



Bathroom Re-Design

Genesis Chavez
Human Factors
Summer 2015

+ Client: Sergio

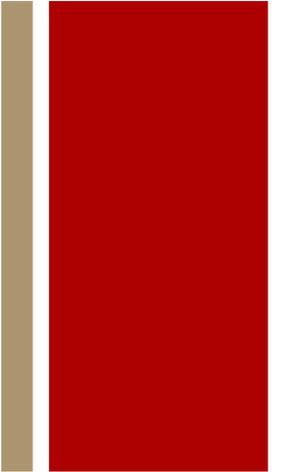
- My client is 22 years old and is currently struggling with his bathroom and is looking to re-design it to fit his needs and desires
- His struggles with the bathroom:
 - The room is not spacious enough to fit his needs comfortably
 - The sink is the first thing you see to your right when you walk in the door and the toilet is at an awkward position
 - There is no clear counter space under the sink so he has to use the sink while he sits sideways
 - The door pulls in so he has to go all the way in to close the door
 - The shower has curtains and his wheels get stuck on the curtains and he struggles to move them because they get stuck at the top
 - The medicine cabinet is too high for him to reach
 - When he shaves he has to be in an awkward position because the sink is too high for him to shave comfortably



Client permission has been granted.

+ Project Statement

- To create the ideal living situation for my client and while keeping all of the struggles he has with this current bathroom in mind I intend on re-designing the whole bathroom from top to bottom. The biggest issue with this bathroom is that there is not enough space for him to move around easily, I intend on expanding the restroom to give him more room to get in and out comfortably and to be able to fit his needs. With the use of new and functional ADA compliant fixtures and universal design features I will turn his current bathroom struggle into a spacious oasis of relaxation.



+ Solving The Problems

Problems

- The room is not spacious enough to fit his needs comfortably
- The sink is the first thing you see to your right when you walk in the door and the toilet is at an awkward position
- There is no clear counter space under the sink so he has to use the sink while he sits sideways
- The door pulls in so he has to go all the way in to close the door
- The shower has curtains and his wheels get stuck on the curtains and he struggles to move the curtains because they get stuck at the top
- The medicine cabinet is too high for him to reach
- When he shaves he has to be in an awkward position because the sink is too high for him to shave comfortably

Solutions

- Make the larger to let him move freely in the space with no struggle or obstruction
- I intend to make the toilet in an area where nothing can obstruct his path
- The sink is going to have wall mounted “P” trap for the sink (to clear the knee space) with horizontal pipe and extra insulation.
- The shower will be walk-in with a seat and a glass door with an opaque finish and partition wall in shower area for privacy so there is no need for curtains
- The shower head will be height adjustable depending on the user
- There will be a foldable shower seat for the optional standing guest
- There will be an adjacent bathtub in shower area with a door and an ADA accessible seat for usability
- The medicine cabinet will be lowered by the sink so it will be at reach
- The shape of the sink will be adjusted where there is no lip to the sink and it is a steep bowl starting at the edge of the counter so he can just roll up to the sink and shave

+ Universal Design

■ Equitable Use

- The design is useful and marketable to people with diverse abilities
 - **The shower head is adjustable to any height and any position in which is desired**
 - **The glass panels on the shower doors and side walls of the shower are opaque to provide privacy without the need of curtains or solid walls.**
 - **The whole space is flexible for any person**

■ Flexibility in Use

- The design accommodates a wide range of individual preferences and abilities
 - **The shower and bathtub handles will have the colors of the temperature on the handle, blue for cold and red for hot**
 - **There is a separate shower and bathtub option**

■ Simple and Intuitive Use

- Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.
 - **All the handles will be labeled according to color, red is hot and blue is cold**
 - **The light switch will have the words ON and OFF clearly labeled on it**

■ Perceptible Information

- The design communicates necessary information effectively to the user, regardless of ambient conditions or the users sensory abilities.
 - **The light switch will have the words ON and OFF clearly labeled on it**

■ Tolerance for Error

- The design minimizes hazards and the adverse consequences of accidental or unintended actions.
 - **The floor of the shower/bathtub combo will be rubberized to add extra grip in case the floor becomes slippery when it is wet.**

