



City of Milpitas

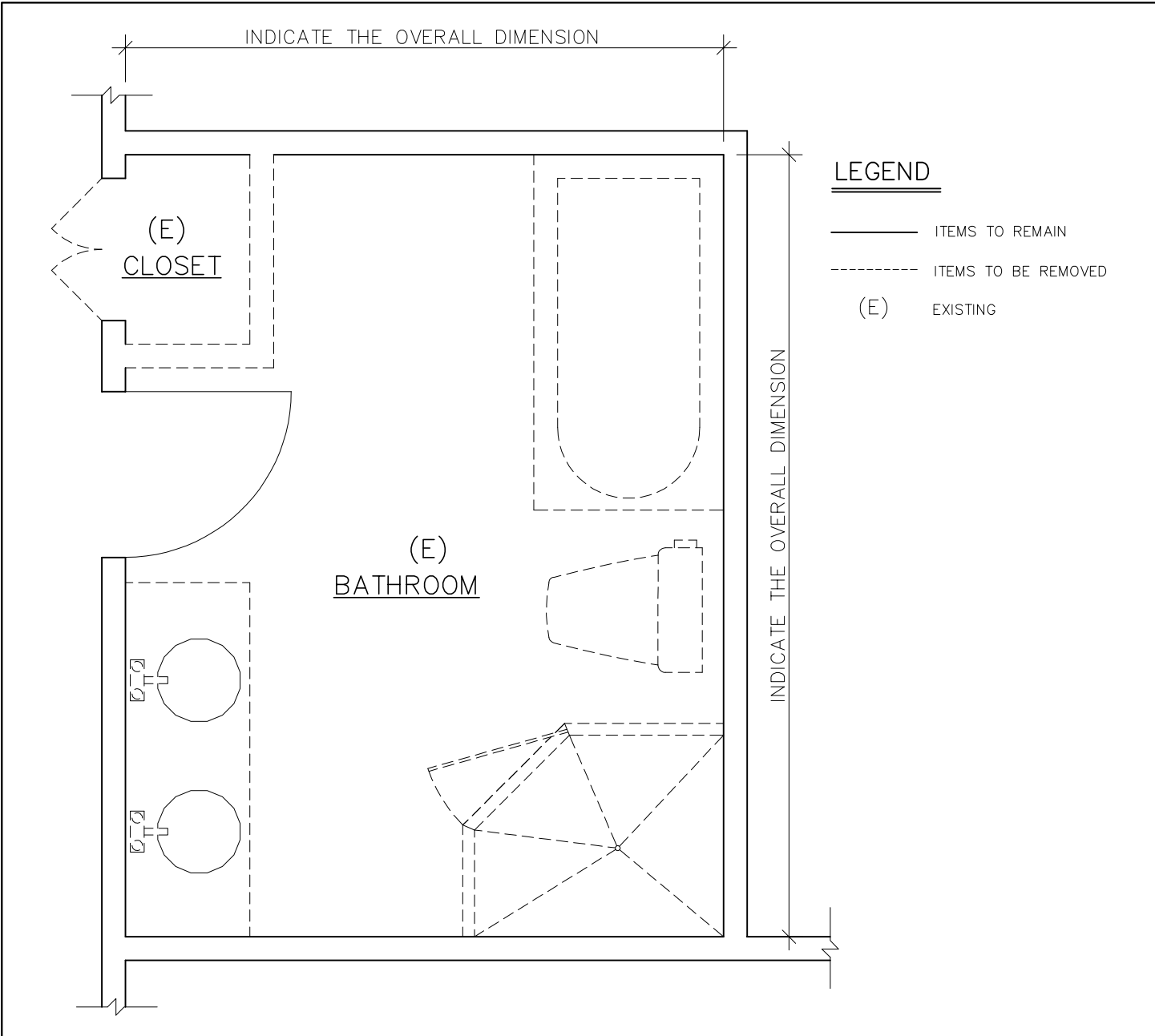
Office of Building Safety

DESIGN GUIDELINE
FOR

RESIDENTIAL BATHROOM REMODEL



455 E. Calaveras Blvd.
Milpitas, CA 95035
408-586-3240
www.milpitas.gov



