



1.1

# Earthfast

## The Dawn of a New World

(1526 - 1610)

Sapelo Island ~ Kysa ~ Wahvale ~ Asepv ~ Nokose ~ Seloy  
San Miguel de Gualdape ~ Sephardim ~ Charlesbourg-Royal  
Chiaha ~ Charlesfort ~ Fort Caroline ~ Santa Maria de Ajacán  
San Augustino ~ Joara ~ Santa Elena ~ Fuerza San Felipe  
Juan Pardo's Forts ~ Roanoke Island Colony ~ Secotan  
Santa Catalina de Guale ~ San Pedro de Mocama  
Jamestown, Virginia ~ Fort St. George - Kennebec, Maine  
Samuel Champlain ~ Tadoussac, Québec ~ St. Croix, Acadia  
Port-Royal, Nova Scotia ~ Ville de Québec

Richard L. Thornton  
Architect & City Planner



## The New World

Sapelo Island, Georgia - 1526 AD

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FRONT COVER: Virtual reality image of Fort San Marcos de Chiaha INNER COVER: Fort St. George, Maine

BACK INNER FACE: Birds-eye view of Sabino Head, Maine in 1607 - Fort St. George

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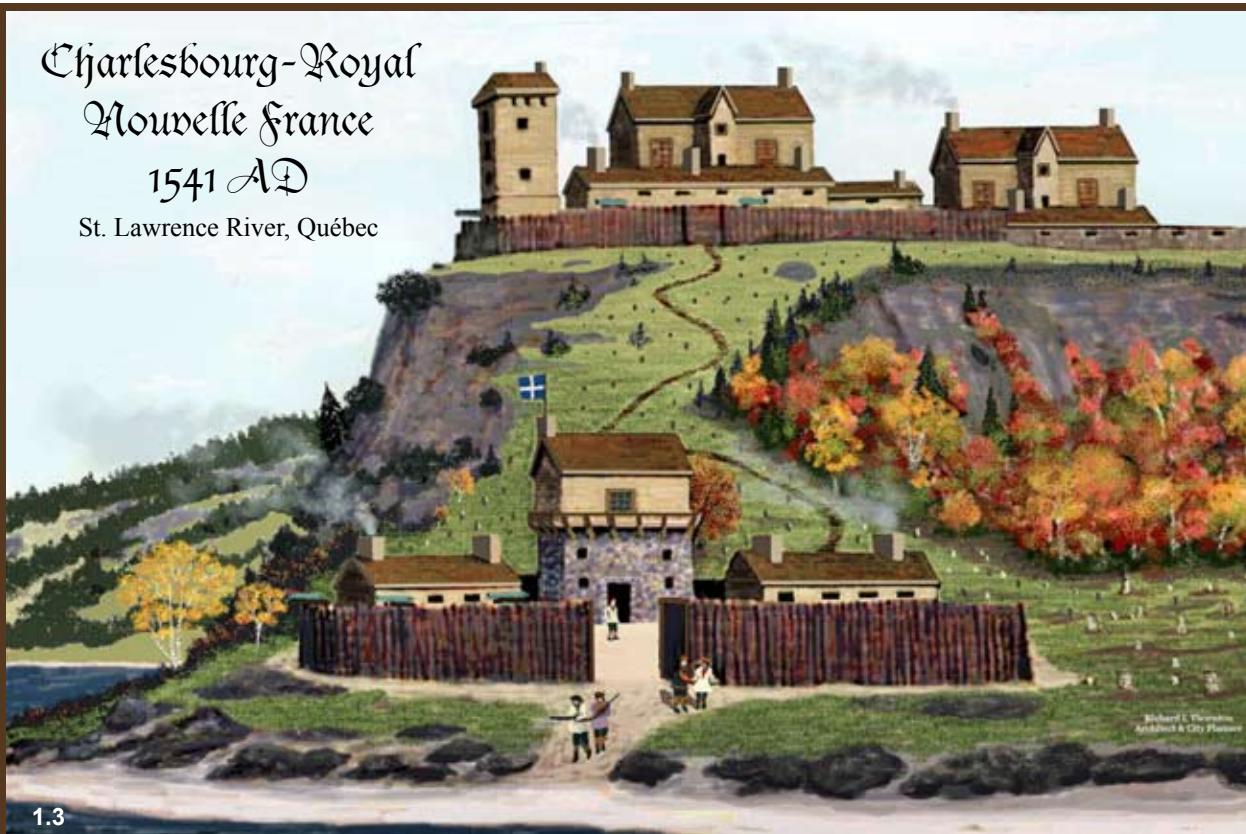
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Charlesbourg-Royal  
Nouvelle France  
1541 AD

