

ONLINE SESSION 03

ARCH 202-04 Hathaway

Friday

3/27/20

TURN ON THE RECORDING!

WEEK 1

3/23

INTRO & SITE CONSTRAINTS

PROGRAMS

WEEK 2

3/30

SYSTEMS

(DRAW A REAL BUILDING)

WEEK 3

4/6

PIN-UP

FACADE & ENVELOPE

WEEK 4

4/13

VIEWS, DIAGRAMS & DRAWINGS (*PRODUCTION*)

WEEK 5

4/20

PIN-UP

PRESENTATION (*PRODUCTION*)

4/27

REVIEW

WEEK 1

3/23 **INTRO**
DUE: N/A
IN-CLASS: ZONING
ASSIGN: ARCH. PRECEDENTS

WEEK 2

3/30 **DESK CRITS**
DUE: PLANS, SECTIONS, 3D
IN-CLASS: STRUCTURE
ASSIGN: STRUCT. PRECEDENTS

WEEK 3

4/6 **GROUP PIN-UP**
DUE: PLANS, ELEVATIONS, 3D,
SUSTAINABILITY SECTION
ASSIGN: SITE ELEV'S

WEEK 4

4/13 **DESK CRITS**
DUE: SECTIONS, 3D,
TECHNICAL SECTION
IN-CLASS: STORYTELLING

WEEK 5

4/20 **PIN-UP**
MOCK REVIEW
DUE: EVERYTHING (DRAFT)

4/27 **FINAL**
REVIEW

WEEK 1

3/25 **DESK CRITS**
DUE: ARCH. PRECEDENTS, DRAW.
IN-CLASS: LIGHT & AIR
ASSIGN: 3D MASSING MODEL

3/27 **GROUP CRIT**
DUE: 3D MASSING MODEL
IN-CLASS: SOLAR STUDY
ASSIGN: SITE MODEL

WEEK 2

4/1 **ALL STUDIO MTG.**
DUE: STRUCT. PRECEDENTS
IN-CLASS: UNIT PLANS
ASSIGN: PROGRAM PRECEDENTS

4/3 **DESK CRITS**
DUE: PROGRAM PRECEDENTS
IN-CLASS: SYSTEMS & CIRCULATION
ASSIGN: N/A

WEEK 3

4/8 **DESK CRITS**
DUE: SITE ELEV'S
IN-CLASS: SITE & CONTEXT
ASSIGN: FAÇADE PRECEDENTS

4/10 **GROUPS**
DUE: FAÇADE SKETCHES
IN-CLASS: SITE & CONTEXT
ASSIGN: DIAGRAMS

WEEK 4

4/15 **GROUPS**
DUE: 2D DRAWINGS
IN-CLASS: PEER REDLINES
ASSIGN: 3D VIEWS

4/17 **DESK CRITS**
DUE: 3D VIEWS, DIAGRAMS
IN-CLASS: RENDERING
ASSIGN: N/A

WEEK 5

4/22 **DESK CRITS**
DUE: PRESENTATION TEXT
IN-CLASS: PRESENTING

4/24 **MOCK PRESENT.**
DUE: EVERYTHING
IN-CLASS: PRESENTATIONS

TODAY

1. GROUP REVIEW: MASSING MODELS
2. GROUPS/ASSIGN: SITE MODEL
3. LECTURE: SOLAR STUDIES
4. IN-CLASS: SOLAR STUDY PREP

LIGHT & AIR

ALL SPACES REQUIRE VENTILATION (EXCHANGING FRESH AIR FOR “STALE” AIR) AND ILLUMINATION. BUILDING CODE STIPULATES THE AMOUNT OF VENTILATION AND ILLUMINATION REQUIRED FOR DIFFERENT TYPES OF SPACES.

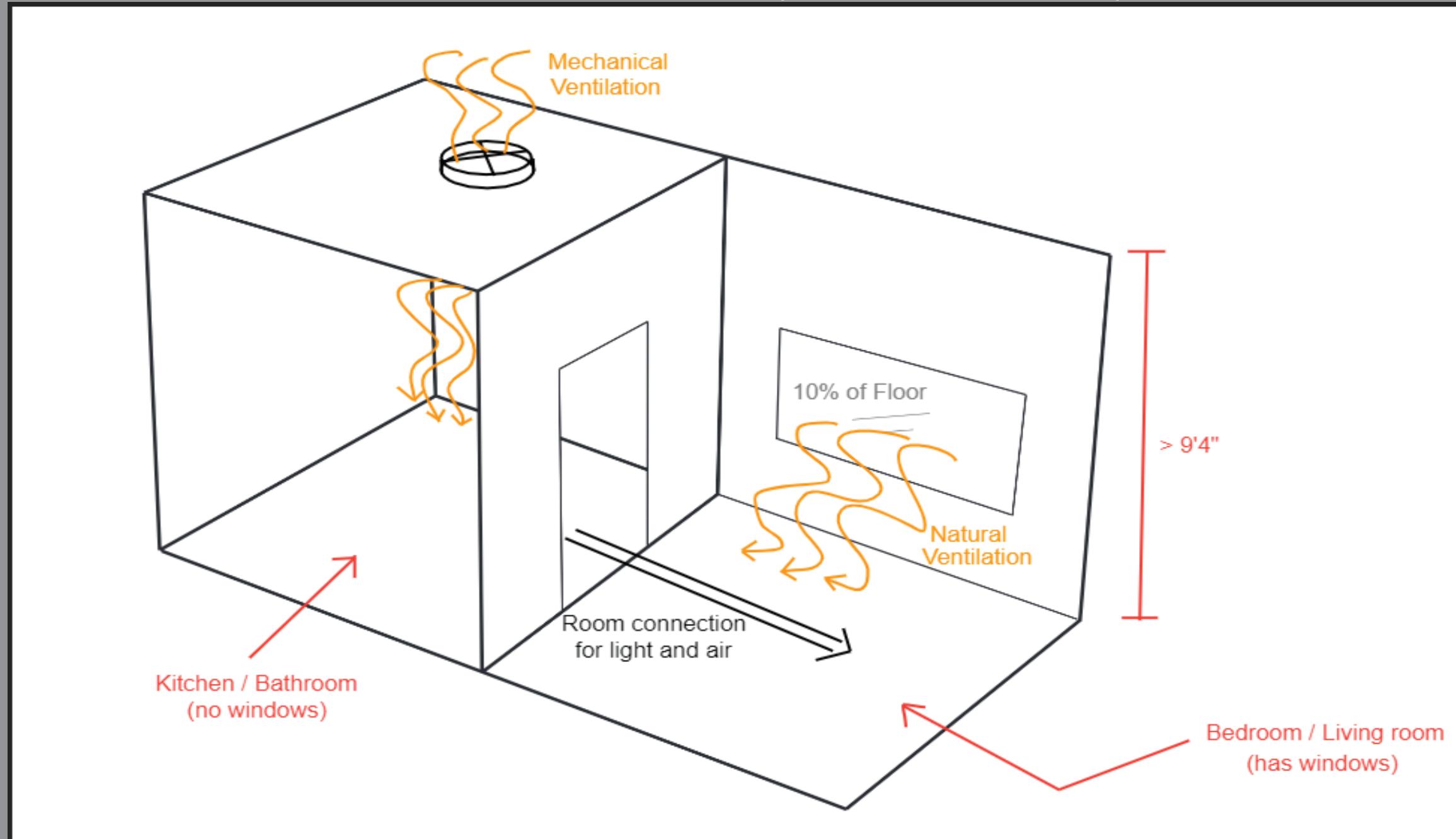
FOR OUR PURPOSES WE WILL FOCUS ON NATURAL ILLUMINATION AND VENTILATION THROUGH OPENINGS (WINDOWS AND DOORS) IN THE EXTERIOR WALLS.