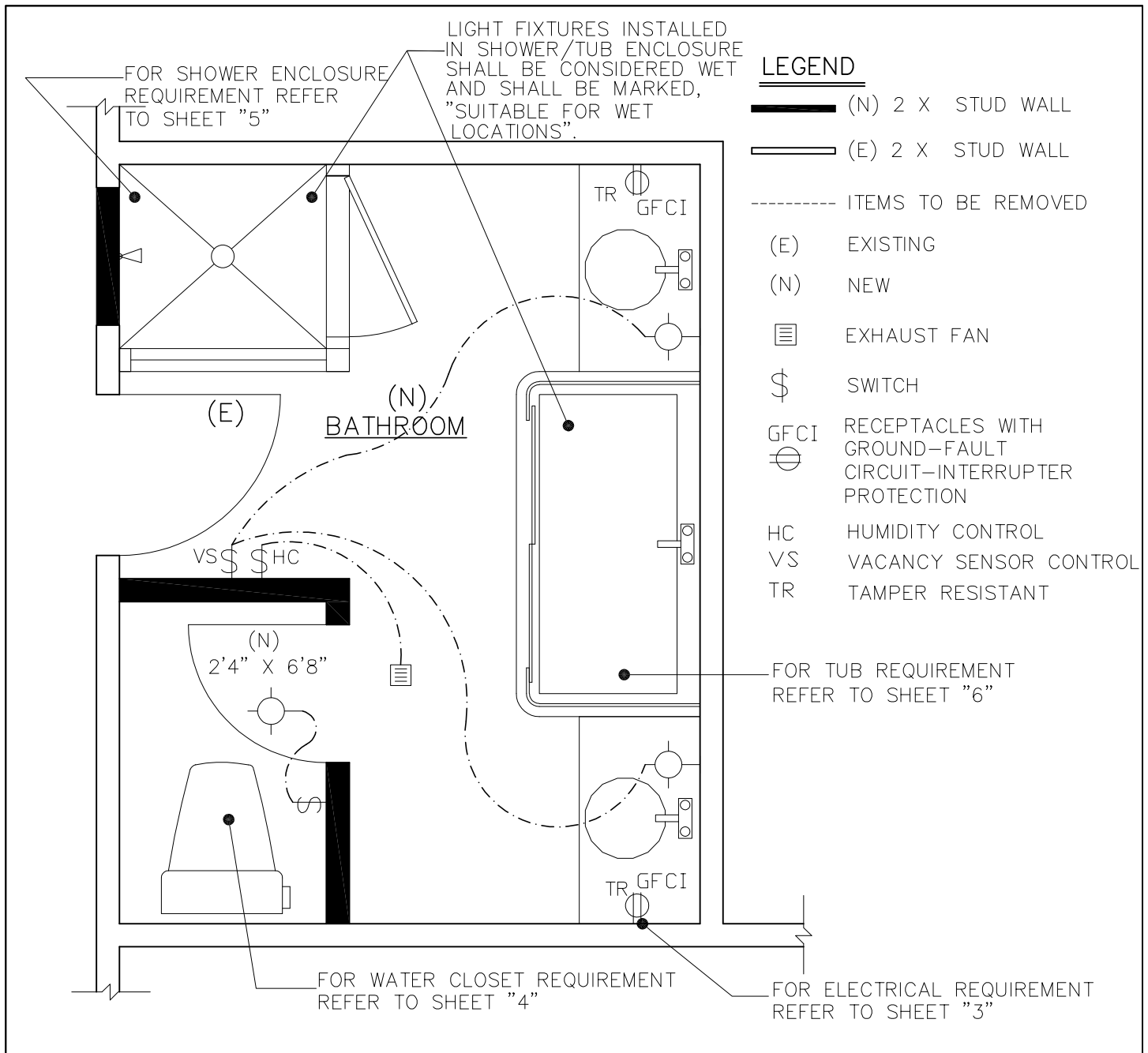
A EXISTING LAYOUT / DEMOLITION
(PLAN VIEW)

The purpose of preparing this plan is to show

- 1) What is the existing layout ?
- 2) Which Items are going to be removed & which items will remain as existing?

