

RAILING DESIGN GUIDE



Volume 3, All Rights Reserved, Compass Ironworks 2019



COMPASS
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Elegance and Integrity

At Compass Ironworks, we carry into the 21st century the Amish traditions that forged our artistic sensibilities: honesty, integrity, and dedication to family, community, and craft. We do no mass production here; every installation reflects your unique needs. We are master craftsmen who work with both traditional and 21st century tools. At the end of the day, we close the doors and leave our tools at the shop, not to be touched until the next workday begins.

For more information about Compass Ironworks, please contact us Monday through Friday at (717) 442-4500.



WROUGHT IRON

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Over the centuries, wrought iron has been an important expressive material that reflects refined taste and character. The beauty of wrought iron is that despite its inherent rigidity and strength, it can be molded into graceful and elegant shapes. Iron possesses beauty that never dies; it is as charming today as it was a hundred years ago. And will remain so a century into the future.

The possibilities for expression in iron are unlimited. Iron can be turned and twisted into innumerable designs and textures to achieve the artist's and client's desired result. By working closely with designers, architects, and clients, unique expressions can be incorporated into the final design for the very essence of bespoke craftsmanship.

Using iron also makes a "green" statement. All the solid iron and aluminum bar stock we use is 97-100% post consumer recycled material. As stewards of our planet, we need to protect our earth's resources. By recycling old appliances, cars, and buildings, we re-purpose existing materials into new and exciting ornamental iron products that will maintain their beauty and value for decades.

Enduring Finish

The integrity of the protective coating (or "finish") makes it possible to admire the work of past masters today. We treat our products with the most durable and resilient powder-coating so your iron masterpiece may be admired for ages to come.

The process starts with the materials. We use top-quality solid bars—not the thin wall hollow tubing pickets used for mass-produced fences. After the material is forged, welded, and fabricated to our client's specifications, the all-important finishing process begins...

First, the entire project is sandblasted to remove all mill scale, dirt, and residue. This step also performs another important function: physically opening up microscopic pores in the metal in preparation for the powder-coat. The next step is a hot phosphate bath followed by two clean water rinses. Next, we apply the actual finish, starting with a zinc-rich epoxy primer. Then, the entire project is heated, melting and partially curing the primer onto the metal surface. While things are still hot, the first top coat is applied followed by a second and final finish coat. This last coat is treated to a long, slow pass through a curing oven to bake the powder to a specified hardness.

The entire spraying process is more than 99% efficient, and all leftover spray is reclaimed and reused. Our facility exceeds EPA and DEP requirements.



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Dedicated Craftsmen

Our master craftsmen are all natives of the Pennsylvania Dutch heritage found in Lancaster County, Pennsylvania—an area known internationally for its impeccable craftsmanship and superb work ethic. Our craftsmen work as a team to design, measure, create, powder-coat, deliver, and install your project in an effort to make your entire Ironworks experience surpass your expectations.

We take pains to ensure that the overall design fits your taste and harmonizes with its surroundings. Another chief concern is meeting installation deadlines. As craftsmen of integrity, we do everything possible to make sure your promised installation is carried out on or ahead of schedule. Accurate measurements are taken onsite and, if needed, templates are made to ensure a perfect fit for the final installation.

Then, back at the shop we kick off the forging and fabricating. Detailed cleanup of the project requires scraping, grinding, sanding, and polishing to ensure visual cleanliness. The project is then pretreated and powder-coated right here in our facility for best quality control and ease of scheduling. For delivery, your iron is carefully wrapped for scuff-free transit to the site.

As we work, we keep in mind that our craftsmanship will be seen and evaluated for generations to come. We care about our clients' complete satisfaction. There is no excuse for anything less.





RAILING OPTIONS



Fairweather

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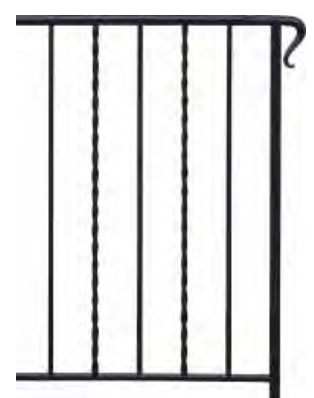
Cheshire Belly



Cheshire Belly (side view)



Cheshire Straight



Gladwyne



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Hampshire Belly



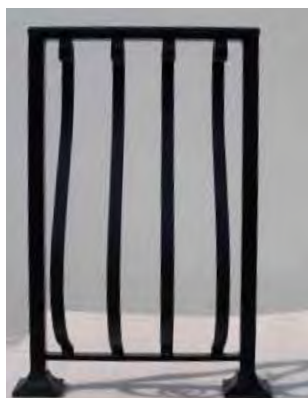
Hampshire Belly (side view)



Hampshire Straight



Hammered Basket



Huntingdon Belly



Huntingdon Belly
(side view)



Manchester Belly



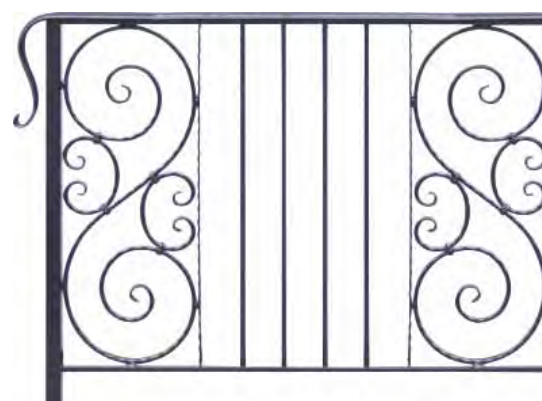
Manchester Straight



Standard 3-Rail



Standard 4-rail



Sussex

Railing Options



Tewksbury Straight



Tewksbury Belly

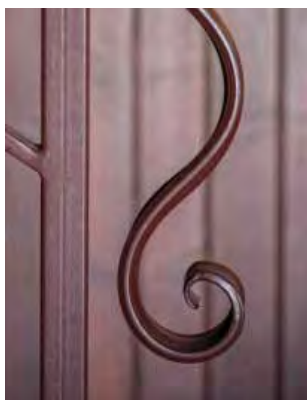


Tewksbury Belly
(side view)



Detail of cover shoe
to add aesthetics and
protection to base of post

Caprail Transition Choices



Lamb's Tongue



Volute



Petite Lamb's Tongue

STANDARD RAILINGS



Roanoke

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Mainline



Roanoke (Railing has rivets through handrail)



INTERIOR POSTS

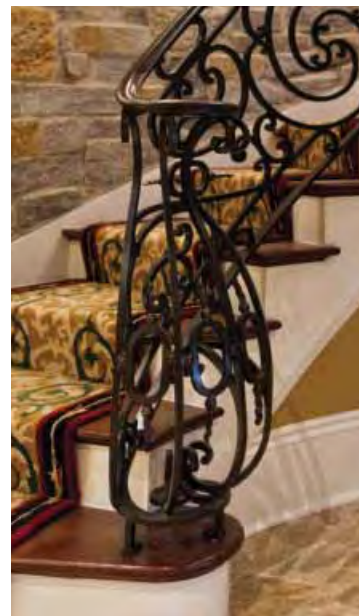
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Hilton Style Volute in 1/2" Round Bar



Ornate Foot Bracket



Hilton Style Volute in
5/8" Square Bar



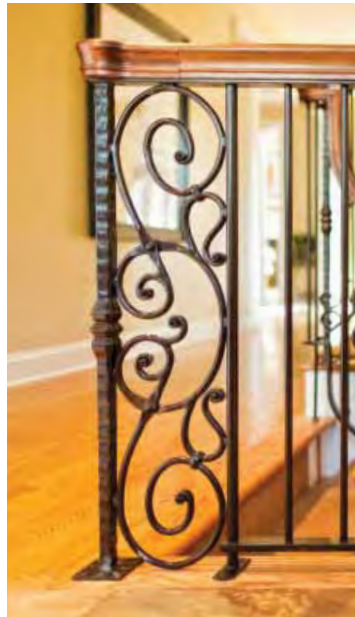
Faux Marble Column



Custom Oak Column



Knightson Post



Iron Panel and
Knightson Post



Wood Newel



Acanthus Termination



Custom Marbleized Column



Custom Turned
Bronze Newel



MAIN FOYER RAILINGS

An exquisite iron railing in a main foyer setting makes a statement of bespoke taste. Iron has the rigidity and composition to withstand decades—even centuries—of use and still possess grace and elegance when admired generations later.

There are many exquisite and famous homes, such as The Breakers and The Nemours mansion, that wonderfully showcase the dramatic effect of a fine iron railing. The end result takes an ordinary space and transforms it into a masterpiece.

Today's architects, designers, and homeowners have more choices than ever before. While there are wooden and iron pickets that you can "stick and glue" for a cookie-cutter railing, the same space can be dramatized by incorporating a custom-forged piece of iron art—a piece of beauty to cherish forever.

But a word of caution... ironwork can be overdone. Well-designed railings are subtle, eye-pleasing structures that harmonize completely with their setting and surroundings. The result is an expression of your own design and taste that transcends time and will be admired for generations.



Exquisitely expressive hand-forged interior railing

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INTERIOR RAILINGS

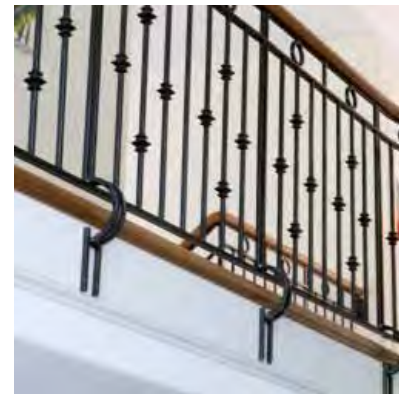


Mainline Style railing creates a visual impact

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Iron railings for family room overlook



Close-up of iron with wood handrail contrast



Ornate foot bracket supports the entire railing system



Grand Staircase railing in Moorestown, NJ



Close-up of scroll detail



Note the luxurious effect of gold highlight on the edge



Iron railing for
kitchen stairs



Iron railing leads
to the third floor



Custom interior iron railing in Mount Laurel, NJ

Oval design meets all codes but adds insightful yet subtle design flair.





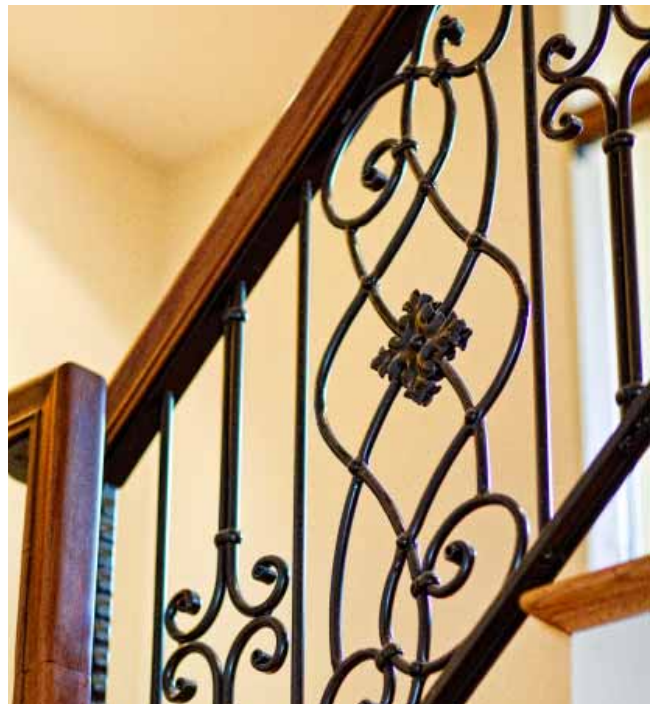
Custom stairs and hallway in 1840s barn, refurbished into a house



