

REVISIONING AQUINNAH CIRCLE

Prepared for the Town of Aquinnah by Mariko McNamara & Ryan Corrigan
The Conway School
Winter 2016



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Acknowledgments

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Executive Summary

Dynamic geological forces and the rich oral traditions of the Wampanoag people have shaped the unique landscape and culture that persists on Martha's Vineyard today.

The Wampanoag people have lived within this landscape for thousands of years. Since the 1850s, the island has become a magnet for tourists luring visitors with its quaint fishing villages, warm water beaches, scenic vistas, and unique geological features. More recently, the island has experienced a building boom in vacation homes for the affluent.

The demand for space on the island has driven up property values, and made it extremely difficult for year-round residents to thrive. Even in the "rural outpost" of Aquinnah, these pressures negatively affect town residents, including members of the Wampanoag Tribe of Aquinnah, one of two federally recognized tribes in Massachusetts.

Aquinnah's economic town center and primary recreation space lies at its most western point: Aquinnah Circle. Over 100,000 tourists make the journey to Aquinnah Circle each summer, supporting several tribally owned businesses and providing important tax revenue for the Town. The location features:

- Two federally recognized landmarks, the Gay Head Lighthouse and Aquinnah Cliffs
- Aquinnah Cultural Center which showcases Wampanoag history and culture
- Tribally-owned shops selling traditional food, artwork, and jewelry
- Land bank conservation trails and Moshup Beach

Despite large volumes of tourists, the shops at the top of the Circle have struggled in recent years. In order for Tribe and town residents to continue to live comfortably on the island year round, it is crucial that tourists have an enjoyable experience. Visitors should be encouraged to come more frequently, stay longer, learn more, and spend money.

Priorities for the Tribe and the Town are to preserve and improve the culturally rich, historic and scenic elements and to promote economic development by supporting native and local artists. They seek to create a comprehensive plan that prioritizes community needs, upgrades physical infrastructure, and preserves the character and elements that make the area so special.

The Town of Aquinnah hired the Conway School in January of 2016 to begin a revisioning process at the Circle. This plan will be used as a starting point for the town and Tribe as they begin thinking about Aquinnah Circle as a whole and it recommends strategies to move forward with additional community visioning and decision making.

This document contains background information on the unique geology of the site, the long and complicated history of Aquinnah, and the current town demographics and ecology. It moves through each analysis done at the site, with summaries and implications of the findings. Community feedback and analysis of the site suggest tourists are challenged by:

- Congested vehicular and pedestrian circulation
- Limited parking
- Separated and disconnected built features
- Lack of direction and interpretation, both to the landscape and of ecological and cultural importance of the site

In addition, the ecological resources of the Circle are in danger of being loved to death. The unique habitats that support rare species are threatened by:

- Nutrient leaching from the bathroom septic system
- Trampling and vegetation removal which leads to erosion

From the community needs assessment emerged a set of guiding principles that the majority of the community agreed upon and serve as framework against which decisions can be measured:

- Create a tourist friendly experience
- Educate visitors on the local culture and history
- Ensure the safety of all visitors
- Enhance a sense of community
- Preserve the open space
- Protect the resource: geology and ecology

To meet these principles, the report recommends the community explores methods to:

- Improve vehicular and pedestrian circulation around the site.
- Use technology and information stations to help visitors understand and value the unique cultural, ecological and historical character of the site.
- Update public infrastructure to reduce environmental harm while maximizing the open space benefits for residents and tourists.

Finally, the report recommends a process moving forward which can lead to a unified and connected vision for the future of Aquinnah Circle. This report represents one step in the visioning process. In order for the future of Aquinnah Circle to be successful, it is critical that the community discussion continues and the guiding principles, design objectives, and criteria are continually evaluated and reevaluated. Establishing a clear process for making decisions regarding the Circle can ensure projects' match the community's vision and will lead to shared benefit for the Tribe and the town.



CONTEXT

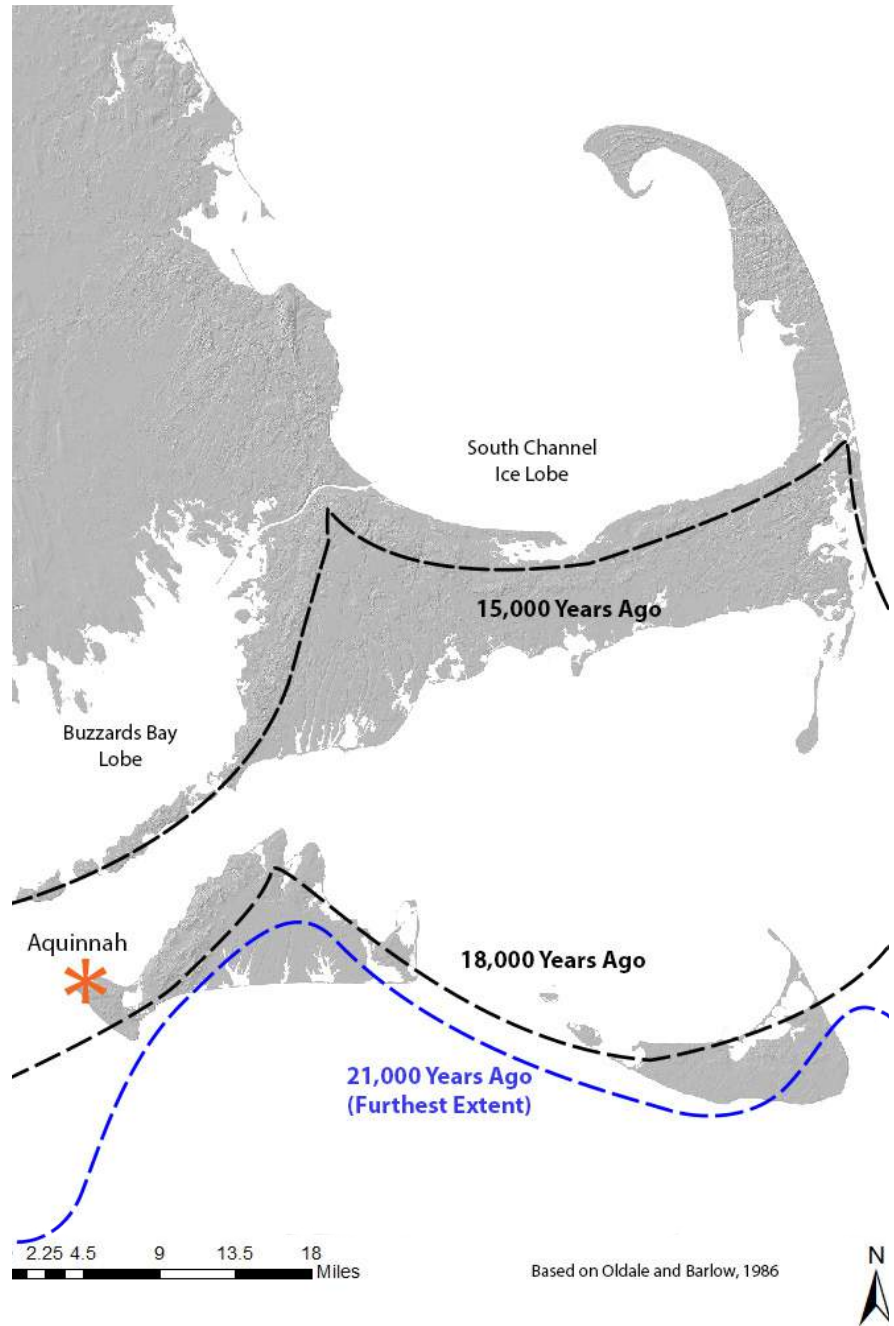


Geological History

Formation of the Cliffs

Today, Martha's Vineyard sits on a deep layer of glacial till (coarse gravel and boulders) and glacial outwash (fine grained sands). Below it lies layers of sedimentary rock and clays reaching down to a metamorphic mix of bedrock hundreds of feet below the surface. In most of New England, glacial events scoured underlying clay soils erasing the geologic record down to the bedrock. But on the Vineyard and Nantucket, most of this record was spared. The islands mark the furthest extent of the last glacial period (Wisconsin). As the glacier worked its way down the coast, it pushed up older layers of sedimentary clays and deposited vast amounts of glacial till and outwash on top of them.

The Aquinnah Cliffs are unique in that the glacier sliced apart and pushed younger layers of sediment south of the island while pushing up older layers above the surface and mixing them together. The exposed layers seen today are from the Cretaceous period (144 million to 66 million years ago), much older than the surrounding rock. This unique exposure draws geologists from all over the world to study a geologic record that tells a story of the first flowering plants, tropical jungles, coral reefs, and times when rhinoceros and camels roamed the surface. By the time the glacier began to recede, Martha's Vineyard was not actually an island. Twenty thousand years ago the glacier held so much water in the form of ice that seas were more than 300 feet lower than today. As it receded, sea level rose and by 3000 BC, the ocean had finally separated the Vineyard from the mainland.



As the glacier receded from the Vineyard it deposited glacial till on the northwest portion of the island and fine-grain glacial outwash along the south central portion. (Source: Office of Geographic Information (Mass GIS), Commonwealth of Massachusetts, Information Technology Division)

Most of the strata was deposited **75 million years ago**, with the oldest layers of clay estimated at 135 million years.

74,000 years ago
Wisconsin glacier begins march down the New England coastline

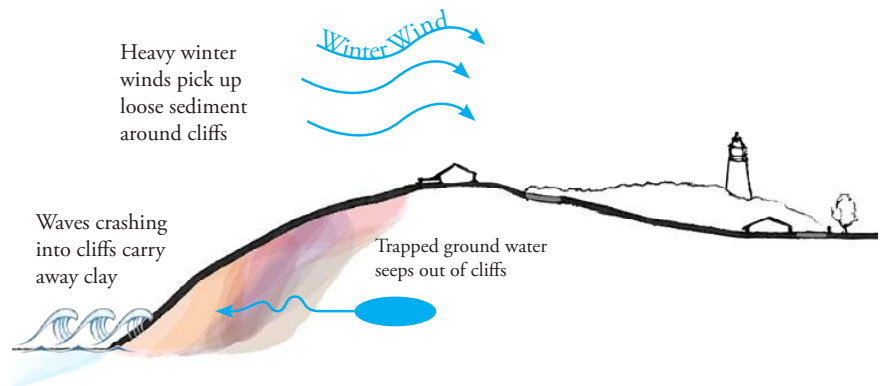
21,000 years ago
Glacier reaches furthest extent at Martha's Vineyard and Nantucket.



The Aquinnah Cliffs, a dense mix of ancient clay layers, are eroding at one to three feet per year. Although rangers patrol the cliffs regularly during tourist season, it is difficult to prevent damage.

History of Erosion

Thousands of years ago the cliffs extended nearly a mile further out to sea. Tribal elders recall that when they were younger the cliffs were much taller and more intense in color. Dunes shielded the current views of the coastline and contained brilliant hues of purple and red. From year to year, the cliffs erode variably up to several feet. Some erosion forces are inevitable: waves crash into the clay walls, trapped groundwater seeps out of them, and heavy rains carry the colorful clays into the ocean. The cliffs are incredibly delicate and even small disturbances can cause severe increases in erosion. Climbing and vegetation removal compounds erosion as powerful winter winds pick up any loose soils. Eventually the cliffs will completely erode, but limiting human disturbance will help slow the erosion process and preserve them longer into the future.



Pounding waves, seeping groundwater and winter winds contribute to the natural erosion of Aquinnah Cliffs. This is compounded by the removal of vegetation and people climbing on the cliffs.

10,000 years ago
The Laurentine ice sheet period ends and the sea begins to intrude into the Cape Cod Bay.

7,500 years ago
The deepest portions of Vineyard Sound begin to fill with seawater.

3000 years ago
Vineyard completely separates from the mainland.

The Wampanoag Tribe on Martha's Vineyard



Creation depiction of Moshup by Stan Murphy

The Legend of Moshup

According to Wampanoag legend, the present shape of Martha's Vineyard (or Noepe), the Elizabeth Islands, Noman's land, and Nantucket were formed by the benevolent being Moshup. A man of gigantic frame and supernatural power, he created the island when he dragged his foot across the lowlands, causing the ocean to rush in and separate Noepe from the mainland. He made his home at the Aquinnah Cliffs, hunting the bountiful whales. To prepare them, Moshup hurled the whales against the clay cliffs, then broiled them over

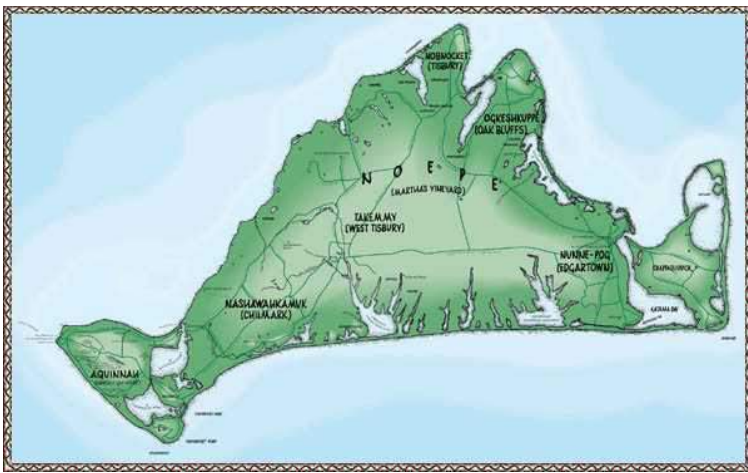
a continuously burning fire. The red in the cliffs represents the blood of the whales, the black is the ash from his fires, and the fossils are the bones from his table. Moshup served as the first schoolmaster for the Tribe, teaching his children how to live a good life of respect and charity. Tribe members can still feel his presence during foggy mornings which represent smoke from his pipe. The Aquinnah Cliffs are sacred to the Wampanoag. They feel they were gifted the cliffs by Moshup and now serve as stewards, protecting them into the future.

12,500 - 10,000 BC

First evidence of Wampanoag and Eastern Algonquin Tribe hunting and fishing encampments near Squibnocket Pond and Lucy Vincent Beach

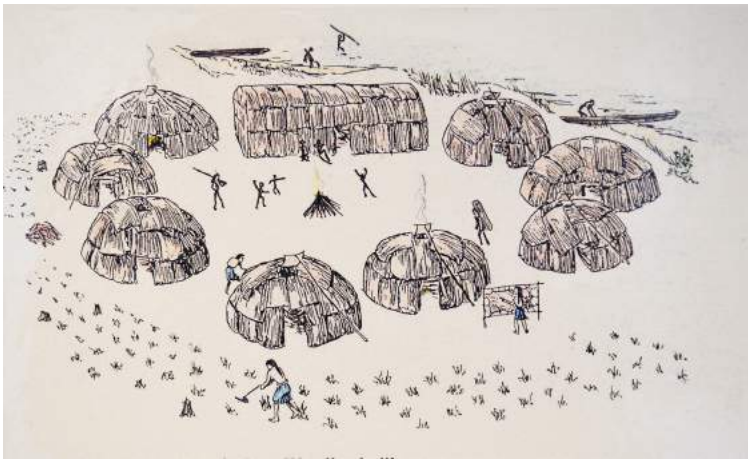
2270-2190 BC

Eastern Algonquin and Wampanoag hunters of inland forest of New England come to Aquinnah. Evidence of shellfish harvest.



Wampanoag Tribe of Aquinnah

The Wampanoag name for Martha's Vineyard is Noepe. Fossils found on the island suggest early inhabitants collected clams and hunted large game such as mammoths. Until about 3000 BC, the Vineyard was still connected to the mainland.



Martha's Vineyard Museum

The Wampanoag traditionally lived in small communities consisting of dome-shaped, bark-sheathed homes called Wetus. These were made with cedar saplings bent together and bound with vines. Land and resources were managed communally. Prior to contact with Europeans, the Wôpanâak language was purely oral and history was passed down by tribal elders. In the mid-1600s, missionaries transliterated Wôpanâak into roman characters. Many became literate in both English and Wôpanâak.



Based on map from National Geographic Society

At the time of European arrival, the Wampanoag believe there were 67 villages spanning most of eastern Massachusetts, portions of Rhode Island and the islands around Cape Cod. The population at European arrival may have been 25,000 to 30,000.

500 AD

Agriculture introduced. It quickly made up more than half of indigenous people's diet. The Wampanoag farmed corn, bean, squash, and tobacco, fertilizing with fish waste.

1602 AD

First documented contact with Europeans. At the time, Wampanoag population on Island estimated at 3000.

Social and Land Use History

Post Contact

In 1641, a missionary named Thomas Mayhew purchased the English royal patent to Martha's Vineyard, the Elizabeth Islands, and Nantucket for forty pounds. He purchased most of the eastern half of the Vineyard from the Sachem Tawaquatuck and set up the first Colony near Edgartown. His goal was to convert natives to Christianity and expand Protestant influence in the New World. In the centuries following his arrival, the Wampanoag culture suffered from disease (smallpox and yellow fever), voluntary and coerced conversion, indentured service, the loss of their language, and land grabbing by colonists and government. Smallpox outbreaks in 1643 and 1645 reduced the tribal population by half and fear drove many to the spiritual protection that Christianity appeared to offer.

Land taxes and tributes required many Tribe members to earn income from selling clay bricks made from the cliffs or joining whaling ships. A traveler's note from 1807 suggested over 100 people left the community, either children working as indentured servants of English families or men who had gone off whaling. By the early 1800s, what had been four villages spanning the whole Island was reduced to 300 people in three reservations, Aquinnah, Christiantown and Chappaquiddick. In 1870 the State of Massachusetts incorporated the tribal lands into the Town of Gay Head. In exchange for the right to vote, the Wampanoag had to forfeit their Indian status and the tribal lands were divided. The Wampanoag language characterizes the land loss with an expression similar to "I fall down." The loss of their land meant there was nothing beneath them.

Despite these difficult times, the cliffs have always provided sustenance. In 1799, the Gay Head lighthouse was constructed due to a dangerous reef off the coast called Devil's Bridge. In 1856 it was moved and rebuilt to accommodate a first order Fresnel lens. At the time, this was one of the most important lighthouses in New England and with its fame came a history of tourism dating back to the 1850s.



William Allen Wall's interpretation of Thomas Mayhew preaching to the "Gay Head Indians" (1850). Mayhew, his son and other preachers convinced some Tribe members that disease was due to their spiritual beliefs. (Credit: Martha's Vineyard Museum)



In 1611, a Wampanoag named Epenow was captured and brought back to England as a slave and exhibit display. In 1614, he convinced a ship captain there was gold on the island and made his escape as the boat was docked. (Credit: Unknown artist's interpretation, Wikicommons)



Amos Smalley, a Tribe member and famous whaler, harpooned a 90 foot long white sperm whale. During the 19th century many Wampanoag men traveled the world on whaling boats making up as much as half of the early whaling crews. (Credit: Wampanoag Tribe of Aquinnah)

1641

Thomas Mayhew is granted the deed to Martha's Vineyard from Sachem Tawaquatuck and sets out to convert the Wampanoag to Christianity and a "civilized" lifestyle.

1776

Following the American Revolution, The Propagation of the Gospel Company return to England leaving lands in Aquinnah to the Tribe.

1799

Gay head lighthouse is built to guide ships past the treacherous Devil's Bridge, a dangerous reef off the coast.

A History of Tourism

Since the 1850s, tourists have been coming to Aquinnah to explore the intensely hued cliffs, famous Gay Head lighthouse, and Wampanoag culture and craft. In the early years, visitors arrived on steamers, docked at Pilot's landing north of the cliffs and took oxcart tours around the headlands surrounding the cliffs.

Meanwhile, the Wampanoag struggled to adjust to living in a different social and economic paradigm dictated by non-tribal authorities. Tourism provided a way for some to stay on their land and support their families. The 227 remaining Wampanoag Tribe members adapted, leading oxcart tours, selling handmade artwork, and building inns and restaurants to host visitors.

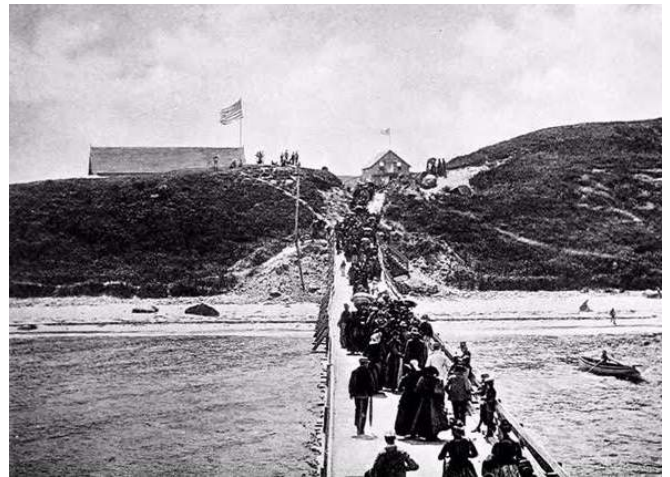
Shops began as little tables where Tribe members would sell pottery made of clay harvested from the cliffs, bead work made from shells, and fresh lobster rolls. By the 1950s, some of the shops began moving to the top of the circle and electricity arrived in Aquinnah. Shops, restaurants and inns came and went, burned down and were rebuilt, but always provided income in an remote place.

Despite changing modes of transportation, the same culture of tourism and its economic importance continues today. The shops are still owned by Tribe members and are an important source of income for individuals who want to continue living in Aquinnah or need a summer job to support their studies. While less of the artwork available in stores is made in Aquinnah, the stores still play a vital role in showcasing Wampanoag culture.

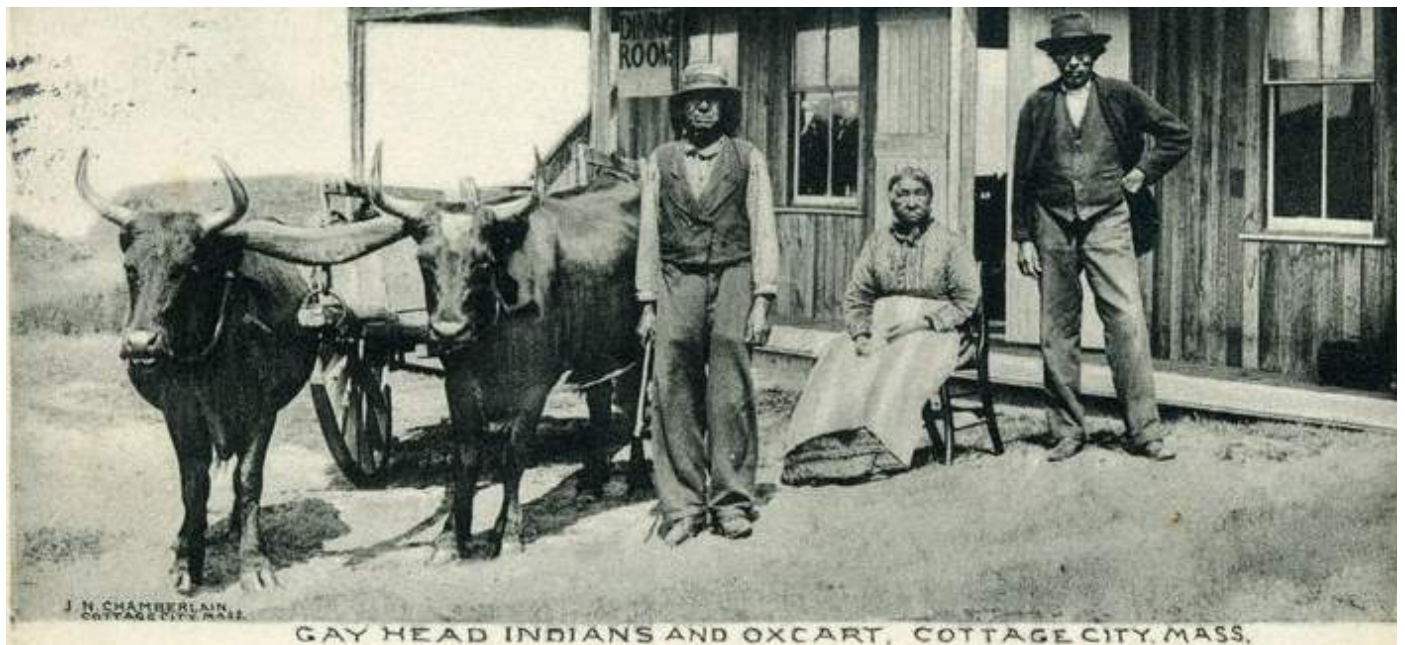


<http://www.manyhoops.com/introduction.html>

Tribe members worked through the winter to produce art pieces sold initially at tables (Left) and today in shops. (Middle) Steamers used to run from New Bedford, Providence or Edgartown every Sunday and docked at Pilots Landing near the Aquinnah Cliffs. Upon arrival, many hired oxcart tours led by Wampanoag families (Bottom). The tours led them around the cliffs, to the lighthouse, and to the inns and makeshift shops at the head of the cliffs.