CODE ALSO SETS REQUIREMENTS FOR THE WINDOWS AND DOORS IN EXTERIOR WALLS TO LIMIT THE SPREAD OF FIRE.

THE MAIN REQUIREMENTS ARE FOR THE WALLS THEMSELVES BUT FOR OUR STUDIO WE’LL FOCUS ON THE OPENINGS.

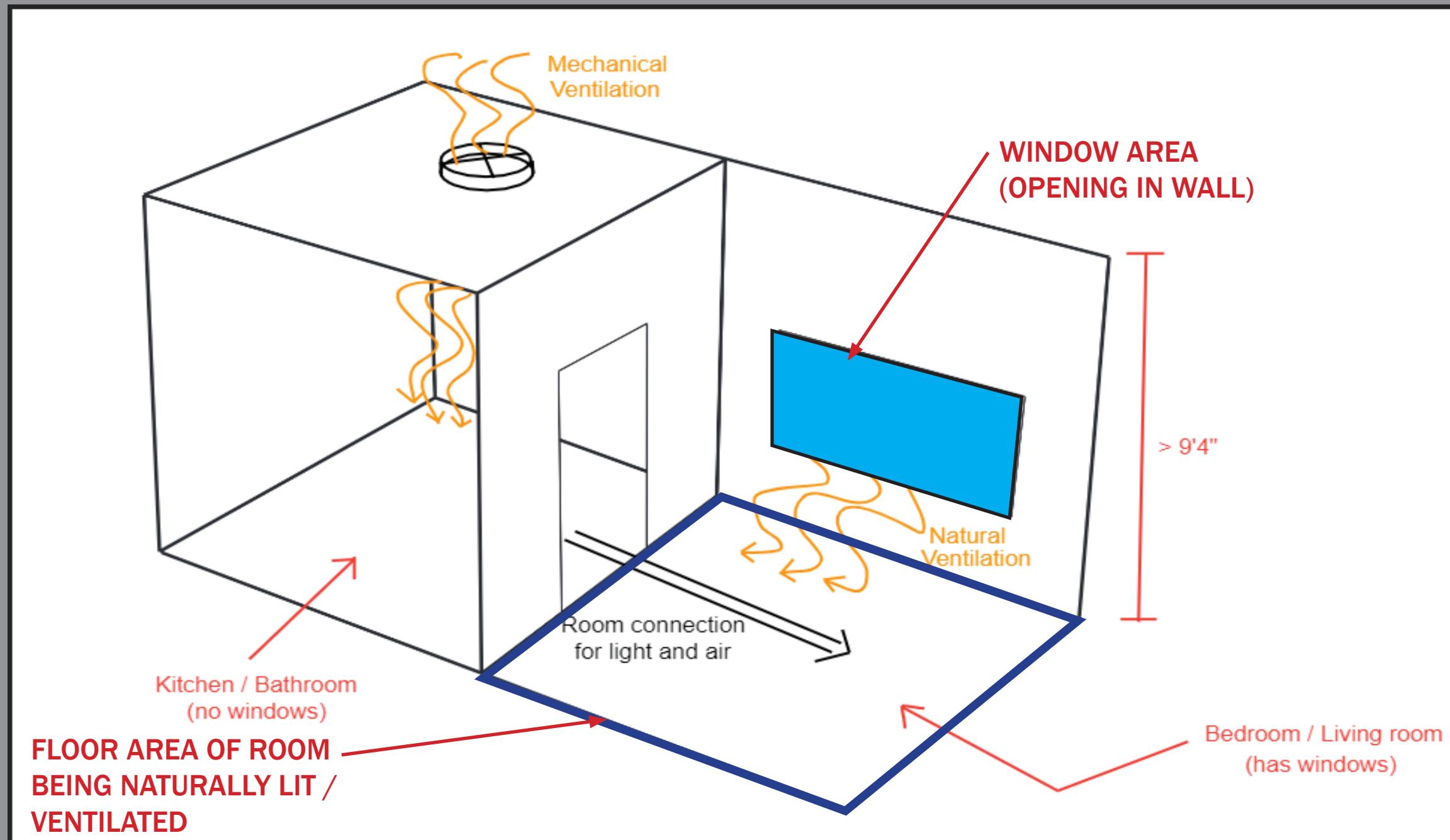
LIGHT & AIR

HABITABLE SPACES (FIRST ATTEMPT)



HABITABLE SPACES (LIVING, DINING, AND BEDROOMS) REQUIRE NATURAL LIGHT AND NATURAL VENTILATION (DIRECT FRESH AIR THROUGH AN OPERABLE OPENING). OTHER SPACES (LIKE KITCHENS AND BATHS) MAY BE MECHANICALLY VENTILATED.