Arts & Crafts Style railing in Maryland



Detail of iron scrolls



Forged iron railing with Mahogany handrail



Hand-forged designs in 1/2" rail create a subtle statement



Forged panels add elegance to the foyer



Detail of hand-forged quad scrolls with gold highlight



Contemporary iron railing in Ventnor, NJ



Solid welded construction



Custom iron railing adds permanence to this beautiful foyer



Detail of hand-forged scrolls



Close-up of Hilton volute



Level rail with custom forged balusters



Side mount stair railing



Wrought iron European design elements accentuate this private residence



Scrolls and rings compliment the European decor



Bronze highlight on the coat of arms



Custom scrollwork and Acanthus leaf combination

Detail of double
Acanthus leaf





Custom forged crest accentuates beautiful forged railing



Close up of forged scroll detail for house railing



Traditional forged railing design for an awesome wow factor



Custom forged crest
accentuates beautiful
forged railing

Simple, classic and forged stair case railing



Modern stainless railing for staircase



The contrast of flat bar and round bar in stainless for a contemporary look



Overview of interior iron railing



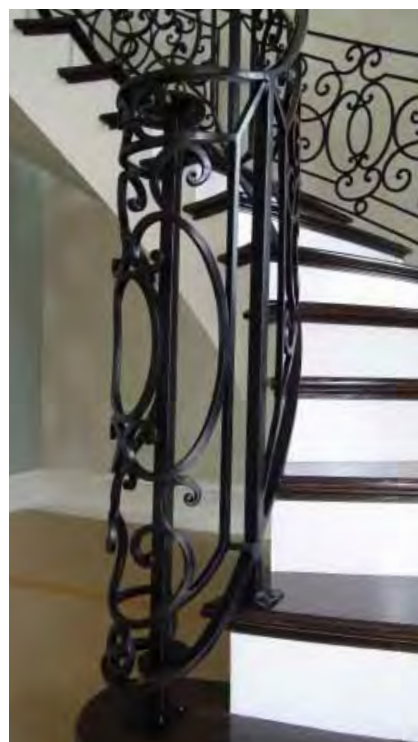
Custom forged iron volute for stair handrail with antique tarnish



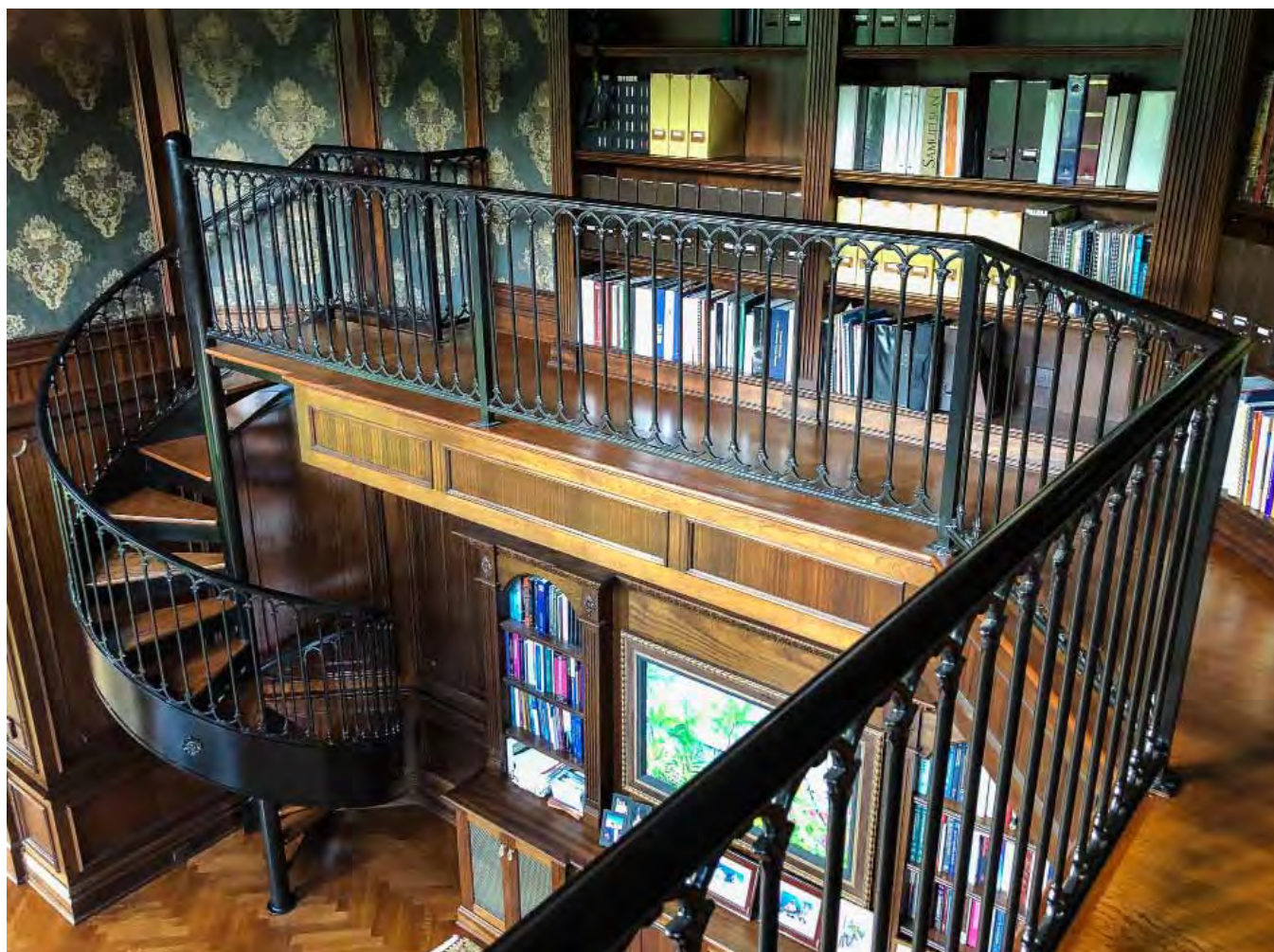
Forged iron stair handrail



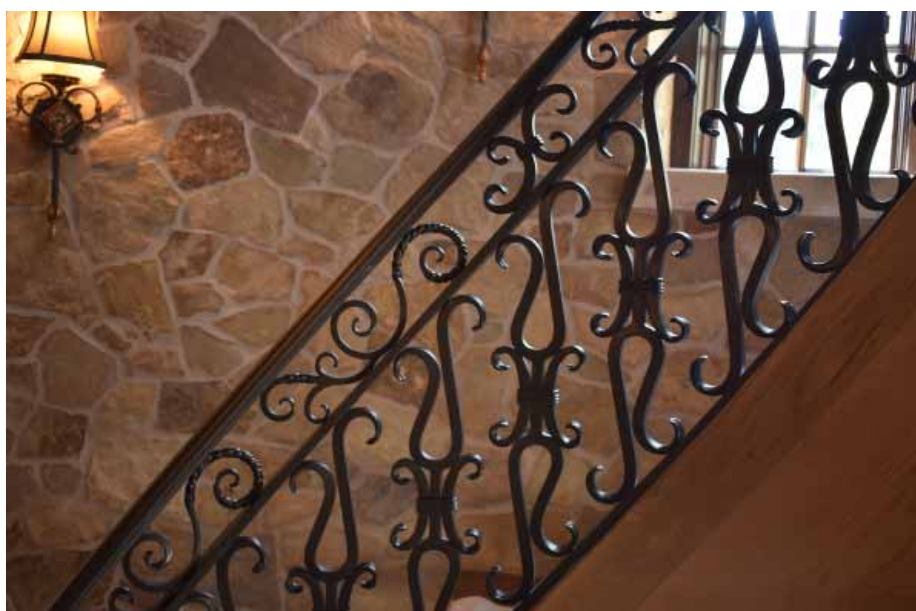
Powder-coated black iron stair railing



Forged volute for wrought iron railing



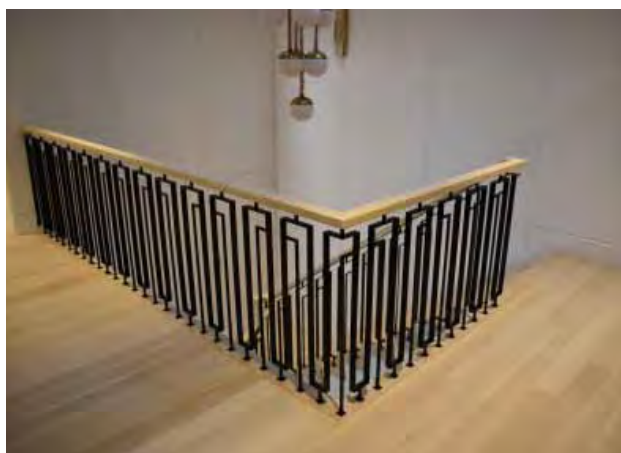
Understated but elegant balcony railing and stairs



Radial stair silhouette
hand crafted



Dimensional railing contemporary design



Contemporary iron railing with wood caprail



Depth detail of contemporary iron interior railing



Hand forged iron stair handrail



Curved turret staircase railing and hallway railing



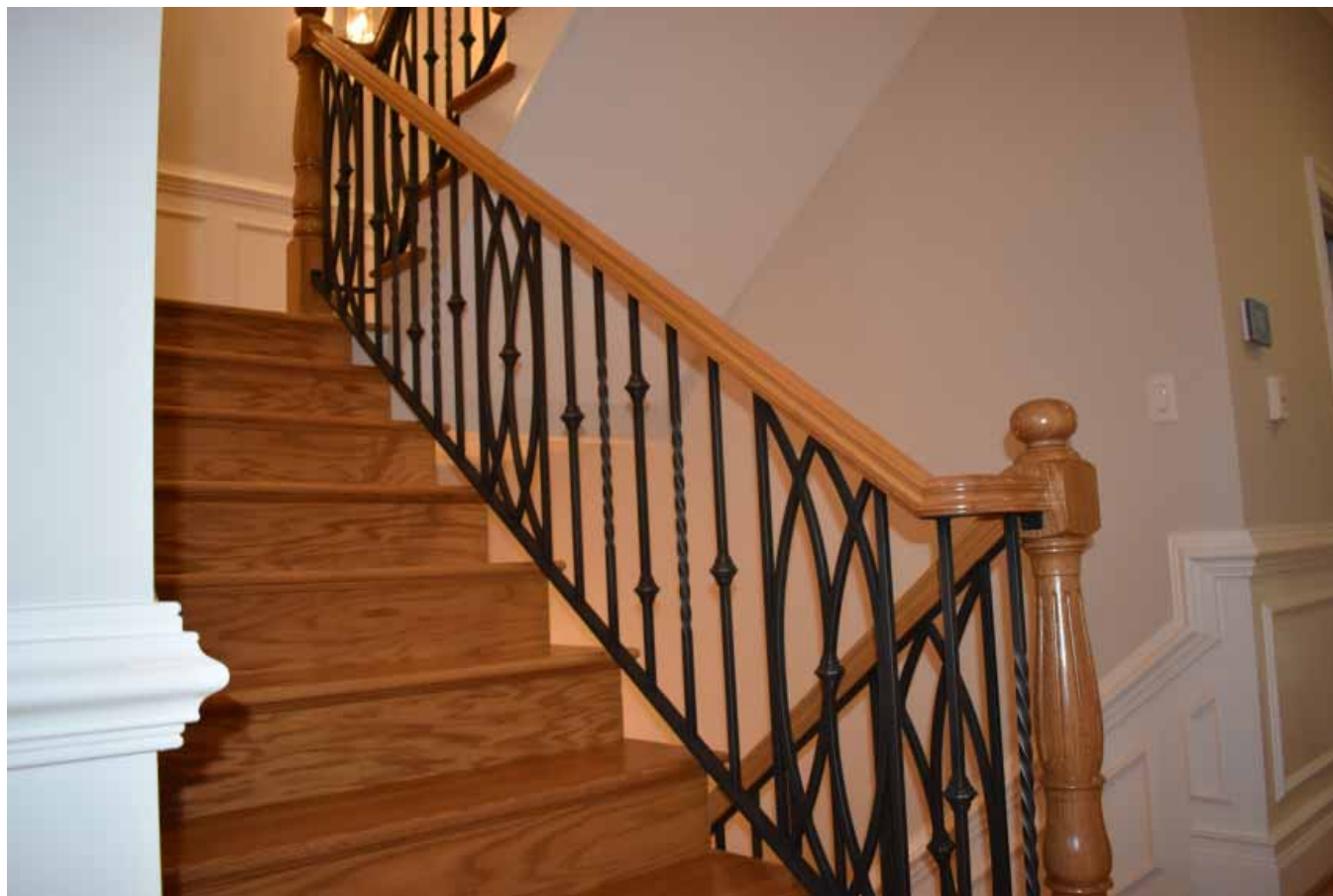
Beautiful collaboration of metal, wood, and marble