The Project Gutenberg



Martha's Vineyard Museum

1840-1850

State of Massachusetts builds road to lighthouse, steamers begin landing at Pilot's landing near the cliffs loaded with tourists.

1870

Town of Gay Head officially incorporated. Tribal lands are divided into plots.

1966

U.S. Department of Interior lists Aquinnah Cliffs as a Registered National Natural Landmark.

Social and Land Use History (cont.)

Cultural Revitalization

Since gaining federal recognition in 1987, the Tribe has begun to revitalize and reclaim parts of their culture. In the settlement, the Tribe was returned 238 acres of cranberry bogs and common lands and another 239 acres were purchased in Aquinnah with federal funding. Like Moshup and the Sachemships of the past, the Tribe maintains the traditional positions of Chief and Medicine Man. It elects a 11 person Tribal Council that oversees the administrative functions of the Tribe and interfaces with the federal, state, and local governments.

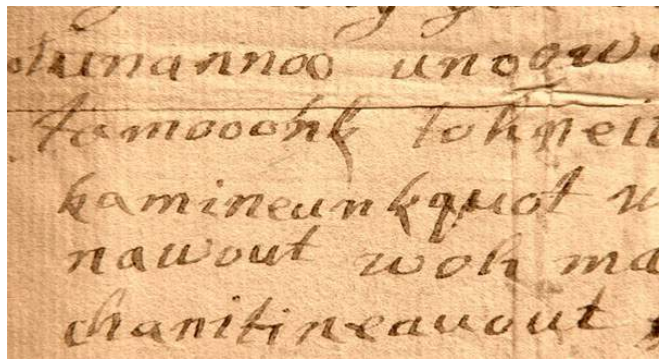
In 2006, the Tribe opened the Aquinnah Cultural Center (ACC) at Vanderhoop Homestead which had been recently purchased by the town. Its goal is to help community members “return to original Wampanoag lifestyles and values with a modern lifestyle layered upon the traditional.” The ACC seeks to teach Wampanoag material culture and to revitalize tradition by inviting whole families to participate in ongoing programs.

The Wôpanâak language had been silent for more than 150 years, but, using numerous documents and deeds from the 1600s (including the entire King James version of the Bible), Tribe members were able to relearn it. The Wôpanâak Language Reclamation Project started in 1993 as a joint project of the Mashpee and Aquinnah tribes as well as the Assonet band of Wampanoag. Since then, dozens of tribal members have learned to speak and educate other about the language.

The annual Powwow returned to the Circle in 2004 and the Tribe installed an interactive kiosk in 2014 to help teach visitors about the cultural importance of Aquinnah.



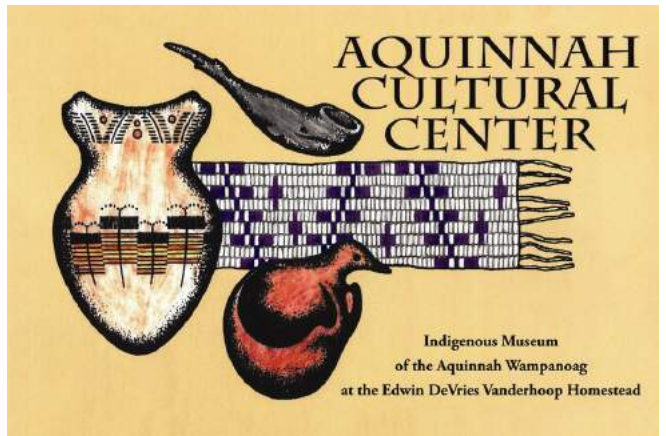
Traditional dancing at the annual Powwow which takes place in September. (Credit: Lynn Christoffers, The Martha's Vineyard Times)



Notes in Wôpanâak language from a 1663 bible used to reclaim the spoken tongue after a 150 year hiatus. (Credit: Wôpanâak Language Reclamation Project)



The interactive kiosk opened by the Tribe in 2014. (Credit: Nathaniel Horwitz, The Martha's Vineyard Times)



The Aquinnah Cultural Center engages community members and visitors in Wampanoag culture and history. (Credit: Wampanoag Tribe of Aquinnah)

1987

Wampanoag gains federal recognition, reclaiming some of their land.

1998

The Town of Gay Head is changed to Aquinnah (End of the island) as per popular town vote.



As part of the lighthouse move, the Town acquired an adjacent property and a new park was placed at the lighthouse's former location. (Credit: Charles Krupa, AP)

Town and Tribe Partnership

In recent years, the Tribe and Town have collaborated on projects ranging from providing emergency services, to purchasing the Edwin DeVries Vanderhoop Homestead and opening the Aquinnah Cultural Center there, and establishing a right of first refusal for Tribal members for the leased lots atop the Circle.

For many years, the lighthouse has served as a beacon, guiding visitors to Aquinnah and dominating their first view of the Circle. Recently, that beacon was threatened as eroding cliffs encroached its base. Recognizing the impending threat and the importance of the historic feature to the rustic, secluded vistas, the town set out on a massive effort to save it.

By 2015, Aquinnah raised almost \$3.5 million to finance the move of the lighthouse. In May of 2015, it was moved 129 feet, protecting it for at least another 140 years. In January of 2016, the Tribe and Town worked in partnership to form the Aquinnah Cultural and Historic District, a designation which will help draw more visitors and open funding avenues. The continued success and charm of the Circle will benefit both entities into the future.

2006

The Town acquires the Vanderhoop homestead and the Aquinnah Cultural Center opens.

May 2015

Gay Head lighthouse is moved 129 ft. to save it from the eroding cliffs.

January 2016

The Circle is officially designated as a Cultural District by Massachusetts Cultural Council.

Aquinnah Circle Cultural and Historic District

Context

In January of 2016, the Massachusetts Cultural Council designated Aquinnah Circle as a Cultural and Historic District. This marked the first cultural district in the nation where a town and Native American tribe worked in partnership. According to the MCC, “The Massachusetts Cultural Council Cultural Districts Initiative grew out of an economic stimulus bill passed by the Massachusetts legislature in 2010. It is designed to help communities attract artists and cultural enterprises, encourage business and job growth, expand tourism, preserve and reuse historic buildings, enhance property values, and foster local cultural development.”

What is included?

The Aquinnah Circle Cultural and Historic District includes the lighthouse, shops, overlook, Aquinnah Cultural Center, and the trails leading to Moshup beach and around the north head of the cliffs. It also includes the Aquinnah Headlands Preserve, a 48.5-acre conservation area to the north and south of Aquinnah Circle (see Appendix for map).

What does it mean for Aquinnah Circle?

The Massachusetts Cultural Council will provide a matching grant for \$2500 to help pay for signs and wayfinding infrastructure.

The Martha’s Vineyard Chamber of Commerce and the MCC will provide increased publicity for Aquinnah Circle and appeal to tourists who are more inclined to take time to learn the cultural significance of the area.

More importantly, the designation may help attract “cultural tourists,” who tend to spend more time and money at destinations. These visitors “seek out distinctive experiences focusing on visual and performing arts, architecture, cuisine, and craft.” According to a study by Americans for the Arts, cultural tourists spent on average 60% more per capita than local tourists in 2010. The study found that a growing number of Millennials are seeking out cultural tourism opportunities with 73% indicating that they “want to engage a destination’s arts and cultural assets.”

How can the designation be used in the future?

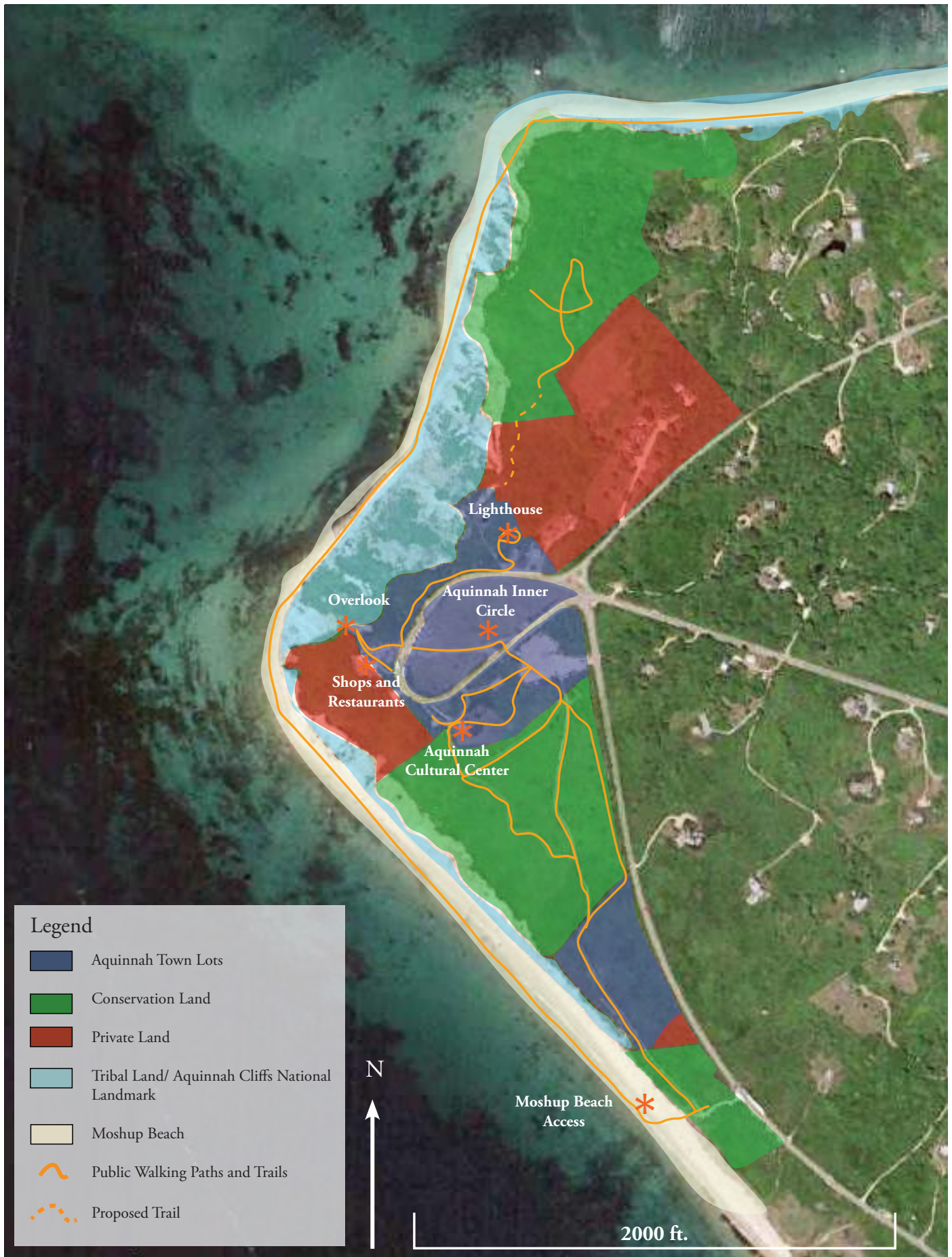
The designation may lead to further grant support from the Massachusetts Cultural Council and can make areas within Aquinnah Circle more competitive for art and cultural grants from other agencies

“To create a journey-like experience for visitors and satisfy their interests in shopping, local Wampanoag and Island history and culture, and recreation that is infused with the scenic beauty of the Aquinnah coastline.”

- Aquinnah Circle Cultural and Historic District Vision Statement



(Credit: Massachusetts Cultural Council)



Aquinnah Circle Cultural and Historic District includes key physical structures such as the lighthouse, the inner circle, the Aquinnah Cultural Center, the overlook and the trails running over Land Bank conservation property (Source: Google Earth)

Aquinnah Today

“Aquinnah is a very special place, a place inhabited by a number of communities—Wampanoag, summer residents, other year-rounders—and a place with powerful visual identity drawn from the famous cliffs and less famous but equally important moorlands, hills, and ponds. This is not a place where one casually happens to live; it is a place of choice.”

-Shaping A Vision for Gay Head, 1997



Credit: Town of Aquinnah



Credit: Wampanoag Tribe of Gay Head

Martha's Vineyard is known for being a tourist destination and Aquinnah is no different, yet it is far away from the lively, commercial tourism in other towns like Edgartown. Despite their small numbers, Aquinnah's local population is culturally rich and historically unique. According to the 2010 census, Aquinnah's year around population was 311 people. During the summer, this number increased to 2,063. The increase of 1,752 is due to guests of year-round residents, seasonal vacationers, and transients.

Life in Aquinnah changes dramatically with the warm weather. The local economy must cater to the major influx of tourists and second-home owners. The tourism and service industry supports the local economy.

The livelihood of the year-round residents depends heavily on the wants and needs of those who only spend days, weeks, or a few months on the island. Tourism gives the locals work, yet causes the cost of living to skyrocket and drives the locals off of the island. The average household income was \$45,208 in 2000. Only 30% of houses in Aquinnah are lived in year-round.

Aquinnah is the most rural of all towns on Martha's Vineyard. Undeveloped land makes up 47% of the town, with 15% of that protected. It is important to the community to preserve its wild character.

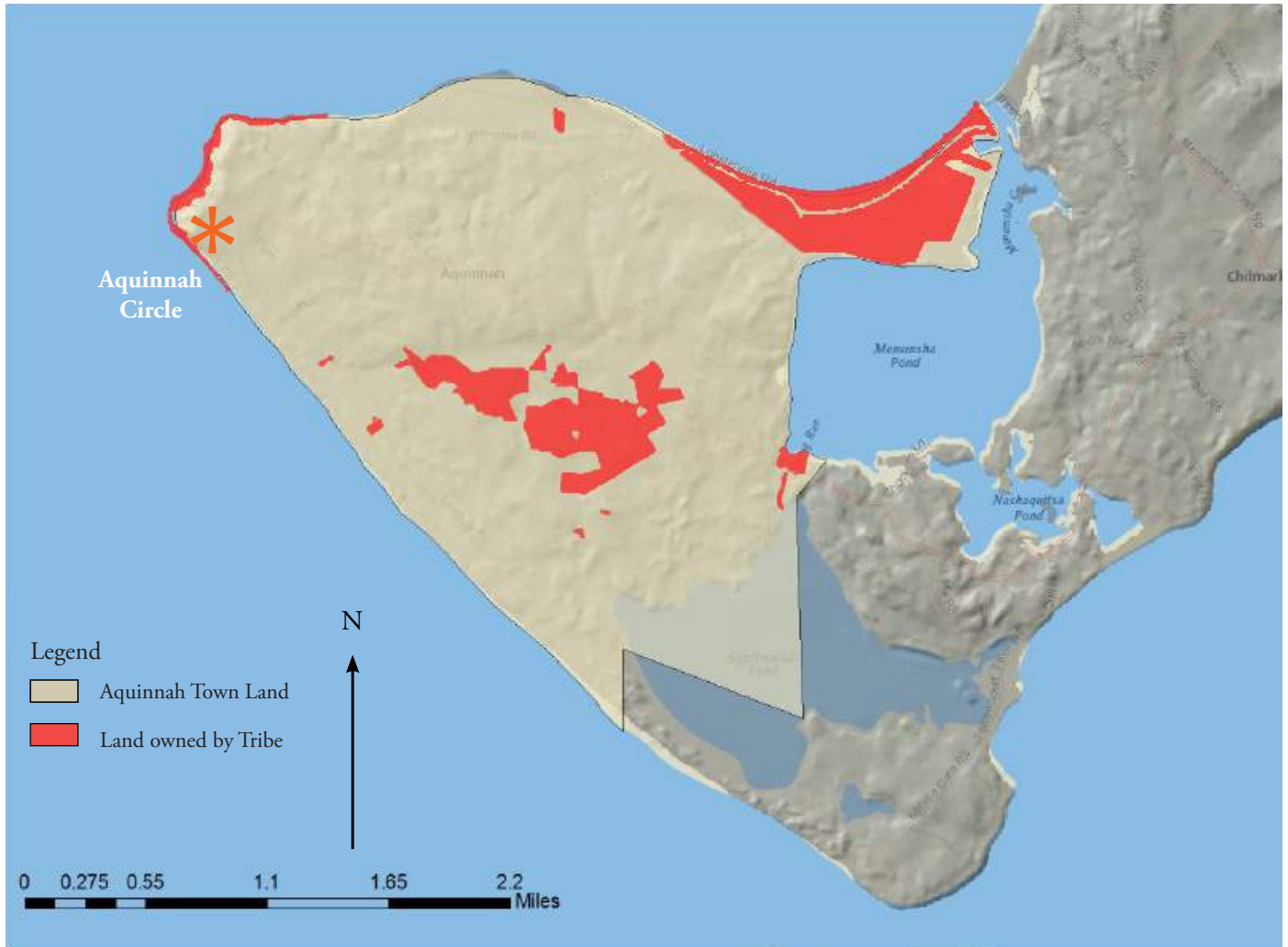
In 1997, the Town held visioning sessions for the entirety of Aquinnah and its conclusions are still relevant nearly twenty years later. Aquinnah was recognized as:

1. *A place inhabited by multiple communities, with all the mutual benefits and synergies that can provide*
2. *A place where the natural environment is still dominant visually and functionally, a fragile relationship in the face of huge growth nearby*
3. *A place with population small and stable enough that, despite all the tensions which being small, stable and complex inevitably produces, there really is a shared Aquinnah community, along with the multiple communities which inhabit the place*

(Source: Aquinnah Community Development Plan, 2004)

As the town moves forward with a visioning process for the Aquinnah Circle Cultural and Historic District, these tenets will still apply but on a smaller scale. The overall goals must be remembered: to support both the local and native people of Aquinnah, and protect the natural communities that make Aquinnah so beautiful and rustic.

Current Tribal Land Ownership



As of 2011, the Tribe owned 481.4 acres of land in Aquinnah as well as two parcels in West Tisbury. Of this only 98 acres can be developed. According to the 2010 census, 76 Tribal members were listed as residents compared to 1200 registered Tribe members. (Source: Office of Geographic Information (Mass GIS), Commonwealth of Massachusetts, Information Technology Division)

Tribe and town members earn on average much less yearly than the state (\$64,509) and county (\$77, 231) despite extremely high property values. The financial pressure is driving locals to find work and housing outside of Aquinnah and off island. This makes the economic viability of the Circle all the more important.

Current demographics reveal that 26% of the town population are Tribe members. There are only 76 Tribe members still living in Aquinnah, compared to 1200 total registered. Aquinnah, although beautiful, is a difficult place to make a living, especially with the steadily rising cost of living.

Town of Aquinnah Statistics

Population: 311
Average income: \$57,500
Acreage: 3685 acres

Wampanoag Tribe of Aquinnah Statistics

Population: 76 (1200 total membership)
Average income: \$43,167
Total land owned: 481.4 acres
Acreage that can be developed: 98 acres

Properties assessed under \$600,000: 12%

Housing Affordability Gap: \$352,500

Ecology

The ecology of Aquinnah is unique and ever-changing due to its proximity to the powerful ocean and the strong winds. Despite this, it is home to a great range of species and has sustained human communities, who hunted, foraged, and fished, for thousands of years.

Unique geological processes formed Aquinnah's rural and undeveloped environment where natural communities flourish. According to BioMap2, a State-funded conservation resource developed by Massachusetts Department of Fish and Game's Natural Heritage and Endangered Species Program, Aquinnah is 76% Core Habitat and 83% Critical Natural Landscape. These areas support rare and endangered species and have the ability to sustain healthy ecosystems and efficiently recover from disturbances.

The Aquinnah Headlands Preserve is 48.5 acres, located to the north and south of Aquinnah Circle. It is protected and maintained by the Martha's Vineyard Land Bank. This includes four general habitat communities: coastal shrubland/grassland complex, coastal woodland, beach/dune, and perched wetlands. The harsh conditions (salt spray, wind, nutrient-poor sandy soil) stall succession and are considered a natural form of maintenance.

These communities provide habitat for a diverse group of plants, insects, animals, and birds. The area is home to seven state-listed species: dune noctuid moth, straight lined mallow moth, least tern, northern harrier, piping plover, northeastern beach tiger beetle, and broad tinker's weed.

Three parcels within Aquinnah Circle are under conservation restriction following the move of the Gay Head Lighthouse in 2015. During the permitting process, the parcel to which the lighthouse would be moved was found to be a potential habitat for broad tinker's weed. Since the move was scheduled for early summer, the Conservation Commission would not have ample time to observe if the plant was actually present within the parcel. Instead of postponing the project, the town instead conducted a "taking": protecting land within the immediate area to compensate for potential habitat destruction. The town must propagate broad tinker's weed and plant it in these conserved parcels.

Since Aquinnah Circle brings up to 100,000 people per year to the cliffs and beach, part of the town's priorities must include protection of the biodiversity that exists and respect the natural processes that cannot occur with too much human interference.