LIGHT & AIR HABITABLE SPACES



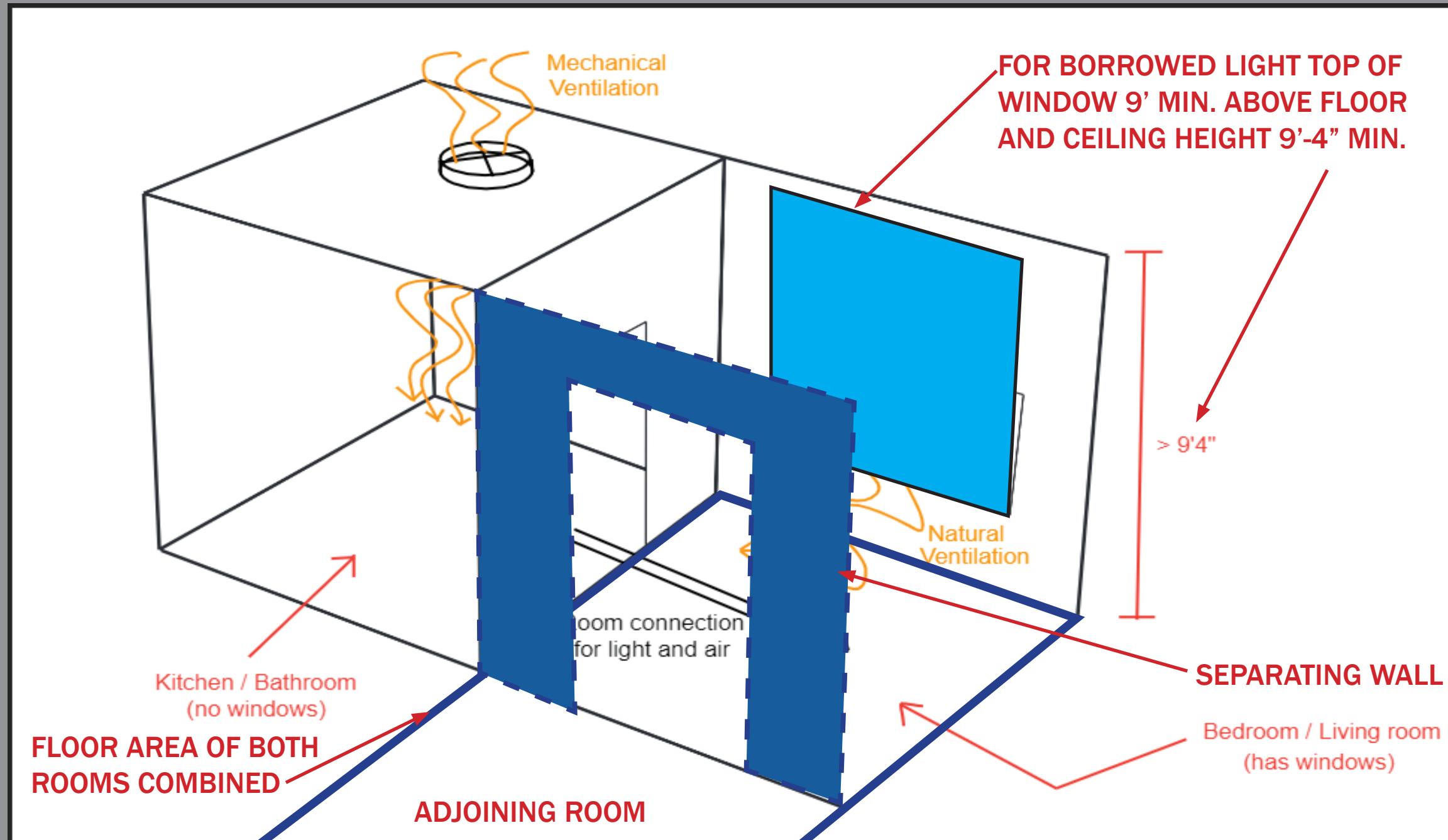
HABITABLE SPACES (LIVING, DINING, AND BEDROOMS)

