



**Where is the restroom...everyone?**





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# Agenda

- 01** What Are Individual and Private Restrooms?
- 02** Key Design Components
- 03** Community Engagement Process
- 04** Building Code + Individual and Private Restrooms
- 05** Year 1: Security and Safety Survey at Johnson High School
- 06** Benefits
- 07** Discussion + Questions

# Objectives

## Objective 1:

Identify the key design components of Individual and Private restroom design and the various challenges with current codes and nomenclature and identify ways to program individual and private restrooms in your k12 and Community College projects.

## Objective 2:

Learn the importance and benefits of individual and private restroom design and its impact on promoting inclusivity, privacy, and safety for all users.

## Objective 3:

Learn the community engagement process in designing Individual and Private restrooms for PK-12 and Higher Education learning environments and learn ways to respond to community criticism, and why are they individual and private, not all gender.



# 01 *What are Individual and Private Restrooms?*

*Individual and Private  
restrooms are single-stall  
restrooms providing universal  
services to all.*

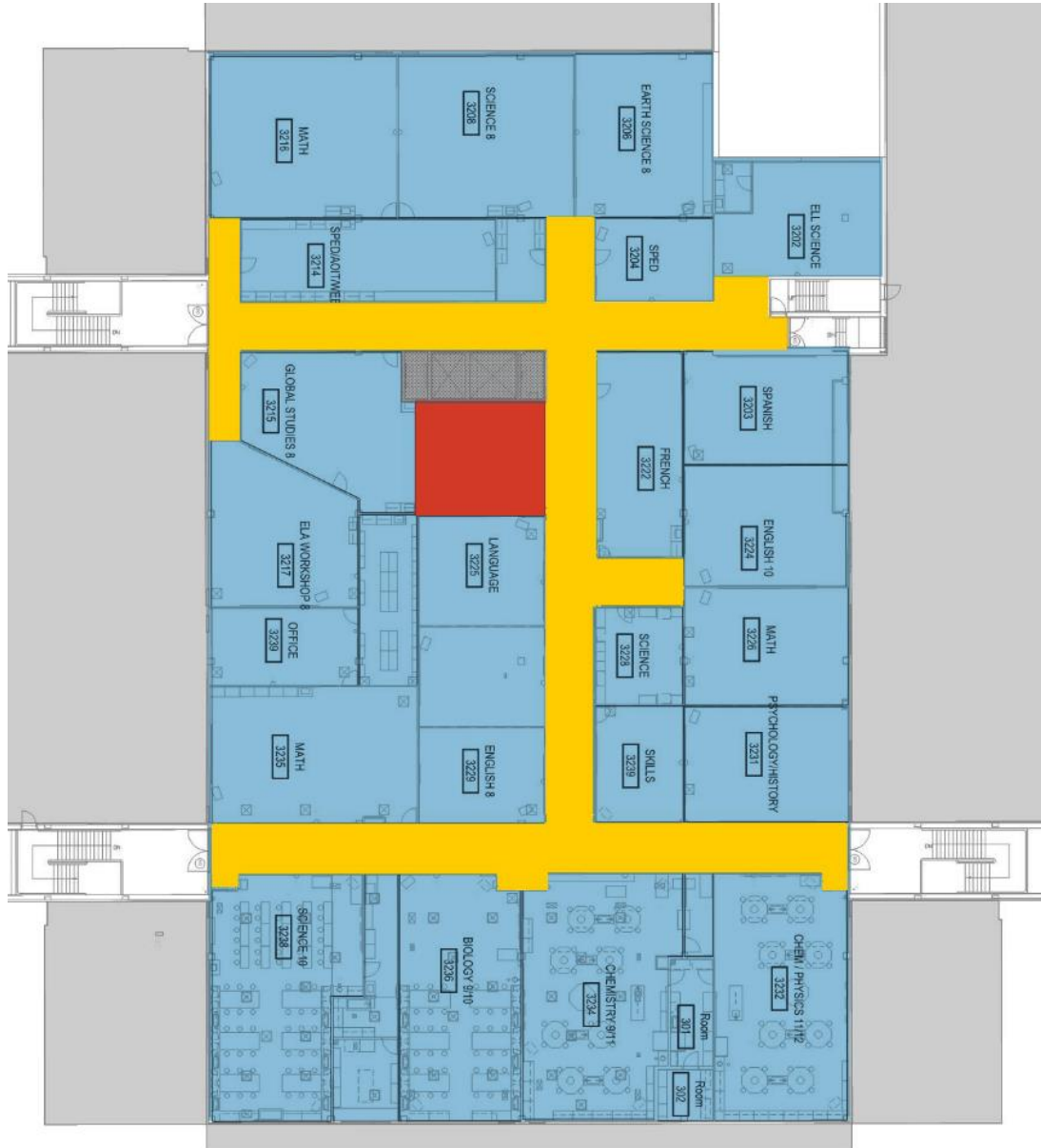
**Like at home.**

# 02 *Key Design Components*

# Key Design Components

- 1. Location**
- 2. Visibility + Openness**
- 3. Full Height Walls, Doors, and Hardware**
- 4. Mechanical, Electrical, and Plumbing**

# Location: Humboldt HS Former Plan



## LOCATION KEY

**RESTROOMS**

**LEARNING SPACES**

**CIRCULATION**

**UTILITIES +  
STORAGE**



# Humboldt HS Post Remodel Plan



## LOCATION KEY

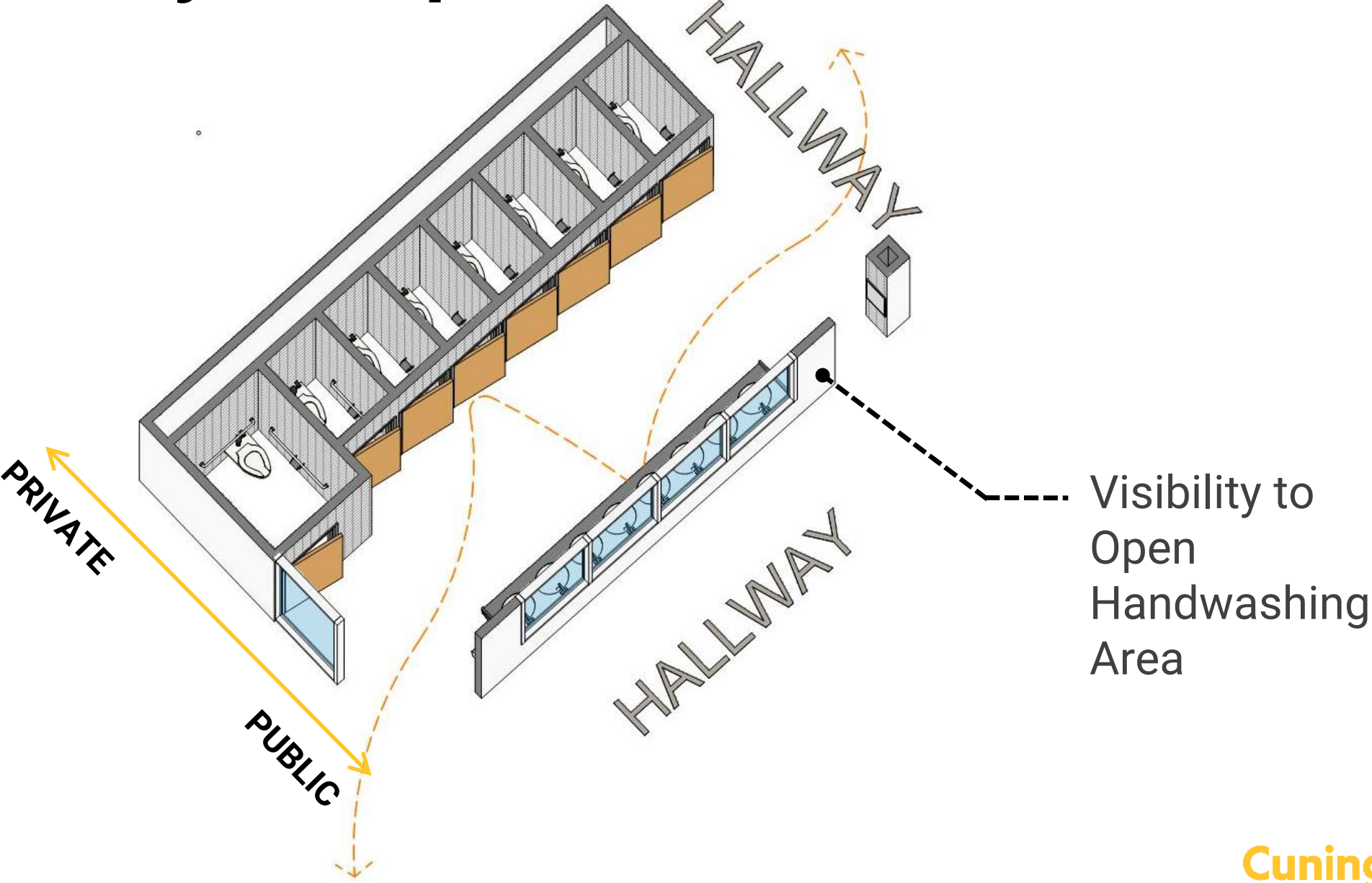
**RESTROOMS**

**LEARNING SPACES**

**CIRCULATION**

**UTILITIES + STORAGE**

# Visibility + Openness



# SPPS Elementary Model



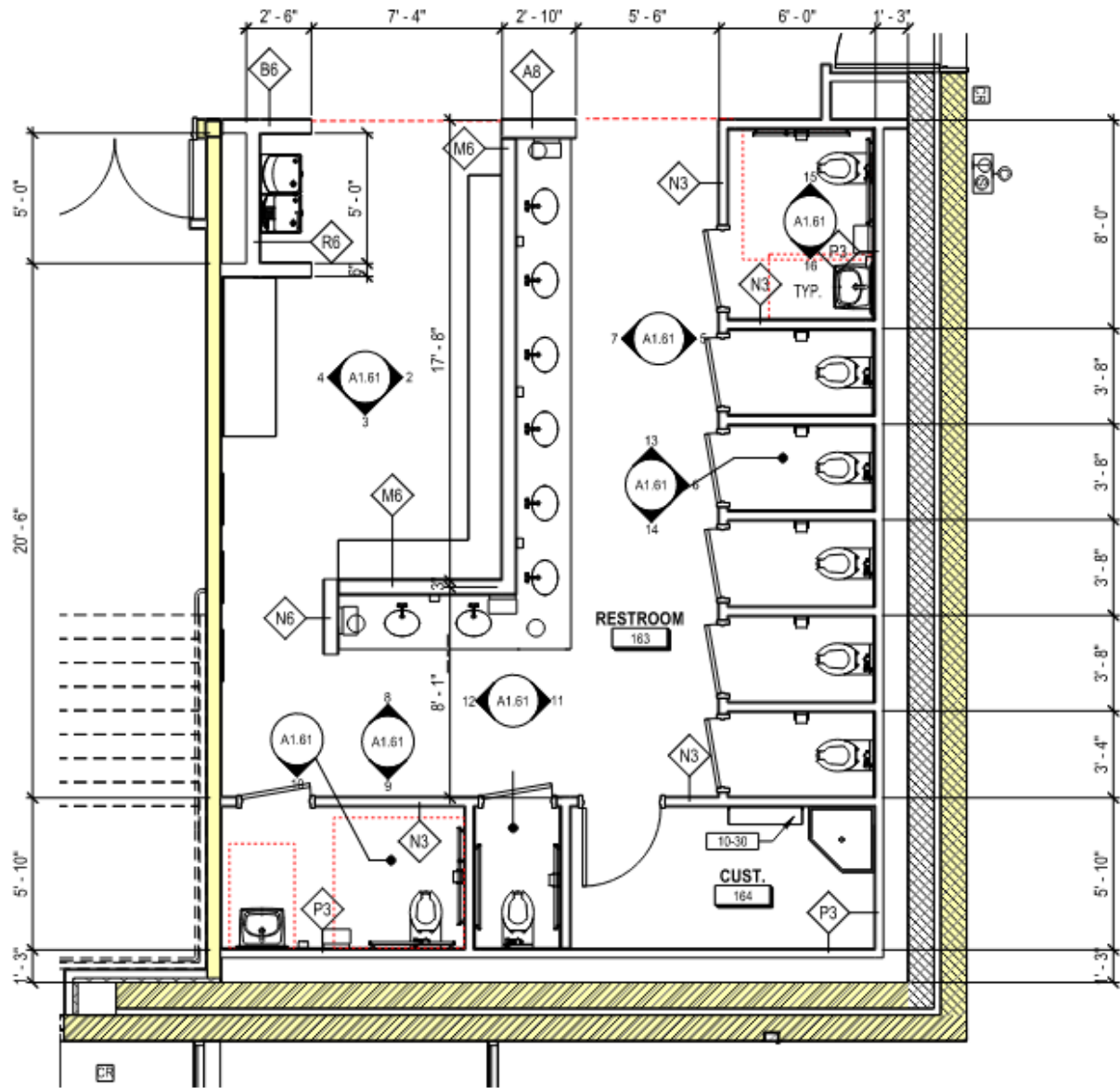


# SPPS MS + HS Model





# South CTA Model 1







RESTROOMS



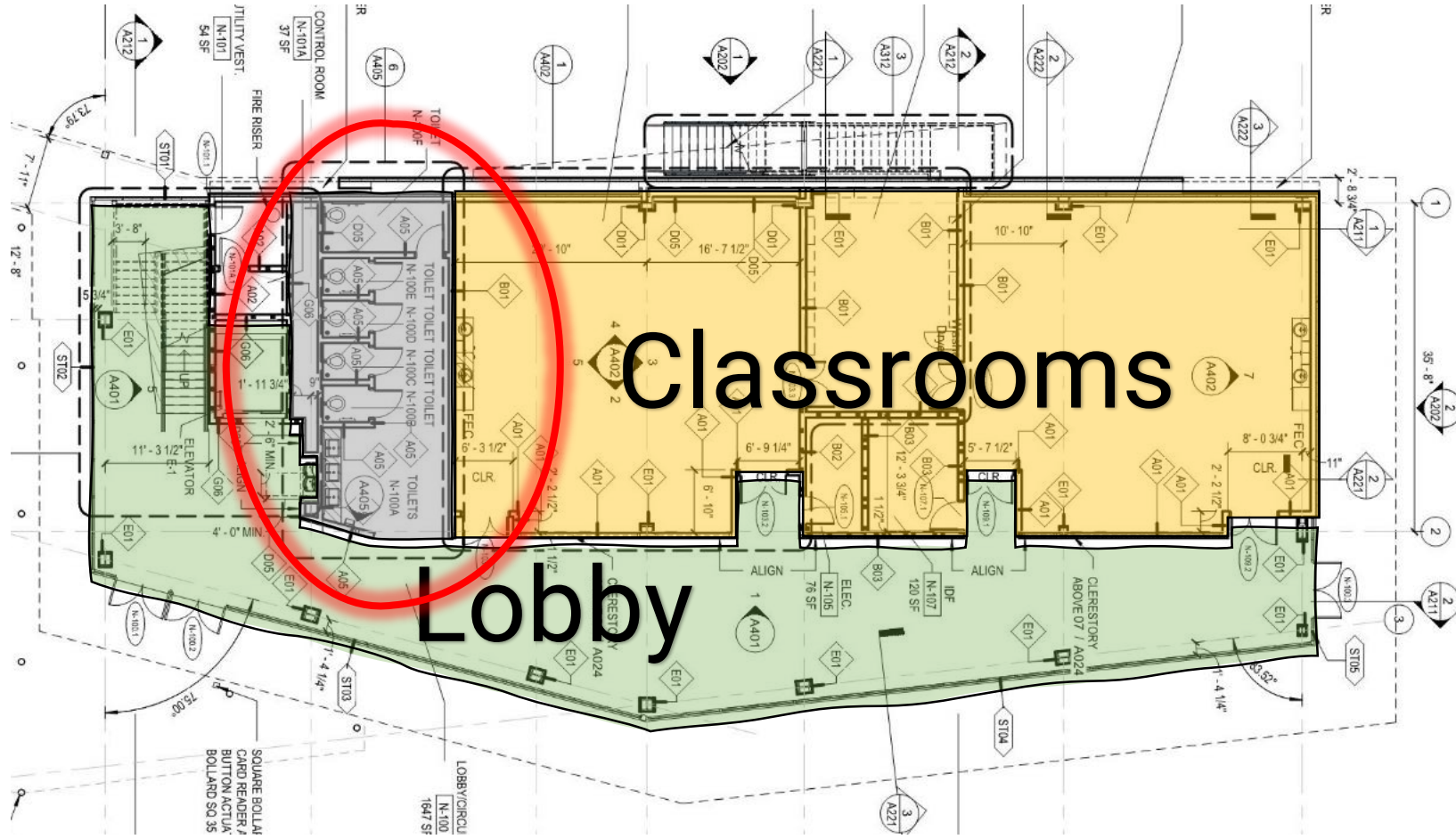


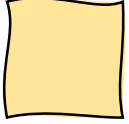
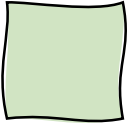
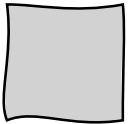