(Sources: BioMap2, Aquinnah Headlands Preserve Management Plan 2010)



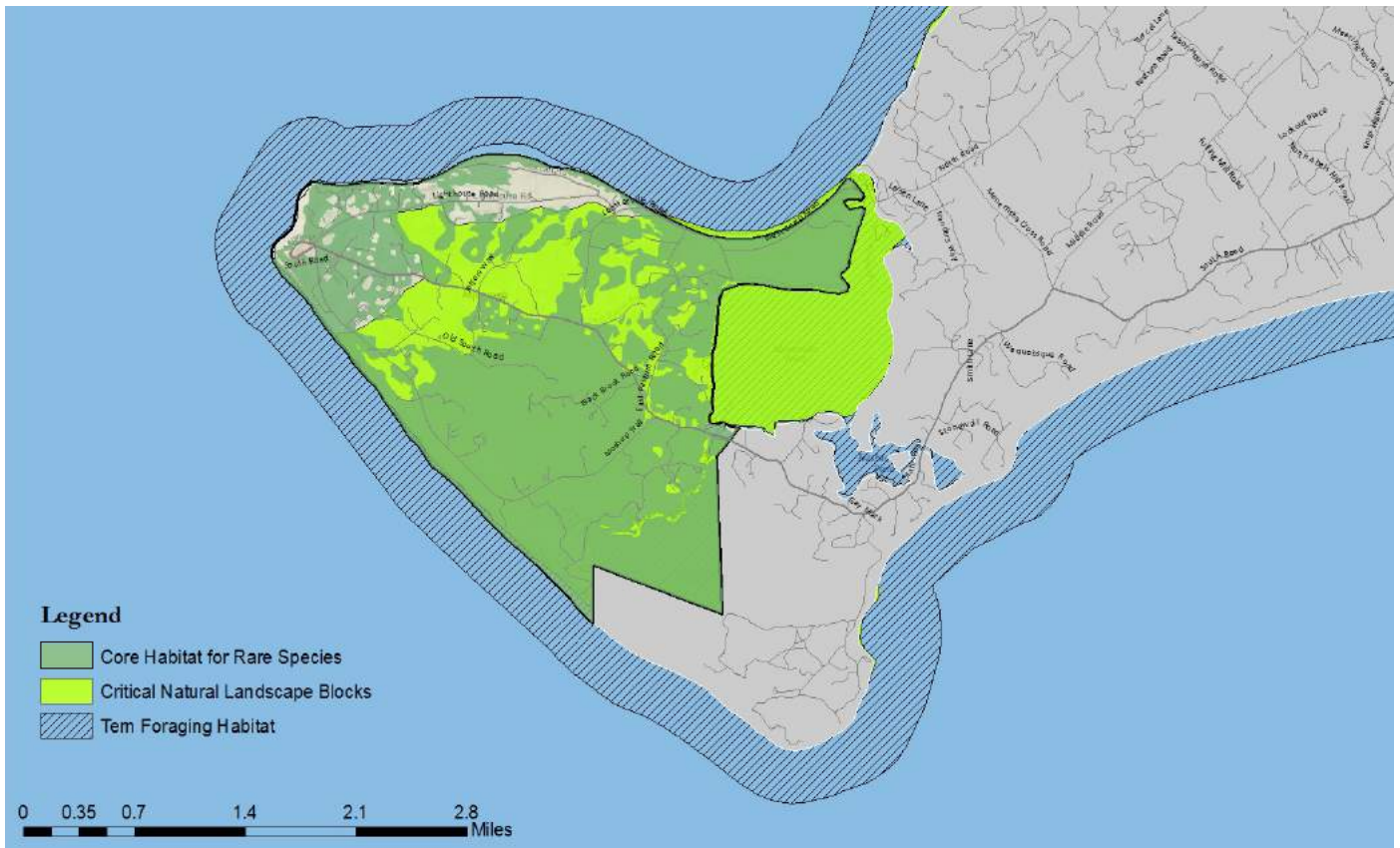
Three parcels, totaling 2.1 acres, were put under conservation restrictions in response to the move of the lighthouse to provide habitat for broad tinker's weed. (Base image source: Google Earth)v



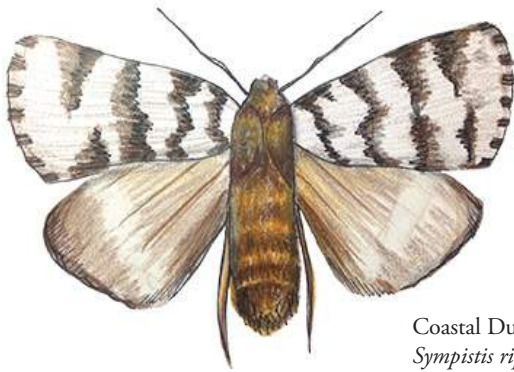
Broad Tinker's Weed
Triosteum perfoliatum
Endangered



Least Tern
Sterna antillarum
Special Concern (State of MA)



The unique ecological communities of Aquinnah provide a place of refuge for rare species because it has remained undeveloped compared to the rest of Martha's Vineyard. (Source: Office of Geographic Information (Mass GIS), Commonwealth of Massachusetts, Information Technology Division)



Coastal Dune Noctuid
Sympistis riparia
Special Concern (State of MA)



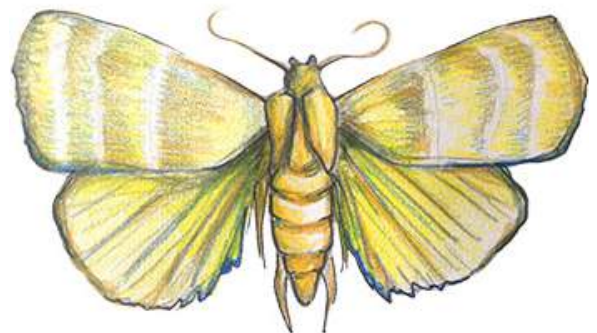
Northeastern Beach Tiger Beetle
Cicindela dorsalis
Endangered



Northern Harrier
Circus cyaneus
Threatened

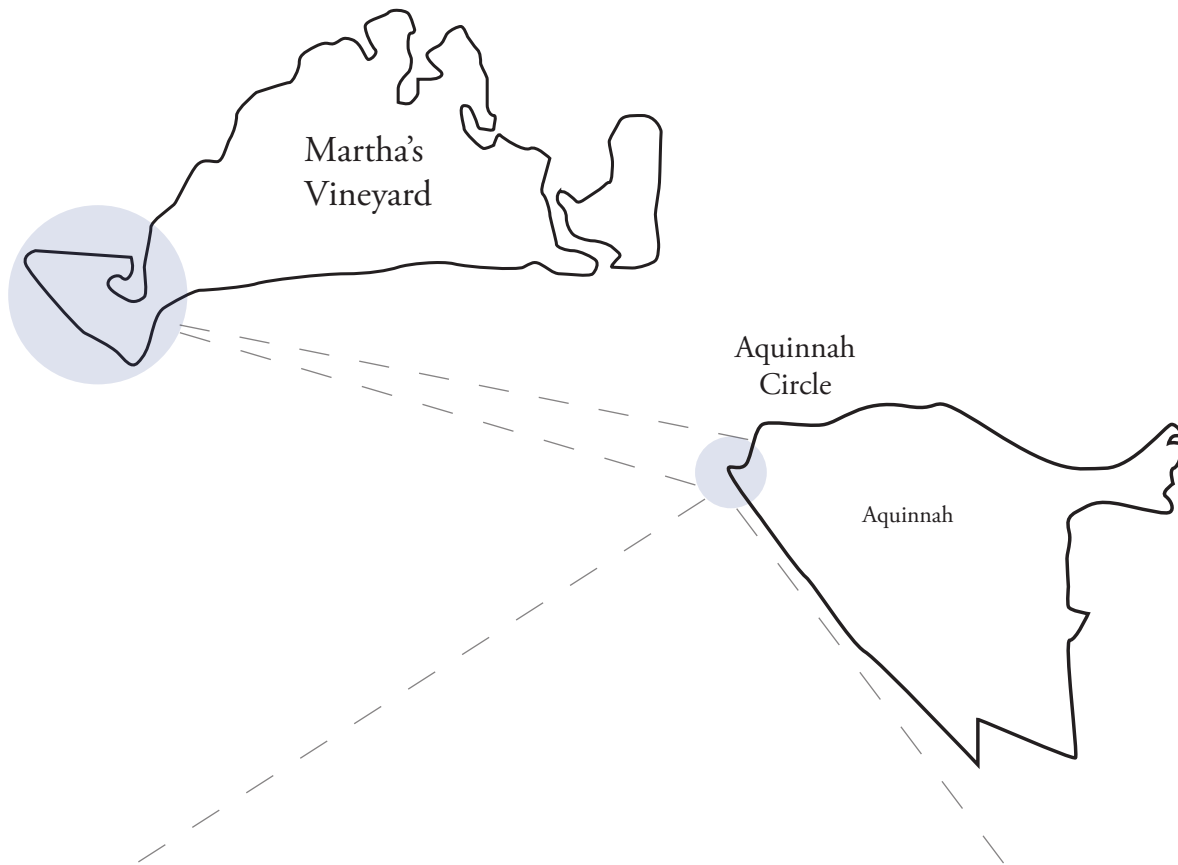


Piping Plover
Charadrius melodus
Threatened



Straight Lined Mallow Moth
Bagisara rectifascia
Special Concern (State of MA)

Spatial Orientation



Aquinnah lies at the extreme southwest point of Martha's Vineyard, a day trip for many tourists visiting the island. As visitors approach the 16-acre Aquinnah Circle, the landscape changes dramatically from oak forest to open grasslands. The popular destinations are primarily distributed on the outside of the Circle, which slopes upward dramatically from the entrance. (Credit: Google Earth)

Visitor Experience at Aquinnah Circle

This is a site tour representative of the experience of a tourist at Aquinnah Circle, written as a journal entry from the perspective of a fictional visitor.

After a forty minute drive from the ferry terminal in Vineyard Haven, we arrived at Aquinnah Circle. A long, narrow road led us across the island and through oak woods before it opened up into a wind swept grassland. From this low point, the dramatic upward slope hid the expansive views we'd seen in photographs from travel brochures. Before emerging from the wooded road into the Circle, we spotted the Gay Head Lighthouse towering over the trees, its lens spinning and flashing incessantly.



The rolling, grassy hills of the inner Circle up to the shops differ dramatically from the oak woods that make up much of Martha's Vineyard.



The town unanimously supported moving the Gay Head Lighthouse back from the cliff in May of 2015. The passion and enthusiasm for this project set a precedent of agreement and cohesion for the Town of Aquinnah. (Credit Drew Kinsman)

The one-way loop road brought us first to the lighthouse, which was constructed in 1799. It is built of red brick and stands 51 feet tall in its new location, further from the edge of the cliff.

Where the lighthouse formerly stood is a new park, with foundation stones marking its original placement. Three white stones and one red create a circle: red facing east towards the sunrise in Wampanoag tradition and also representing the light pattern of the original Fresnel lens that occupied the lighthouse, now in the Martha's Vineyard Museum. The three buildings standing in front of the lighthouse are known as the Manning Property. The Town acquired them when the lighthouse was moved and is currently debating their official use. The former owner, Helen Manning, was a beloved tribal elder, historian and school teacher, and community members are deeply attached to the home as a gathering space.



The Manning Property, currently owned by the town, sits directly in front of the lighthouse. Its future is undecided at the present moment.



The large parking lot earns significant income for the town, but those parking here most often do not spend time and money at the Circle.

As our car rounded the corner, we approached what seems to be the central point of the entire area. A bus load of visitors had been dropped off and were milling around, crossing the road and climbing up a staircase to what looked like small New England style shacks. The smell of fried seafood wafted through the car window. Before exploring the bustling place, we had to find a place to park. After waiting for a group of tourists to cross the road, a police officer waved our car on.

Although there is a large pay lot at the bottom of the Circle, it seemed to be mostly for beach goers. Spaces lining the Circle were free, yet limited to an hour. We drove in circles, looking for a free space, until a car fortunately pulled out in front of us. We finally stepped out of our car and made our way along the road, up to the top of the Circle.



Tribal owned shops and restaurants are a focal point at the Circle, yet there are not enough year-round visitors to remain open through the off-season.

The liveliness of this area was due to the many shops and restaurants. There were displays of wampum jewelry, key chains, postcards, shells to bring home as gifts, and long lines to the take out windows serving local seafood delicacies. Families shared a picnic table to eat and enjoy the view. A kiosk to the back explains that this is a sacred place, one of a long cultural history for the Wampanoag Tribe. We suddenly realized that we were surrounded by Tribe members who owned and ran the businesses! We had no idea such a beautiful place had a rich cultural history and a present day, native presence as well.

Hidden behind the shops, a brick walkway led us up to the overlook, a worn cement platform on the edge of the cliff. We remembered why we made the trip to Aquinnah in the first place: for this view. The majestic lighthouse, the open ocean, and most importantly, the vividly marbled clay cliffs.



The magnificent Cliffs are unique to Aquinnah. This coveted view is unlike any other on the island. Viewers have noticed changes in size and color over the years as the cliffs erode.



The Vanderhoop Homestead, housing Wampanoag history and artifacts, is now owned by the Town of Aquinnah and surrounded by conservation lands and restored meadows.



The bathrooms are out of place and highly visible. Maintenance is expensive and septic systems damage the surrounding ecology.

After a long drive and a meal, we then needed the bathroom, which was not easy to find. We asked a shop owner, who noted how often he was asked that question and directed us across the grassy Circle, down a steep gravel path, showing signs of erosion. The squat, gray building looked out of place in such a beautiful environment, and too far from the action. An attendant at the door charged us 50 cents for entrance! After scrounging for change, the journey to the toilets was complete.

By now, we had spent nearly an hour at the Circle and our parking limit was almost up. We glanced back up to the Circle and spotted a building partially hidden by trees. This was the Vanderhoop Homestead, the former home of a Tribe member and now the Aquinnah Cultural Center (ACC), a resource for learning about Wampanoag history and their influence on the

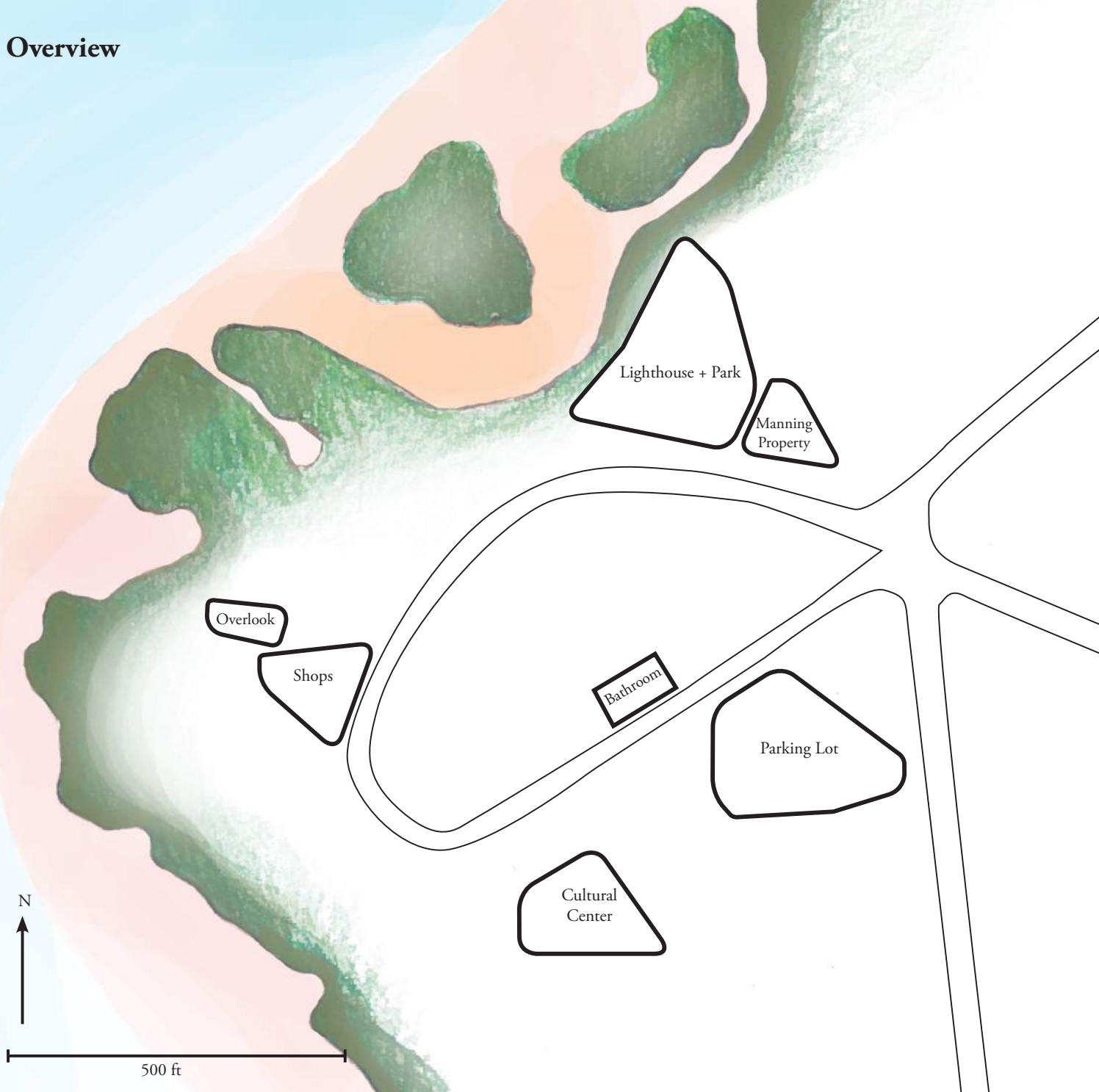
island. We couldn't resist taking a quick look. We saw time-honored photos and artifacts of native origin and recordings of Tribe elders telling stories of their childhoods. We could have spent our entire hour there, but we unfortunately only had a minute. From the back terrace, we looked out into Vineyard Sound and saw a mysterious island in the distance and wondered what it was. Trails led through restored meadows and dense shrub oaks to Moshup Beach, but we will have to explore them another day.

We headed back to our car and drove away. We will remember the majestic beauty of the cliffs for a long time and vow to come back next summer to visit the ACC. We found ourselves wondering what this place is like after the tourists leave. It is nearing the end of the summer and the shops and restaurants are getting ready to close. The hectic, crowded days at the Circle will soon give way to a seemingly bare, peaceful scene. Locals will drive the Circle on their way home, bring their dogs to run on the grass, walk the beach on mornings for a serene meditation. The challenges caused by the sheer number of visitors would be simply nonexistent. It is a sacred place: for locals, for gathering—the unofficial town center of Aquinnah.

SITE ANALYSIS



Overview



Aquinnah Circle draws visitors in with its magnificent beauty and native history. The overall experience is diminished, however, by the large crowds during the summer who accelerate the destruction of the very resources they have come to admire. Navigation is undirected and confusing. Circulation and parking availability clearly favor some destinations while minimizing visitation at others. How can the site be better designed to both protect the resource and create a complete, coherent, comfortable tourist experience?

This section assesses the most pressing issues at the Circle today. The problems presented by a typical visitor's experience lead to specific analyses for the following: transportation to the circle, circulation, parking, views, slope, drainage, and soil.

These site analyses provide a base for making improvements by thinking of the Circle as a complete system. First, each individual component is investigated, then key observations are made of the interactions between the components.

The site is a coastal tourist destination: a looped road surrounded by individual and distinct destinations. These destinations are on Town-owned land. The Tribe leases the shops and Cultural Center from the Town. The cliffs themselves are the property of the Tribe and are federally protected.

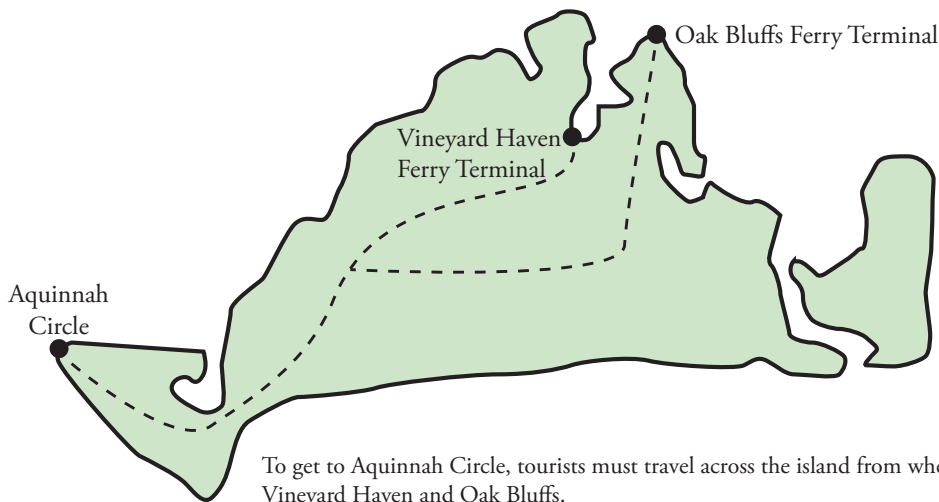
Transportation to the Circle

Many different people visit the Circle including locals (Tribe and town members), summer residents, and tourists.

Aquinnah is the furthest town from ferry terminals in Vineyard Haven and Oak Bluffs. Buses stop hourly at the site during the summer, bringing as many as 40 people at one time from all over the island. By car, it is approximately a forty minute drive. Tour vans, bringing up to 15 people at once, have largely replaced tour buses.

Biking, although not encouraged by officials, is possible but dangerous with no bike lane and narrow, winding roads. The bike trail network on Martha's Vineyard does not extend to Aquinnah.

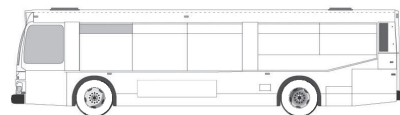
Visitors use several different modes of transportation to get to Aquinnah Circle. It is isolated on the island, yet the remoteness is part of the site's appeal.



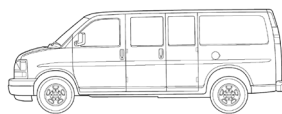
To get to Aquinnah Circle, tourists must travel across the island from where the ferry docks in Vineyard Haven and Oak Bluffs.

Peak Season Statistics

Two buses stop every 30 minutes, carrying 40-60 people on average. They require a 45 foot turning radius.



Private tour vans carry up to 15 people, have replaced tour buses, and must use regular parking spots. They require a 38 foot turning radius.



The site is currently designed for 160 cars, split between beach goers and visitors to the Circle.



Motorcycle parking is a small grassy area across from the shops.



Bike tours of up to 40 people arrive at the Circle with only one bike rack for safe storage. There is no bike trail connecting Aquinnah to the rest of the Island.



An estimated 100,000 people visit the Circle each year.



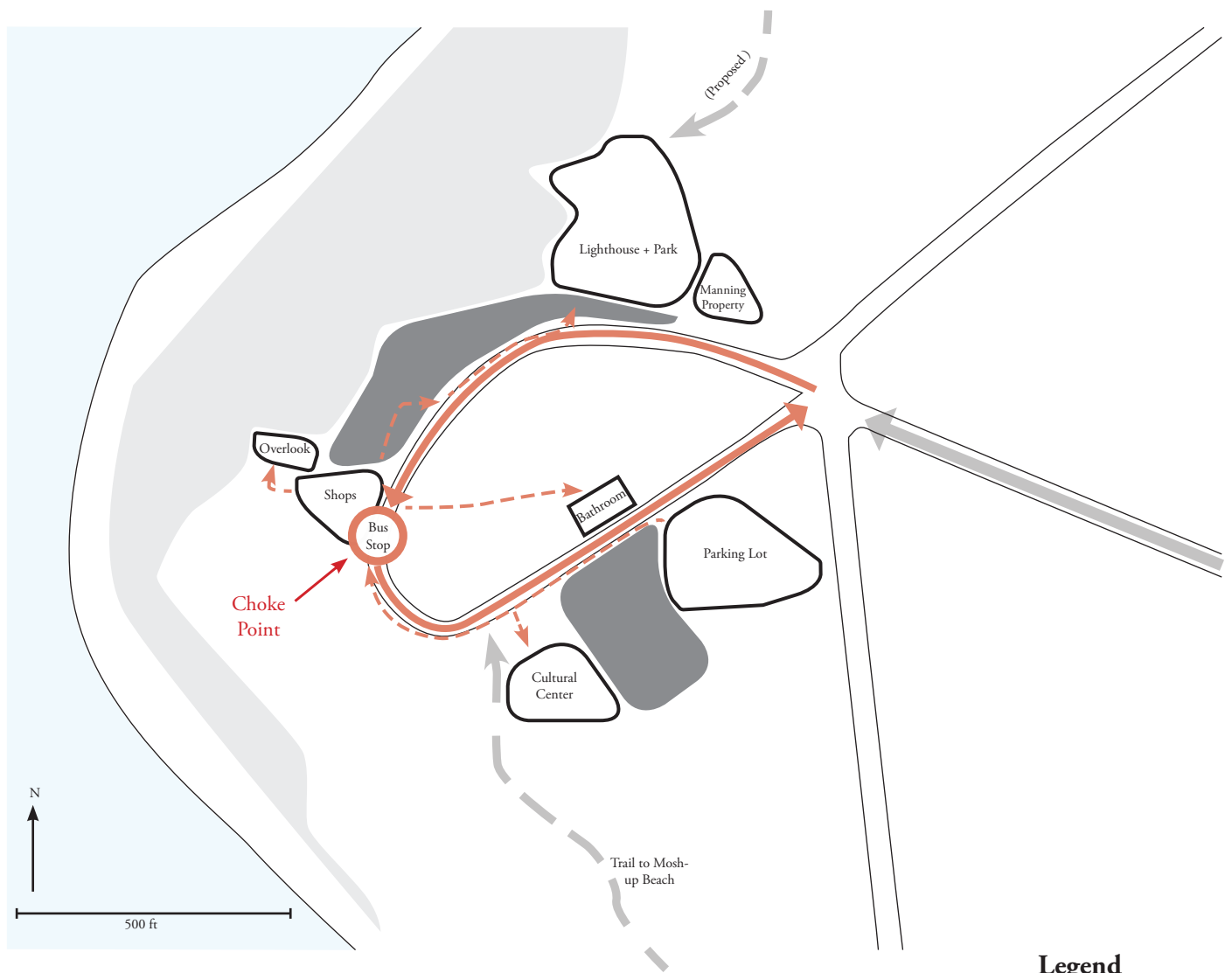
Circulation

Public hiking trails from Moshup Beach connect to the Circle from the south and a proposed trail from the north would connect the Circle to existing trails on conservation land.

Currently, the visitor experience is dominated by cars. A one-way looped road connects the features, but without separate pedestrian paths, visitors have to walk in the road to get to and from each attraction.

The bathroom, a necessary component and often a visitor's first stop at the Circle, is down a steep gravel pathway from the bus stop. Locating and walking to/from the bathroom takes valuable time away from experiencing all Aquinnah Circle has to offer. The lighthouse is too far away and the Aquinnah Cultural Center is set back and barely visible from the road.

The vehicle impact at the Circle is heavy. It is not easily walkable and unsafe for pedestrians during peak season.