St. Lawrence River, Québec



1.3

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of Spain



French  
Merchants



French  
Huguenots



The Kingdom  
of England

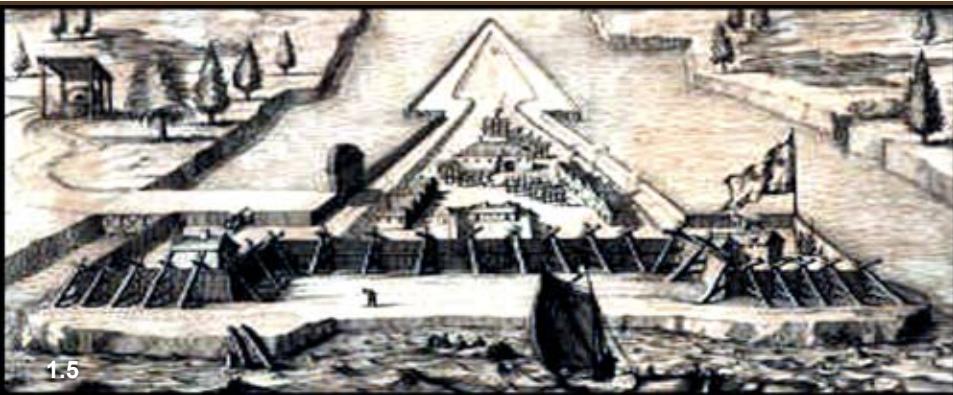


The Kingdom  
of France

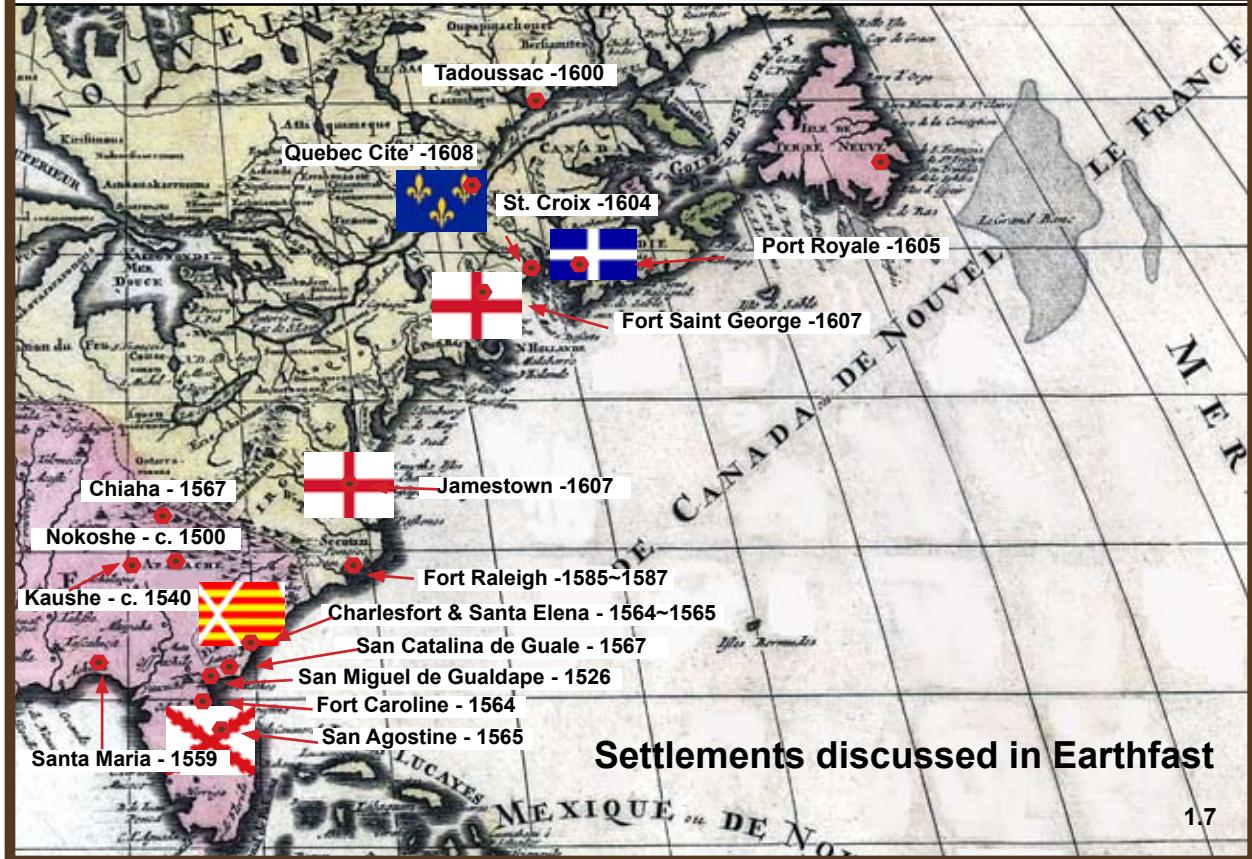
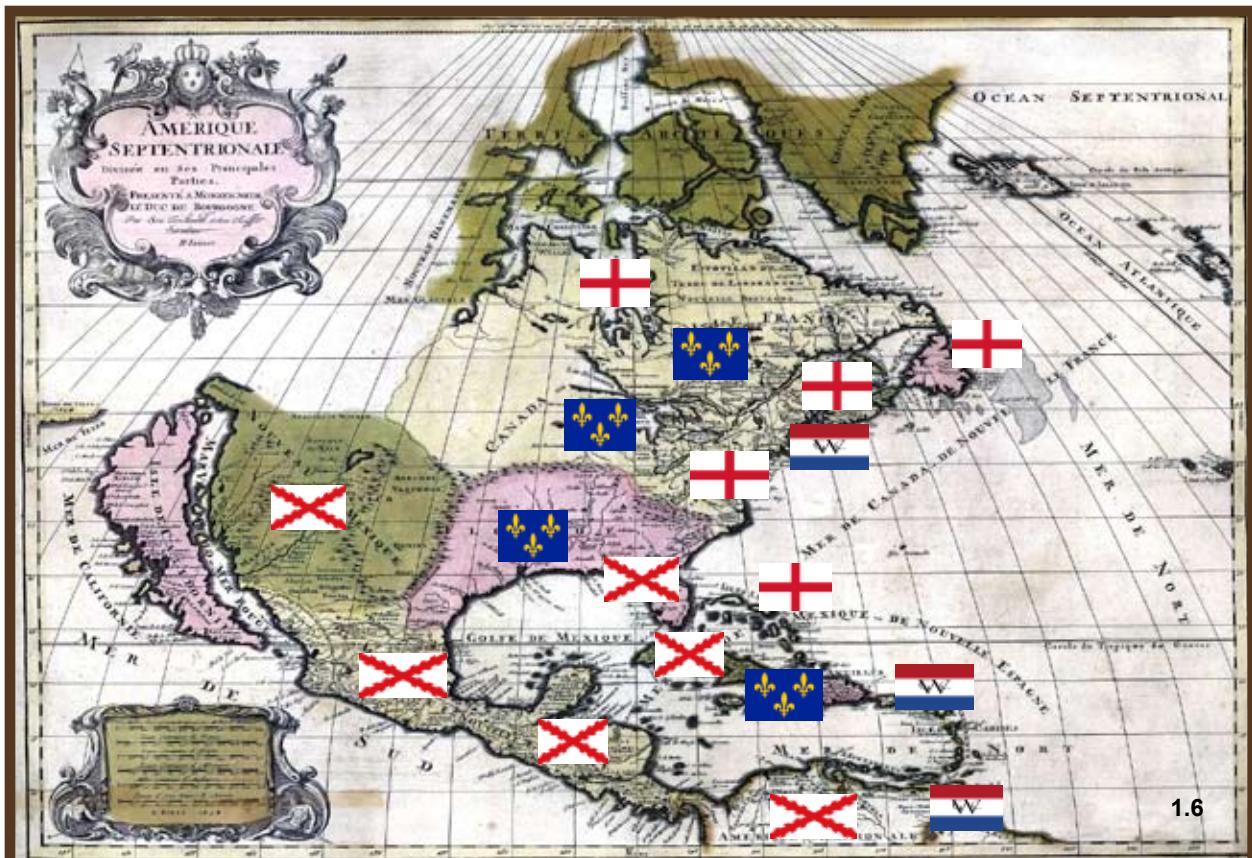
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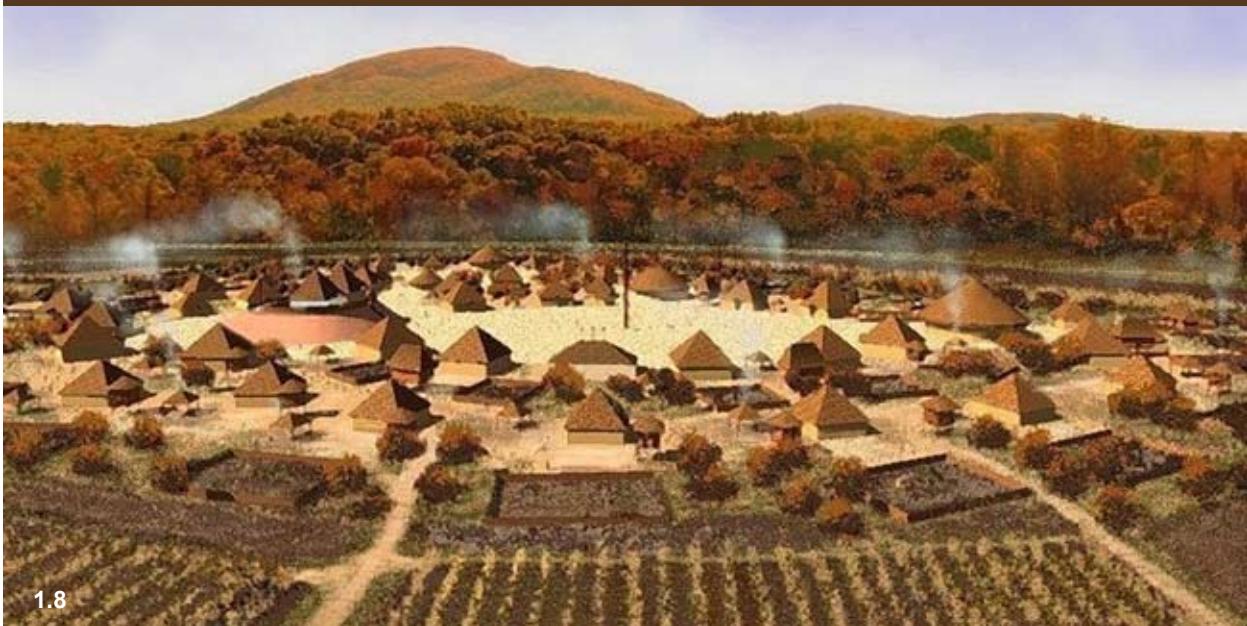
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## Eastern North America at the Dawn of a New World