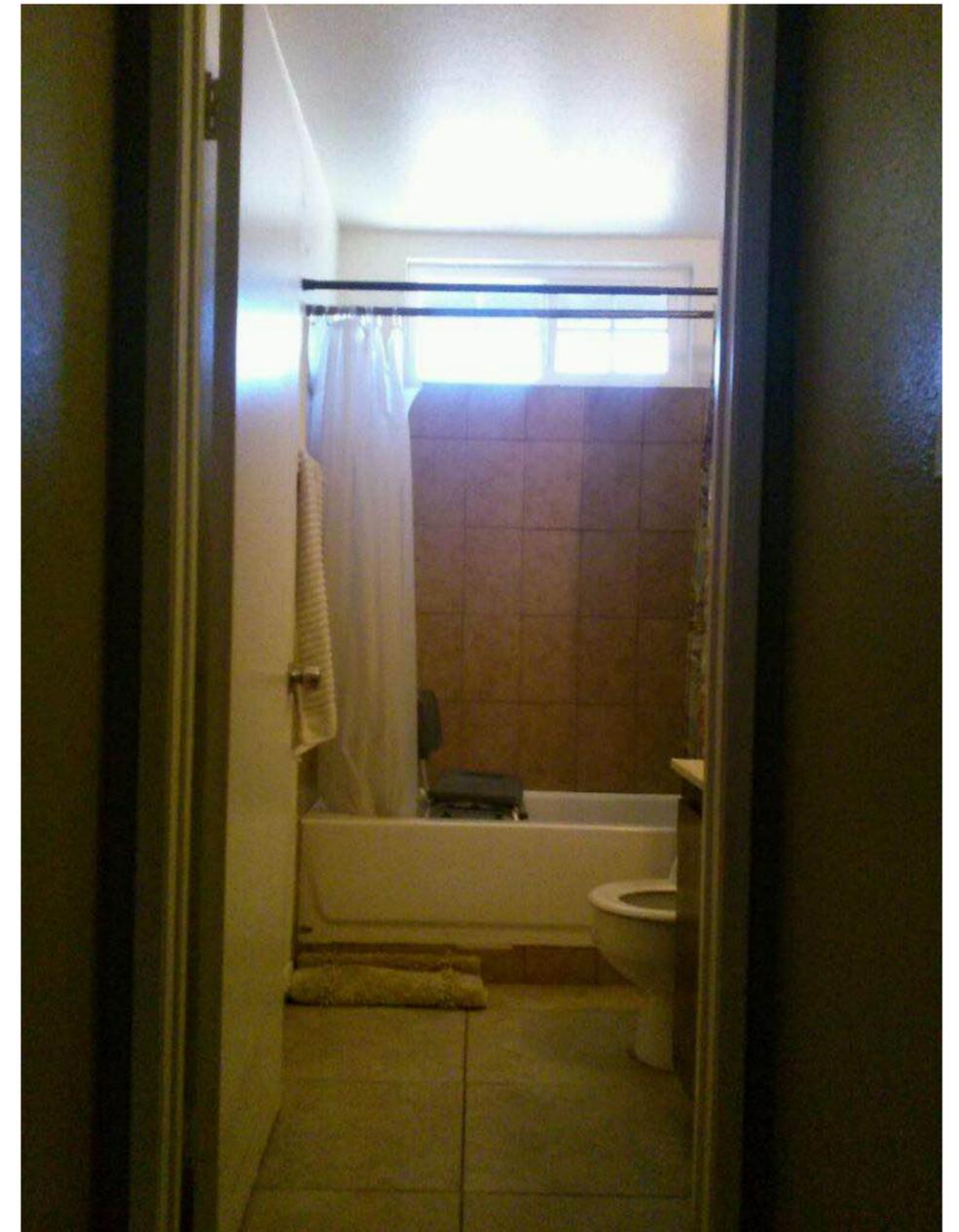