Legend

- Bus stop
- Vehicle
- Pedestrian
- Cliffs
- Conservation land
- Ocean

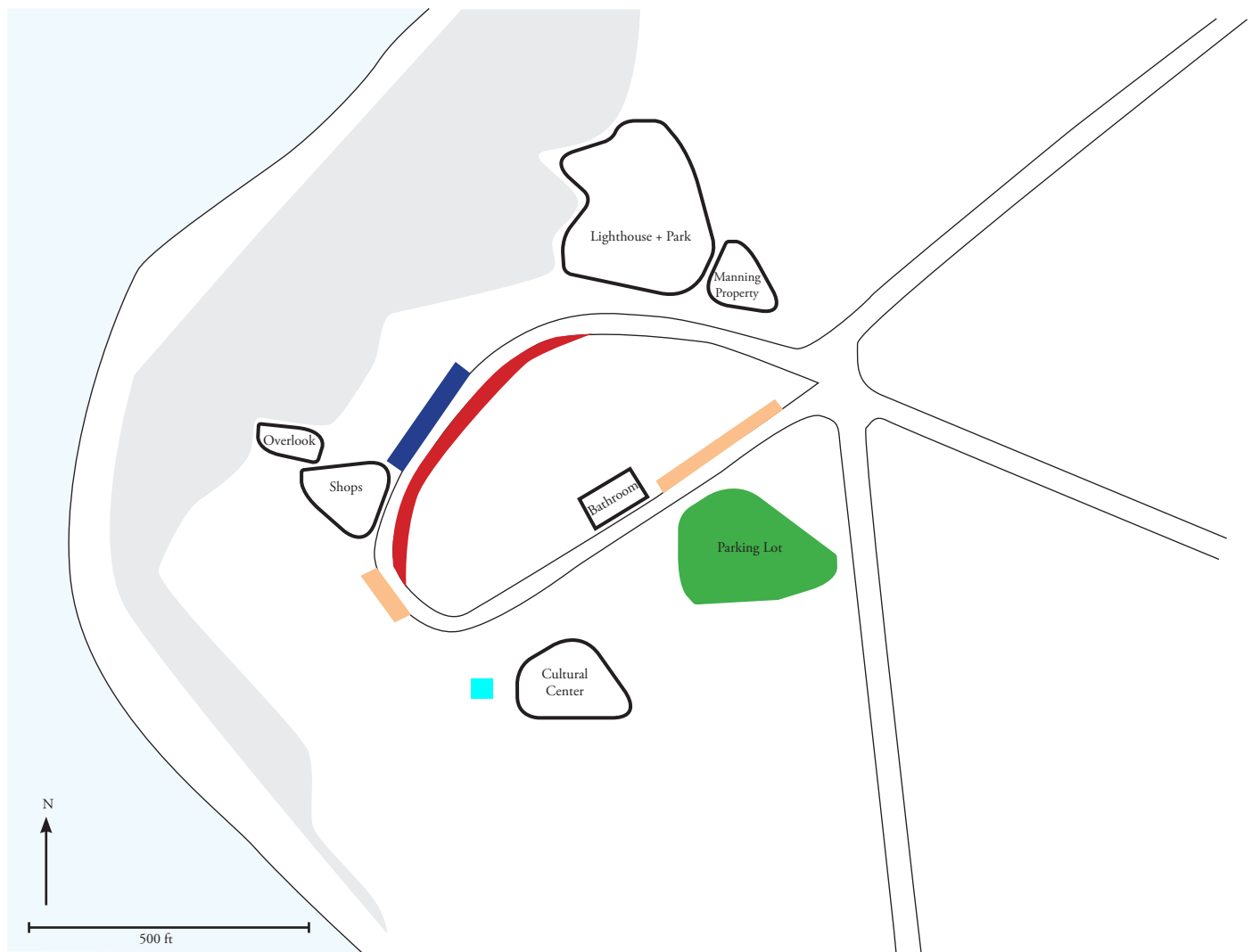
Parking Inventory

There is parking available for approximately 160 cars in total: 100 in the large pay lot and 60 on the road. During peak summer hours this is insufficient.

The large lot charges \$5 per hour (\$15 maximum for three or more hours) and is a major income generator for the town. Lot parking is mainly for beach goers. The rest of the spots are free, but limited both in number and time allowance. One hour parking is closest to the shops and strictly enforced. These spots provide quick turnover that benefits the shop and restaurant owners, but one hour is not enough to time to visit all destinations (the shops, overlook, lighthouse and ACC).

There are about 20 residential parking spots around the Circle. They are for locals and home owners in the area and are also used by renters of these properties. Tour buses park and idle near the shops and bus stop, adding to the chaos of the area referred to by locals as the “choke point.”

Parking does not currently support a full tourist experience of each destination at the Circle.



Legend

- Tour buses
- One hour limit
- Residential permit
- Pay lot
- Public and unlimited
- Cliffs
- Ocean

Choke Point: Existing Conditions

This is where buses, cars, and pedestrian routes converge, making it difficult for cars to back out of parking spots and people to cross the road. During the summer, police officers have to direct traffic. This intense management is costly to the town.

The smaller issues within the Circle are amplified here: vehicle domination, insufficient parking, unclear or non-existent directional signs.

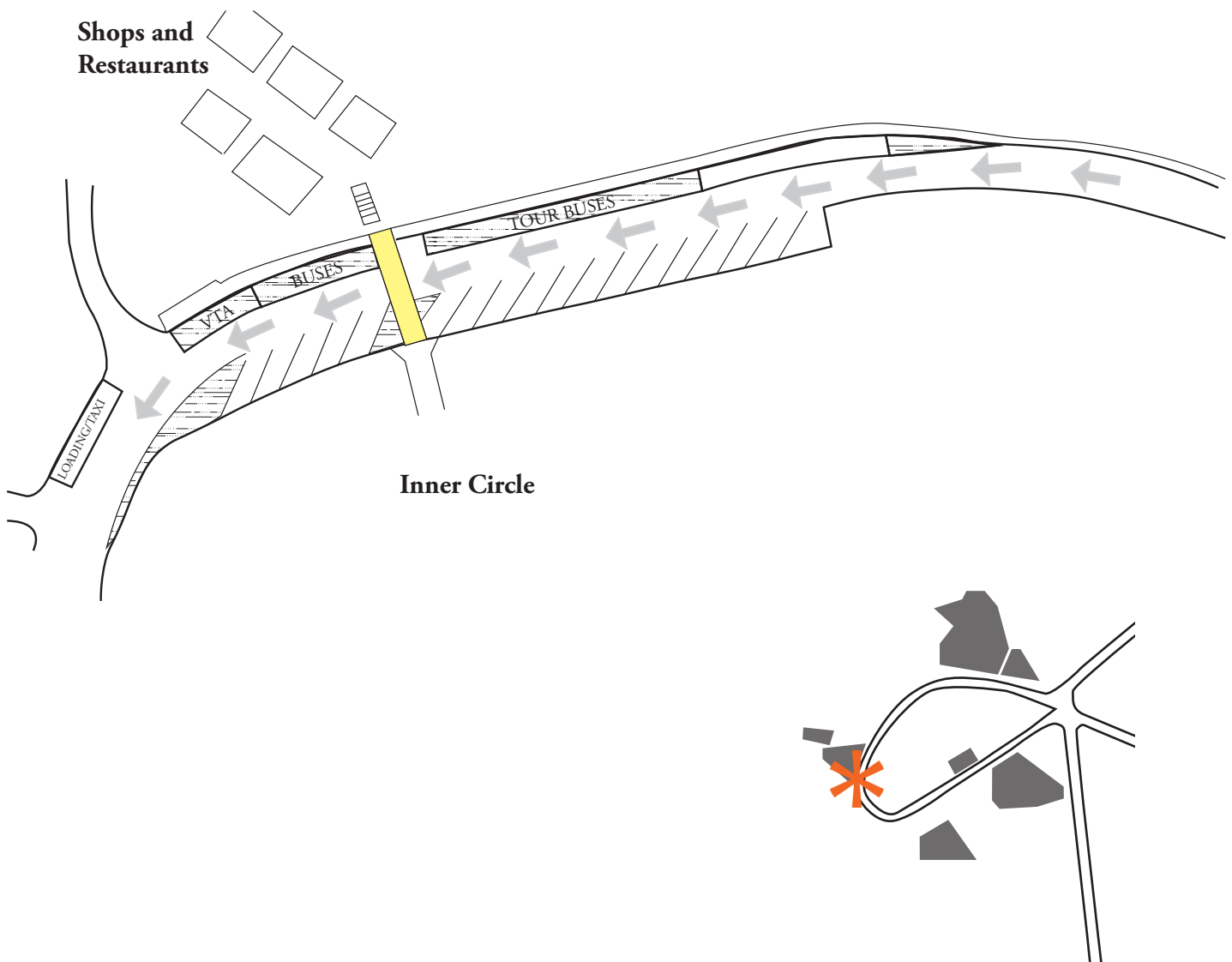
Pros:

- Easy access for tour buses to drop off passengers
- High turnover in car parking benefits shops

Cons:

- Stairs exit directly into road
- Bus drop-off space is constrained
- People must cross busy road to get to shops after parking
- Bus passengers have limited time to get down to bathrooms and visit other sites
- Tour buses may block view of pedestrians
- Police officers required to manage traffic flow

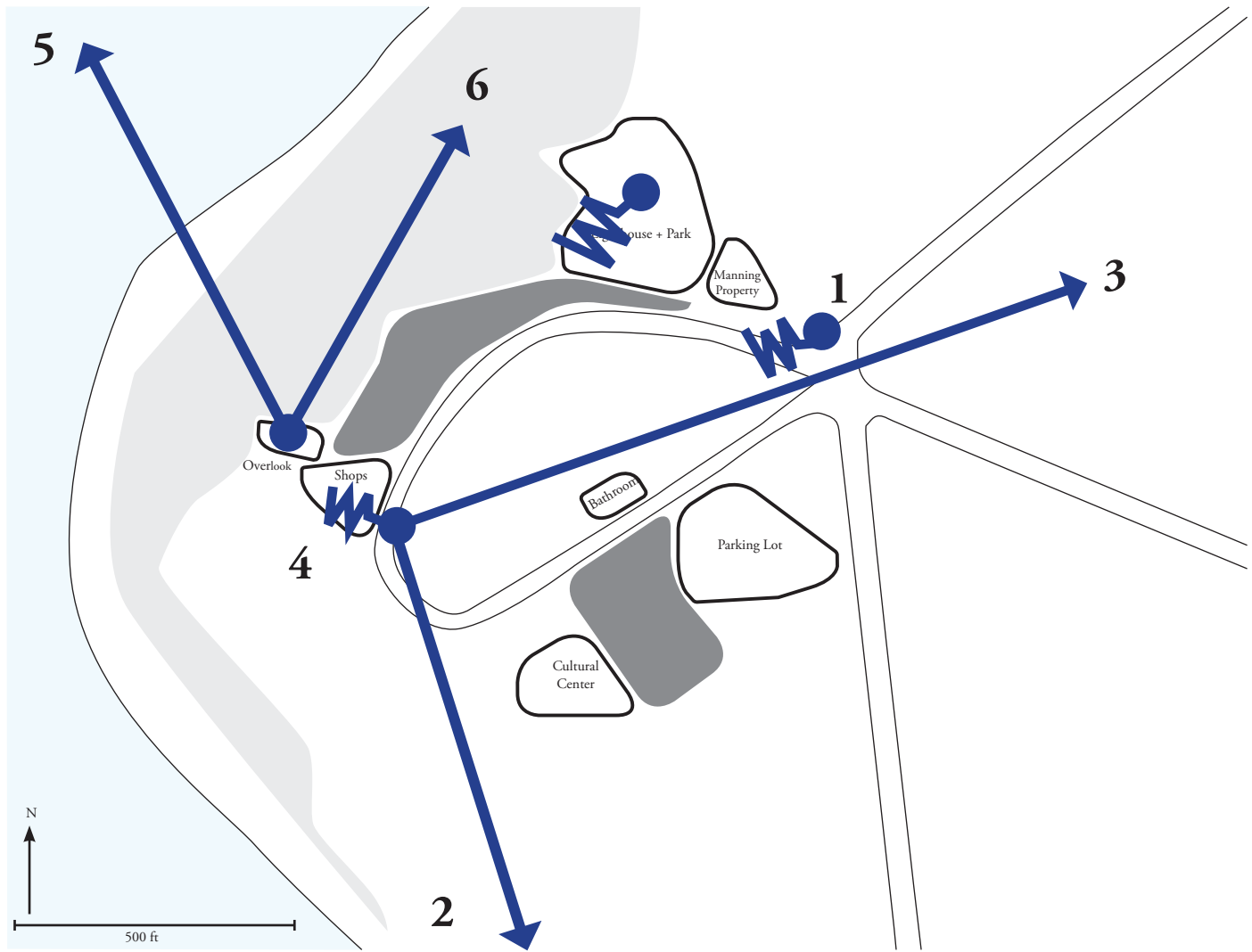
Pedestrians and vehicles crowd the entrance to the shops and create a chaotic and hazardous condition.



Views

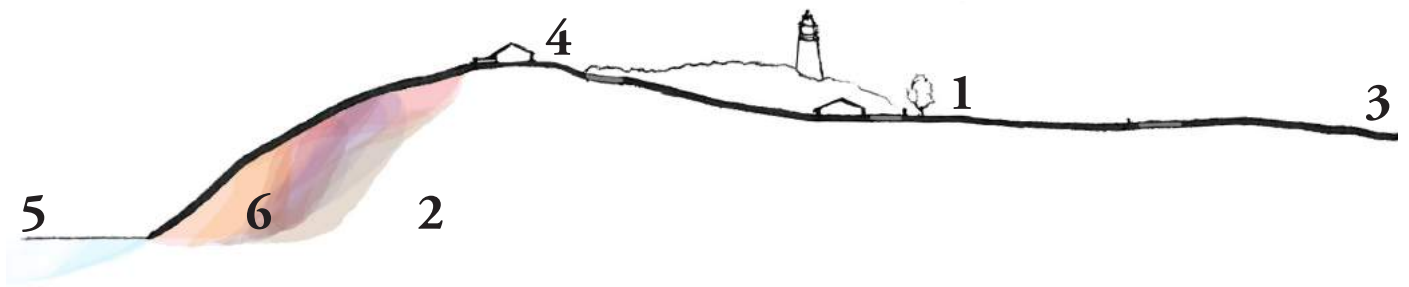
Approaching the Circle, the commanding views are hidden by the steep slopes. From the parking lot, vegetation blocks a view of the shops, reinforcing the idea that the parking lot is only for beach goers. From the shops at the top of the Circle, the views extend for miles down the south coast of the island and across Aquinnah to the east. Only from the overlook can you see the nationally recognized clay cliffs. This view is referred to as the “journey’s end”: the reward for trekking all the way out to Aquinnah.

From the top of the Circle at the shops, at the highest elevation above sea level, the views are spectacular.
From the bottom of the Circle, views are limited and hidden.



Legend

- Expansive view
- Blocked view
- Cliffs
- Conservation land
- Ocean



At the entrance to the Circle, the rise in grade blocks expansive views to the ocean.



Once at the shops, the view extends for miles down the south coast of Martha's Vineyard.



The view east from the shops stretches across forested Aquinnah.



Because the shops are elevated above the road, they interrupt the views to the cliffs.



Once at the overlook, the views are wide open to the ocean and Elizabeth Islands.

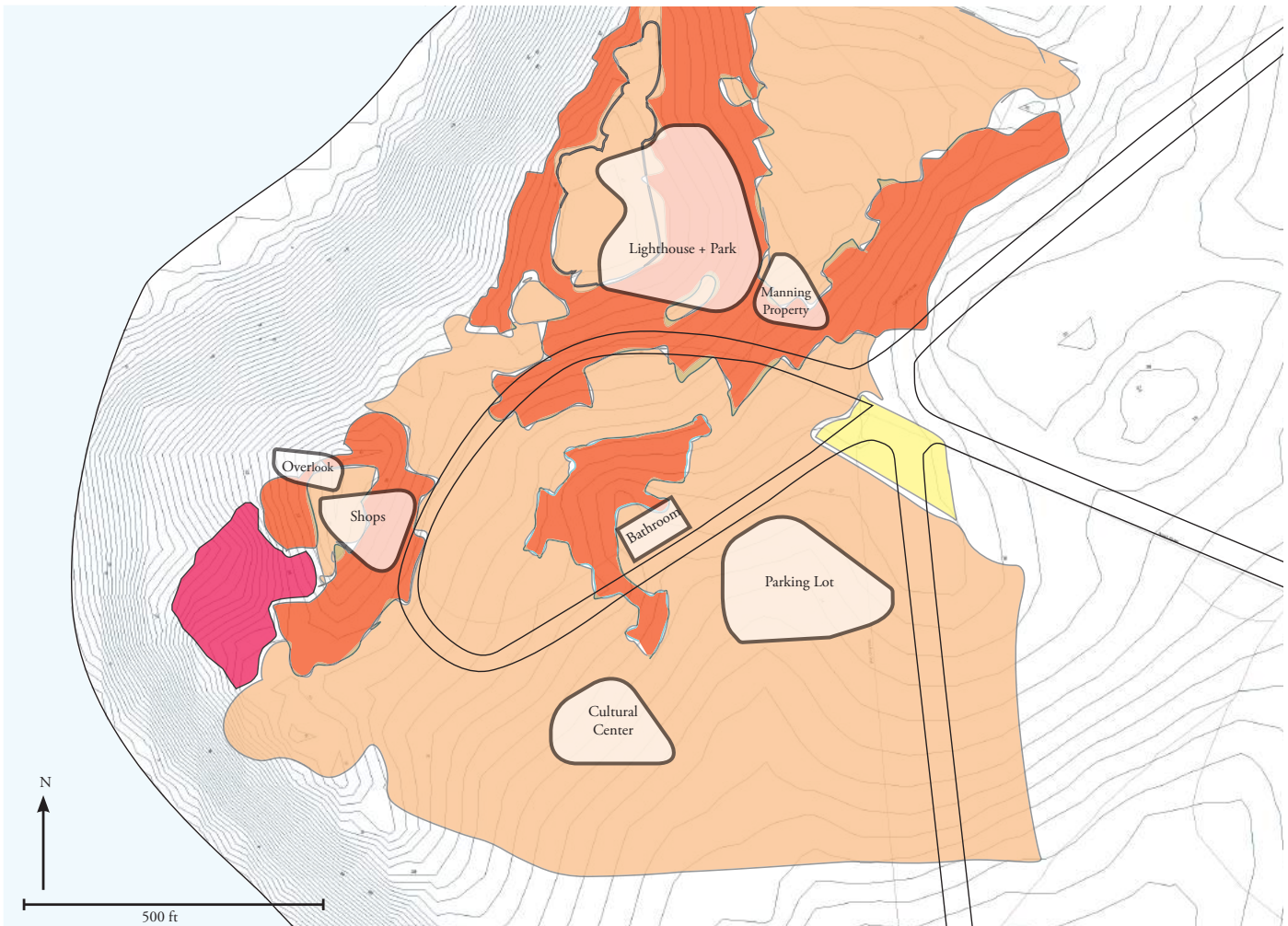


Finally, looking north from the overlook, is the quintessential view: the clay cliffs and Gay Head Lighthouse.

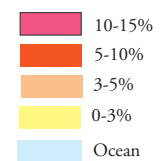
Slope

The majority of slopes on site vary between 3 and 10%, indicating a very uneven surface for walking or hosting events. The entire site slopes upward towards the northwest at an average of 5%. This contributes greatly to the dramatic experience: expansive views of the ocean are hidden at the bottom of the slope and then revealed at the top. The bathrooms and ACC are significantly downhill from the lighthouse and shops which claim the ridgeline.

The dynamic, rising topography creates drama yet significantly decreases the walkability of the site.



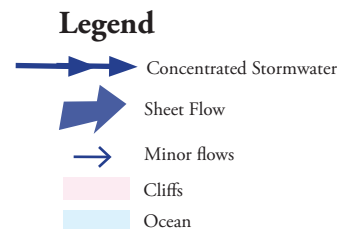
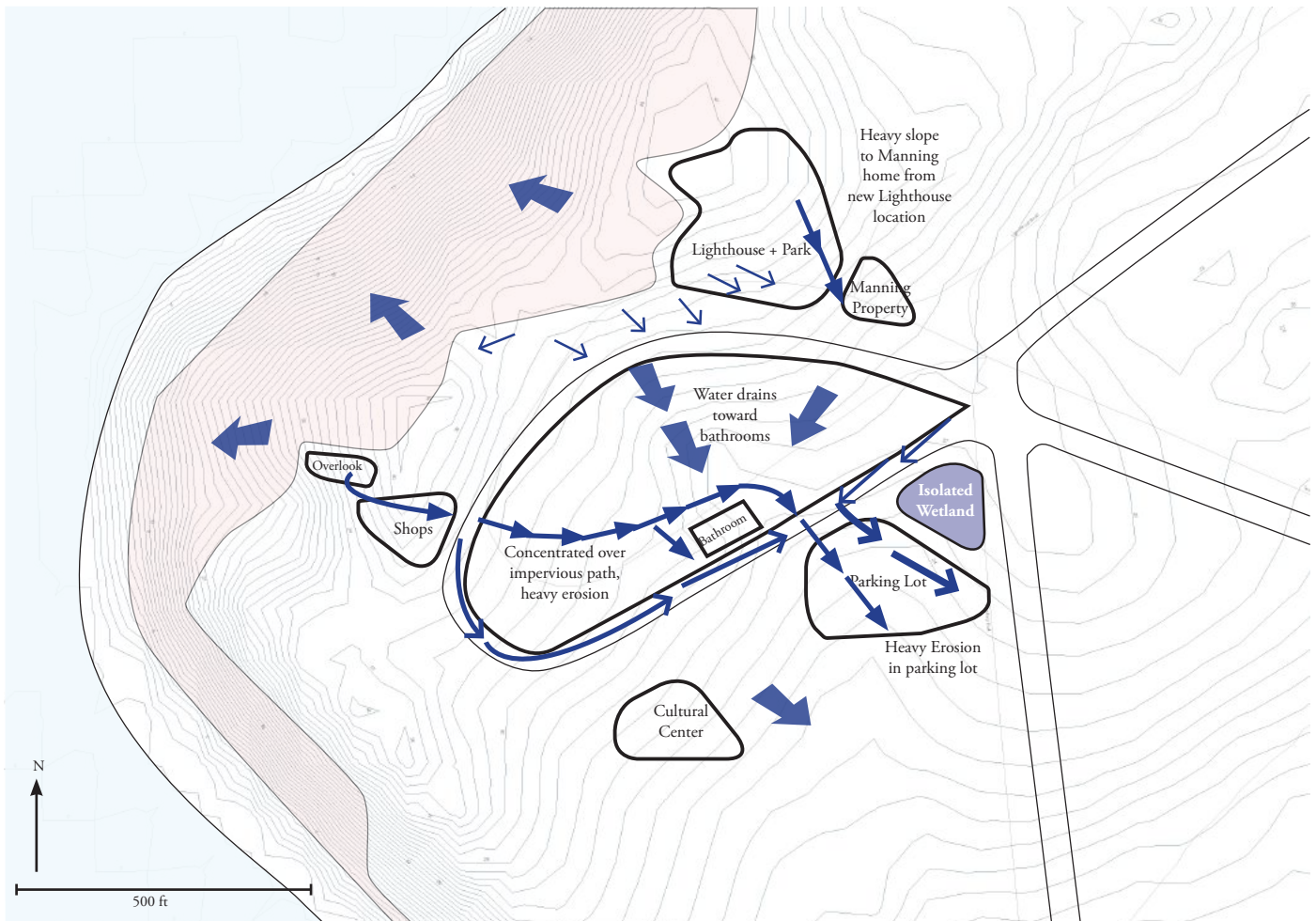
Legend



Drainage

Stormwater tends to concentrate along paths in the Circle causing heavy erosion and pooling at the bathrooms. Stormwater running from the lighthouse threatens to flood the Manning property. The hard pan layer of clay and sand prevents timely water infiltration.

Stormwater runs from the highest points at the cliffs' edge generally across the site, but concentrates along and severely erodes pathways.



Concentrated stormwater leads to heavy erosion along paths(left) and in the beach parking lot (right). The erosion makes walking hazardous and drives up maintenance costs.

Soils

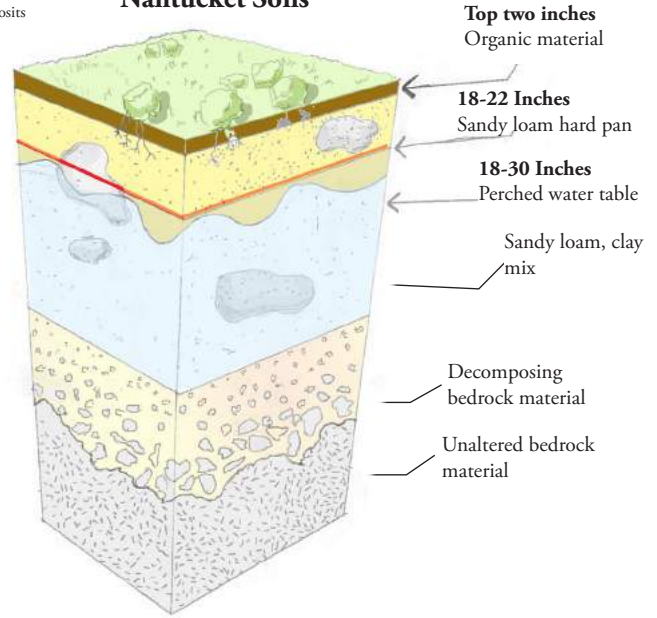
Soils are an important determinant for development particularly for potential septic systems. Natural Resource Conservation Service soil surveys suggest poor suitability for septic tank absorption around the Circle on account of:

- A clay and sand hard pan limiting infiltration of water.
- A water table at a shallow depth below the soil
- Highly acidic soils (pH 4.8) which make uptake of nutrient pollutants such as nitrogen and phosphorous difficult.