Basketball engraving detail

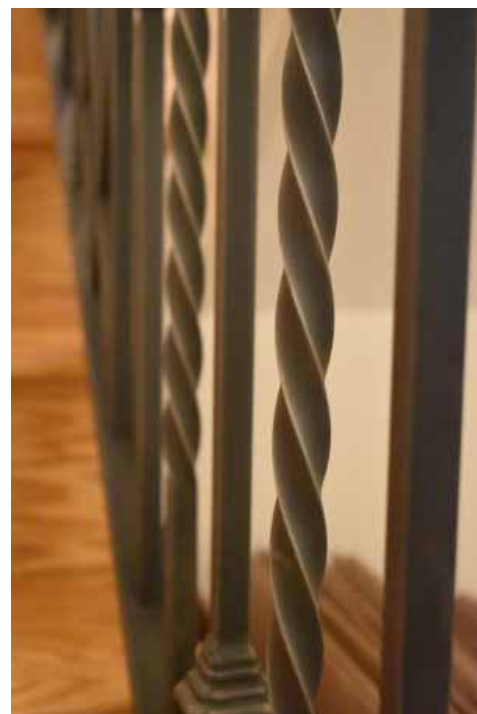


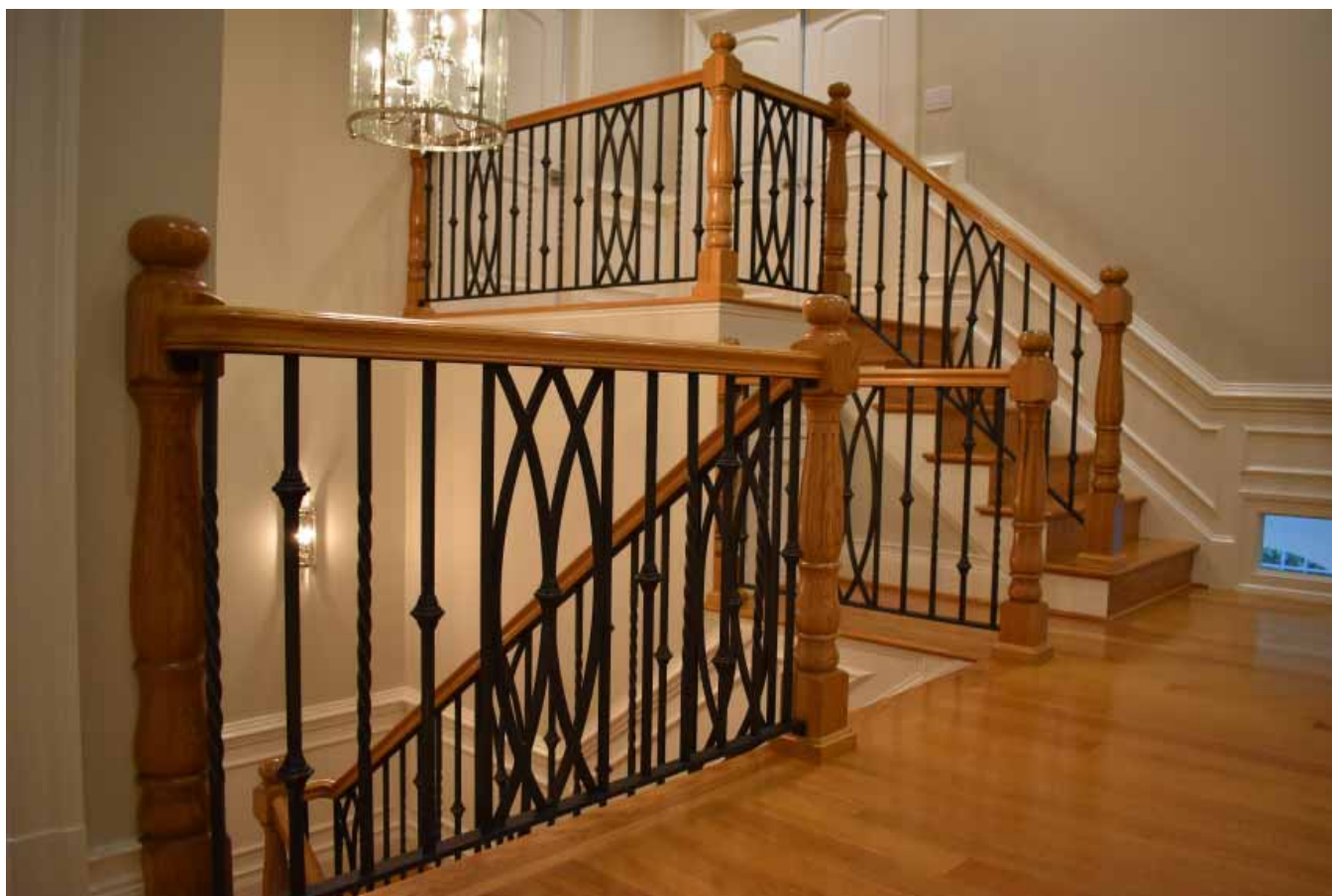
Forged transcending lateral scroll



Beautiful staircase with wood cap-rail and iron railing

Close up of antique
tarnish and renaissance
wax finish





Multiple levels of iron railing

Post





BLACKENED RAIL CASE STUDY

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Custom turned oak newel with fluted design

Achieving the blackened interior railing began with blasting the iron down to white metal. Immersed in a tank of chemical oxidizer, it became deep black. To stop the reaction and nullify residual oxidizing in the pores of the metal, the piece was put in another tank of neutralizing solution. The entire project was blown dry. Using an oven to dry speeds up the chemical reaction, but can cause rust. A penetrating oil was hand rubbed into the railing. Next, it was scotch-brited down through the blackening, so the silvery metal could show through as contrast. The piece was then put into the oven and brought to 300 degrees. When cooled, Renaissance Micro-Crystalline wax was rubbed by hand onto the surface. The result was stunning. A new railing finished with traditional blacksmith methods, complete with the irregularity of metal texture. It suited the client's level of contrast and fit perfectly into the design.

Close up of the antique blackening finalized piece.



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Hand-forged iron railing creates a statement that will transcend time



Solid bronze handrail with antique tarnish.

Bronze handrails add authentic safety to a refurbished 1934 pool house.



HISTORIC RAILING CASE STUDY

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Top: Bronze handrail and newel with iron twisted pickets make for an exquisite railing.

Bottom: A new custom iron railing perfectly matches 1934 work

A homeowner, contractor and architect team were renovating and adding to an original 1934 house. The original stair had this beautiful Iron railing with a golden tint, custom bronze newels and bronze handrail, complete with all bronze mounting plates. The intention was to perfectly match the original Ironwork and details.

The first step was to research the original material and methods. The original picket material had flattened corners to give it more contrast when the pickets were twisted. The picket collars had been forged from half-round bar. A bigger challenge lay in the custom bronze newel that they had used. Accurate dimensions were taken and the newel was photographed, then printed full size to show ever radius and detail so the copy lathe operator could exactly follow the 1934 handiwork.

A concern was that this newel would not meet today's code requirements for strength and rigidity. Some testing was done and some small innovations were made to the interior structure that wouldn't jeopardize visual harmony but amplify the structural integrity. This was then tested again and met the requirements satisfactorily

The real challenge was in the correct finish. First, the bar was tumbled to accentuate the scale, then corners were hammered, and it was pretreated then scotch-brited by hand to have some shine come through. The residue was blown off using compressed air, then a custom gold leaf mix was sprayed onto the entire picket and finally a clear sealer was applied. This was very close, but not quite a match. The next revision was to add a chemical oxidation process to slightly corrode the surface before the application of the gold leaf. We compared to the original work and it was an absolutely perfect match!

The bronze handrail and newel were also given an antique tarnish and clear coat, all of the brackets and mounting plates underwent the same processes to ensure a perfect match.



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Ironwork perfectly suits the décor for these homeowners with a love of antiques and fine craftsmanship.



Hand-forged scrolls and hand brushed highlights express love of detail and quality.



Elegant scrollwork creates a pair of beautiful terminations.



Bronze volutes create timeless appeal.



Forged iron railing sets the tone for an awesome experience in this space.



Above: Beautiful radius creates an awesome balcony effect.

Right: Gold gilded leaves and rosette's make for a stunning volute.



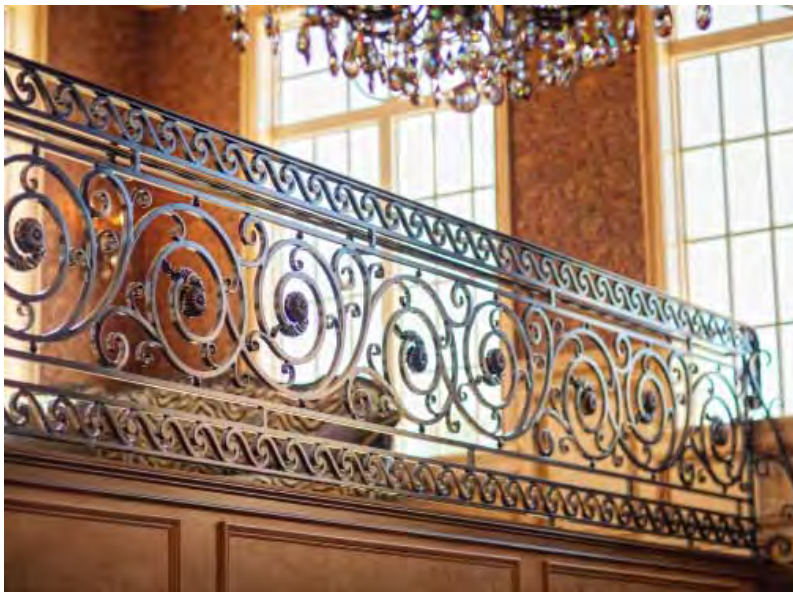
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COMMERCIAL CASE STUDY



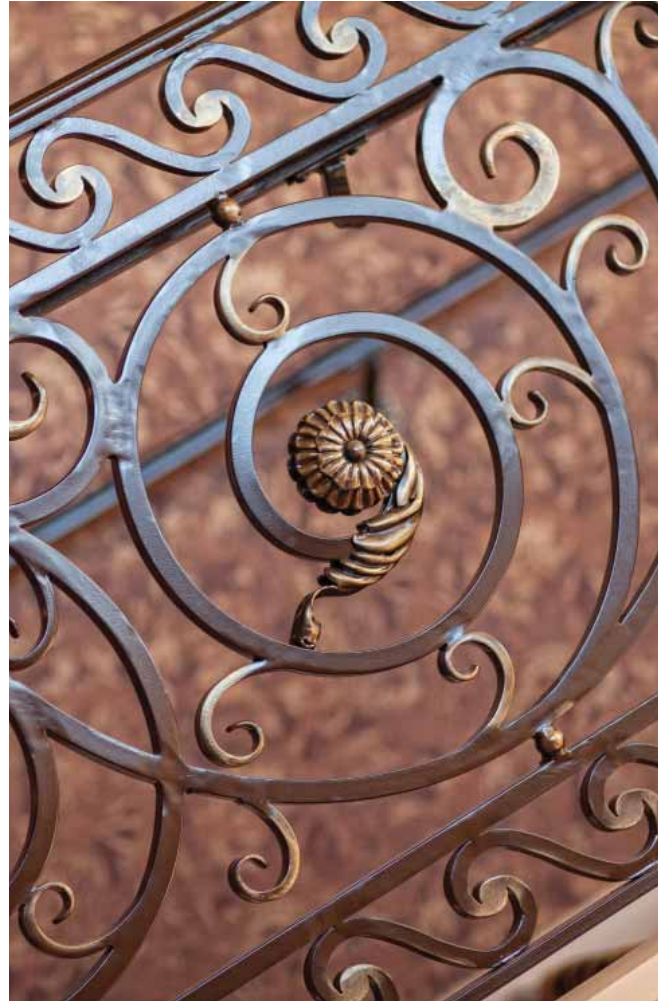
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A banquet hall in New Jersey wanted to appeal to a more sophisticated client base. To achieve the goal, they went through a design process and evaluated the current trends. After their research, they determined a hand-forged iron railing would add elegance and beauty for each bride's special wedding or each client's important event.



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The main stairway was renovated with the new iron railing. The ambiance of the space is a perfect setting for a couple's special wedding event and a perfect photo backdrop. A gold highlight was added to the forged flower and acanthus leaves to highlight these details and as an additional benefit, the whole railing project was created with minimal environmental impact.



