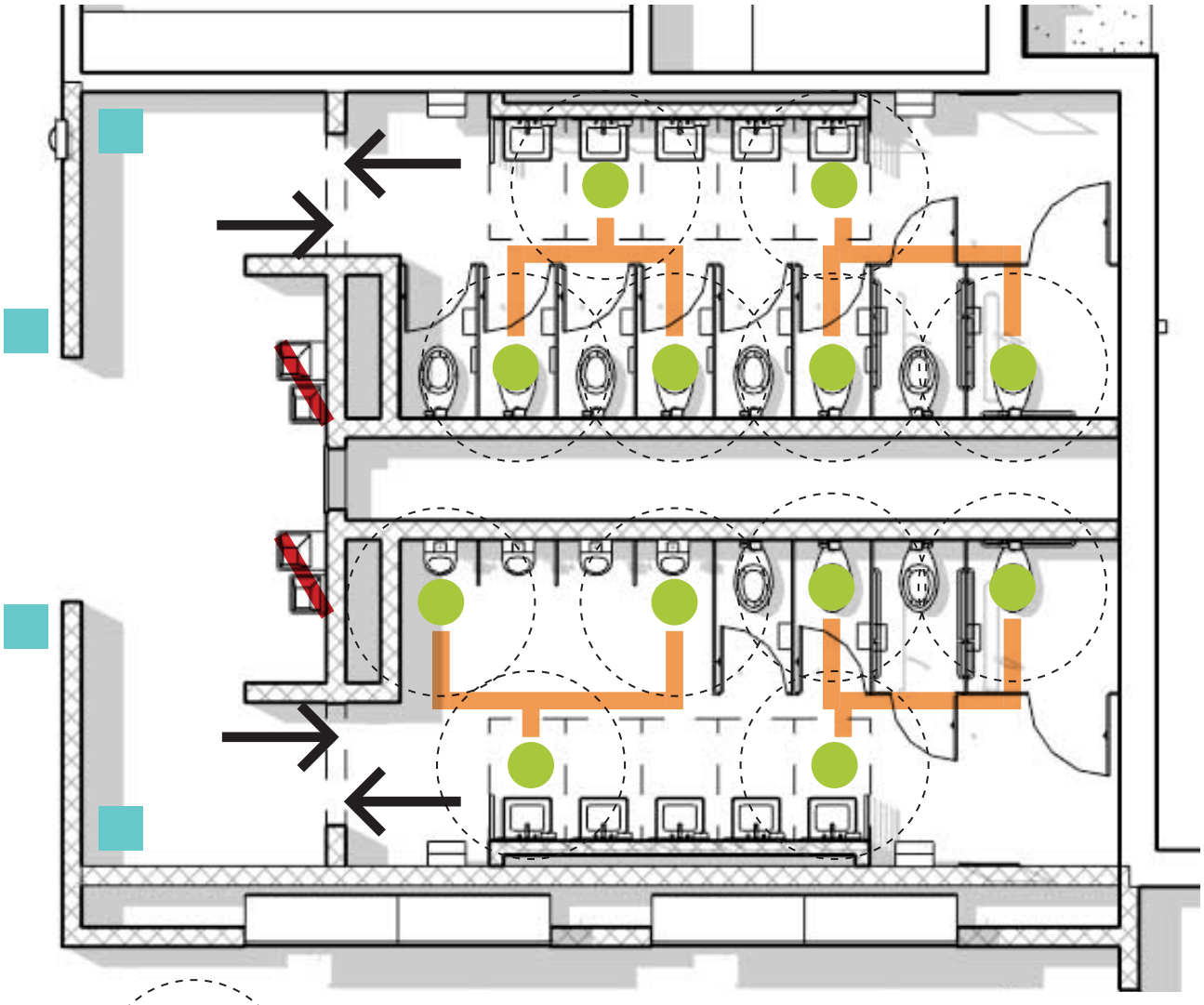
Develop a plan for physical distancing while **queuing** outside of restrooms.

Explore strategies to let students know when a restroom is at **maximum capacity**, such as using hall passes that can attach to the wall as a visual cue. Each classroom should be assigned specific restrooms to use.