Due to these factors, a septic system may threaten the groundwater, would likely pollute the surrounding environment and would have to take up significant space. Additionally, the acidic pH makes the soil low in fertility, which, combined with ocean salt spray, limits the types of plants which can grow in the Circle.

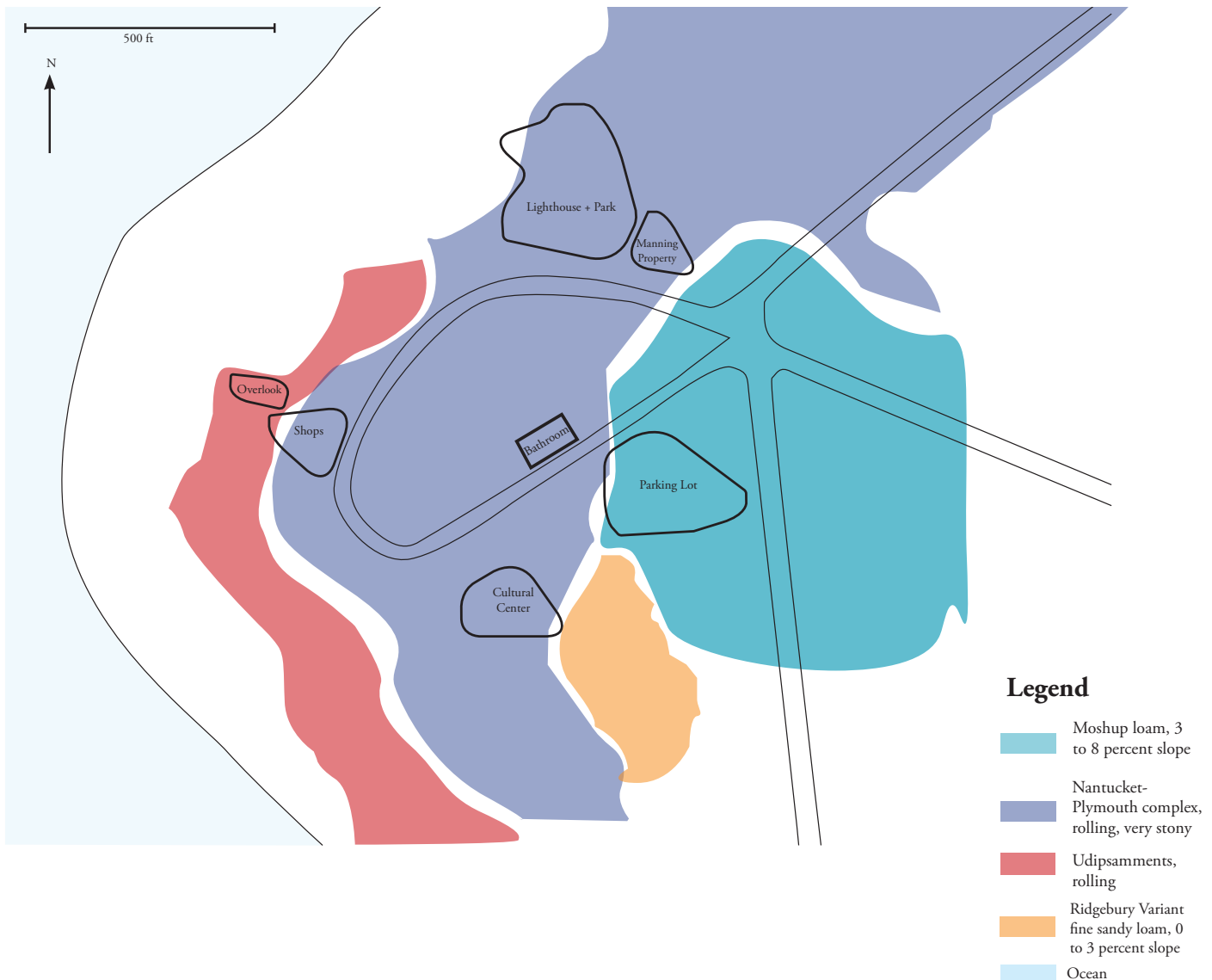
Glacial till
boulder deposits

Nantucket Soils



The cross section represents Nantucket soils which make up 55% of the Nantucket-Plymouth complex (purple).

Soil characteristics hinder the construction of underground septic systems and limit landscaping opportunities for most of the site.



Summary: Key Observations

- Although somewhat walkable, the site is vehicle, not pedestrian, centered
- Slopes present a challenge to providing stable, comfortable gathering spaces
- Heavy rains concentrating on impervious surfaces erode paths
- Parking is confusing and inadequate at peak times
- Action concentrates at the choke point, creating chaos in what could be a peaceful, beautiful spot to experience the views across Aquinnah
- Destinations are separate, different characters, with little coherence
 - Shops are busy and a major tourist draw, but visitors are unaware of the Tribe's presence around them
 - The overlook, the dramatic journey's end, is hidden behind shops
 - Bathroom facilities are too far from the central points and within a different zone (inside circle)
 - The Aquinnah Cultural Center is not within vehicle or pedestrian flow
- Limited problems exist during the off season: most challenges are due to high visitation rates during the summer months



COMMUNITY VISIONING





“The open space is what grounds us. In what we cannot find in the world that is settling, we can find in that never-changing view across the horizon.”

- Juli Vanderhoop, local business owner and Tribe member

Community Needs Assessment

To facilitate the visioning process for Aquinnah Circle, the Community Preservation Committee organized an advisory committee consisting of town and Tribe community representatives. Members helped to organize and advertise community visioning sessions, distribute and collect surveys, and connect the Conway team with key officials.

On January 14th, 2016, the Conway team met with the committee to determine initial goals and to define the scope of the project. The team conducted two formal community visioning sessions, held an informal session with members of the Tribe, and organized an email survey to gather feedback from those who could not attend the events.

Initial Visioning Session

The first visioning meeting held on February 2, 2016 at Aquinnah Town hall focused on determining the assets and constraints of the site. More than 40 individuals including Tribe and town members attended the meeting, which was filmed for those who could not attend. The team asked participants:

- What activities do people do in Aquinnah Circle?
(See map)
- What is your favorite memory of the Aquinnah Circle area?
- What elements of Aquinnah Circle are essential to its character and should not be lost?
- What isn't working in the Circle now?

Attendees spoke passionately about the expansive and dramatic views the Circle offers, playing on the cliffs as children, and dancing at the annual Powwow. They mentioned the dangerous and unpredictable weather,

“It’s amazing to feel the magnetism of this place, people who come here don’t really know what they are going to find. The lighthouse is a magnet and piques their interest immediately, but... people don’t realize they are standing on the cliffs until they reach the overlook. It affects all of us to be around such beauty.”

the element of surprise when they first walked up to the overlook, and the sense of being at the end of the world. In the survey, respondents shared memories of concerts in the grassy area of the inner circle.

When asked about their main concerns for the Circle, the first thing that arose was a need to protect the rural and undeveloped character. Many residents fear commercialization or someone else’s vision superimposed over the land they hold dear. Most of the respondents agreed the distant location, poor condition and 50 cent fee made the bathrooms a negative experience for tourists and community members. Participants were split over whether there should be more or less parking, but most agreed it was an issue that needs to be resolved. They expressed the need to explore options for the recently purchased Manning property, which was historically owned by Tribe members. The community was concerned about the erosion and ecological degradation caused by people wandering off trails and climbing on the cliffs. Surveys echoed many of the concerns in the meeting adding that the lack of cohesion makes the area confusing for tourists, the vacancy of some shops makes the experience unpleasant, and the lack of clear gathering place in the inner circle.



Above: Community members walking through gallery of site analysis, design guidelines and initial schematics. Right: The Conway team facilitates group discussion and gathers input for possible changes to Aquinnah Circle (Credit: Eva McNamara).



Participants shared the many activities that happen in the Circle and where they occur. (Based on Google Earth Image)

After talking with various stakeholders the next day, the team determined more feedback was necessary from members of the Tribe and, with the help of Bettina Washington, organized a follow up meeting on February 19, 2016 at the tribal headquarters which was attended by 10 people.

Meeting With Tribe

Tribal members shared valuable stories of the long and diverse history of shops that have operated around the Circle and the cliffs. They expressed what it was like to grow up around them, playing in the World War II bunkers placed there as a lookout for German U boats, performing at the annual Moshup pageant and foraging wild cranberries and medicinal plants with their grandparents.

The main concern centered on the need to preserve the tribal identity at the Circle. They stressed that the Circle is one of the last places the Wampanoag have to showcase their culture and earn an income in Aquinnah. They believe tourists need to learn the cultural importance of the site and to understand

that the Wampanoag people still live in Aquinnah. Tribal members reiterated that “the people are as important as the place,” and would like to see this reflected through signs and information stations. They expressed the need to encourage more people to visit the Aquinnah Cultural Center and incorporate native plantings of cultural importance.

“We should be looking at the relationship between the town and the Tribe. It is imperative...to let people know who we are as the people in the Town of Aquinnah, and that we want to share this treasure with everyone else. We can’t do it without the Tribe and the town working together as equals. Prioritization is key, we cannot get bogged down in the minutia.”

– Kristina Hook, Tribal Elder

Community Needs Assessment (cont.)



The graphic above presents community concerns from the first community meeting, the meeting at the tribal building, and the survey. The size of the box indicates the time spent on the issue.

Second Visioning Meeting

On March 2, 2016, a second visioning meeting and informal gallery (2-7 pm) was held at Aquinnah Town Hall to gather ideas for potential solutions to address community concerns. About 35 people attended, with a nearly equal representation of Tribe members and townspeople. Martha's Vineyard Community Television filmed the session.

The team asked participants, "If you could make two changes to the circle, what would they be and why?"

Participants offered a number of ideas organized into six themes with specific ideas (on the facing page). Community members stressed that an equitable relationship between the town and the Tribe is crucial moving forward and suggested policy decisions which might make the tourist experience more enjoyable while guiding them to less-visited spaces such as the Aquinnah Cultural Center. Members indicated a number of ways educational opportunities could be

expanded to help orient tourists to the importance and key destinations of the site. Many expressed that several areas such as the Powwow grounds and overlook have been worn down over time and need renovation. Participants suggested possible ways to relieve the choke point at the top of the circle and circulate visitors between destinations more freely. Much of the discussion centered on how signs can orient visitors without disturbing the scenic views and how they might reflect the culture and history of the site. Finally, several participants suggested expanding gathering spaces in the inner circle and at the new park near the lighthouse.

To conclude the meeting, the Conway team presented three initial schematics for potential vehicular and pedestrian flows. Respondents explored the feasibility of the broad schematics and indicated that they would like to look at more alternatives in the final report.

Community Suggestions

Provide Educational Opportunities

- Consolidate Tribe and town history into a packet for tour guides, drivers, and visitors
- Plant indigenous species that attract bees, provide educational signs and space for educators
- Rent headsets for audio tours of cliffs, lighthouse, Moshup trail and ACC
- Provide WIFI stations that can be accessed from phones at lighthouse, ACC and tribal kiosk
- Coordinate videos of lighthouse move, tribal elders and information tours
- Gather case studies of interpretive signs

Facilitate Circulation

- Investigate a seasonal tram for circulating visitors between destinations
- Replace steps at choke point/shops with accessible ramp
- Continue brick or other consistent pathway to top of overlook
- Direct path from lighthouse to ACC
- Include multiple bus drop offs away from choke point

Add Signs

- Place low to ground, provide consistent graphics
- Make bilingual in Wôpanâak language
- Orient visitors to cultural, ecological and historical context of the Circle
- Tell a story as visitors move from place to place
- Provide arboretum-like signs for indigenous plantings and plant communities
- Create interpretive stations about cliff geology and lighthouse move in the new lighthouse park

Update Infrastructure

- Replace bathrooms with composting toilets
- Update emergency infrastructure (helicopter pad, fire hydrant access closer to shops)
- Determine what cliff erosion is under the community's control and create plan to prevent it
- Unify design of trash and recycling bins, bathrooms and signs
- Investigate night lighting alternatives to reduce light pollution while maintaining safety (more focused beams)
- Incorporate solar panels as shading element and power for Aquinnah Cultural Center

Provide Gathering Spaces

- Regrade Powwow grounds, and other key areas in phases
- Provide seating in the circle
- Investigate shaded pavilion
- Provide seating and sunset watching in new lighthouse park
- Investigate shade structure in traditional Wetu style
- Move focus of circle away from cross walk
- Create focal point within the circle

Reevaluate Policies

- Determine and target demographic of tourists that best supports the local economy (cultural tourist, short trip)
- Allow cross ticketing between ACC and lighthouse
- Permit free evening parking at beach lot
- Remove bathroom fee
- Strengthen communication between Town and Tribe



A new path between the lighthouse and the shops was installed in the fall of 2015 and includes a boardwalk. The path was installed with the goal of separating some of the pedestrian traffic from vehicular traffic



RECOMMENDATIONS

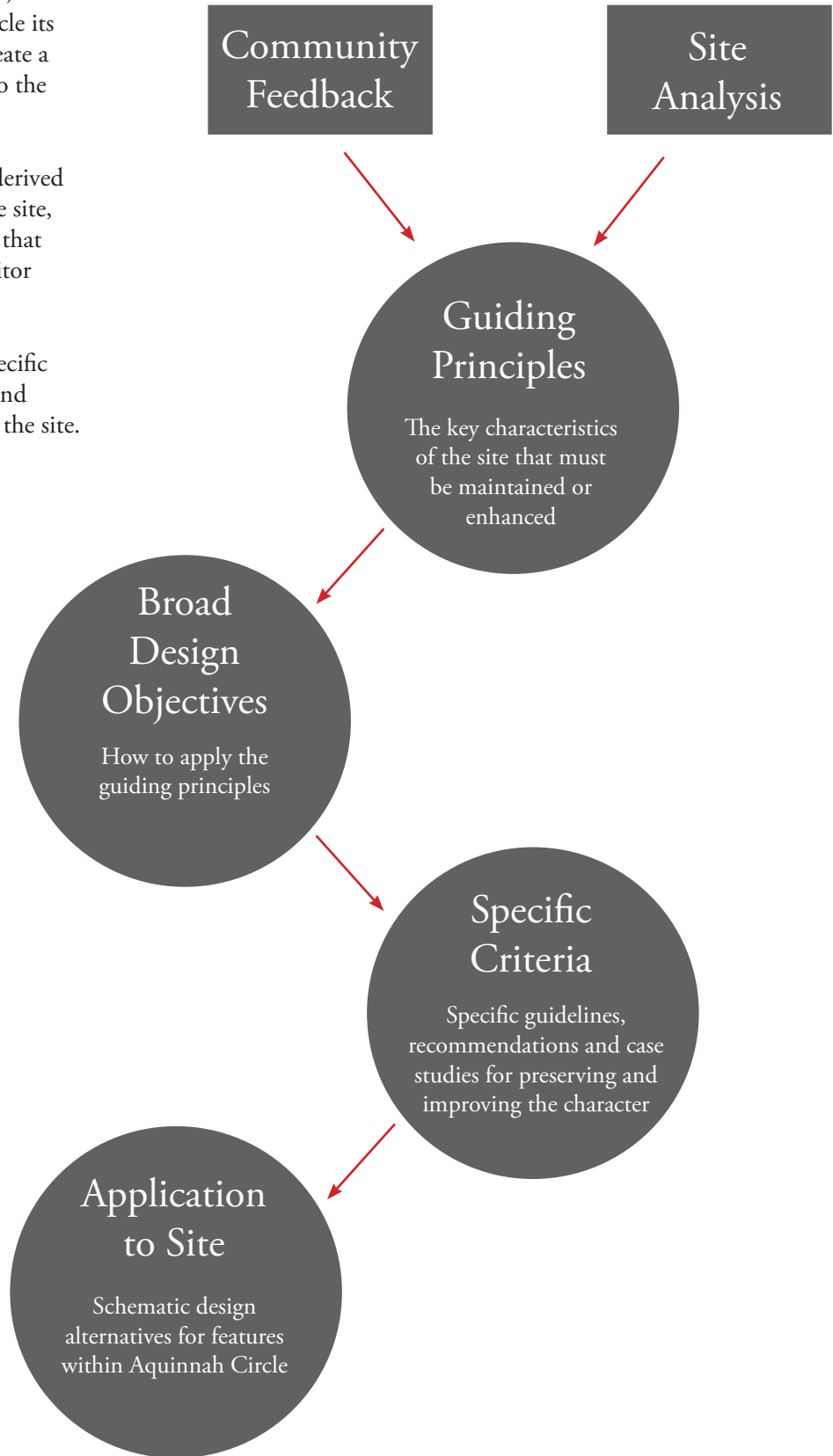


Process

From community feedback and site analysis emerged key characteristics of the site that must be maintained (Guiding Principles). These characteristics give Aquinnah Circle its unique and distinctive character and create a framework against which any changes to the site can be evaluated.

The Design Objectives, which are also derived from community input and study of the site, frame three broad areas to be addressed that will enhance the site conditions and visitor experience.

Each objective is then separated into specific criteria which drive recommendations and inform the various schematic layouts of the site.



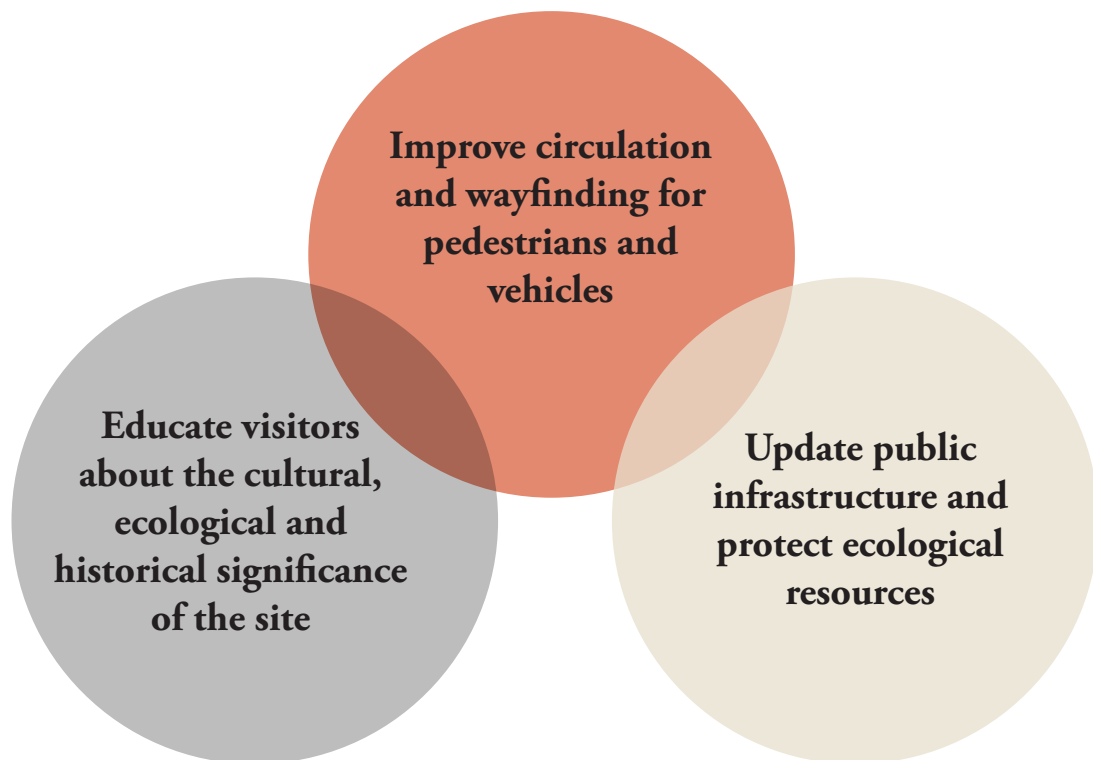
Guiding Principles

The guiding principles serve as a foundation for this revisioning plan and projects moving forward. They reflect the views of participating community members. They are in no way set in stone, and should be adapted as the needs of the Aquinnah community change.

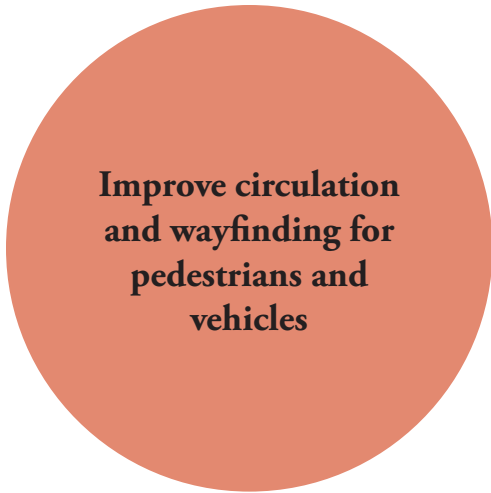
- 1. Create a tourist friendly experience**
- 2. Educate visitors on the local culture and history**
- 3. Ensure the safety of all visitors**
- 4. Enhance a sense of community**
- 5. Preserve the open space**
- 6. Protect the resource: geology and ecology**

Design Objectives

The design objectives address the need to preserve the character of Aquinnah Circle while providing a safe and enjoyable experience for visitors. These evolved into more specific design guidelines which led to specific recommendations and design schematics. Following each set of design guidelines are case studies demonstrating how other communities responded to similar problems.



Circulation



How can pedestrians and vehicles circulate comfortably around the Circle and between destinations especially during the peak tourist season?

Concerns

One of the major concerns communicated by the community was that despite the unique destinations around the circle, there is no thread that connects them. The Circle lacks a sense of cohesion. Visitors struggle to understand where they are in relation to a broader spatial context and lack the guidance of paths or focal points to lead them to various destinations. During peak hours the Circle can be a dangerous place for pedestrians and frustrating for drivers. Parking is limited and pedestrians often walk on the road to move from site to site, leading to traffic bottlenecks and safety hazards. Police officers need to manage the choke point to ensure traffic movement and safety of pedestrians.

Design Guidelines

Establish Safe Travel Flow

- Reduce the bottleneck of vehicles during peak traffic
- Allow safe access and drop off for pedestrians
- Separate pedestrian and vehicular traffic
- Limit increased pavement and ecological damage by vehicles
- Be safe and welcoming for all modes of transportation

Clarify Signs

- Reflect the culture of the local people
- Be simple and visible
- Distinguish between directional and educational signs
- Distinguish between pedestrian and vehicular signs
- Exhibit consistent color theme and graphics
- Locate at key points of interest
- Provide easy access from commercial areas and destinations (within 200 ft)
- Avoid obstructing major views

Provide Well-organized Parking

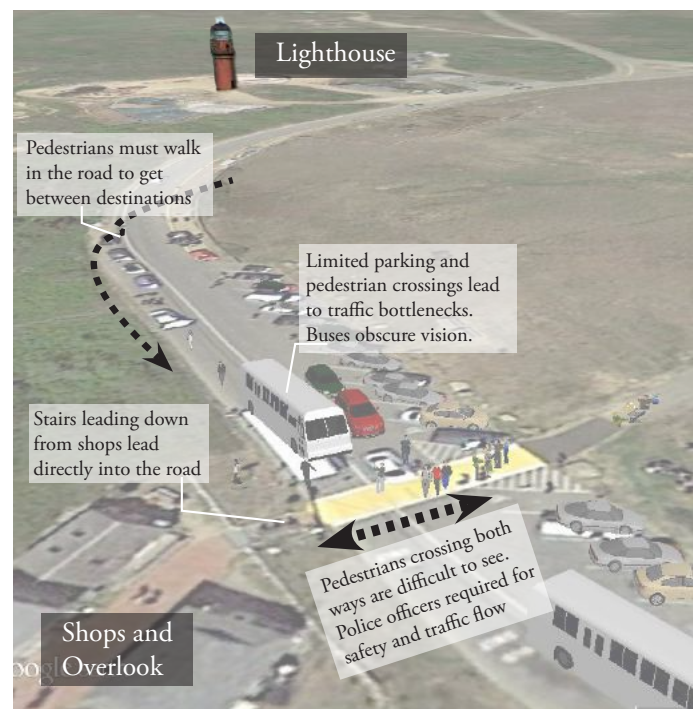
- Allow for different parking durations for different types of users
- Maximize parking spot efficiency
- Clarify parking rules
- Match turning and size specifications (cars, vans, buses) to parking zones

Establish Clear Pathways

- Preserve the open nature of the circle
- Establish a clear hierarchy, clearly marked
- Draw visitors to multiple locations
- Provide paths with less than 5% but greater than 2% slope
- Allow grade reversals every 100-200 feet to shed stormwater, reduce erosion and reduce maintenance
- Use similar materials and colors that complement architecture of the buildings on site
- Avoid obstructing major views

Recommendations

- Consult a traffic engineer to determine feasibility of conceptual traffic flows
- Investigate alternative parking and shuttle systems for peak hours during the tourist season
- Consult local artists to design culturally appropriate signs that match criteria; apply similar criteria to other site amenities (benches, trash containers)
- Clarify parking rules with time-stamped tickets that include printed rules
- Grade existing and future paths to ACC and the bathrooms so they are easily accessible



A digital representation of the choke point during peak season. Separating pedestrians from vehicular traffic can alleviate some of these issues.