TERRACE POSTS

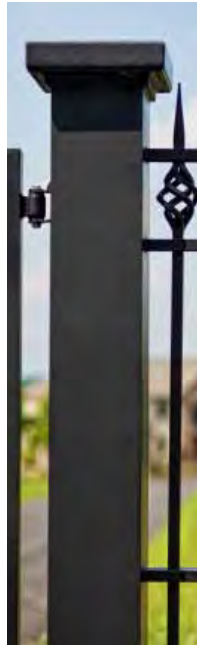
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5" Hampton Post



Raphael Post



8" Linden Post



Custom
Roman Post



6" Hampton
Post



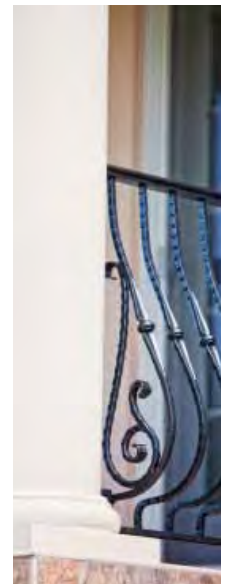
Cassabella Post



Knightson Post



Teaneck Post



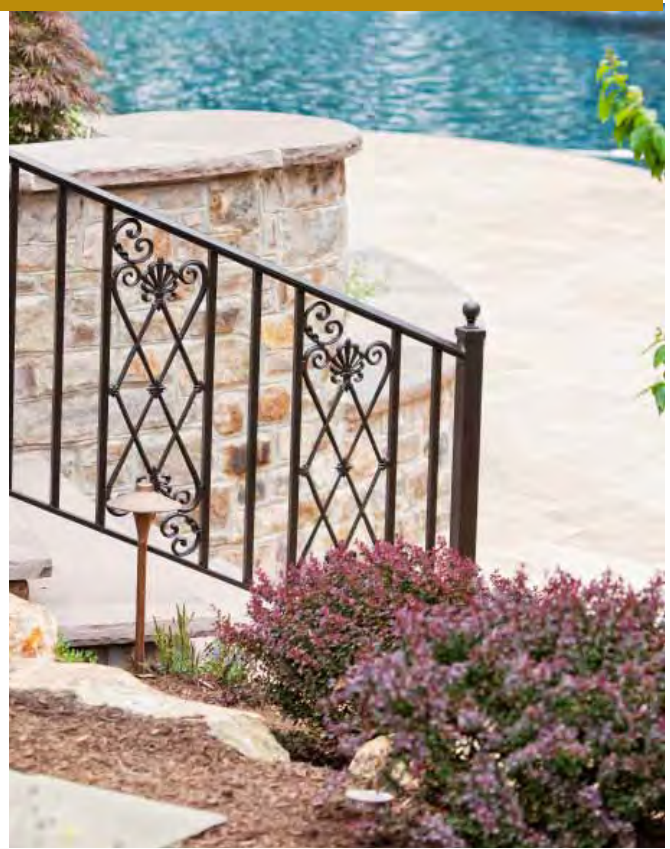
Close-up of
scroll for code
compliance



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TERRACE CASE STUDY



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A property owner in Bucks County, Pennsylvania, was building a custom swimming pool, cabana, and lounge area in his backyard. The swimming pool company overseeing the project contacted us to help with certain special needs. The railing design and color needed to match an existing railing, previously installed on the deck. There were difficult radii to match around stone columns and down curved steps, a raised and curved seating area, and additional railings on the back of the cabana. To complicate matters further, the client had planned an event that dictated when the project needed to be complete. Fortunately, we were contacted in time to meet the deadline. We researched the existing design and made custom parts that exactly matched the property. Accurate measuring and the use of templates resulted in a perfect fit on the challenging radii. The entire project was finished in a bronze baked-on powder-coating that had a stunning visual impact and matched the existing railing color.



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EXTERIOR RAILINGS



Greek Athenaeum center with French Crest and hand-forged tulips and scrolls create a distinctive flair.

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Hand gilded tulips allude to a woman's love of flowers.



3 Levels of forged aluminum railing indistinguishable from wrought iron



Forged aluminum tulips in a bouquet



Both sides of entry railing provide symmetry for front stairs



Metal railings for stairs
in modern aluminum



Custom castings were created for the angle of these stair railings

Traditional aluminum
railing design

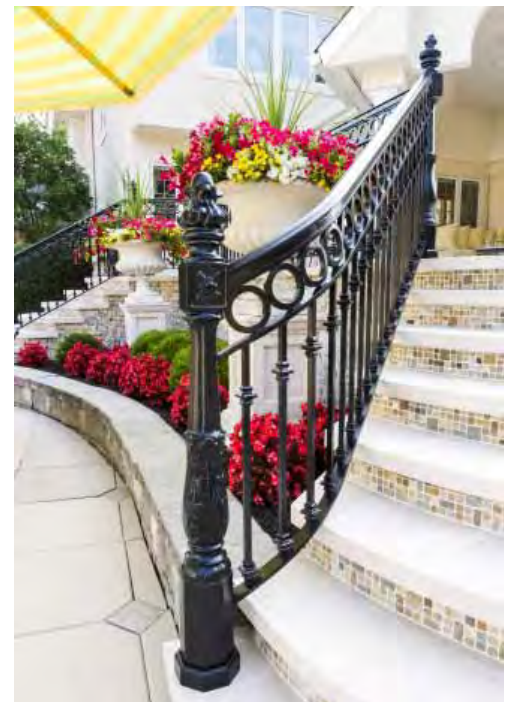




This sublime pool space is transformed by the spectacular railing design.



Left: Terrace railing overlooking the pool.



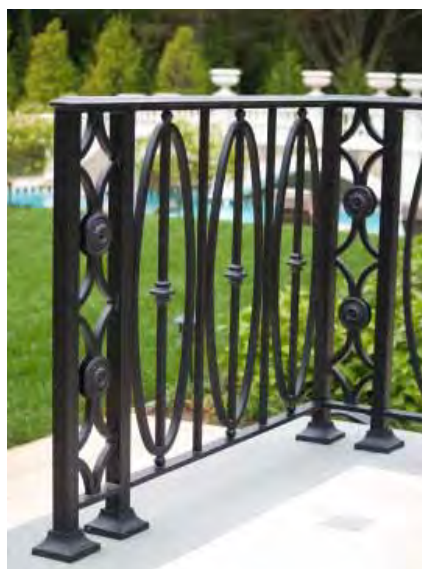
Right: Custom forged railing provides beautiful radius to accentuate marble steps



XXXXXXX



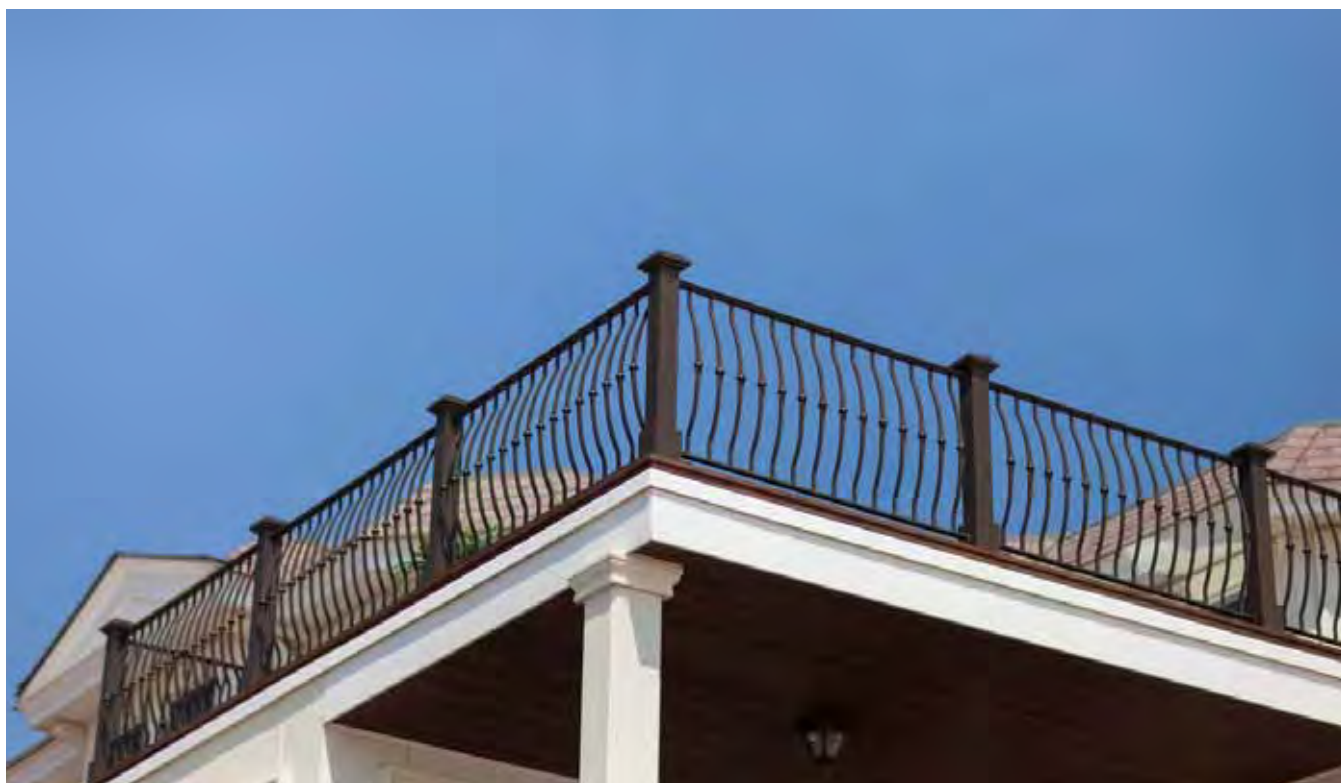
Authentic terrace railing enhances this 100 year old estate



Iron design inspired by original balcony from 1901



Marine grade railing offer beauty for this family's shore retreat



Terrace railings and posts have a cohesive effect for this shore home



Solid aluminum railing creates spectacular contrast for this custom log home.



The craftsmanship of this log home terrace is accentuated by the iron railing.



Hampshire belly railing in Medium Bronze elevates the visual appeal of this terrace.



Solid aluminum Manchester railing provides grace and beauty while meeting building codes.



Wrought material railing on front entry steps



Authentic forged railing compliments the classic architecture



Solid aircraft grade aluminum terrace railing

Round hot
pierced bars
used for
balcony railing





Wrought iron railing specially created with todays materials for an authentic look



Close up of Iron railing that has an antique iron paint process to look like it was built decades ago



Metal handrail for stairs and safety railing

Design element and
finish detail of a
wrought iron railing
replication





Ornamental railings on a bay front home



Flared stair railing for front steps



Exterior balcony railing forged from aircraft grade aluminum, indistinguishable from wrought iron

Close up of wrought iron railing design





Modern exterior railing design for front staircase

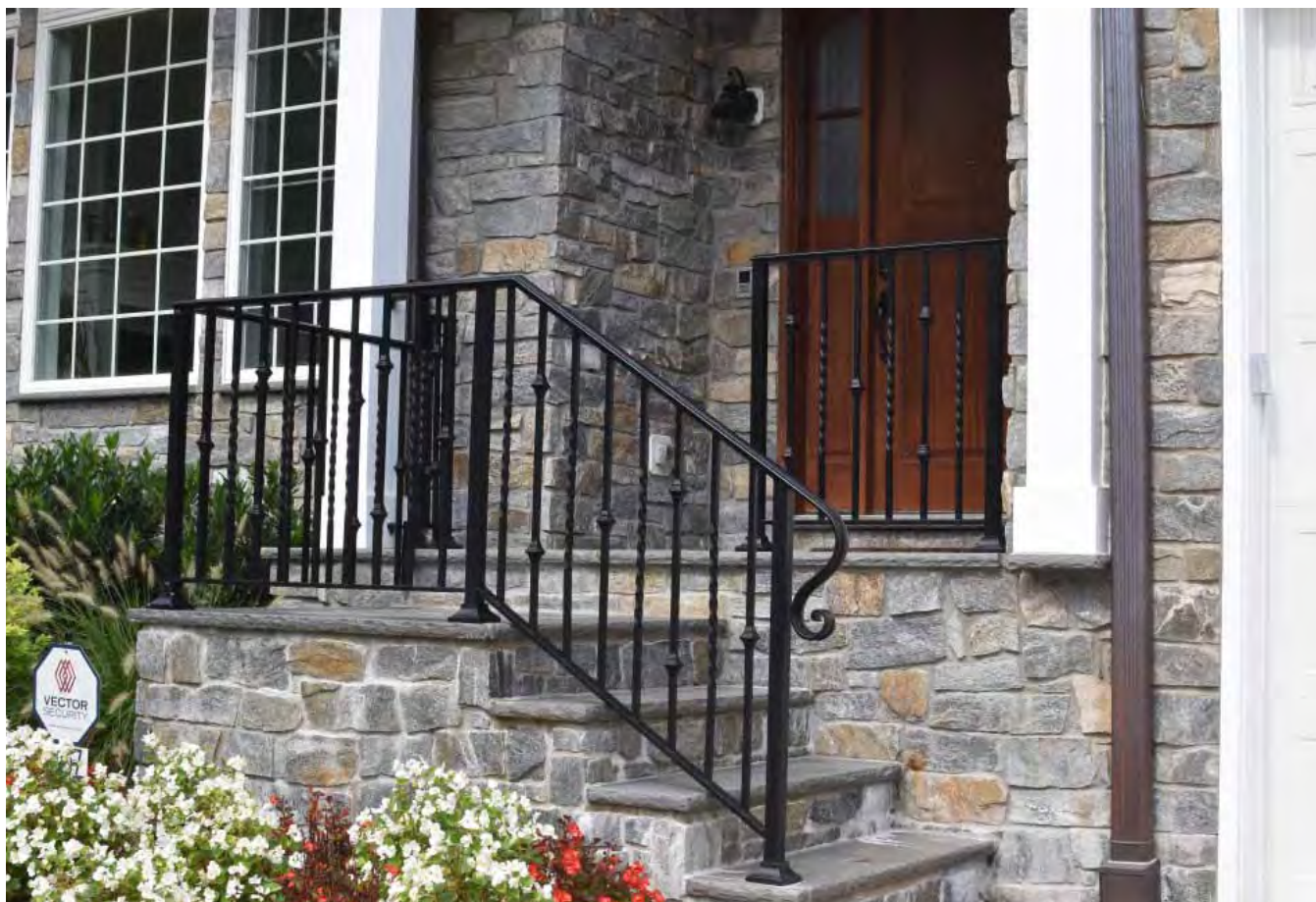
Modern deck railing for bay front property



