Texas Ramp Project Newsletter Article
May 2021

Ramp Survey and Design Guidelines

Rev. 5/2/2021

This document is for information only to assist TRP surveyors and team leaders evaluate possible ramp locations, layout a safe ramp and collect the needed database information.

Survey tools:

- Camera/Smartphone
- 25’ or longer measuring tape
- Laser level and/or string and bubble level
- Survey checklist and paper for drawing the site and proposed ramp (an example survey form is available at the end of this document)

Process:

1. If possible, contact client and arrange a time for the survey. Unscheduled visits can also be made, particularly if unable to make phone contact using referral information.
2. Take note of any issues locating the home and any identifying features to help the build team reach the correct site.
3. Discuss ramp need with client and any specific requests or concerns
4. Critical questions for client:
    a. Does client own home? If not, then owner/landlord must approve of the ramp design and installation.
    b. Any HOA/community requirements, i.e. skirting, balusters, design approval, etc.
    c. Which door does the client want to use and where do they need the ramp to end, i.e. sidewalk, driveway, etc.? Try to accommodate the client’s requests, however, don’t hesitate to consider other doors or ending points in order to provide safe access.
    d. What issues have they had getting into and out of the home? Pay particular attention to the threshold and ramp ending location (sidewalk, driveway, etc.)
    e. Best contact number for the build team to use when scheduling
5. Evaluate the threshold which may require a short, 4’ or less, mini-ramp to provide an accessible path through the door.
6. Find the best landing point to meet the client needs, preferably onto a paved surface
7. The length of the ramp is determined by the height from the ramp beginning point (door, porch, etc.) to the ending point. Using a string level or laser at the starting point, stand at the estimated ramp ending point and measure the vertical drop in inches from level. This will be the number of feet of ramp slope required. In some sloping yards it may be best to do a U-turn ramp that returns to near the starting point.
8. Using standard 4’x8’, 4’x4’ and 5’x5’ modules as much as possible, determine if there is at least one way to provide the needed slope in the space available.

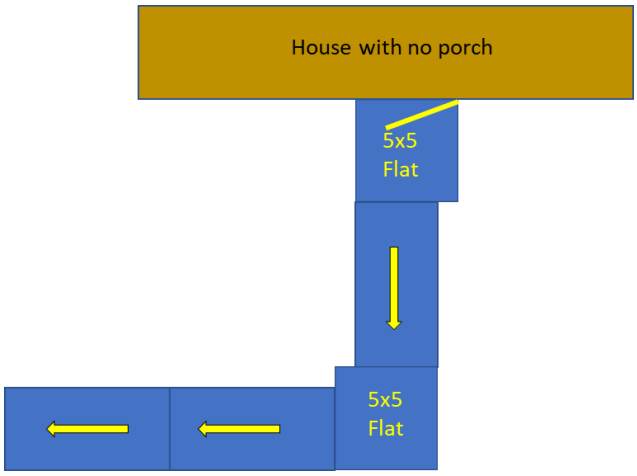
    a. Clearly explain any layout options with client and get their approval or refusal of the proposed ramp
    b. As the surveyor, you are authorized to refuse to build an unsafe ramp or if there is not a financial need
9. General design requirements
    a. Each inch of drop from porch to ground will require 1 foot of sloped ramp
    b. 5'x5' minimum flat area required at door and all 90 degree turns
    c. 30' Maximum slope run before a flat turn or ending point or 4' flat rest area is required. For our modular design, that usually means no more than 3 standard modules or 24' before a turn or other flat resting area.
    d. Ramp cannot extend over, or in any way, block a public sidewalk
    e. Ramp width can be reduced to a minimum of 36", if necessary, to work around obstacles
10. Take pictures and measurements of the area where ramp will be built taking care to note obstacles such as trees, sewer cleanouts, meters, faucets, etc.
11. Get agreement from client before planning for removal or repositioning of any movable obstacles or other items
12. Other information needed
    a. Location of power source
    b. Shade conditions at the site
    c. Will any digging be required?

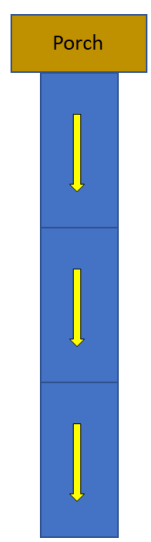
Ramp description examples

From the survey notes and pictures create a ramp survey description using these examples as a guide:

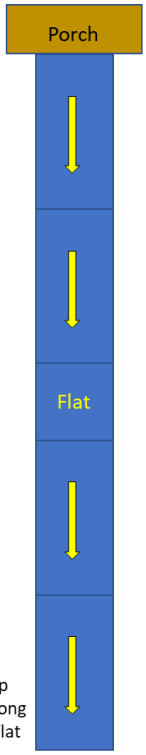
- Come off the existing porch, over the steps with a standard 4x8 sloping module continuing with another std. 4x8 and complete the ramp with a starter module.
- Come off the porch, over the steps with a standard 4x8 module sloping down to turn left (facing the house) on a flat 5x5. Continue with a std. 4x8 and a starter to end at the driveway.
- Remove existing landing and steps. Install 5x5 flat at door. Continue toward back of home with a sloping std. 4x8 and 4x4 to a flat 4x8 U-turn. Continue toward the drive with a sloping 4x8 another 4x8 then a 4x4 flat resting point. Complete the ramp with a sloping 4x8 and std. starter.

Ramp design examples

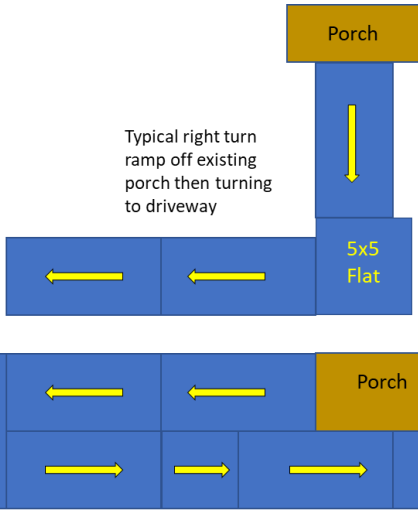




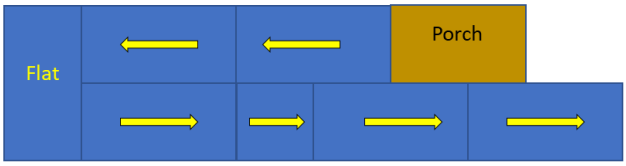
Standard ramp sloped down from a 24” high porch



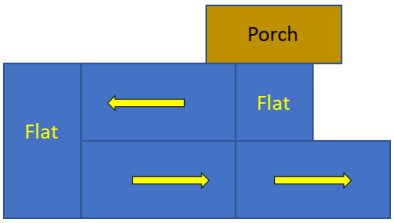
Standard ramp but over 30’ long requires a 4’ flat resting point



Typical right turn ramp off existing porch then turning to driveway



Typical mobile home u-turn ramp for a 44” high porch



Typical confined space ramp

SURVEY FORM

Date: _____ REFERRAL FROM:

SW Name:_____

MAPSCO: _____ Agency:_____

Client name:_____

Address:_____ Other Contact Info & Description:

Phone: _____

Ethnicity: A-A CAU HIS ASIAN Other _____

Veteran? YES NO AGE_____

Ramp Location: Front Back Garage Other_____

Threshold ramp: _____

Starting point: _____ Took pictures? YES____ NO___

Elevation: _____ Shade Factor: _____

Electric Outlet Location: _____ Porch made from: Concrete

Wood

Description of ramp: _____