

ZeroStep® Guidelines©

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Chapter 1. Exterior Accessible Routes and Spaces

101 Components of an Accessible Route

Accessible routes and entrances shall consist of all of the following components, if applicable, and shall comply with the applicable sections of the ZeroStep Standards:

- There is at least one zero step exterior entrance on an accessible route to the home in accordance with Section 201.
- Walking surfaces are not steeper than 1:20 (5%).
- Turning spaces shall be a circular space with a 60" minimum diameter in accordance with Sections 105, 301, 401, 501, 601, 701, and 801.
- Doors and doorways shall be 36" wide in accordance with Section 201.
- Ramps have a slope not steeper than 1:12 (8%) in accordance with Section 106.
- Elevators comply with the most recent ANSI A117.1 code.
- Hallways are a minimum of 42" wide in accordance with Section 202.
- Stairways are a minimum of 36" wide in accordance with Section 203.
- Approach shall be 48" x 48" at fixtures in accordance with Section 301, 501, 601, 701, 1201 and 1301.

102 Driveways

102.1 Approach (Slope). The driveway shall be as level as possible. However, if the site is not level, the driveway should be built to accomplish the climb up to a level equal with the floor of the house. (See Reference Illustration 102.1 Approach)

102 Options (See Reference Illustration 102 Options)

102 Opt.1 12' Minimum Width at Base. The driveway is at least 12' wide and flared at the end to accommodate an easy turn.

102 Opt. 2 Surface Material. The driveway is covered with a **smooth** surface material, such as concrete or asphalt.

102 Opt. 3 24' Minimum Level Parking Space. A minimum of 24' of the driveway has a slope and cross slope of 1:48 (2%) to provide level parking space for cars.

102 Opt. 4 Turning Space. A turn-around space is provided.

103 Garage

103 Options (See Reference Illustrations 103 (a))

103 Opt. 1 Minimum Measurements – One Stall. A one stall garage has a minimum of 16' clear width, 27' minimum depth. (See Appendix – Note 103 Opt. 1) **Question depth**

103 Opt. 2 Minimum Measurements – Two Stall. A two stall garage has a minimum of 27' clear width, 27' minimum depth. (See Appendix – Notes 103 Opt.2) **Question depth**

103 Opt. 3 Flush Garage Floor. The garage floor is flush with the entrance threshold into the home by sloping the floor 1:48 (2%). (See Appendix- Notes 103 Opt. 3)

103 Opt. 4 Garage Ramp. A ramp to the home entrance is installed in the garage with a slope no greater than 1:12 (8%). Comply with Section 106 Ramps. **Need help**

103 Opt. 5 9' Minimum Garage Door Height. The garage door is 9' high or higher. (See Appendix – Notes 103 Opt. 6)

103 Opt. 6 Automatic Lighting. Automatic or motion-activated lighting other than the automatic light that comes with an electric garage door opener is installed.

What about door locations into home from the garage? Options? Illus?

104 Walks and Pathways

104.1 Slope. A primary walk or pathway to a zero-step entrance shall not be steeper than 1:20 (5%). If the primary walk or pathway is greater than 1:20, see Section 106 Ramps. (See Appendix – Notes 104.1)

104.2 Cross Slope. The cross slope shall be a maximum of 1:48 (2%).

104.3 Changes in Level. Any change in level shall follow the following guidelines: (See Reference Illustration 104.3).

104.3.1 Changes in level greater than ½" shall be beveled.

104.3.2 Changes in level between ¼" high and ½" high maximum shall be beveled with a slope not steeper than 1:2 (50%).

104.3.2 Changes in level between ¼" high and ½" high shall be permitted to be vertical.

104.4 Clear Width. A walk and pathway on an accessible route shall have a clear minimum width of 36" maintained throughout. (See Appendix – Notes 104.4)

104 Options.

104 Opt. 1 Additional Walks or Pathways. Additional walks or pathways to zero-step entrances are not steeper than 1:20 (5%).

104 Opt. 2 Width Greater than 36”. Walks and pathways are greater than a clear width of 36”.

104 Opt. 3 Firm, Non Slip Surface Material. Walks and pathways are covered with a firm, non-slip surface material (concrete, asphalt, or lumber). (See Appendix – Notes 104 Opt.3)

104 Opt. 4 Sheltered Walkway. The accessible walk or pathway between the vehicle and the home is sheltered overhead from the elements.

104 Opt. 5 Lighting. (See Section 1101 Opt. 1.)

105 Porches, Patios, Decks and Landings

105.1 Location. Porches, patios, decks and landings that are on the primary accessible entrance to the home shall comply with Section 201.2, 201.3 and 1101.1. (See Reference Illustrations 105.1 and Appendix – Notes 105.1))

105.2 Turning Space. The porch shall have at least a 5’ diameter turning space in front of the primary door opening. (See Appendix – Notes 105.2)

105.3 Changes in Level. Porches, patios, decks and landings that are on an accessible route shall comply with Section 104 Walks and Pathways, 104.3.1 –104.3.3.

105.4 Cross Slope. Porches, patios, decks and landings that are on an accessible route shall not slope more than 1:48 (2%).

105.5 Openings. Deck boards shall be spaced no more than ¼” apart.

105 Options.

105 Opt. 1 Shelf. A built-in shelf or ledge is located on the exterior next to an accessible door. (See Appendix – Notes 105 Opt. 1)

105 Opt. 2 Address Numbers. The house address numbers are a minimum of 4” high, high contrast or reflective material or lighted, and located in a prominent place on the house and/or the mailbox, easy for friends and emergency personnel to locate.