Where feasible and safe, **keep doors open** to eliminate an additional touch point.

See the following diagram for additional restroom considerations.

PHYSICAL DISTANCING IN A RESTROOM



Student with 3' radius

Hand Sanitizer Station

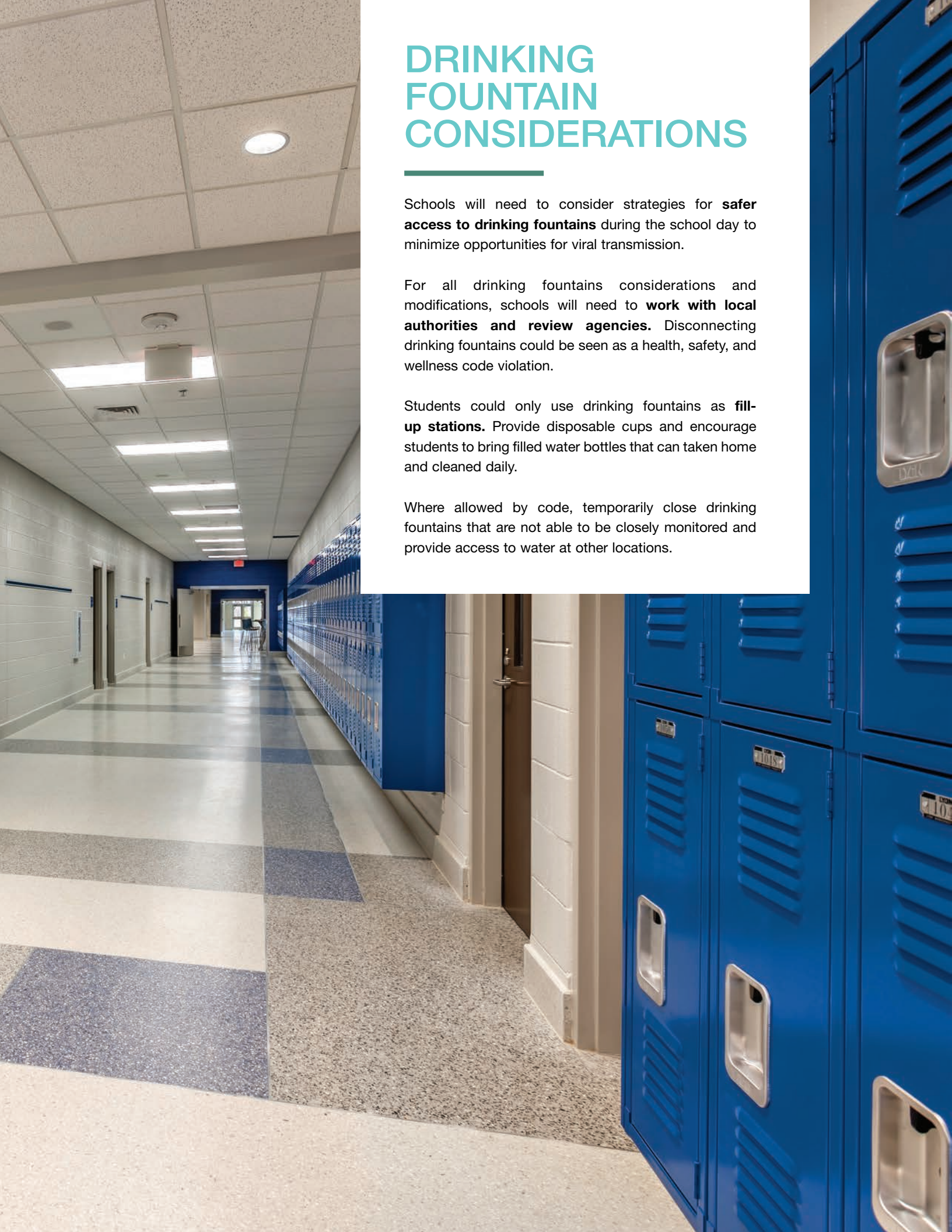
Tape off and close all stalls, urinals, and sinks that should not be used by students.

Schools will need to consider strategies for safer access to **drinking fountains** during the school day, such as providing paper cups to minimize opportunities for viral transmission.