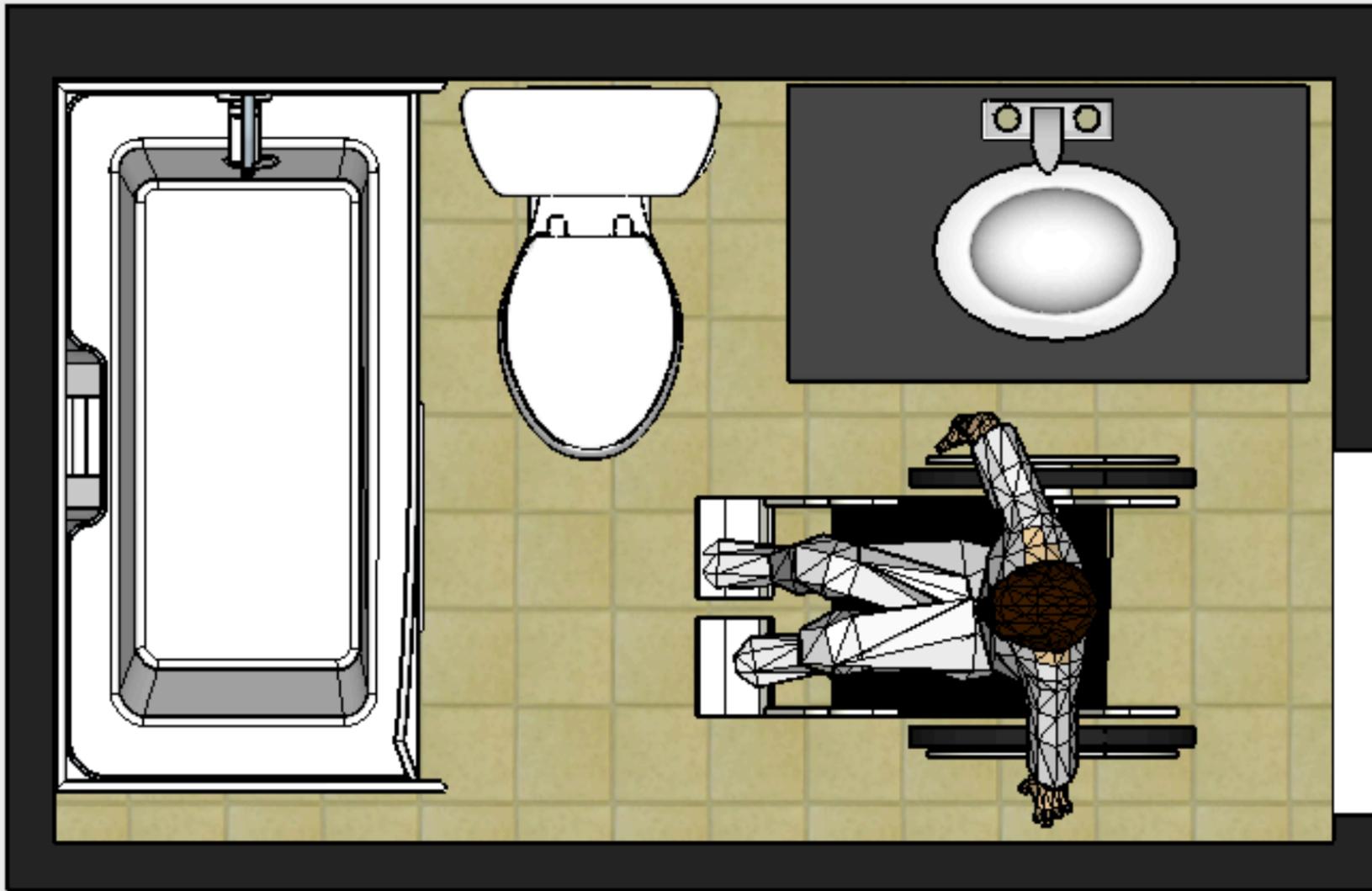
■ Low Physical Effort

