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## Planning Quonset Point: A Strategy-Based Development Strategy

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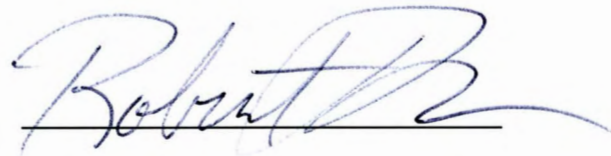
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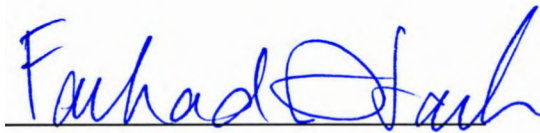


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Quonset Point could be a great place. Bayside location, interesting history, and easy access to the emerging hub of creativity in Providence all contribute to making this area a tremendous opportunity for economic development in the state utilizing a strategy that takes advantage of the sense of place and quality of life that Rhode Island offers. This place-based strategy requires a new way of thinking about the development of Quonset Point that puts greater importance on future consequences for the environment and the economy than on short-term expediency.

The Rhode Island Economic Policy Council released a report, *A Rhode Island Economic Strategy: 10 Ways to Succeed Without Losing Our Soul*, which outlines a series of goals for improving the quality of life and economy of the state. At the center of this strategy is the idea that Rhode Island's unique sense of place and quality of life could be major assets driving economic growth in the new economy. The goals described in this report address issues of revitalizing Rhode Island's cities, enhancing the state's natural environment, especially that of Narraganset Bay, expanding the high tech sector while retaining a strong middle class based in manufacturing, and protecting the unique character of Rhode Island that makes it a distinct and special place. In a variety of ways, an innovative development plan for Quonset Point could meet all of these goals.

The economist Richard Florida has identified an authentic sense of place as one of the important assets for success in the modern economy. Florida asserts that creativity is essentially the primary input of the modern economy and that businesses will attempt to locate in places that foster and attract creative people. Through interviews, surveys, and

other research, Florida has compiled a list of factors that make a place attractive to creative people. “What they look for in communities are abundant high-quality amenities and experiences, an openness to diversity of all kinds, and above all else the opportunity to validate their identities as creative people” (Florida, 2002, p. 218). One of the most important assets that he identifies is authenticity and uniqueness, a sense of place that is apparent in the architecture, landscape, and other local cultural attributes of a place. Creativity thrives in places that are not the same as everywhere else and offer a multitude of opportunities for different experiences and new ideas. When Florida spoke in Providence, a young professional in the audience said, “My friends and I came to Providence because it already had the authenticity that we like – its established neighborhoods, historic architecture, and ethnic mix” (Florida, 2002, p. 232). Creative people want these amenities both where they live and where they work, so the development of Quonset Point must reflect its own unique sense of place.

In many ways, Rhode Island’s economic development strategy already incorporates sense of place into its methodology for attracting businesses to the state. In all of the state’s economic development literature, from web pages to strategic plans, there are images and descriptions of the historic villages, urban areas, and landscapes of the state that are included to show the state’s sense of place and quality of life. None of these images include modern strip malls, formulaic architecture, or “big box” retail centers. No effort is made to bring that unique sense of place, or even a sense of livability, to the office or industrial parks currently being developed such that they could become places where people want to visit or even live. These places should be developed

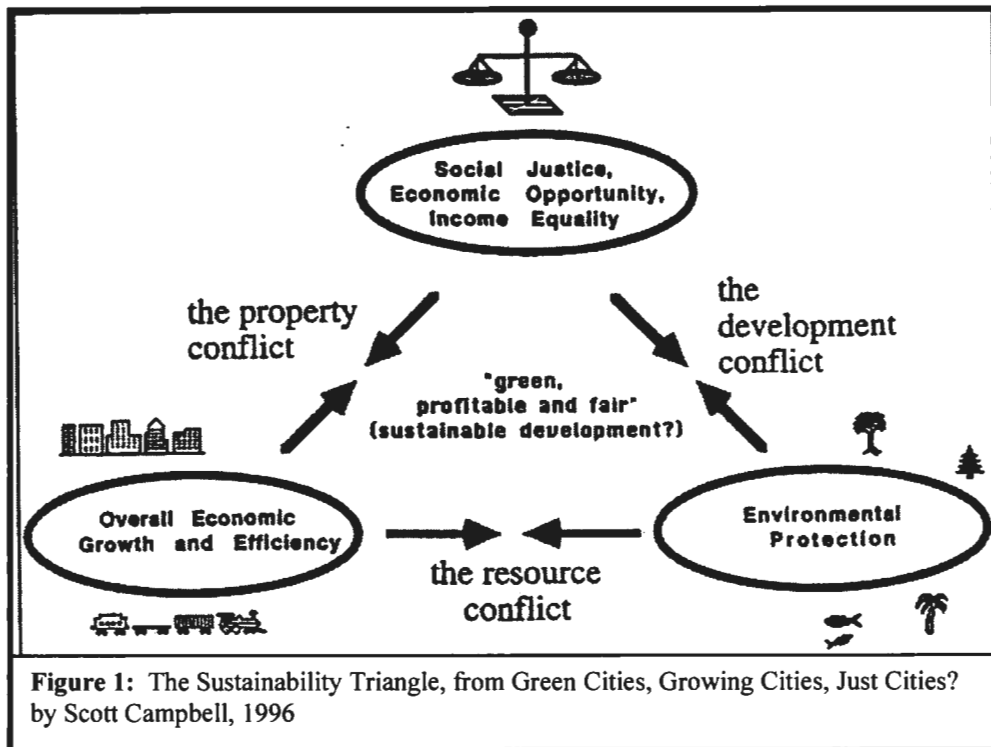


such that they carry the same values in terms of sense of place as the state's historic resources. Businesses should be attracted to a location by images and descriptions of the actual place where they will locate, and not simply by those of the nearest historic village. At Quonset Point more attention seems to be given to the short-term goals of selling land and creating jobs than to building its future potential through reinforcing the area's sense of place. If the selling of land can be compared to the selling of raw materials, than place making is comparable to producing value added products.

By concentrating on the here and now of occupying the land, too little thought has been given to the future of this area. Many different questions need to be seriously answered. How are the various uses and industries being proposed for the Quonset Point Port and Commerce Park going to contribute to growing the Rhode Island economy? What will be their effect on the environment? What will the social impacts be on the local community and the state? How attractive to new businesses will the park be 50 or 100 years from now? Ultimately, all of these questions can be summed up into how will the development of Quonset Point contribute to the quality of life in Rhode Island?

Sustainability is a development paradigm that considers the consequences of development, addressing questions such as those listed above. Sustainability is commonly described as having the goal of meeting the needs of the present, without compromising the ability of future generations to meet their needs. How that goal is reached depends on the economic, environmental, and social characteristics of a specific location, making sustainability inherently a place-based strategy. Scott Campbell has

described sustainability as essentially three basic conflicts between three divergent priorities; the environment, the economy, and social justice. The conflicts include the resource conflict between environmental protection and economic growth, the property conflict between businesses and the labor class, and the development conflict between the working class and the environmentalist (see figure 1). To get to sustainability, each of these conflicts must be recognized and reconciled (Campbell, 1996). Sense of place can be included in the environmental corner of the triangle, in the sense that the natural environment is a significant part of sense of place and that sense of place, like the environment, is often something that is sacrificed in pursuit of economic development and job growth. At issue is the question of whether or not future generations will have the opportunity to experience and benefit from the unique sense of place of a location.





Rhode Island is plagued by such a growing placelessness that it is questionable whether future residents will have the opportunity to experience and know the place. The immense size and importance of Quonset Point make it imperative that a place-based, sustainable development paradigm be used there in order to set the tone for future development in the state.

The following paper will present a strategy for planning the place-based and sustainable development of the Quonset Point/Davisville Port and Commerce Park. The first chapter will attempt to define what sense of place means to both the long-time resident and to the creative workers the state hopes to attract. The second chapter will look at three inter-related means of establishing or enhancing sense of place; public participation visioning, preservation, and design. The third chapter is a review of the environmental history of the area that demonstrates how the environment has shaped past development and provides the background information needed for place-based planning. The final chapter is a collection of specific recommendations for the planning process and design of the park

## **Chapter 1: Defining Sense of Place**

Defining sense of place for the purpose of planning for a particular location can be difficult. Essentially, one is asking the question, What makes or could make this place unique or how is this place defined? There are three inter-related factors that together produce a sense of place, the natural environment, culture, and relationship to the place. The first two of these factors interact to produce the physical place. The last is the individual's interaction with the place, embodied in their personal knowledge of, and stories associated with, a place. One's individual relationship to place, however, is influenced and in part formed by the cultural understanding of place that is shared to various degrees by members of the community. For the purpose of this report, and the goal of planning for sense of place, the relationship factor will be broadly broken down into long-term residents of a place and newcomers/visitors such as the creative workers of the new economy that the state is trying to attract.

The natural environment and culture of a location are primarily responsible for producing the built environment of a place. Nature is an important part of an area's sense of place, as it should provide the essential foundation for cultural and economic decisions regarding land use and human activity. Culture, derived from the history, beliefs, and environment of a group of people, plays a role in how people respond to the environment. Different cultural groups interact with the land in different ways, though they are all somehow reacting to the landscape and being shaped by the opportunities and constraints it presents. The result of the culture and nature interaction can be seen in the way buildings are built, both in their design and location and in the technologies they develop

(Ryden, 1993). As cultures evolve, and their technologies change, how that culture interacts with the natural environment changes and a new, though related, built environments are developed. In modern times, a reliance on new technologies and fossil fuels has loosened the link between people and their environment. The physical appearance of the place, its environment, and its culture form the basis for individual perceptions of place.

A significant part of a sense of place comes from an individual's relationship to a place. Folklorist Kent Ryden sums up this aspect of sense of place saying, "Sense of place is the totality of perceptions and knowledge of a place gained by residents through their long experience in it, and intensified by their feelings for it" (Ryden, 1993, p. 67). It is not just the long-term residents of a place, though, who experience and appreciate sense of place. Visitors or new residents of a location also develop perceptions of place through their immediate, most often visual, experience of it. A rough sense of place can even come from information learned about a place through popular culture (Ryden, 1993). Individual perceptions are shaped by cultural models and cultural models are the partial aggregation of individual perceptions. When the goal of place-based planning is to attract members of Florida's creative class, by their nature of the visitor or newcomer group, the sense of place of a location needs to be visually apparent.