The town of Nokose Talula in 1540 AD

In a few decades this ancient Itstate-Creek Indian town in the Nacoochee Valley of Georgia would become the Apalache gold-mining colony, and in 1824, the scene of the United States first major gold rush.

### Earthfast

The map on the left was originally created in 1692 by the Sanson brothers, cartographers to King Louis. This version was produced in 1694 for the Duke of Burgundy. Although the map shows great detail in northeastern North America, it seems to have been left in a 110 year old time warp in the Southeast. France still claimed southeastern Georgia and the eastern Carolinas and labeled the region, *Floride François* (French Florida.) No mention is made on the map of the 24 year old Colony of Carolina, based in Charlestowne. The recent French exploration expeditions had given France a claim to the Mississippi Basin, but this map still showed the South Atlantic Coast the way it was in 1590. Perhaps the Duke of Burgundy utilized this map to assist the establishment of French colonies on the Gulf Coast. In fact, by 1717, France would be claiming most of North America, north of Mexico.

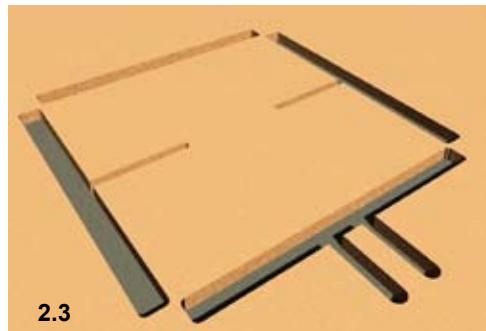
There is something else that this map tells us about the times. Absolutely nowhere in North America is there a sovereign indigenous nation shown. Europeans clearly did not recognize the sovereignty of any Native ethnic group in North America. The American Indians had no "property rights." The ultimate lords of the landscape would be determined by 200 years of open or unstated warfare between Spain, England, France, the Netherlands & Sweden.

**Earthfast** is a medieval English architectural term for vernacular buildings that were anchored to the ground with either wooden posts or timber "mud" sills. They did not have masonry foundations and often did not even have wood floors on the first level. Their construction, ironically, was quite similar to the houses of the more advanced indigenous cultures of the Southeast. I was quite surprised, when I began working as an architect on my first 16th century colonial project that the surviving footprints were so similar to Muskogean houses of that era.

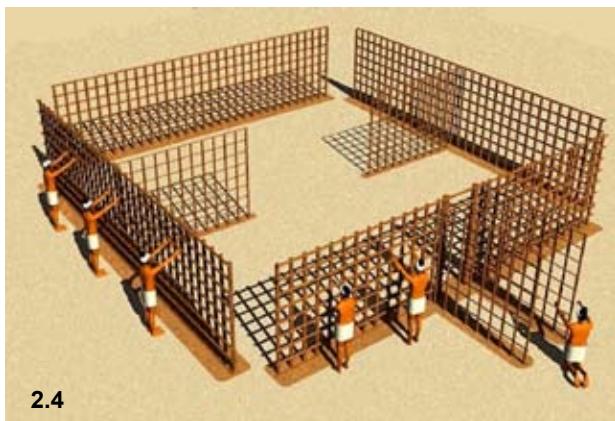
The word has a double meaning. To Native Americans it was a time when about 90-95% of their people died and the forests were swept bare, is known as "the time when the Earth starved." Indeed, it was an earth-fast. However, a New World arose from this holocaust that blended the cultures of Europe and the Americas. The Old World imported a vast variety of foods from the New World, while the New World absorbed its technology.

## Muskogean construction techniques were used in early Spanish buildings

As early as 750 AD, certainly after the founding of Ocmulgee in central Georgia around 900 AD, construction technology changed radically in Muskogean provinces. Most buildings were now rectangular and were erected with prefabrication techniques. The technology also was at Ocmulgee's sister town on the Chattahoochee River, the Roods Landing Site, & soon thereafter, at the village on Hiwassee Island, Tennessee. It appeared around 1000 AD at Cahokia, IL and Etalwa, GA.

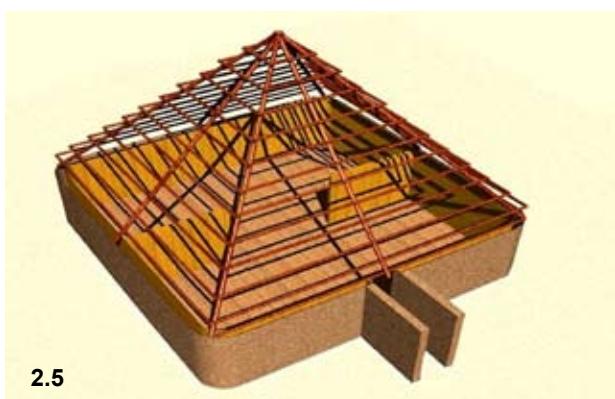


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2.4

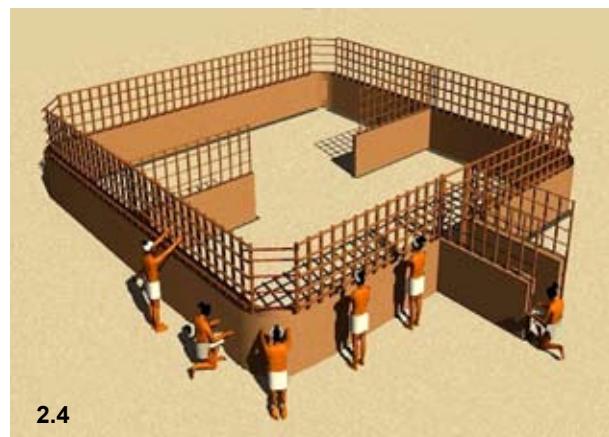
Sapling lattices were assembled flat on the ground by crews. They were fastened together with cords. The posts were one Muskogean foot (12 1/2") on center. The lattices were then set into the ditches.