In this example all (E) plumbing fixtures, portion of (E) closet wall inside bathroom and (E) closet door are going to be removed.

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A

PROPOSED LAYOUT

(PLAN VIEW)

The purpose of preparing this plan is to show

1) What is the proposed layout ?

In this example: Install (N) Shower & Enclosure in previous (E) closet location, (N) water closet and (N) walls for water closet enclosure, two new vanities and sinks, and Tub with glass enclosure.

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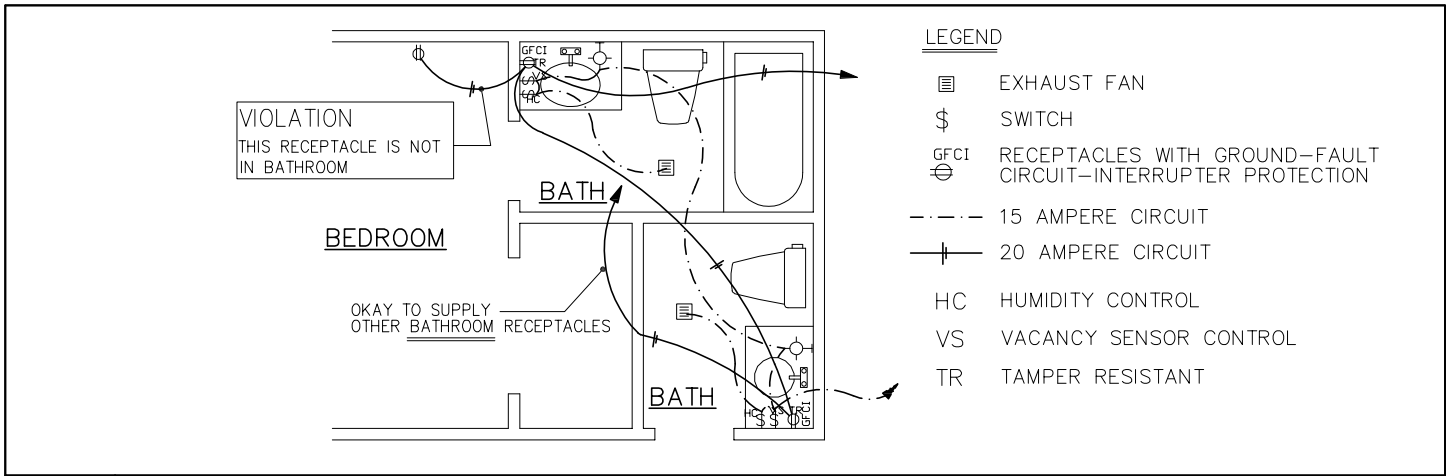
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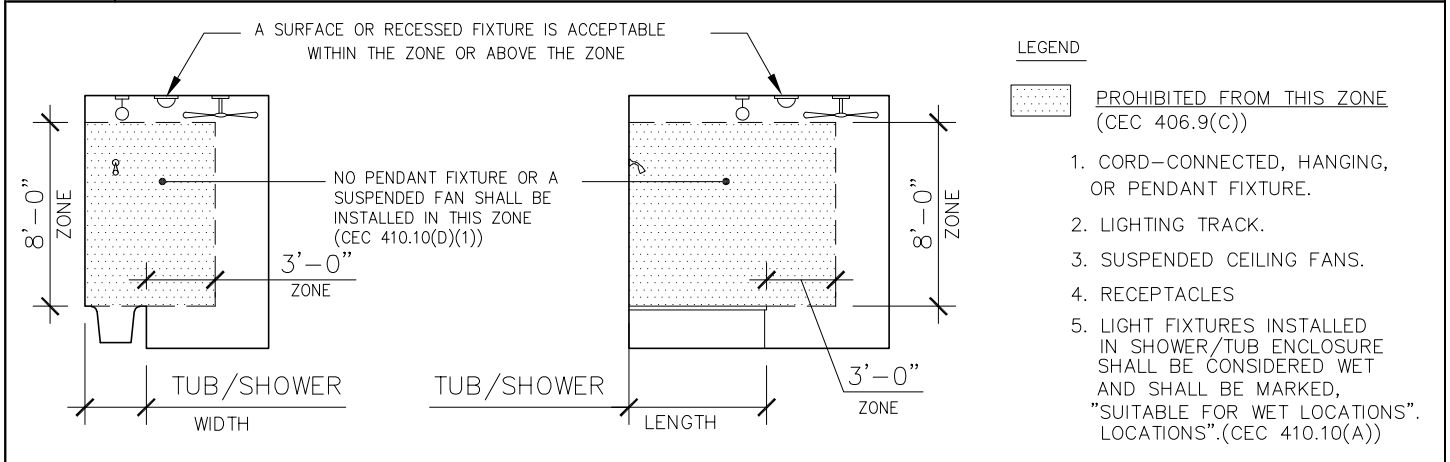
BATHROOM REMODEL

