



Coastal Living with Red Barn

Your guide to designing on the coast, meeting stringent environmental requirements, and future proofing your investment.

IT STARTS WITH THE SITE

Navigating the requirements of a coastal build requires expert guidance. We can help you - as early as before you purchase the land - to understand what is and is not possible with your property from the outset. Our understanding of this complex ecosystem saves you time, money, and headaches in the long run.

The first step to constructing anything on the coast is getting a site survey from a surveyor/engineer specializing in these environmentally sensitive areas. The engineer's expertise and early involvement in the process is necessary to understand the limitations of where we can and can not build. Regulations that restrict the placement of the building include zoning setbacks, wetlands buffers, and coastal dune offsets.

A SENSE OF PLACE

Your home can be beautiful and meet your family's specific functional needs. In fact, we believe that you shouldn't have to sacrifice one to have the other. That is the magic in great design.

We start by considering your goals, lifestyle, and personal values. This includes whether the home will be a vacation home, a primary residence, or even a rental property. Is the home for a family with children or a couple looking to retire? All of these factors dramatically affect the layout of the home.



Coastal-grade windows create a panorama overlooking Beverly's West Beach in this historically-sensitive renovation project.

WELCOME TO THE NORTH SHORE

Coastal living on Massachusetts' North Shore offers a variety of oceanfront options. With a varied geography, we have rocky coasts, sandy beaches, marshes, and tidal rivers. Traveling from the sandy beaches of West Beach in "The Farms" up the coast to Singing Beach in Manchester-by-the-Sea and then on to Wingaersheek Beach in Gloucester offers a variety of waterfront locales. The rocky shores of Eastern Point in Gloucester and the Headlands of Rockport add drama to the shoreline, while the protected banks of the Annisquam and Essex Rivers lend a sense of calm.

A THRIVING LOCAL COMMUNITY

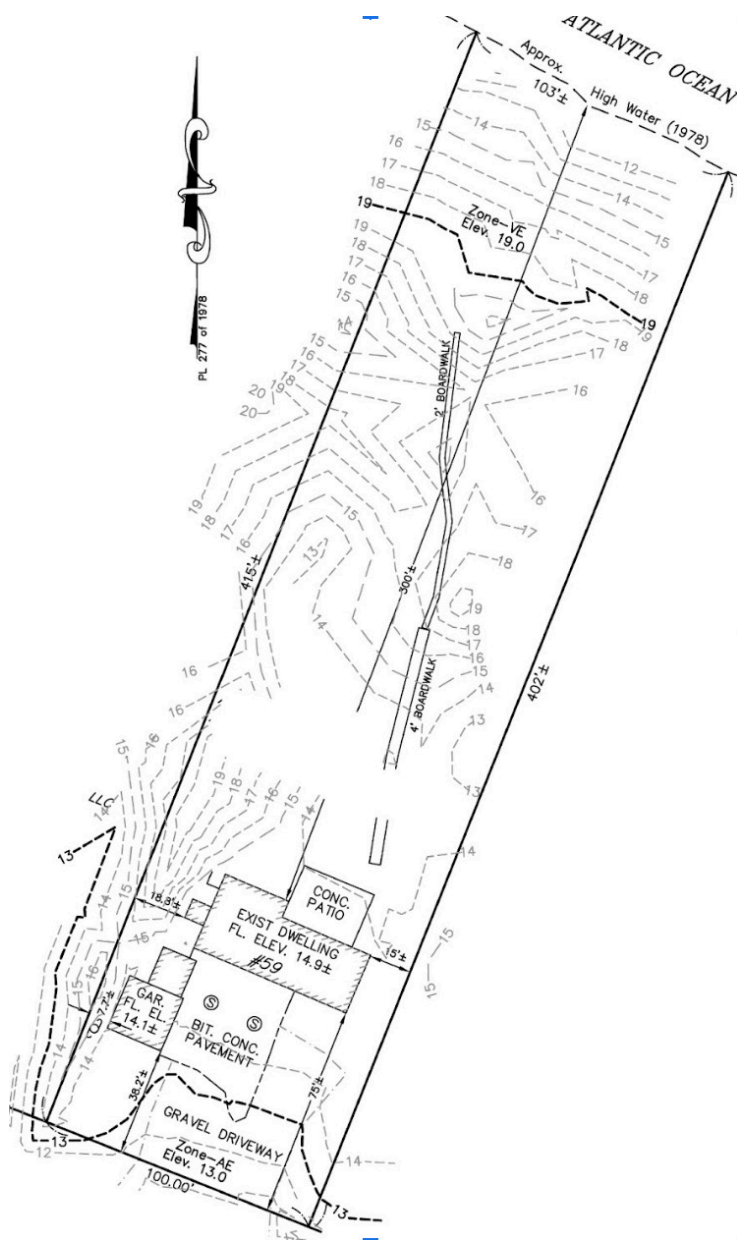
The North Shore is home to New England's largest continuous salt marsh, The Great Marsh. A critical habitat for various species, The Great Marsh helps protect the North Shore from erosion and flooding. It's also filled with shellfish, which gives the area an economic advantage. Early settlers built the North Shore economy and culture around its oceanfront location, and these roots remain today. The landscape inspires artists, farmers cultivate the rich soil, museums tell the story of the North Shore, and small businesses support the artists and farmers selling their products.

