

SPECIFICATIONS FOR FRONT STEP OR PORCH REPLACEMENT

City of South Euclid Building Department
1349 South Green Road
South Euclid, Ohio 44121
216-381-0400

INFORMATION
BULLETIN

SR-1

June 2011

INTENT

To maintain the character and appearance of the architectural features of the house, the materials used in the replacement or repair of the front steps or porch must match those materials of the existing construction. Routine repairs and maintenance do not require the approval of the City Architect when the work is completed using matching materials and design. If certain elements are deteriorated beyond the point where they can be retained, they shall be replaced in kind.

Many of our bungalow homes have front steps of brick and sandstone construction with wrought iron handrails. Other turn-of-the-century homes have front steps constructed with wood and trim matching the architectural details of the home with wood turned spindles, balusters and rails. When porches, railings, steps or other exterior elements are replaced, pressure-treated wood is acceptable for structural members but a higher grade of lumber, such as cedar, redwood or cypress, shall be used for all finish elements including posts, railings, fascia and trim, stair risers and treads, and other visible features.

Prefabricated concrete step units, treated wood decking, or synthetic decking material cannot be used as a substitute material for front step or porch construction. 2x wood framing members are not acceptable for top and intermediate handrails. Handrails shall be wrought iron and fabricated to the dimensions of the step unit or milled wood matching the original details of the home.

Mortar used to re-point existing brick or stone shall match the color of the mortar on the existing structure; the width and profile of the mortar joints shall also match the existing conditions.

PERMITS AND INSPECTIONS

If you are replacing the front step unit, a permit is required. On the permit application, you must indicate that you are replacing the existing unit in kind. Any changes to the existing width or construction of the front steps must be accompanied by a drawing indicating the proposed changes. All proposed changes will be reviewed by the City Architect. After the issuance of the permit, an inspection must be performed of the step foundation prior to the installation of the new masonry or a framing inspection prior to the installation of the finish wood trim. A final inspection is required upon completion of the step unit including the handrail installation.

CODE REQUIREMENTS

The following Ohio Residential Code (ORC) requirements must be satisfied when rebuilding front steps:

ORC Section R311.5.3.1 – The maximum riser height shall be 8 ¼ inches. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch.

ORC Section R311.5.3.2 – The minimum tread depth shall be 9 inches.

ORC Section R311.5.4 – There shall be a landing at the top and bottom of the stairs. Every landing shall have a minimum dimension of 36 inches in the direction of travel.

ORC Section R311.5.5 – The walking surface of treads and landings of stairways shall be sloped no steeper than one unit vertical in 48 inches horizontal (2-percent slope).

ORC Section R311.5.6 – Handrails shall be provided on at least one side of continuous run of treads or flight with four or more risers.

ORC Section R312.1 – Open sides of stairs with a total rise of more than 30 inches above the grade below shall have guards not less than 34 inches in height measured vertically from the nosing of the treads.

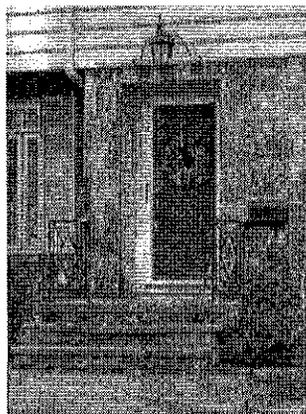
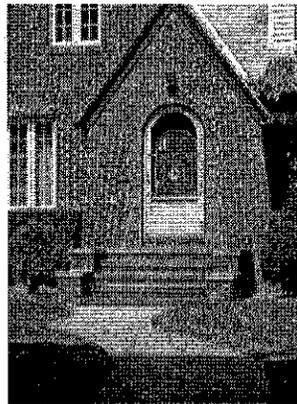
A Welcoming First Impression

A Guide to Porch Maintenance & Repair in the City of South Euclid

The homes of South Euclid were built from the 1910's through the 1960's. Styles include Craftsman Bungalow, Colonial Revival, Minimal Traditional, and Ranch. Major growth in the area occurred after World War II at a time when the Minimal Traditional style was popular. This style first appeared during the Great Depression. It drew influence from Colonial and Tudor forms, but incorporated minimal ornamentation. Minimal Traditional homes had low or intermediate roof pitches, while the eaves and rakes were close. They also generally had a large chimney and at least one front-facing gable.

South Euclid homes were commonly clad with wood, brick, stone, or a mixture of these materials. They had one or two stories, with two stories seen less often. These houses typically did not have front porches, but rather a stoop with a simple iron railing.