Case Study

Shuttle/Tram Services

Zion National Park, Cape Cod National Seashore, Menemsha Beach

Concern

How can the site accommodate the same or more tourists while reducing the number of vehicles and traffic bottlenecks?

Many seasonal tourist destinations struggle to protect their natural resources and pedestrian safety during peak season. Locations such as Zion National Park, Cape Cod National Seashore, and Menemsha Beach attract far more visitors than they can accommodate with parking, but adding more parking has the potential to damage delicate natural resources. Faced with too much demand, all three moved parking off site and added a shuttle system.

In the late-1990s, Zion National Park was overwhelmed with congestion. On a typical peak tourist day, 5,000 vehicles competed for 400 parking slots, many of which were roadside, creating a safety hazard. To reduce the congestion, park officials began running free shuttle buses in 2000. The main scenic drive was open only to bus and cycling traffic and visitors were encouraged to park in the nearby Town of Springdale. In the first year, the service eliminated 42,000 vehicle trips and wildlife sightings increased dramatically.

In the mid-1980s, Cape Cod National Seashore recognized that summer traffic congestion was causing negative experiences and significantly damaging local dunes, beaches and wetlands. In 1987, the park began directing traffic to large lots and providing a shuttle bus between Truro and Provincetown, which has significantly reduced congestion.

On the Vineyard, Menemsha Beach hosts hundreds of visitors to watch the sunset during peak season, yet only has 78 legal parking slots. In 2014, Chilmark opened its capped landfill to parking and began offering a free shuttle every 10 minutes between 5 PM and sunset. While still in its early stages, it may serve as a precedent for what could happen in Aquinnah.



Private open air shuttle in Zion National Park, UT (Credit: The Zion Lodge).



Shuttles in Eastham, MA along the Cape Cod National Seashore (Credit: Cape Cod National Seashore).



The electric shuttle at Atlantic City Boardwalk in New Jersey (Credit: Boardwalk Tours).

“This system provides a fundamentally different way for visitors to see and enjoy the park and allows us to meet our objectives of protecting the park’s resources while providing a quality visitor experience.”

- Don Falvey, Former Zion National Park Superintendent

Education

Educate visitors about the cultural, ecological and historical significance of the site

How can visitors be oriented to the cultural, ecological and historical importance of the site before, during, and after their visit?

Concern

What makes this site special are the people and their stories. Visitors can only understand this unique cultural perspective by hearing from these people. Many of the visitors who come to Aquinnah Circle know very little about the cultural, ecological and historical importance of the site. While the newly installed tribal kiosk provides interactive technologies, other key destinations such as the Aquinnah Cultural Center and the lighthouse lack them.

Design Guidelines

Provide Walking Tour Brochure and Map

- Orient visitors to the key destinations of the site before or as they enter
- Indicate how visitors can learn more at each destination
- Make note of amenities such as bathrooms and parking

Integrate Educational Technology

- Organize content so it can be managed easily and at low cost
- Use simple technologies which can be accessed by a broad audience
- Advertise in diverse locations (ferry, taxi drivers, bus companies, real estate agents, chamber of commerce)
- Incorporate audio tours with diverse voices
- Develop objectives, measurable goals and evaluation process
- Provide digital gateway to other important information (maps, parking rules, etc.)
- Incorporate with existing signs (QR codes linked to website, numbers to dial for audio information)

Locate Interpretative and Educational Areas

- Be visible and easy to find
- Avoid obstructing major views
- Locate near key meeting, destination, and drop-off points
- Allow flexibility for storytellers

Incorporate Native Plantings

- Plant culturally and ecologically important species
- Incorporate ecological education around plants
- Determine maintenance schedule, key locations for soil stabilization and water infiltration

Recommendations

- Establish a committee to gather and strategically place educational technology
- Work with graphic artist to create walking tour brochure
- Advertise in diverse locations (ferry, taxi drivers, bus companies, real estate agents, chamber of commerce)
- Set up committee to collect and organize existing audio and video history
- Determine key areas to place interactive technologies
- Coordinate with existing infrastructure such as a kiosk
- Prioritize locations for interpretive and educational information



Signs near the beach parking lot are thematically different in nature and provide little orientation to the site. In addition, signs do not indicate where to find further information.

Case Study

Interactive Harborwalk Harbortown Cultural District, Gloucester, MA

Concern

How can the community connect new, refurbished and existing public spaces, highlight the unique character and culture of the harbor while respecting the authentic beauty of America's Oldest Seaport?

In 2010, Gloucester community members began a three-year visioning process led by the architectural design firm Cambridge Seven Associates. Community members wanted visitors to feel oriented and move freely between public spaces, but did not want to compromise the character and views afforded of the harbor. Residents also wanted to share the unique cultural history of the site without putting up obstructing signs everywhere.

The site interpretation was installed in 2013 and consisted of a 1.2 mile interactive path with 42 granite story-posts which allow visitors to use cell phone applications to access multimedia content that informs the scenic views. It has been described as a “walking cinema.” To reflect the maritime culture of the harbor, the town used salvaged granite stones for benches and story-posts. The town maintained a local aesthetic with wooden boardwalks, bricks and wood light poles. Educational and orientation needs were addressed by employing low, simple signs with QR codes that link to videos and more information. In addition, visitors can download a mobile application that provides an interactive map, allows them to create digital post cards and links to videos of cultural events. Native plantings were incorporated to host migratory birds and butterflies and provide an outlet for teaching sustainability.

By incorporating interactive technologies, the town was able to reduce the amount of sign space required while permitting free, year round access to multi-media which can help visitors contextualize the culture and character of the place.



Signs are low to the ground to protect scenic vistas. Native plants attract local birds and butterflies. (Credit: Gloucester Harborwalk)



Signs exhibit a consistent graphic and numbering system reducing confusion. A unique icon represents each story-post. QR codes allow visitors to explore deeper. (Credit: Gloucester Harborwalk)



Simple orientation maps help visitors understand where they are in relation to the larger context of the site. (Credit: Gloucester Harborwalk)

“Call it stealth wayfinding, since it affords an intimate view of the harbor front, giving access to the town’s history — and the water itself — without disturbing the working port, or cutesifying it,”

*- Glenn Collins
The New York Times*



Try it yourself! Download a QR scan application on your smart phone and scan the code to visit the harborwalk website.

Infrastructure

Update public infrastructure and protect ecological resources

How can infrastructure be updated, enhanced, or subtracted in way that makes the visitor's experience more enjoyable while maintaining the scenic views, informal feeling, and ecological integrity of the site?

Concerns

Much of the infrastructure around the circle is outdated and needs repair. The bathroom facilities occasionally flood and there is concern about the septic system which must be pumped out two to three times per season, costing thousands of dollars. Concentrated stormwater erodes paths and makes them uneven. Years of events and temporary parking have compacted the inner circle and made it uneven, making walking and holding events difficult. Pavement materials around the shops and the overlook vary and existing trash receptacles do not match the architectural materials of the buildings. Community members and visitors have few dedicated areas within the Circle where they can sit in the shade as a group and enjoy the view.

Design Guidelines

Allow Flexible Event Space

- Match slope requirements for specific events (avoid events on steeper slopes)
- Maintain openness of inner circle
- Limit compaction and disturbance caused by events

Manage Stormwater

- Spread and infiltrate stormwater on site
- Limit runoff into sensitive areas
- Direct drainage away from paths and road to reduce erosion

Improve Bathroom Facilities

- Place adjacent to a key focal point or gathering space
- Limit nutrient leaching to the surrounding environment
- Comply with ADA rules

- Provide management access for greywater facilities
- Accommodate up to 100,000 people during the tourist season (May to September)
- Fit architectural materials, colors and landscaping on site
- Avoid obstructing major views

Provide Shaded Gathering Space

- Should be on a comfortable slope (tables on less than 2% slope)
- Easily accessible from commercial areas and destinations (Within 200 ft)
- Select materials for durability and in harmony with site architecture that exists at other areas on site.
- Avoid obstructing major views

Recommendations

- Unify materials for the overlook, trash and recycling receptacles and benches
- Prioritize key areas for event spaces and their needs
- Regrade prioritized areas to match use (dancing at Powwow grounds, arts festival area)
- Grade current and future paths to American Trails standards (see Appendix). Allow for grade reversals on paths every 100- 200 linear feet to direct water off the trails. Grades should not exceed 5-10%
- Direct stormwater into native plant gardens designed as infiltration basins



Heavy rains erode the uneven gravel path leading to the bathroom, more than 500 feet from the shops, lighthouse and overlook.

Case Study

Composting Toilet

Salisbury Beach State Reservation, Salisbury, MA

Concern

How can effluent from high-density tourist areas be minimized to protect delicate ecology? (more than 100,000 visitors per tourist season)

Salisbury Beach State Reservation is three-season park that receives up to 10,000 visitors per day during the peak summer season. The main attraction is the beach area. Due to the nitrogen-sensitive water bodies and delicate sand dunes and barrier beaches, bathrooms with septic systems were not an option and the park was faced with the prospect of constructing a costly on-site waste treatment plant.

Park officials researched alternative toilets and determined a composting toilet would be most suitable to meet their goals and reduce costs. Composting toilets reduce the volume of waste by breaking it down and reducing the amount of water mixed with effluent. Whereas typical toilets use 1-5 gallons per flush, the Clivus composting toilets are waterless, requiring only 3 oz. of alcohol-based cleaning agent. Further, they separate greywater (used for washing hands and showering) from human waste. This has allowed the reservation to reduce water use by over one million gallons per season.

By reducing the volume of effluent, the reservation has reduced the storage capacity needed. Composted human waste is pumped off by a licensed septic hauler. The greywater is virtually nitrogen-free and is sent to a soil absorption system. An added advantage is that composted waste is stored in tanks, allowing the bathrooms to be placed in areas where a septic may not be possible.

Many similar systems occur throughout Massachusetts and a few systems are located in and around Aquinnah. The Wampanoag of Aquinnah Headquarters contains a Clivus system as does the West Tisbury Public Library.

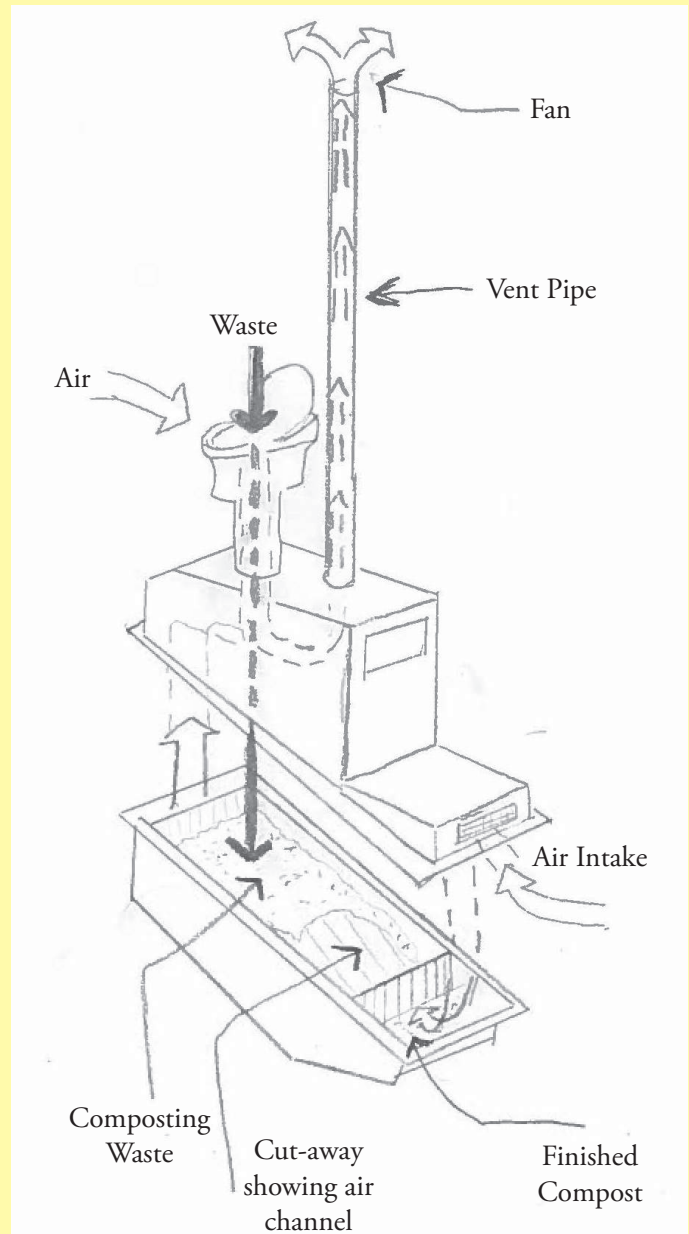


Diagram for the Clivus Multtrum composting toilet which was installed at Salisbury Beach State Reservation and at the Wampanoag Tribal Headquarters.



Composting toilets look similar to conventional toilets, but care should be taken to educate visitors on what can and cannot go into the toilets. (Credit: Clivus New England Inc.)

“The separation of urine from feces ensures that feces remain in an aerobic environment which includes bacteria, fungi, and compost worms. The organisms slowly break down feces into a compost material that has chemical, biological and aesthetic characteristics similar to topsoil and reduces its volume by over 90%”

- Clivus New England Inc



SCHEMATICS

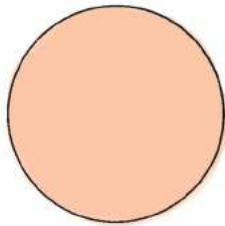
Schematic Alternatives

Because there are so many moving parts within the Circle, it is easy to get lost in the intricate details of installing paths, designing the ideal parking arrangement, and navigating the site's conservation restrictions. This section contains schematic diagrams that explore circulation patterns, building placement, and gathering spaces within the Circle.

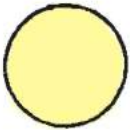
The schematics are important for this visioning process because they are conceptual and encourage broad, large-scale thinking. By using simple lines and bubbles, these diagrams demonstrate potential flows of both vehicles and pedestrians. They also highlight relationships between different elements. Most importantly, they are conversation starters. During the second visioning session, three schematic diagrams were presented to the community, not as the three best options, but as possible options based on what the community had said were the main problems within the Circle, and incorporating their proposed solutions.

These schemes step back from the specific issues and focus on the relationships between the elements. By exploring and evaluating these relationships, an optimal design will evolve to make Aquinnah Circle an efficient and coherent place year-round, for both locals and tourists.

Possible locations for the following elements are explored in the schematic options:



Parking
Insufficient, yet dominating



Bathrooms
Currently too far away from the shops and bus stop



Bus Stop
Currently creating a chaotic and unsafe situation at the choke point

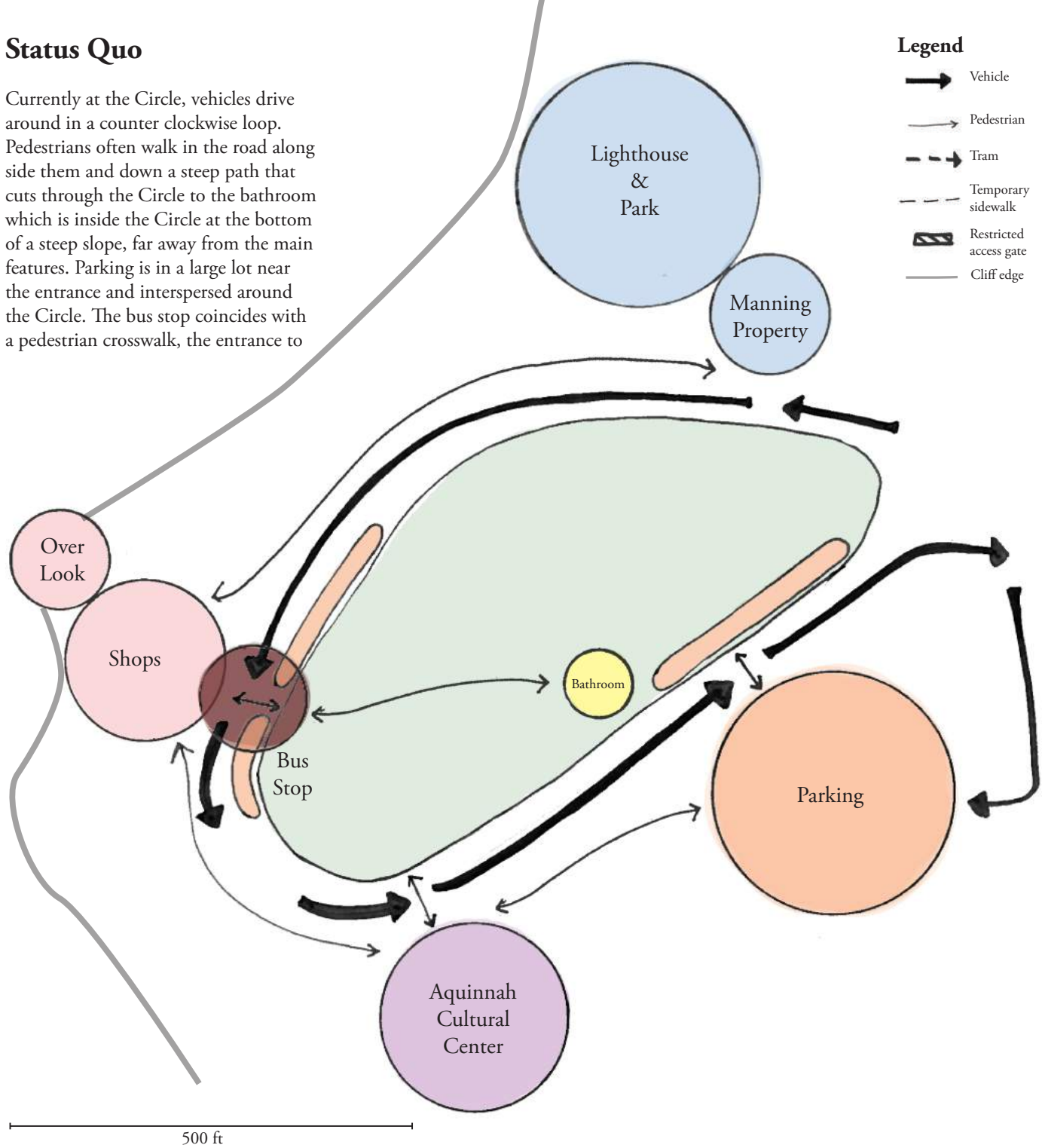


Paths
Somewhat nonexistent within the Circle, currently unsafe for pedestrians

Each schematic presents both assets and constraints associated with it, and questions to guide interpretation and comparison.

Status Quo

Currently at the Circle, vehicles drive around in a counter clockwise loop. Pedestrians often walk in the road along side them and down a steep path that cuts through the Circle to the bathroom which is inside the Circle at the bottom of a steep slope, far away from the main features. Parking is in a large lot near the entrance and interspersed around the Circle. The bus stop coincides with a pedestrian crosswalk, the entrance to



Assets

- Varied parking options
- Bus stop convenient to shops

Constraints

- Unsafe pedestrian circulation
- Path bisects Circle, reducing open space
- Bathroom is far from destinations
- Bus stop in front of shops creates pressure point
- Not enough parking options
- Septic system needs replacement

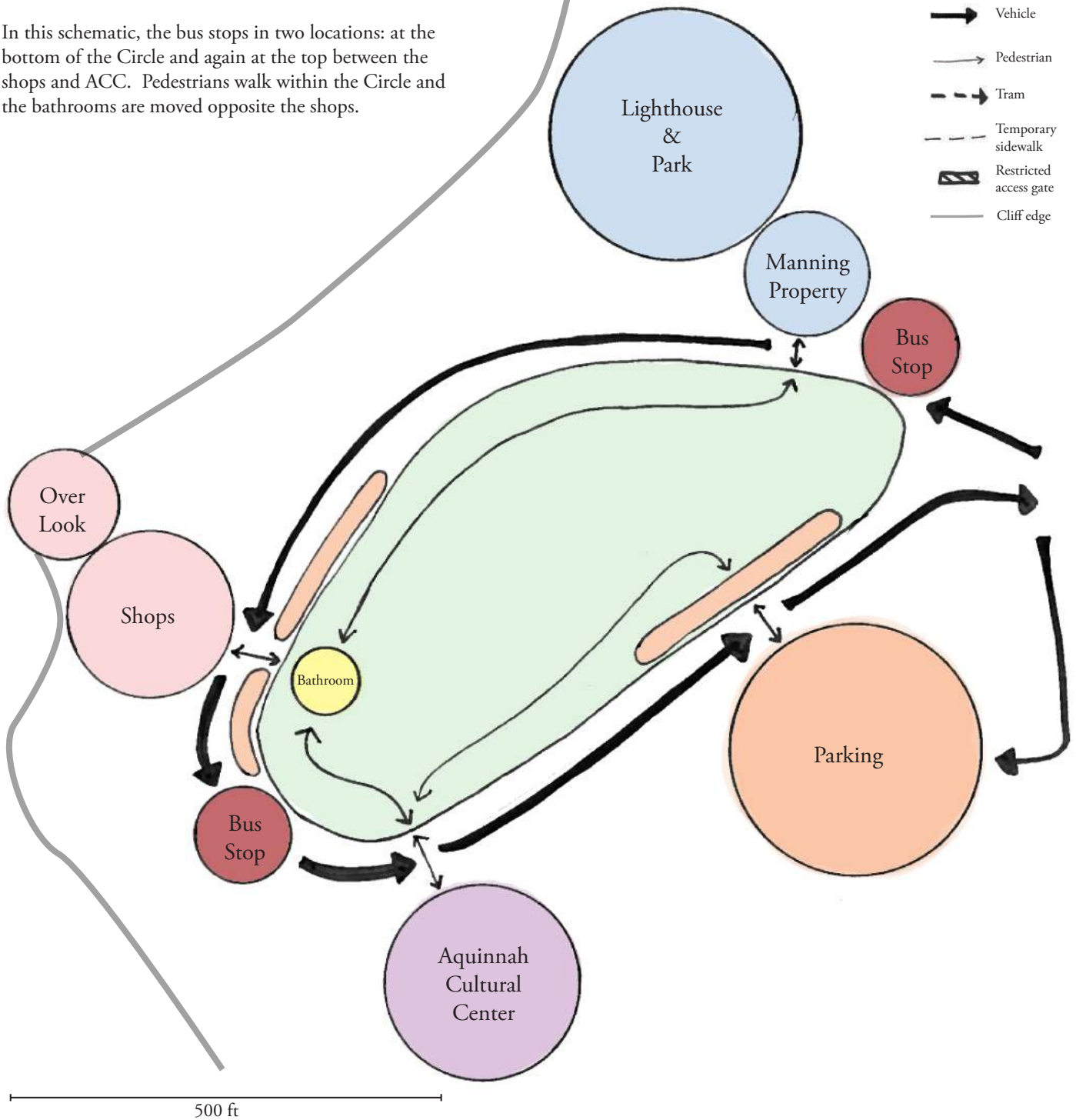
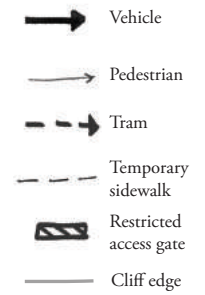
Questions

Can a revised circulation pattern make Aquinnah Circle more visitor friendly?