For Florida's creative class, it is important that the perceived sense of place of an area be authentic (Florida, 2002). The roots of authenticity can be found in the personal connections to place that Ryden describes. While the newcomer or visitor of a place

cannot gain such connections, what they are seeking is the ability to see, or get a sense, that those connections exist. The more clearly a sense of place is manifested in the built and natural environment, the more easily it can be grasped and evaluated by the newcomer. Essentially, they are looking for the opportunity to get a feel for what it is like to be from a given place, to be a part of that local culture or cultural mix. This aspect of sense of place is found in a visual environment that is connected to place, through the nature and culture interaction described above, and in stories about a place made visible in public art and history. Urban historian Dolores Hayden characterized the power of place as the ability “to nurture citizens’ public memory, to encompass shared time in the form of shared territory” (Hayden, 1995, p. 9). Establishing, or reinforcing an authentic sense of place requires that this history become a part of the community, through education and retention of the physical environment on which the stories of the place are shaped (Hayden, 1995). Newcomers and visitors are able to get a sense of the personal connections to a given place through this history, these stories of place.

In modern times, in many different places, the visual reminders of these stories and of sense of place in general, are being erased. There are two main causes for the disappearance of sense of place, the first being that in most places little to no effort is being made to preserve it and the other that with new technology and a lack of local land ownership or a local perspective in terms of land use, there has been a profound change in the nature / culture interaction regarding the formation of the physical environment. A variety of different processes including the media and mass marketing have created a nationalized dominant culture in the United States. In addition, technology has advanced

to the point that just about anything can be built just about anywhere. Nature is much less of a limiting factor in how and where people build. When design and development were under the control of members of the local culture, and subject to the constraints of the environment, what was built generally reflected the culture and environment of the place. Instead the interaction between this nationalized culture, with modern technology, and nature is such that nature and local culture are no longer reflected in the built environment of a locality. Local sense of place is lost, essentially replaced with a nationalized, or even globalized, version of sense of place.

On a national scale, the result of the above process can be most readily seen in the sprawling suburban communities all over the country that have lost their unique settlement patterns consisting of distinctly separated villages, towns, and rural farms. These have been replaced with miles of single-family homes on looping roads and cul-de-sacs and auto-oriented commercial strips devoid of pedestrian amenities and street-life. Unique natural features, rural viewsheds, and other local assets have been replaced by an urban pattern that is remarkably similar surrounding every major U.S. city. The rise in suburban sprawl has been accompanied by the rise of national retail and restaurant chains that, marketing to a nationalized culture, rely on formulaic architectural designs to reduce development costs and create a sense of familiarity for a highly mobile population. The result has been stores of a given brand that look and operate the same across the entire country. In suburban commercial districts, this type of store becomes dominant creating areas with no architectural sense of local identity and shopping districts that could essentially be found anywhere in the country. The typical suburban

environment lacks authenticity, as there is no connection to its context, and, therefore, no sense that it belongs.

Quonset Point and its surrounding area can be used to illustrate the loss of localized sense of place described above. When the Navy arrived at Quonset the previous sense of place was almost entirely eliminated. What replaced it, while not exactly reflective of the local sense of place, was still in itself unique and has become part of the definition of Quonset Point as a place. In the redevelopment of Quonset Point there is once again an effort being made to completely erase the existing sense of place. What is left of the Navy's presence at Quonset is being isolated into a museum, instead of



being incorporated into the fabric of the place as it is redeveloped. The new development that is occurring is reflective of the national, rather than the local, culture, making it virtually the same as developments existing anywhere else in the country. The same trend has occurred on Route One in the vicinity of Quonset where throughout the middle

part of the last century, strip commercial development characterizing “anywhere America” was built along the road. The immediate, visual sense of place sought by Florida’s creative class, and the personal connections to place remembered by long time area residents, have been lost.

Sense of place is a difficult concept to define, incorporating the perspective of the person experiencing it as well as its physical reality. The goal is to go beyond the character of a place, which is often displayed at tourist destinations, to discover the authentic, personal sense of place as experienced by its residents that makes a location truly unique. It is this sense of place that many people are looking for, and even Quonset Point could be made to have it once again. The methods for renewing a localized sense of place require both actively preserving the existing attributes of place and recreating some means of broad local input into the design and development process.



## **Chapter 2: Planning For Sense of Place**

Sense of place is the product of people living in place over time. Culture and the environment interact to produce distinct development patterns, building styles, and ways of life. In modern times, national and global forces have increasingly taken the place of local decision making with the result of an increasing sameness across the country. Promoting sense of place now requires actively seeking local input in decisions concerning the appearance and function of a place and working to identify components of it that should be preserved or incorporated into new construction. Local decision-making is part of what created the existing sense of place and a method for bringing it back is necessary to retain sense of place. At the same time, the existing environment that contributes to the sense of place must be preserved and incorporated into new development.

### **Public Participation Visioning**

When the developers of a new structure were members of the local community, seeking the patronage and respect of that community, buildings were created that would appeal to, and be a part of, the local culture. Social pressure and a localized market contributed to this trend. The modern, global economy, has largely eliminated that local social norms and pressure requiring that planning now take on the role of providing a local perspective so as to maintain sense of place. Public participation visioning offers the opportunity to re-introduce local input into the development process, filling an important role that has disappeared contributing to the placelessness of the modern environment.

Visioning is a consensus building exercise in which the questions of what do we have now, what do we want to have in the future, and how do we get there, are asked. The answers to these questions are developed through mediated discussions in which all stakeholder parties are involved and every idea is noted down. Once all the ideas have been collected they are compiled into an agreed upon set of goals and actions. The product is a broad-based consensus on the direction change should take. Government agencies, non-profit groups, and businesses can use these goals to make policy decisions affecting the community with the backing of this consensus (Susskind et al., 2000). The visioning process, if genuinely inclusive, forces the conflicts of sustainability described by Campbell (1996) into the open and requires some degree of resolution. For Campbell, the resolution of the conflicts of sustainability is reached through mediation exercises, of which visioning is one type (Susskind et al., 2000).

Area residents should have a strong role in visioning for sense of place. Ryden notes that residents of a particular place have an innate sense of what belongs (Ryden, 1993), so that, in making decisions about the future with the goal of maintaining sense of place, residents are perhaps most qualified. The goals that are developed through this visioning exercise become the local comprehensive plan. Land use regulations, design guidelines, and other aspects of development are then determined from these goals. These goals also become part of the criteria by which new development proposals are evaluated. Through this manner, local input is brought back into the development

process. Developers once again have a responsibility to create buildings and spaces that can contribute to the local sense of place and be a part of the community.

Public participation brings democracy and new perspectives to the planning process. The ability to communicate and have a voice in the changes brought to one's own environment is empowering for the people who have been given the opportunity to speak. Public involvement in the decision making process changes the standard top-down social/political relationship between the government and the governed from one of subservience to one of action. This type of process lends support to the creation of an active citizenry that will in turn carry over into other projects by citizens to advance and improve their communities (Forester, 1989). Public involvement also brings new ideas and viewpoints that can create opportunities that might otherwise have been missed. To discover these opportunities requires that the public visioning process be inclusive so that all who have a stake in the outcome are involved. To be inclusive requires that the process be designed to accommodate people with differing work schedules, transportation options, language skills, and other considerations (Forester, 1989). The opportunity for community involvement potentially adds to the quality of place and is one of the aspects of a place that is found highly desirable to members of Richard Florida's "Creative Class" (2002). Public participation is an expression of creativity, from which all involved can benefit.

### Preservation

Historic preservation is another essential component of the built environment for maintaining an area's sense of place that should be built into neighborhood and regional

design. To play this role though, historic preservation must be thought of as more than preserving examples of significant historic architecture and the homes of important people and must also include preserving working landscapes, vernacular architecture, and other aspects of the built environment that contribute to the entire story of a place, including that of minorities and women (Hayden, 1995). These stories bring authenticity to a place, an understanding of what has come before that makes a place more real in the mind of the resident and visitor. Public art and memorials can also contribute to the story of a place by adding information on events and culture that cannot possibly be conveyed by preservation alone (Hayden, 1995).



Historic Allen-Madison House.  
Photo by Author

Deciding what aspects of a place to preserve is another good example of where public participation can, and should, play a prominent role. Hayden (1995) and others have expounded the potential for public mapping exercises to identify important locations

so that planners can knowledgably seek to preserve them amidst change (Underwood, 2003). In planning to enhance a sense of place, identification of these important features of a place should be a priority, whether they are physical or represented in a particular means of social interaction that should be recognized and preserved. A study of an area's history may inform the planner that a particular house or house type is significant for as an example of local architecture or because of an important past resident, but no research of this type will reveal that a particular small pedestrian bridge over a stream has been fished from for decades or that a particular tree in the park holds fond memories for every person who has grown up in a given neighborhood. These types of features are essential parts of the personal sense of place for a given location, but are easily lost when the stream is put underground and the park converted to athletic fields. Other aspects of place that could be mapped include environmental information, such as the best places for shellfishing, or social information, such as where a local neighborhood parade route may run. Mapping is a very powerful way to learn how individuals and groups interact with, and understand, their landscape, thereby gaining access to an important component of sense of place (Hayden, 1995).

### Design

The built environment is an essential part of sense of place such that architecture and neighborhood design cannot be separated from the place, its natural and cultural environment, that they occupy. The architect Moshe Safdie described his work as channeling nature, culture, and building material, not to produce abstract art, but to create truth. He wants his buildings to be "as if they had always been there" (MacFarquhar,

2003, p. 43) as well as being part of the life of the street, an integral part of the place in which they are located. He describes vernacular architecture as a result of necessity in the face of environmental conditions that results in a satisfying degree of sameness between buildings (MacFarquhar, 2003). That sameness can be equated to the sense of place invoked by local architecture.