# Evergreen Community College San Jose, CA (Nursing)



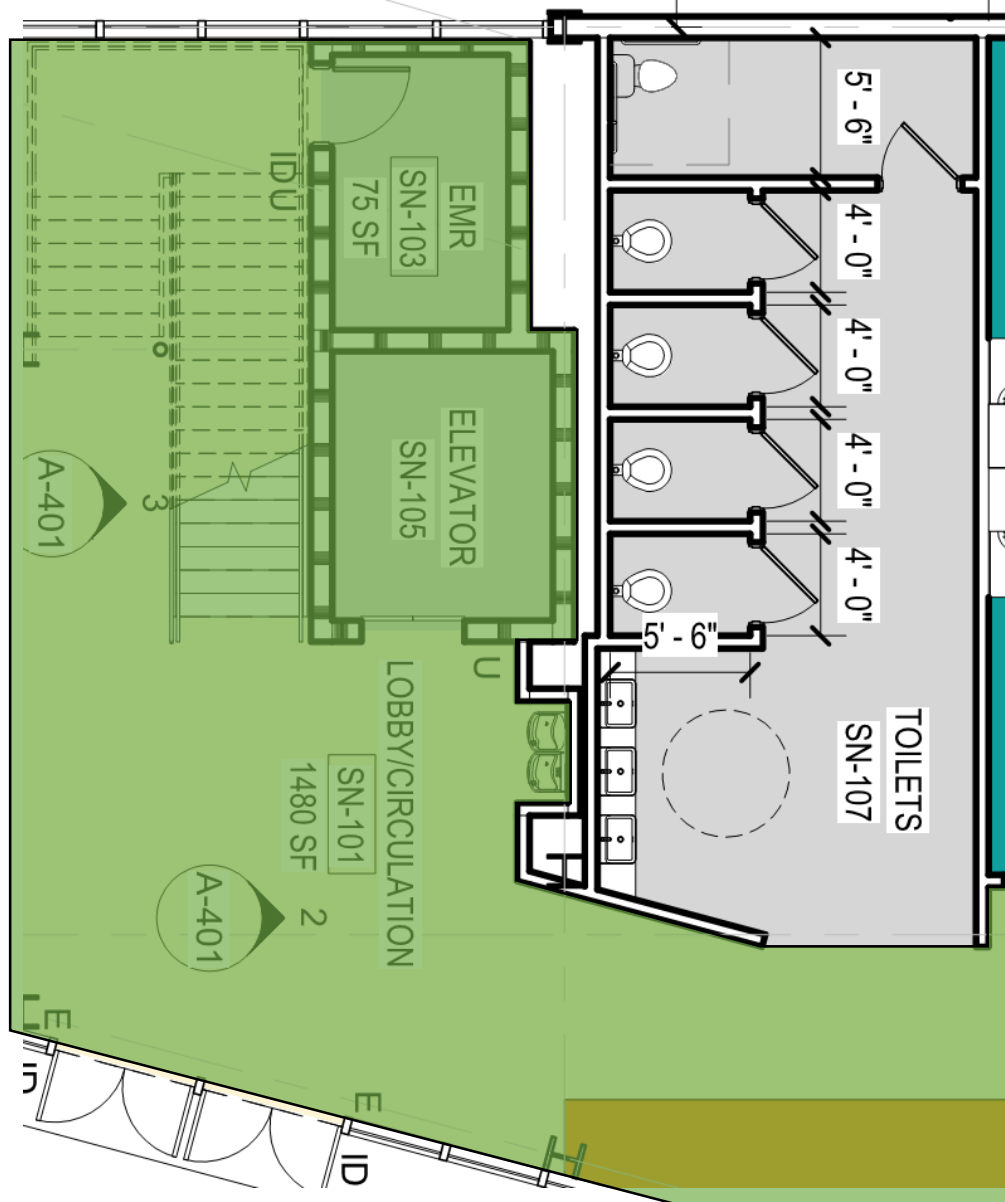
# Single Entry Model



-  Classroom / Storage
-  Circulation
-  Individual & Private Restrooms



# Single Entry Model



## Features:

- All doors are visible from the hallway
- There is no door in/out, just a change of floor materials
- Mirror, sink, and countertop space provided
- Circulation width inside the bathroom can host two wheelchairs passing
- More plumbing count than required by code, but less count than having a female/male separated plan.





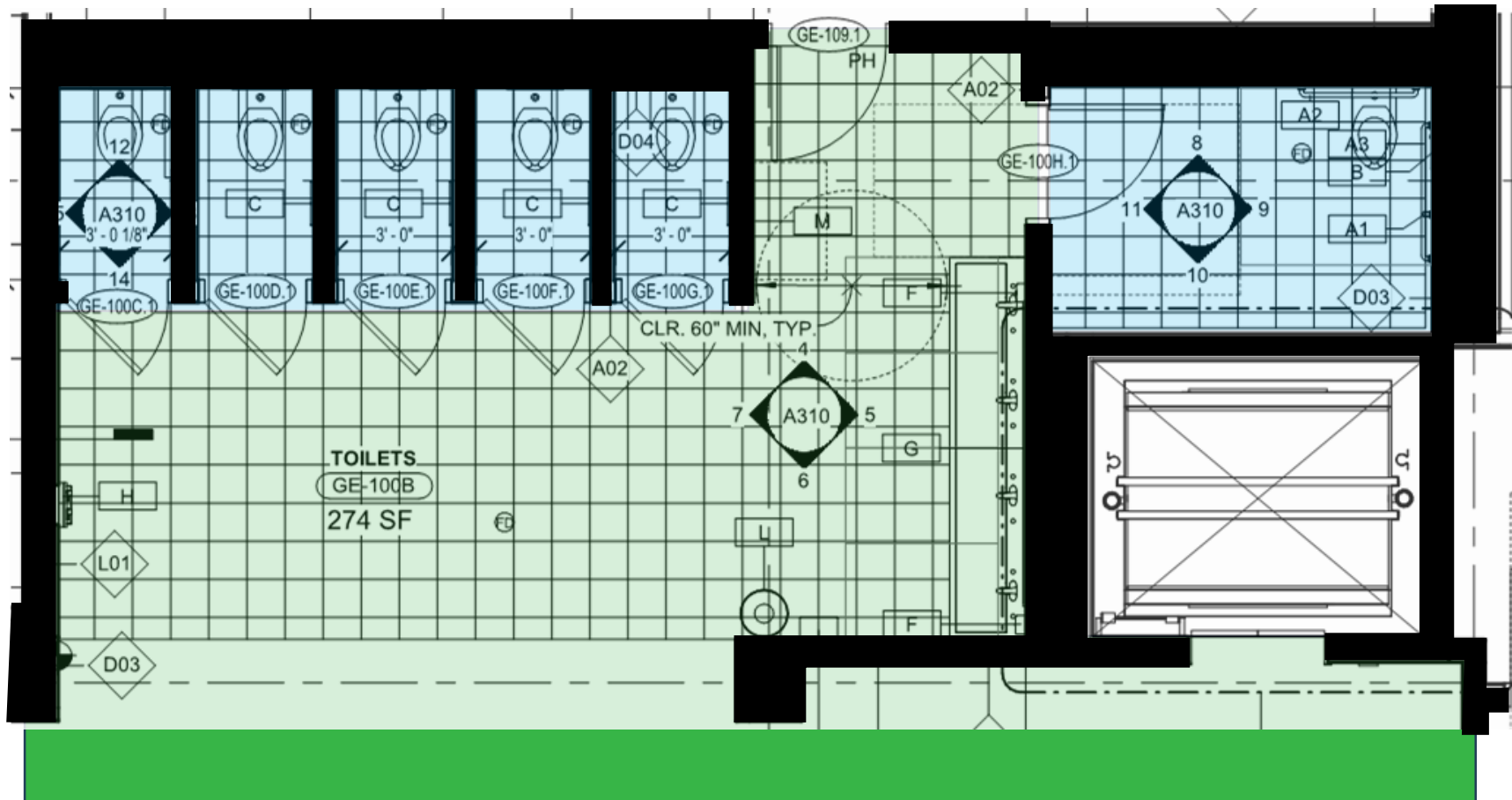
# Evergreen Community College San Jose, CA (General Ed)







# Corridor Expansion



## Features:

- Feels like an extension of the hallway
- All bathroom doors are visible from the hallway
- No door in/out
- Mirror, sinks, and counter tops provided in a more private space





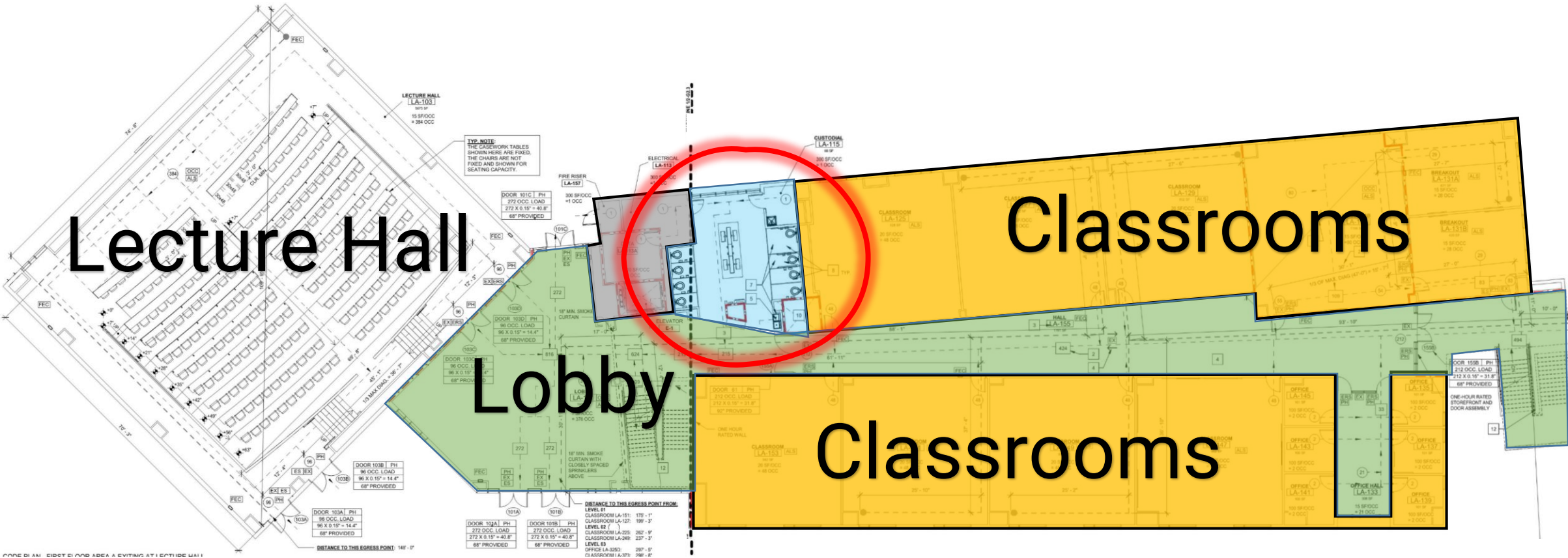


# Evergreen Community College San Jose, CA (Language Arts)



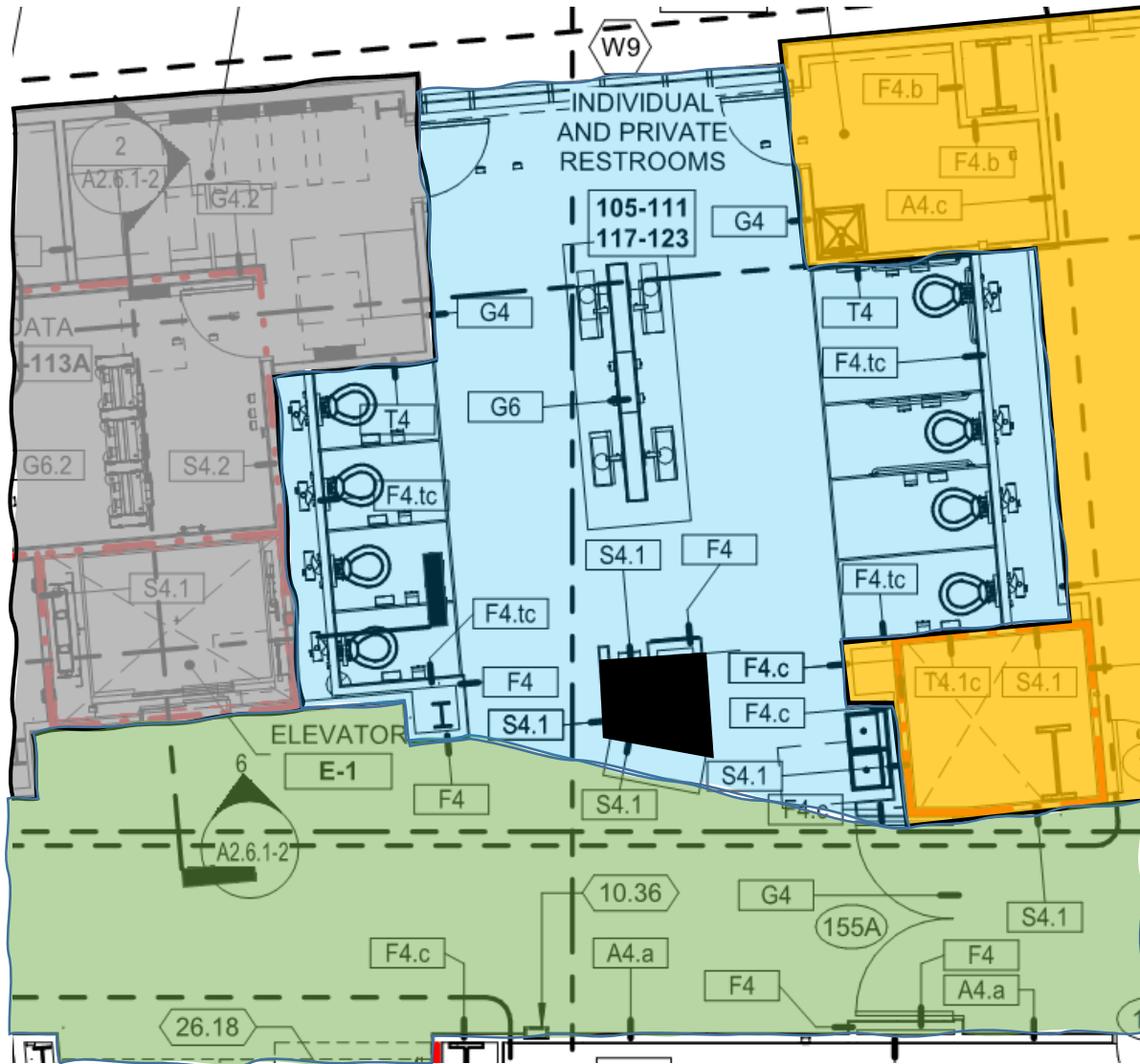


# Horseshoe Model





# Horseshoe Model



## Features:

- All restroom doors are visible from the hallway
- There is no door in/out, just a change of materials
- Mirror, sink, and countertop space provided
- Circulation width inside the bathroom can host two wheelchairs passing
- More plumbing count than required by code, but less count than having a female/male separated plan
- Desired horseshoe shape achieved
- Large floor to ceiling window wall provides natural filtered light