Where possible, **circulation** should be routed so that students enter the restroom near the toilets and exit the restroom near the sinks.

If helpful for a particular restroom layout, consider assigning stalls/urinals to specific sinks. Students who are waiting to use sink should wait at the stall/urinal until the previous occupant has completed hand washing to alleviate crowding at sinks.


BOYS



DRINKING FOUNTAIN CONSIDERATIONS

Schools will need to consider strategies for **safer access to drinking fountains** during the school day to minimize opportunities for viral transmission.

For all drinking fountains considerations and modifications, schools will need to **work with local authorities and review agencies.** Disconnecting drinking fountains could be seen as a health, safety, and wellness code violation.

Students could only use drinking fountains as **fill-up stations.** Provide disposable cups and encourage students to bring filled water bottles that can taken home and cleaned daily.

Where allowed by code, temporarily close drinking fountains that are not able to be closely monitored and provide access to water at other locations.


INFO

Checklist for Environmental Considerations to Prepare for Re-Occupancy

In leu of Federal, State, or local guidelines school divisions should, at a minimum, consider the following Best Management Practices when preparing your facilities for re-occupancy following the extended vacancies of buildings:

☐ Assess building for moisture intrusion and mold growth

☐ Inspect your facilities for water leaks

☐ Assess water-containing components and systems to identify those at high risk from stagnant conditions for bacterial/biological growth (i.e. plumbing fixtures, water treatment systems, water storage tanks, and cooling towers)

☐ Flush your water systems frequently and prior to re-occupancy of your facilities - this keeps treated water in your buildings and helps fight bacteria and possible Legionella growth in your building

- ☐ Follow local water authority protocol/guidance along with EPA, CDC, and Environmental Science, Policy & Research Institute (ESPRI) detailed guidance

☐ Review chemical storage areas *(typically in science labs and custodial closets)*

- ☐ Thoroughly inspect hazardous materials stored in science labs
- ☐ Make sure containers are intact and not leaking or compromised
- ☐ Look at the shelf-life of chemicals

Note: Give yourself ample time to properly coordinate disposal of expired products

☐ Inspect floor drains water traps to prevent sewer gas intrusion

☐ Evaluate HVAC Systems

- ☐ Assess filter replacements and check for mold, stagnant water, vermin, and pests
- ☐ Inspect/clean cooling coils, condensate drain pans, and ductwork

☐ Inspect kitchen/food preparations areas

- ☐ Evaluate/clean grease traps
- ☐ Inspect food prep areas for signs of pest and infestations

☐ Practice the 3 Ps (*Expect an increase in calls for Indoor Air Quality (IAQ) concerns*)

- ☐ **Be Prepared**
- ☐ **Be Proactive**
- ☐ **Be Professional**

Provided by Julius Williams of Prince Williams County Public Schools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Established in 1963, LS3P is a multidisciplinary firm offering architecture, interiors, and planning services to a wide variety of clients nationwide. Central to all regions of the Southeast with offices in Charleston, Columbia, Greenville, Myrtle Beach, Charlotte, Raleigh, Wilmington, and Savannah, LS3P is committed to bringing state-of-the-art design, technology, and expertise of a strong regional firm closer to our clients on a local level. With a staff of over 340 employees, we have the resources to offer total design capabilities from site selection to occupancy, yet we are small enough to give personal attention to each client.

With nearly 100 years of school design experience (including our Boney Architects heritage dating back to 1922) and our work on over 2,000 school facilities, we have a passion for creating leading-edge learning environments and have done an extensive amount of research into the future of education. Our expertise includes the design of flexible and diverse learning spaces which support the full integration of technology. We believe that better spaces support innovative teaching and engaged learning.

The editor of *DesignIntelligence* has called LS3P "the most local of the global firms and the most 'world-class' of the locals." LS3P brings a history of over 57 years of design excellence, with over 580 design awards across diverse practice areas. With a mission to "engage, design, and transform," we are deeply committed to the communities we serve. We believe in collaboration, innovation, and building lasting relationships with our clients. Through our work at all scales, from small renovations to large campuses, we are proud to design educational environments which will serve their students, staff, and communities for generations.

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