2.5

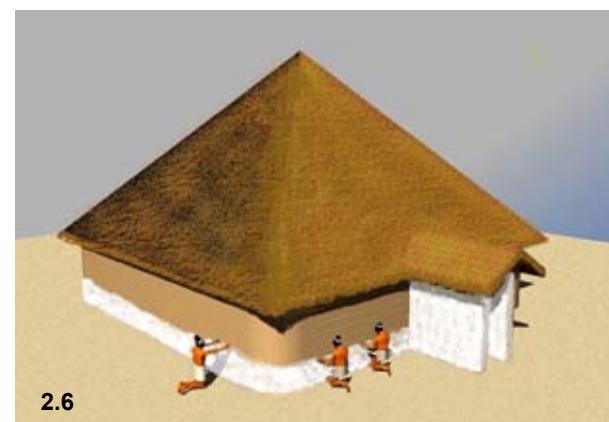
Once the coarse adobe walls had hardened, a finish plaster coat of bright colored clay, sometimes mixed with burned mussel shells, was applied. Rafters and purlins were inserted into the walls. Thatch or bark shingles were tied to the rafter lattices. Often the interior of the roof was plastered, also. Brightly patterned cane mats were laid on the floors, and in finer buildings, also installed on the interior walls.

Like modern structures, the first step was staking the outline of the building using strings and a sun dial. Vegetation was removed, then the terrain was leveled. Ditches about 16" deep and 12-16" wide were then excavated in the locations where load-bearing walls and interior partitions were planned.



2.4

Once a liquid clay footing had hardened, the walls were tied together with wood purlins. More vines were interwoven into the lattice. A coarse coat of clay was then applied. (wattle & daub)



2.6

## Kvse (Coça- Kusa-Coosa) - The Colonial capital that never happened

### Kose

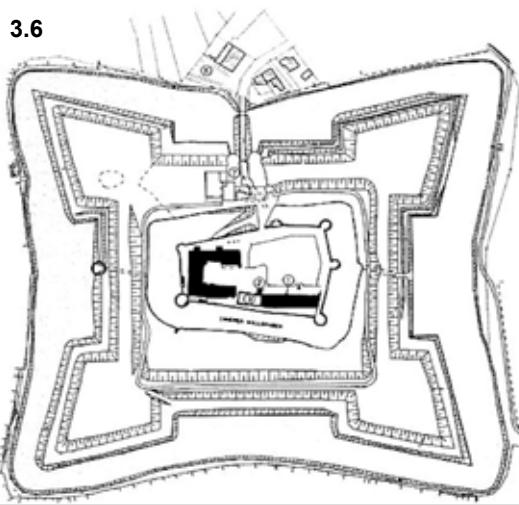
Capital of a powerful Muskogean (proto-Creek) province in present day NW Georgia, whose territory stretched from Knoxville, TN to Childersburg, AL



### Kose ~ Kaushe-te Tulamako (Capital of the Kaushe People) - 1540 AD

It is a Maya word meaning “forested mountains” and written Kaaxi in Maya. The Castilians wrote the name as *Coça* (pronounced Ko-sha.) The Cherokees pronounce it as ku-sha. In English it is typically written as Coosa. The de Soto expedition stayed here from mid-June till early August of 1541 AD. He planned to return to make it a grand colonial capital of La Florida, on the scale of Mexico City. De Soto died a year later, so the plans never came to fruition.





(top photo) Begun in 1549, the Landskrona, Sweden Citadel reflected obsolescent military architecture from the early 1500s. The round turrets provided a 300 degree sweep of the Oresund Channel and Skåne landscape, but the buildings behind the turret were dangerously exposed to enemy cannon and musket fire. Skåne was part of Denmark then. The first time the Swedes attacked the fort, they took it. Once in possession of Skåne, the Swedes wisely added multiple bastions & moats to protect against infantry attacks.

*Photo courtesy of Landskrona Stads Turistbyrå*

(bottom left) During the 1560s four bastions and a moat were added to the medieval Helrungen Slott (castle) in northern Germany. *Drawing courtesy of Helrungen Stad. Turistinfo*

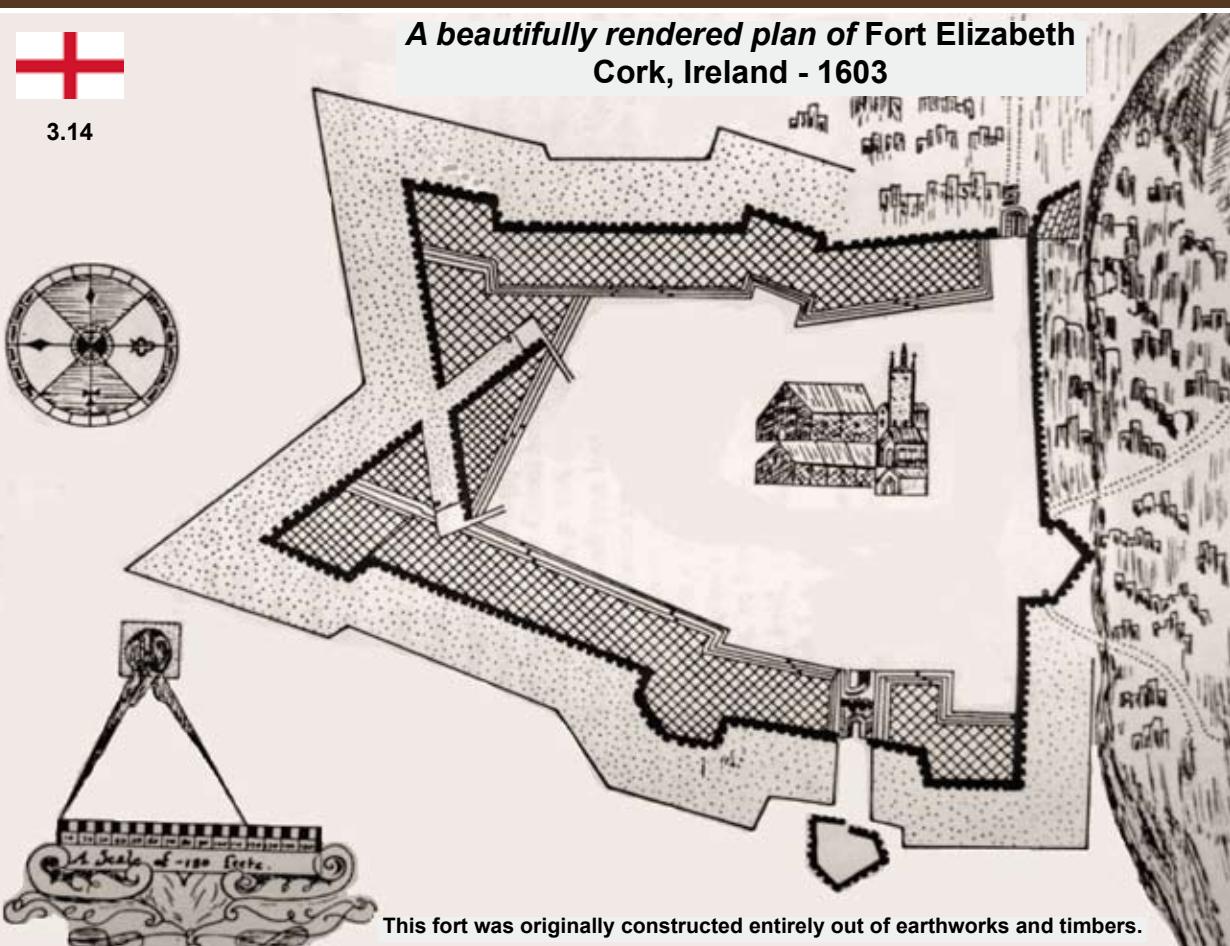
(bottom right) Camber Castle was one of several Device Forts constructed by Henry VIII in 1539, when he feared that the French would attack the coast of England. It is located near the mouth of the Thames River. The design of the fort is quite modern in concept. Note than unlike the Landskrona Citadel, there are no windows or non-fortified buildings exposed to enemy cannon fire. The five turrets provided a 360 degree sweep of the surrounding terrain and river. Originally, there was a roof above the spaces seen in the aerial photograph. A company of infantry lived on the lower level and were available to fire arquebuses at any infantry that approached from land. However the garrison was inadequate for large scale attacks.