Wrought iron railing
replicated with
contemporary materials



Porch railing for
a centuries old
house staying
true to the period



Upscale front entry railing

Contemporary
house balcony
railing design





Custom terrace railing for triathlete lover



Terrace railing attachment to masonry



House railing in contemporary materials



2 levels of porch railings provide elegance and safety

Custom forged
terrace railing



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The panorama of beautiful sweeping forged aluminum railings



Left: Beautiful scroll work for bracing the Samuel Yellin

Right: The amazing detail in restored wrought iron railing

Below: The authentic Samuel Yellin stamp on wrought iron





Classic design stair railing



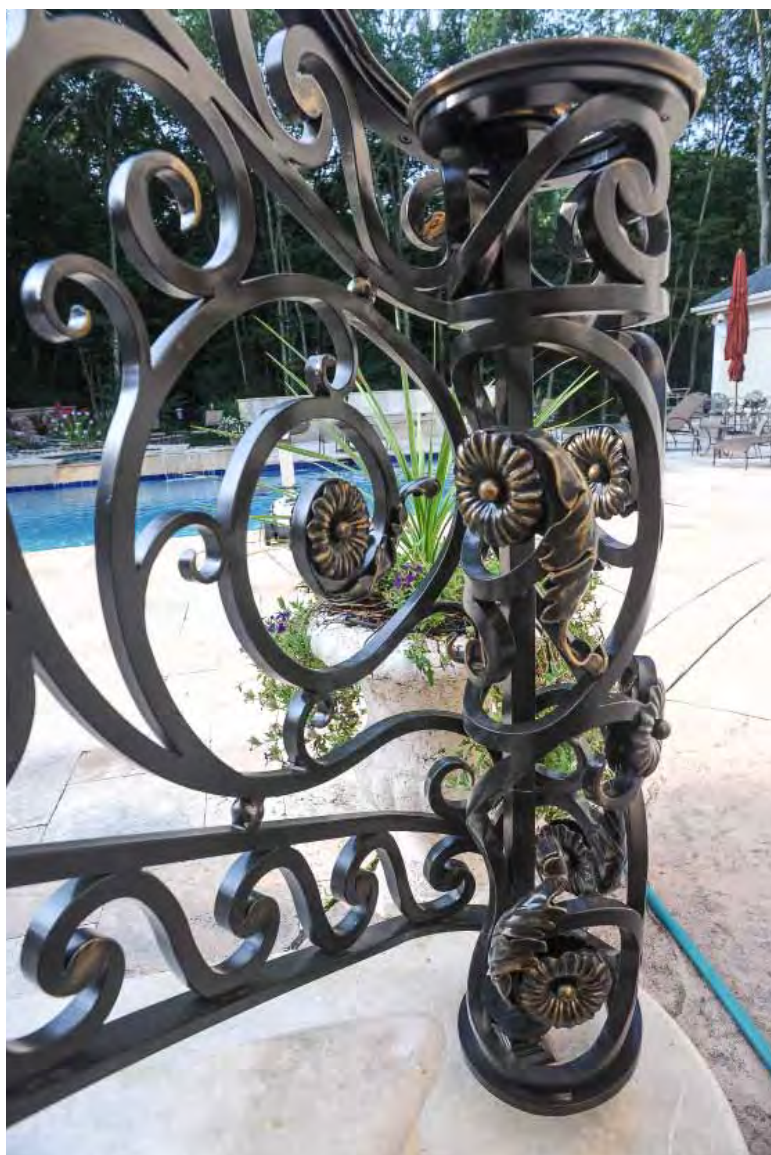
Exterior railings
in contemporary
design



The panorama of beautiful sweeping forged aluminum railings

Forged scroll
details for
exterior railings





Forged lateral volute for
staircase railing



Detail of forged
rosette and leaf
for stair railing

TERRACE RAILINGS



Terrace railings in Longport, NJ

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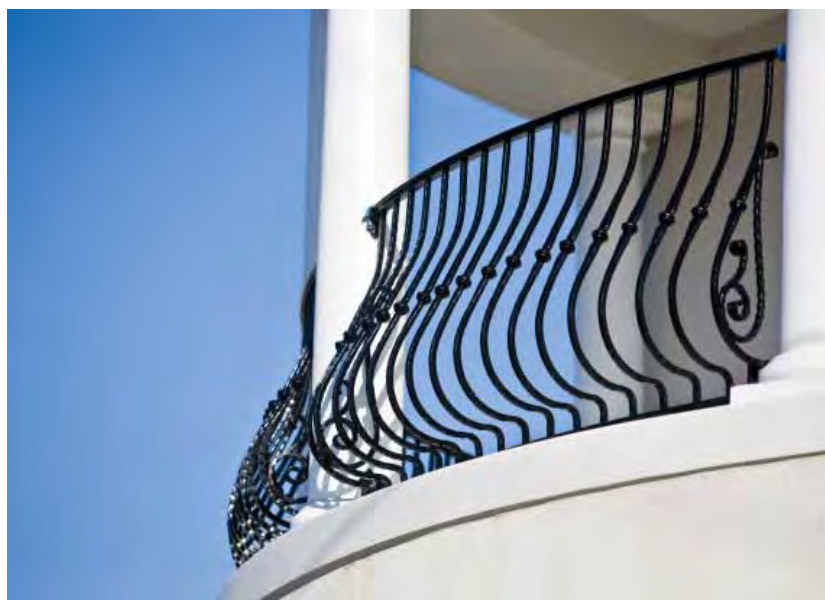


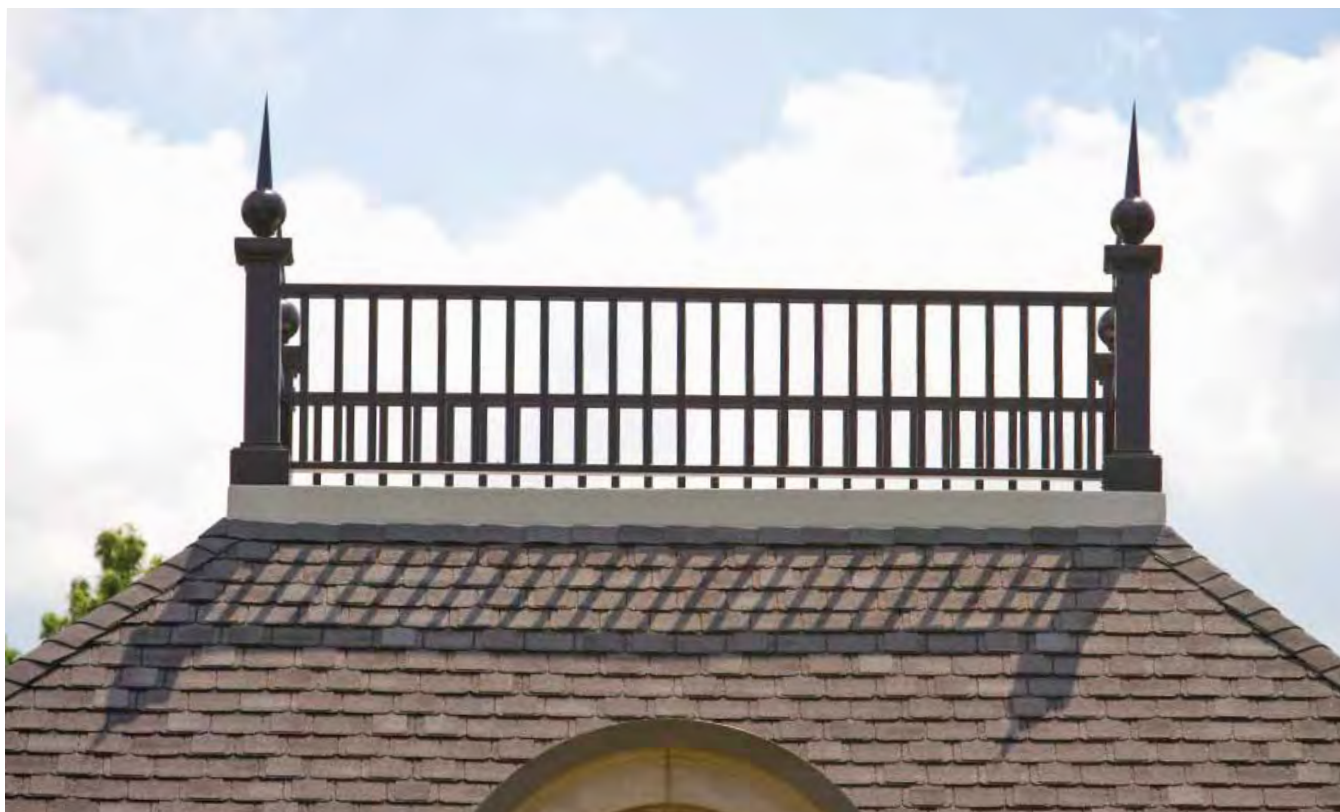
Custom iron railing
between columns



Terrace with French balcony railing above

Hampshire Belly railing
on radiused terrace





Widow's Walk railing in Moorestown, NJ



Custom iron railing
with IPE handrail in
West Chester, PA



Custom terrace railing in Ocean City, NJ



Custom railings in Longport, NJ



Radiused entry railing in Ocean City, NJ

Roman posts on
custom entry railing in
Moorestown, NJ



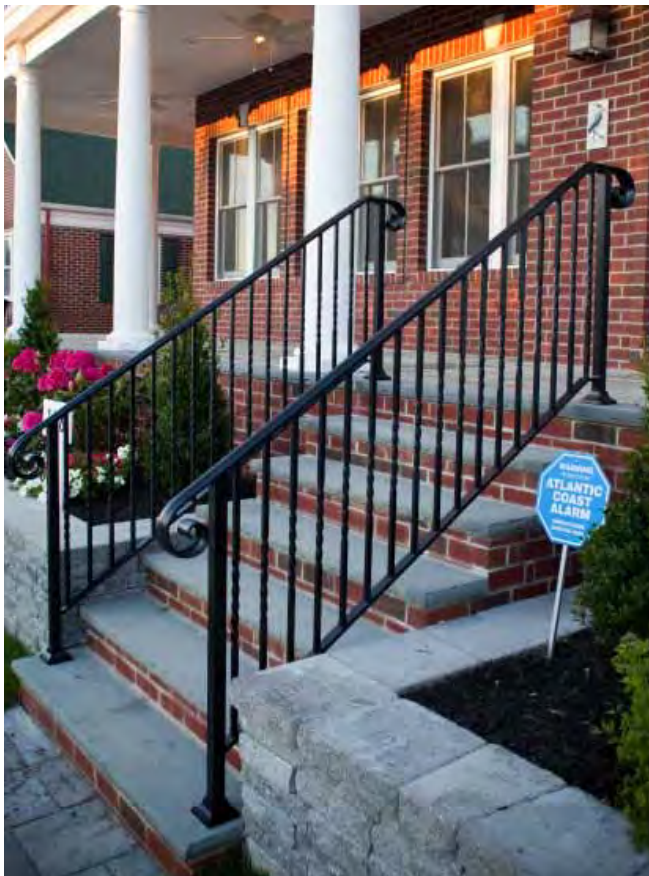
Terrace step
railings in
Moorestown, NJ



Iron rosette detail



Iron stair railings in
Moorestown, NJ



Tewksbury stair railings in Margate, NJ



Hammered Basket railing in Longport, NJ



Contemporary railing on terrace in Media, PA



Fairweather railing overlooking dock in Longport, NJ



Fairweather railing detail



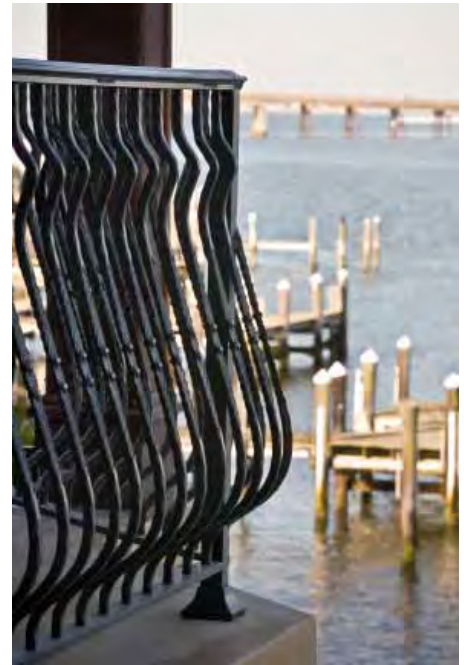
Hammered Basket railing creates safety and adds classic appeal without obstructing ocean views