WINDOW AREA (S.F.) \geq 8% OF FLOOR AREA OF ROOM (S.F.) FOR NATURAL LIGHT

OPERABLE WINDOW AREA (S.F.) \geq 4% OF FLOOR AREA OF ROOM (S.F.) FOR NATURAL VENTILATION

LIGHT & AIR

ADJOINING & REMOTE ROOMS

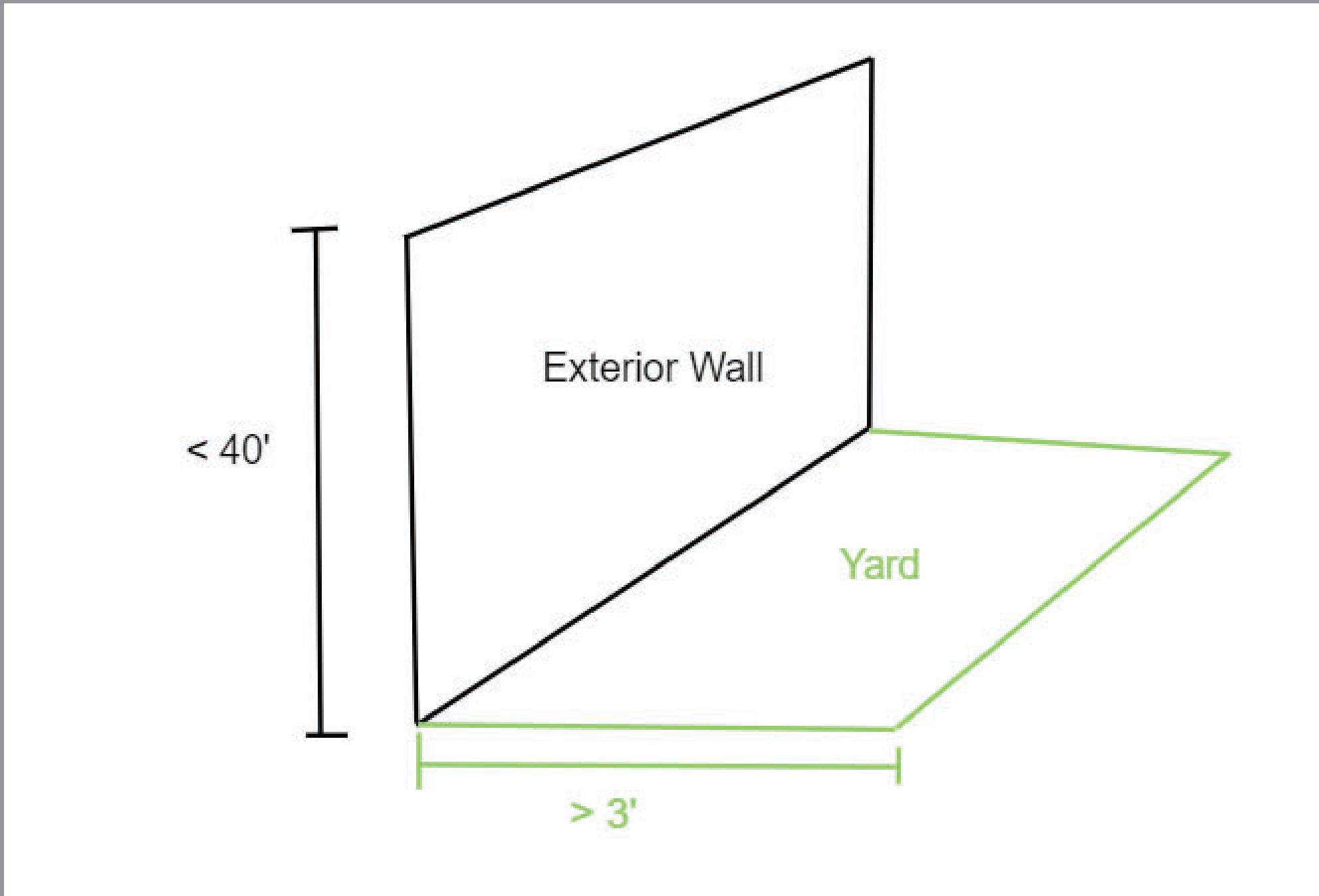


WINDOW AREA (S.F.) \geq 8%
OF COMBINED FLOOR AREA OF
BOTH ROOMS.

REMOTE ROOM BORROWING LIGHT
SEPARATING WALL MUST BE PARALLEL TO
EXTERIOR WALL WITH WINDOW AND 50% OR
MORE OF THE SEPARATING WALL MUST BE OPEN

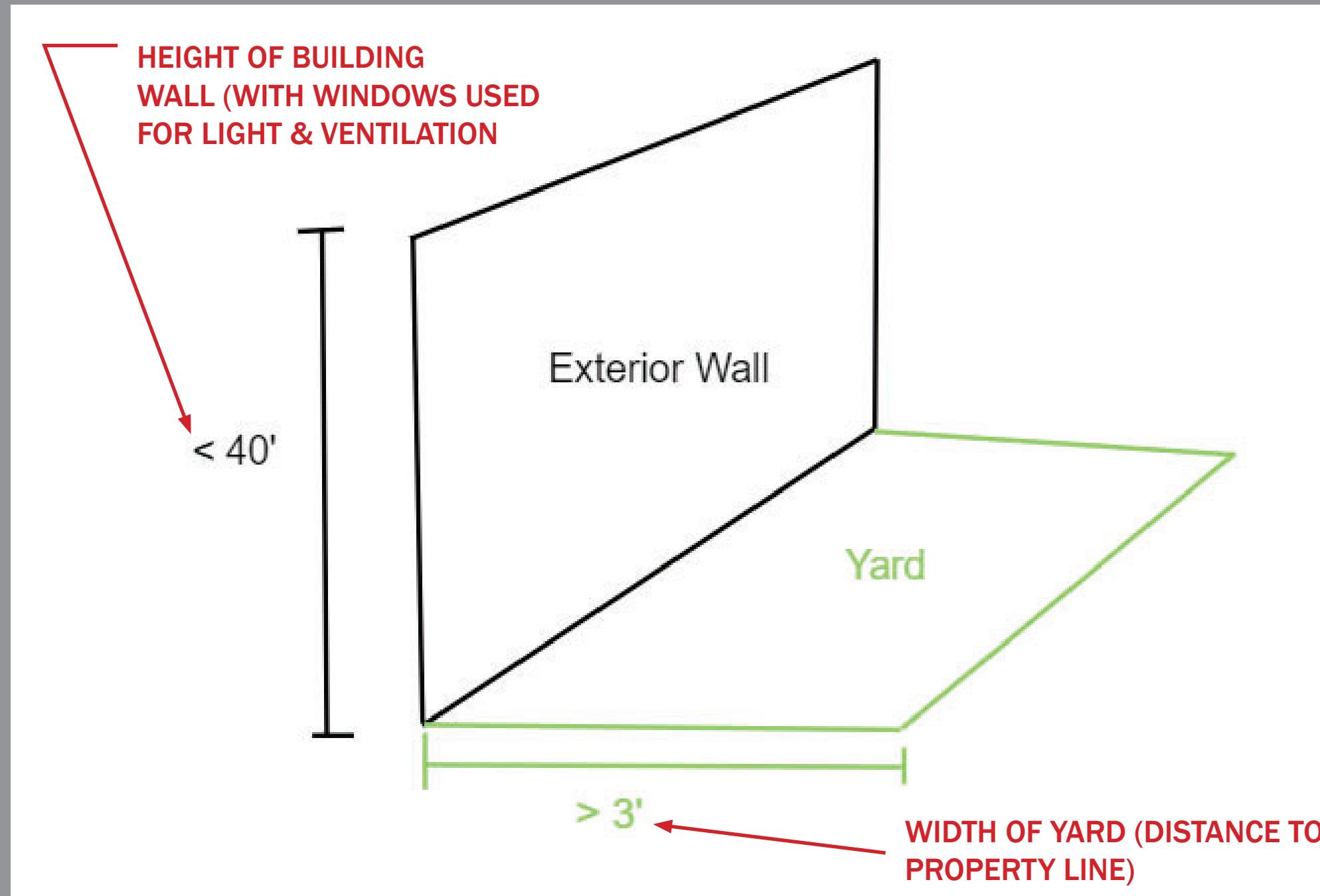
LIGHT & AIR

WHAT'S REQUIRED OUTSIDE THE WINDOWS (FIRST ATTEMPT)