### Small English forts in early 17th century

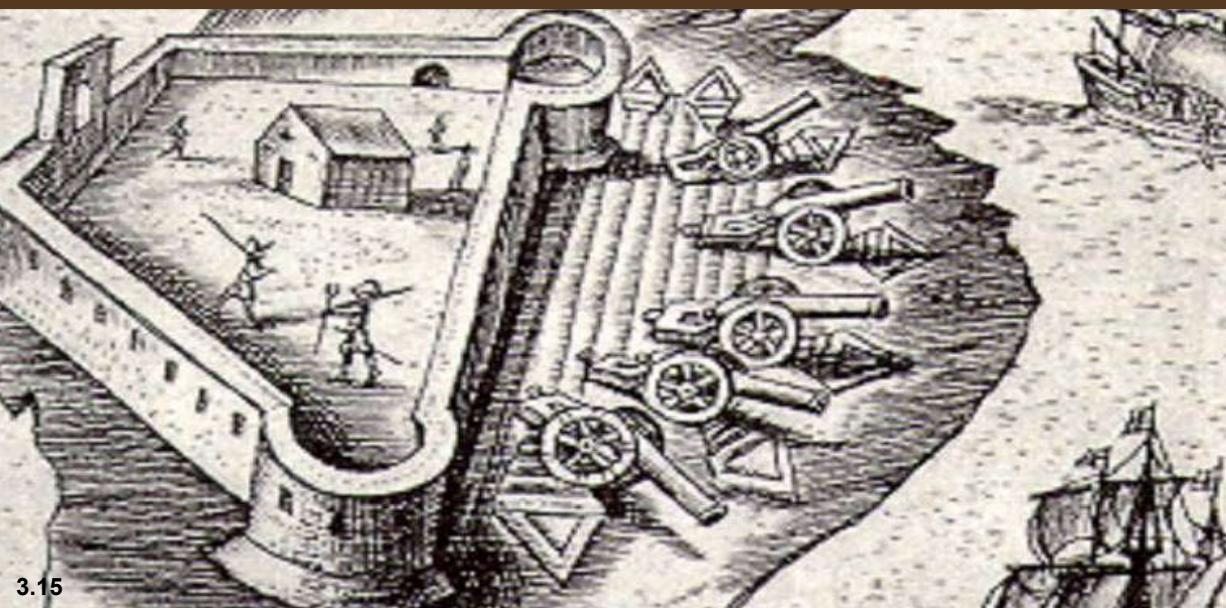


3.14

*A beautifully rendered plan of Fort Elizabeth  
Cork, Ireland - 1603*



This fort was originally constructed entirely out of earthworks and timbers.



Triangular fort on the Chesapeake Bay established by Lord de La Warr - Colony of Virginia  
c. 1612 - It probably was built entirely out of timbers and earthworks.



5.2

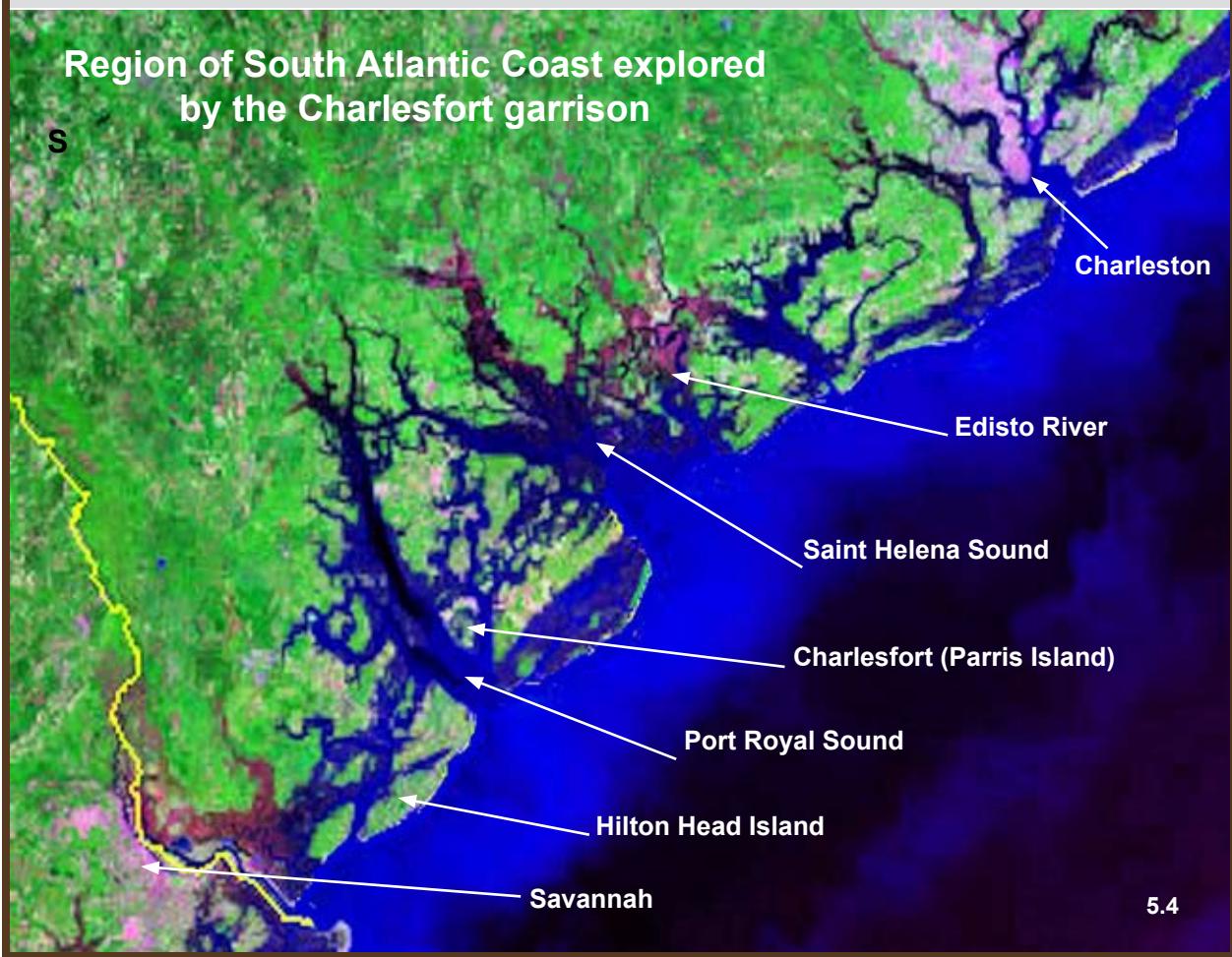
**Admiral Gaspard de Coligny**  
Born: February 16, 1519  
Assassinated: August 24, 1572