- The design can be used efficiently and comfortably and with minimum of fatigue.
 - **All the handles and faucets will be levers**
 - **The sink will extend to the edge of the counter top for easy access to just roll in and use**

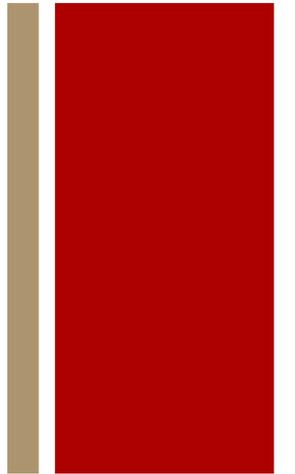
■ Size and Space for Approach and Use

- Appropriate size and space is provided to approach, reach, and use regardless of user's body size, posture, or mobility.
 - **The whole space will have an appropriate amount of room for movement**
 - **The medicine cabinet is lowered for reach**
 - **There will be a full body mirror for any up close or even far away needs**
 - **The sink will not have any obstructions to provide knee space**

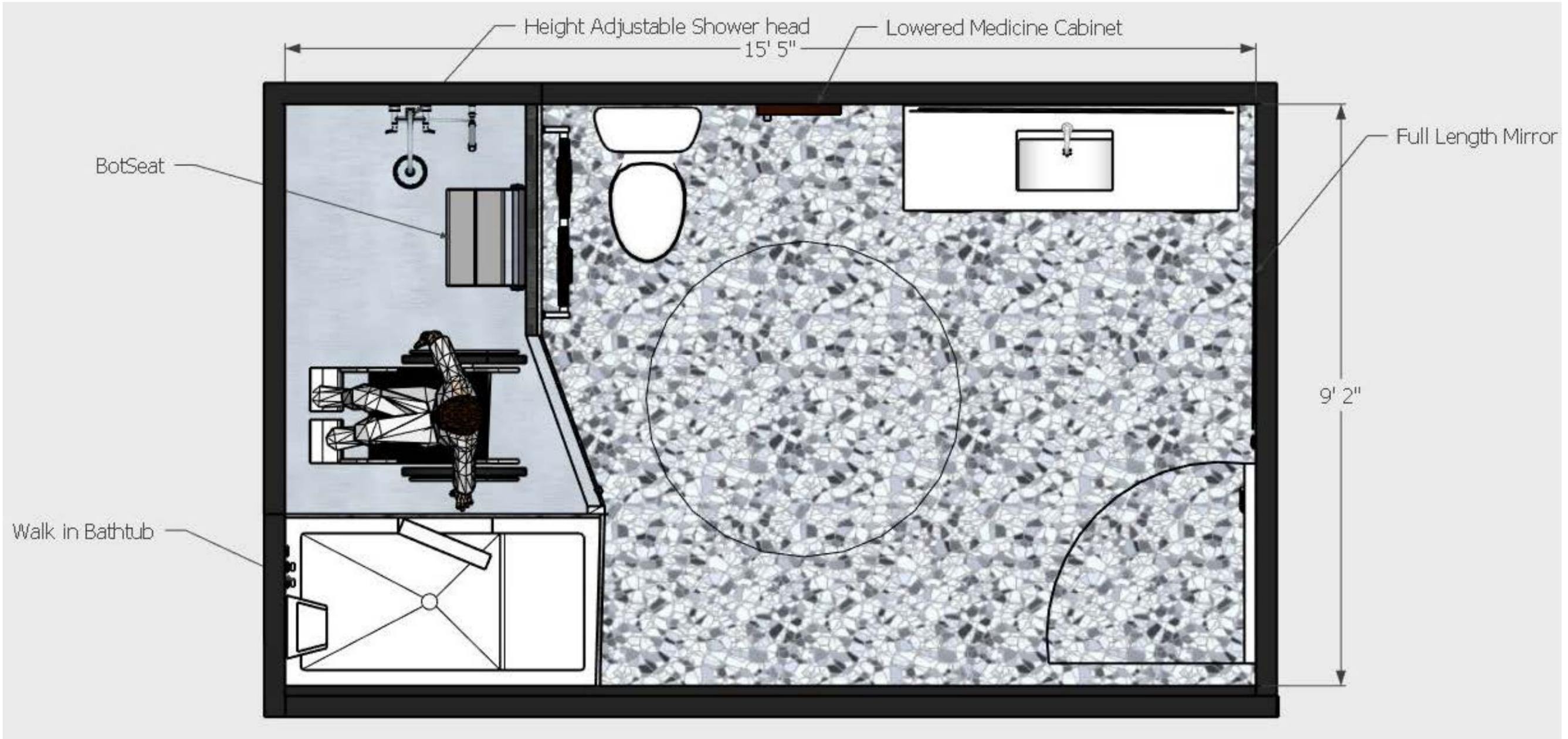
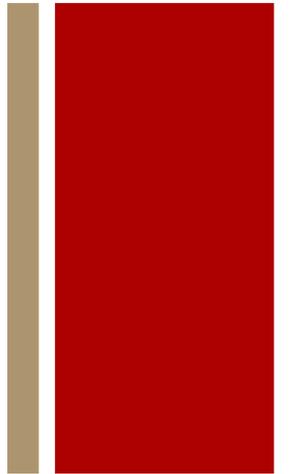
+ Current Bathroom