PROPOSED LAYOUT

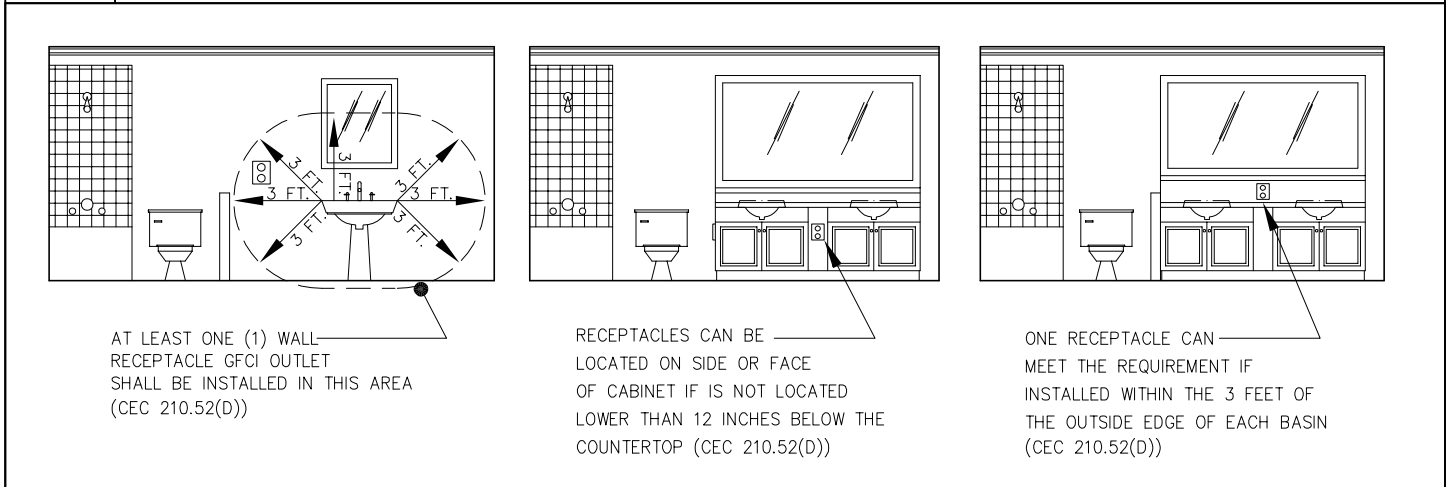
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A BRANCH CIRCUITS (PLAN VIEW)



B PROHIBITED ZONE FOR FIXTURE INSTALLATION (ELEVATION / SECTION)

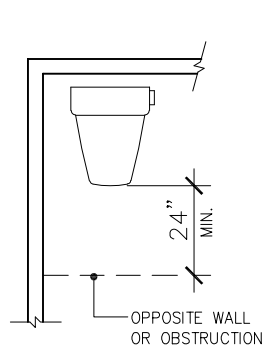


C ACCEPTABLE LOCATIONS FOR GFCI RECEPTACLES

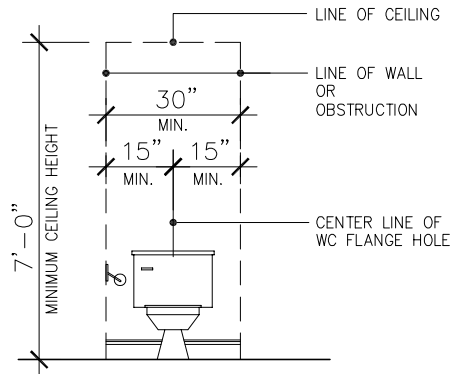
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BATHROOM REMODEL
ELECTRICAL REQUIREMENT