5.3

Admiral Gaspard de Coligny was both a loyal, trusted subject of King Charles and a devout Protestant. His plan was to develop North America as a massive French colony. (above) Captain Jean Ribault carried three stone columns in his ship to mark France's claim to the Atlantic Coast. One was placed at the mouth of the May River. Another was placed at the mouth of Port Royal Sound, probably the tip of Parris Island.

### Region of South Atlantic Coast explored by the Charlesfort garrison



5.4

## Charlesfort

Aerial view of the fort



## Charlesfort



5.11

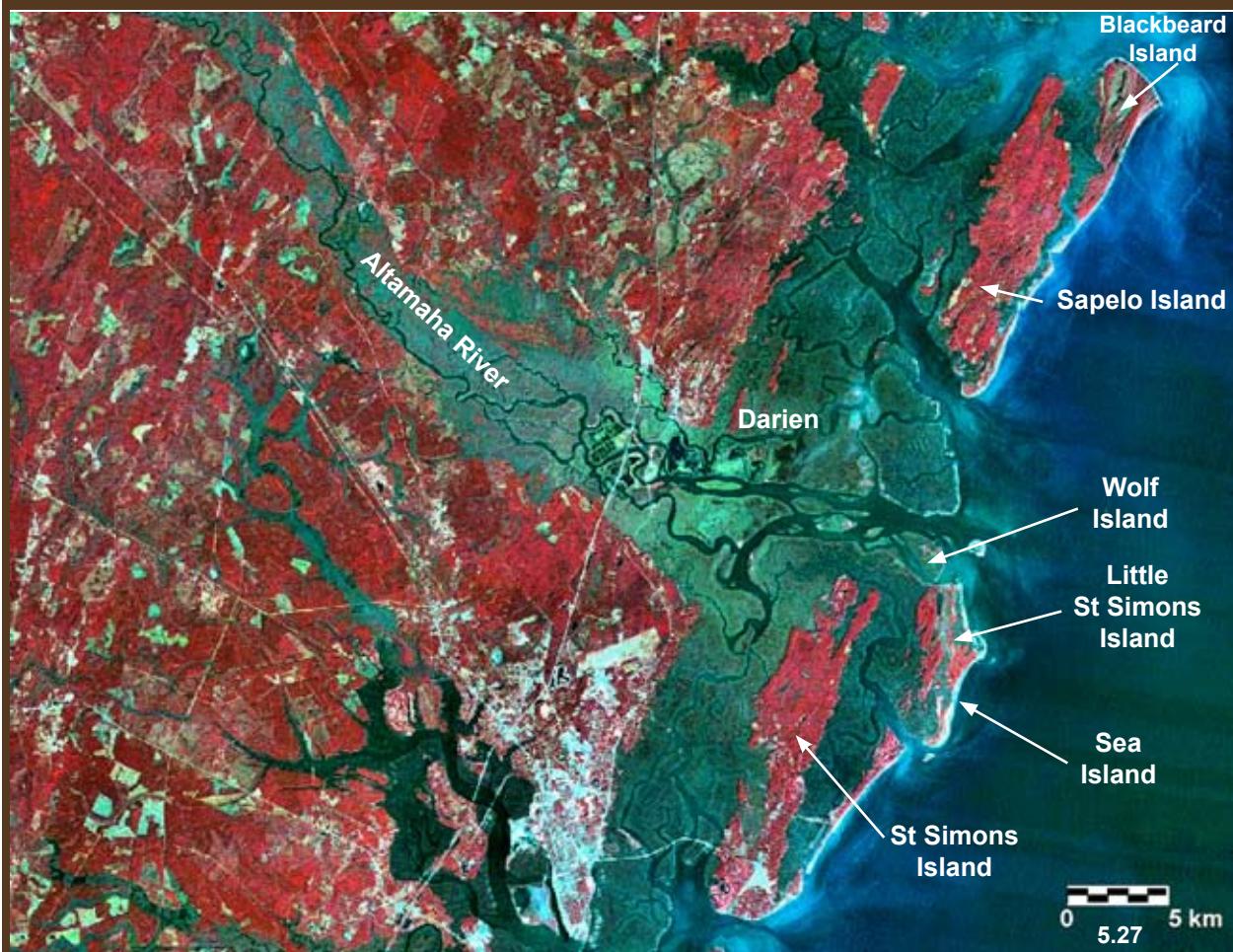
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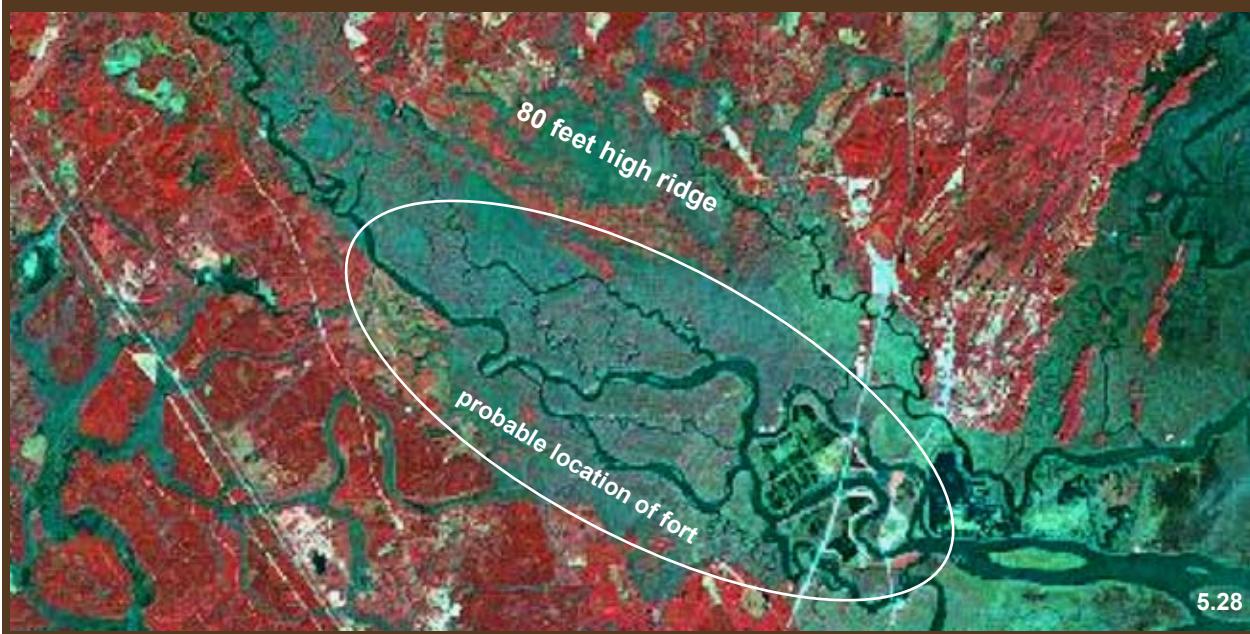
5.12