106 Ramps (See local codes first.)

106.1 When to Install a Ramp. A ramp is installed when the walking slope is greater than 1:20 (5%). (See Reference Illustration 106.1 and Appendix – Notes General Information)

106.2 Slope. The ramp slope shall not be steeper than 1:12 (8%). (See Appendix – Notes 106.2)

106.3 Cross Slope. The cross slope shall be 1:48 (2%).

106.4 Clear Width. The preferred clear width of a ramp run shall be 42" – 48". Code allows a clear ramp width of 36" but this should be used in rare circumstance. (See Appendix – Notes 106.4)

106.5 Rise. The rise shall be 30" maximum between landings, and preferably less. A 24" maximum rise is the preferred norm.

106.6 Landings. Ramps shall have landings at the bottom and top of each ramp run. The landing at the bottom need not be the same material as the ramp run, however it must be a hard surface, e.g. concrete. A ramp run shall not exceed 30' maximum in length between landings.

106.6.1 Landing Slope. Landings shall slope 1:48 (2%) or less. Changes in level are not permitted.

106.6.2 Landing Clear Width. Clear width of landings shall be at least as wide as the widest ramp run leading to the landing.

106.6.3 Landing Length. The landing length shall be 60" minimum. (See Reference Illustration 106.6.3)

106.6.4 Landing Change in Direction - 90° Turn. A ramp that makes a 90° turn shall have a minimum 5' x 5' landing. (See Reference Illustration 106.6.4)

106.6.5 Landing Change in Direction - 180° Turn. A ramp that makes a 180° turn shall have a minimum 7' – 4" (length) x 5' (width) landing. (See Reference Illustration 106.6.5)

106.6.6 Landings for a Child. Due to personal needs for a child, a home owner may customize the landing.

106.7 Edge Protection. Edge protection shall comply with Section 1010.9.1 or 1010.9.2 of the Michigan Building Code.

106.8 Baluster. Baluster spacing shall not be more than 4" apart. MAHB said we don't need baluster if we have edge protection and the ramp is under 30" in ht. **When to use? Not reduce clear width of ramp**

106.9 Handrails. Handrails shall be provided on both sides of all ramps exceeding a slope of 1:12 (8.33%). Handrails shall be easy-to-grip round, oval or shaped that is 1 ¼" to 1 ½" in diameter and may be side mounted, top mounted or an integral part of the guardrail. (See Reference Illustration 106.9)

EXCEPTION: Ramps that are parallel and attached to the home or structure may have one continuous handrail on the side opposite the home.

106.9.1 Handrail Height. Handrail height, measured above the finished surface of the ramp slope, shall be not less than 34" and not more than 38". An additional or second custom-height handrail may be installed.

106.9.2 Handrail Clearance. Handrail clearance shall be exactly 1 ½" from an adjacent surface.

106.9.3 Handrail Continuity and Grip Size. Handrails **where required** on ramps shall be continuous for the full length of the ramp. **Handrail ends shall be returned or shall terminate in newel posts or safety terminals.** Handrails adjacent to a wall shall have a space of not less than 1 ½" between the wall and the handrails.

106.10 Outdoor Conditions. Outdoor ramps and outdoor approaches to ramps shall be designed so that water will not accumulate on walking surfaces.

106.11 Ramp Surface. The ramp surface shall be of slip-resistant materials that are securely attached, or a broomed concrete surface. Decking shall be installed perpendicular to the path of travel with at least 1/8" gaps between boards to allow for drainage.

106 Options.

106 Opt. 1 No Ramp Required. No ramp is required.

106 Opt. 2 Clear Width. The ramp's clear width is 42" or greater.

106 Opt. 2 Second Handrail. A second handrail is installed in addition to the first handrail of all ramps exceeding a slope of 1:12 (8.33%). The second handrail does not reduce the clear ramp width and complies with Section 106.9.2 and 106.9.3.

Chapter 2. Interior Accessible Routes and Spaces

Interior Accessible Route begins at the exterior entrance to the home.

201 Doors and Doorways

201.1 Zero-Step Exterior Entrance. There shall be at least one zero-step exterior entrance on an accessible route to the home, and shall comply with Section 1101.1. (See Reference Illustration 104.3, Section 1101.1 and Appendix – Notes 201 General Information)

201.2 Clear Width. Doors that are on an accessible route shall have a clear opening of 34" minimum which is typically accomplished by a 36" wide door. (See Reference Illustration 201.2)

201.3 Swinging Doorways, Sliding and Folding Doorways, Doorways Without Doors and Recessed Doors. Swinging doorways, sliding and folding doorways, doorways without doors and recessed doors that are on an accessible route shall have a clear opening of 34" minimum. (See Reference Illustration 201.3)

EXCEPTION: Pantries and closets other than accessible closets addressed in Section 201 Doors and Doorways may have less than 34" clear openings.

201.4 Interior Landing at Exterior Door. There are no steps between an exterior doorway that is on an accessible route and the interior landing to the main level of the home. For example a "back landing" where the exterior door swings over a landing and there are additional steps to climb before reaching a kitchen. (See Reference Illustration 201.4)

201.5 Changes in Level. Doors and doorways that are on an accessible route shall comply with Section 104.3.1 – Section 104.3.3 Walks and Pathways. (See Reference Illustrations 104.3)

201.6 Covered Entry. A covered entry (e.g., awning, covered porch) is provided at the primary zero-step entrance. (Does this include overhang? How much?)

201 Options.

201 Opt. 1 More Than One Zero-Step Exterior Entrance. More than one, zero step exterior entrance is provided into the home.