Tewksbury railing in Margate, NJ



Patio railing with custom bronze powder-coat



Manchester railing overlooking boat slips



Hammered Basket railings in Chester Springs, PA



Custom iron design in West Chester, PA



Mainline style railing in Bryn Mawr, PA



Custom entry railing in Bryn Mawr, PA



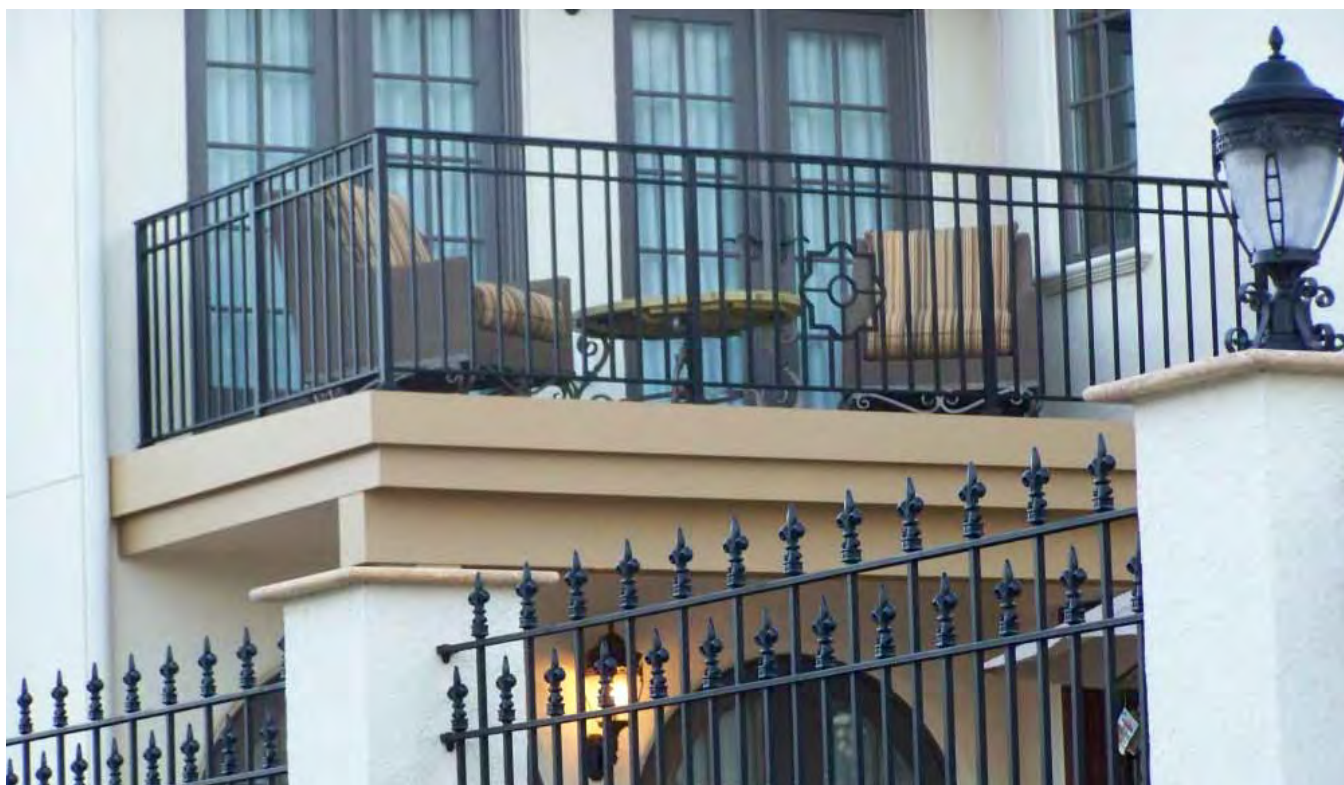
Solid aluminum Hammered Basket railing



Custom terrace railings and gates in Newtown, PA



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Terrace railing on Rumson Ave.



Sussex railing in Bellmar, NJ



Custom "Bouquet" railing in Princeton, NJ

"Bouquet" railing detail





Terrace railings overlooking Bucks County countryside



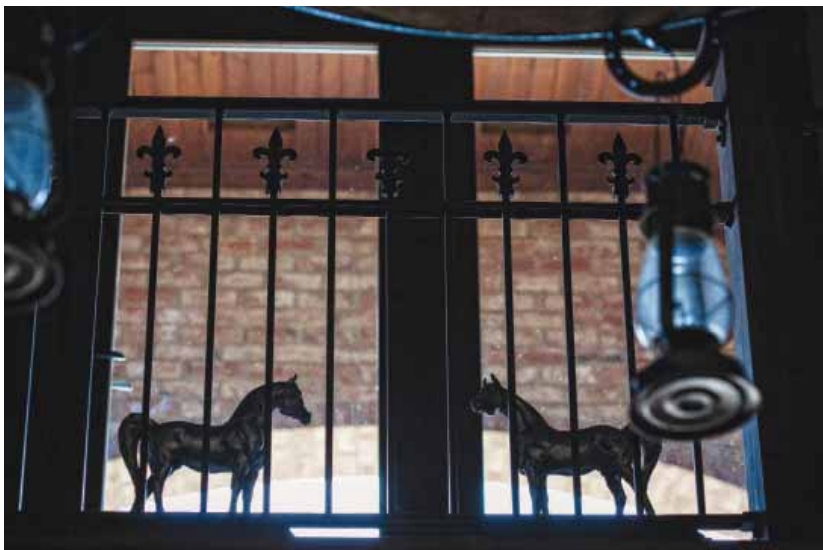
Iron filigree to enhance an entryway



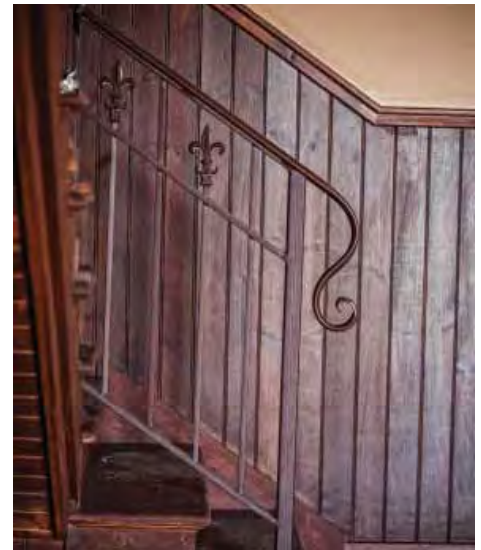
Iron railing with forged iron frieze



Iron railing accentuates the Western theme in this horse barn



Riding trophies are silhouetted through the iron railing



Close-up of antique rust finish



Mainline terrace railing



Arts and crafts style railing in solid aluminum displays a taste of progressive design.