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Architect & City Planner

### Mouth of the Altamaha River



### Probable area where Fort Caroline is located





## San Agustín (1585)

St. Augustine, Florida



6.1

In 1580 St. Augustine only had about 400 residents, many of whom were either Indians or mestizos. Most of the houses at that time were simple one room wood-sided huts with thatched roofs. Some elite families lived in stuccoed wattle & daub houses. Most of the houses would continue to be essentially "shacks" until the middle 1700s.

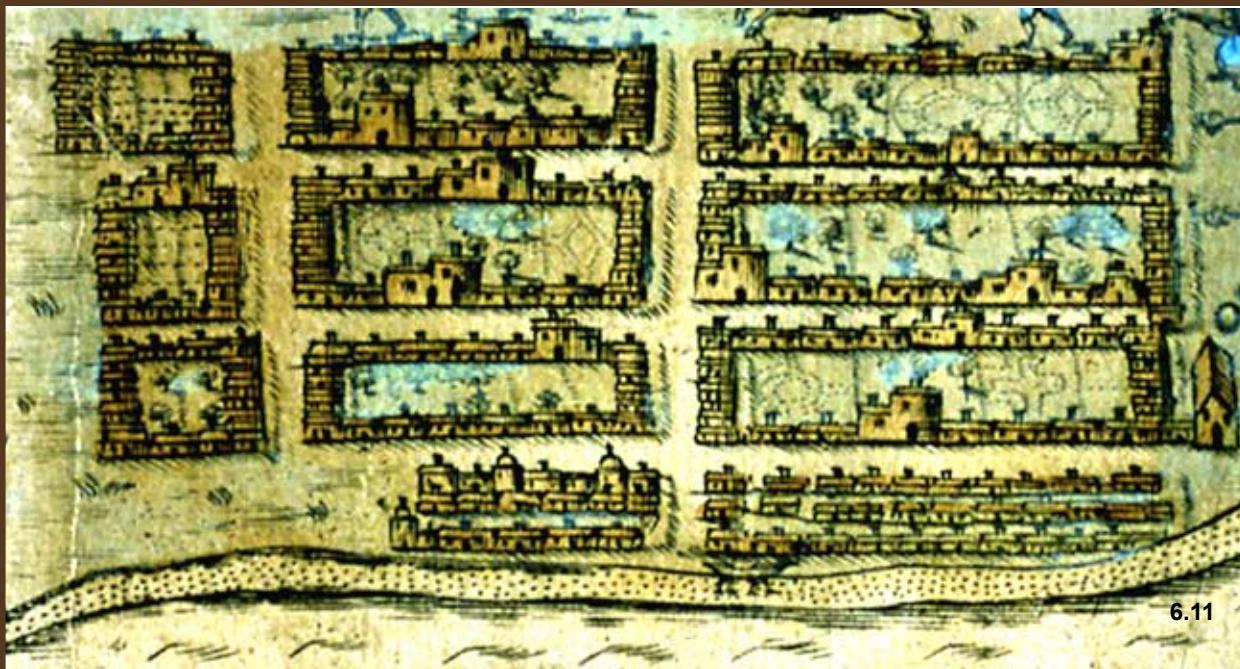
### Chapter Six El Presidio de San Agustín

Don Pedro Menéndez de Avilés was born in 1519 in Santander, Cantabria (Spain) to a noble family.<sup>1</sup> He ran away from home at the age of 14 to become a sailor. He rose steadily through the ranks of the military. In 16th century Spain, there was no clear differentiation between being a naval officer or an army officer. *As stated in Chapter five, Spanish naval tactics typically involved grappling an enemy ship and then sending soldiers aboard.* Menéndez served in both capacities with distinction. On several occasions he crushed rebellions by the native peoples. The survivors were either tortured to death or sentenced to short, brutal lives as slaves.

Menéndez was just 18 in 1537, when Hernando de Soto was named the *adelantado* of the proposed province of La Florida.<sup>2</sup> Like his predecessor before him, Don Juan de Ponce de Leon, de Soto died while exploring the territory for which he was to be both hereditary governor and captain-general. *Adelantado* means "in advance" in Castilian. It was a tradition from the *Reconquesta* of Spain in which a war leader was granted feudal powers over a region by a monarch, if he personally paid for its conquest. The soldiers and sailors of such a conquest were volunteers, who expected to share in the booty of the conquered land. The tradition was a major cause of the brutality of Spanish soldiers toward Native Americans. The conquered were viewed as sub-human and virtual slaves of the conquered.

During the early 1550s, Menéndez was responsible for the construction of several royal fortresses in the Caribbean Basin.<sup>3</sup> These fortresses were made necessary by a war with France, which was developing its own sea power. In 1554 at the age of 35, he was appointed Captain-General of the Treasure Fleet. This was an extraordinary honor for a man of his relatively young age. His leadership enabled the entire fleet to reach Spain safely.