201 Opt. 2 All Exterior Entrances Are Zero-Step. All exterior entrances are zero step into the home. (See Appendix – Notes 201 Opt. 2)

201 Opt. 3 18" Minimum Maneuvering Clearances. Maneuvering clearances are a minimum of 18" on the latch side of the door.

201 Opt. 4 Sidelites. Primary entrance door with one or two sidelites or a primary entrance door with a window is installed so that a person has visibility from a seated position. (See Appendix – Notes 201 Opt. 4)

201 Opt. 5 Lever Door Hardware. Lever hardware is used on all doors of the dwelling. (See Section 1401 Opt. 7 and Appendix – Notes 201 Opt. 5)

201 Opt. 6 Automatic Door Opener. An automatic door opener is installed on an accessible door. This does not include an automatic garage door opener. (See Appendix – Notes 201 Opt. 6)

105 Opt. 7 Covered Entry. A covered entry is provided at all zero-step entries.

105 Opt. 8 Door Chime. More than one door chime is located within the home.

202 Hallways

202.1 Width. 42" width hallways are required on an accessible route.

202.2 Changes in Level. Shall comply with Section 103.3.1 – Section 103.3.3.

202 Options.

202 Opt. 1 Width Greater Than 42". Greater than a 42" width hallway is provided.

203 Stairways

203.1 Interior Landing At Exterior Doorway. Shall comply with Section 201.4.

203.2 Stairway Lighting. All interior and exterior stairways shall be provided with a means to illuminate the stairs, including the landings and treads. Interior stairways shall be provided with an artificial light source located in the immediate vicinity of each landing of the stairway. (See Appendix – Codes 203.2)

EXCEPTION: An artificial light source is not required at the top and bottom landing, provided an artificial light source is located directly over each stairway section.

1201.3 Lighting Controls. The control for activation of the required interior stairway light shall be accessible at the top and bottom of each stairway without traversing any steps. The illumination of exterior stairways shall be controlled from inside the dwelling unit. (See Appendix – Codes 1201.3)

EXCEPTION. Light that are continuously illuminated or automatically controlled.

203 Options.

(See Sections 901 Flooring Options and Reference Illustration 203)

203 Opt. 1 No Open Risers. Open risers are not installed on interior stairways. (See Appendix – Notes 203.1)

203 Opt.2 Increased Width. Stairways on an accessible route are a minimum of 42" or wider above the handrail.

203 Opt. 3 Deeper Treads and Lowered Risers. Treads and risers on a stairs have uniform riser height and uniform tread depth.

Risers are between 4" minimum and 7" maximum in height. Treads are 11" minimum in depth. (See Appendix – Notes 203 Opt. 3)

203 Opt. 4 Landings or Clear Floor Space Exceed Minimums.

There is a landing or clear floor space at the top and bottom of the stairway. The landing or clear floor space width is not less than the stairway served, and is a minimum dimension of 42" in the direction of travel.

203 Opt. 5 Two Handrails. Handrails are on both sides of the stairway.

203 Opt. 6 Lighting Along Length. Theatre lights, cove lighting, tread lights, wall light or similar lights are placed along the length of the stairway to provide adequate lighting of each tread. See Section 1201 Opt. 4 and Opt. 7.

203 Opt. 7 Electrical Wiring. Electrical Wiring is in place for future stair lift or incline platform lift.

203 Opt. 8 Stair Lift or Incline Platform Lift Installed. A stair lift or incline platform lift is installed. (See Appendix – Notes 203 Opt. 7)

204 Elevators

204 Options.

204 Opt. 1 Stacked Walk-In Closets. A 5' x 5' clear interior dimension for "stacked" walk-in closets for a future elevator is constructed. (See Appendix – Notes 204 Opt. 1)

204 Opt. 2 Elevator Installed. A residential elevator is installed.

205 Balconies, Lofts, Raised or Sunken Areas and Split-Level Entries

205.1 Balconies, Lofts, Raised or Sunken Areas and Split-Level Entries. Balconies, lofts, raised or sunken areas and split-level entries are not recommended, however if they are designed into a dwelling, they must not interfere with the accessible route nor with kitchens or bathrooms.

205 Options.

205 Opt. 1 No Balconies, Lofts, Raised or Sunken Areas and Split Entries. No Balconies, Lofts, Raised or Sunken Areas and Split Entries are installed.

Chapter 3. Bathrooms

301 Bathrooms

301.1 Location. There shall be at least one full size bathroom (consisting of a sink, toilet, and bathtub or shower) on the main floor, on an accessible route, near an accessible bedroom. (See Appendix – Notes 301.1)

301.2 Turning Space. There shall be a 5' diameter turning space. The turning space may overlap approaches at fixtures. See Reference Illustration 301.2 and Appendix – Notes 301.2) (What about door swing?)

301.3 Approach. A clear 48" x 48" minimum approach shall be provided at all fixtures for either a parallel or perpendicular approach. 48" x 48" minimum approaches can overlap. The approach may include the toe kick space. (See Reference Illustration 301.3 and Appendix – Notes 301.4)

EXCEPTION: A toilet shall have two 48" x 48" approaches, one approach beginning at the back of the toilet and the second beginning at front base of the toilet. (See Reference Illustrations 301.2 and 301.3)

301.4 Doors. Doors shall comply with Section 201.

301.5 Wall Reinforcement. Walls shall be reinforced with blocking for future grab bar placement around toilets, bathtubs, showers and for hand held showers. Allowable stresses shall not exceed for materials used where a vertical or horizontal force of 250 pounds is applied at any point when future or current grab bars are installed. (See Reference Illustration 301.5)