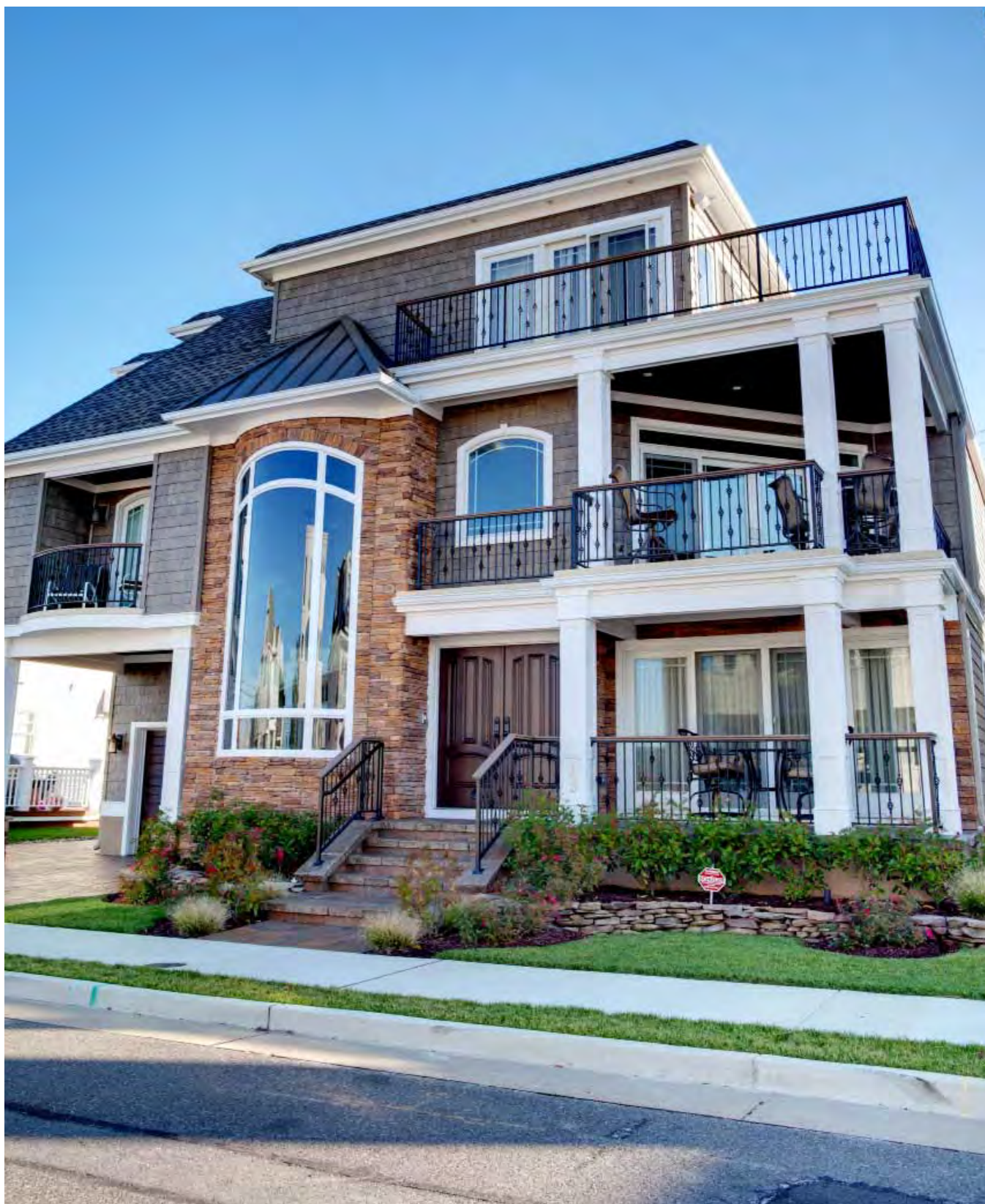
Hampshire Belly railing in Lebanon, PA



Terrace railing overlooking beautiful valley



Iron Hampshire Belly railing between the stone columns



Three stories of solid aluminum Hammered Basket railings



Roanoke railing is a solid match for this brick home



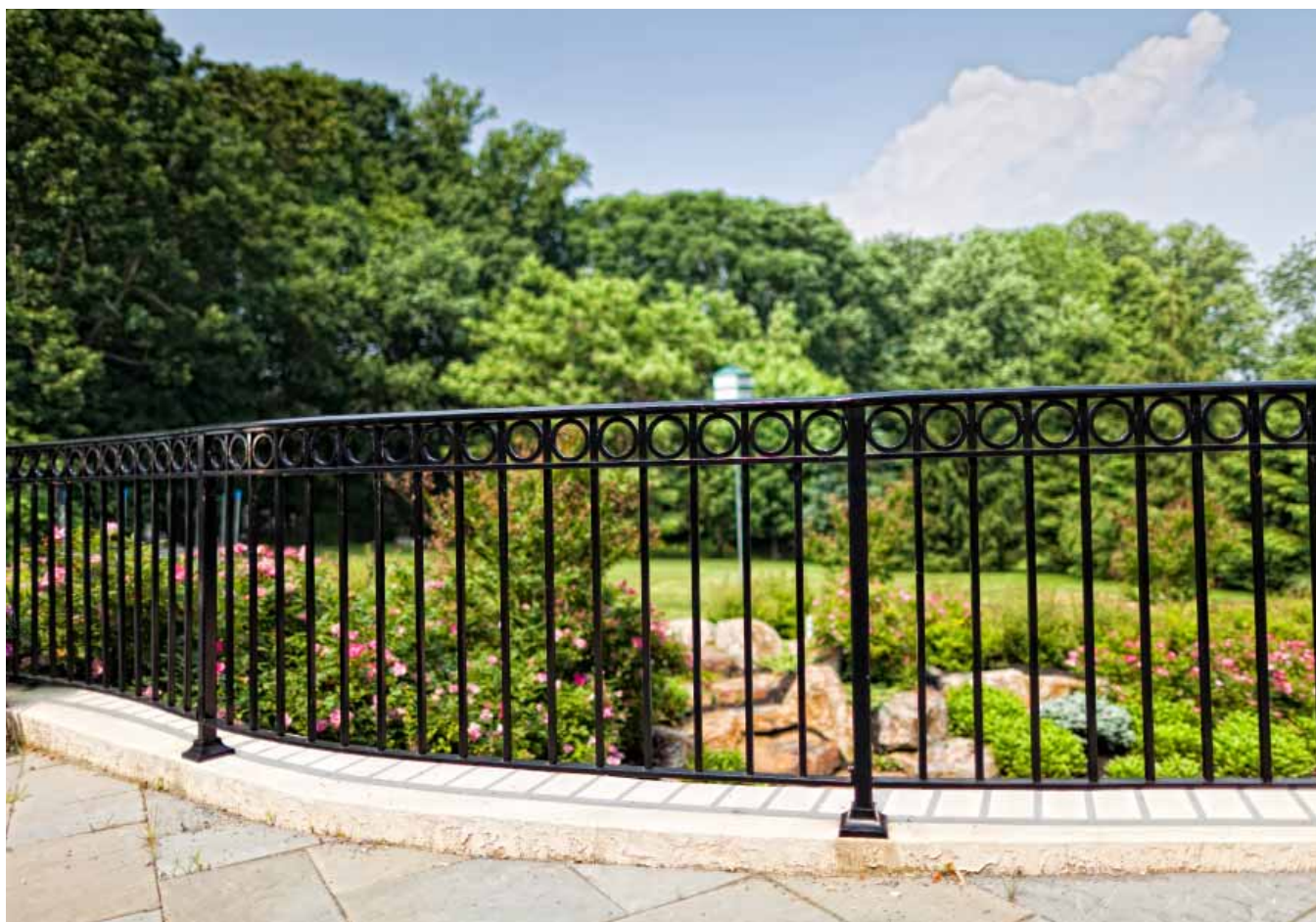
Hampshire Belly railing
on bedroom terrace



Solid aluminum Mainline Style railing in Bucks County, PA



Mainline railing in
statuary bronze



Custom railing to match radius wall



Mainline railing on
a radius terrace



Statuary bronze adds a nice tone to the hewn beam setting



Custom railing to match the decor of a log home in Washington, NJ



Dual hammered texture gives this Mainline railing a rustic appeal



Custom railing for a beautiful entry on a back terrace



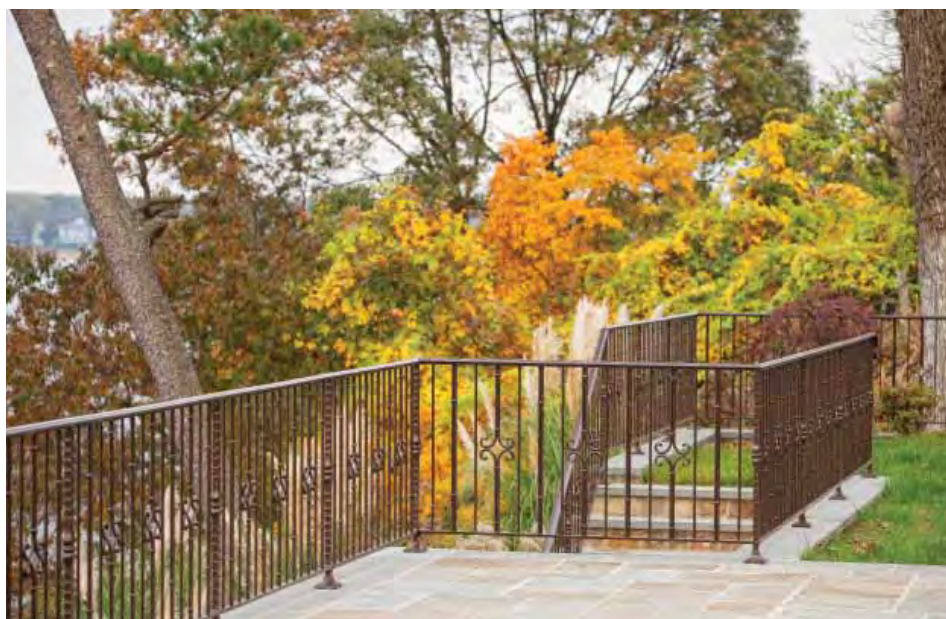
Various levels of terrace railings in Voorhees, NJ



Forged scrollwork for elegance and panoramic views



Hand-forged aluminum railing on a bay front property



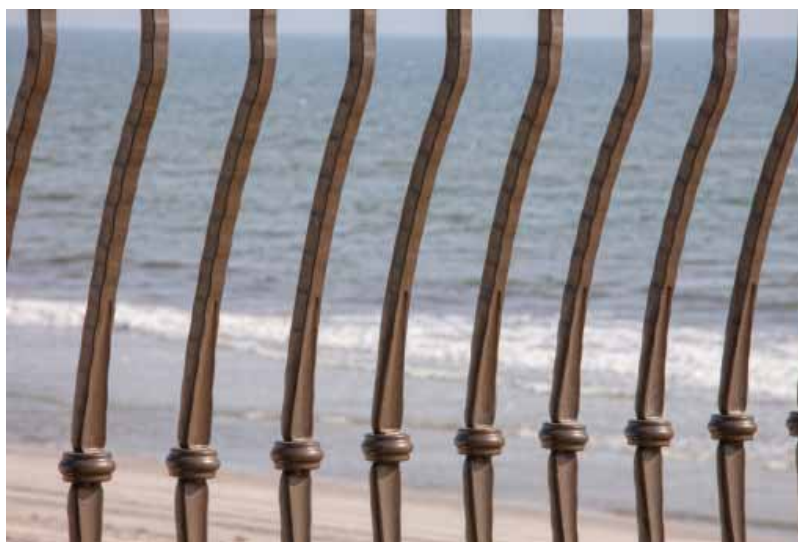
Terrace railings
provide safety
and aesthetics



Custom aluminum railing withstood Hurricane Sandy



Custom spiral stair matches terrace railing



Close-up of custom forged Belly railing

BALCONIES



Solid aluminum railing with 6" Hampton posts

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Balconies have been the salt and pepper of architecture for centuries. Just as a chef uses spices to enhance the flavor of a dish, architects use balconies to enhance their work. Balconies are a reminder of relaxing and stress-free times, and they have inspired intimate conversation since Romeo and Juliet!

Balconies can still accommodate modern-day Romeos and Juliets—or the head of the house in search of a relaxing spot to unwind. They remain as relevant in today's architecture as they have ever been.

Current architectural vernacular uses "French" and "Juliet" balconies interchangeably, so we will attempt to explain the differences.

A French balcony is a railing mounted on an upper-story wall, usually in front of a window. The railing extends two to ten inches from the wall and has no floor to step onto. A French balcony simply gives the illusion of a small balcony as an extra architectural feature.

A Juliet balcony is a complete balcony attached to a structure. It has a floor and railing in a single package. Very careful consideration must go into engineering and mounting one of these because they are load-bearing structures. There are two main types of flooring available for these: an expanded metal "mesh" flooring, and a more old-world slatted floor.

A Romeo is a type of balcony that is naturally part of the main structure. It has the addition of a wrought iron railing along its outside edges—both to prevent falls and to aesthetically complete the architecture.



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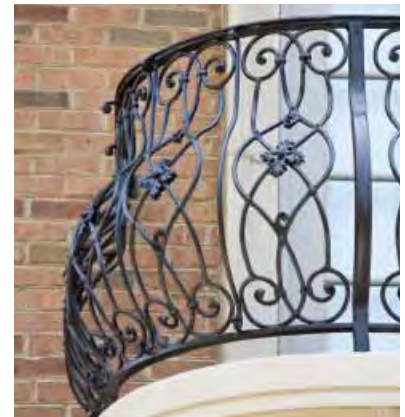


BALCONY CASE STUDY



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At the initial design meeting, the client desired a balcony railing that was more “feminine” in profile than standard balcony railings. She selected this design and we incorporated and executed the client’s vision. However, there were some serious code issues and metallurgy hurdles to overcome. Notice that the panels on the corners had to have the “feminine” profile vertically and be radiused horizontally to be fluid with the rest of the design. While one of our craftsmen grew his first grey hairs working on the project, the final product was revealed to our client’s thrilled surprise.



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Crafted in the USA

RAILING - 99



Porte-cochere balcony portrays transcending taste and style.



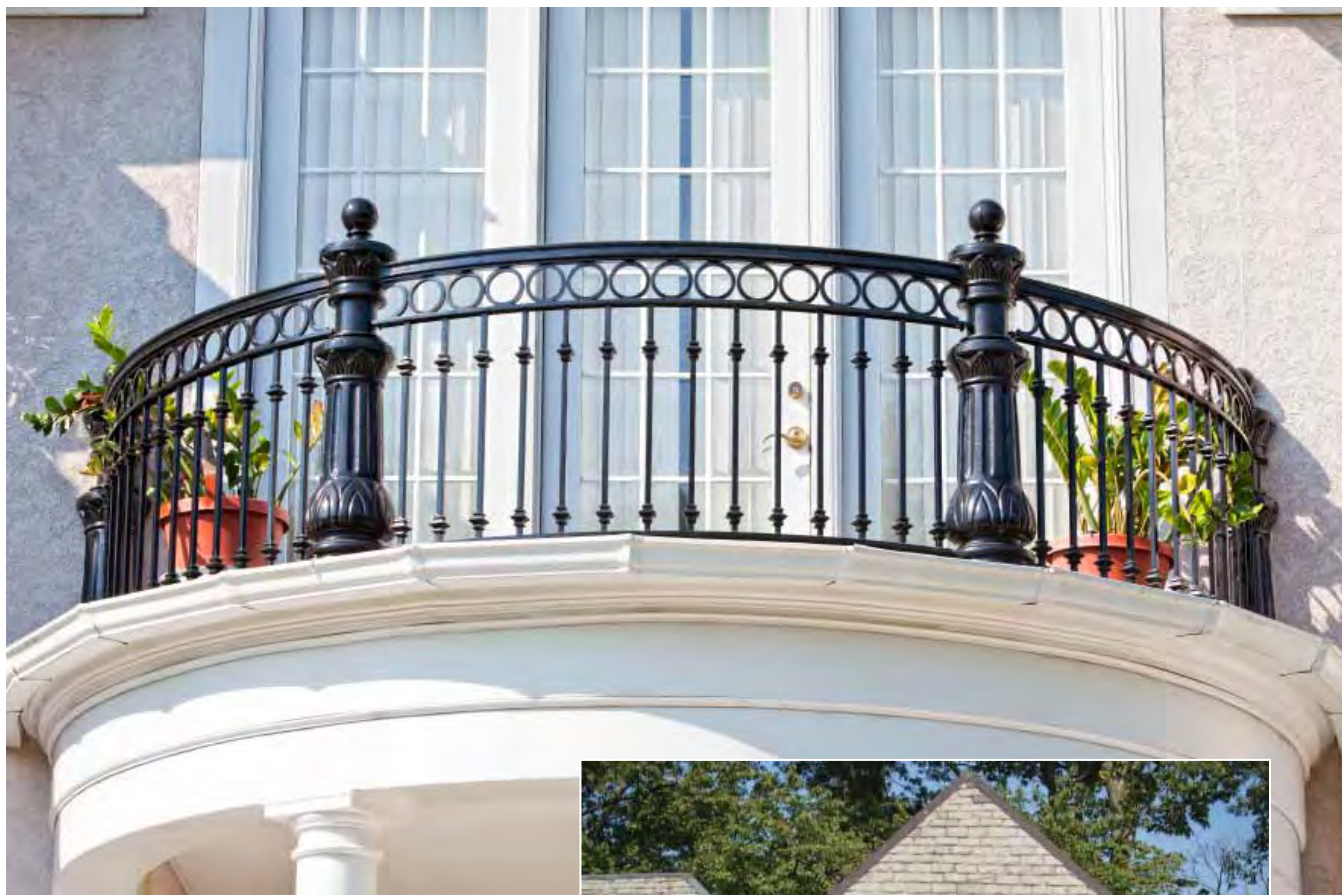
Forged aluminum balcony is indistinguishable



Mainline style French balcony in Villanova, PA



Solid aluminum railing on Juliet balcony in Chester County, PA



Custom railing with Roman Posts in
Moorestown, NJ

Juliet balcony with Olde World
Style floor in statuary bronze
has timeless appeal



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Hampshire Belly railing on Romeo balcony in the Main Line Area



Terrace railing attachment to masonry



Custom iron railing for Romeo balcony in Wilmington, DE

Solid aluminum railing
on Romeo balcony,
Rumson Ave.