FLOOR ONE  
Classroom  
Lobby  
Faculty Office  
100-101

THE FUTURE OF  
ADAPTING  
ELITE  
DIAM  
NIBH

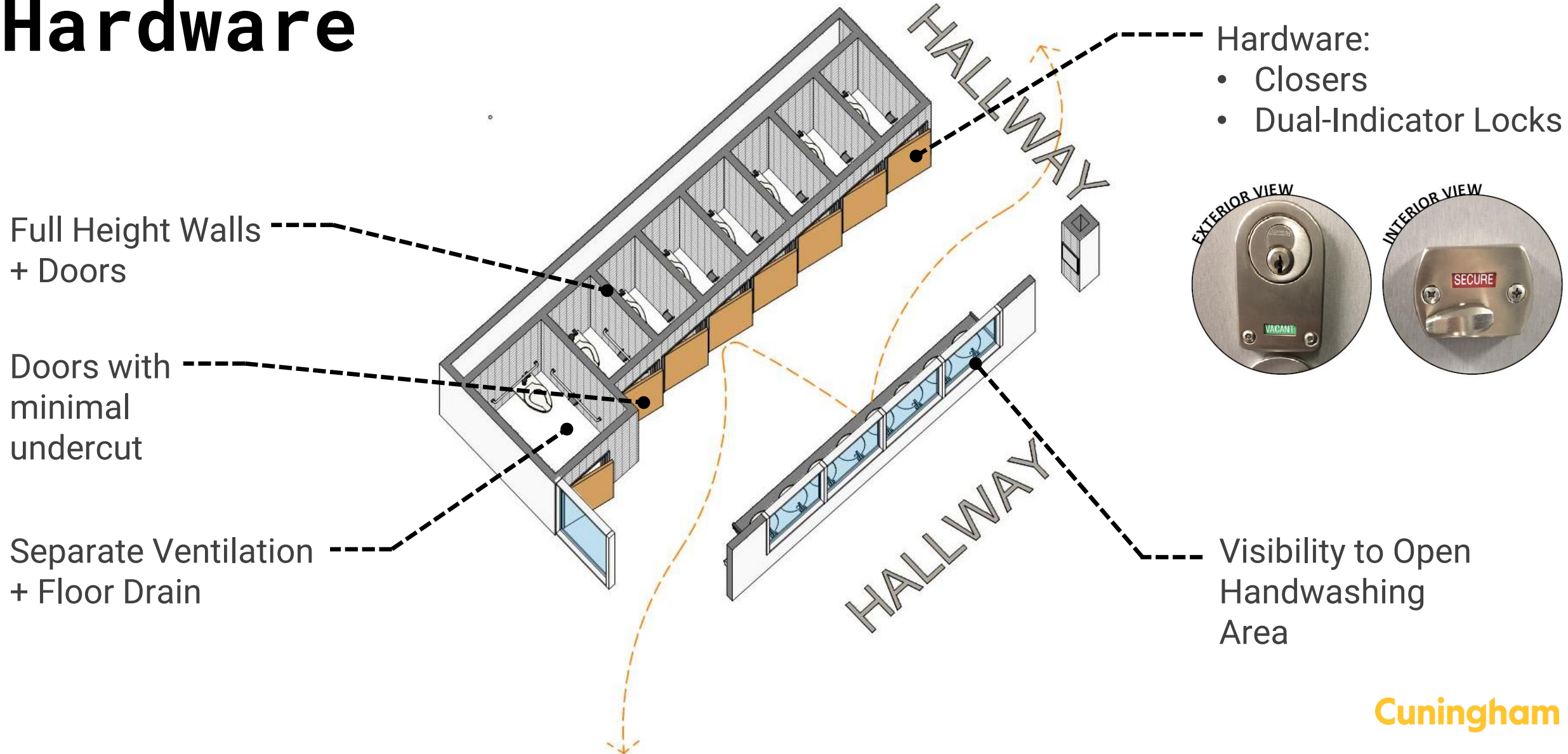


INDIVIDUAL  
AND PRIVATE  
RESTROOMS





# Full Height Walls, Doors, + Hardware



# Closers





# Dual Indicator Locks



**OUTSIDE BATHROOM VIEW**



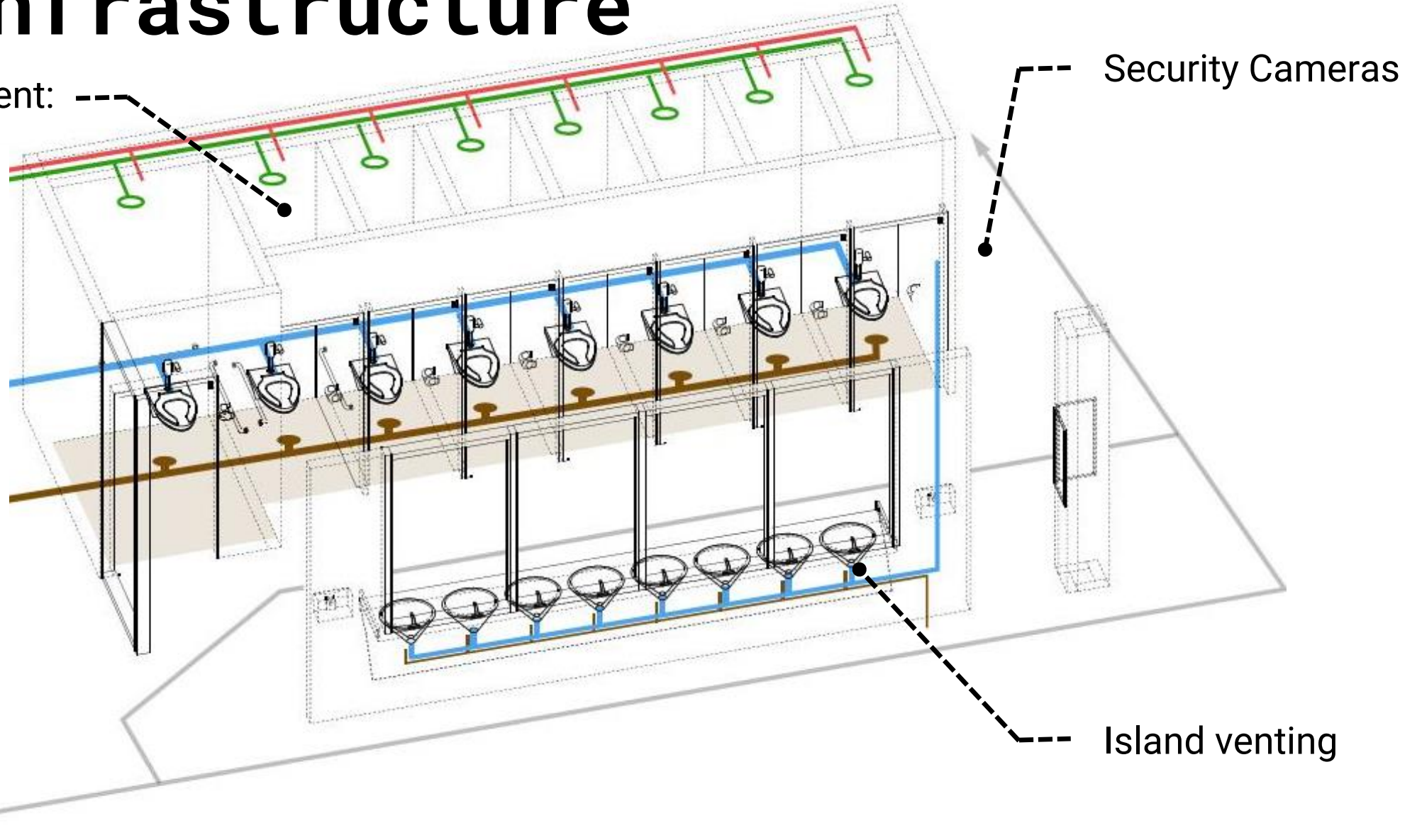
**INSIDE BATHROOM VIEW**



# MEP Infrastructure

Each Compartment:

- Sprinkler
- Exhaust
- Light
- Floor Drain



*Community  
Engagement  
Process: Pre-  
Occupancy Survey*

How safe do you feel using the traditional restroom (Separated male and female group restrooms), shown below?



- Very Safe
- Somewhat Safe
- Somewhat Safe
- Very Unsafe
- Neutral

Very Safe

Somewhat Safe

Neutral

Somewhat Unsafe

Very Unsafe



How safe do you feel using the traditional restroom (Separated male and female group restrooms), shown below?



- Very Safe
- Somewhat Safe
- Somewhat Safe
- Very Unsafe
- Neutral

35%

Very Safe

36%

Somewhat Safe

18%

Neutral

8%

Somewhat Unsafe

3%

Very Unsafe

How safe do you feel using an individual, private, single person restroom, shown below?



68%  
33%+

Very Safe

17%  
19%-

Somewhat Safe

10%  
8%-

Neutral

4%  
4%-

Somewhat Unsafe

1%  
2%-

Very Unsafe

What is your preferred type of restroom, if you had your choice?

69%

Individual & Private

6%

Either

25%

Male / Female

85% report safe or very safe in an individual & private bathroom, but 75% report this would be their preferred bathroom type.



Would you use a series of public sinks in a hallway, shown below

79%

Yes

21%

No

Most common comments for no include a need for space to do private face care in a mirror and a place to set down a bag or purse without it getting wet.

The walls for each private restroom are thick with floor to ceiling wall. There is no ability to peek through, over, or under stalls. Does that make you feel secure?



86%

Yes

14%

No

85% report safe or very safe in an individual & private bathroom, 75% report this would be their preferred bathroom type, and 86% feel this is a secure solution

Having restroom doors that can be seen from the hallway makes me feel:

17%

Very Safe

18%

Somewhat Safe

45%

Neutral

14%

Somewhat Unsafe

6%

Very Unsafe



Knowing the door to the restroom stall has no gaps and is lockable on the inside makes me feel:

This question is a rewording of question 5 as a confirmation check. Q5 resulted in 86% feeling safe and this question resulted in 81% feeling safe. Consistent results.

58%

Very Safe

23%

Somewhat Safe

11%

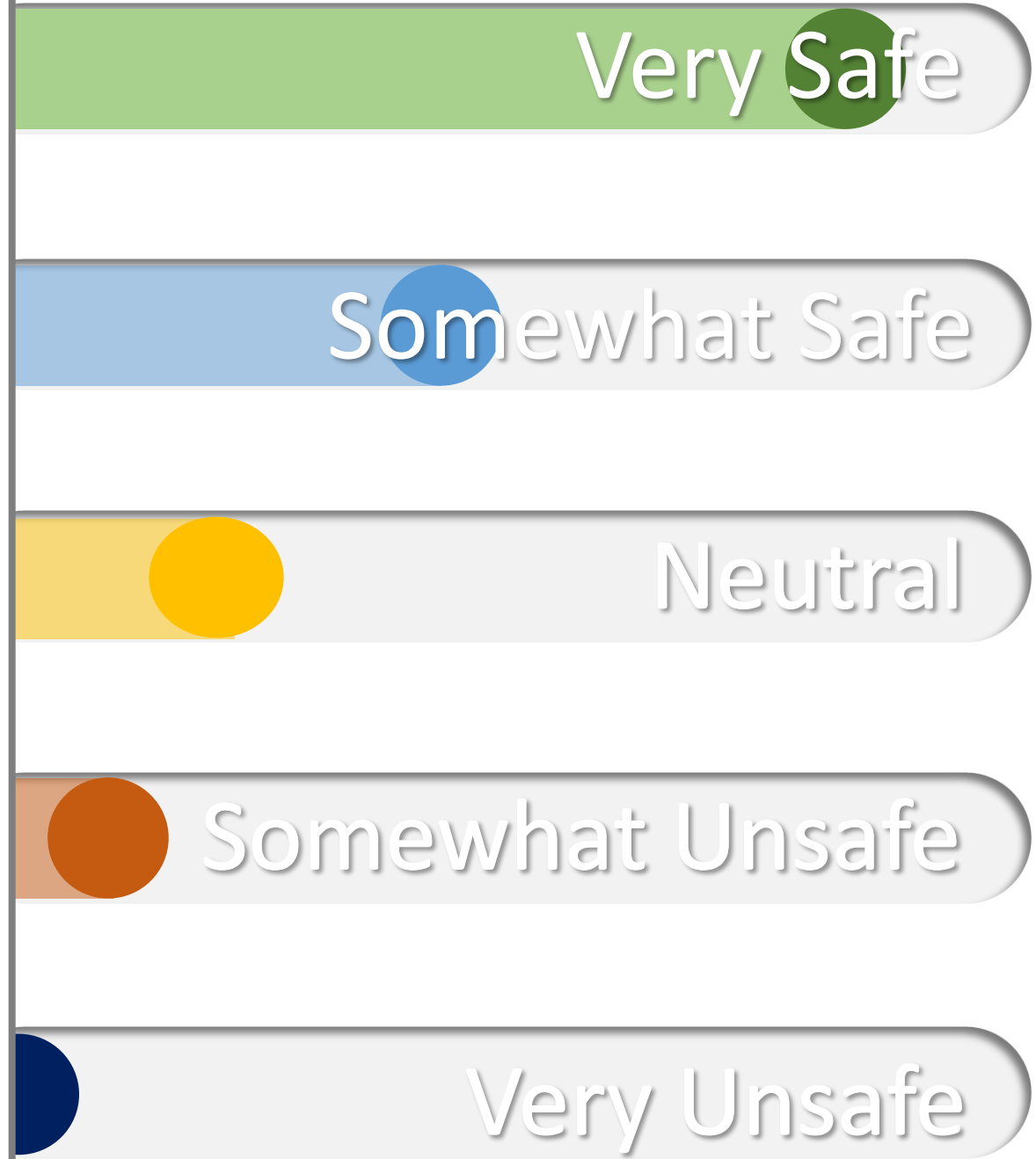
Neutral

7%

Somewhat Unsafe

1%

Very Unsafe



Knowing that an all-inclusive restroom is a private room, with floor to ceiling separation, and locks from the inside makes me feel:

This question resulted in a 10% drop in perceived safety and an 2x increase in perceived danger. The only words that changed were “individual & private” became “all-inclusive.”

56%  
-12%

Very Safe

19%  
2%+

Somewhat Safe

14%  
4%+

Neutral

8%  
4%+

Somewhat Unsafe

3%  
2%+

Very Unsafe



# Self-actualization

Desire to become the most that one can be

## Esteem

Respect, self-esteem, status, recognition, strength, freedom

## Love and belonging

Friendship, intimacy, family, sense of connection

## Safety needs

Personal security, employment, resources, health, property

## Physiological needs

Air, water, food, shelter, sleep, clothing, bathroom

# Maslow's Hierarchy of Needs



# *Building Code + 04 Individual and Private Restrooms*

*Case Study: Alternative Code Compliance at Saint Paul  
Public Schools*

# Reaching Alternative Compliance @ SPPS: 2012 IBC

1. **Separate Facilities**
2. **Accessible Routes**
3. **Accessibility**
4. **Signage**

With the 2021 IBC, an alternative compliance for separate facilities is no longer required.

# Chapter 29: Separate Facilities

***“Where plumbing fixtures are required, separate facilities shall be provided for each sex”***

Chapter 29: Accessibility, Section 2902.2

With the 2021 IBC, an alternative compliance for separate facilities is no longer required.



# Chapter 29: Separate Facilities

The intent of the code for providing separate facilities for each sex is written in the code commentary,

**“The separate facilities requirement for males and females addresses two main concerns: privacy and safety.”**

2012 IBC Code Commentary, 29-13



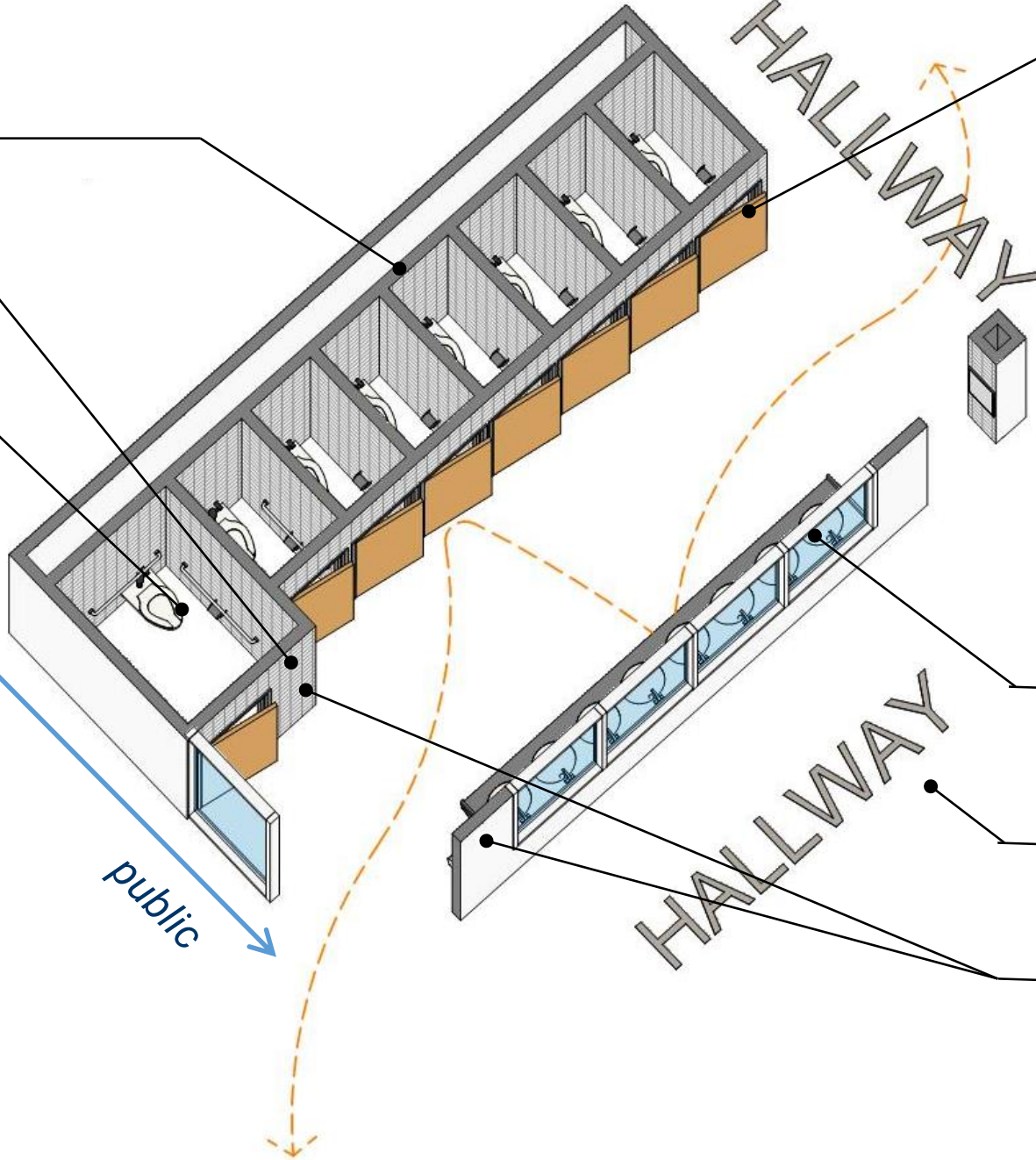
Full Height Walls  
+ Doors with  
minimal undercut

ADA Door  
Clearances

Separate Ventilation  
+ Floor Drain

private

public



Hardware:

- Closers
- Dual-Indicator Locks



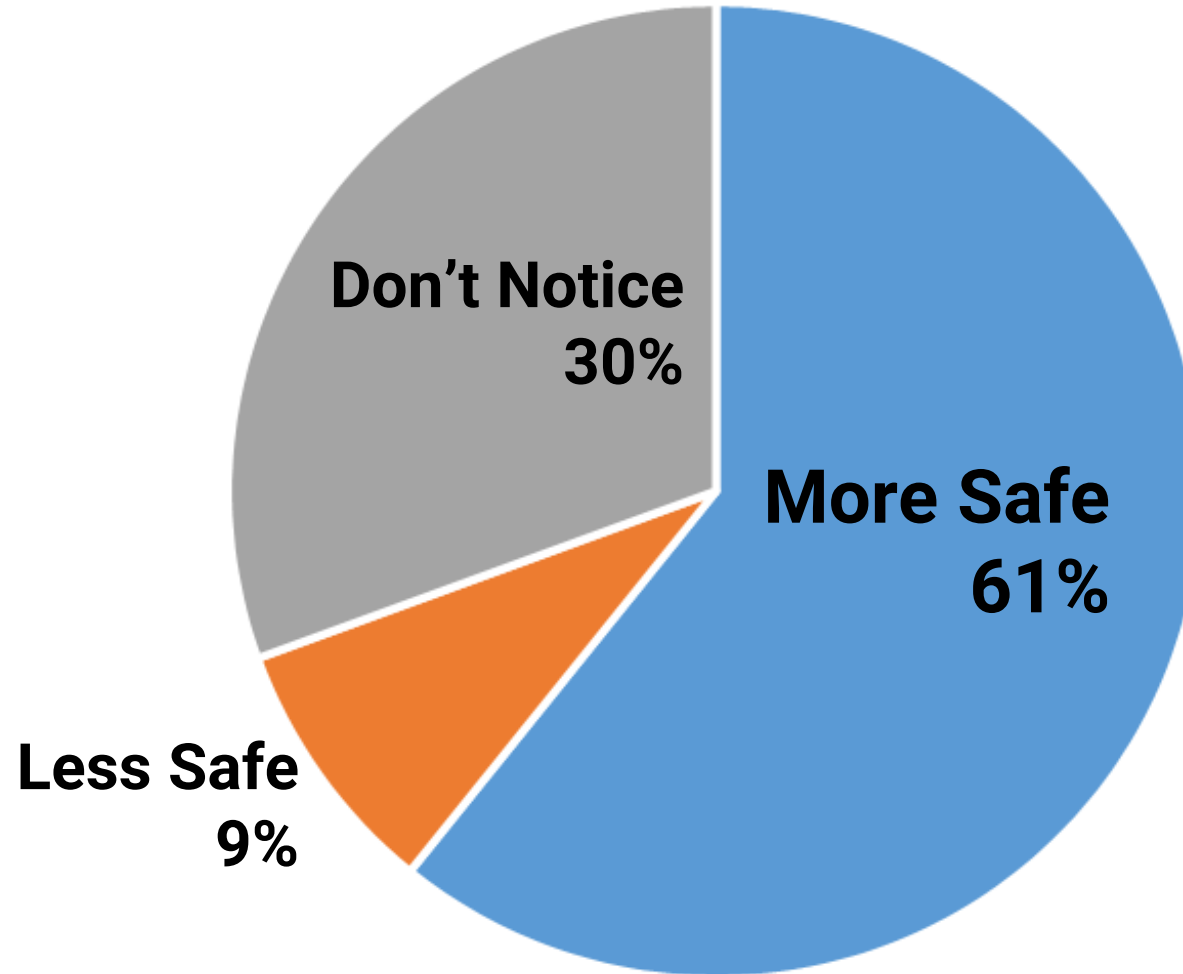
Visibility to Open  
Handwashing Area

Security Cameras  
in Hallways

Signage



# Do you feel the inclusive restrooms are more or less safe than the previous restrooms?

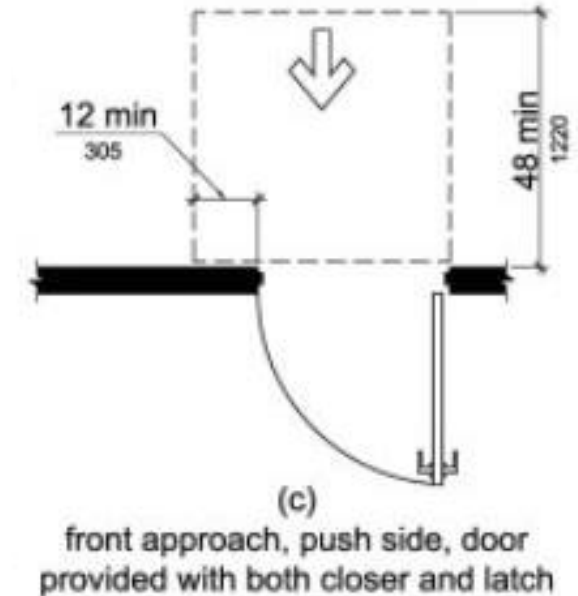
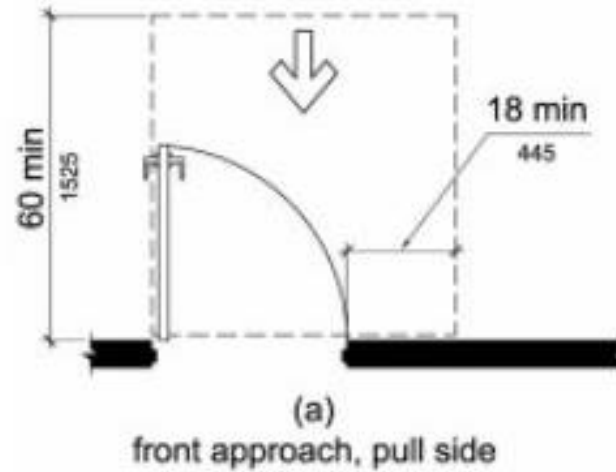




# Chapter 4: Accessible Routes

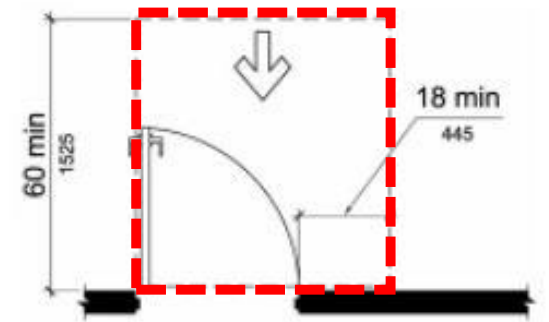
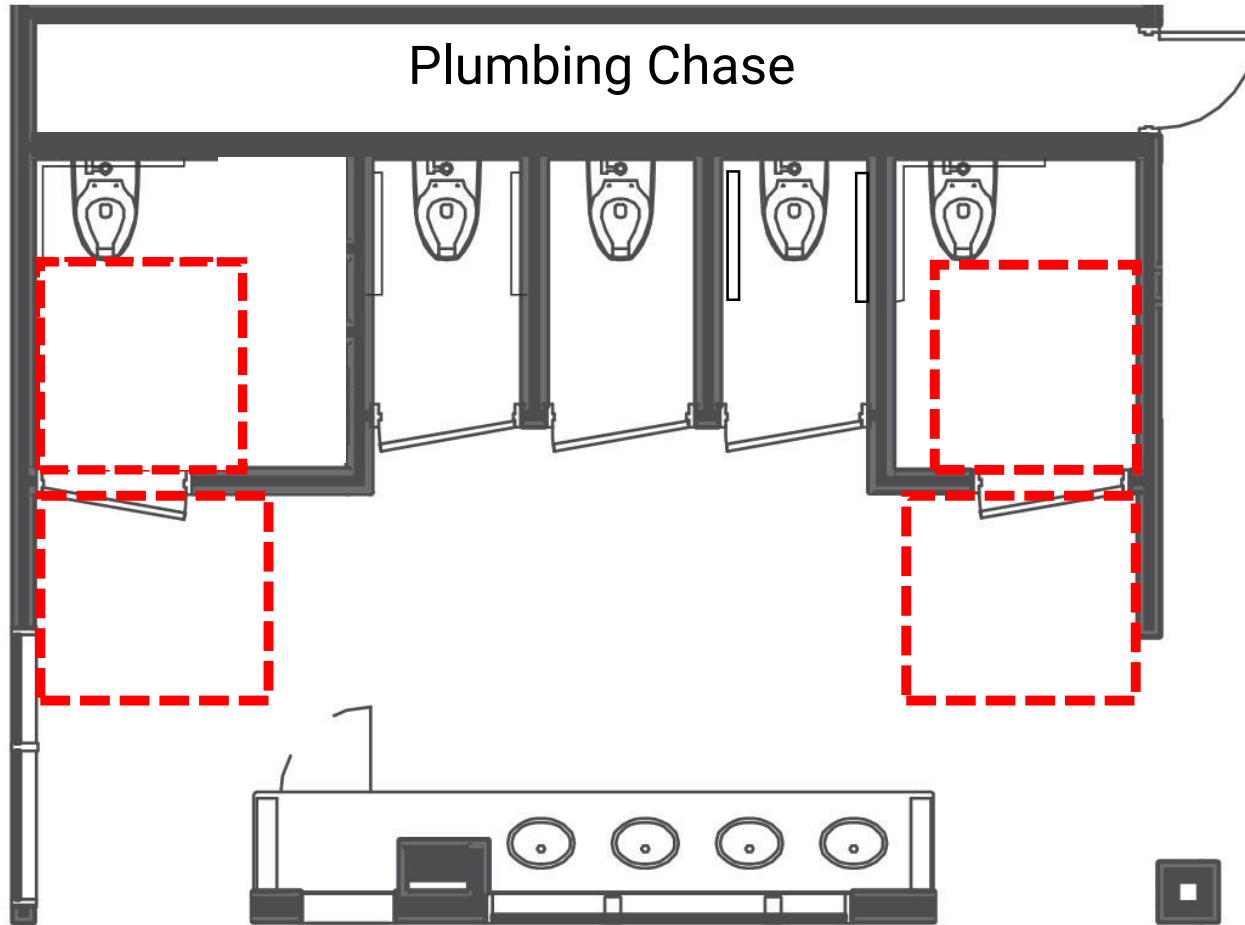
***“Swinging Doors shall have maneuvering clearances complying with Table 404.2.3.2.”***

Chapter 4, Table 404.2.3.2

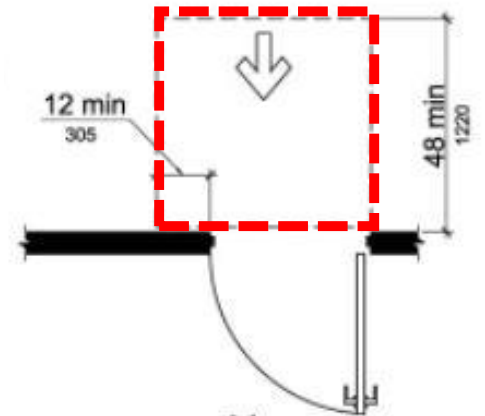


<https://codes.iccsafe.org/public/document/FAC2017/chapter-4-accessible-routes>

# Chapter 4: Accessible Routes



(a)  
front approach, pull side



(c)  
front approach, push side, door  
provided with both closer and latch

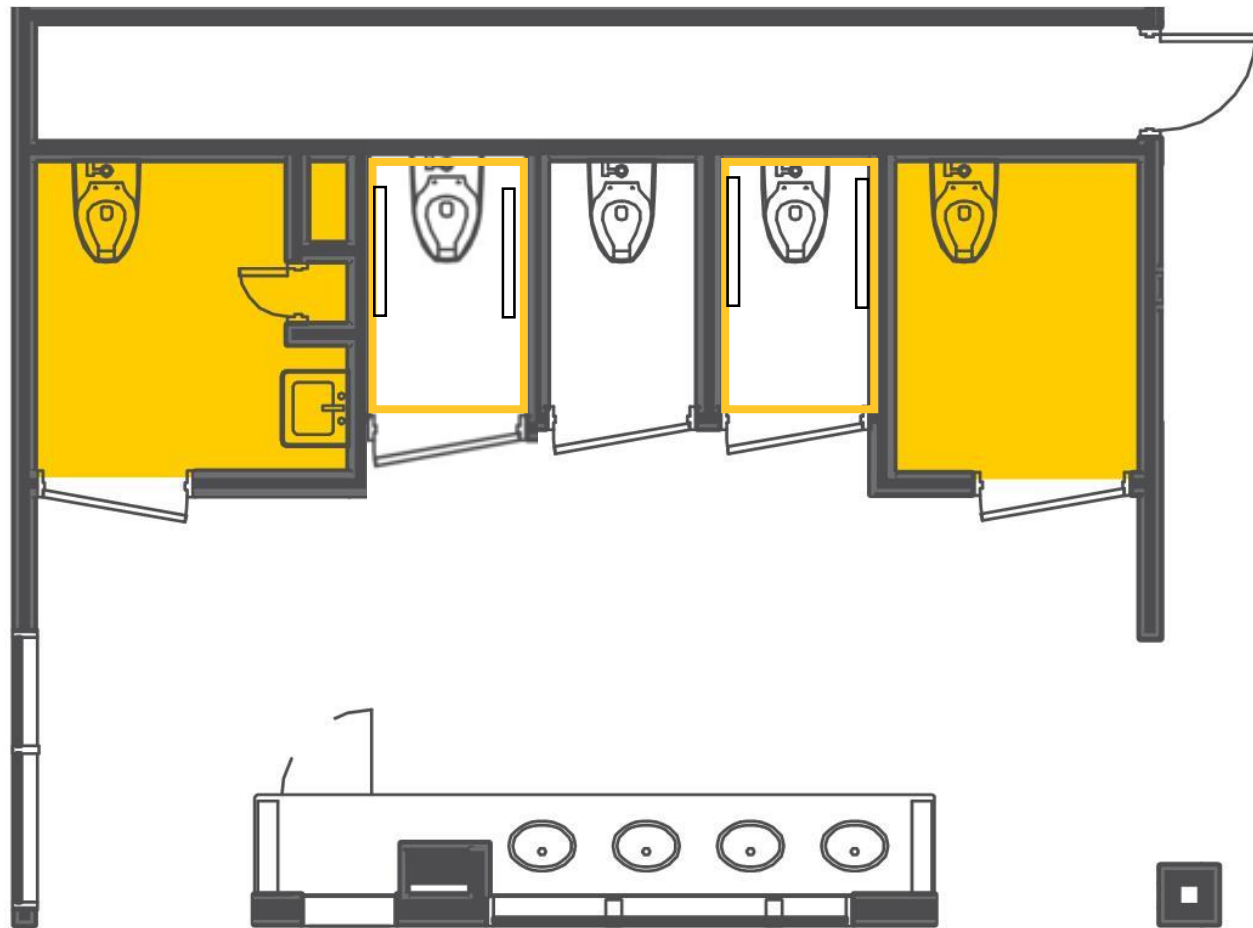
# Chapter 11: Accessibility

***“Where multiple single-user toilet rooms or bathing rooms are clustered at a single location, at least 50 percent but not less than one room for each use at each cluster shall be accessible.”***

Chapter 11: Accessibility, Section 1109.2 Exception 3



# Chapter 11: Accessibility



**Accessible**

**Ambulatory**

# Chapter 11: Accessibility



## SCENARIO 2: After Hours / Weekend Special Events

### 4. Special Event Occupant load

	Capacity	# Accessible Seats Required
Auditorium	1000	3
Pool	232	2
Spectator Gym	864	3
		<b>Total 8 Required</b>
ADA Restroom Stalls Provided		<b>13 Provided</b>

# Chapter 29: Signage

***“Required public facilities shall be designated by a legible sign for each sex. Signs shall be readily visible and located near the entrance to each toilet facility...”***



[https://codes.iccsafe.org/content/IBC2021P2/chapter-29-plumbing-systems#IBC2021P2\\_Ch29\\_Sec2902.4](https://codes.iccsafe.org/content/IBC2021P2/chapter-29-plumbing-systems#IBC2021P2_Ch29_Sec2902.4)

# 05 *Post Occupancy Survey*



# Johnson High School At a Glance\*:

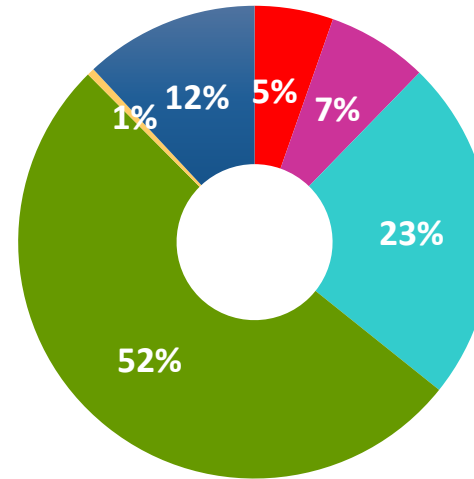
Grades: 9-12

Enrollment: 1,189



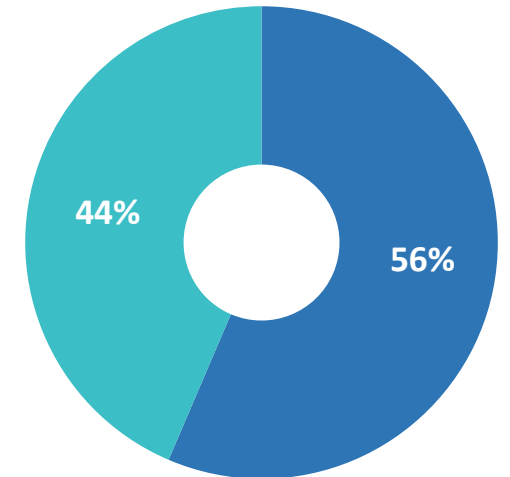
TKDA Architects in Minneapolis, MN

## Student Race/Ethnicity



- Two or More Races
- White
- Native Hawaiian/Pacific Islander
- Black/African American
- Asian

## Student Gender



- Male
- Female

\*Based on October 1, 2021 data as posted by Saint Paul Public Schools Data Center.