The sameness in building style produced in vernacular architecture is not the same as the sameness of a suburban subdivision; it is the result of shared environmental conditions and culture. Ryden describes architecture as the response of the builder to the environment, shaped by their culture (Ryden, 1993, p. 76). Therefore, to understand sense of place as expressed in the built environment requires a thorough study of the environmental and cultural history of an area. The environmental conditions, beliefs, and ideas that produced that areas architecture can be exposed, and then used as a form of design guidelines for future development (McHarg, 1992). Rather than dictating the exact materials and design that should be used, there is instead the general guideline that a new project should fit in, by responding to local environmental and cultural conditions just as the older existing buildings did when they were designed. This type of design standard allows materials, technology, and even appearance to change, as they should in authentic places, while maintaining the sense of place that created the built environment to begin with. Charleston, South Carolina employs a design standard that bears some resemblance to this idea, though its purpose is more to protect the integrity of the city's historic district. The standard simply states that new construction must reflect the "continued construction of buildings in the historic styles and a general harmony as to

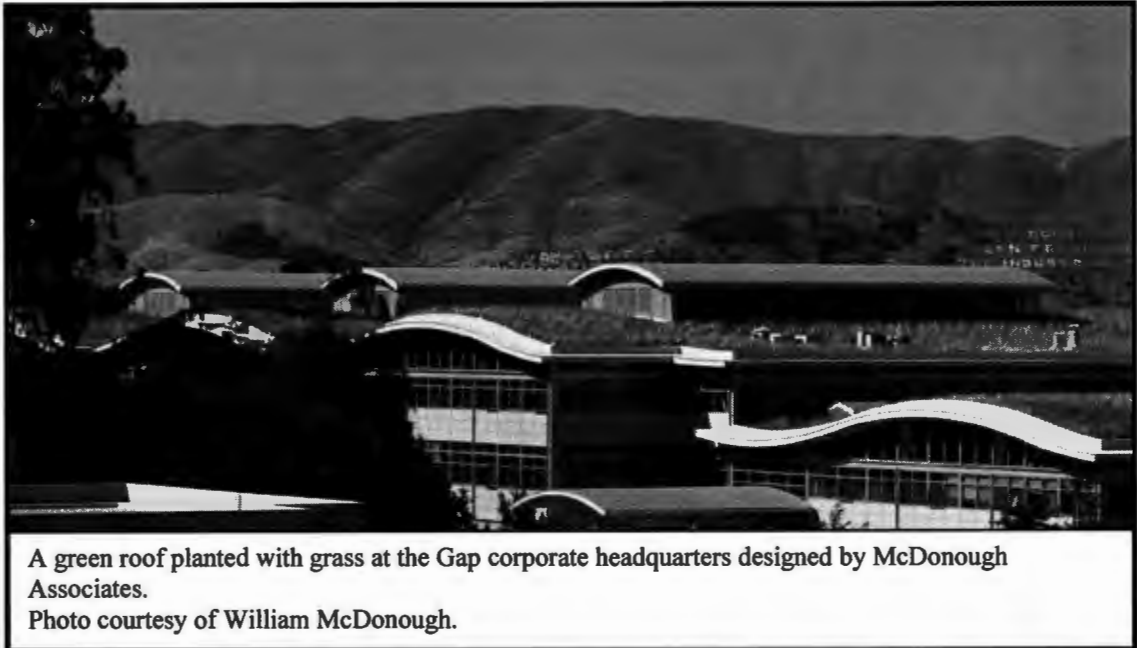
style, form, color, proportion, texture, and material between buildings of historic design and those of more modern design” (Bunnell, 2002, p. 268). The Charleston design standard has successfully maintained a continuity of character within the historic district while at the same time having the flexibility to allow for modern design and material considerations (Bunnell, 2002).

Neighborhood and regional design should follow many of the same principles, with regulations governing zoning and subdivision tailored towards reinforcing sense of place and flexibility in design. In the design of new neighborhoods, aspects of the built environment that reinforce community interaction and attachments, which foster the establishment of a sense of place, should be actively planned for. These include a human scaled environment with a mix of people and activities in a close proximity, a variety of locations for interaction, both planned and random, between neighbors and finally, an identifiable center around which the rest of the community is built (Calthorpe and Fulton, 2001). Sense of place is generally most apparent to residents and visitors alike at some identifiable center of the community or region, be it a neighborhood park or a central city. As one moves outward from that point it fades, eventually blending into the next place (Ryden, 1993).

If the work of past builders was a reflection of the natural environment, than ecological building design is the future manifestation of that idea, with the buildings themselves designed to operate as a part of their natural environment. New buildings should combine cultural place designs with ecological designs in order to reflect both the



sense of the place and to contribute to the overall sustainability of the community. Ecological design includes such features as green roofs composed of grass and gardens,



natural interior lighting and air circulation, wastewater treatment systems employing man-made wetlands, and a variety of other possible features, the combination dependent on the buildings use and location (Beatley, 2000). The advantages of ecological design are numerous including the obvious benefits to human health with the absence of pollution and the reduction of environmental damages caused by stormwater runoff. Other significant benefits though include a tremendous reduction in operating costs brought about by the reduction in electricity and water use, the disappearance of environmental regulatory fees, and the increased worker productivity that has been found to accompany healthy and comfortable working conditions (Beatley and Manning, 1997).

As described here, the design of new buildings is essentially an aspect of preservation in which the manner by which buildings were designed in the past, inspired

by the local culture and environment, is preserved. Public participation is an important part of this design process, and, as described in the first part of this chapter, should be seen as a way to incorporate local culture into new design. In addition though, developers should be encouraged to put plans and representations of their projects on public display for review and input. The design of new buildings holds a lot of promise for reversing the placelessness trend in Rhode Island.

### **Chapter 3: History of Quonset Point**

The development of a sustainable, place-based strategy for the redevelopment of the former Quonset Point and Davisville Naval Base requires a strong understanding of the environmental and cultural processes that have shaped the land and land use. The land and its environs are not a blank slate on which to draw Rhode Island's economic aspirations but are instead made up of many different features that together could form the area's sense of place and influence what can or should be done there. These details of place can be a source of inspiration now as a plan for Quonset Point is created and in the future, when the creativity of the people working there is one of the major assets of the Rhode Island economy.

The processes that created the landscape known today as Quonset Point/Davisville can be seen as a partnership, often unrealized, between people and the natural environment. The natural environment provides specific opportunities for some land uses while limiting the possibility of others at a given location. As land use decisions are made and the environment altered, future use options are limited or expanded. At Quonset Point, the combination of environmental factors and human decisions created a place that has always been of significance to the people living in its vicinity as they have utilized its varied environmental features and, in doing so, changed them drastically. With the explicit understanding of the human-environment partnership, planning for the future of Quonset Point can be oriented towards maintaining or even restoring the options for use that the environment provides, ending the pattern of

successive reductions in environmental opportunities brought about by major alterations to the site's ecology and pollution.

### Building the Land

The ancient geologic activities that formed Quonset Point created the basis for all human activities that would later occur there. Everything from the extent and nature of human habitation to the types of agricultural practices that would most thrive, were determined by these early processes. This great time period encompasses millions of years, dwarfing the brief time that humans have occupied and altered its landscape, yet its influences have been largely ignored. As each group of people have arrived in the Quonset Point area and utilized these ancient resources in different manners and for different purposes, they have altered future options, in many cases eliminating options that may have once inherently existed.

Quonset Point's form and topography first began to take shape about three hundred million years ago in an environment far different from today's Southern New England. The region at that time was dominated by high mountain ranges, and it is the roots of these mountains that form the bedrock geology of western Rhode Island today. The eroding forces of rivers and streams stripped these mountains down and deposited a mixture of large and small sediments several thousand feet thick into the lowland area that would become the Narragansett Bay. This material was then compressed under its own great weight into the sedimentary Pennsylvanian Bedrock that underlies Quonset Point and the bay (Quinn, 1973). The topography of this bedrock formed the outline of

the Narragansett Bay, the positioning of the islands, and, in its creation of hills and valleys, the placement of later human settlements and infrastructure.

This bedrock set the stage for the next great landscape-altering event, the glacial advances. Southern New England experienced three glacial advances, with the most recent, and most influential to current landforms, covering the Narragansett Bay area roughly 26,000 years ago (Lewis, 1995). The great ice sheet arrived from the north, moving under the pressure of its own incredible weight, and covering over what was a landscape well drained by an ordered system of streams and rivers. The ice was as much as three or four thousand feet thick, making it taller than the Sears Tower in Chicago, which stands at 1,453 feet. As the flow of ice pushed south to the sea it scraped up and carried vast amounts of sediment and rock, thereby deepening river valleys, such as the Narragansett Bay, and scraping the bedrock. Around 15,000 years ago warming temperatures caused the glaciers to recede, releasing great amounts of debris and water (Quinn, 1973). The Quonset Point topography probably took its pre-1940 form during this time as this debris and water was redistributed across the land.

The land left behind by the glaciers, including what is now occupied by the Narragansett Bay, was marked by a multitude of ridges, hills, rivers, streams, and wetlands whose form or course had been altered by the glaciers themselves and sediments left behind (Quinn, 1973). The glacier retreated in a northeasterly direction across this part of Rhode Island, leaving a series of end moraines, places where the glacier paused in its retreat and deposited large amounts of debris, forming a ridge on the landscape, including one directly south of Fry's Cove and one over a mile long west of

Allen Harbor. In addition, north-south running ridges in the underlying bedrock west of route one and north of Shore Acres collected sediments directly from the glacier as it scraped over them and later melted. These rounded and rocky ridges are referred to as ground moraines. Surrounding these ridges at Quonset Point are lower areas of hills, plains and valleys called water-laid ice-contact deposits where sediments were deposited by meltwater in streams and lakes that formed directly adjacent to the melting glacier (Schafer, 1961). These ridges would later be very influential in the placement of human infrastructure, determining the course of route one, the rail lines into Quonset, and the placement of later Navy base infrastructure.

The glacier was very influential in determining the course of waterways in the vicinity of Quonset Point, thereby influencing the amount of development at the site during the colonial and early industrial time periods. The three waterways of primary importance near Quonset are the Hunt River, Mill Creek/Pine River, and Sand Hill Brook. Originating on the ground moraine west of route one, Mill Creek is the only one of these waterways to actually enter what is now the industrial park and it quickly turns south to run downhill into Wickford Harbor. Small tributaries of Mill Creek run west, away from the point itself, and off of the higher ground moraine ridges found there and an area where in the past there may have been large, wind sculpted sand dunes that formed after the retreat of the glacier and before vegetation was established (Schafer, 1961). The Hunt River and Sandhill Brook waterways are of interest in regards to the history of the Quonset Point area for the fact that they do not follow a direct course to the bay, and therefore into Quonset, but instead are diverted into northern running passages

parallel to the coast until they join and escape to the bay at Potowomut Point further up the coast. These waterways may have formed while the remainder of the glacier was still on the land south and west of Quonset as meltwater ran downhill through a passage in the ice. The present day courses of both these waterways are marked by eskers (Schafer, 1961), which are small ridges of land formed by sediment build up along water passages in the ice (Skinner, 2000). After the ice fully melted, the streams maintained their ice formed courses, constrained to an extent by the esker ridges.

The sediments left by the glacier at Quonset consisted largely of sand, so soils there today are very sandy (Rector, 1981). The sandiness of these soils contributes to its high rate of permeability, which leads to dryness (Marsh, 1998). Soils at Quonset are unique in Rhode Island, making up the Quonset series, which is marked by sandy, excessively drained soils with no more than a 15 degree slope that require irrigation and fertilization to be viable for agricultural uses (Rector, 1981). The sand in the soils causes steep slopes to readily collapse. If compacted though, these soils are well suited for development as they have a very good capacity to bear weight, such as buildings or other structures (Marsh, 1998). Many areas in the vicinity of Quonset, especially on and around the ground and end moraines, are marked by an abundance of glacier deposited rocks and boulders (Rector, 1981) which in colonial times would be shipped all over Narragansett Bay to be used as building material.

With the massive weight of the ice removed, the land began to rise. At the same time, meltwater from the glaciers was raising sea levels (Lewis, 1995). Eventually the



land stabilized and the sea level rose to the point where it flooded inland through glacier-created river valleys creating the Narragansett Bay, beginning roughly 9,000 years ago and reaching its present form around 2,000 years ago (Pilson, 1991). The sea level of the bay continues to rise 18 to 26 centimeters every hundred years (Pilson, 1991).