301.6 Bathtub / Shower Stall Clear Floor Space. A 12" minimum clear floor space shall be provided along the entire length of a 30" x 60" bathtub and/or a 30" x 60" shower stall. Bathtubs and shower stalls that are 42" x 60" or greater need not have a 12" minimum clear floor space. (See Reference Illustration 301.2 & 301.3 and Appendix – Notes 301.6)

301.7 Bathtub Height. On-slab construction shall not increase the height of the bathtub. (See Appendix – Notes 301.7)

301.8 Toilet. The toilet shall be positioned with a wall to the rear and a wall to one side. The centerline of the toilet shall be 18" on center from the side wall. If the toilet cannot be positioned against a wall to one side, the rear wall must have wall reinforcement with blocking for future grab bar placement. Note: the side wall must be of adequate height, depth and strength for future grab bar installation. (See 301.3 Approach – Exception and Reference Illustrations 301.2 & 301.3 and Appendix – Notes 301.8)

301.9 Shower Stall. A shower stall shall be a minimum of 36" wide by 36" deep. When a 36" x 36" minimum size shower stall is provided, a 30" x 60" minimum bathtub or bathing fixture is also required in the same bathroom. (See Appendix – Notes 301.9)

301.10 Sink Cabinet. A minimum of a 36" wide cabinet shall be permitted under the bathroom sink. A cabinet without a center stile is preferred. (See Appendix – Notes 301.10)

301.11 Exposed Pipes. Where knee space is provided under sinks, exposed pipes and surfaces shall be insulated or configured to protect against contact. There shall be no sharp or abrasive surfaces under sinks. (See Appendix – Notes 301.11)

301 Options. (See Sections 901 Flooring Options, 1001 Window Options, 1101 Lighting Options, 1201 Lighting Controls Options and 1401 Technology Options.)

301 Opt. 1 Accessible Half-Bath – Main Floor. An additional accessible half-bath is on the main floor on an accessible route is installed. (See Appendix – Notes 301 Opt. 1)

301 Opt. 2 2nd Accessible Full-Size Bath – Main Floor. A second full size, accessible bathroom (consisting of a sink, toilet, and bathtub or shower) is located on an accessible route on the main floor. (See Appendix – Notes 301 Opt. 2)

301 Opt. 3 Accessible Half-Bath – Second Floor. An accessible half bath or full bath is on an alternate level of home.

301 Opt. 4 No Door Swing in 5' Turning Space. No doors swing into 5' diameter turning space. (See Appendix – Notes 301 Opt.4)

301 Opt. 5 Doors Swing Out. Bathroom doors swing out of the accessible bathroom space or pocket doors are used, in accordance with Section 201.

301 Opt. 6 Wall Reinforcement – Entire Wall. The entire wall is reinforced by the bathing and toilet fixtures for future grab bars, or the wood blocking is expanded beyond what Section 301.5 requires. (See Appendix – Notes 301 Opt. 6)

301 Opt. 7 Wall Reinforcement Documentation. Permanently mounted documentation regarding wall reinforcement for installation of future grab bars is within the bathroom. (See Appendix – Notes 301 Opt.7) **Why is this not a prerequisite?**

301 Opt. 8 Grab Bars Installed. Grab bars are installed in the bathtub and/or shower area on reinforced walls that can support up

to 250 pounds of downward force. (See Appendix – Notes 301 Opt.8)

301 Opt. 9 Comfort Height Toilet. A comfort height toilet seat that is between 17” and 19” high, above the floor is installed.

301 Opt. 10 Bidet or Toilet Seat with Bidet Functionality. A bidet or toilet seat with bidet functionality is installed.

301 Opt. 11 Mirror Mounting Height. Mirrors above sinks are mounted with the bottom edge of the reflecting surface no higher than 40” above the finished floor.

301 Opt. 12 Mirror Types. Full length mirrors, tilt mirrors, mirrors that turn, split – angle mirrors, or magnifying mirrors are provided.

301 Opt. 13 Shut-off Valves. Shut-off valves are easily reached from a seated position. (See Appendix – Notes 301 Opt 13)

301 Opt. 14 Toe Clearance. There is a 9” high toe clearance on base cabinets.

301 Opt. 15 Space Under Sink. In accessible bathrooms, wall-hung, pedestal, or exposed basin sinks (exposed sink front on a vanity) are installed with a minimum of a 27” space from above the finished floor to underneath the bowl of the sink. The drain should be placed toward the back of the fixture rather than the middle. (Improve wording. Can't find consistent place on sink from which to measure.) (See Appendix – Notes 301 Opt. 15)

301 Opt. 16 Sink Height Between 32” – 34”. The fronts of sinks, including vessel sink, are between 32” - 34” at the rim above the finished floor.

301 Opt. 17 Levers or Single Lever Fixture Hardware. Lever handles or single lever faucets are installed. (See Appendix – Notes 301 Opt. 17)

301 Opt. 18 Sink Faucet Location. Faucet hardware is mounted on the side of the sink, rather than at the back. (See Appendix – Notes 301 Opt. 18)

301 Opt. 19 Motion Activated Faucets. Motion activated faucets are installed.

301 Opt. 20 Scald Guard. A scald guard valve or mixing valves are installed. (See Appendix – Notes 301 Opt. 20)

301 Opt. 21 Bathtub 36” Clear Floor Space. 36” or greater clear floor space is provided along the entire length of the bathtub.

301 Opt. 22 Bathtub Height. The bathtub height does not exceed 16” above the finished floor. (See Appendix – Notes p____.)