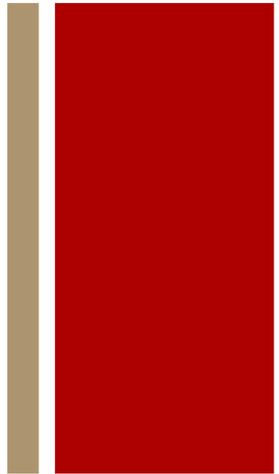
+ Current Bathroom



+ Re-Design



+ Re-Design



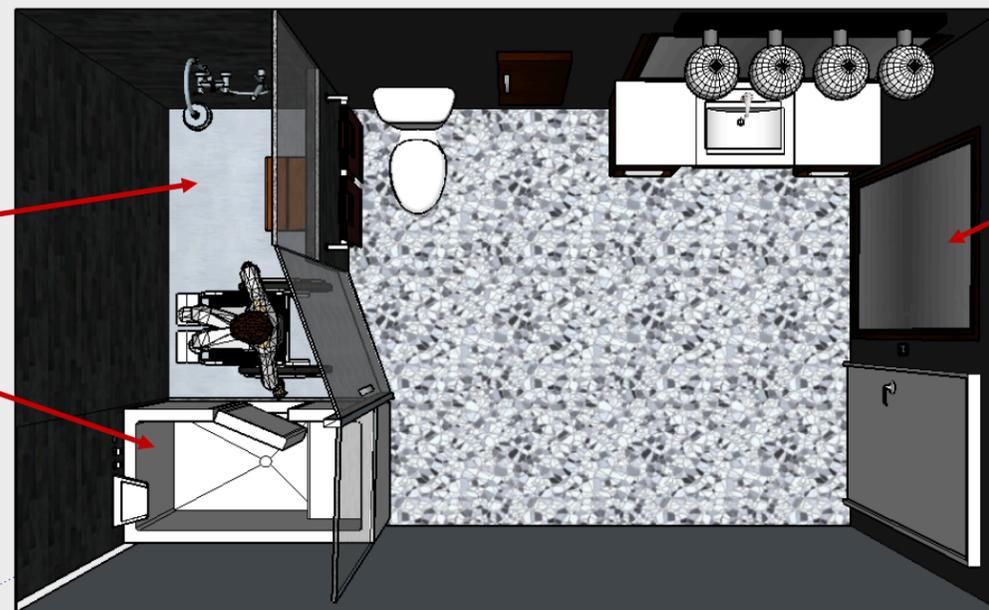
Lowered Medicine Cabinet

Floating Counter with Knee Space

Grab Bar That Serves As A Towel Rack When Not In Use



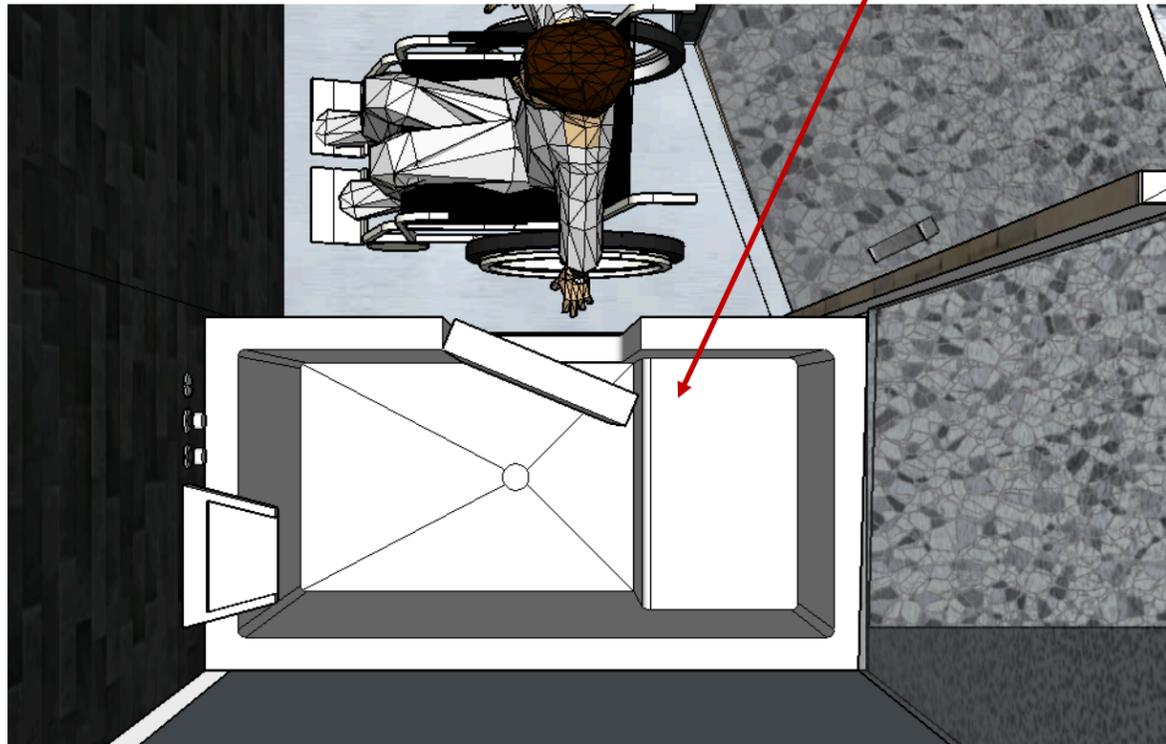
Bathtub is adjacent to the shower in the same area to minimize water spilling everywhere