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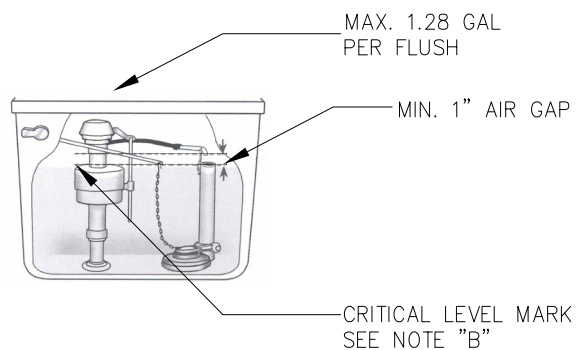
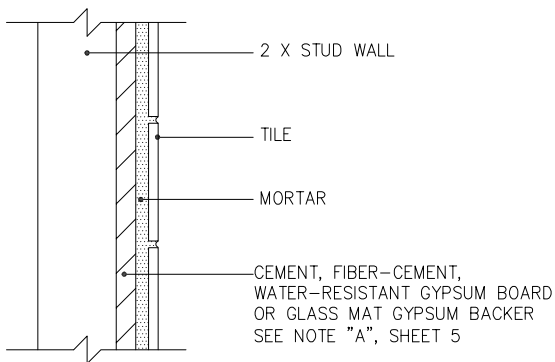
(PLAN VIEW)



(ELEVATION)

A

WATER CLOSET COMPARTMENT REQUIRED DIMENSION (CPC 402.5)



B

BASE FOR TILE IN WATER CLOSET ENCLOSURES

C

TOILET FILL VALVE

NOTE " A "

CRC 2022 R702.3.7 Water-resistant gypsum backing board.

- Gypsum board used as the base or backer for adhesive application of ceramic tile or other required nonabsorbent finish material shall conform to ASTM C1396, C1178 or C1278. Use of water-resistant gypsum backing board shall be permitted on ceilings. Water-resistant gypsum board shall not be installed over a Class I or II vapor retarder in a shower or tub compartment. Cut or exposed edges, including those at wall intersections, shall be sealed as recommended by the manufacturer.

CRC 2022 R702.3.7.1 Limitations.

- Water-resistant gypsum backing board shall not be used where there will be direct exposure to water, or in areas subject to continuous high humidity.

NOTE " B "

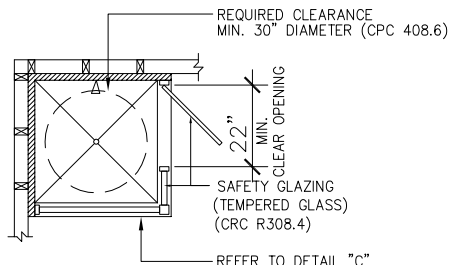
- Water closet tanks shall be equipped with a ballcock. The ballcock shall be installed with the critical level at least one (1) inch above the full opening of the overflow pipe. In cases where the ballcock has no hush tube, the bottom of the water supply inlet shall be installed one (1) inch above the full opening of the overflow pipe. (CPC 603.5.2)

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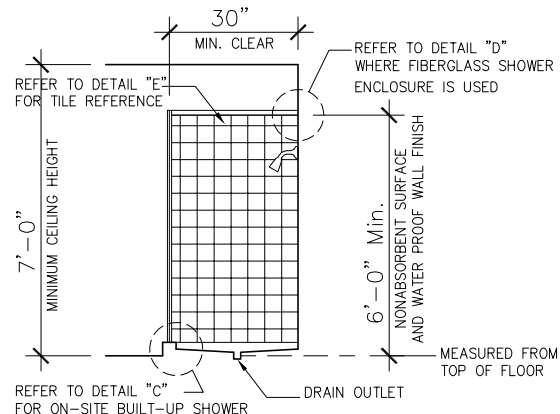
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BATHROOM REMODEL
WATER CLOSET REQUIREMENT