Over time, parts of these homes slowly decay and need to be replaced. The most obvious degrading happens on the front of the house, especially the front porch or stoop and doorway. The entrance to the house is the first impression one gets before crossing the threshold and is therefore important to maintain.



Metal railings are typical of partial width porches as well as stoops. Doorways with stoops can have awnings, but they were not always featured with them.

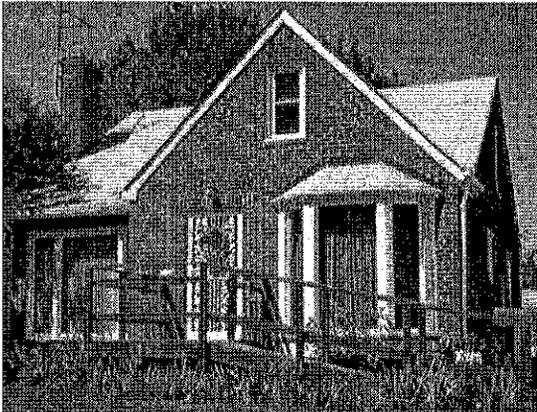
These are NOT appropriate porches or porch fixes:



2 x 4 boards were not part of the original design and look like they are temporary.



Wrought iron is not an appropriate substitute for wooden columns.



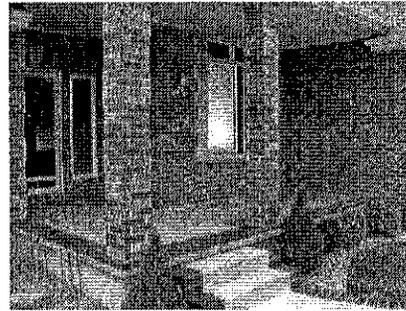
This ramp covers the original front stoop and the 2 x 4s do not match the style of the house.



The railings on the step are flimsy and dangerous without appropriate spindles.

Feature	Dimensional Criteria
Minimum width clear of all obstructions [except projections not more than 114mm (4 1/2 in.) at or below handrail height on each side.]	36 in.
Maximum height of Risers	8 1/4 in.
Minimum Tread depth	9 in.
Minimum Headroom	6 ft. 8in.

- The treads and landings cannot have a slope of more than a 2%.
- If there are four risers, one side of the stairs needs a handrail.
- If the stairs are open and more than 30 inches in above the grade, there needs to be a 34 inch handrail.
- All exterior footings should be placed at least 12 inches below the undisturbed ground surface and protected from frost by extending below the frost line.



Concrete Step Repair

Concrete steps are fairly durable, but every now and again they chip and break. Some repairs can be made by the homeowner, such as repairing cracks and small chips. To repair cracks in the stairs, you will need to patch the cracks with grout. To begin, clean the crack of any dirt or debris. Next, moisten the spot you want to repair. Mix up the bonding agent as provided by the directions on its packaging. Apply the mixture to the crack with a putty knife forcing grout into the crack as much as possible and then smooth out the mixture so it is flush with the step. Spray the grout with water so that it dries out slow, preventing it from cracking. While allowing the grout to dry, cover it with plastic or a wooden board.

Concrete stairs that have chipped corners are more challenging, but can still be fixed by a DIY homeowner. Similar to repairing cracks, the surface area must be clean and free of debris. Sufficiently cover the chipped corner using a liberal amount of a latex bonding liquid to ensure a secure bond between the existing material and new cement patch. Mix the cement with a trowel according to the package instructions. The mixture should be firm so that it does not run when applied to the surface. Pack the cement into the chipped surface, making sure that no gaps or air bubbles remain. Smooth out the excess cement so that it is level with the existing step. If a large section of the corner is missing, then a form may be required. Homeowners should call a masonry or concrete contractor if cracks or chips are extensive.