301 Opt. 23 Accessible Bathtub. An accessible bathtub is installed. (See Appendix – Notes p____.)

301 Opt. 24 Bathtub / Shower Faucet Location. Controls are repositioned closer to the bathtub or shower stall front rim/edge.

301 Opt. 25 Hand Held Shower. A hand held shower head, on an adjustable slide bar with a hose at least 6' long, is installed on a reinforced wall in the bathtub and/or the shower. (See Appendix – Notes 301 Opt. 25)

301 Opt. 26 Additional Shower Controls. More than one set of controls are installed within easy reach in the shower compartment.

301 Opt. 27 Acrylic Bathtub / Shower Wall Reinforcement. Manufactured reinforced acrylic bathtub/shower walls are installed with no dead air space between the unit and adjacent walls, which could negatively impact future grab bar installation.

301 Opt. 28 Non-Conventional Bathtubs. Non-conventional bathtubs, whirlpools and saunas follow Sections 301.2, 301.3, 301.5, and 301.6.

301 Opt. 29 Walk-In Shower. A 42" x 60" (30" x 60") or larger walk-in shower is installed with a 12" approach. (See Reference Illustrations ____ (section))

301 Opt. 30 Shelving. Built-in or recessed shelving is installed at the front corner, closest to the bathroom fixture controls, or on the side wall, where it does not interfere with future grab bars.

301 Opt. 31 Telephone Jack. – A telephone jack is installed in the bathroom.

Chapter 4. Bedrooms

401 Bedrooms

401.1 Location. There shall be at least one bedroom on an accessible route, on the main floor near, near an accessible bathroom. (See Reference Illustration 401 and Appendix – Notes 401.1)

401.2 Turning Space. There shall be a clear 5' diameter turning space close to the bedroom entrance door, unobstructed by furniture or furnishings. (See Appendix – Notes 401.2)

401.3 Doors. Doors shall comply with Section 201.

401 Options.

(See Sections 901 Flooring Options, 1001 Window Options, 1101 Lighting Options, 1201 Lighting Controls Options and 1401 Technology Options.)

401 Opt. 1 Additional Main Floor Accessible Bedroom. An additional accessible bedroom or room that can be converted into a second bedroom is provided on an accessible route on the main floor.

401 Opt. 2 Additional Alternate Floor Accessible Bedroom. An additional accessible bedroom or room that can be converted into a second bedroom is provided on an accessible route on an alternate floor.

401 Opt. 3 Emergency Escape Window Exceeds Code. An emergency escape window that exceeds the Michigan Building Code, (with a sill height between 20" and 30", a minimum net clear opening width of 30", and exceeds 5.7 square feet) is installed. (See Appendix – Notes 401 Opt. 3)

401 Opt. 4 Exterior Emergency Escape Door. An exterior emergency escape door is installed. The door shall comply with Section 201.1 – 201.5. (See Appendix – Notes 401 Opt. 4)

401 Opt. 5 2 Additional Outlets On Bed Wall. The wall that will likely have a bed along it shall have least two outlets (one receptacle box) on each side of the bed, and ideally four outlets (two receptacle boxes) on each side of the bed. See Section 1201 Opt. 3.

401 Opt. 6 Bedside Switch Outlet. A switched outlet for the bedroom light is installed with a switch at the entrance and another at bedside. See Section 1201 Opt. 4.

401 Opt. 7 Auxiliary Wiring. Accessible bedroom(s) is wired for any of the following: telephone jacks, cable television and/or internet/computer.

Chapter 5. Closets

501 Closets

501.1 Location. One accessible closet is in an accessible bedroom.

501.2 Approach. A 48" x 48" minimum approach is in front of a wall closet. (See Reference Illustration 501)

501.3 Doors. Shall comply with Section 201. Closet doors may over lap the 48" x 48" approach. (See Appendix – Notes 501.3)

501.4 Lighting. Lighting shall be installed in accessible walk-in closets in accordance with Michigan Residential Code E3903.11.

501 Options.

501 Opt. 1 Additional Accessible Closet. An additional accessible closet is on an accessible route

501 Opt. 2 All Closets Accessible. All closets are accessible on an accessible route.

501 Opt. 3 Overhead / Recessed Door Mounting Hardware. Accessible closet door hardware is suspended from above or tracks are recessed into the floor for sliding doors. See Section 201.5 and Sections 103.3.10 – 103.3.3.

501 Opt. 4 Walk-In Closets With 5' Turning Space. Walk-in closets have a 5' diameter turning space within the closet, or have a 42" minimum wide clear aisle within or through the closet. See Reference Illustration 501 and. Appendix – Notes 501 Opt. 4)

501 Opt. 5 Adjustable Rod. Adjustable rod(s) or rods that are mounted at different heights are installed. (See Appendix – Notes 501 Opt. 5)

501 Opt. 6 Shelves. Some shelves are between 15" and 48" in height from the finished floor. (See Appendix – Notes 501 Opt.6)

501 Opt. 7 Pull-Out Shelves. Pull-out wire baskets or custom built pull-out shelves, and/or pull down rod are installed. (See Appendix – Notes 501 Opt. 7)

501 Opt. 8 Drawers. Drawers are installed in an accessible closet. (See Appendix – Notes 501 Opt. 8)

501 Opt. 9 Closet Carrousel. An automated closet carrousel is installed.

Chapter 6. Kitchens

601 Kitchens

601.1 Location. There shall be at least one accessible kitchen on the main floor on an accessible route.

601.2 Doors. Doors and doorways shall comply with Section 201.

601.3 Turning Space. There shall be a 5' diameter turning space within the kitchen area. The turning space may overlap approaches at fixtures. (See Reference Illustration 601)

EXCEPTION: A galley kitchen may have a minimum 48" clearance between all opposing base cabinets, countertops, appliances or walls, with a 60" diameter turning space at either end.