LIGHT & AIR

WHAT'S REQUIRED OUTSIDE THE WINDOWS



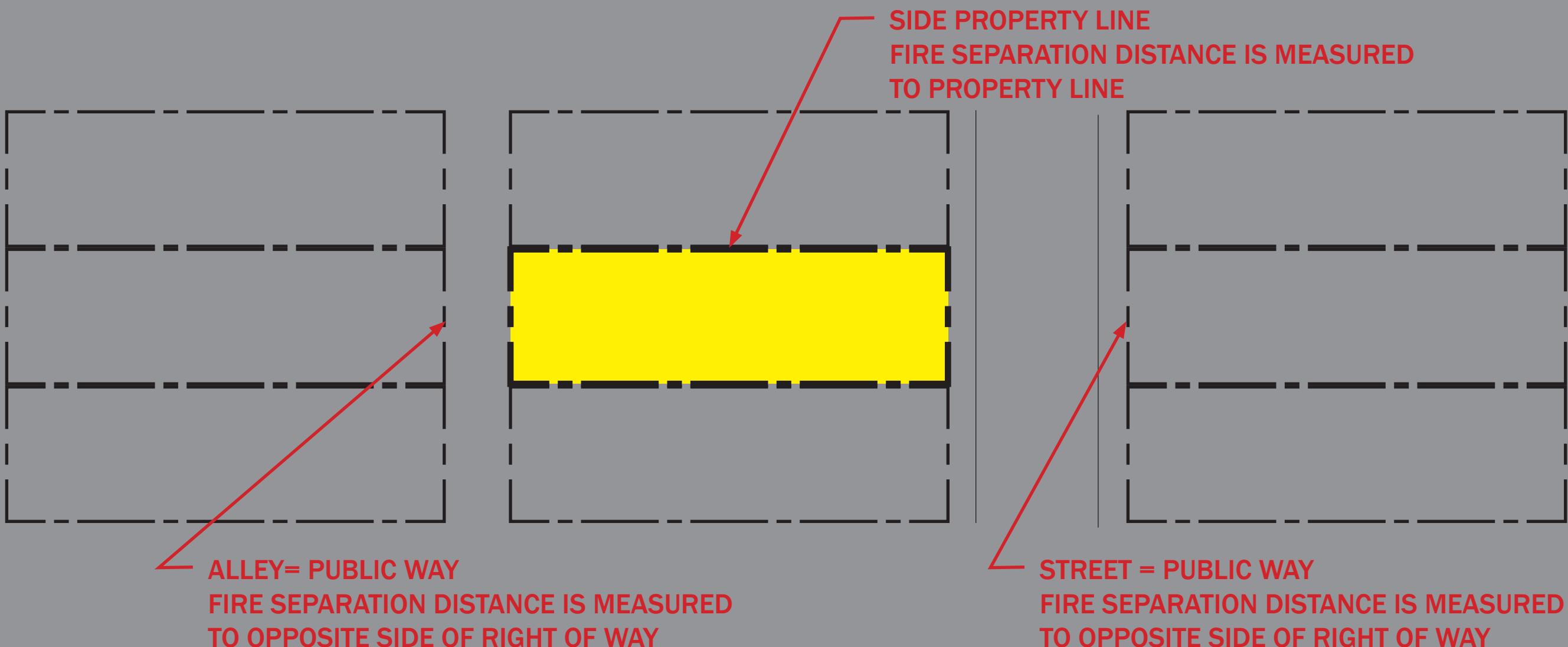
3' MINIMUM YARD WIDTH FOR WALLS UP TO 40' HIGH
(WALL HEIGHT MEASURED ABOVE LOWEST DAYLIT OR VENTILATED LEVEL)
FOR EVERY 1' OF WALL HEIGHT ABOVE 40' ADDITIONAL 2" OF YARD WIDTH REQUIRED