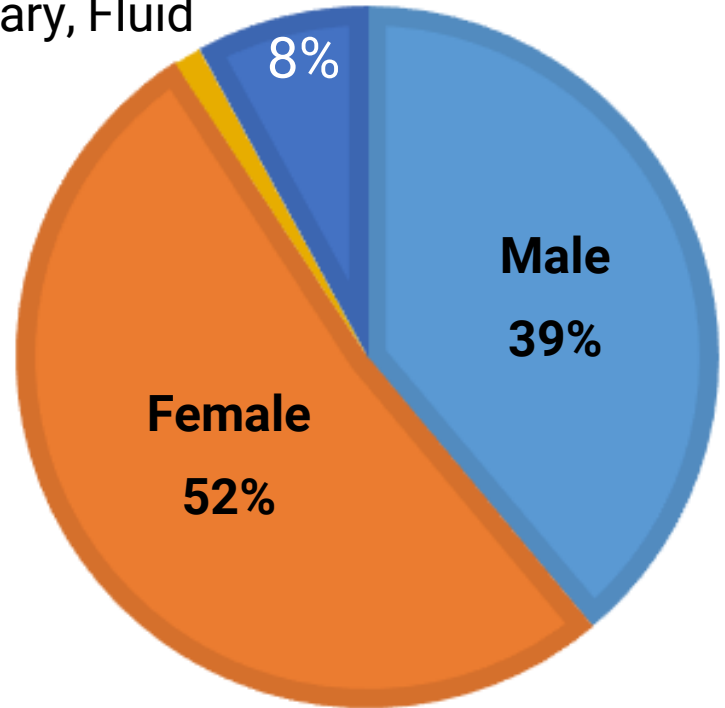


## The DATA:

Responses: Nearly 800 of 1,200 students

1% Transgender,  
Non-Binary, Fluid

Preferred not to say

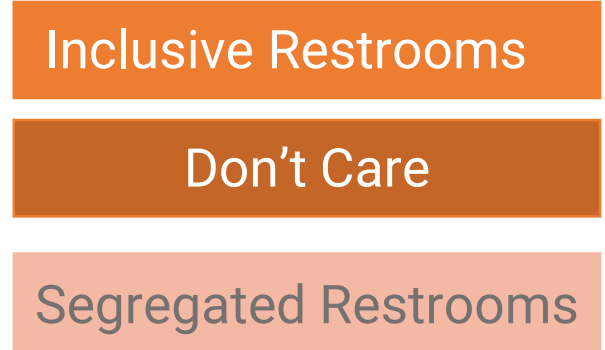
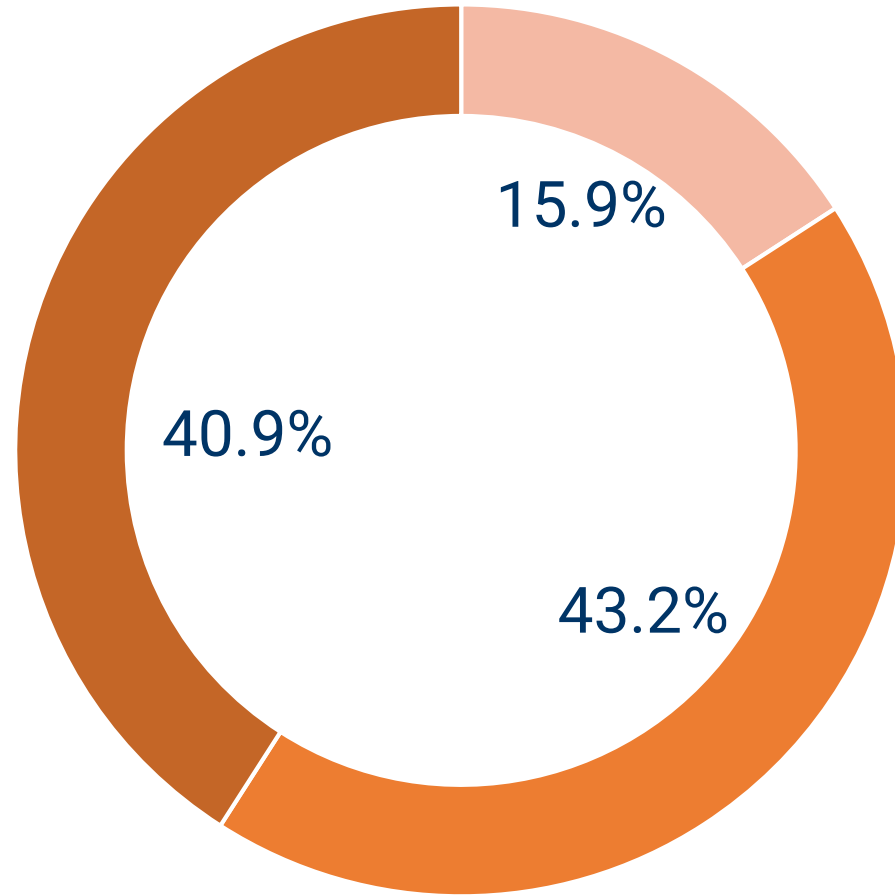


Post Occupancy Survey

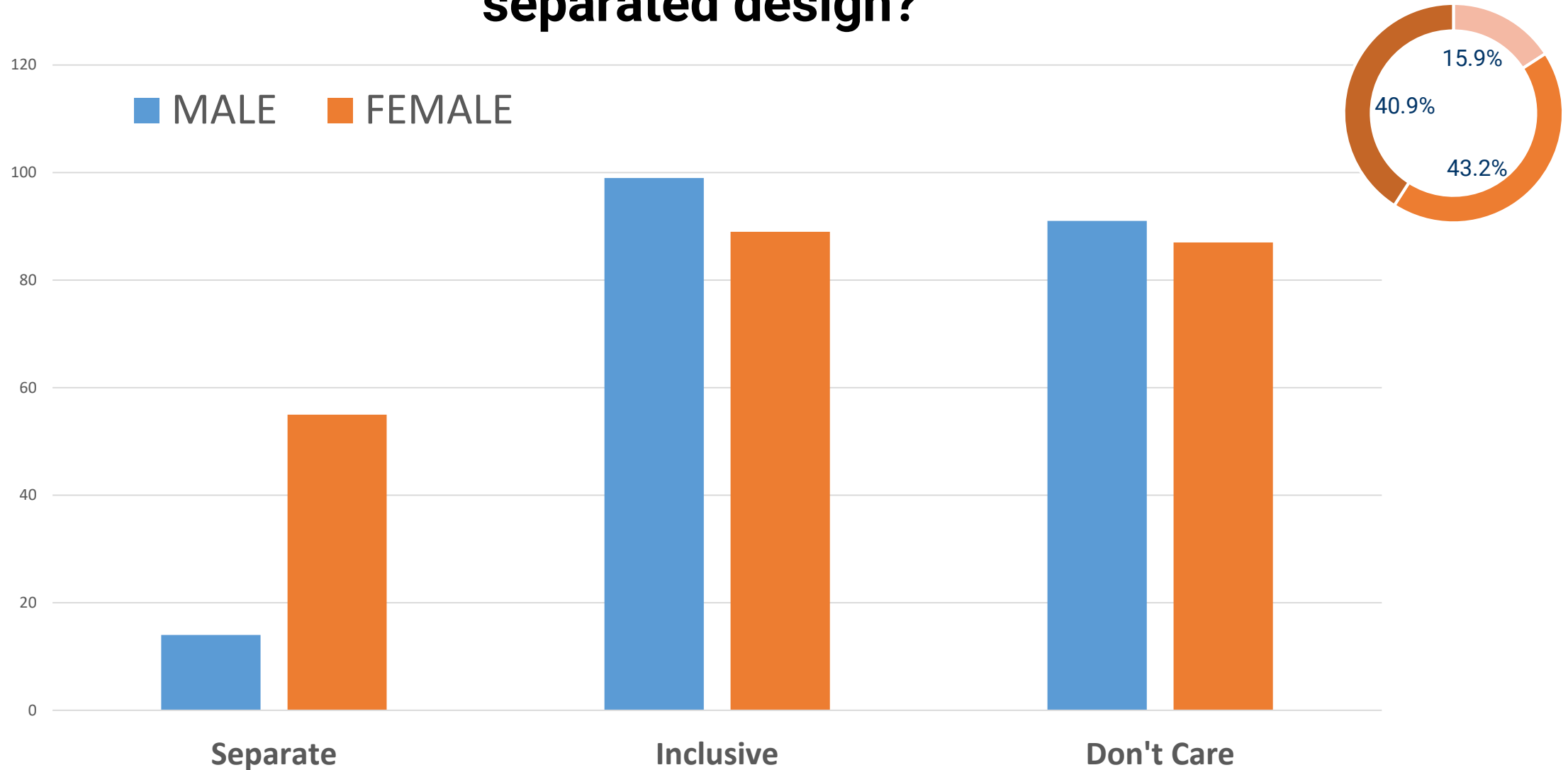
**Cunningham**

# If you were a student at Johnson High School before the renovation, do you prefer the new restroom design over the previous, gender separated design?

***“It took 2 hours before students became blasé about in the restrooms.”***  
Assistant Principal

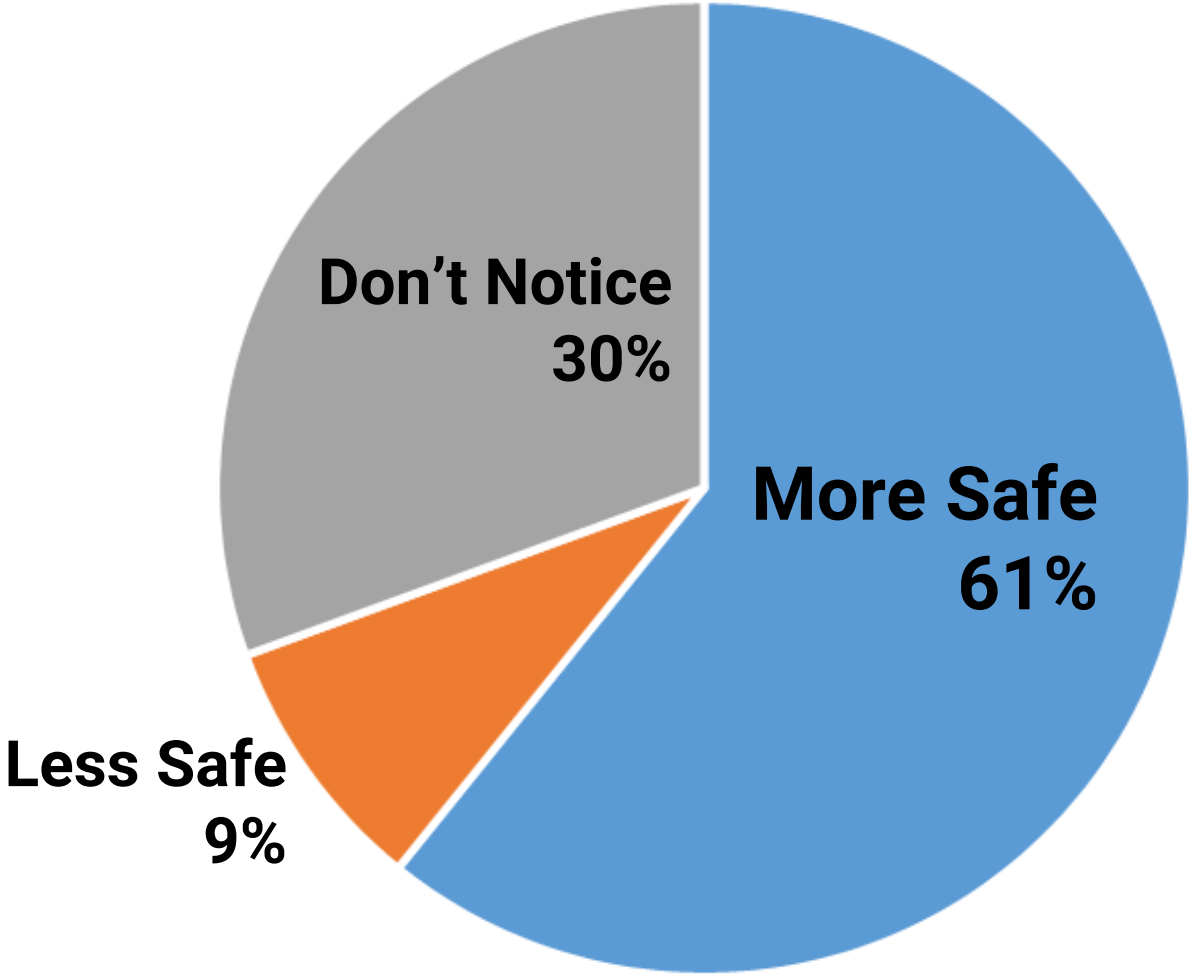


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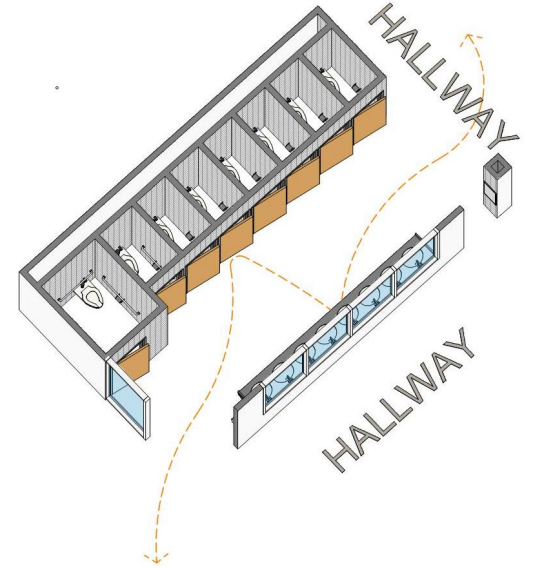