An island may have a minimum 48" clearance between all opposing base cabinets, countertops, appliances or walls measured beneath the counter, with a 5' diameter turning space located in the kitchen.

601.4 Approach. A 48" x 48" minimum approach shall be provided at ranges, cooktops, ovens, wall-mount ovens, dishwashers, kitchen sinks, microwave ovens, pantry, refrigerators, and trash compactors. The approaches may overlap. (See Reference Illustration 601)

EXCEPTION: A 48" x 48" minimum approach is not required before a roll-under cooktop and roll under sink. The cooktop must have a minimum of 19" deep knee space.

601.4.1 Sink. The centerline of the sink shall align with the centerline of the approach.

601.5 Sink Cabinet. A minimum of a 36" wide cabinet shall be permitted under a kitchen sink or cooktop, provided the cabinetry can be removed.

601.6 Counter Width. A minimum 18" width of counter space is located near all ovens and the refrigerator.

601.7 Sink Exposed Pipes and Surfaces. Water supply and drain pipes under sinks shall be configured to protect against contact. There shall be no sharp or abrasive surfaces under sinks.

601.8 Underneath Range / Cooktop Exposed Hot Surfaces. Where knee space is provided, the underside of the range or cooktop shall be protected. (See Reference Illustration____ (cross section))

601.9 Accessible Walk-In Pantries. Install lighting in walk in pantries.

601 Options.

(See Sections 901 Flooring Options, 1001 Window Options, 1101 Lighting Options, 1201 Lighting Controls Options and 1401 Technology Options.)

601 Opt. 1 Galley Kitchen With 60" Clearance. Galley Kitchen: The clearance between all opposing base cabinets, countertops, appliances or walls is at least 60".

601 Opt. 2 Pull-Down Shelves. Pull-down shelf accessories are installed on one or more overhead cabinets. (See Appendix – Notes 601 Opt. 2)

601 Opt. 3 Glide-Out Shelves / Drawers & Swing-Up Shelves.

Glide-out shelves or drawers and/or heavy-duty, swing-up shelves are installed on at least one or more base cabinets.

601 Opt. 4 Sink Cabinet With Retractable Doors, No Center

Stile. Retractable doors and no center stile are on the sink cabinet.

(See Appendix – Notes 601 Opt. 4)

601 Opt. 5 Counter Space Greater Than 18”. Greater than 18” of counter space is located next to all ovens and refrigerator.

601 Opt. 6 Pull-Out Work Surface. There is at least one pull-out work surface, such as a cutting board, between 28” to 32” height above the finished floor, if there are no other lowered counter heights within or immediately adjacent to the kitchen. (See Appendix – Notes 601 Opt. 6)

601 Opt. 7 Lowered, Minimum Counter Dimensions. A lowered counter dimension of 36” minimum width by 28” to 32” height above the floor is installed. (See Appendix – Notes 601 Opt. 7)

601 Opt. 8 Side Mount/ Sprayer Sink Faucet. A faucet mounted on the side of the sink, or an incorporated faucet/sprayer that pulls out from the spout, or lever faucets – either single lever or double lever are installed. (See Appendix – Notes 601 Opt. 8)

601 Opt. 9 Sink Drain. The sink drain shall be installed in the back.

601 Opt. 10 Cook Sink. A cook sink is installed. (See Appendix – Notes 601 Opt. 10.)

601 Opt. 11 Adjustable Sink Height. An adjustable sink is installed.

601 Opt. 12 Knee Space Under Sink. A 27” height knee clearance is provided below the sink.

601 Opt. 13 Dishwasher Location. A dishwasher is located at left or right of the sink.

601 Opt. 14 Dishwasher Drawer / Elevated Dishwasher. A drawer style dishwasher or elevated dishwasher is installed. (See Appendix – Notes 601 Opt. 13)

601 Opt. 15 Scald Guard. A scald guard valve or mixing valves are installed. (See Appendix – Notes 601 Opt. 14)

601 Opt. 16 Wall Mount Ovens W/Side Opening Doors. Wall mount ovens that have side-opening doors are installed; the door latch side is next to an 18” minimum width countertop.

601 Opt. 17 Induction Stove. An induction stove is installed. (See Appendix – Notes 601 Opt. 16)

601 Opt. 18 Stove Controls On Front / Side. The location of stove controls does not require reaching across burners.

601 Opt. 19 Oven Controls On Front / Side. Ovens have controls on front panels or on either side of the door. (See Appendix – Notes 601 Opt. 18)

601 Opt. 20 Roll-Under Range. A roll-under range is installed.

601 Opt. 21 Microwave. A freestanding microwave oven is placed on the counter or built-in so that the floor of the microwave is at counter top height or lower. (See Appendix – Notes 601 Opt. 20)

601 Opt. 22 Microwave Drawer. A microwave drawer is installed. (See Appendix – Notes 601 Opt. 21)

601 Opt. 23 Side By Side Refrigerator / Freezer On Bottom. A side by side refrigerator – freezer or a refrigerator with a freezer on the bottom is installed. (See Appendix – Notes 601 Opt. 22)

601 Opt. 24 Radiused / Contrasting Counter Edges. The counter corner edges are rounded (radiused) and/or have a contrasting color edge. (See Appendix – Notes 601 Opt. 23)