Schematic #1:

In this schematic, the bus stops in two locations: at the bottom of the Circle and again at the top between the shops and ACC. Pedestrians walk within the Circle and the bathrooms are moved opposite the shops.

Legend



Assets

- Safer pedestrian experience, not walking in road
- Paths are placed mostly along contours
- Two bus stops give visitors an option of where to start tour and relieve pressure from “choke point”
- Parking remains in existing areas
- Bathrooms are closer to shops and along new pedestrian path

Constraints

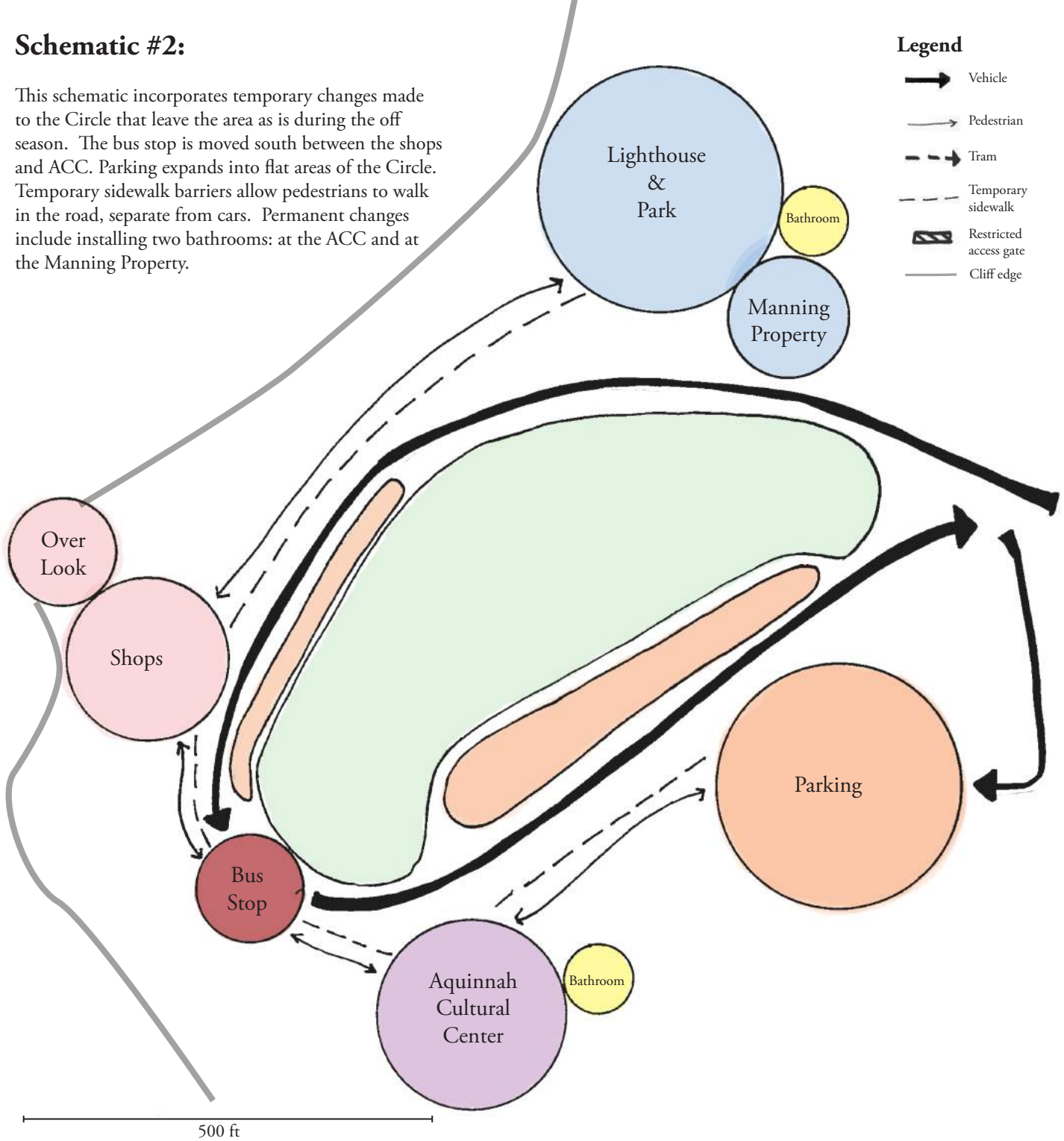
- Pedestrian still must cross road to get to features
- Paths and bathroom within Circle reduce the amount of open space
- No increase in parking
- Septic system needs replacement

Question

Can the bathrooms be built closer to a key destination without blocking expansive views?

Schematic #2:

This schematic incorporates temporary changes made to the Circle that leave the area as is during the off season. The bus stop is moved south between the shops and ACC. Parking expands into flat areas of the Circle. Temporary sidewalk barriers allow pedestrians to walk in the road, separate from cars. Permanent changes include installing two bathrooms: at the ACC and at the Manning Property.



Assets

- Pedestrians protected from cars by seasonal partitions, don't need to cross the road
- Parking is increased to accommodate at least 200 cars
- Bathroom placement brings visitors to ACC and is less visible
- Two bathroom facilities are convenient to both ends of the Circle
- Moved bus stop reduces pressure at choke point

Constraints

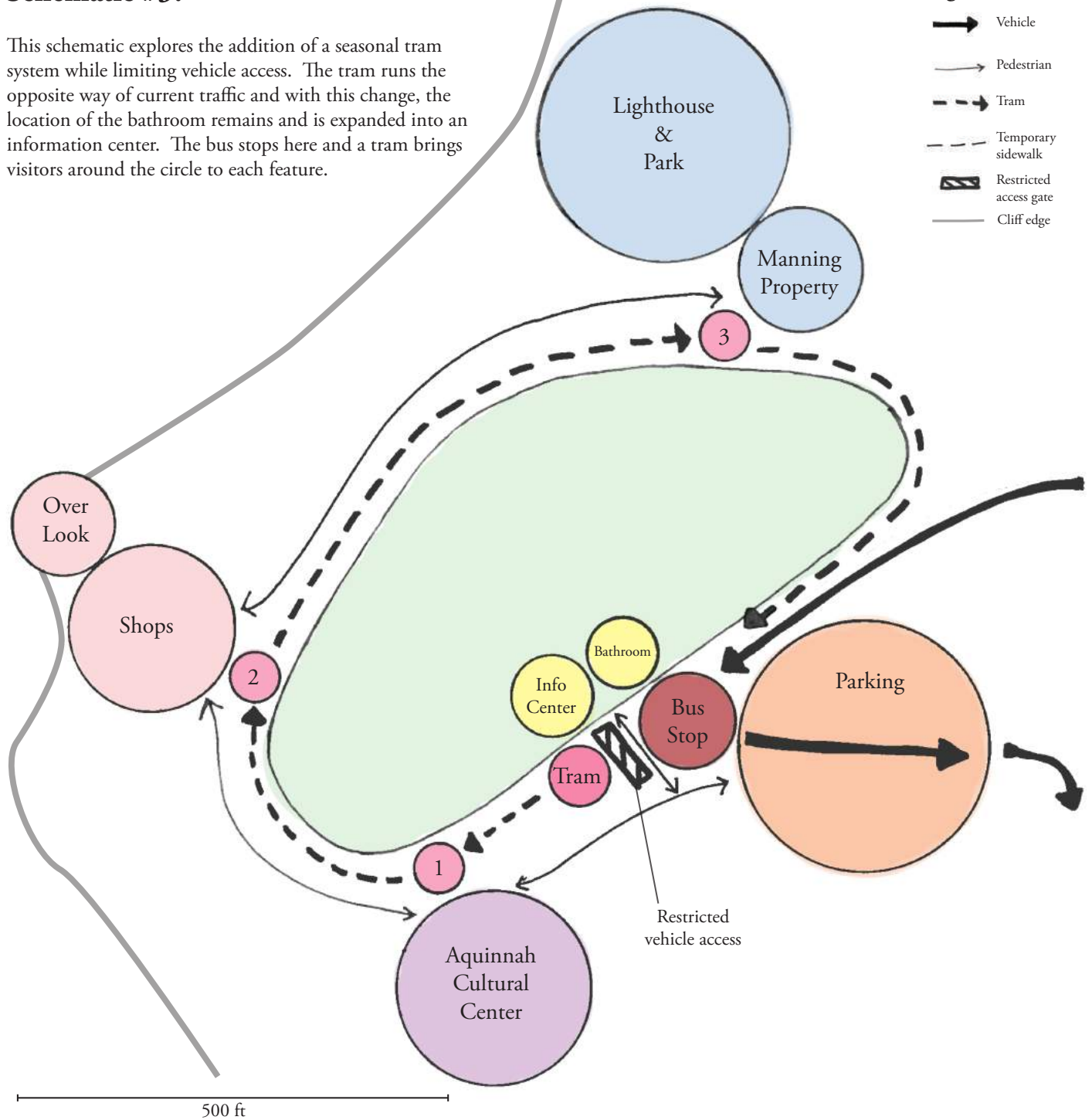
- Cars are more prominent
- Parking reduces open space in the Circle
- Pedestrian routes are longer
- Septic system needs replacement

Question

Is preserving the size of the grassy area within the Circle more important than accommodating more cars?

Schematic #3:

This schematic explores the addition of a seasonal tram system while limiting vehicle access. The tram runs the opposite way of current traffic and with this change, the location of the bathroom remains and is expanded into an information center. The bus stops here and a tram brings visitors around the circle to each feature.



Assets

- Pedestrians are given priority
- Tram increases accessibility, manages tourist experience, and reduces the impact of cars
- Bathroom location remains the same, and is expanded as an info center
- Info center, bathroom, bus stop and tram pickup are aggregated to create an interpretive starting point

Constraints

- Amount of parking is reduced
- Septic system needs replacement

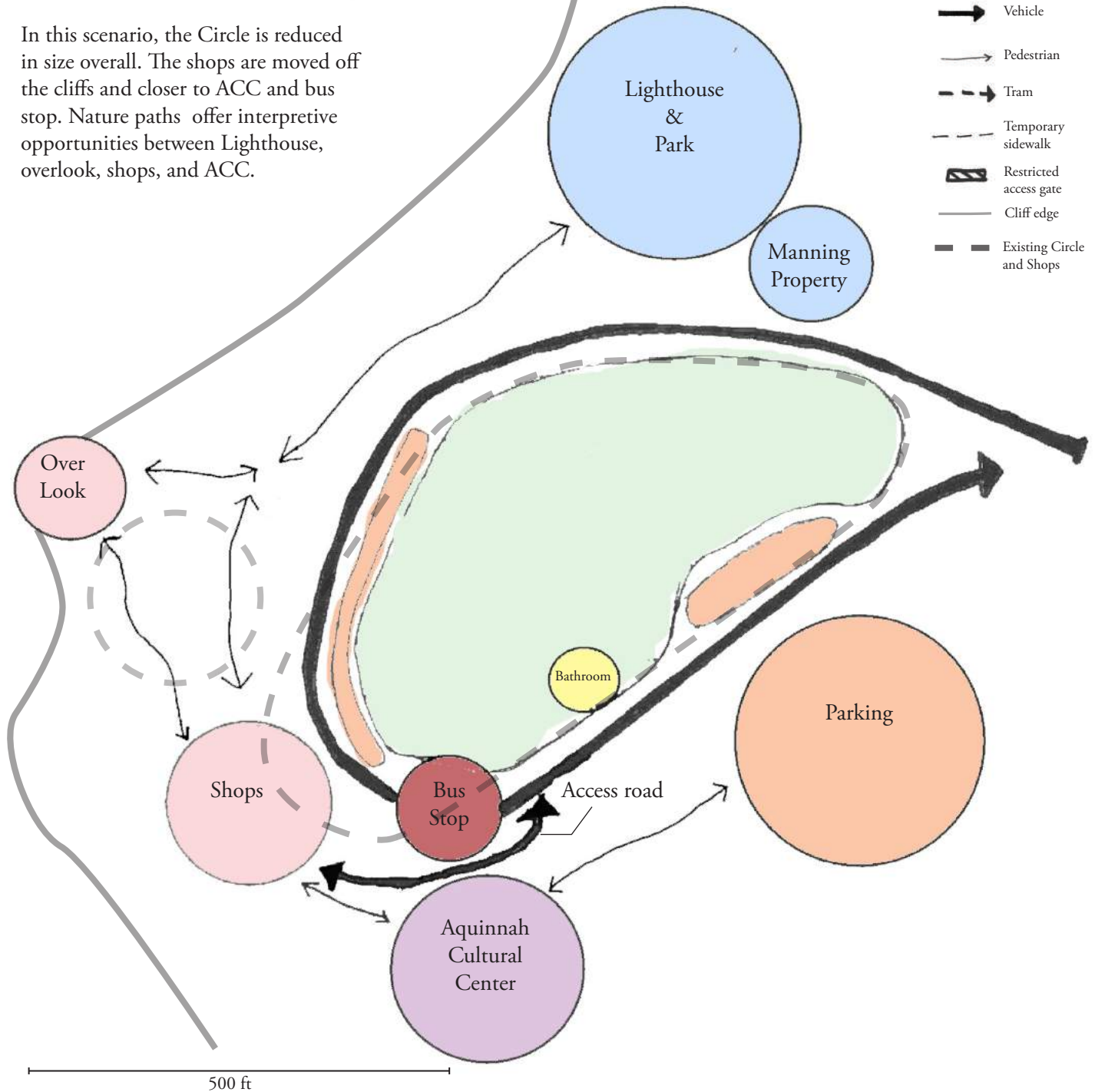
Questions

Is a tram/shuttle system viable on such a short loop?

Is there potential for additional off site parking on Town land?

Schematic #4:

In this scenario, the Circle is reduced in size overall. The shops are moved off the cliffs and closer to ACC and bus stop. Nature paths offer interpretive opportunities between Lighthouse, overlook, shops, and ACC.



Legend

- Vehicle
- Pedestrian
- Tram
- Temporary sidewalk
- Restricted access gate
- Cliff edge
- Existing Circle and Shops

Assets

- ACC more accessible from shops and bathroom
- Paths to overlook add to journey-like experience, greater element of surprise
- Pedestrians separated from vehicles

Constraints

- Pedestrian access only to overlook
- May be difficult for some visitors to access the overlook
- Lighthouse is further from the shops
- Septic system needs replacement








Questions

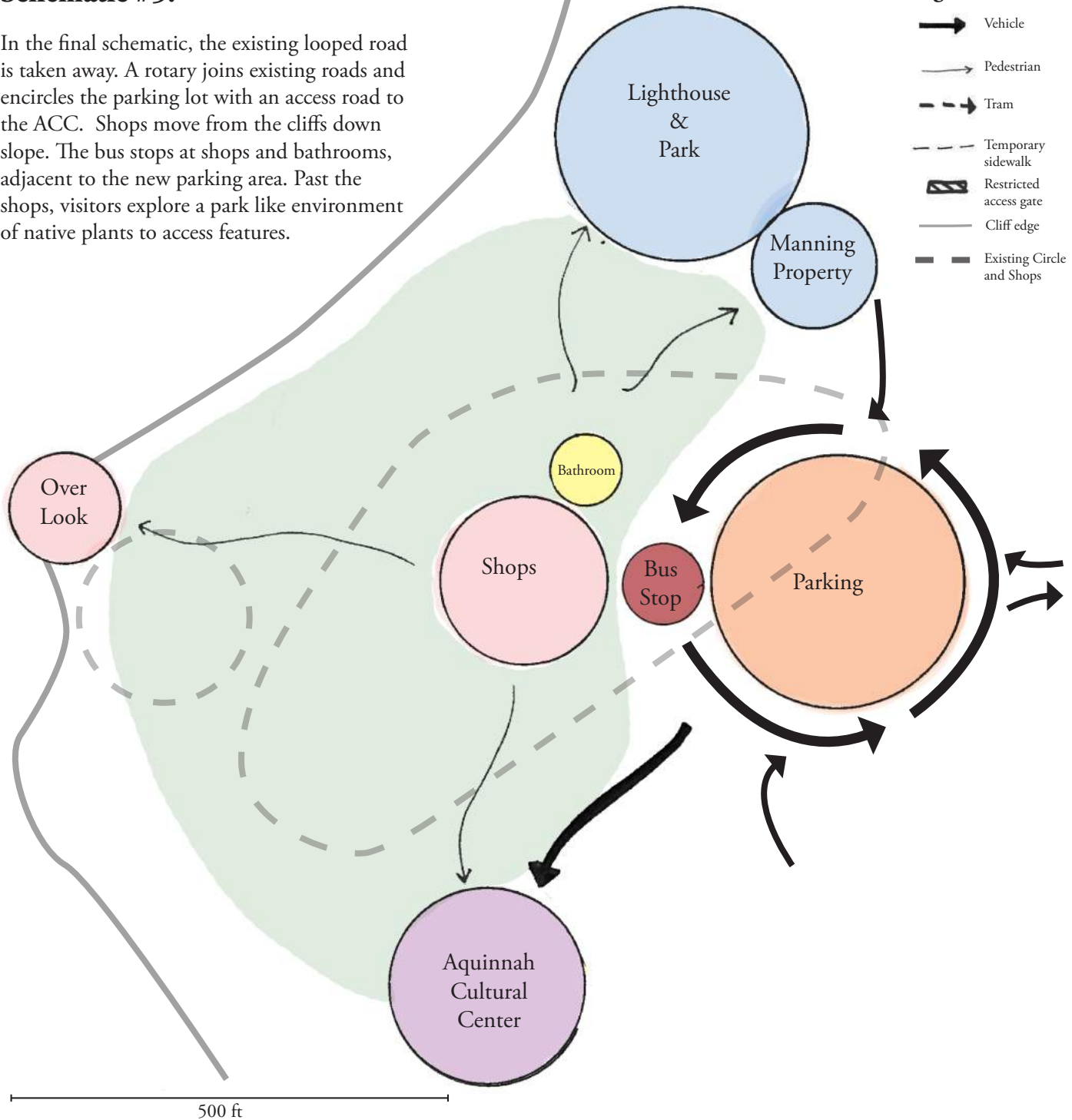
How essential is the proximity of the shops to the overlook?

Schematic #5:

In the final schematic, the existing looped road is taken away. A rotary joins existing roads and encircles the parking lot with an access road to the ACC. Shops move from the cliffs down slope. The bus stops at shops and bathrooms, adjacent to the new parking area. Past the shops, visitors explore a park like environment of native plants to access features.

Legend

-  Vehicle
-  Pedestrian
-  Tram
-  Temporary sidewalk
-  Restricted access gate
-  Cliff edge
-  Existing Circle and Shops



Assets


- Pedestrian friendly and park like
- Vehicle impact on site reduced
- Shops moved closer to parking
- Bathroom, shops and bus stop aggregated together
- Amount of parking increased and consolidated into one lot
- Protects the cliffs and ecology from vehicle impact

Constraints

- No vehicle access directly to overlook
- Restriction not ideal for elderly or disabled
- Septic system needs replacement
- Entrance roads (Lighthouse Road, State Road, and Moshup Trail) potentially need to be reworked

Questions

Is the road, the actual "Circle," a historical formation to be preserved?



NEXT STEPS

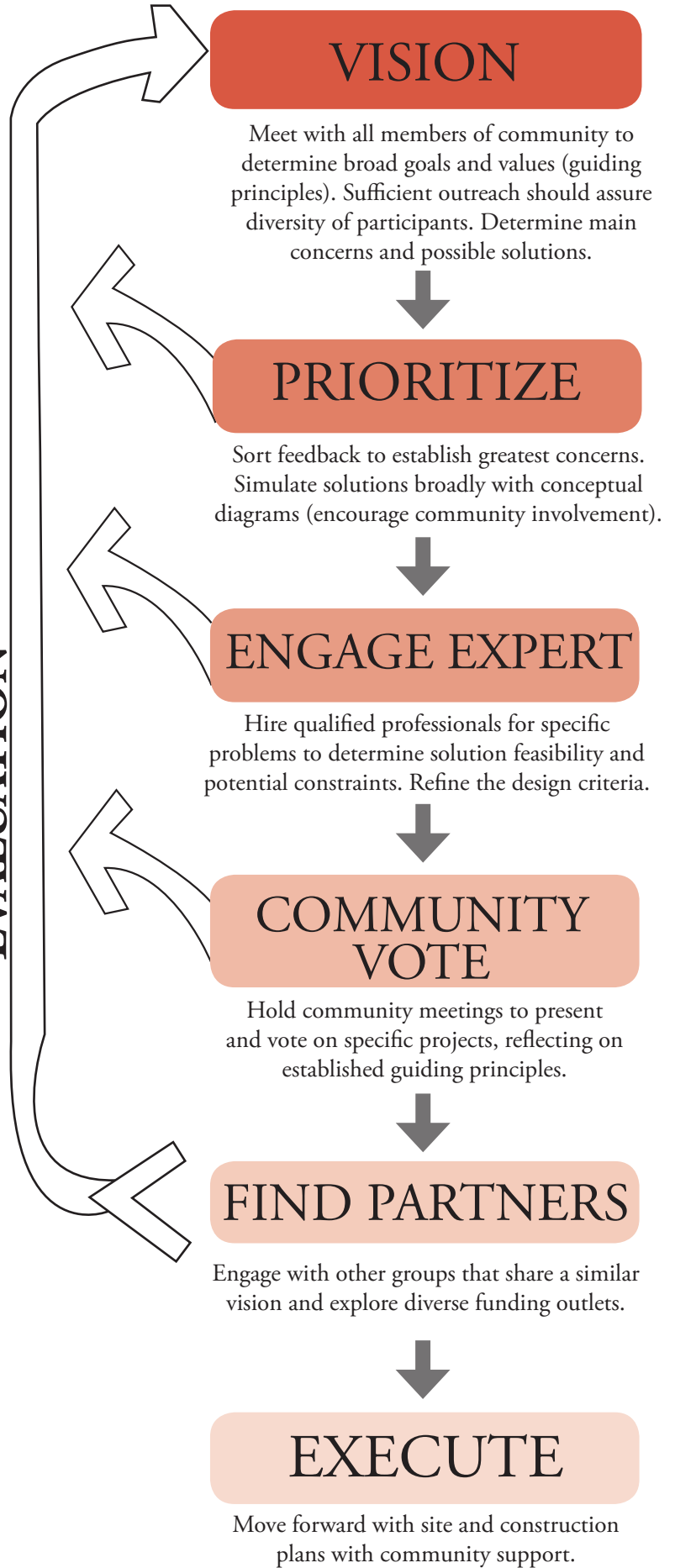
How can the Aquinnah community continue the revisioning process at Aquinnah Circle?

There are many factors that determine how and when decisions are made (e.g. funding opportunities, natural disturbances, important events, emergencies, partnerships). Any design needs to be flexible, but how it fits into the community vision needs to be clear. The steps at the right suggest a path to achieve design decisions while ensuring that any actions taken don't preclude future improvements to the circle and the guiding principles for the community are retained.

The community needs assessment conducted during the study provides a framework for the participants' vision for the Circle. The next phase is to prioritize some of the ideas by simulating them graphically and holding visioning sessions focused on determining which ideas and concerns the community values the most.

At any phase of the process, it is crucial to measure all decisions against the guiding principles.