After the landscape altering of the glaciers had created the basic form of the Narragansett Bay, the eroding forces of wind and water set to sculpting it into its appearance visible today. At Quonset, the most apparent result of this process is the point itself, a cusped foreland created as waves from the northeast and south were deflected by an existing irregularity of the shoreline and offshore bottom causing sand to be deposited as twin curving spits of land projecting from the shore. Eventually the two curves connected and sediments filled in behind them creating a point with wide sandy beaches along the north and south sides. Quonset Point represents the largest of this type of formation on the bay, with much smaller examples available just down the coast at Plum and Casey Points (Schafer, 1961). Quonset Point's size can be attributed to the long stretches of uninterrupted water leading to the point from the ocean to the south and from between Warwick Point and Patience Island to the northeast that allow the wind to build up the strength of the waves and current.

On either side of Quonset Point are Allen and Wickford Harbors. Allen Harbor was formerly marked by Calf Pasture Point, which protruded from the north across most of the harbor entrance. Calf Pasture Point was a sand spit, formed by longshore currents that carried sand southward. As the current moved down the coast it encountered the

deeper water at the harbor entrance, lost velocity, and dropped sand, eventually forming the sand spit. The same longshore currents and process created Sauga and Poplar Points at the entrance to Wickford Harbor. These spits of land made the harbors safe, protecting them from the high winds and waves associated with storms. Both harbors experienced some level of sedimentation, which partially filled their inland areas creating coastal marshland habitats featuring the short marsh grasses native to the region. The presence of these harbors and marshes would be significant factors in making this area attractive for human habitation.



Allen Harbor. Photo by Author.

### Native American Influences

Gradually the tundra like landscape that was left by the glaciers was replaced by forests dominated by spruce and white pine, and then, around 7,000 years ago, as the climate continued to warm, by oaks and other hardwoods. The first humans entered

southern New England approximately 10,000 years ago. These first residents were hunter-gatherers and initially had little impact on the environment. Around 500 B.C., though, a culture emerged in the area that employed land management techniques to support agricultural activities, hunting, and a semi-nomadic lifestyle that would shape the natural environment up until the arrival of European Colonists (Cronon, 1983). The Quonset Point area was under the control of the Narragansett Indian tribe and, due to its natural features, was actively used and managed by the tribe (Weiss, 1979).

Like other tribes of southern New England, the Narragansett tribe consisted of villages that varied in size and location throughout the year largely based on the availability of food. In the winter, these villages could be found gathered together in wooded valleys where there was a great deal of available firewood and where they would be protected from the worst of the winter storms. In the summer the villages would break up into smaller, highly mobile, groups that would tend fields of corn and beans, and hunt and fish the surrounding area (Cronon, 1983). The Quonset Point area was probably part of a larger summer territory that ranged along this part of the west bay shoreline and the nearby islands taking advantage of ample supplies of shellfish, waterfowl, and other coastal resources. The shellfish, most especially the quahogs, would have had special importance for the tribe for their ability to manufacture wampum from its shell. The arrival of the colonists increased its importance and value even further making access to this species essential. In addition, the men of the tribe would have taken extended hunting trips inland and fishing trips out on the bay.

The names ascribed to these lands can give some indication of how the Narragansetts used them; unfortunately, there are no clear translations of any of the various Indian names remaining in the area. Some speculation can be made as to the meaning of Quonset, also called Seconiquonset, based on other Narragansett words and the nature of the land itself. The word Quonset could have something to do with islands, as Azorquonesut is the original name of Fox Island and Aquedneset, now written as Quidneset and being the name of the area around Quonset Point, has been translated as having something to do with islands (Rider, 1904). Seconi has been translated as “a passage to the sea” (Simister, 1974) though that source cannot be verified. With its beaches and extent into the west passage, Quonset Point would have been a very good place to launch a canoe from to go to the nearby islands. The distance from the point, as opposed to the rest of the shore, to the islands is not very wide and it would have been much easier to get a canoe into the water from the beach as opposed to slogging through a saltwater marsh. For these reasons, one could speculate that the original name for Quonset Point had something to do with it being a good place from which to launch a boat to the islands, making it an important area for the Narragansett tribe in terms of their ability to utilize and defend their island territories.

Land management for the native Indians consisted primarily of controlled burns, in which leaf litter and undergrowth were cleared, and small scale agriculture, in which one to two acre fields were made available by killing the trees, and burning them when they eventually fell. Burning the undergrowth created a forest environment that was well suited to deer and other prey species as well as easier for hunting and travel. Agricultural

practices relied on mixed crop fields of corn, beans, and other food plants as well as tobacco (Cronon, 1983). These types of growing practices maximized the output of the fields thereby not giving weeds the room to grow and were essential at Quonset Point where there were dry, sandy soil conditions. The presence of bean plants, with their nitrogen fixing ability, extended the fertile life of the soil and the large number of plants on each field helped the soil retain water that would otherwise evaporate. Finally, the practice of burning over the fields and leaving plant litter in place allowed many nutrients to be returned to the soil. A given field would be used for eight to ten years until exhausted, at which point a new field would be started. In addition to the twice yearly burning, the Indians used a great deal of firewood, even in the summer, which had the effect of clearing the parts of the forest where they returned to every year (Cronon, 1983). In his writing, Roger Williams noted, “Cannonicus’s father and ancestors living in those southern parts, transferred and brought their authority and name into those northern parts all along by the sea side, as appears by the great destruction of wood all along near the sea side” (Cole, 1889, p. 9).

When Giovanni Verrazzano sailed into Narragansett Bay in 1524 he found large areas cleared of trees and park-like forests, which could be easily traversed “even by a large army” (Cronon, 1983, p. 25). One can easily assume that the Quonset Point area had such a landscape brought about by how the Narragansett Tribe used this land. The arrival of the English colonists in the 1600s significantly changed how the Indians interacted with the land, and eventually displaced them, bringing in a whole new way of using the land.

### Arrival of The Colonists

The colonization of the Quonset Point area began with two men, Roger Williams and Richard Smith, who established trading posts in 1637 and 1639, respectively, in order to trade with nearby Narragansett Indian villages (Weiss, 1979). The importance of these trading posts stems from factors in the colonial New England economy, most importantly, the value of Wampum, a bead made by grinding and drilling quahog shells and produced only by coastal Indian tribes along the Long Island Sound, including the Narragansetts (Cronon, 1983). While quahogs are found throughout the bay, they thrive in coarse sediments (Bernstein, 1993) such as those at Quonset Point. Wampum had value to Williams and Smith because of two factors, changing political relationships within and between Indian tribes created by smallpox and other diseases brought by the colonists, and the demand for furs, especially beaver, in England and Europe.

The diseases brought by the European colonists to North America decimated the Indian population, sometimes wiping out whole villages. This huge loss of life upset the balance of power within and between the tribes of New England, leaving power vacuums and forcing the remaining Indians to find ways to reinforce their own power without military force. Wampum was produced only in small quantities before colonial times, and conferred prestige and power upon its wearer. Indian Sachems (tribal leaders) across New England began to seek greater quantities of Wampum to expand, or retain their power in the face of shrinking tribal numbers. The Dutch, and then the English colonists seized on the increasing value of Wampum to facilitate their trade for animal furs, which

were becoming increasingly popular in Europe (Cronon, 1983). As producers of both Wampum and furs, the Narragansetts were very important to the English colonists. The demand for Wampum, coupled with increasing military pressure from colonists and other Indian tribes caused the Narragansetts to move to permanent, fortified villages near their source of Wampum in the 1630's (Cronon, 1983). One such village was Queen's Fort, just over five miles from the beaches of Quonset Point, at the present day Exeter – North Kingstown border (Rider, 1904). The presence of the Indian fort, and the protected deep-water harbor at Wickford, is what brought both Williams and Smith to the Quonset area.

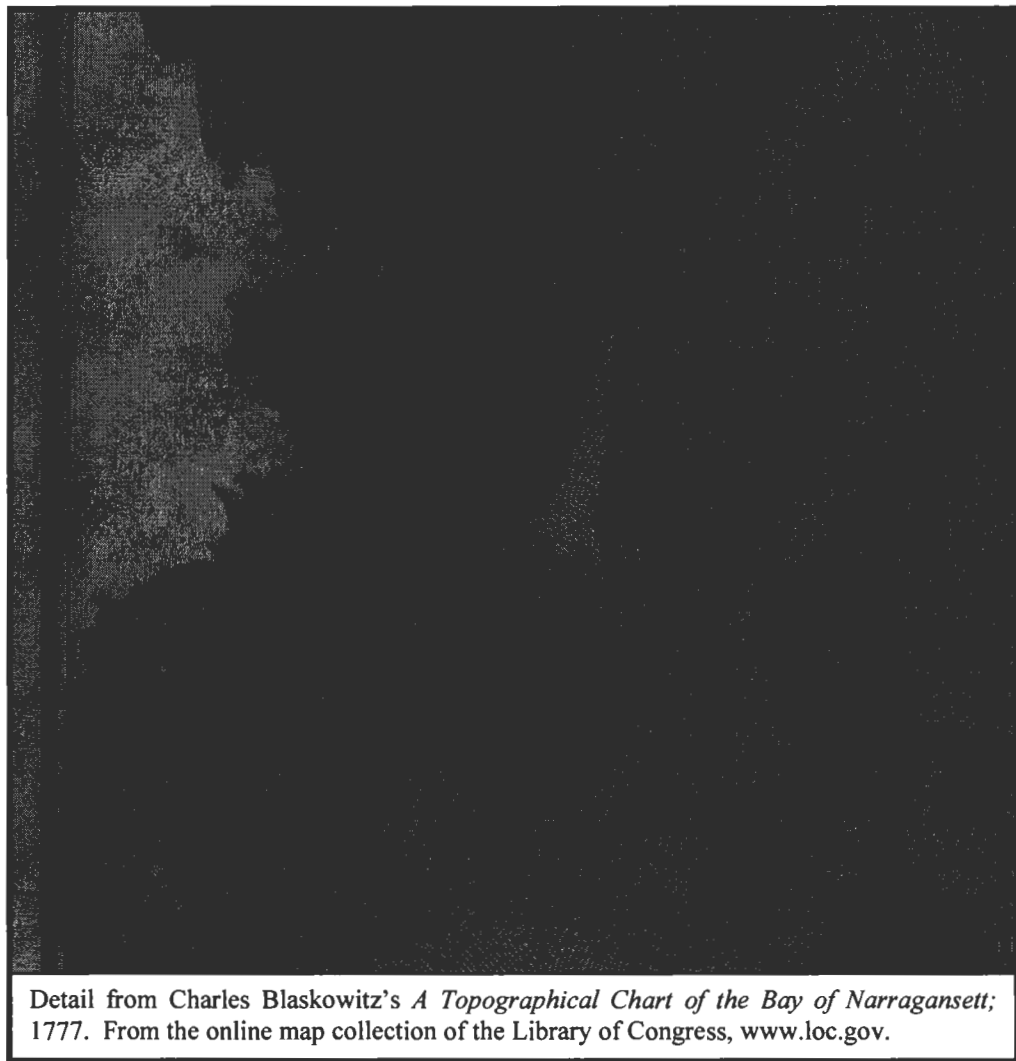
The first written record of Queen's Fort is from 1662 where it was described as a fortified Indian town, but, with the many different pressures being exerted on the Narragansett tribe, it can be assumed that the fort is much older. The Dutch had been trading along this coast since before 1616, acquiring and building a fort on Dutch Island in 1637 around the same time that Roger Williams and John Smith were establishing their trading posts (Rider, 1904). The Narragansett tribal leadership lived within the vicinity of Queen's Fort (Rider, 1904) and Cannonicus was said to have lived just across a plain opposite the trading house of Roger Williams (Cole, 1889). While it cannot be ascertained whether the Narragansett Sachems lived in this area before the arrival of the colonists, the importance of the area for trade and wampum manufacturing would seem to be ample reason to live there at this time. One could also assume that, with the presence of so many tribal leaders, the demand on resources may have been much greater than around other Indian villages because of the need to feed their guards, which Williams



describes as numbering between 150 to 200 for Cannonicus alone (Rider, 1904), and also for the ceremonies that may have been performed around them.