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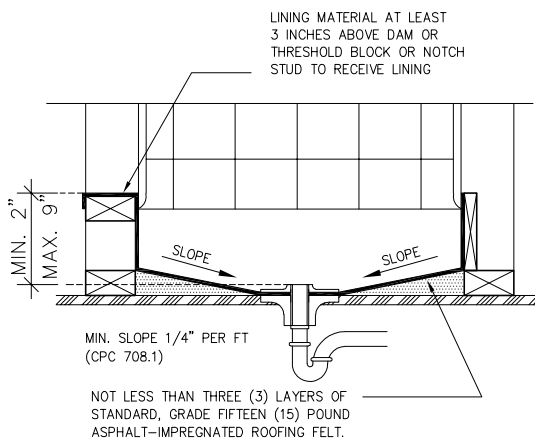
NOTE:
FOR OTHER SAFETY GLAZING REQUIREMENT SEE NOTE "A" ON DETAIL "A" SHEET 6.

REFER TO DETAIL "C" FOR ON-SITE BUILT-UP SHOWER
THE SHOWER COMPARTMENT SHALL HAVE A MINIMUM FINISHED INTERIOR OF 1024 SQUARE INCHES (CPC 408.6)



A SHOWER ENCLOSURE (PLAN VIEW)

B SHOWER ENCLOSURE (SECTION)



GYPSUM BOARD BACKING OVERLAPS SHOWER FLANGE

SHIM IF REQUIRED

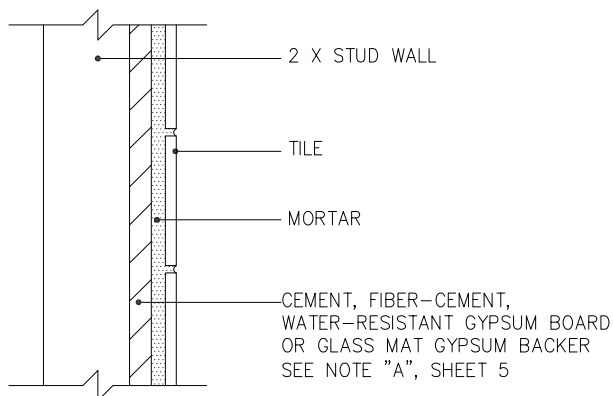
BOTTOM EDGE OF GYPSUM BOARD BACKING

FLEXIBLE CAULK

ONE PIECE FIBERGLASS / PLASTIC SHOWER STALL

C ON-SITE BUILT-UP SHOWER

D TOP OF FIBERGLASS SHOWER



NOTE "A"

CRC 2022 R702.4.2

Backer boards. Materials used as backers for wall tile in tub and shower areas and wall panels in shower areas shall be of materials listed in Table R702.4.2, and installed in accordance with the manufacturer's recommendations.