EVALUATION



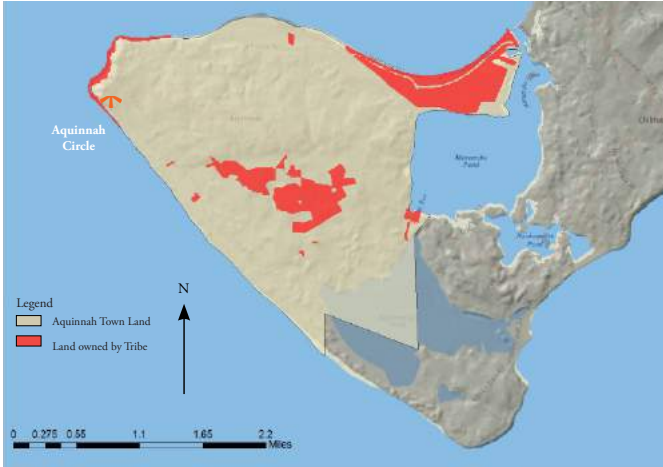
APPENDIX

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Data Sources



Aquinnah Town Land and Wampanoag Tribe Land
Economic Context, page 13

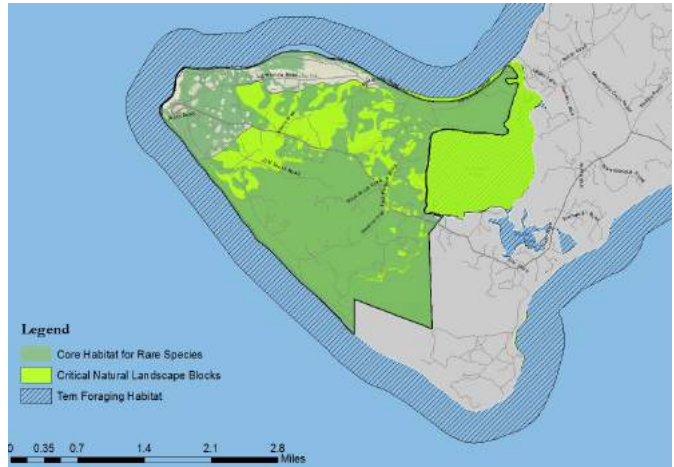
Data Sources:

Mass GIS

- Shaded Relief (1:5000)
- Community Boundaries (Towns 2005)

Wampanoag Tribe of Aquinnah

- Tribal land and properties

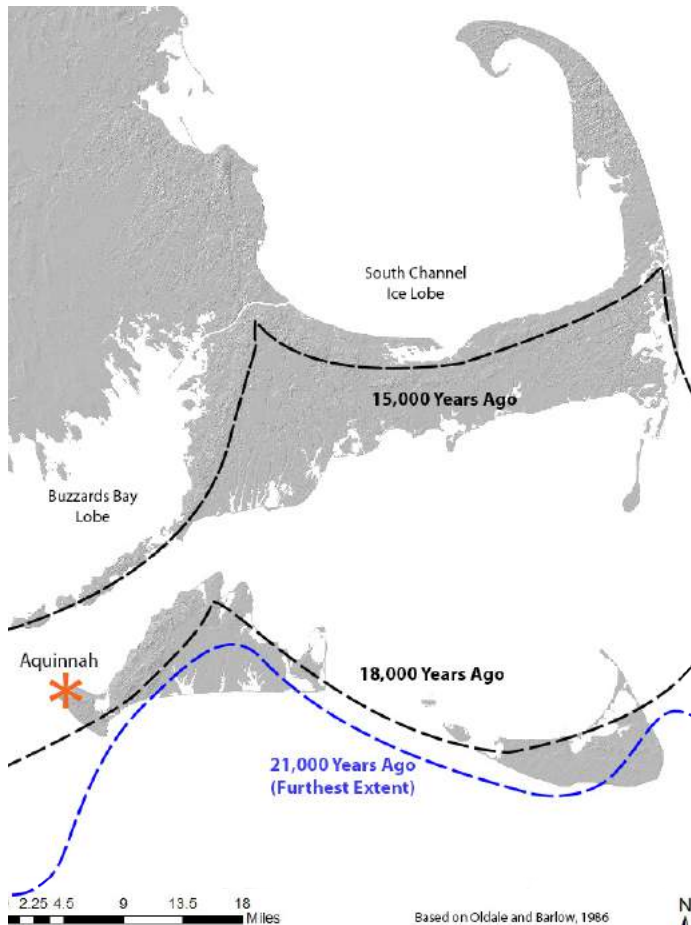


BioMap2 Core Habitat and Critical Natural Landscapes
Ecology Context, page 15

Data Sources:

Mass GIS

- BioMap2
- Shaded Relief (1:5000)
- Community Boundaries (Towns 2005)
- NHESP Endangered and Rare Species



Map of Glacial Retreat
Geologic Context, page 2

Data Sources:

Mass GIS

- Shaded Relief (1:5000)

Oldale, 1992

- Glacial extent

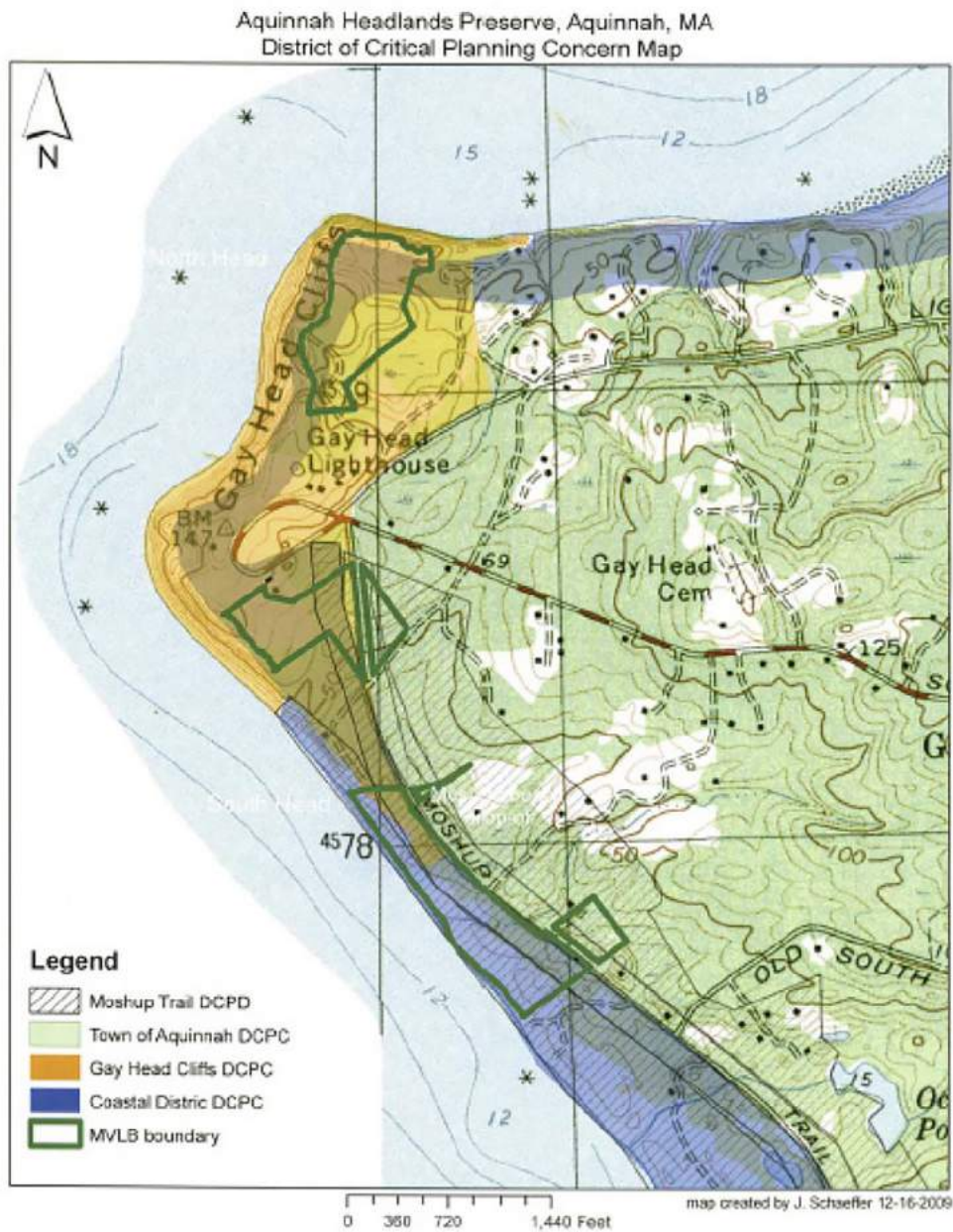
Built Facilities Assessment

Participants from the Community Visioning sessions as well as Town and Tribe officials shared the following concerns and ideas for the built destinations around the Circle. To the right are actions the community can take toward addressing concerns.

Built Destination	Concerns	Ideas	Actions
Manning Property <i>How will the space be used in the future?</i>	<ul style="list-style-type: none"> Easement issues with condo owners need to be resolved Potential physical damage (mold, leaking foundation, failed septic) 	<ul style="list-style-type: none"> Lighthouse Museum Cafe Gathering Space Affordable housing Eco-tourism and cultural tourism welcome center Solar power Bus drop off area 	<ul style="list-style-type: none"> Hold visioning sessions to determine future use of Manning property Resolve easement concerns Determine extent of physical damage to buildings
Aquinnah Cultural Center (ACC) <i>How can the ACC be more integrated into the Circle?</i>	<ul style="list-style-type: none"> Isolated from other destinations Needs more visitors to support it financially Not universally accessible 	<ul style="list-style-type: none"> Widen road to allow space for a path between shops and ACC Cross ticketing between lighthouse and ACC 	<ul style="list-style-type: none"> Explore paths that meet criteria and separate vehicular and pedestrian traffic Explore sign options that orient visitors to ACC's location
Shops and Restaurants <i>How can the shops and overlook area express the importance of the space?</i>	<ul style="list-style-type: none"> Overlook materials look scattered Closed shops reflect poorly on local economy Not universally accessible 	<ul style="list-style-type: none"> Unify brick material up to the top of the overlook Replace and enhance trash and recycling bins Replace steps near road with accessible ramp Incorporate call-in ordering of food 	<ul style="list-style-type: none"> Consult contractor to explore paving overlook area Explore alternative designs for trash and recycling receptacles Consult landscape architect to design handicap ramp
Lighthouse and Park <i>How will new park affect evening traffic?</i>	<ul style="list-style-type: none"> What will be the name of the new park? Disconnected from other destinations Current night lighting at shops is off-putting 	<ul style="list-style-type: none"> Cross ticketing between lighthouse and ACC Cliff-side esplanade between shops and lighthouse 	<ul style="list-style-type: none"> Explore interactive signs for cliffs and lighthouse history Reevaluate park plan and trail between lighthouse and shops after first season Look into subtle lighting options
Bathrooms <i>How can the bathrooms be more tourist and environmentally friendly?</i>	<ul style="list-style-type: none"> Too far from shops Outdated septic system Aesthetic of architecture doesn't match \$0.50 Fee Costs thousands of dollars for pumping out and overflow Leaching into the environment can potentially harm fragile ecosystem and aquifer 	<ul style="list-style-type: none"> Incorporate at Manning property Explore composting toilets Place closer to the top of the circle Explore building into the slope Remove bathroom fee 	<ul style="list-style-type: none"> Put bathroom fee up for community vote (town meeting) Consult with soil expert to determine suitable locations for septic or greywater septic Consult with composting toilet professional to determine suitable areas and criteria

Aquinnah Headlands Preserve Map

This map indicates the extent of the Aquinnah Headlands Preserve managed by the Martha's Vineyard Land Bank, which includes Aquinnah Circle. The Land Bank operates nearly 3100 acres of conservation land on Martha's Vineyard and is funded by a 2% public surcharge on most real estate purchases on the island (Source: Schaeffer, Hill, Dix, Komarinetz).



Native Plants

Common Name	Species	Medicinal Use	Growing notes
Bulrush	<i>Scirpoides holoschoenus</i>	Young shoots can be eaten raw or boiled in spring. Roots and pollen used for medicinal herbs. Used to weave mats, baskets, and as lining and stuffing for pillows.	Perennial wetland shrub, can survive extreme conditions (drought, wind, cold).
Winged sumac	<i>Rhus copallinum</i>	Berries are boiled into cough syrup. Used to treat bladder, digestive, reproductive and respiratory ailments. Also made into wine.	Large, deciduous shrub (20-35 ft.). Fruit clusters turn dull red and persist throughout the winter.
Sassafras	<i>Sassafras albidum</i>	Leaves and bark can be made into medicinal tea and oils are used in tonics. Also, used to flavor root beer.	Prefers acidic, sandy soils, typically found in or near hardwood forests.
Wild grapes	<i>Vitis riparia</i>	Leaves used to wrap and steam food.	Vines grow at the edge of woodlands, fruit in early fall.
Beach plums	<i>Prunus maritima</i>	Edible fruit, eaten raw or as jam/jelly.	Shrub that thrives in salt spray, drought and frequent disturbance. Great companion with American beach grass and seaside goldenrod.
Irish moss	<i>Chondrus crispus</i>	Gelling agent, used for thickening. Can be dried and taken with water to treat tuberculosis, coughs, bronchitis, and intestinal problems.	Herbaceous plant that grows around the edge of the ocean. Salt tolerant.
Seaside goldenrod	<i>Solidago sempervirens</i>	Seeds and young leaves are edible, can be used for herbal tea. Flowers used by Tribe members to make dye.	Thrives in extreme conditions along dunes. Important nesting habitat and attract pollinators.
Wild cranberries	<i>Viburnum trilobum</i>	Can be eaten raw or made into a sauce/jam. It was used to prevent scurvy on whaling ships and a wound healing agent.	Low growing herbaceous in acidic bog and wetland environments.
Elderberry	<i>Sambucus canadensis</i>	Diuretic, inner bark used as a pain killer, crushed leaves used as insect repellent. Branches have hollow stems used for flutes/whistles.	Medium sized shrub that prefers moist, fertile, acidic soils.
Low bush blueberry	<i>Vaccinium angustifolium</i>	Berries can be eaten raw or as jam/jelly. Leaves dried to make herbal tea.	Colorful, low-growing bush in moist, fertile, acidic soils.
Wild huckleberry	<i>Vaccinium mebranaceum</i>	Berries and roots are edible, can be dried and boiled for tea to treat heart issues, arthritis and rheumatism.	Low-growing bush that prefers moist, acidic bogs and undergrowth.
Northern bayberry	<i>Morella pensylvanica</i>	Leaves can be dried and used to flavor food or herbal tea. Berries used to make candles and soap. Dried root bark used to treat cough and colds, influenza, stomach cramps and scurvy. Root-bark wash treats skin infections, disease, and ulcers.	Medium-sized shrub. Can survive in extreme conditions (drought, erosion, wet, salt spray). Need a female and male plant for fruiting.
Dog rose	<i>Rosa canina</i>	The rose hips (fruits) are ripe in early summer and can be eaten raw, as jam, or dried for tea.	Low-growing shrub that attracts a diverse set of wildlife. Prefers recently disturbed, extreme environments.



Beach Plum
Prunus maritima



Northern Bayberry
Morella pensylvanica



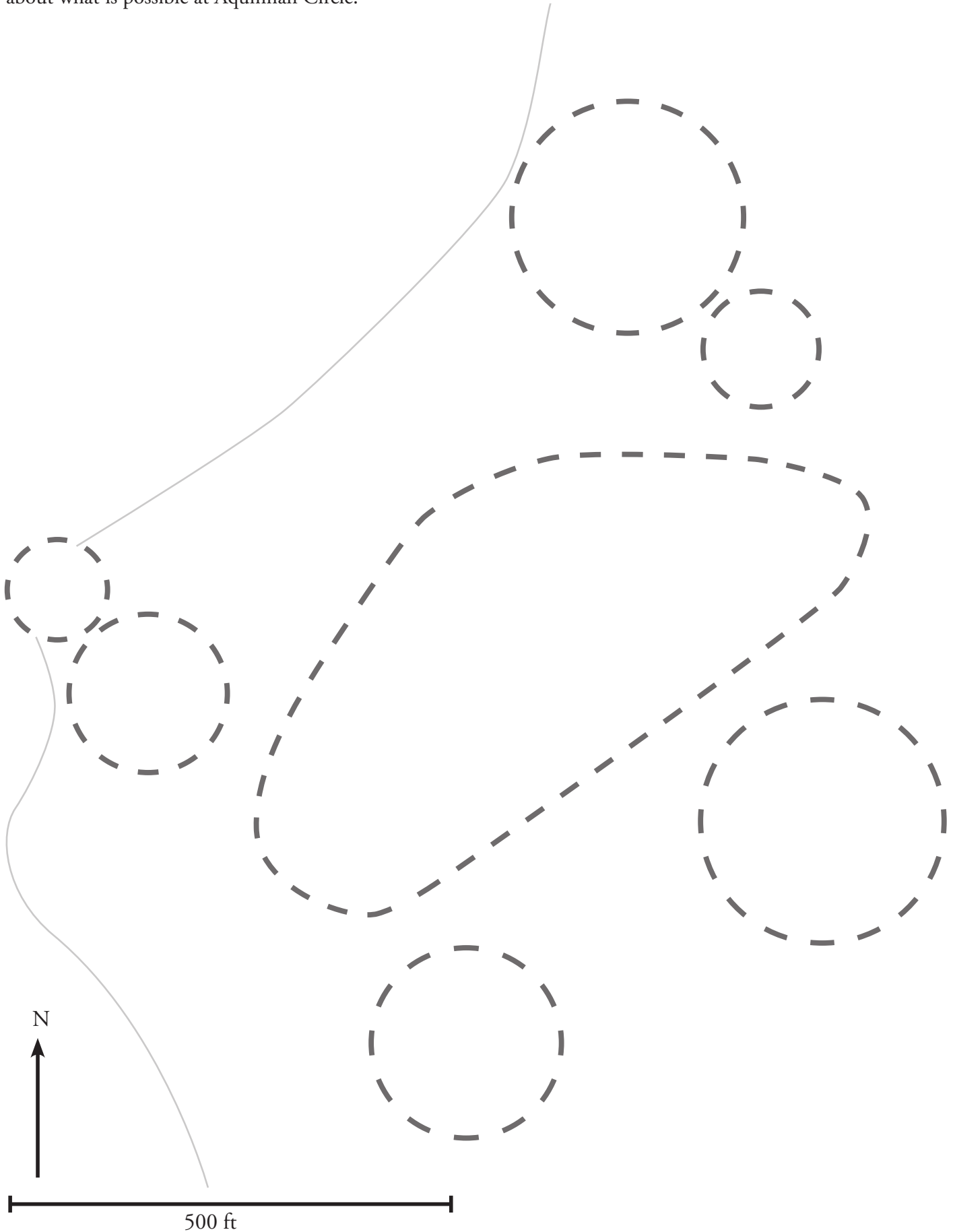
Sassafras
Sassafras albidum



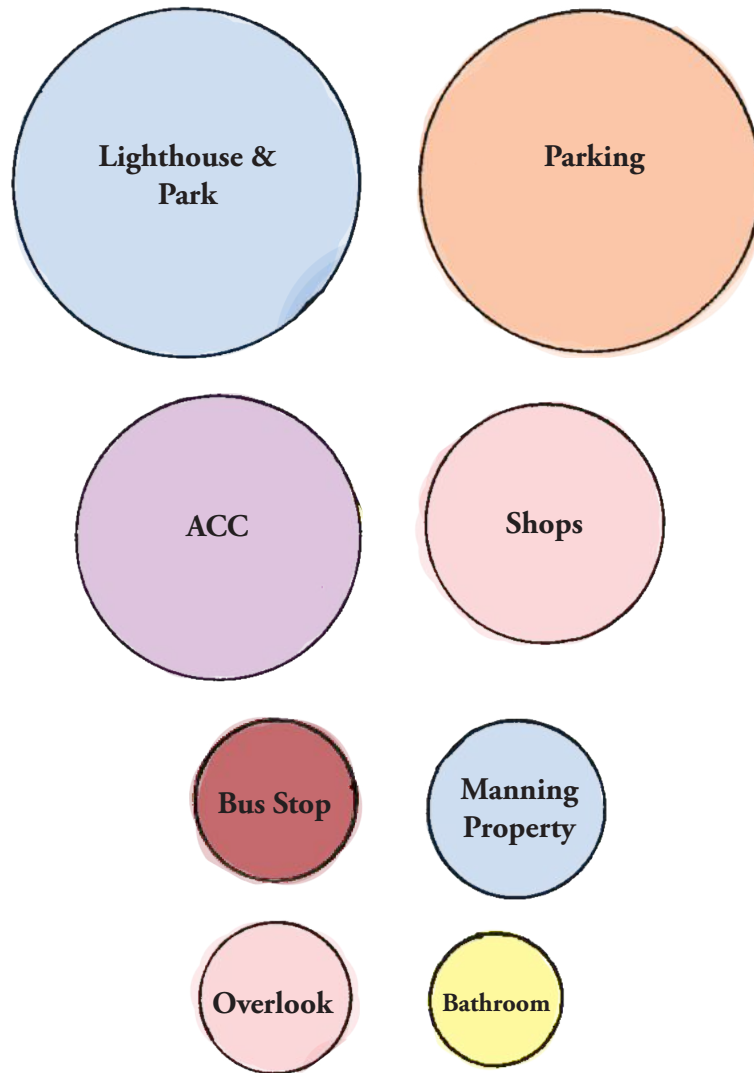
Dog Rose
Rosa canina

Interactive Schematic Template

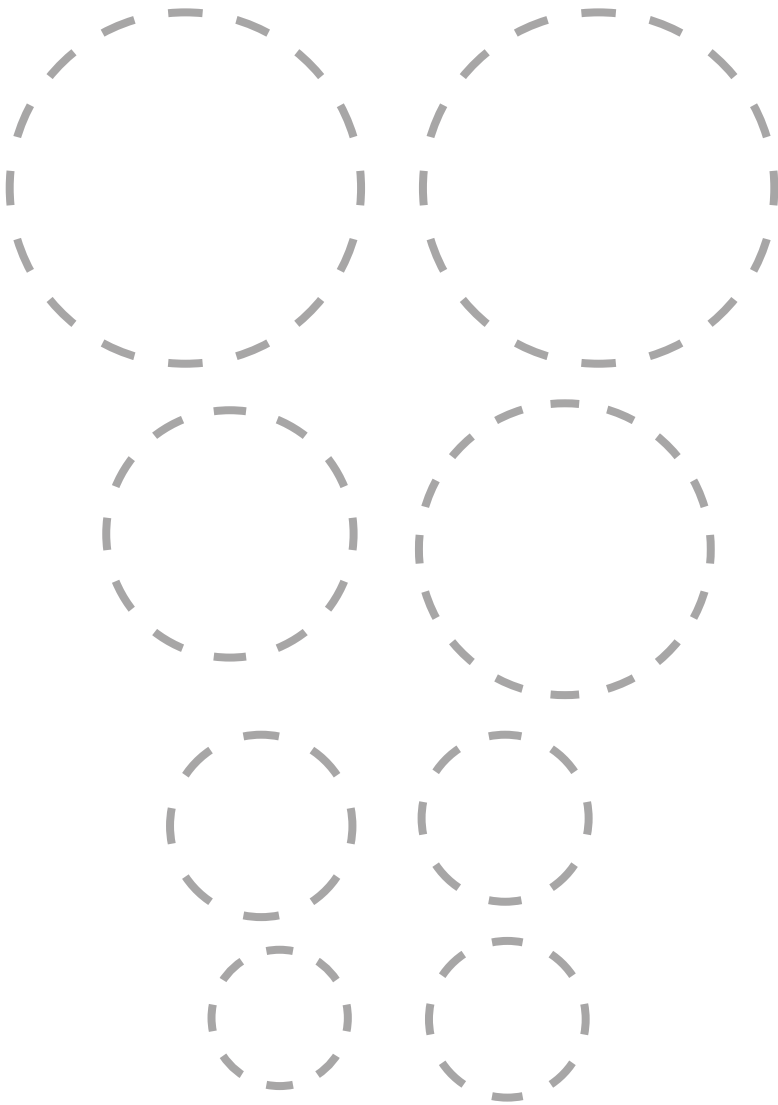
To encourage the creation of new schematics, the following pages contain a base map of existing conditions and to-scale destination templates to cut out. Take a photo of a new schematic and use it to start a conversation about what is possible at Aquinnah Circle.



Interactive Schematic Template (cont.)



Interactive Schematic Template (cont.)



Community Survey

Nearly 70% of Aquinnah's population are summer residents only. Therefore it was important to send a survey through the Town mailing list. The Town received 12 responses which were incorporated into the Community Needs Assessment. The response data was sent to the Town administrator and can be found at Aquinnah Town Hall. The following questions were asked:

1. Memory exercise: Think back to one of your favorite memories at Aquinnah Circle. Who is there with you? What is making it memorable? What are you seeing around you?
2. What elements of Aquinnah Circle are essential to its character and should not be lost?
3. What do you feel isn't working in Aquinnah Circle now? What are your greatest concerns for the site now and in the future?
4. If you could make two changes to the circle, what would they be and why?

Additional Resources

American Trails Park and Trails Accessibility Guidelines
<http://atfiles.org/files/pdf/Trail-Accessibility-Design-Malibu.pdf>

Aquinnah Headlands Preserve Land Bank Management Plan
<http://mvlandbank.com/documents/AHdraftplan2-10-2010.pdf>

Massachusetts Cultural Council Cultural Districts
http://www.massculturalcouncil.org/services/cultural_districts.asp

Recordings of Aquinnah Visioning Sessions
<http://www.mvtv.org/video-on-demand-castus-mich/>