By the 1660s beavers were largely gone from Narragansett lands and Wampum had lost value for trade and been replaced by silver currency from the West Indies. Concentration on producing Wampum, coupled with the availability and prestige associated with European goods, had resulted in the devaluing of traditional weapons and tools such that few still had the ability to make them. As all furs had been traded to the English, the Indians were using European clothes and material as well. Lastly, the concentration of all agriculture, hunting, and wood gathering activities in one area had severely decimated the natural resources around the Narragansett villages. The end result of all these conditions is the relative poverty of the Indians, resulting in increasing land sales to the colonists and King Phillip's War in 1675 (Cronon, 1983), during which the Great Swamp fight results in the death of roughly 20 percent of the tribe (Sultzman, 2002). With the Narragansett tribe in such serious decline, and land becoming increasingly available, a series of large plantations began to appear along the West Bay, including in the Quonset Point area (Weiss, 1979). Here the colonists were able to take advantage of the plains of open land the Indians had created along the coast through their use of the land, and use them for crops and cattle.

The Quonset Point area, then considered a part of Quidnesset, was attractive to the colonists for many of the same reasons it was to the Narragansetts, including access to Bay resources and remaining woodlands. A very important aspect of the Quonset area was the extensive coastal marshes, which provided grazing for the colonist's cattle. The names Calf Pasture Point at Allen's Harbor and Calf's Neck at Wickford Harbor remain from this time period. These earlier colonists probably raised Indian Corn and livestock.



Detail from Charles Blaskowitz's *A Topographical Chart of the Bay of Narragansett*; 1777. From the online map collection of the Library of Congress, [www.loc.gov](http://www.loc.gov).

European farming methods, which involved only a single crop per field and plowing, led to high levels of water evaporation and faster soil exhaustion (Cronon,

1983), a condition exacerbated by the dry soils found at Quonset. Erosion would not have been as much of a problem as it could have been because the permeability of the soil allowed a high rate of infiltration, reducing the amount of water available to overland flow. The livestock, mostly pigs and cattle, were allowed to run almost wild, and therefore, their manure was not available to fertilize the fields. Fertilization was accomplished using fish and seaweed, thus making the coastal farms more attractive than ones further inland. The grazing activity of the cattle had the effect of further drying and eroding the soil as they removed all foliage down to the roots and tore up the ground with their hooves.

By the 1660s there were 25 families living in Quidnesset, with both a gristmill and sawmill established to process the corn and timber being produced there (Cronon, 1983). A tide mill at Mill Creek on what is now Camp Avenue utilized the regular stream flow as well as the increased flow of the outgoing tide for grinding corn and operated all the way through to 1925 (Simister, 1974).

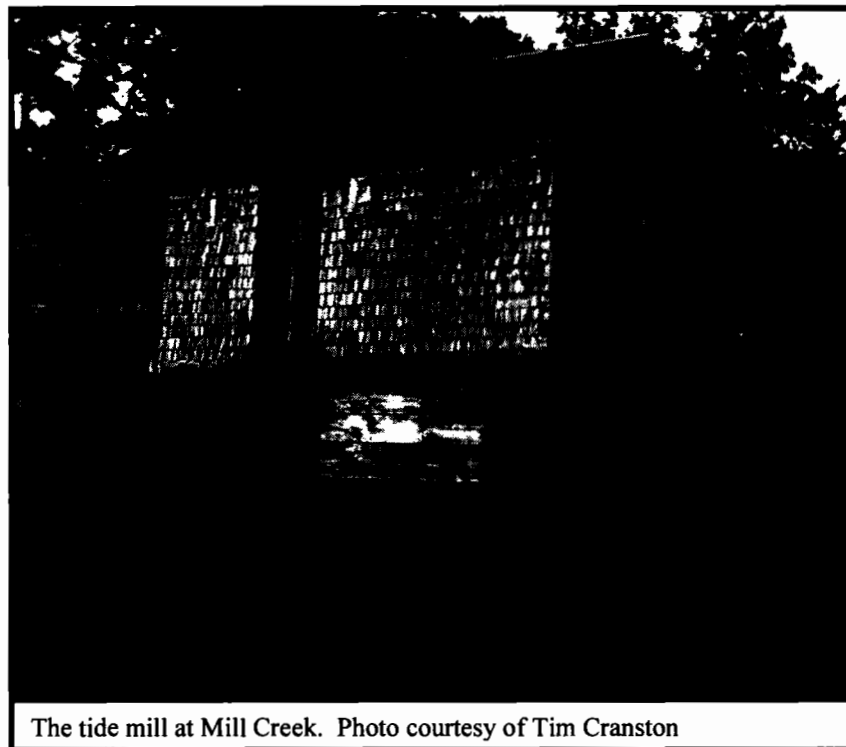
The Cocumscussoc plantation, located on Wickford Harbor, and encompassing land in the Quonset Point area, was owned by Smith and his descendents (Cole, 1889). The plantation was a good example of the plantations of that time and it was at its most successful from around 1700 through the 1760s. A great variety of products were produced there, including wool, butter, strawberries, and other small crops, but the plantation's most famous product at the time was cheddar cheese, which was even shipped to the West Indies. Like Smith at Cocumscussoc, wealthy traders and ship

owners owned most of the plantations along the bay coast. The size of the plantations required that they rely on slave labor in order to handle the vast amount of work needed to clear fields, care for the animals and crops, and to fertilize the dry soils. The plantations consisted of dairy and beef cattle, with extensive fields of corn and hay for animal fodder (Weiss, 1979). In the end though, the intense use of the land in the European agricultural method was more than the soils and environment could handle. These environmental factors led to the disappearance of the plantations and the farm economy around the time of the Revolutionary War, and with them, the gradual end of slavery in Rhode Island.

Trade was a very important part of colonial life and each of the two harbors adjacent to Quonset Point played a role in it. At Allen's Harbor, John Allen was shipping stones to other Narragansett Bay ports to be used as building material. These stones had been brought to the Quonset Point area by the glaciers and dropped in deposits of glacial till. Wickford Harbor played a more important role, being deeper and better able to handle the boat traffic. The harbor itself is also well protected from storms with natural barriers created by Sauga and Poplar Points. Originally ships came right up to the Cocumcussoc house but in 1700, Lodowick Updike, then owner of the Cocumcussoc Plantation, built a road from the Post Road to the harbor and platted it out with lots creating the village of Wickford. Updike was trading in beef, which was shipped to the sugar plantations of the West Indies (Weiss, 1979). Sugar had become so profitable that farmers in the West Indies were producing it to the exclusion of other crops, forcing them to import all other produce to the benefit of New England traders who could bring back

sugar, molasses, and molasses to be made into rum at a considerable profit (RISDC, 1984). By building the road and village, Updike was attempting to capture more of the beef/sugar trade that was occurring along this part of the bay coast, and giving himself the opportunity to invest in more ships and products. The effect of the increased access to the distant West Indies market was to further drive the expansion of cattle grazing lands further and further inland as demand increased and existing pastureland was spoiled. Wickford remained a significant port in Rhode Island through the 18<sup>th</sup> and 19<sup>th</sup> centuries, transitioning from beef to textiles as the market changed (Weiss, 1979).

The legacy of the colonial time period for the area of Quonset Point can be seen in the remnants of the colonial built environment. Stonewalls and colonial farmhouses, most notably for Quonset, the Allen-Madison House, still mark the landscape. Wickford



Village also remains a considerable asset to Quonset Point, contributing to the character and sense of place of the area. The colonial era, with its primary reliance on cattle, also had a serious effect on the environment, depleting soils and essentially eliminating the possibility of a continued agriculture based economy. This change in the environment had the effect of both freeing up land and labor for later uses at Quonset.

### Advent of the Mill Villages

The opening of the Erie Canal in 1825, followed by rail connections to the west made the already ecologically troubled Rhode Island farms economically obsolete as mid-western meat and grain was made available to eastern markets (Cronon, 1983). Some small scale farms may have continued to operate during this time period in the Quonset Point area but many fields were probably allowed to revert back to forest with those that had been pasture often having pine as the dominant tree type, while crop fields reverted to oak, hickory, chesnut dominant forests (Cronon, 1983). Other fields were kept as pasture for sheep as hand powered woolen textile production began, taking advantage of superfluous labor created by the decline of farming. The economy that would follow in Rhode Island was based on the textile industry, initiated in Pawtucket by Samuel Slater in 1793 (RISDC, 1984).

The textile mills that were introduced by Slater were water powered and therefore required a steady stream of water that maintained a certain level of output year round. These mills also required access to transportation and a declining rural economy from which to draw labor (RISDC, 1984). West of Quonset Point, mills, and their

accompanying villages, developed on the Hunt River and Sand Hill Brook. Under the influence of the glacier these watercourses ran north rather than into the Quonset area. Denied these streams, and not possessing groundwater produced streams or a large enough catchment area from which overland water flow might generate into streams, the Quonset area did not develop the mill villages that were appearing elsewhere in the town and state.

With its dry, exhausted soils and insufficient waterways, the Quonset area's land values were probably low compared to other parts of the town. The Spink family, who gave their name to Spink Neck at Allen's Harbor, owned most of the land between Allen's Harbor and Wickford Harbor in 1870 in a series of small family farms. The Town Asylum, built to house the poor and which would probably not have been located on valuable land, was out on Quonset Point itself at this time. In 1893 the Rhode Island Militia established a camp in the Quonset Point area, taking advantage of a strategically significant point of land with road and harbor access (Weiss, 1979). In other parts of the bay, land values along coastal areas were starting to rise though, as the wealth of the industrial age created a large affluent class of business men who sought coastal estates, as well as an increasingly larger middle class who could afford summer cottages in the emerging "sea colonies."