FIRE FIRE SEPARATION DISTANCE

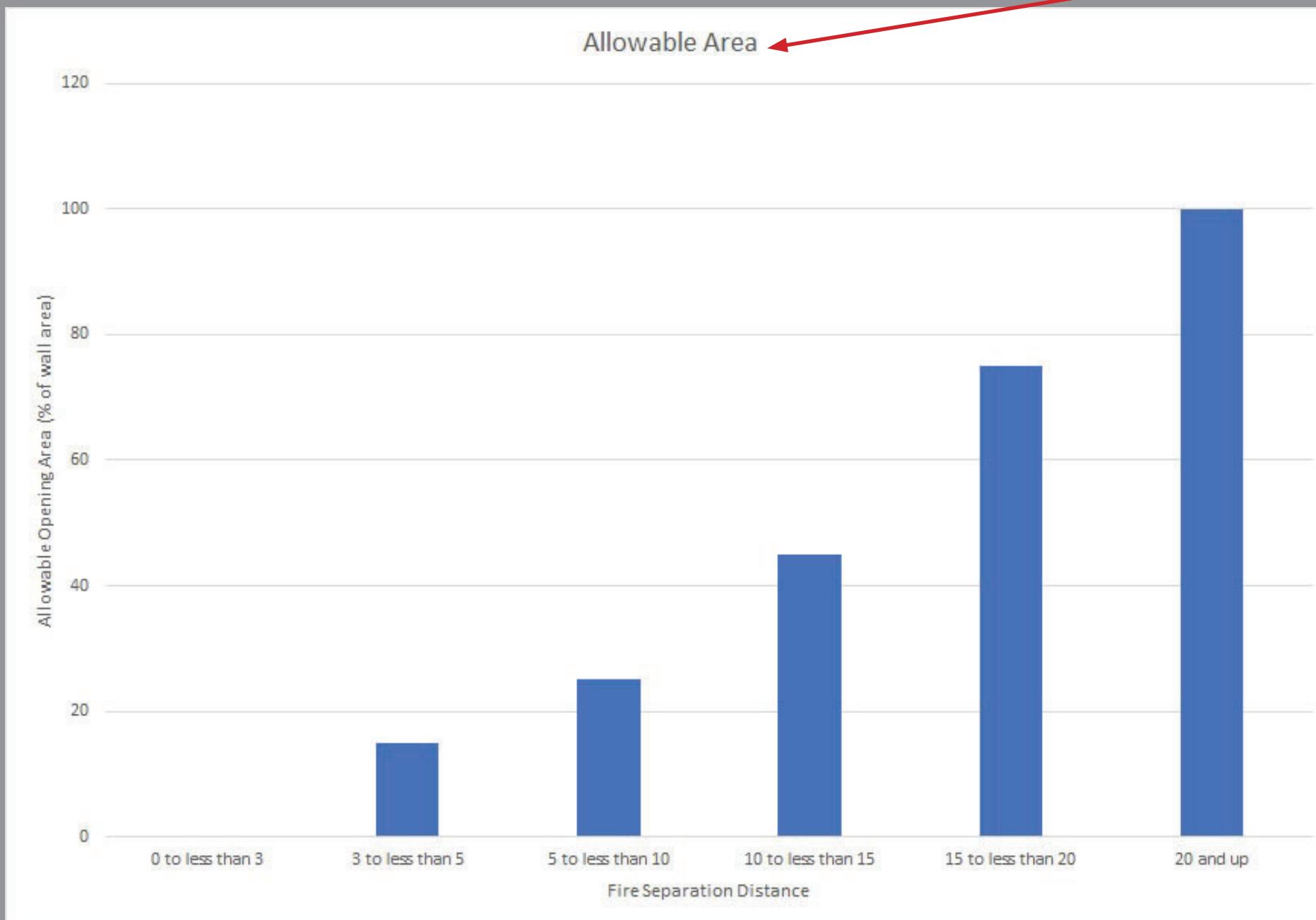
Definitions

1. Fire Separation Distance : The horizontal distance measured from the building face or element to one of the following:
 - The closest abutting property line.
 - The far boundary of a public way adjoining the lot.
 - An imaginary line between two buildings on the same lot.

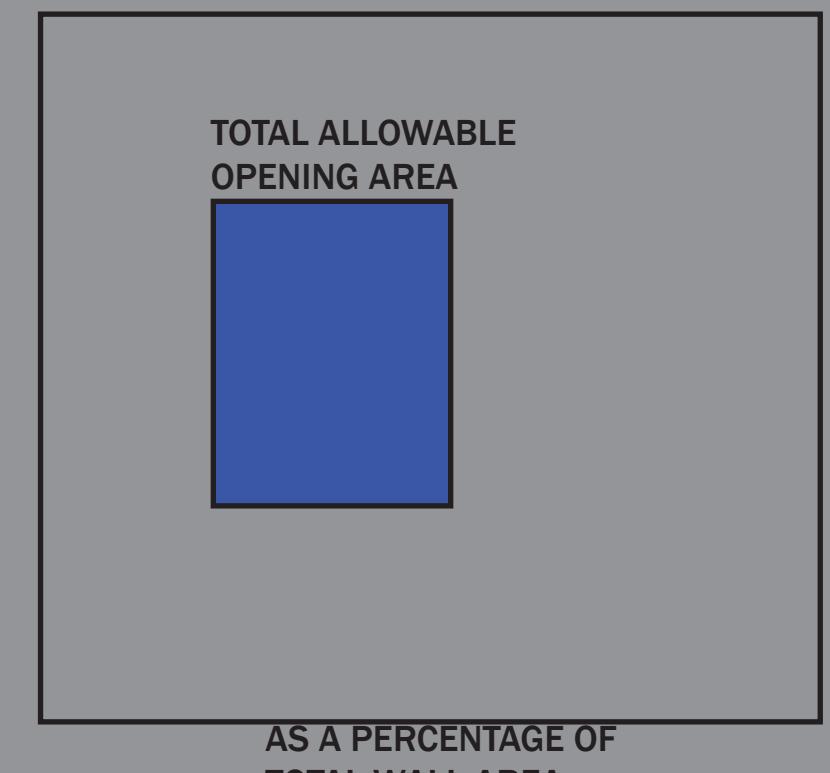
2. Allowable opening area: The percentage of the exterior wall area that is an unprotected opening



FIRE MAX. ALLOWED OPENINGS



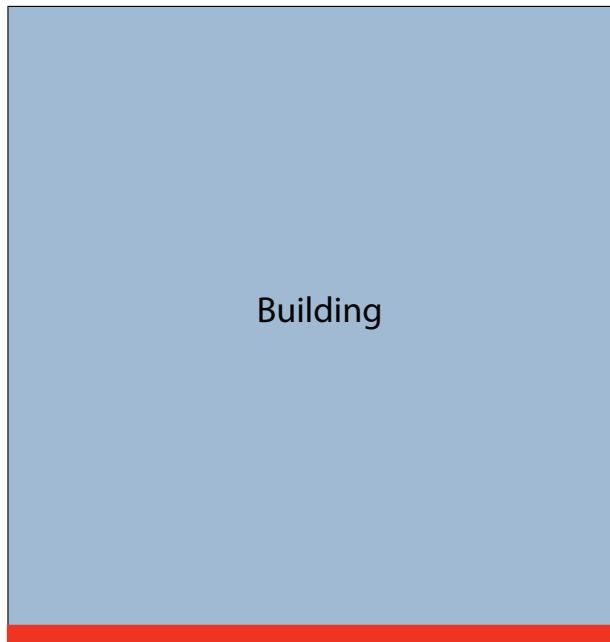
NOTE: THESE VALUES ARE BASED ON THE ASSUMPTIONS WE'VE SET FOR THE STUDIO: THAT THE BUILDING IS SPRINKLERED AND THE OPENINGS ARE UNPROTECTED



THE TOTAL AMOUNT OF WINDOW & DOOR OPENINGS IN A WALL IS BASED ON THE FIRE SEPARATION DISTANCE OF THAT WALL PER THE ABOVE CHART. (THERE ARE WAYS TO EXCEED THIS BY PROTECTING OPENINGS OR USING SPECIAL DOORS OR WINDOWS BUT THIS IS WHAT WE'LL BE USING.)