# Do you feel the inclusive restrooms are more or less safe than the previous restrooms?

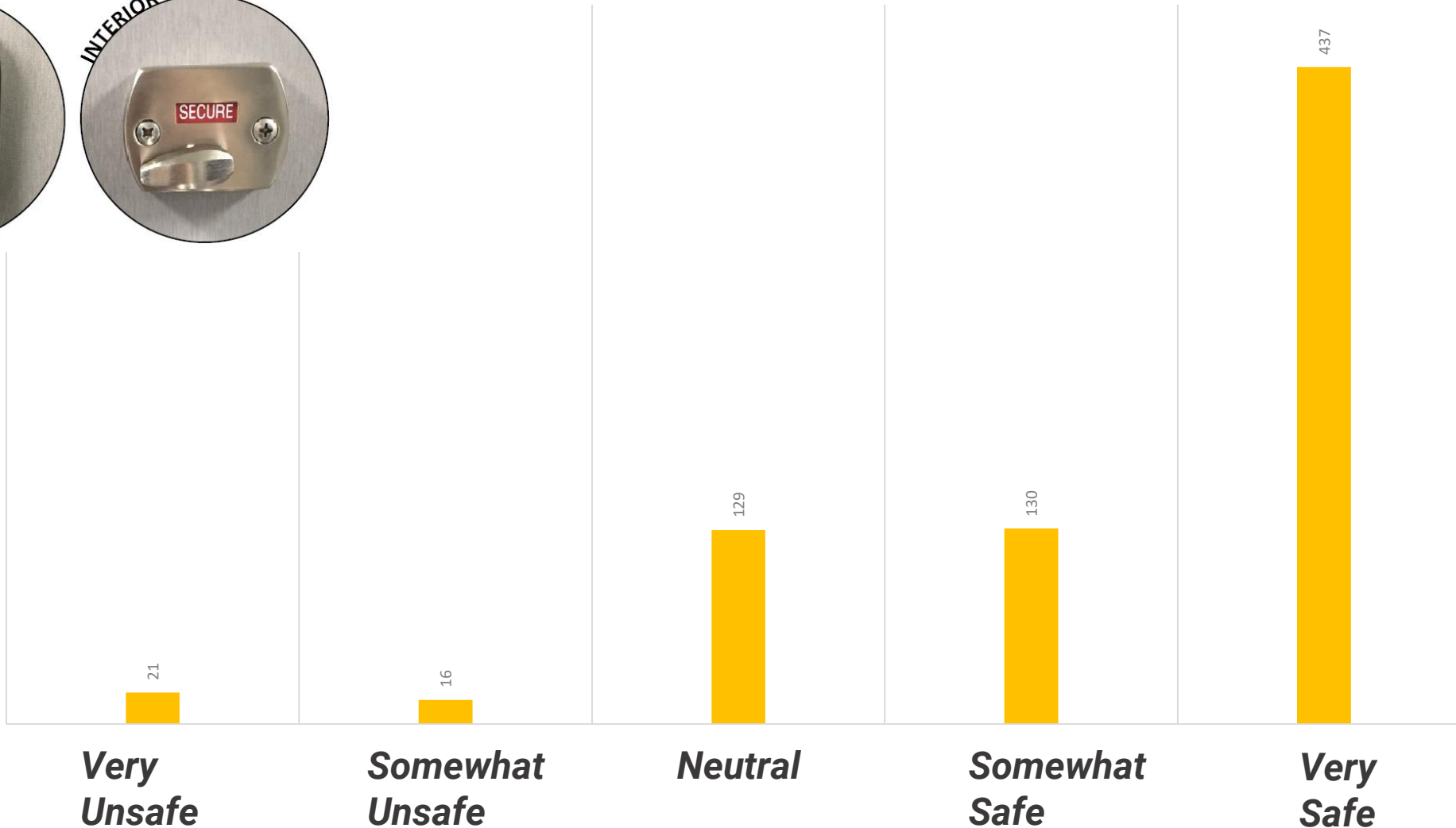


## Having a / an.....makes me feel:

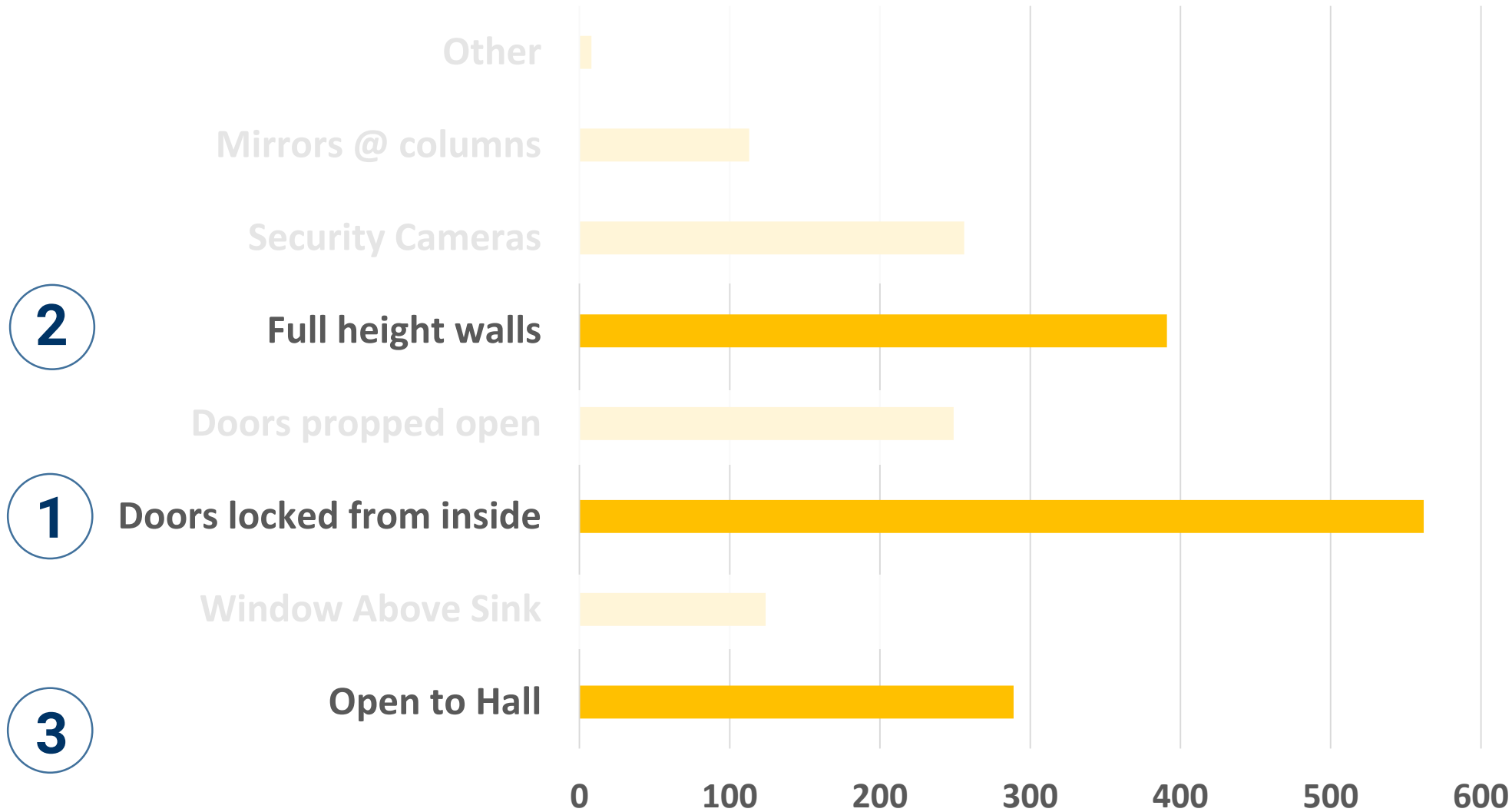
1. Stall Doors that Can be Seen From the Hall
2. Access to Individual Bathrooms
3. Security Cameras in the Hallways
4. Window Above the Sink Area
5. Mirrors on Columns
6. Knowing the Bathroom Doors are Locked From Inside



# Knowing the bathroom doors are locked from the inside makes me feel:



# What TOP 3 features are MOST important for safety in the design of Inclusive Restrooms:



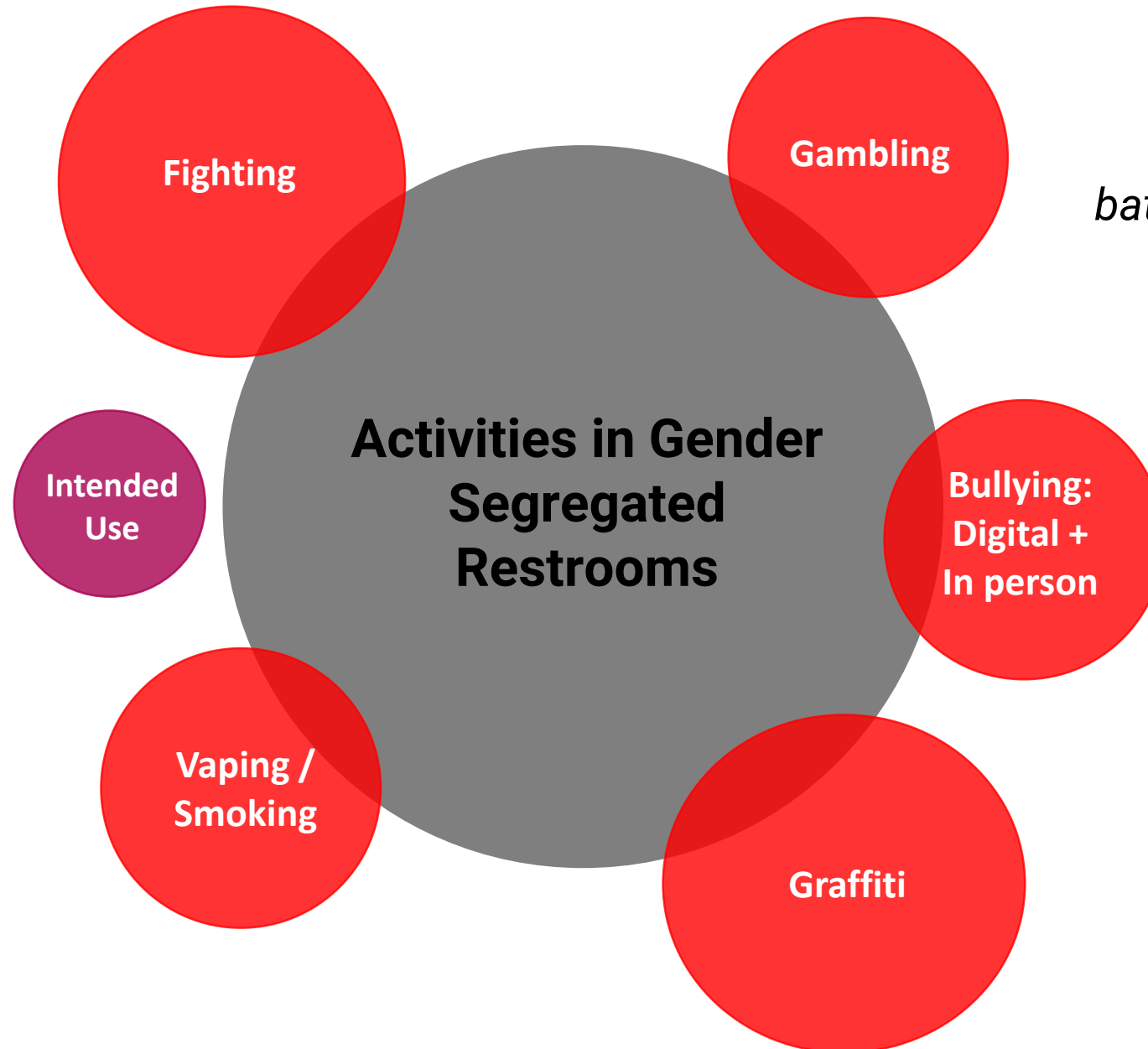


# INDIVIDUAL AND PRIVATE RESTROOMS BENEFIT MORE THAN TRANSGENDER, NON-BINARY, FLUID SCHOLARS



# 06 *Benefits*

# Pre-Inclusive Restrooms @ SPPS



*"I didn't feel like I wanted to use the bathroom, I would wait until I would go home" – SPPS Student*

*"The old bathrooms were dark and gloomy" – SPPS student*

*"Traditional bathrooms have a sort of public and a private space, and in the public space... that is where the problems were for personal bullying" – SPPS Administrator*

# Post-Inclusive Restrooms @ SPPS



*“There is a lot more privacy, and you just feel comfortable. And you just don’t have to worry about little things you would have to worry about in a traditional bathroom.” – SPPS Student*

*“There’s no place to bully kids in the physical sense now because we can see it.” – SPPS Student*

During the past “TikTok” Bathroom Challenge, the only restrooms that suffered damage in the SPPS District were gender segregated restrooms.



# TikTok



Search



- For You
- Following
- Explore New
- LIVE

Log in to follow creators, like videos, and view comments.

Log in

Create effects

[About](#) [Newsroom](#) [Contact](#) [Careers](#)

What do gender neutral bathrooms look like in a public school

150.6K

6218

6629

3706

00:01 / 00:40

Speed

# Oakland Unified School District

We have real climate and culture issues in our bathrooms. Students are doing drugs, there are fights, they are not using the space for its intended use.

**I think the additional cost is worth the safety.**

-Preston Thompson, OUSD

# 07 Frequently Asked Questions

# What about locker rooms? Is there an Individual and Private locker room prototype?

Full Height Walls  
+ Doors

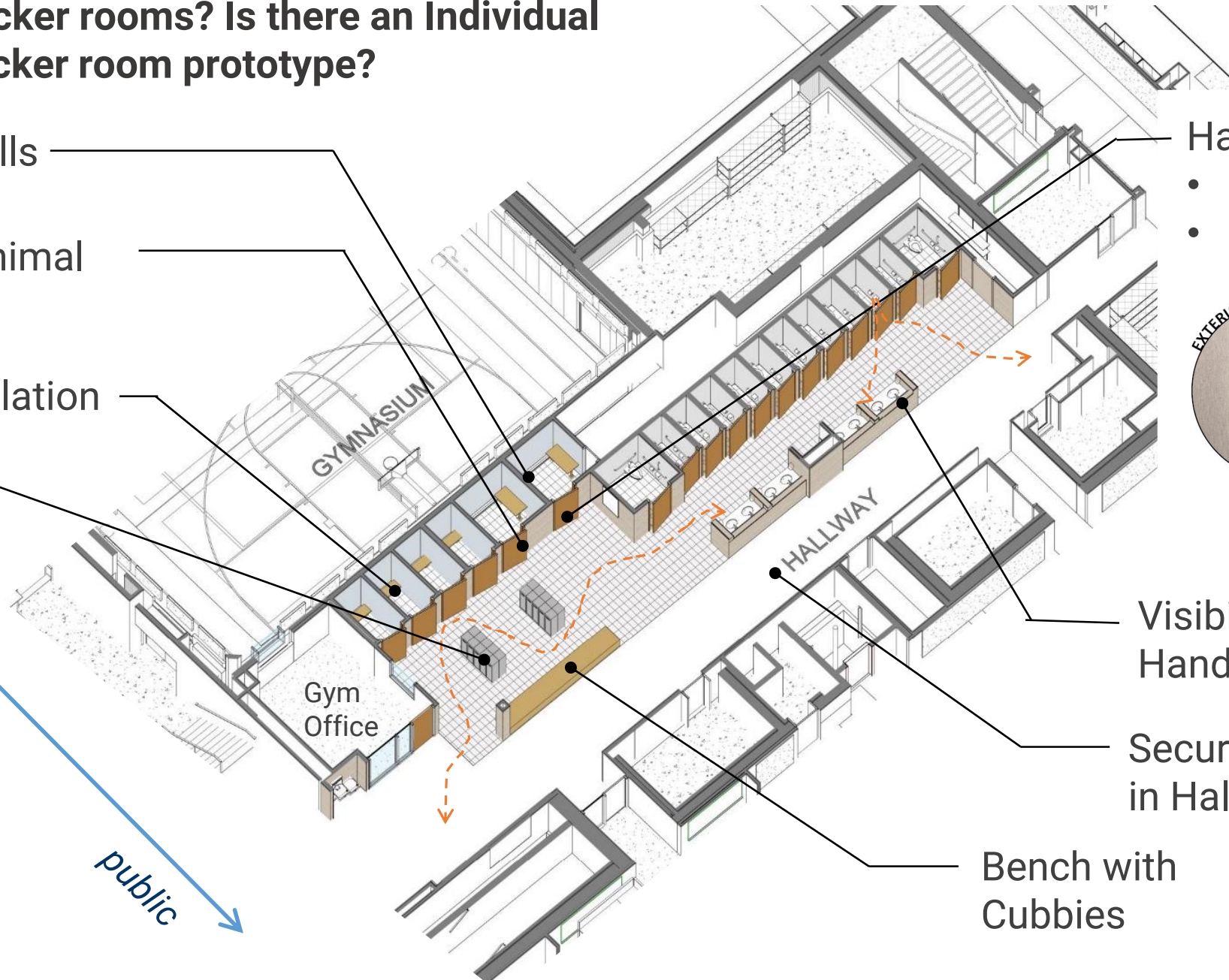
Doors with minimal undercut

Separate Ventilation

Lockers

private

public



Hardware:

- Closers
- Dual-Indicator Locks



Visibility to Open Handwashing Area

Security Cameras in Hallways

Bench with Cubbies



Cunningham



## **How does the maintenance of Individual and Private restrooms differ from gender segregated?**

We have heard both anecdotally and through post-occupancy interviews that Individual and Private restrooms require more frequent cleaning than their gender segregated counterparts.

However, this is because the Individual and Private restrooms are utilized more. Ultimately, this is a good thing, as it means the Individual and Private model is helping students meet their health and wellness needs.

## **Have there ever been incidents of boys and girls in the same compartment?**

While there have been incidents of boys and girls (and two students of the same gender) in the same compartment, these incidents actually occur much less frequently than in the previous gender segregated models.

Additionally, because the Individual and Private model is more open to hallways, this type of behavior is easier to notice and correct.

## **How do I talk about this model to those that are hesitant?**

An effective way to guide how parents and students think about the Individual and Private restroom model prior to their construction is to point out that this model is no different than the restroom at home.

Additionally, using a three-dimensional (physical or digital) model is helpful in communicating the attributes of this model.

## Why are we designing for the LGBTQ+ community when they represent a small part of our society?

This model benefits ALL students.

Beyond the inherent safety and security benefits of this model, the following additional benefits for students include:

- Satisfying physiological needs is fundamental to achieving growth in Maslow's Hierarchy of Needs. **Being able to use the restroom to tend to bodily functions is a physiological need, for everyone.**
- Reduction in negative incidents related to restrooms, including bullying, gambling, fighting, predatory digital images, vaping and graffiti
- Provision of equitable access to all (supports Diversity, Equity, and Inclusion)
- Increased sense of safety as restrooms are visible and provide passive security
- Ability for caretakers (parents, elderly, students with disabilities) of opposite genders to have a space for toileting activities (schools are often centers of community activity)
- Increased opportunities for Social Emotional Support
- Health and Wellness benefits as restrooms are being utilized more often



## What hardware group is used to support this model?

Important to the success of this model are dual indicator locks and door closer that hold the door open 10 degrees when not in use signaling the compartment is open.

QTY	DESCRIPTION	CATALOG	NUMBER	MFR
EA	HINGE	AS REQUIRED		IVE
1 EA	CORRIDOR LOCK W/ IND.	L9456 L583-363 L283-722		SCH
1 EA	INSIDE INDICATOR TRIM	L283-711		
1 EA	SURFACE CLOSER	4111 TELE EDAW/62G SRI ST-2730		LCN
1 EA	OH STOP	90S		GLY
1 EA	KICK PLATE	8400 10"		IVE
1 EA	GASKETING	188S		ZER
1 EA	COAT HAT AND HOOK	582		IVE

FUNCTION: (F13) KEYED PRIVACY LOCK WITH INDICATOR. OUTSIDE LEVER LOCKED/UNLOCKED BY OUTSIDE KEY OR INSIDE THUMB TURN. DEADBOLT THROWN/RETRACTED BY OUTSIDE KEY OR INSIDE THUMB TURN. TURNING INSIDE LEVER RETRACTS DEADBOLT AND UNLOCKS OUTSIDE LEVER. INSIDE LEVER ALWAYS UNLOCKED. OUTSIDE TRIM INDICATES OCCUPIED/VACANT STATUS. INSIDE TRIM INDICATES LOCKED/UNLOCKED STATUS.



**Cunningham**

## How does the restroom counts compare between gender segregated and individual and private?

In Minnesota, at all locations of gendered restrooms in A occupancies, unisex restrooms must be provided.

OCCUPANCY TYPE	E	A	
	Total Difference	Minnesota Code	Total Difference: MN
Alexandria Area High School	-1	-4	-5
Humboldt High School	-1	-3	-4
Como High School	-1	-3	-4
Sartell - St. Stephens High School	-1	-4	-5
St. Cloud Technical High School	-1	-5	-6

Individual and private result in less fixtures overall.....