After we know you and your goals better, we can get to the good part: designing a home that allows you to have fun in and out of the water! Living on the coast equates to living outdoors. Our designs seek to enhance the relationship between inside and outside at every opportunity. Orienting the living quarters toward the water and specifying folding glass patio doors helps to blur the line between inside and out. Low visibility railings maximize site lines to views beyond. Outdoor features such as hardscape patios and manicured paths to the water will further enhance your time outside.

Your home's aesthetic invites another opportunity to reflect its local surroundings. Color palettes, material choices, and the building's massing are all opportunities for us to design the home of your dreams. Red Barn carefully studies and selects materials that will withstand the corrosive seaside environment while ensuring the home will blend in with its surroundings. When neighborhood design review boards are involved, our design suggestions will help you understand what is possible while ensuring regulatory approvals go smoothly.

ALL ABOUT THAT VIEW

Designing a waterfront home to maximize the views requires careful planning. We like to organize the majority of the living spaces toward the water. Large, expansive windows and sliding glass doors enhance the natural light and create a seamless connection between the interior and the landscape outside. Open floor plans are particularly effective in waterfront homes as they allow for uninterrupted sight lines across multiple rooms, ensuring everyone can enjoy the views from different angles and locations.



This site survey offers all the necessary details for expanding an oceanfront property with a second-story addition while maintaining the existing footprint. Fortunately, our clients' property lies outside the flood zone.

Using materials that blend with the surroundings can enhance the visual flow from the interior to the exterior. For homes on sloping sites, multi-level opportunities can provide elevated viewing platforms, ensuring that each level of the home has access to outdoor spaces with panoramic views. Landscaping can also play a crucial role in framing and enhancing views while providing privacy and environmental benefits.

DESIGNING FOR YOUR ACTIVE LIFESTYLE

Coastal living isn't just about views; it's also about activities and making sure you have proper storage for all the gear that comes along with those pastimes. As we begin to work together, we will identify your household's core values and also explore how you will use the home throughout a normal day. We'll find out if you'll be spending time perfecting your golf game or if you prefer relaxing and restorative days at the beach. Do you need a space to store your boat through the winter months? What about an ice maker and



A private balcony, featuring low-profile railings, invites the fresh salt air into this child's bedroom overlooking West Beach.



cooler storage station by the back door? We want to know if your passion for angling keeps you up late at night reading tide charts and fishing reports.

We believe there's no better feeling than stepping out your door and heading straight to the saltwater for a day of adventure or relaxation. At Red Barn, we thoughtfully design our spaces to make these moments effortless.