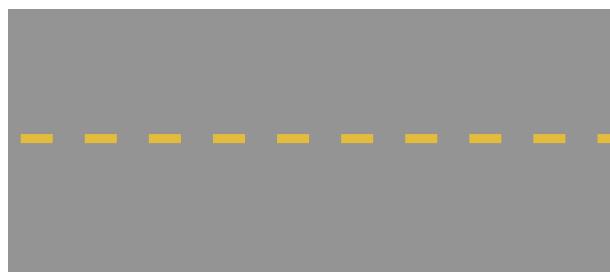
FIRE EXCEPTIONS

Exception 1.1



Building

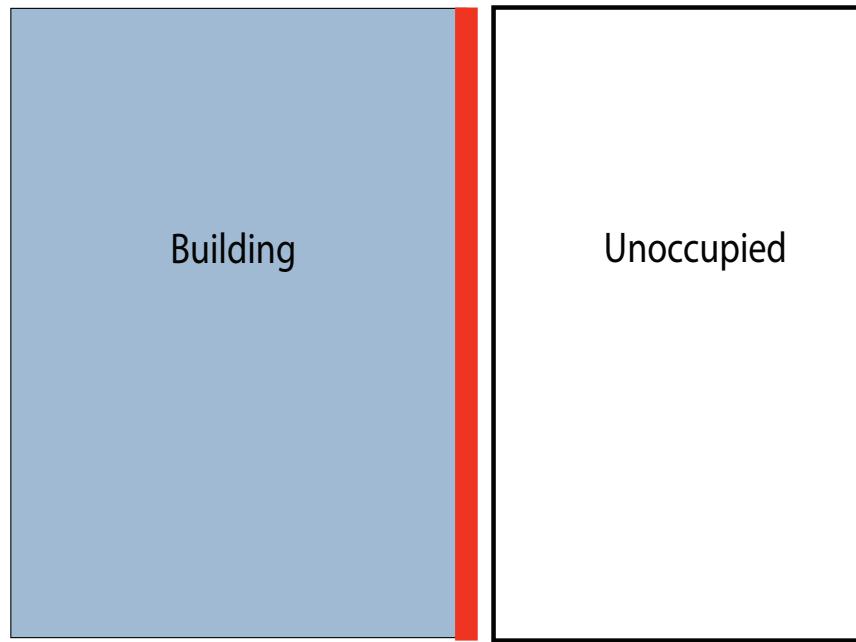
15'



Unlimited unprotected openings permitted in the first story above grade plane where the wall faces a street and has a fire separation distance on 15+ feet.

**15' MIN.
MEASURED
TO OPPOSITE
SIDE OF
RIGHT-OF-WAY**

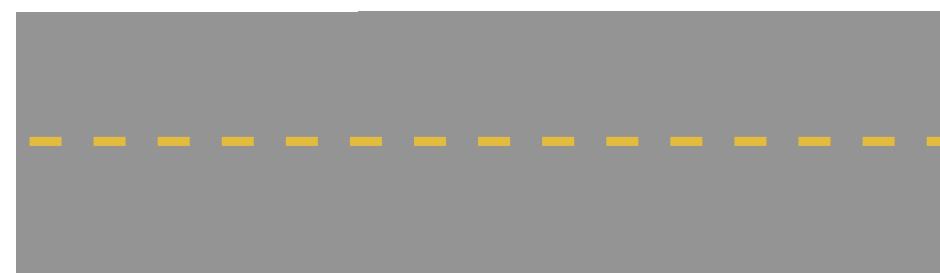
Exception 1.2



Building

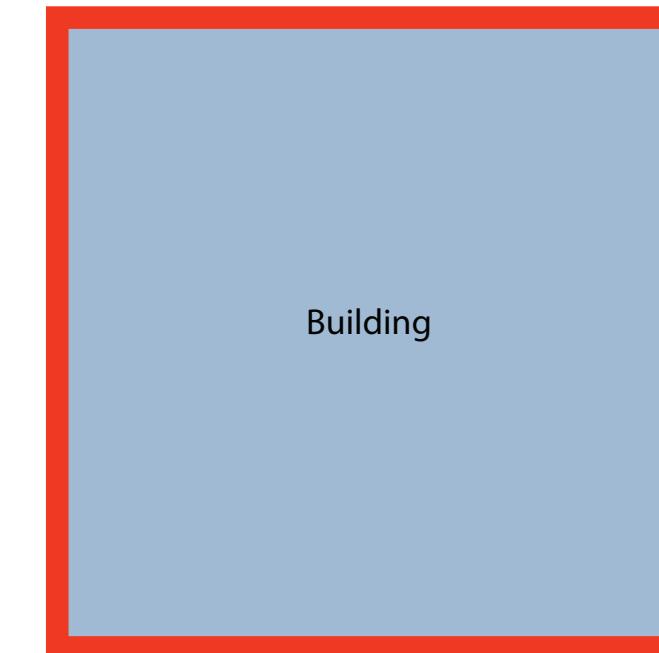
Unoccupied

30+'



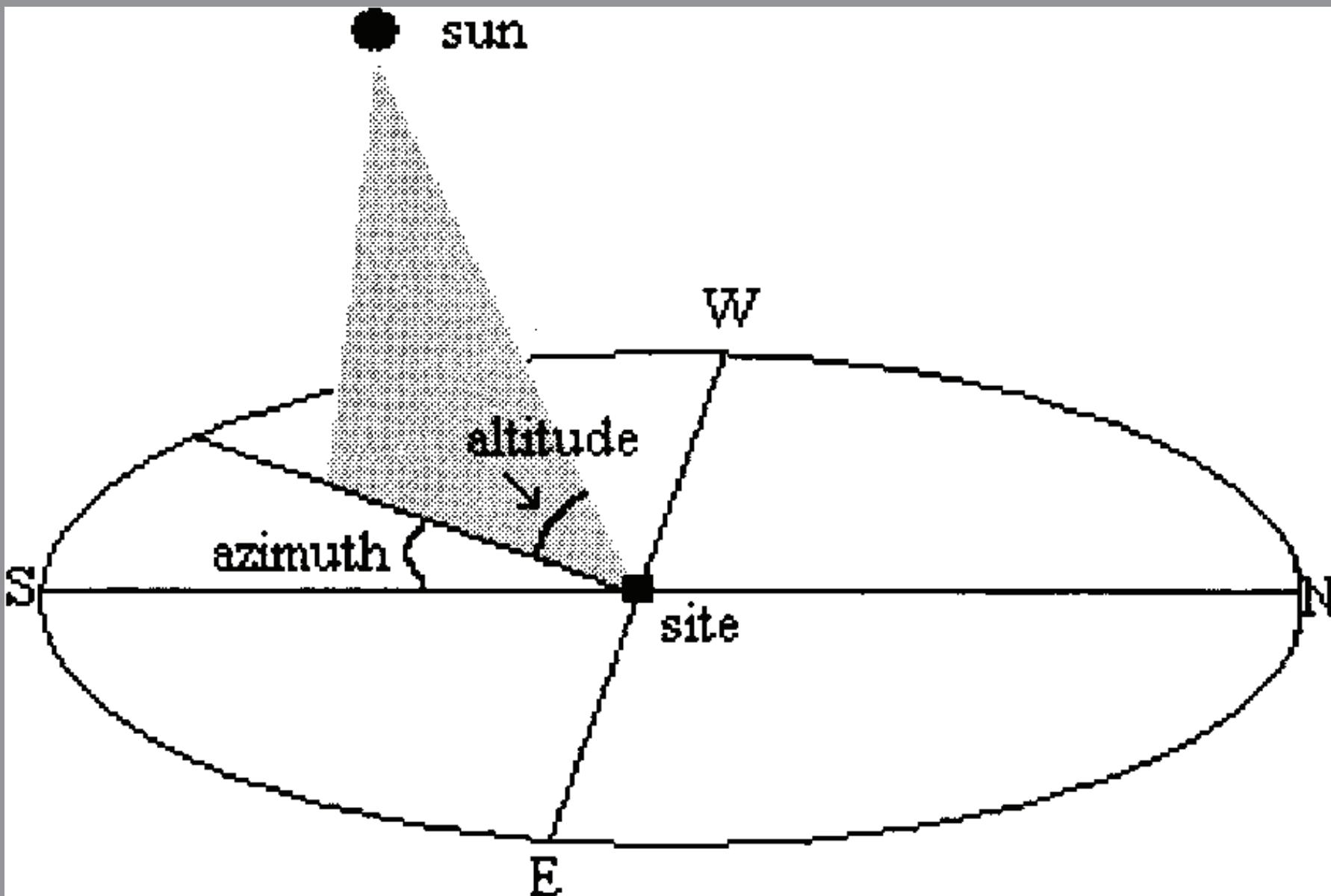
Unlimited unprotected openings permitted in the first story above grade plane where the wall faces an unoccupied space (can be on same lot or dedicated for public use) cannot be less than 30 feet in width and should have access from street