## How does the restroom counts compare between gender segregated and individual and private?

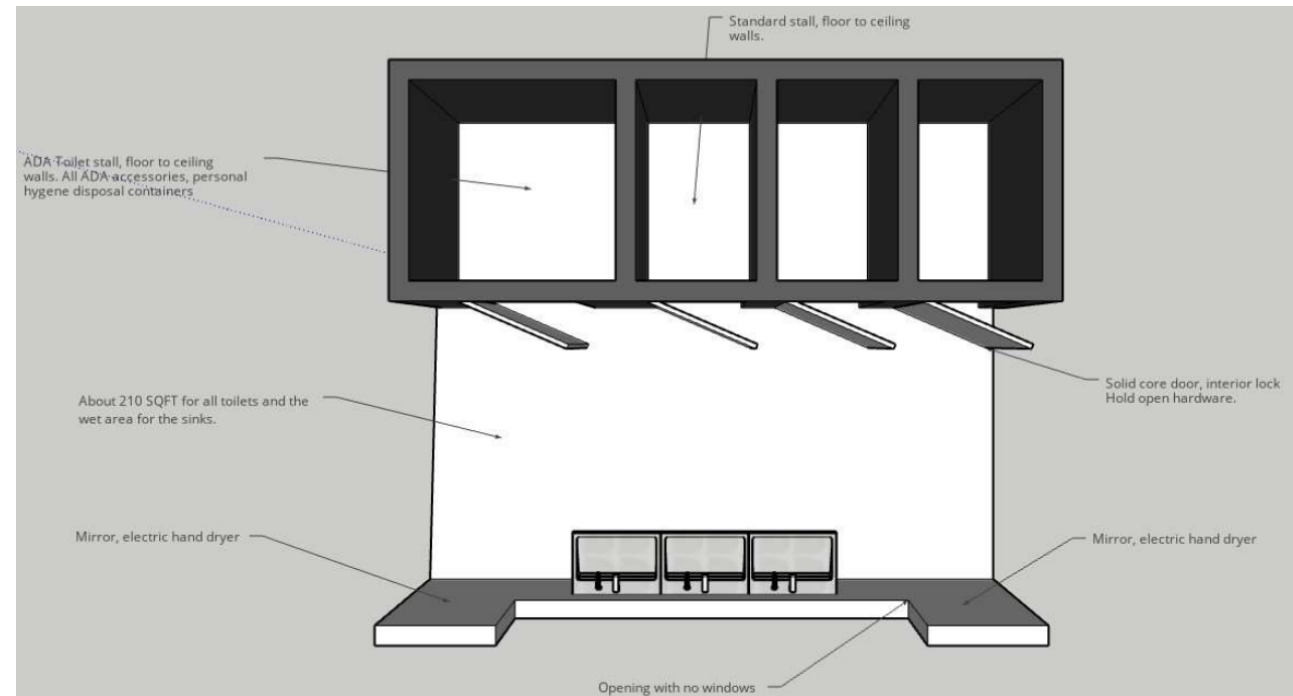
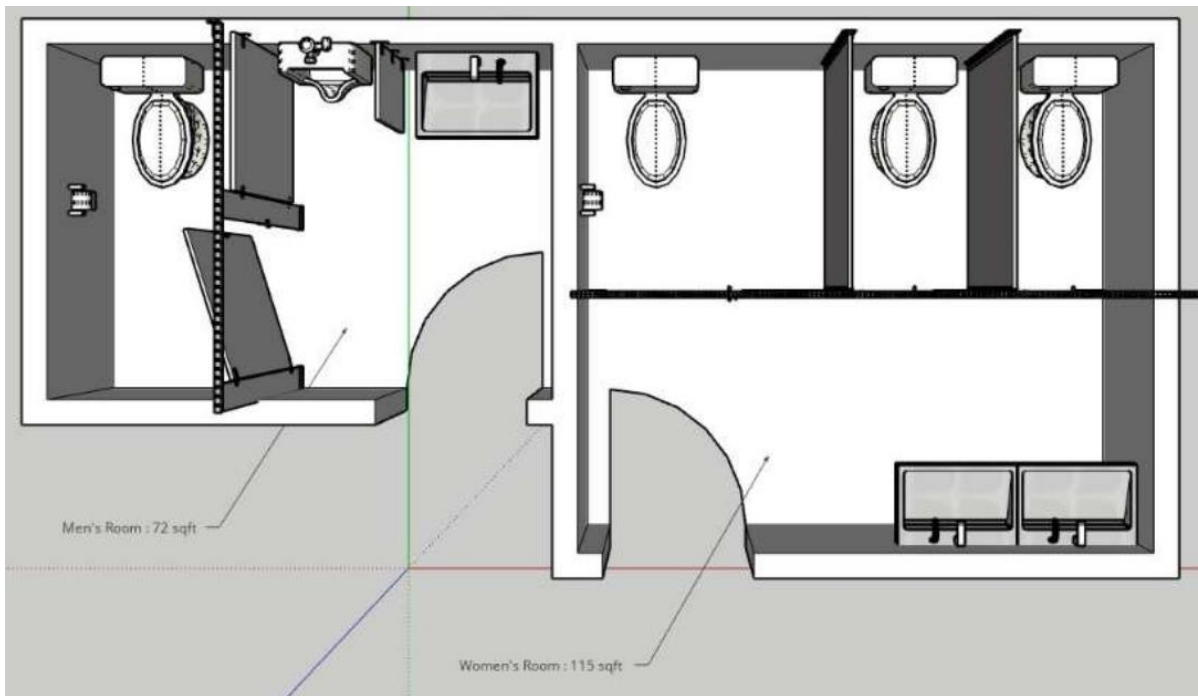
Capacity*		E Occupancy		
		Gender Segregated		All-Inclusive
		Male	Female	
Alexandria Area High School	1,550	16	16	31
Humboldt High School	1,350	14	14	27
Como High School	1,550	16	16	31
Sartell - St. Stephens High School	1,650	17	17	33
St. Cloud Technical High School	1,825	19	19	37

\*Capacity includes students + staff.

**However, all restrooms are open to everyone, so everyone has access to 2x more fixtures.....Restrooms for ALL.**

**Doesn't this model take up more space? No, and less fixtures are needed.**

	Non-ADA WC	ADA WC	Lavatories	Total WC	Size
Separated	6	6	9	12	564 SQFT (188 each)
Individual and Private (New)	9	3	9	12	630 SQFT (210 each)





## Are there any additional resources available?

Video of administrators and students discussing their restrooms

<https://www.spps.org/Page/34076>



Link to SPPS FAQ

<https://www.spps.org/cms/lib/MN01910242/Centricity/domain/13146/inclusive%20restrooms/Restrooms-FAQ-FINAL.pdf>

Inclusive Restroom Design – Panel of experts

<https://vimeo.com/430451538>

Inclusive Restrooms Research

[flipdocs.cunningham.com/rsch/18inclsv/](http://flipdocs.cunningham.com/rsch/18inclsv/)

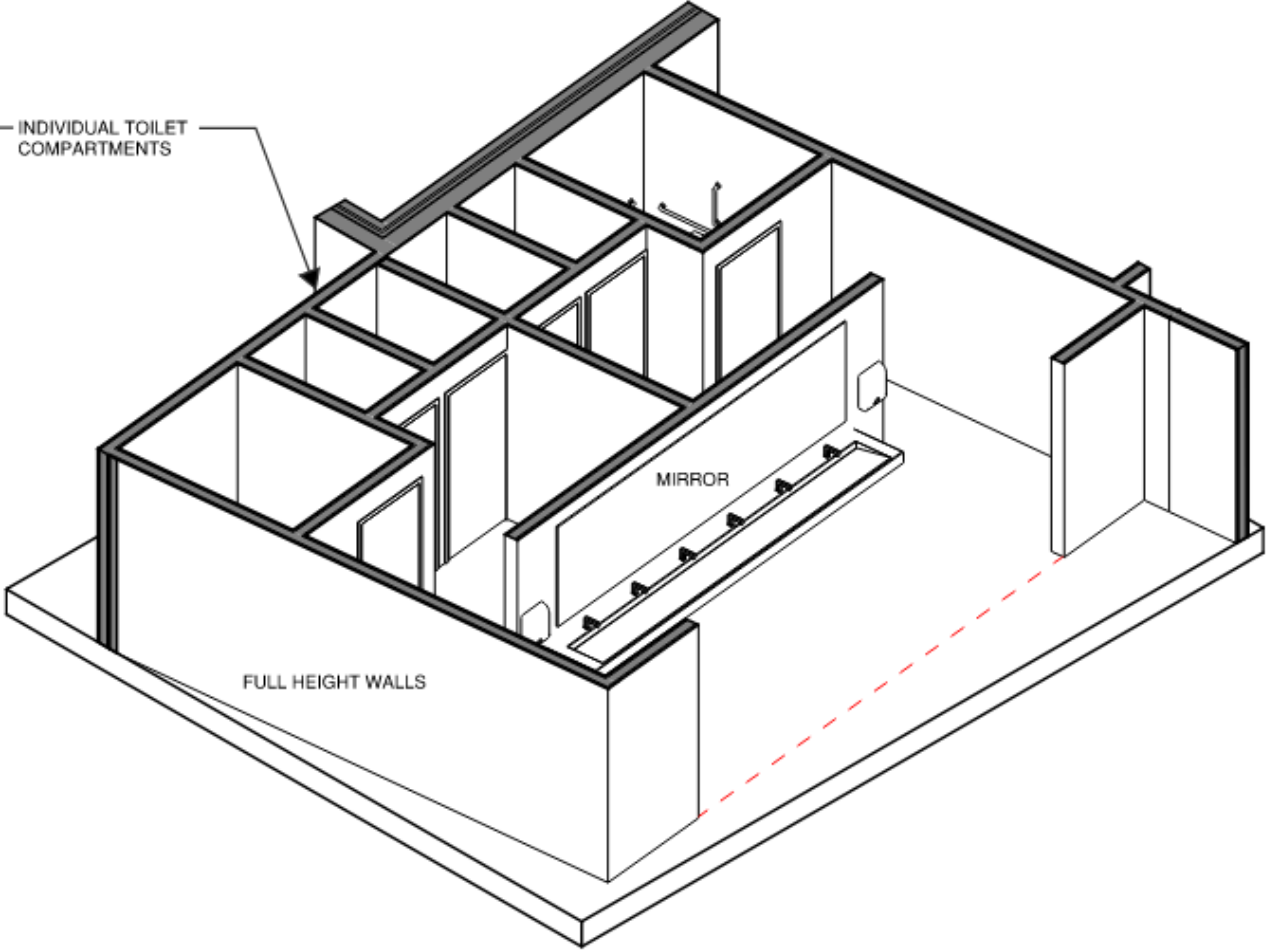
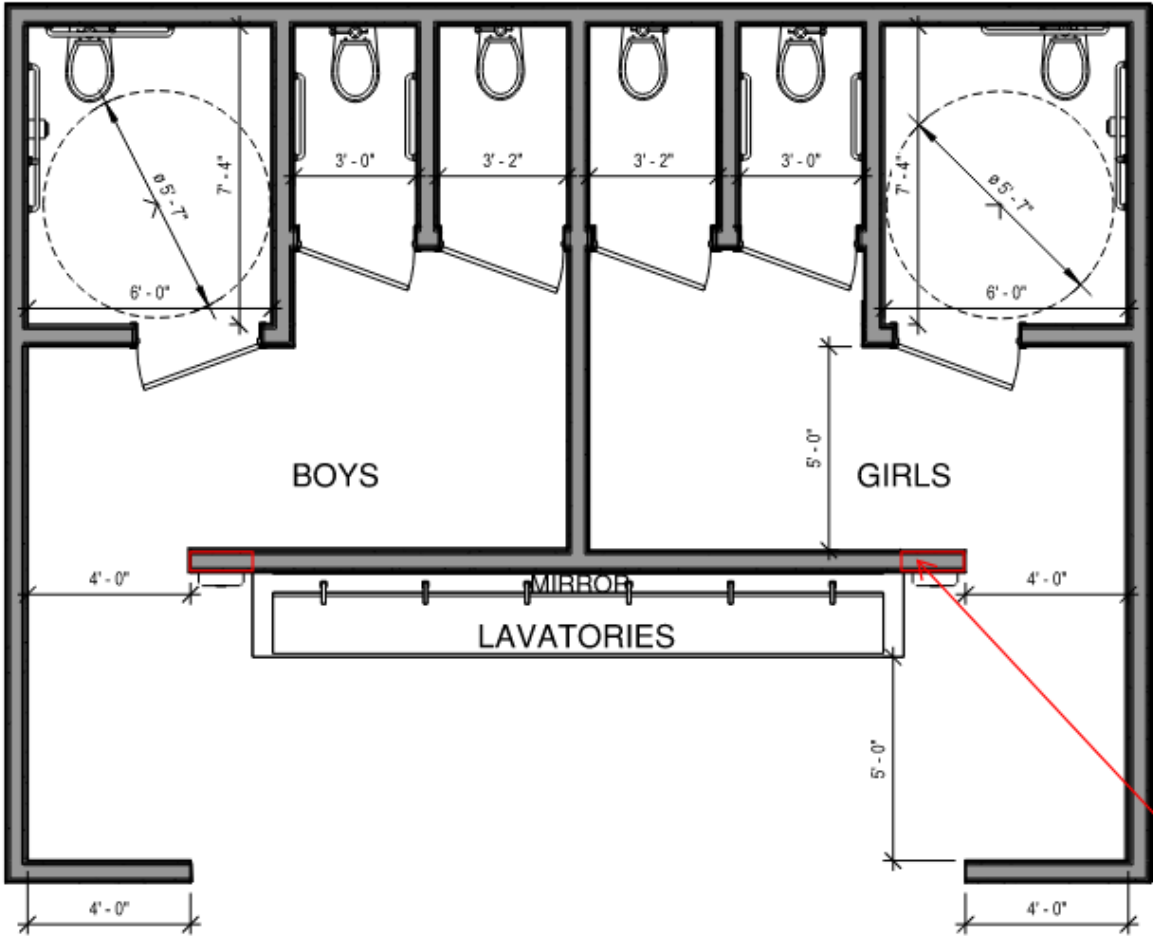
Story in *MplsStPaul Magazine* – Royal Flush: Is the solution to awkward adolescence hiding in the school bathroom?

<https://mspmag.com/arts-and-culture/royal-flush/>



**Cunningham**

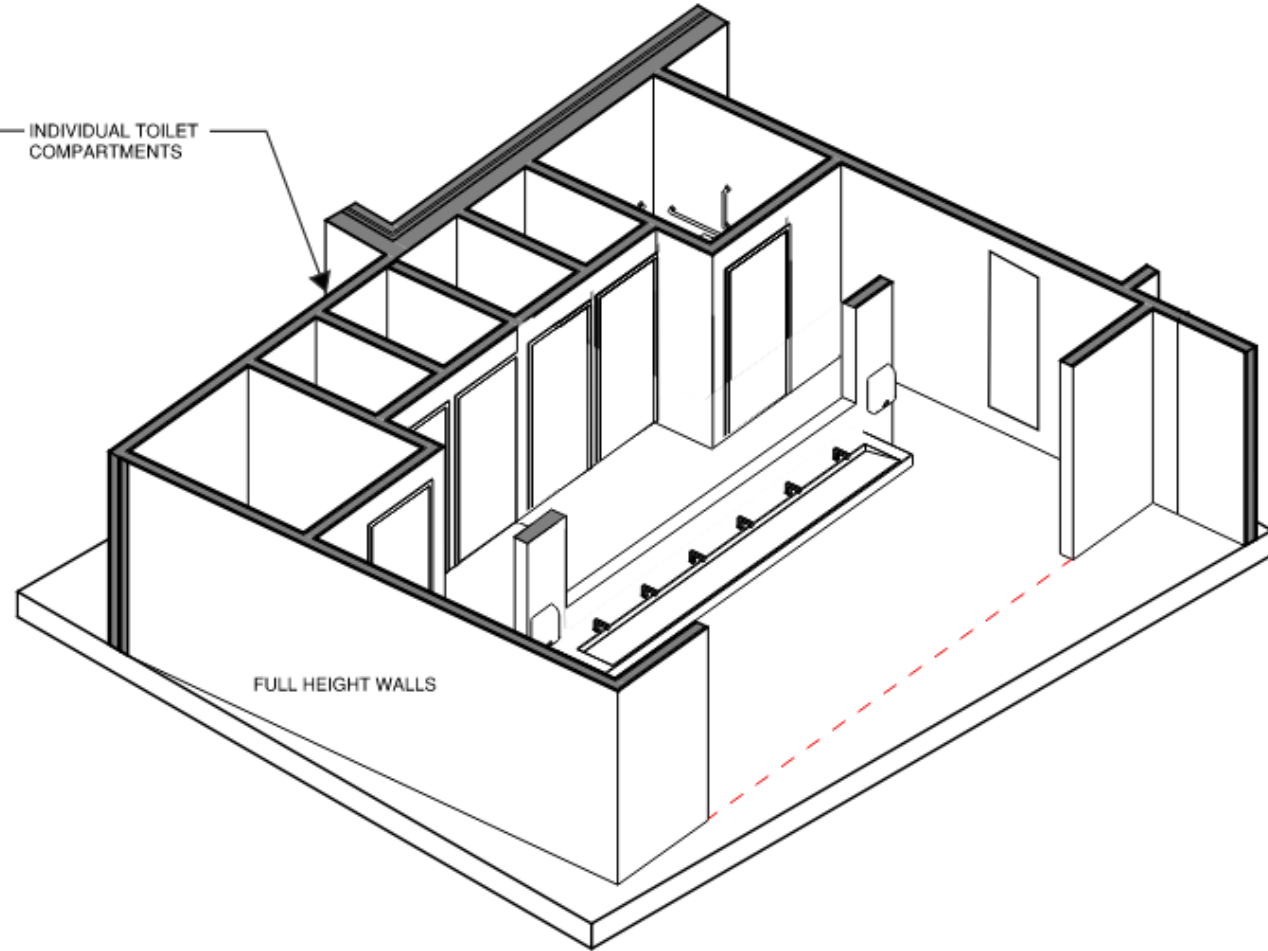
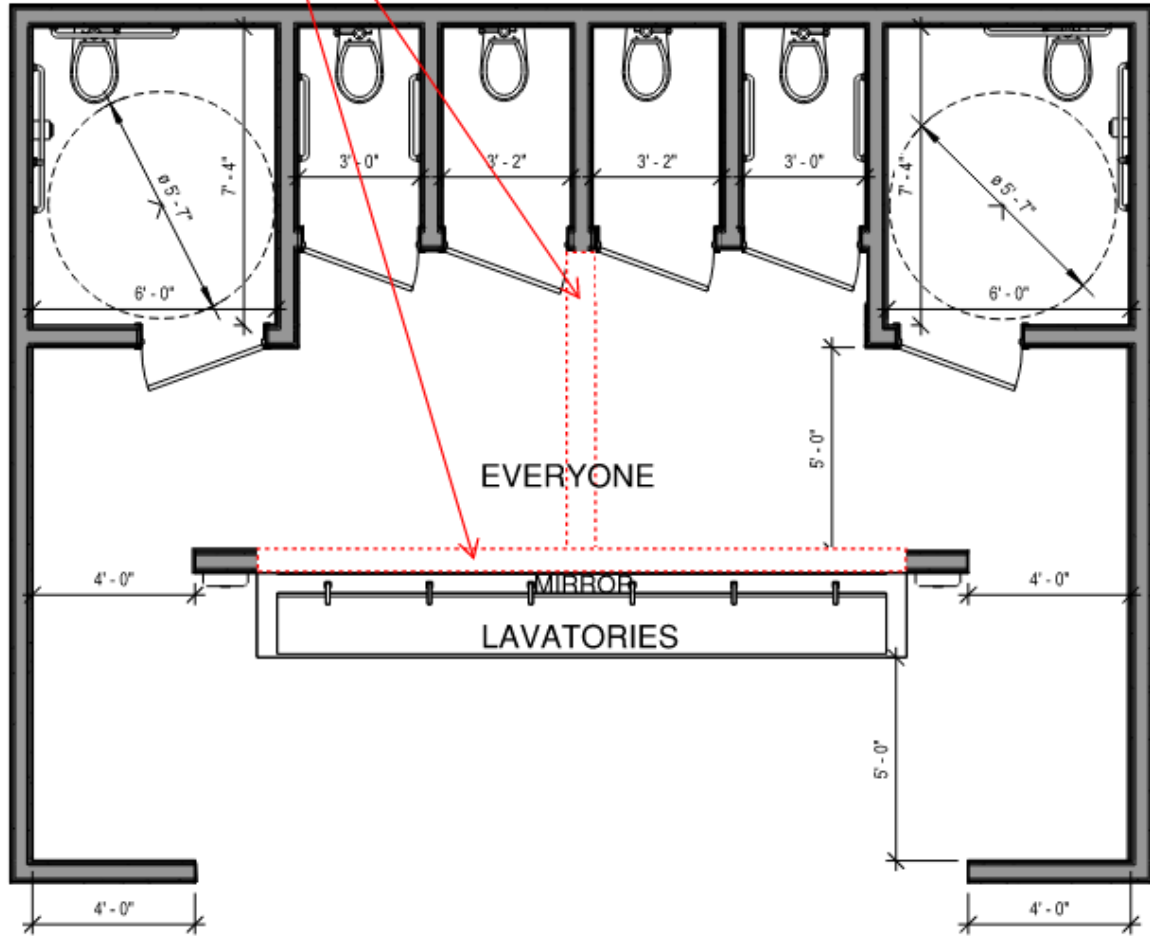
# What if you encounter resistance with your Local / State Building Officials?