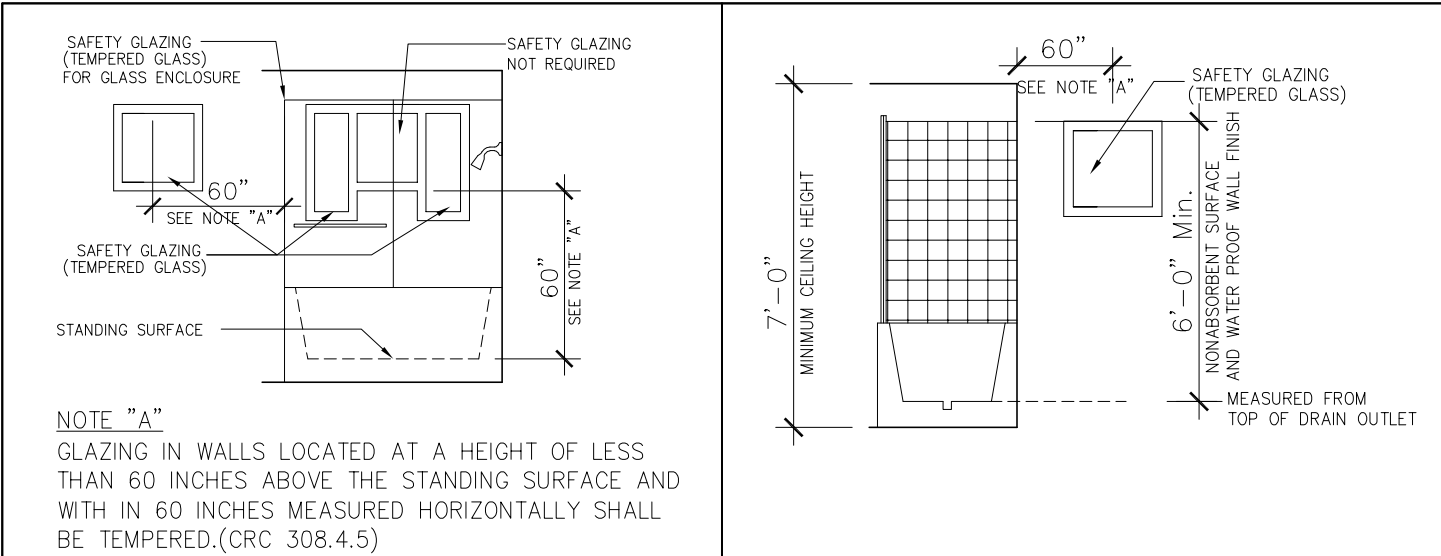
TABLE R702.4.2 BACKER BOARD MATERIALS	
MATERIAL	STANDARD
Glass mat gypsum backing panel	ASTM C1178
Fiber-reinforced gypsum panels	ASTM C1278
Nonasbestos fiber-cement backer board	ASTM C1288 or ISO 8336, Category C
Nonasbestos fiber mat reinforced cementitious backer units	ASTM C1325

E BASE FOR TILE IN SHOWER ENCLOSURE

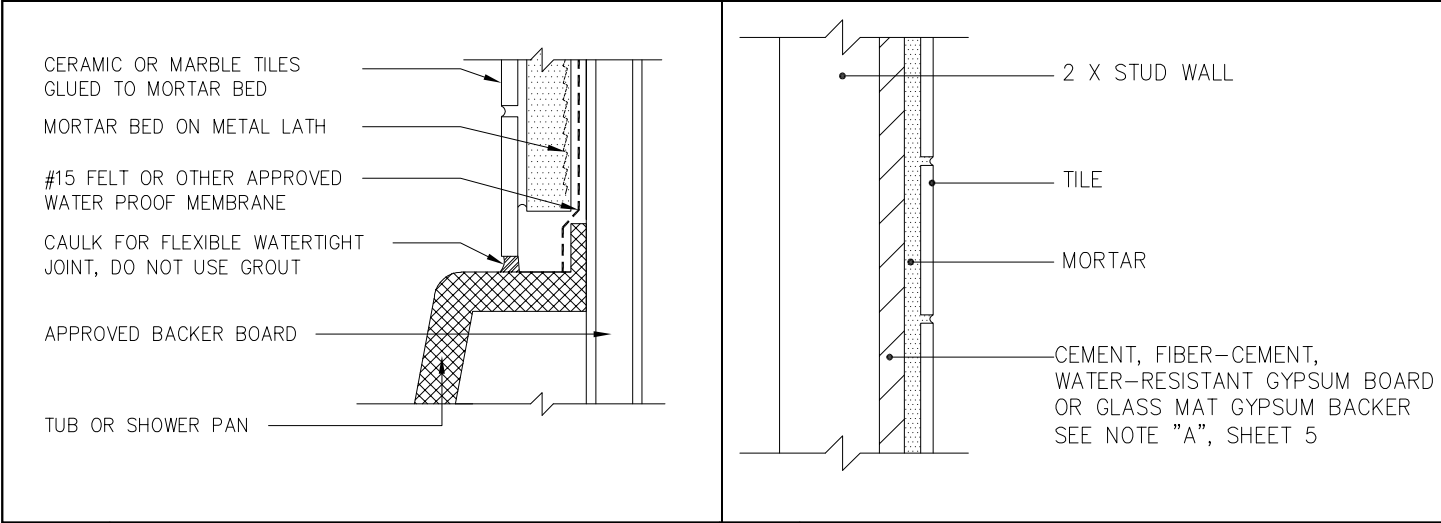
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BATHROOM REMODEL
SHOWER REQUIREMENTS