Exception 2



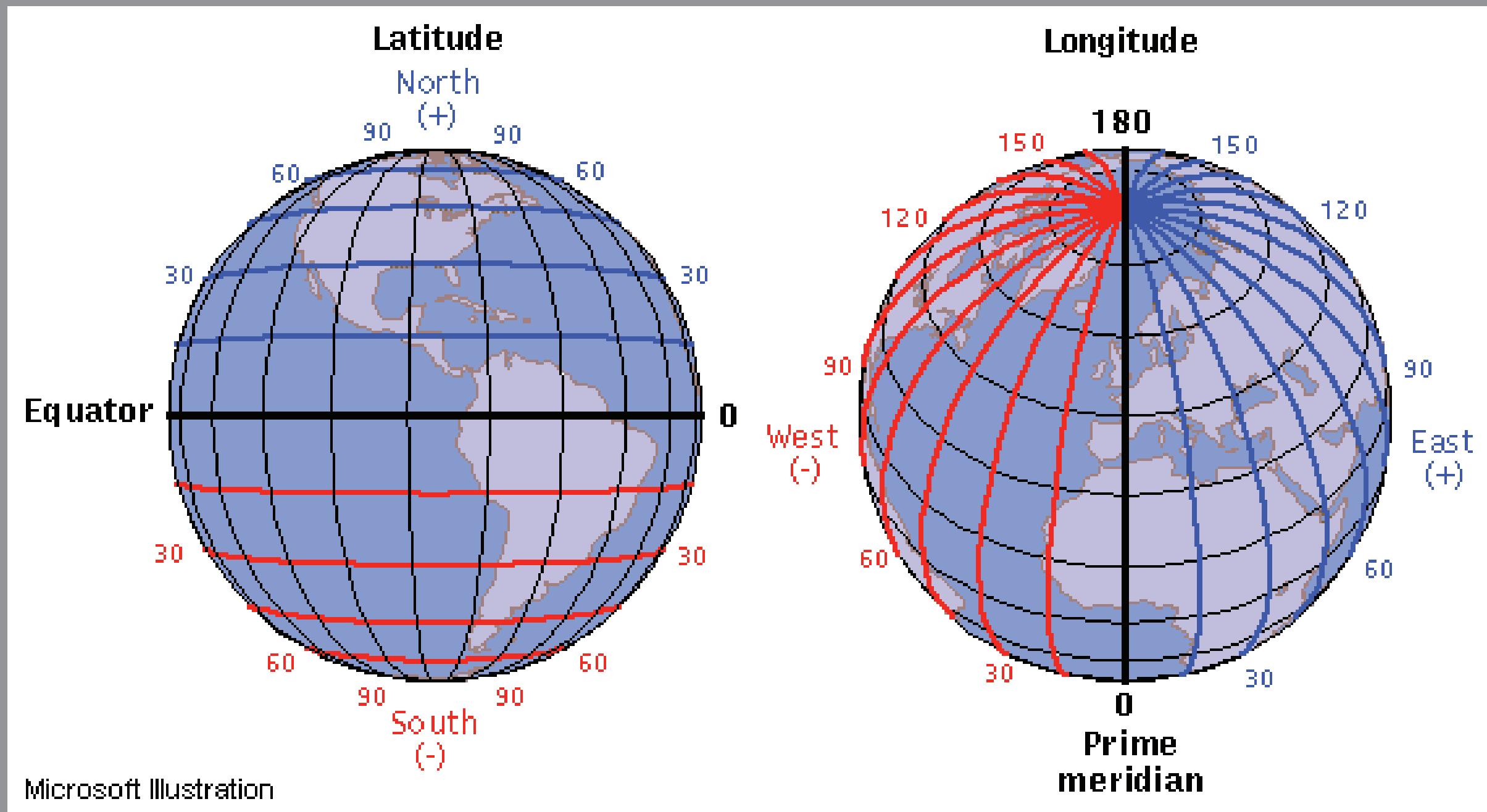
Building

Buildings whose exterior bearing walls, exterior nonbearing walls and exterior primary structural frame are not required to be fire-resistance rated shall be permitted to have unlimited openings.



AZIMUTH: ANGLE OF THE SUN RELATIVE TO THE OBSERVER MEASURED IN THE GROUND PLANE FROM CARDINAL NORTH (TYPICAL) OR SOUTH

ALTITUDE: ANGLE OF THE SUN RELATIVE TO THE OBSERVER AS MEASURED FROM THE HORIZON (GROUND PLANE)



LATITUDE: the angular distance of a place north or south of the earth's equator, usually expressed in degrees and minutes.

LONGITUDE: the angular distance of a place east or west of the meridian at Greenwich, England, usually expressed in degrees and minutes.