LEAN ON OUR EXPERTISE

Designing for the Elements

Building on the Coast requires careful considerations. The salt-rich atmosphere degrades building materials more quickly. Coastal storms including Nor'Easters and hurricanes demand careful consideration when designing a home with a structure that can withstand this unrelenting natural environment. King Tides are becoming a more common occurrence and sea levels are rising.

Coastal-grade windows and doors are essential, and it is crucial that siding and trim details are water- and wind-tight and installed by trained professionals. Red Barn's continued involvement throughout



At our West Beach project, we added a "beach house" equipped with an outdoor shower and an indoor full bath for rinsing off sand and salt before entering the formal main house. This space also features a kitchenette for beach snacks and drinks, as well as a comfortable lounge area.

What features would you like in your coastal home?

- ☐ Outdoor shower
- ☐ Kitchen upstairs for the view
- ☐ Bunk Rooms for guests
- ☐ Screened-in porch
- ☐ Water toy storage
- ☐ Mud room with laundry
- ☐ Outdoor kitchen
- ☐ Outdoor fire pit
- ☐ Walkway to beach
- ☐ Electric car charging
- ☐ Separate guest quarters
- ☐ Boat storage in the off-season
- ☐ Backup generator
- ☐ Windows with UV protection
- ☐ Smart home tech
- ☐ Hurricane shutters
- ☐ Pergolas / shade structures
- ☐ Permeable driveway



This new construction project, overlooking Good Harbor Beach is a classic Shingle Style home featuring a gabled roof with a substantial roof rake. The exterior facade is enhanced by a trim break with ornamental corbels and a flared skirt, adding elegant detail.

the construction process is vital to ensure that contractors and their subcontractors adhere strictly to the specified requirements. In challenging conditions, architectural representatives are also available to provide consultation and advice to the design and construction team.

Waterfront homes need to be designed to gracefully withstand the occasional flood. Elevating the ground floor to allow flood waters to pass through has implications for what types of rooms can be placed on the ground floor (hint: storage and garages). Utilities must also be placed higher and out of harm's way. By understanding how the coastal environment can affect your home, we can be more strategic in designing it to coexist in its natural habitat.

Building Materials and Systems

There are no stock solutions when it comes to designing a coastal home. The upside is that almost everything can also be tailored to your preferred aesthetic. Even when working with a major supplier, material selections will be customized to meet the demands of coastal properties.

Considerations in material selection include potential wind loads and the corrosiveness of the environment. Massing considerations and understanding the effects of the prevailing wind are a key



This custom barn, overlooking the Great Marsh, was designed in close coordination with environmental consultants and oversight boards to ensure it does not negatively impact the delicate surrounding wetlands. Special considerations were made for floodwater management and a new septic system, all without sacrificing design integrity.

consideration. It's also important to keep in mind where water is likely to collect and drain. Ask any local carpenter, water will always look for weak points to find a way in.

Various systems can be added to your home to help with monitoring, including moisture meters, generators, and automatic water shut-off systems. These systems are especially important for seasonal homes where you can't be onsite year-round to monitor for maintenance and damage.

Your building materials and systems will determine your home's aesthetics and resiliency over time. We can create a custom solution for your coastal home.

Regulatory Considerations

The biggest hurdle between you and your dream home isn't finding a site with the perfect view. It's understanding the myriad of regulations that affect coastal construction. This is where our team shines.

Contrary to popular belief, It's important to note that most current homes built on coastal properties do not enjoy being "grandfathered in". In many cases it's easiest to meet the requirements by tearing down an existing structure and building a new one. Red Barn can help you in the early stages of your search by advising you on what options are available with an existing home and/or on an empty lot.

In addition to coastal regulatory considerations, many neighborhoods have their own guidelines and review processes for new construction or substantial renovation, including design review boards for neighborhoods. Zoning bylaws typically have more strict regulations along the coast – especially regarding building height and views. Septic system designs along the coast must be carefully planned due to high water table and unforgiving soil types.