Full Length Mirror

+ Re-Design

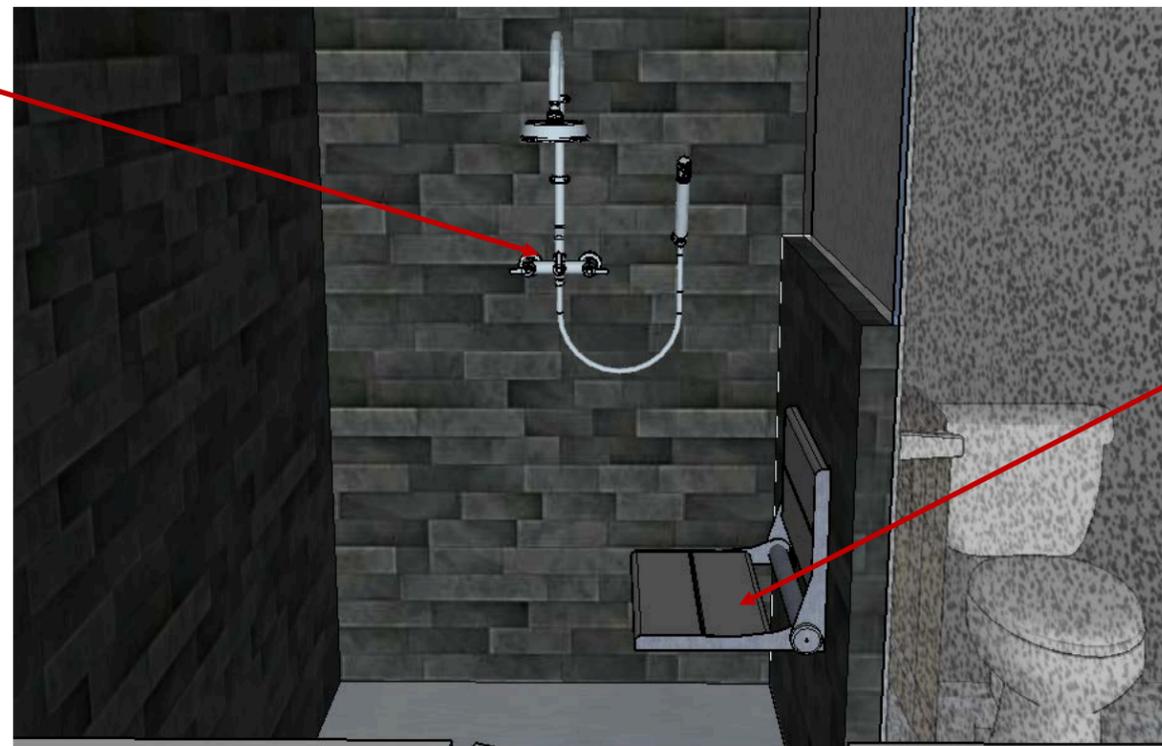
Seat for ADA Accessibility



Opaque Walls to Enhance Privacy



Height Adjustable Shower Head



Foldable Shower Seat