### Rise of The "Sea Colonies"

The prosperity of the industrial age gave rise to a wealthy leisure class who favored coastal properties as summer retreats. The 1830s saw the rise of the Newport mansions

and as the times of prosperity progressed, Rhode Island continued to be a summer resort destination for the wealthy (Hale, 1980). The popularity of Newport spread to Narragansett Pier, and then up the coast to the Newport ferry terminal at Saunderstown in 1889 and Plum Beach after 1900. The old homes of Wickford, built mostly in the late 1700s, also became summer residences of the wealthy (Weiss, 1979). Quidnesset, as the area was then known, was discovered as a coastal estate location in this time period as well. Several newly rich industrialists were able to create large estates by cobbling together the numerous small farms that had thus far survived on the sandy Quonset soils. Charles Davol, an industrialist whose company produced rubber medical instruments and gloves and for whom Davol Pond is named, owned Wildacres, one of the larger estates at 1,000 acres where, like others in the area, he raised horses and dairy cows (Cranston, 2001). For the most part, the coastal villages consisted of hotels and a few large summer homes. After 1898, though, the Sea View Trolley Line opened between





Narragansett Pier and East Greenwich, creating the opportunity for denser coastal development through increased accessibility (Weiss, 1979).

The new coastal developments featured small cottages on a rectangular urban grid of streets running perpendicular to the water. The first of these “Sea Colonies” in North Kingstown consisted of 205 lots called Shore Acres on Sauga Point, south of Quonset, and built in 1910-1911 (Weiss, 1979). The attraction at Shore Acres, as with other “sea colonies” and resorts, was the beaches. The coast had been considered attractive for summer residence for many years due to the cooling effects of land-sea breezes generated by the relative temperature difference between the sea and the land. Sometime in the mid-to late-1800s, people discovered the beach as a recreational destination. Quonset Point, formed originally as twin sand spits, had wide sandy beaches that would have been very popular once they were made accessible. When the Stonington – Providence rail line came through though in the 1830s it bypassed Quonset Point as the area was remote and there was relatively nothing there. Even when the Sea View trolley line came through it did not detour back out to the coast once passing Wickford.

The widespread popularity and availability of the automobile gave access to the beaches of Quonset Point while eliminating the economic viability of the Sea View Trolley line. In 1923 Mount View was developed north of Calf Pasture Point. Through the 1920s and 1930s three sea colony developments appeared in the area that would become the Quonset point Naval Air Station, Wildacre Shore, Winfield Beach, and Quonset Point. The last consisted of 915 lots out on the point itself, though it was not

fully built out by the time the Navy Air Base was built. The Sea View Trolley line tracks were torn up in 1921, with its final role being to carry RI Militia trainees preparing for World War I to Providence for recreation. The Romano Vinyard was established on 370 acres near the Post Road in this time period as well. Said to have had really good communion wine during prohibition (Weiss, 1979), the grape vines would have thrived in the nutrient poor, well drained soils that characterized all of the Quonset Point area (Simon, 1994).

The attractiveness of Quonset Point as a summer destination can be traced to the nature of the point itself in how its juts out into the west passage of the bay. This feature of the point is what gave it splendid views, wide beaches, and a cooling wind but, with



Summer cottages at Quonset Point after the hurricane of 1938.  
Photo by the Providence Journal from New England Hurricane: A Factual, Pictorial Record, 1938.

the Hurricane of 1938, this feature would contribute to the destruction of 100 cottages and the death of nine people (Freas et al., 2003). The destructiveness of the hurricane was a product of many different factors, including its having struck at high tide on the autumnal equinox coupled with the higher tide and waves brought on by the storm leading to a very high storm surge. In addition, the narrowness of the bay and its north south orientation funneled the force of the storm surge such that at Newport the water was measured at 10.4 feet above the mean high tide while at Providence the water was at 13.02 feet above the mean high tide. The water level at Quonset would have fallen somewhere in between (Providence Journal, 1938), though with the long stretches of open water leading up to, the storm surge could have been higher with more wave energy. Jutting out into the bay as it does, Quonset Point was right in the path of the storm surge.

The primary impact of early industrialization and coastal development at Quonset Point has been in terms of altering access to the site itself and to the bay. First, the fact that a mill, with the accompanying village, did not get developed at Quonset left much of the land available for later development. At the same time, nearby mills led to improvements in the local transportation infrastructure, in the form of rail and roads, from which later development at Quonset would benefit. The sea colonies also affected access in the area, in this case limiting access to the beach and bay. Further, these coastal developments interfere with normal beach and coastal processes, increasing their vulnerability to damage in storm surge, and have continuing repercussions today on the water quality of the bay. Interestingly, when the Indians developed the coastal land, they

made the bay more accessible and almost no impact on the natural processes of the coast. Despite their negative environmental impacts, the coastal communities also contribute to the sense of place of Quonset Point, as do the mill villages to the western portion of the industrial park.

### Advance of The Navy and The Suburbs

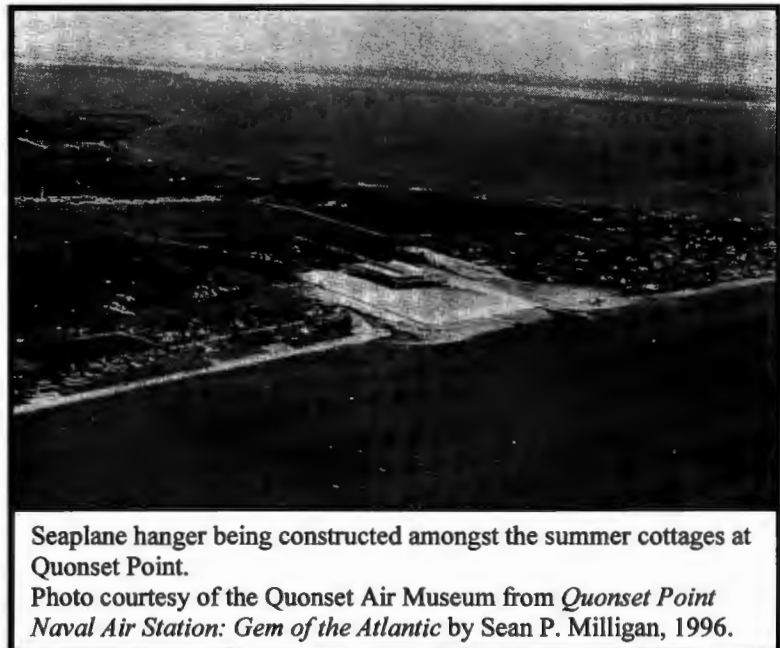
The military significance of Quonset Point has long been recognized, even back to the Revolutionary War when soldiers were stationed there to counter the British in Newport (Simister, 1974). The Rhode Island Militia established a camp there in 1893 and in 1918 the General Board of Naval Affairs recommended that a United States Naval Base be built at either Quonset Point or Newport (Milligan, 1996). The strategic importance of Quonset Point stems from its location in the bay, with views south towards Newport and the bay's entrance, and from its location on the northeastern seaboard, roughly equidistant from Boston and New York. Initially the location was viewed for its defensive capabilities, as an airbase there would be able to defend the entirety of the northeast. The environment of Quonset Point gave the potential for more than an airbase and the Quonset Point/Davisville Naval complex grew to be the largest in the nation.

In 1938 a report was sent to congress recognizing Quonset Point as "the most favorable site in New England" for a naval airbase. Beyond its favorable location, the site was free of fog due to the bay's prevailing winds and, with dredging, aircraft carriers could be berthed there. The environment of the Quonset Point area had kept it free of significant levels of development so that inland were only farms and the Rhode Island

Militia Camp, which had just grown to approximately 1200 acres with the donation of the Wildacres estate on its owner's death in 1937. The end result was a site that was well suited to the navy with a strategic location, water access, and a great deal of open land on large lots. The existence of these assets can be traced back to the areas specific geologic history and the results of its relatively long history of human and environment relations. In May of 1939 President Roosevelt signed the Quonset Measure authorizing the purchase of 750 acres for the building of a naval airbase (Weiss, 1979).

The escalating war in Europe forced the rapid construction of the base from July 1940 through July 1941.

Operation of the base began before the base was completed while crews were still demolishing or moving the summer cottages. More than 440 acres of fill was added to the north side of Quonset



Point and elsewhere at the base (Milligan, 1996), changing the shape of the point by squaring it off in order to accommodate the airport runways. The fill was generated as the channel was dredged to accommodate the aircraft carriers. Special asphaltic concrete was used in order to be able to quickly build the runways on the fill material (Weiss, 1979). At the time, some considered the base a rival to the Panama Canal for the quality

of its engineering and Quonset Point was the only Navy base that had facilities for airplanes, seaplanes, and up to four aircraft carriers (Milligan, 1996).

In building the Quonset Point Naval Air Base, problems were dealt with in a highly simplistic manner without giving thought to maintaining options for the future. With this mindset, wetlands and bay area were filled, bogs were blasted to make way for the railroad spur, and the beaches were eliminated. Over the years Quonset Point has been hit by three more major hurricanes that have each caused damage to structures on the vulnerable point including damage to the airport roof in 1991 (Meade, 1991) and to the Quonset Pier in 1985 (Walsh, 1985). The Davisville Construction Battalion Center, built in 1942 through 1943, included further filling of the bay and wetlands. Rail, road, sewer, and a variety of amenities from a theatre to a church have been built there to service the personnel and operations of the base. The Quonset and Davisville bases essentially operated as a small town, with its own housing, entertainment, and economy (Milligan, 1996). Together the bases were in some ways a model for a mixed-use community, this being both a necessity for security reasons, and a very efficient means of operation.

The development of Quonset Point/Davisville precipitated rapid environmental change in the area. The effects of the development of the base, residential areas, and commercial strips on the environment were numerous, and the cumulative impacts have served to limit much of the inherent opportunities that were once available at Quonset Point. The increase in paving and buildings created vast areas of impervious surfaces

through which water could not pass and be infiltrated into the ground. As storm water runs over these surfaces it increases in velocity, increasing its ability to erode the soil and carry pollutants. With more water available that is not being absorbed into the soil, the streams run at a much higher volume during storms, eroding the streambed, disrupting habitat, and increasing the likelihood of flooding. The draining of wetlands further exacerbated these problems as well as eliminating the wetlands ability to filter pollutants (Marsh, 1998). Filling such a large area of the bay destroyed productive oyster beds (Wysss, 2003) while the pollution coming from industrial activities, private homes, and storm water run-off caused the remaining shellfish beds to be closed to commercial and recreational shellfishing.