The regulations below help protect Massachusetts' environmental resources, lessen the risk of damage from waves, storm surges, and flooding, and protect our waterways from contamination, risks that are likely to increase with the rising rates of the relative sea levels.

Flood Zones vary depending on your property's proximity to the coast. You could be located in a high-velocity wave zone where storms may cause flood water to flow strongly towards your home or you could be located in an area where flood waters will creep up during extreme tides and coastal events. Regardless of which condition applies, new construction and substantially renovated homes must be raised out of the flood plain for protection. This also applies to mechanical equipment and other building utilities.

Coastal Dune Design Standards regulate construction on or near coastal dunes. A coastal dune, whether formed naturally by wind action and storm overwash or artificially by human activity,



For this project on Wingaersheek Beach, Red Barn designed a self-supported octagonal roof along with a cupola element that not only had to carry the significant load of building, but also withstand the ocean-facing wind loads. This project also included significant coordination with environmental and regulatory authorities.



Careful consideration of construction and landscaping in dunes and flood zones is crucial to protect sensitive ecosystems, comply with regulations, manage flood risks, ensure structural stability, and promote sustainability.

plays a critical role in storm damage prevention, flood control, and providing wildlife habitat. The Massachusetts Department of Environmental Protection enforces specific regulations for building in these sensitive areas.

The Massachusetts Wetlands Protection Act protects water-related lands from destruction or alteration. The act requires that most work proposed in Wetlands secure a permit from the local conservation commission.

The Conservation Commission Act established municipal-level conservation commissions, each with its own regulations but with a common goal of protecting natural resources.

The Massachusetts Department of Environmental Protection (MassDEP) is another state agency tasked with protecting the natural environment. If your project is on a wetland and falls under Chapter 91 regulations, then you will need to seek a permit from MassDEP.

Chapter 91 is enforced by MassDEP and regulates activities on coastal and inland waterways. Chapter 91 requires projects along the water to have a water dependent use (i.e. a marina or boat yard), and these rules can sometimes require public access be provided to the waterfront. The design and construction of docks also fall under Chapter 91.

Requirements Specific to River and Tidal Waterways address unique challenges. River and tidal waterways often overflow their banks during storms coinciding with high tide periods. Flood zone concerns arise, and many local municipalities enforce larger buffer zones from the high tide mark compared to other vegetated wetlands.

Areas of Critical Environmental Concern (ACEC) governs the marshland from the Annisquam River to the south and the Merrimack River to the north. ACEC designations highlight areas where special



Nestled within the dunes, this Wingaersheek Beach project involved meticulous site planning and coordination with the Conservation Commission. The house is strategically placed in a dip in the dunes, making it almost invisible from the beach.

management attention is needed to protect important historical, cultural, and scenic values, or fish and wildlife or other natural resources.

There are ways to design your new home to exist harmoniously within these regulations. Working with Red Barn means you don't have to stress over any of these details—that's our job!

Before designing your dream oceanfront home, it's important to consider how these regulations will impact your vision. Red Barn will help future-proof your investment by wading through the myriad of regulations and determine the best path forward for your project.

ASSEMBLING YOUR TEAM

Designing and constructing in a coastal area is a team sport. We work with civil and structural engineers to consider how our structures engage the land. Wetlands engineers confirm compliance with wetlands regulations. Red Barn leads all of these team members while ensuring your new home meets these technical requirements and your aesthetic goals. Your first step is hiring your architect. Red Barn will guide you through the selection and coordination of the other team members to best execute your project.

Your team will be equipped to handle regulations at the federal, state, and local levels on your behalf. For example, there are federal and state-level requirements for flood water management, along with town/city regulations. Separately, if your build includes a dock, Chapter 91 will be a part of the process, which our wetland engineer will handle.

Assembling the team of specialists for your project can seem overwhelming, but we look forward to earning your trust through this initial effort. Red Barn knows the engineers, wetland scientists, and lawyers with the appropriate waterfront experience across Cape Ann.