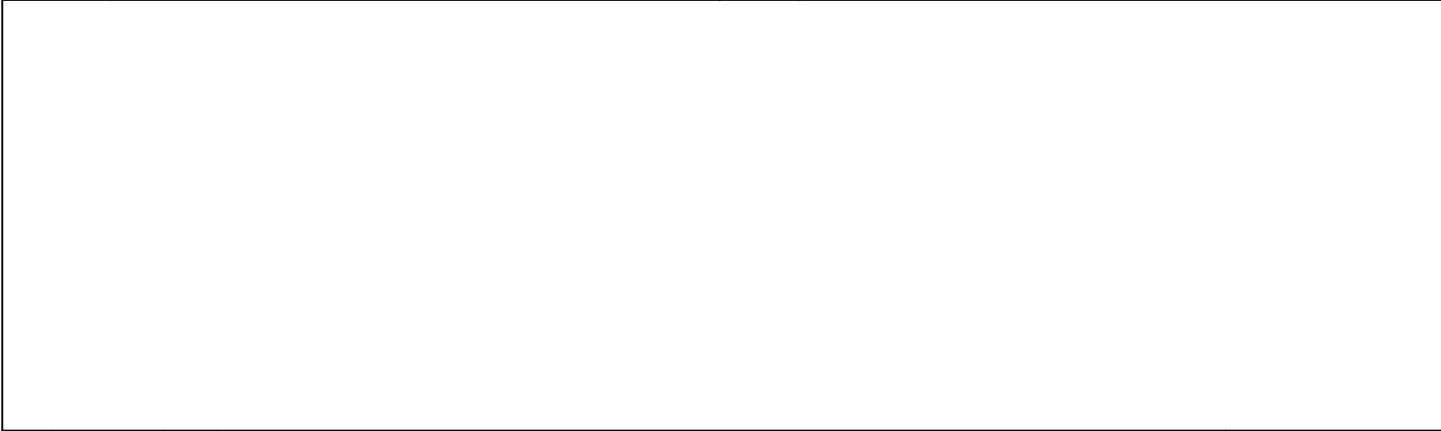
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A	TUB ENCLOSURE (ELEVATION)	B	TUB ENCLOSURE (SECTION)
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C	TILE ON MORTAR BED	D	BASE FOR TILE ON TUB ENCLOSURE
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Lighting:

- If adding or replacing the lighting, it shall be high efficacy fixtures or be controlled with a manual-on occupant sensor with controls that do not allow the fixtures to be manually turned on or allow the fixtures to be always on (Calif. Energy Code 150(k) 2A).
- At least one installed luminaire shall be controlled by an occupancy or vacancy sensor providing automatic-off functionality.(Calif. Energy Code 150(k) 2E).
- Recessed lighting in insulated ceilings must be rated for zero clearance insulation contact (IC), certified as airtight construction (AT), and must have a sealed gasket or caulking between the housing and ceiling to prevent the flow of heated or cooled air out of the living areas and into the ceiling cavity (Calif. Energy Code 150(k) 2C).
- Lighting located directly above the bathtub or shower and within 8 feet vertically of the top of the bathtub rim or shower threshold must be marked for either damp or wet locations. Lighting subject to shower spray must be marked for wet locations. [CEC 410.10(D)(2)]

CALGREEN MANDATORY MEASURES :

- **WATER EFFICIENCY AND CONSERVATION**
- **Indoor Water Use (4.303)**
- **Water closets.** The effective flush volume of all water closets shall not exceed 1.28 gpf. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-type Toilets.
- **Single showerheads.** Showerheads shall have a max. flow rate of not more than 1.8 gpm at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.
- **Multiple showerheads serving one shower.** When a shower is served by more than one showerhead, the combined flow rate of all the showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gpm at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time.
- **Residential lavatory faucets.** The max. flow rate of residential lavatory faucets shall not exceed 1.2 gpm at 60 psi. The min. flow rate of residential lavatory faucets shall not be less than 0.8 gpm at 20 psi.
- Metering faucets when installed in residential buildings shall not deliver more than 0.2 gallons per cycle.

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ENERGY AND CALGREEN REQUIREMENT

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