601 Opt. 25 Built-In Task Lighting. (See Section 1101 Opt.2.)

601 Opt. 26 Counter / Cabinet Switches and Outlets. Switches and outlets are easy to reach near the end of the counter and/or are placed at the front edge of lower cabinets. (See Reference Illustration 601 Opt. 21 & 22 and Appendix – Notes 601 Opt. 25)

601 Opt. 27 Switches and Outlets Over Counters. Switches and outlets are no more than 21” from the front counter edge on a side wall. (See Reference Illustration 601 Opt. 21 & 22)

601 Opt. 28 Island Switches and Outlets. Switches and outlets are easy to reach on islands.

601 Opt. 29 Touch Latch Hardware. Touch latch hardware is installed. (See Appendix – Notes 601 Opt. 28)

Chapter 7. Laundry Room

701 Laundry Room

701.1 Location. The laundry area shall be on an accessible route. (See Appendix – Notes General Information and Notes 701.1)

701. 2 Approach. A 48” x 48” minimum approach shall be provided at the washing machine, clothes dryer and laundry tub. Approaches may

overlap. If there is a swing door or other type of door, it may overlap the appliance clear floor space. (See Reference Illustration 701 and)

701. 3 Doors. Doors shall comply with Section 201.

701 Options.

(See Sections 901 Flooring Options, 1001 Window Options, 1101 Lighting Options, and 1201 Lighting Controls Options.)

701 Opt. 1 Main Floor Location. The laundry area is located on the main floor on an accessible route.

701. Opt. 2 5' Diameter Turning space. The laundry room has a 5' diameter turning space which may overlap the 48" x 48" clear floor space in front of the washer, dryer and laundry sink/tub. (See Reference Illustration 701 and Appendix – Notes 701 Opt. 2)

701 Opt. 3 Front Loading Washer And Dryer. A front loading washing machine and dryer are installed.

701 Opt. 4 Front Appliance Controls. The controls are on the front of the washing machine and dryer.

701 Opt. 5 Raised Appliances. A front loading washing machine and dryer are installed on a platform per client specifications.

701 Opt. 6 Easy Reach Operable Parts. Operable parts, including doors, lint screens, detergent and bleach compartments are within easy reach – near the front or along the side of the appliance.

701 Opt. 7 Built-In Task lighting. (See Section 1101 Opt. 2)

Chapter 8. Living Room

801 Living Room

801.1 Location. There shall be at least one living/family room on the main floor, on an accessible route.

801.2 Turning Space. There shall be a 5' diameter turning space.

801.3 Changes in Level. Shall comply with Section 104.3. (See Appendix – Notes 801.3)

801.4 Doors. Doors shall comply with Section 201.

801.5 Flooring. Shall comply with Section 901.

801 Options.

(See Sections 901 Flooring Options, 1001 Window Options, 1101 Lighting Options, 1201 Lighting Controls Options and 1401 Technology Options.)

Chapter 9. Flooring

901 Flooring

901.1 Changes in Level. Shall comply with Section 104.3.2.

901.2 Floor Registers. Shall comply with Section 901.1 or shall be flush with the floor.

901 Options. (See Appendix – Notes General Information)

901 Opt. 1 Hard Surface Flooring. Hard surface flooring (tile, wood or linoleum) and/or non slip flooring (slip resistant or non-glazed ceramic tiles or linoleum products) are installed in some areas of the home.

901 Opt. 2 Low Pile Carpet. Low pile, low-level loop or commercial grade carpet are installed with either no padding or with thin, firm padding. (See Reference Illustration 104.3 for carpet and Appendix – Notes 901 Opt. 2)

901 Opt. 3 Slip Prevention Paint / Traction Strips. Traction paint or adhesive traction strips are used to prevent slipping in areas that might get wet (e.g. bathtub, garage floor and/or steps). (See Appendix – Notes 901 Opt. 3)

901 Opt. 4 Color Contrast. A contrasting color border is installed. (See Appendix – Notes 901 Opt. 4)

Chapter 10. Windows

1001 Windows

1001 Options. (See Appendix – Notes General Information)

1001 Opt. 1 Operable Components. Operable components are within 20" to 44" above the floor. (See Appendix – Notes 1001 Opt. 1)

1001 Opt. 2 Window Hardware. The hardware does not require fine fingering, grasping, turning or twisting, such as a casement crank or 2 ample size handles on a double hung window are installed. (See Appendix – Notes 1001 Opt.2)

1001 Opt. 3 Automatic Window Openers. Automatic window openers are installed.

1001 Opt. 4 Automated Window Coverings. Automated window coverings are installed.

1001 Opt. 5 Extended Window Covering Controls. Extended window covering controls, such as the plastic "wand" for mini-blinds or an extended length of cord for draperies and curtains.

Chapter 11. Lighting

1101 Lighting

1101.1 Exterior Lighting. Provide exterior lighting near all entrances so things such as the front door, porch, keyhole, keypad and house number are clearly visible. See Section 105 Opt.2. (See Reference Illustration 105 and Appendix – Notes General Information)

1101 Options.

1101 Opt. 1 Exterior Lighting. Outdoor lighting is installed along walks and pathways, decks, balconies, and auxiliary buildings. (See Appendix – Notes 1101 Opt. 1)

1101 Opt. 2 Built-In Task Lighting. Built-in task lighting is provided at areas such as under kitchen cabinets, kitchen desks or islands, laundry rooms cabinets, hobby or office work surfaces. (See Reference Illustration 601 Opt. 21 & 23 and Appendix – Notes 1101 Opt. 2)

1101 Opt. 3 Remote Controls. Remote controls for ceiling fans/lights are installed.

1101 Opt. 4 Lighted Door Bells. Lighted door bells are installed.

Chapter 12. Lighting Controls, Electrical Switches, and Outlets

1201 Lighting Controls, Electrical Switches, and Outlets

1201.1 Electrical Panel Box. The electrical panel box shall have a 48" x 48" approach. If applicable, the door or doorway directly opening into the electrical panel box location shall be 36" wide in accordance with Section 201. (See Appendix – Glossary p. ____.)