This substantial addition/renovation on Gloucester's Back Shore has demanded extensive site coordination by our construction partners. Facing the open water with limited parking and staging areas, the project benefits from our builder's expertise in managing tight sites in this neighborhood.



"Good Bones" overlooks West Beach in Beverly. This home's renovation included replacing nearly one hundred coastal-grade windows, featuring a custom 21-foot panorama in the main living area, providing ocean views just a few hundred yards away. Additionally, the kitchen was relocated to the heart of the first floor to maximize views.

Choosing Your Builder

Choosing a builder who knows how to work in these conditions and fully understands the site preparation involved is essential. The builder will understand the specialized site requirements and the sequencing necessary to execute the design. A unique network of sub-contractors qualified for this type of environment sets them apart from other builders in the market. An understanding that compliance is a requirement and not an option is a must.

Builders well versed in coastal construction keep a keen eye to the sky and understand the micro-climate we live and work in. This is critical for major building components and milestones. Getting the foundation out of the ground at the end of winter and the building watertight before hurricane and Nor'Easter season is not for the faint of heart. Clear communication and excellent project management skills are necessary for a successful build.



This home on Plum Island is crafted to meet environmental standards, including the Massachusetts Wetlands Protection Act. Elevated on piers two feet above FEMA flood levels, it is designed to withstand storms and support dune dynamics and native vegetation growth. The surrounding pea stone and sand surfaces enhance groundwater health and stormwater management.

Red Barn has worked with qualified coastal builders and can make recommendations. Every great project starts with a great team, and we're here to help you select and manage that team from beginning to end.

KEEPING RESILIENCY IN MIND

The design process involves daydreaming about how you want to use your future home. Will it be a second home or your primary residence? Do you want an outdoor fireplace and/or outdoor kitchen? What about a screened-in porch so that you can watch the water without worrying about the midgies?

But how can you go about protecting your home for decades to come? How can you design for that? This is what we mean by designing with resiliency in mind. Having designed coastal homes for nearly two decades, we have encountered ever-changing conditions and regulations that are becoming increasingly more stringent. Designing to the minimum standard is no longer acceptable. Storms are



This open-plan Cape House is perfect for informal gatherings, offering ample seating and dining space for a crowd. Its calming coastal color palette reflects the nearby beach, while wicker, white cotton, and reclaimed wood elements create a relaxing atmosphere.

stronger and tides are higher. King Tides are happening in tandem with storm surges, which used to be a rare occurrence but today is commonplace.

We believe in designing for the future, making sustainable design and system choices and making sure our coastal properties can withstand the elements. Understanding a site/project's limitations, designing beyond the minimum required, and incorporating resiliency into every aspect of the design will protect your investment for years to come.

YOUR PLACE BY THE SEA

Together, we can create a coastal home that will perform correctly and more importantly, align with what matters most to you. The results will be a highly personalized home that will be a setting for loved ones to gather, connect and recharge for generations to come. And that's what it's really all about.

RED BARN'S COMMUNITY PICKS

Shopping

- We Dream in Colour, Essex
- Labor in Vain, Ipswich
- goodlinens studio, Gloucester
- The Estuary, Essex
- WKND, Beverly
- Rusty + Ingrid Screen Prints, Rockport

Eating

- Short + Main, Gloucester
- CK Pearl, Essex
- The Rudder, Gloucester
- Mayflour Bakery + Cafe, Essex
- Talise, Annisquam
- Source Bakery, Gloucester
- Feather + Wedge, Rockport

Cultural

- Cape Ann Museum, Gloucester
- Castle Hill, Ipswich
- Rockport Arts Association, Rockport
- Shalin Lui Performing Arts Center, Rockport

Recreation

- Tidal Pools: Wingaersheek Beach, Gloucester
- Off-season dog walks, horseback riding and dune hikes: Crane Beach, Ipswich
- Great Marsh Adventures: Cape Ann SUP, Essex
- Scenic landscapes, trails, and green spaces: Essex County Greenbelt