While the environmental damages of Quonset Point have been great, the positive legacy of the base is equally impressive. The men and women who served and were trained at Quonset Point played a pivotal role in all of the major U.S. wars fought during the time it was in operation (Milligan, 1996). In addition, much of the infrastructure built there is available now as plans for redeveloping the site for economic development are being considered. The site is currently the only area in North Kingstown served by a sewer system, there is existing transportation infrastructure, many acres of recreational land have become available to the people of the state including a golf course, and some of the former navy housing has been converted to much needed low-income housing. Though the existence of the base may have limited many future land use options, it has also opened other possibilities that, through careful redevelopment, could have significant benefits to the people of Rhode Island.

The construction of Quonset Point was soon followed by the development of residential subdivisions on the surrounding land and commercial development on route one. Suburban style single-family homes were built for the expanding civilian population employed at the base (Weiss, 1979). The Davisville neighborhood was developed in this time period and remains a defining element of the Quonset area's sense of place with its cottage style homes on small lots. The commercial strip developments that developed sporadically along route one to serve the expanding population lack the appeal of the Davisville neighborhood and detract from the overall quality of place.

#### The Master Plan and Beyond

The Quonset Point Naval Air Station closed in 1974 and operations at the Davisville Construction Battalion Center were severely curtailed. Planning for the base's reuse began immediately, though a lawsuit by five environmental groups seeking an environmental impact statement from the government concerning the property transfer slowed down any action. The lawsuit was dropped in 1977 when, after negotiation, it was agreed that nothing would be done at the base without convening a stakeholders group. The Davisville base closed in 1994 spurring further planning. Several different reuse plans have been proposed and eliminated including an incinerator plant and, most recently, a container port (Varin, 1999). Each of these plans has failed to present an inspired vision for Quonset Point that recognizes the value of the resources available there.



Economic success of a permanent nature has only ever been achieved at Quonset Point by the Narragansett Indians before the arrival of the colonists. Their agricultural practices had sustained them for more than a thousand years, and potentially would have continued to do so for another thousand. The colonists used up the resources inherent to the site in just over a hundred years and the early industrialists were entirely unable to capitalize on the resources found there. The Navy expended a great deal of money and effort working against nature to build an amazing air base that was obsolete in just over thirty years. The Davisville facility lasted only slightly longer at around fifty years.

The lesson that can be drawn from this study of Quonset Point's history is that everything that has occurred in the Quonset Point area has been a direct result of its location and the environmental resources found there. Permanent economic success at the Quonset Point Port and Commerce Park will require the recognition of the ecological processes occurring there and working with them to create products or services of economic value.

## **Chapter 4: Action Recommendations**

Quonset Point has a distinct sense of place created by the interactions of nature and culture over time as described in the previous chapter. Capitalizing on that sense of place in order to create an interesting and sustainable industrial park will require careful planning. The connection between what is built and the local environment and culture must be re-established. In so doing, Quonset Point will become distinguished amongst the thousands of industrial parks across the nation competing for tenants, as a business location that will contribute towards attracting creative workers and providing a high quality work environment.

The current paradigm guiding the design and development of Quonset Point concentrates on selling land and creating jobs. With that type of thinking, the decisions made regarding the park's development thus far make sense: make the park look nicer to make the land more marketable, improve access through highway construction, and keep regulations to a minimum. Each proposed land use or sale is looked at in terms of increasing marketability of the site or generating jobs. This development paradigm is an immediate response to the perceived need to quickly occupy the space and represents the general standard of development across most of the country.

The focus of a place-based, sustainable development paradigm is to create a place that is unique, interesting, and contributes towards growing Rhode Island's economy while addressing environmental and equity concerns in the state. Innovative design can allow for all of these goals while also leading to the original goal of selling land and

creating jobs. Concentrating in the park on marine related research can contribute to growing this portion of the Rhode Island economy and cleaning the bay. A transit-oriented development can reduce congestion and pollution, increase the viability of the commuter rail, equalize access to the park, and provide low cost housing. Ecological design standards can reduce pollution and create a healthier live/work environment. Public participation can lead to greater civic activity in the state. Finally, by guiding design to be place-based, Rhode Island can retain the incredible sense of place that continues to make it a great place to live.

What follows is a selection of action recommendations for moving Quonset Point forward with a place-based, sustainable development vision. Many of these recommendations also address stated goals of the Quonset Davisville Port and Commerce Park Master Plan and are connected to economic development strategies being pursued by other state, local, and non-profit agencies. Where possible examples and visual aides from other places have been provided.

#### Community Based Planning/Visioning

Despite stakeholder committees and public hearings, the planning process for Quonset Point/Davisville has been marked by widespread distrust from the public. Part of this distrust has stemmed from a policy of pushing forward the container port plan in the face of public opposition and part stems from the continued lack of public involvement in planning. Quonset Point is the largest area of industrially zoned land in the state, surrounded by residential neighborhoods, and sitting on the coast of the state's

most prized resource, the Narragansett Bay. People all across the state can be expected to care about what happens at that site. Any use that is considered there will have regional impacts environmentally, economically, and socially.

A stakeholder group composed of representatives from park businesses, neighborhood groups, environmental groups, employees of park businesses, state and local governments, and other potentially interested parties should work with a professional mediator/facilitator to develop a consensus building process that includes some form of active public participation in the planning process. The feasibility of a large-scale public visioning process should be assessed, noting the requirements in terms of time, money, and public interest. In assessing the feasibility of such a process, study should be given to other places that have successfully conducted similar exercises and consideration made to visiting these places to learn first hand how they were conducted.

Chattanooga, Tennessee has conducted one of the most successful public visioning processes to date. Their *Vision 2000* and *Revision 2000* visioning exercises drew more than 1700 and 2600 participants respectively and have produced a wide range of tangible benefits for the city. The *Vision 2000* took place over six months in 1984 with the task of involving a large number of city residents in creating a vision for the city's future. After an initial large-scale start up meeting, people broke out into task forces, administered by a trained facilitator, each addressing a specific topic area. The *Vision 2000* process generated 40 goals ranging from restoring a downtown theatre to expanding the arts in the city and addressing pollution problems. By 1992 a study found

that 37 of these 40 goals had been fully or partially completed. *Revision 2000* was therefore initiated in 1993 to generate even more goals for the city (Bunnell, 2002). Pat Wilcox, a member of the group that organized the event said, “The validity and the value of the process were directly related to the extent and representativeness of the participation. For a long time in Chattanooga, there was the idea that the people with money and power controlled everything. We needed to break out of that shell and did” (Bunnell, 2002, p. 96). The Chattanooga visioning process has received widespread acclaim bringing national attention to the city. The city has since used public visioning in the design of an eco-industrial park that is under development there.

To be fully representative, the visioning process for Quonset Point must consider the people who will be working there just as much as the people who live nearby. Visioning meetings will have to be held in multiple locations in the state in order to accommodate the needs of these workers such that meetings may need to occur in Providence and Newport, as well as in the local community. Like Chattanooga’s visioning process, the end result should be a wide range of goals for the industrial park and there must be commitment from political leaders that these goals will be respected and responded to. As the entranceway to the park, consideration should be given to expanding the planning area to include Route one. A session for local residents in which they identify locally significant aspects of the site should also be considered.

## Ecological Design

Protecting the natural environment, especially Narragansett Bay, is a goal that comes up frequently in the Master Plan but the only actions proposed in response to those goals are towards preserving open space and forming a task force to look into the feasibility of an eco-industrial park. Meanwhile, as the park continues to be developed, opportunities for implementing ecological design systems that would reduce infrastructure and maintenance costs, improve the environmental quality of the site, and reconnect the built environment to its natural context, are being lost. An ecological design implementation plan should be developed that demonstrates how best to incorporate ecological design principles into the park's infrastructure and provides design standards for new buildings incorporating natural lighting and ventilation systems, green roofs and other such features.

The best examples of ecological design can be seen in eco-industrial parks. There are currently 24 eco-industrial parks in operation or under development in the United States (Roth, 2003). The Fairfield Ecological Business Park in Baltimore and the Plattsburgh Air Force Base Eco-Industrial Park are two examples of these parks. The Fairfield site requires only that businesses entering the park exhibit a commitment to environmental responsibility and stewardship while ecological design is used to reduce environmental impacts on the Baltimore Harbor and surrounding neighborhoods (Fairfield website). The Plattsburgh industrial park is far more ambitious, seeking ISO

14001 environmental management system designation<sup>1</sup> for each business in the park (Spohn, 2003). In using this strategy, the park's developer intends to foster continuous environmental improvement and innovation in the creation of new environmental products and operating methods. For both parks, the motivation behind the decision to be environmental involved more than a desire to protect the environment; reducing costs for businesses and increasing marketing potential were very strong factors as well. In each location, a study was conducted to assess the feasibility of eco-industrial practices at the site, looking at area resources, local waste products, and the market for the different products and services that might go along with these factors. Such a study could be incorporated into the ecological design implementation plan described above.

The advantages of an eco-industrial park for individual businesses include reduced costs for raw materials and other resources, more efficient use of resources, the reduction or elimination of environmental compliance fees, the removal of risk associated with the potential for a contamination accident, and an improved public image. The relative uniqueness of eco-industrial parks can also be a marketing advantage for attracting businesses to locate in the park, giving each business the benefits of association with good environmental stewardship and a unique, high quality work environment.

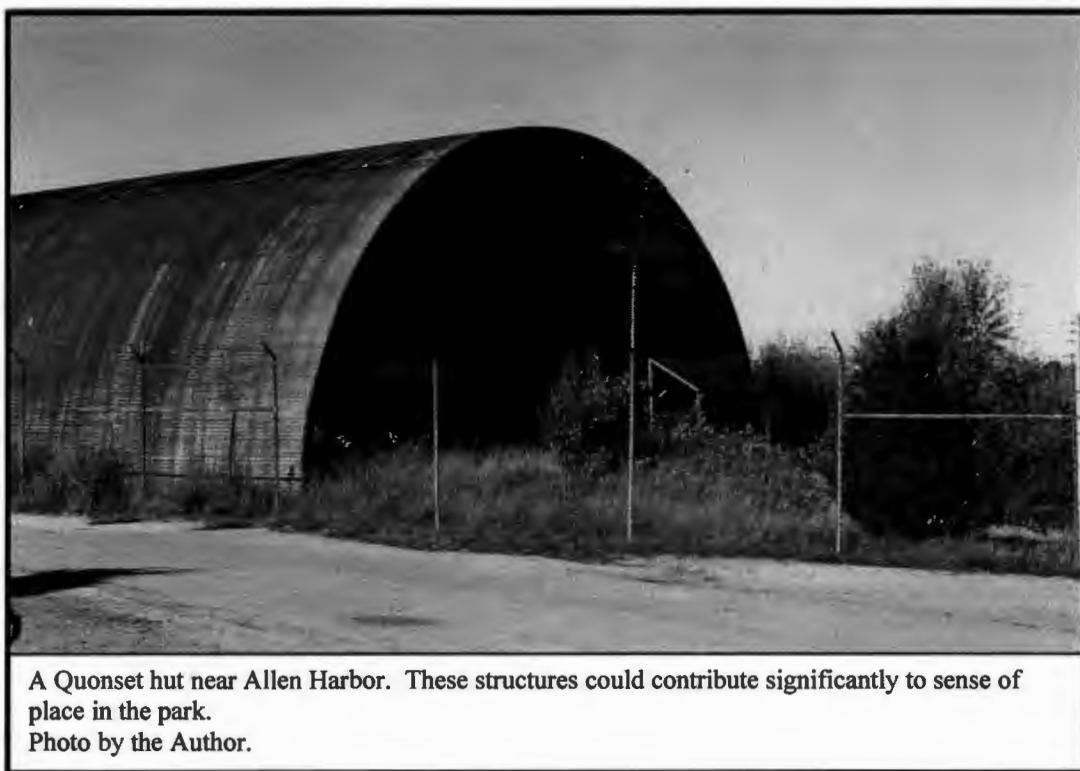
#### Creative Re-use and Public Art

Re-using old buildings, retaining historic landmarks or features, and public art or memorials can all contribute towards making the Quonset Point industrial park a more

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<sup>1</sup> Standard for environmental management systems against which an organization can be evaluated by an external certification authority. The ISO 1400 series was developed by the International Organization for Standards.

interesting place to work and visit. There are several different buildings at Quonset and Davisville for which creative new uses could be found. Additionally, there are many events and themes from the history of Quonset Point from which memorials and public art could be created.