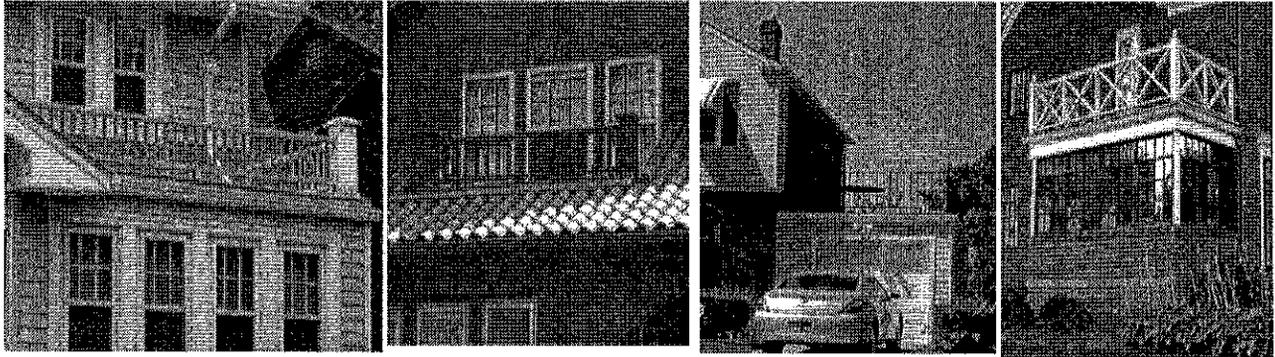
Wrought Iron Handrail Upkeep

Maintaining an original front porch is usually an ongoing process. Keeping it historically accurate requires research and a sensitive approach to repair work. Historic wrought iron handrails are one feature that require continual care. They should be washed periodically with soapy water. To remove rust, scrub the rails with a soft chemical agent using a mild brush. Do not use any product that might scratch the surface of the metal. To remove any further rust, take fine quality sand paper to the corrosion and sand until free metal is seen. Then rewash the railings with water and let air dry. After the washing, apply a coat of primer paint to the areas that were covered with rust, followed by a coat of long-lasting exterior paint for metal on the railings and posts.

Second Story Porches

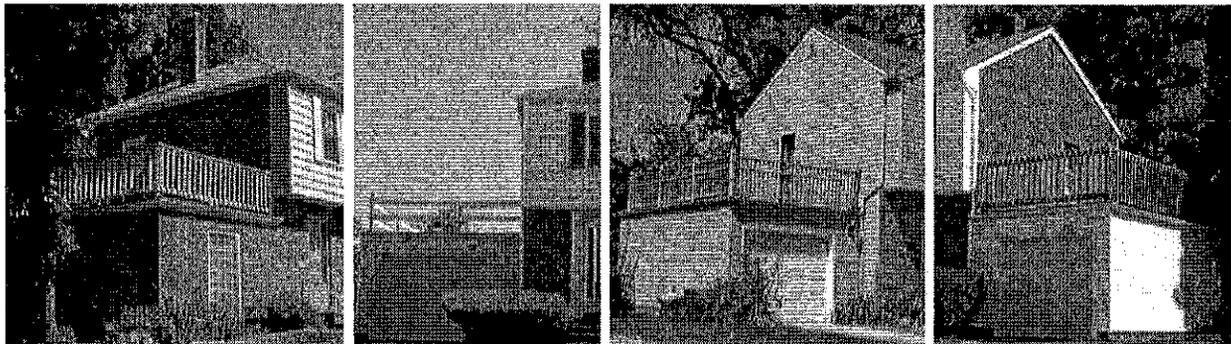
Many homes in South Euclid have a second story porch on the front or rear. As the city's building code reinforces, these porches require railings in order to be safely accessed. Careful consideration should be given for the type and style of railings on second story porches.

Appropriate Railings



Suitable railings for second story porches should be made of wood or wrought iron and include a top and bottom rail. Ball, pyramid or square-top corner posts add architectural detail to the porch railing. Since wood will deteriorate when exposed to the elements, it is critical that wood railings be regularly maintained and painted.

Inappropriate Railings



Deck railing and fencing do not add to the house's historic charm, but rather take away from it. Wooden railing exposed to the elements is not durable.

Prepared by the Cleveland Restoration Society.

If you have additional questions or would like a site visit or a low-interest loan, please call the Heritage Home Program at (216) 426-1000.

Articles Referenced:

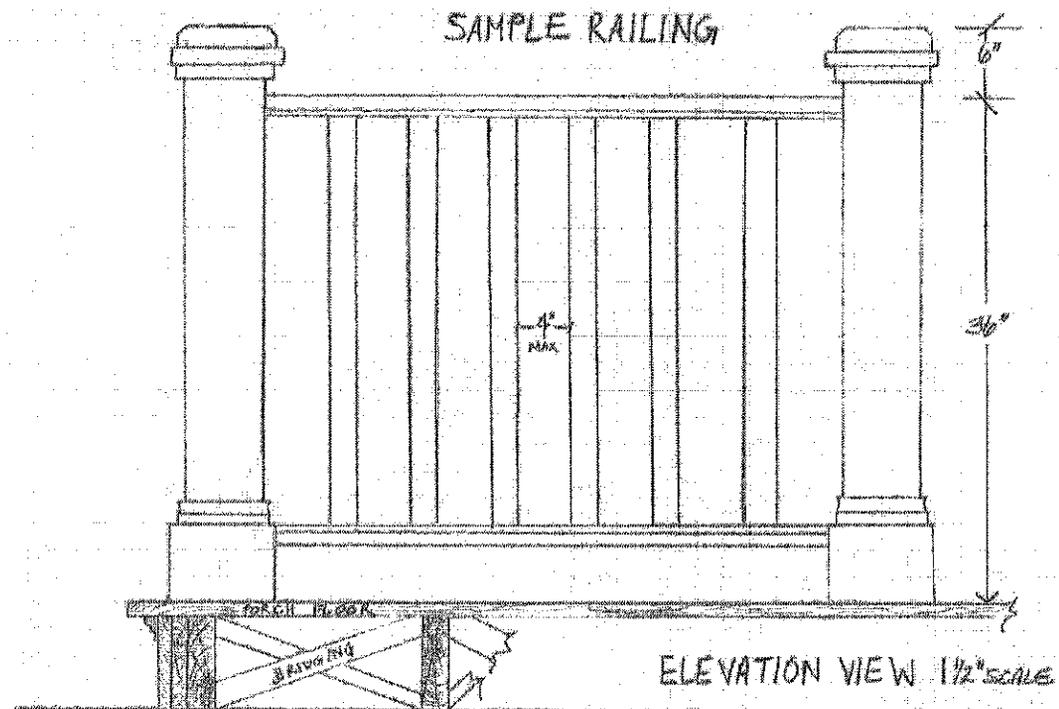
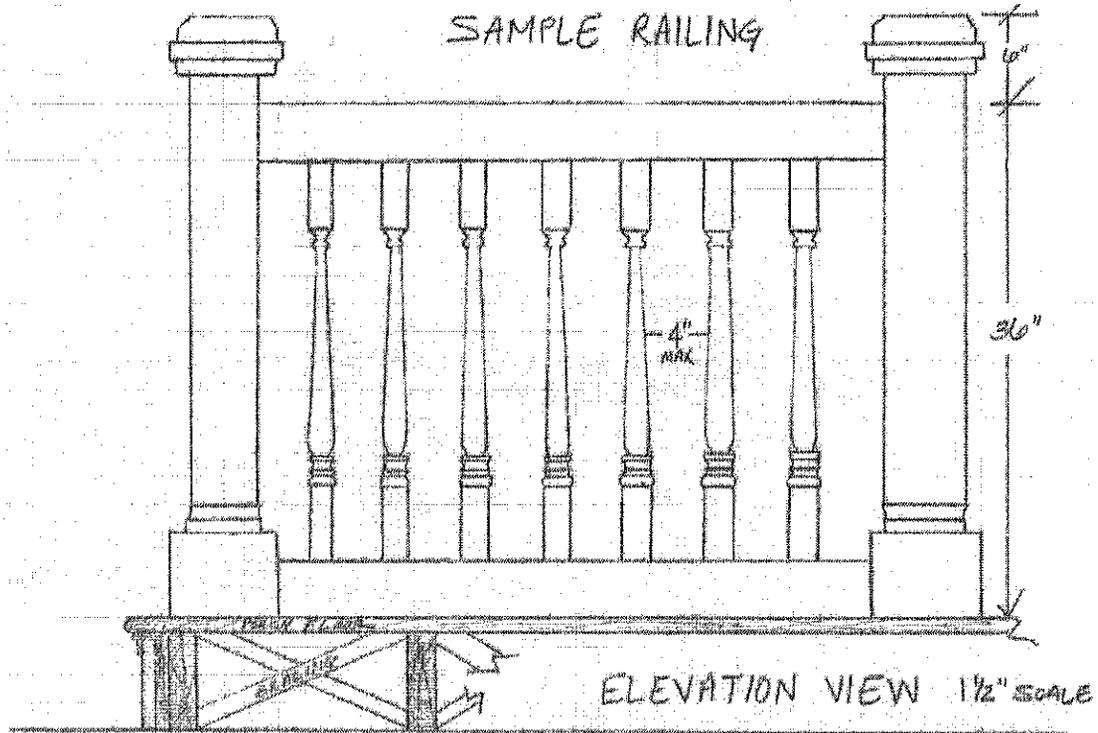
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Diagrams of Appropriate Porch Railing Styles



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