1201.2 Electrical Panel Box Upper Fuse Height. The upper most fuse switch is a maximum of 54" above the finished floor. (Code – ok?)

1201 Options.

1201 Opt. 1 Electrical Panel Box Location. Electrical panel box is located on the main floor or in the garage.

1201 Opt. 2 Outlets 18" – 24" High. Typical electrical outlets are 18" – 24" on center above the finished floor. **EXCEPTION:** Floor outlets, outlets above the counter, TV monitor outlets and similar non-typical or specialized electrical outlets need not adhere to the 18" – 24" maximum height.

1201 Opt. 3 48" Max. Switch Height. Typical electrical switches are a maximum of 48" on center above the finished floor. 44" is preferred height.

1201 Opt. 4 Rocker Switches. Rocker switches or lighted rocker switches are installed.

1201 Opt. 5 Dimmer Switches. Dimmer switches that have large controls, e.g. a dial or large lever, or are lighted are installed.

1201 Opt. 6 Three or Four-Way Switches. Three or four-way switches are installed so lights can be activated from several locations.

1201 Opt. 7 Programmable Lighting. Programmable lighting is installed.

1201 Opt. 8 Sensor Lights / Motion Detectors. Occupancy sensor lights / motion detectors are installed in places such as entrances, garages, basements and utility spaces.

Chapter 13. Heating, Ventilation and Cooling

1301 Heating, Ventilation and Cooling

1301.1 Thermostat. The thermostat shall be on an accessible route, according to Section 101. (See Appendix – Notes General Information)

1301.2 Thermostat Approach. A clear 48" x 48" minimum approach shall be provided at the thermostat for either a parallel or perpendicular approach.

EXCEPTION: A thermostat located in a hallway may have a 42" x 48" approach.

1301 Options.

1301 Opt. 1 Furnace On Main Floor. The furnace is on an accessible route on the main floor. (See Appendix – Notes 1301 Opt.1)

1301 Opt. 2 Furnace Access Space. A 30" x 48" access space at the front of the furnace shall be provided. The furnace may be located in the basement. (See Appendix – Notes 1301 Opt. 2)

1301 Opt. 3 54" Maximum Thermostat Height. The thermostat is located at 54" maximum height above the finished floor. (See Appendix – Notes 1301 Opt. 3)

1301 Opt. 4 Programmable Thermostat. A programmable thermostat is installed.

1301 Opt. 5 Easy To Read Thermostat. An easy to read thermostat is installed that is back lit (glow in the dark) with very large numbers showing the heating set point, the cooling set point and the room temperature.

1301 Opt. 6 Remote Controls. Remote controls for heating and/or cooling systems are installed.

1301 Opt. 7 Furnace Filter. Ability to reach and change filter is easy.

Chapter 14. Technology and Automation In The Home

1401 Technology and Automation In The Home

1401 Options. (See Appendix – Notes General Information)

1401 Opt. 1 Remote Control Smoke Detectors. The home has a UL rated, infrared remote control feature smoke detector installed.

1401 Opt.2 Smoke Detectors Linked to a Security Systems Provider. The smoke detectors are linked a security systems provider or a rapid response system in case of a fire.

1401 Opt. 3 Visible & Audible Alarms. In addition to a sound alarm, a UL rated smoke, fire or carbon monoxide detector is equipped with either a strobe or flashing light.

1401 Opt. 4 Gas Detectors. At least one hardwired, battery-operated or plug-in type carbon monoxide (CO) detector is installed.

1401 Opt. 5 Fire Extinguishers. A fire extinguisher(s) is on each floor in accessible locations. Preferred locations are the kitchen, bedrooms, garage and basement.

1401 Opt. 6 Security / Surveillance System. Security / surveillance system is installed. (See Appendix – Notes 1401 Opt. 6)

1401 Opt. 7 Remote Deadbolt Locks. Remote electrical deadbolt locks are installed on exterior doors. (

1401 Opt. 8 Intercom System. Keypad intercoms or video intercom systems are installed between 42” – 48” high at the top. (See Appendix – Notes 1401 Opt. 8)

1401 Opt. 9 Voice Control System. Voice control system is installed. Examples of voice control systems include: lights, devices, appliances, home theater, audio/video, security, climate, telephone and the Internet are installed.

1401 Opt. 10 T-Loop Transmitter System. T-loop wireless hearing aid transmitter system is installed

1401 Opt. 11 Environmental Control Unit. An Environmental Control Unit (ECU) system is installed, such as a hard-wired system, system based on X-10 or infrared computer control modules.

1401 Opt. 12 Programmable Systems. Programmable heating/cooling system is installed.

1401 Opt. 13 Home Air Purifier. A home air purifier is installed.

1401 Opt. 14 Central Vacuum. A central vacuum system is installed.

1401 Opt. 15 Wall-Mount Phones. Wall-mount phones are installed between 42” – 48” high at the top of the unit.

1401 Opt. 16 Home Network System. A home network system receives phone, internet, cable or satellite TV lines, as well as stereo and video connections from an entertainment center in the home.

1401 Opt. 17 Internet Connections. An Internet connection (voice/data) is installed throughout the home. (See Appendix – Notes 1401 Opt. 17)

1401 Opt. 18 Wireless Internet. A wireless Internet system is installed throughout the home.