The Allen Madison House could be converted to a small conference center for businesses in the incubator. The lower floor would feature a small museum on the Revolutionary War in Rhode Island and an updated kitchen. The second floor could be converted to a conference room. The Seabee Theatre could be restored as a theatre, becoming an asset for the entire community. Park businesses could also use the space for presentations and classes. Memorials could be built to the hurricane of 1938, the Narragansett Indians, and to the Navy airmen and seebeas who were based there. Other pieces of art could be placed in various locations throughout the park, perhaps all relating



to a theme having to do with the history or natural environment of Quonset Point and Narragansett Bay.

### Marine Industries Business Incubator

Rhode Island has one of the most competitive marine industry clusters in the world, according to a report issued by the Rhode Island Senate Policy Office. The Marine industry cluster includes businesses involved in many different marine related activities including recreation and tourism, fisheries and aquaculture, boatbuilding, boat related businesses, marine transportation, military, technology development, and education (RISPO, 2002). Narragansett Bay is the primary resource that gives strength to these industries, and with Quonset Point's access to the bay; the potential for marine related industry development there is great. Emphasizing marine industries contributes to the park's sense of place by connecting land use to the environmental resources available at the site.

The Marine and Environmental Industries Slater Center has stated that there is not currently sufficient laboratory space in the state for marine and environmental research (Marine and Environmental Industries Slater website). A business incubator, including lab space as well as space for manufacturing oriented businesses, would benefit from a waterfront location and generate new businesses and jobs in the state. Businesses could be created from research occurring at various research institutions in the state including the University of Rhode Island, Brown University, and the Naval Underwater Warfare Center. In addition, the attractiveness of a waterfront location could bring research

entrepreneurs from Boston's universities, with the convenient rail access, and perhaps from other states as well. In all potential incubator tenants there should be an emphasis on sustainability. Many new businesses could be generated from the idea of cleaning up Narragansett Bay by eliminating the polluting effects of the various activities occurring on and around it. These new, sustainable industries would quickly find national, and even international markets for their products and services.

### Transit Oriented Design

The 2001 Quonset Point Davisville Master Plan describes many of the benefits that could result from transit oriented design and makes some recommendations as to specific design features that would facilitate the use of public transit at the park. This section expands on what is presented in the Master Plan, enlarging the role of transit oriented design in the park and looking at its benefits in terms of traffic management, social equity, and the environment. While transit oriented design does not necessarily contribute to sense of place, it does create the opportunity for a more interesting mixed use environment around the transit station and increases the accessibility of the site.

Transit oriented design begins with the premise that land use and transportation systems are inextricably linked, such that design can be used to increase the viability of transit. If public transit systems are conveniently situated in a pedestrian friendly environment than people will be more inclined to use these systems for their basic transportation needs. A certain density of residential and/or commercial space is needed within proximity of the transit station in order for the system to succeed (Bernick and

Cervero, 1997). At Quonset Point, this area of dense development could be centered on a commuter rail station and include the proposed hotel, office oriented retail, and restaurants called for in the Master Plan. This transit village would become the center of activity at the park and would benefit from such urban design principles as mixed use with second floor residential space, a street grid with on street parking, and pedestrian amenities. The village would become a hub from which would radiate an in-park shuttle system whose schedule would correspond to both the arrival of trains at the station and the work shifts of businesses in the park.

Transit oriented design responds to several of the goals outlined in the Master Plan including minimizing the environmental impact of the park, maintaining the quality of life of area residents, and utilizing all forms of traffic management available. Less cars means less air pollution and less water pollution caused by leaking automotive chemicals and stormwater run-off from impermeable parking surfaces. Fewer cars also translate into fewer disruptions to area residents who would also benefit from access to the transit village. A fully integrated transit system that is convenient to use is also more socially equitable than a transportation system designed around the automobile as it allows people with little or no access to a car the opportunity to access the park. This idea is most significant for low-income people who cannot afford the expense of purchasing and maintaining a car but would benefit most from access to the jobs that will be available at Quonset Point.

Transit oriented development has become an important part of regional transportation planning in many different parts of the country including Washington, D.C., San Francisco, California, and Atlanta, Georgia among others. In each case, these developments have led to increased transit ridership and lowered automobile use in the targeted areas. In addition, transit oriented developments have been shown to command higher rent and land values, reflecting the desirability of these areas to both live and work there (Bernick and Cervero, 1997). In each of the three places cited above, part of the motivation behind transit oriented development has been to reduce the high levels of traffic congestion these metropolitan areas were experiencing. In the Washington, D.C. area, local economists have noted that recently, the most robust economic development has occurred around the transit stations of the Metro where rental rates are 15 to 30 percent higher, while traditional developments in the outer suburbs have begun to fail, some experiencing greater than 20 percent vacancy rates. Fairfax County, once considered a center of economic growth in the region is now suffering from its own success with high rates of congestion and a disappearing commercial tax base. Transit oriented development is seen by some as a top priority for economic development in Fairfax County (Pearlstein, 2003). A transit oriented development at Quonset could serve the purpose of reducing congestion before it reaches the levels experienced by these places and before quality of life in the area is disrupted while helping to ensure permanent economic success.

A transit oriented village would be a great asset to Quonset Point, serving as a center of activity that would add to the diversity of environments there. As the center of

an in-park transit system, employees could easily go there for lunch and errands, rather than wasting time driving out of the park. Train connections to the airport and the presence of the mix of uses in the village would also increase the viability of the hotel and make business trips to the park easier and more interesting. If located near the Post Road, the village could also be an attractive entranceway to the park and become an asset for the whole community.

### Route One Improvements

Planning for Quonset Point should be expanded to include the local portion of the Route One corridor. This area has, over time, become an agglomeration of strip malls, parking lots, and seemingly left over farmhouses that have mostly been converted to commercial use. Unregulated signage and a profusion of curb cuts have created a driving environment that is unattractive and dangerous. This corridor serves as the gateway to Quonset Point, creating a potentially negative impression of both the surrounding area and the park.

Design standards could be developed that would allow change to occur over time as the existing buildings reach the end of their useful lifespan and require replacement. In this way, the design of buildings along this stretch of road could become reflective of the local sense of place. As possible, certain uses should be encouraged to move into the proposed Quonset Transit Village. There are a multitude of roadway design features that could be incorporated into road reconstruction that would serve to improve the overall

appearance of the road, its functionality, and act as traffic calming devices. These include median strips, street trees, and pedestrian amenities such as crosswalks.

Examples of roadway design that enhances pedestrian safety can be seen in states all across the country, with some of the best examples in Delaware, New Jersey, and Vermont. In southeastern Vermont, the state transportation department is working with local communities to increase pedestrian safety on state highways running through village centers through traffic calming features. These features have included roundabouts, medians, and narrowing of the road at the entrance to the built up area (Langdon, 2003). The residential and commercial nature of Route One in the vicinity of Quonset Point has led to pedestrian activity along the road despite its dangers. Pedestrian safety should be enhanced before someone is injured or killed.

## **Conclusion**

Quonset Point began forming more than three hundred million years ago. Through that time immense changes in the environment, from glaciers to the U.S. Navy, have shaped this place. The redevelopment of Quonset Point needs to be done in a manner that respects this history and recognizes that the actions taken on that land are part of a continuum in which past actions have created opportunities and constraints for the present and that present actions will do the same for the future. Therefore, the most important question regarding the redevelopment of Quonset Point is, What kind of place do we want to create for the future, for ourselves and future generations?

In an information based economy, place matters. Interesting places with a high quality of life and sense of place will succeed because these factors are attractive to the creative workers who drive this economy. Sense of place comes from the interaction of culture and the environment, and is shaped by a person's relationship to a place. Public participation must be a part of the design process in order to capture the modern cultural input. Quonset Point's historic and environmental resources must be utilized to further define the place and to give the new residents and visitors the stories and information from which to build a relationship to place.

At Quonset Point, creating a built environment that is closely related to the natural environment could be an important part of the area's sense of place. Such sustainable design would also expand the opportunities for future reuse as it avoids leaving a legacy of contamination and waste. Instead of creating a future brownfield site that is

abandoned 100 years from now, Quonset Point would remain a valued part of the community, a favored place to live, work, and visit. With environmentally sensitive design, the park can foster ecological diversity at the same time that it supports economic growth. Ecological diversity is indicative of a healthy environment, which in turn can contribute to the health and well being of the people who live and work in the Quonset Point area. Quonset Point could be a truly innovative place that would raise the standard for industrial park development all across the country.

Sense of place is an important quality of communities that is part of what makes a place interesting but can no longer be relied upon to maintain itself in the face of various homogenizing processes occurring across the nation. The survival of these communities as unique parts of the local culture and environment requires a planning agenda that is formed around maintaining sense of place and investing in sustainability. Quonset Point should be the place where this strategy is initiated in Rhode Island, so that it can then be applied in the core cities, suburban towns, and rural areas of the state.

Creativity thrives in the type of interesting environment described in this report. Quonset Point could be such a place where new products and methods are developed that contribute toward the larger goal of sustainability. These new products and methods could then be carried from Quonset to other Rhode Island businesses, improving the quality of life in the State and increasing the competitive advantage of its economy. Rhode Island has thrived in the past as a source of innovation and could do so again if the environment exists to support it. An effort needs to be made at Quonset to do more than



just sell land to get jobs. The plan for Quonset Point should be linked to a larger strategy of developing sustainable industries within the framework of Rhode Island's existing strengths and assets. The marine industries cluster is a strong first choice for this strategy.

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