Close-up of hand-forged scrolls and rivets



Shoulder detail on Romeo railing in Paoli, PA

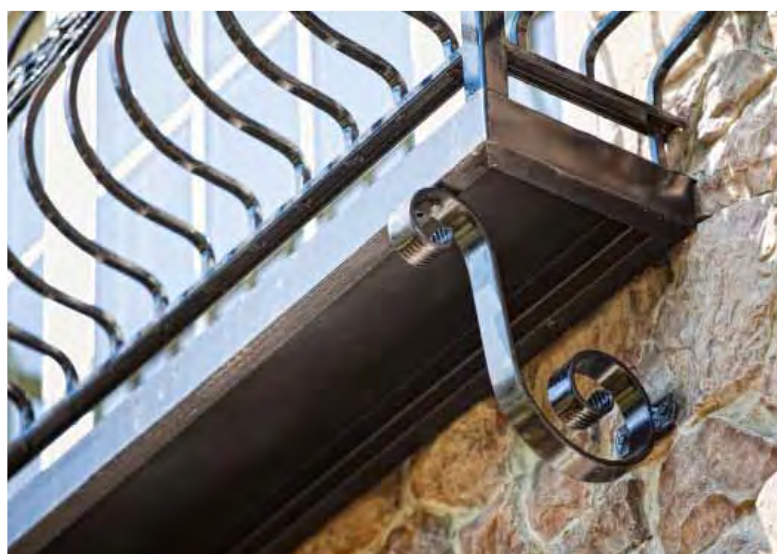


Custom style railing from an old wrought iron bridge in Philadelphia, PA



Tewksbury railing with rosette on Juliet balcony in Downingtown, PA

Custom iron mounting scroll





Manchester railing on Romeo balcony in Longport, NJ



Manchester railing creating a French balcony, Longport, NJ



Mesh Style Floor



Olde World Style Floor



Custom Romeo balcony railing matches window design

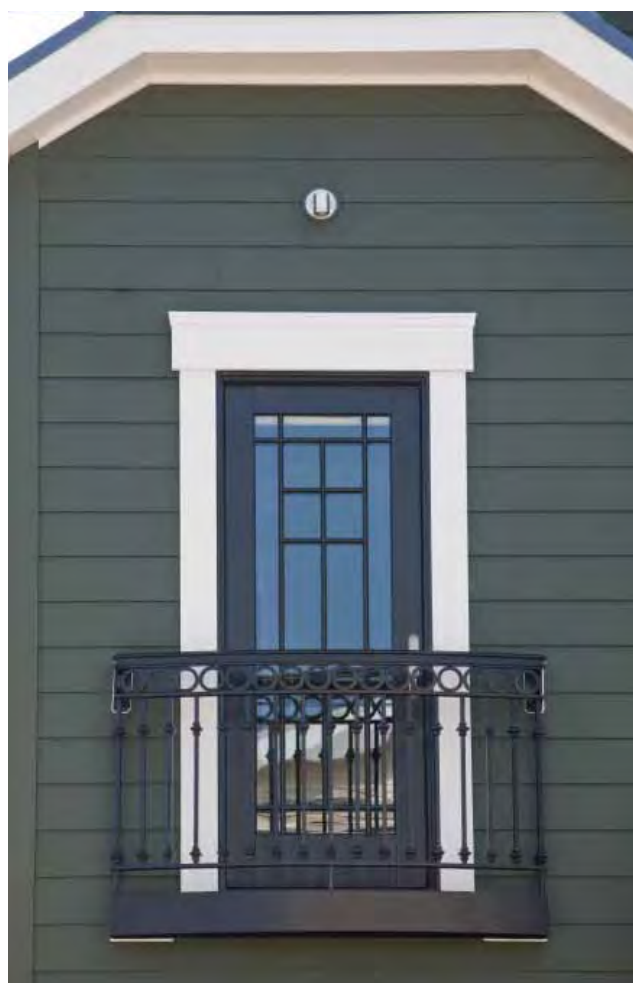


Initial "B" adds a personal touch to this Romeo balcony railing



Juliet balcony
in Delaware

Solid aluminum Juliet
balcony in Ocean City, NJ





Master bedroom terrace accentuated by forged aluminum railing.



Belly pickets provide visual dimension.



1901 Balcony was refurbished to share beauty for the next hundred years.



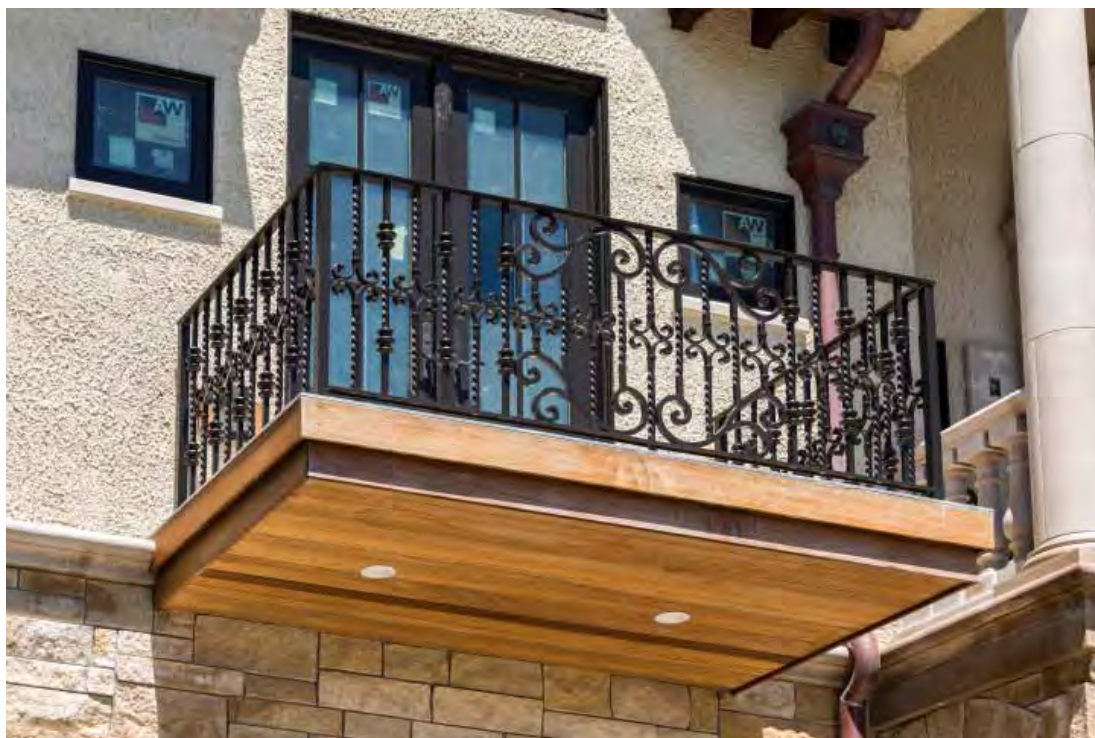
Refurbished railing intricacies show awesome attention to detail



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Solid aluminum railing for terrace



XXXXXXXX



Custom aluminum balcony



Brace detail for balcony and railing



Balcony railing in aircraft grade aluminum



French balcony railing with wide forged picket



COMMERCIAL RAILINGS



ADA compliant railing in anodized aluminum

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Quality service and creativity is not limited to the high-end residential market. For the commercial or institutional project that insists on quality, Compass Ironworks can deliver. Be it a restaurant that needs a custom theme built into its railings, a conference center that needs custom gates for crowd control, or a golf course that wants golf balls at the top of each picket, Compass Ironworks will make your project flow as smoothly as possible. We also count schools, churches, and shopping malls among our delighted clientele.



Custom railing in the King of Prussia Mall



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Mesh railing provides safety and ease of navigating stairs



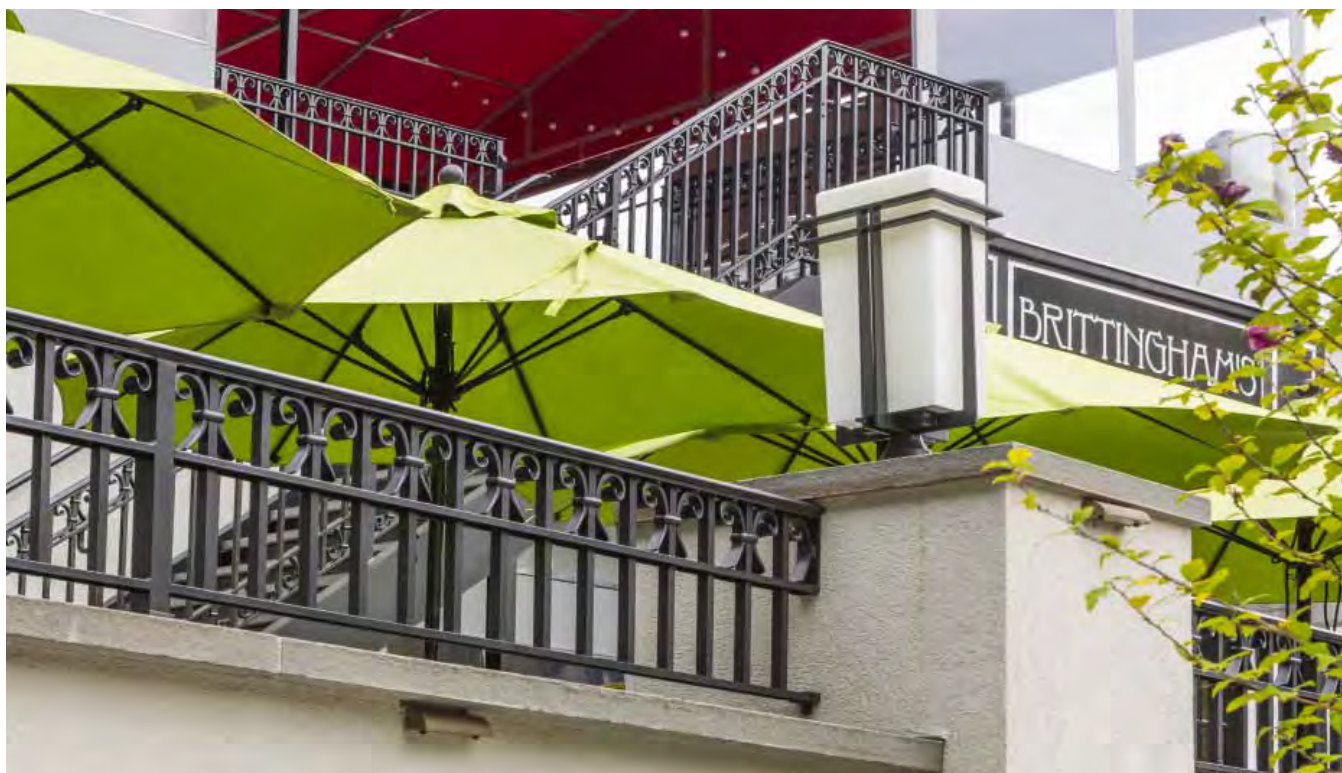
Left: Craftsmen fabricated a beautiful railing to last for decades.

Right: Fire tower railing that is contemporary and beautiful



Top: Forged aluminum railing creates safety and ambiance for patrons of this upscale restaurant

Left: Rigid railing surrounds the stage of this lively bistro.



Multiple levels of forged railing create an intriguing backdrop



Fire pit railing provides safety and beauty