ALL PLUMBING VENTING IS LOCATED HERE

FUTURE  
WALL  
DEMO

Future – proof your designs.



# We'd love to hear from you!



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# *Discussion + Questions*

## THANK YOU!

*Discussion + Questions*

Thank you









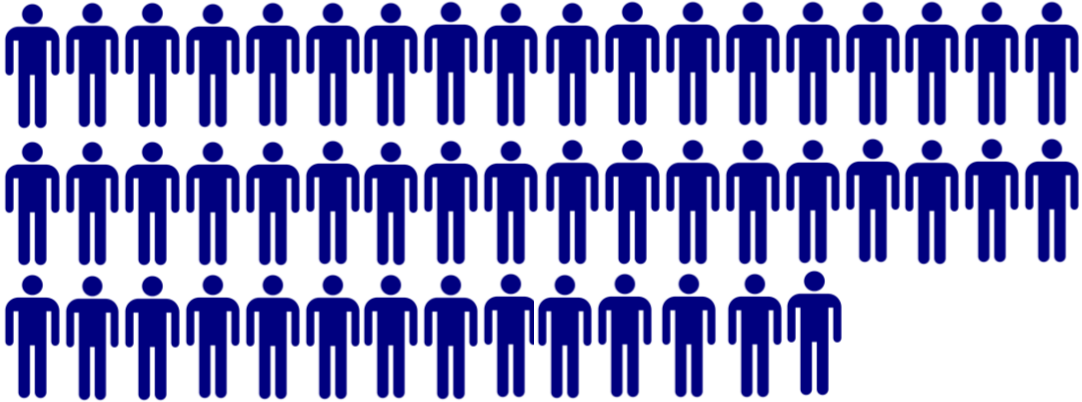


**Inclusive restrooms @ other SPPS Schools**

# Number of Fixtures E Occupancy



The number of fixtures is equal between genders.



1:50




1:50

# Number of Fixtures E Occupancy



**BUT IT'S NOT EQUAL WHEN YOU FACTOR IN TIME.**

Females spend twice as much time in the bathroom as men. (1999, Gerba)

 **1:50**



**1:100**



# Number of Fixtures: Inclusive



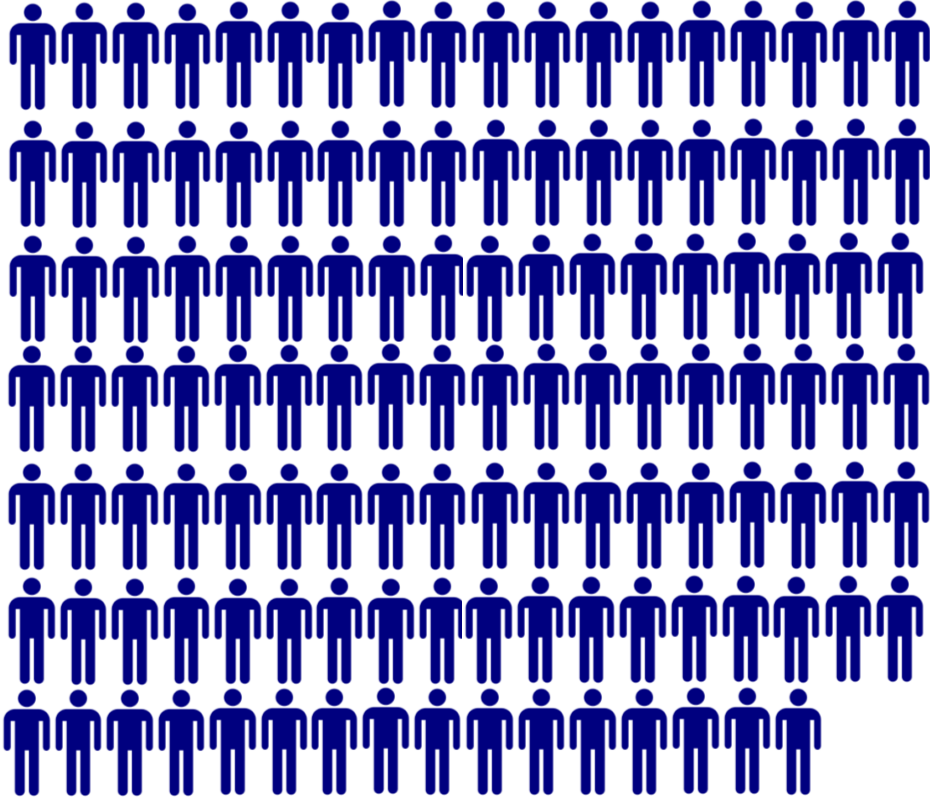
**1:50**



# NUMBER OF FIXTURES: ASSEMBLY (A) OCCUPANCY

A

**THE NUMBER OF FIXTURES IS GREATER FOR FEMALES.**



**1:125**



**1:65**


# COMPARISON BETWEEN GENDER SEGREGATED + INCLUSIVE RESTROOMS




	A Occupancy				
	Capacity	Gender Segregated		All-Inclusive	Difference
		Male	Female		
Alexandria Area High School	2,428	10	19	29	0
Humboldt High School	3,402	14	27	41	0
Como High School	4,315	18	34	52	0
Sartell - St. Stephens High School	3,523	15	28	43	0
St. Cloud Technical High School	3,600	15	28	43	0

**RESULTS ARE EQUAL.**

# 2021 ICC > slowly getting there

 2021 International Building Code (IBC)

BASIC

 Upgrade to Premium

Second Version: Sep 2021

CHAPTER 29 PLUMBING SYSTEMS

## [P] 2902.1.1 Fixture calculations.

To determine the *occupant load* of each sex, the total *occupant load* shall be divided in half. To determine the required number of fixtures, the fixture ratio or ratios for each fixture type shall be applied to the *occupant load* of each sex in accordance with Table 2902.1. Fractional numbers resulting from applying the fixture ratios of Table 2902.1 shall be rounded up to the next whole number. For calculations involving multiple occupancies, such fractional numbers for each occupancy shall first be summed and then rounded up to the next whole number.

### Exceptions:

1. The total *occupant load* shall not be required to be divided in half where approved statistical data indicates a distribution of the sexes of other than 50 percent of each sex.
2. Where multiple-user facilities are designed to serve all genders, the minimum fixture count shall be calculated 100 percent, based on total *occupant load*. In such multiple-user user facilities, each fixture type shall be in accordance with ICC A117.1 and each urinal that is provided shall be located in a stall.
3. Distribution of the sexes is not required where single-user water closets and bathing room fixtures are provided in accordance with Section 2902.1.2.

## [P] 2902.1.2 Single-user toilet and bathing room fixtures.

The plumbing fixtures located in single-user toilet and bathing rooms, including family or assisted-use toilet and bathing rooms that are required by Section 1110.2.1, shall contribute toward the total number of required plumbing fixtures for a building or tenant space. Single-user toilet and bathing rooms, and family or assisted-use toilet rooms and bathing rooms shall be identified as being available for use by all persons regardless of their sex.

The total number of fixtures shall be permitted to be based on the required number of separate facilities or based on the aggregate of any combination of single-user or separate facilities.

# 2021 ICC > slowly getting there

While separate facilities are no longer required to be designated by sex. IBC defines the accepted alternative as a room with both water closets and lavatory fixtures.



2021 International Building Code (IBC)

BASIC



Upgrade to Premium

CHAPTER 29 PLUMBING SYSTEMS

Second Version: Sep 2021

## [P] 2902.2 Separate facilities.

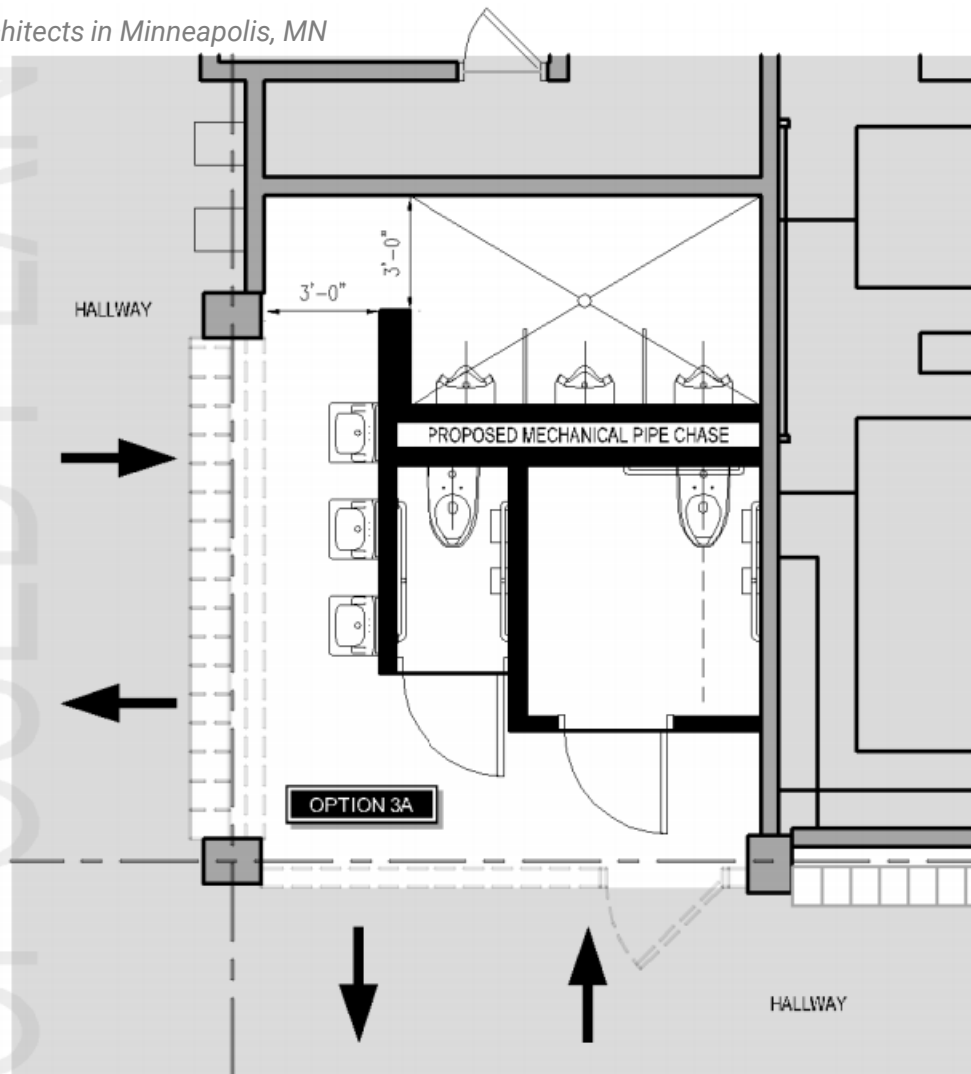
Where plumbing fixtures are required, separate facilities shall be provided for each sex.

### Exceptions:

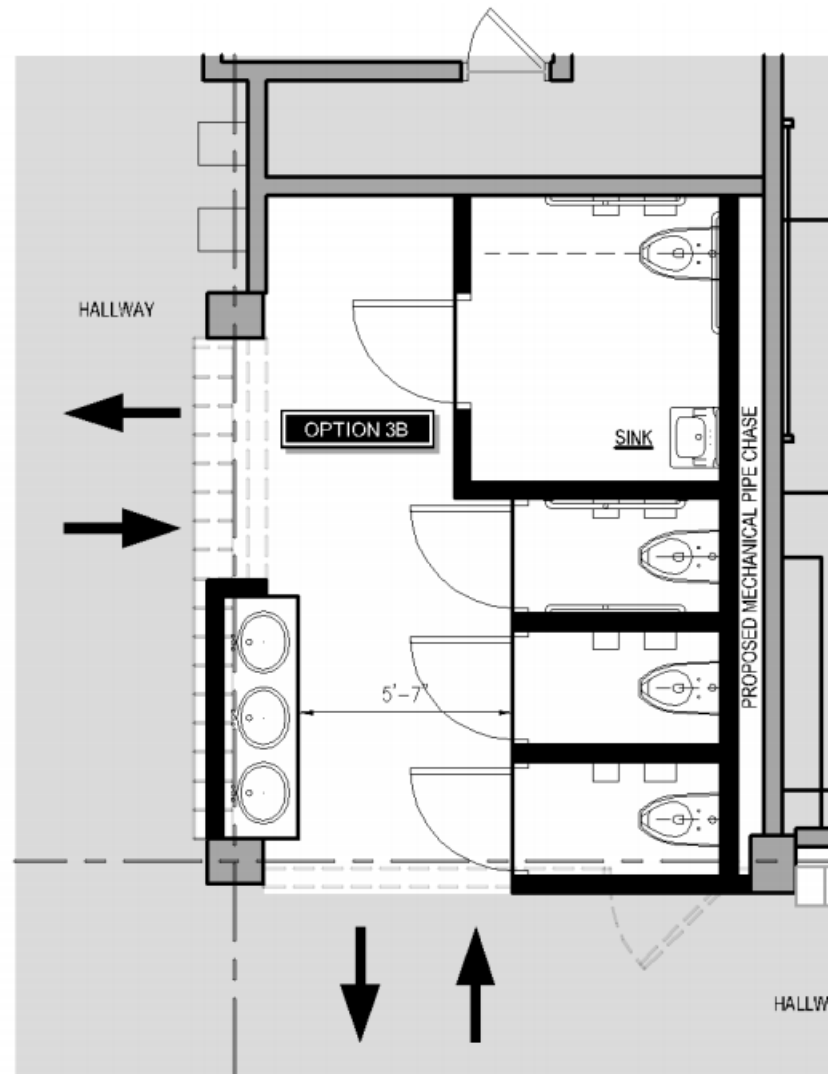
1. Separate facilities shall not be required for *dwelling units* and *sleeping units*.
2. Separate facilities shall not be required in structures or tenant spaces with a total *occupant load*, including both employees and customers, of 15 or fewer.
3. Separate facilities shall not be required in mercantile occupancies in which the maximum *occupant load* is 100 or fewer.
4. Separate facilities shall not be required in business occupancies in which the maximum *occupant load* is 25 or fewer.
5. Separate facilities shall not be required to be designated by sex where single-user toilets rooms are provided in accordance with Section 2902.1.2.
6. Separate facilities shall not be required where rooms having both water closets and lavatory fixtures are designed for use by both sexes and privacy for water closets are installed in accordance with Section 405.3.4 of the *International Plumbing Code*. Urinals shall be located in an area visually separated from the remainder of the facility or each urinal that is provided shall be located in a stall.



PROPOSED PLAN



3 | LOCALIZED FIXTURE LAYOUT  
 A | RESTROOM 2202 FULL DEMOLITION



3 | FIXTURES @ OPPOSITE WALLS  
 B | RESTROOM 2202 FULL DEMOLITION

# 05 Urinals: To Be or Not to Be?

# Lessons Learned

- Reach ranges
- Waste receptacle sizes
- Paper towels vs. hand dryers
- Heavy duty coat hooks
- Title of Restrooms may matter
  - SPPS: Inclusive
  - *Others: Individual + Private*