### The third Saint Augustine



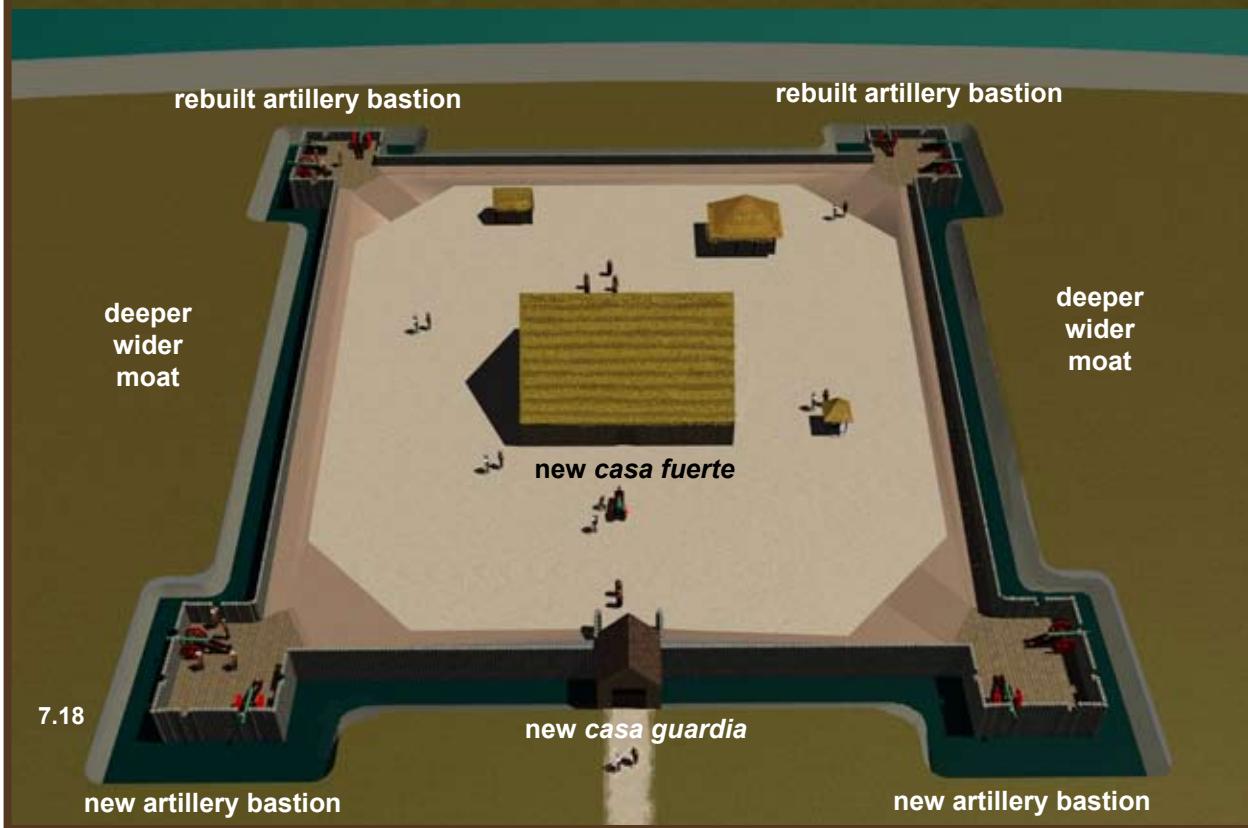
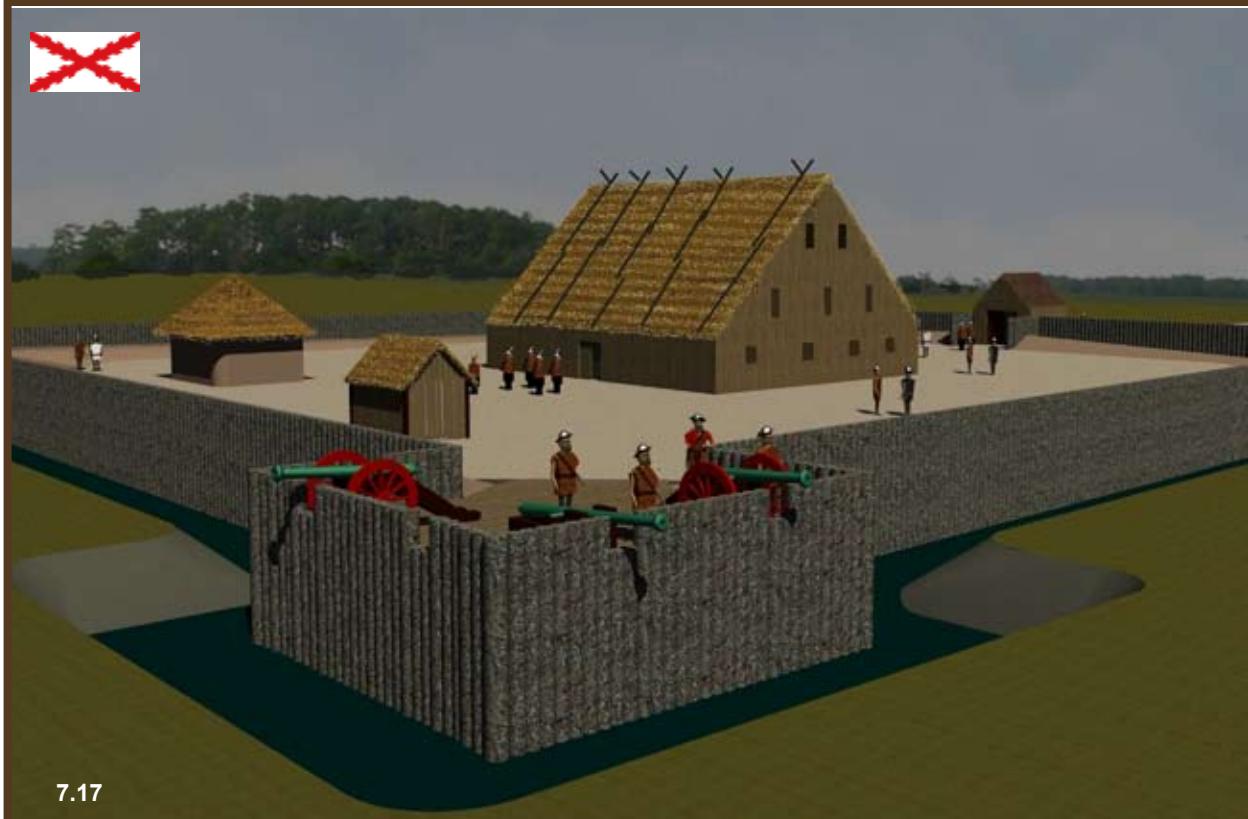
Saint Augustine in 1600

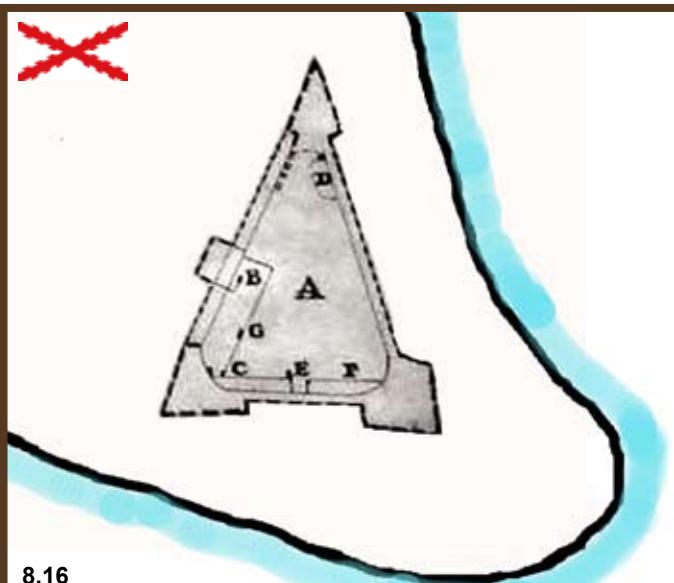
In 1586, St. Augustine was burned by English raiders, led by Sir Francis Drake. Santa Elena was abandoned soon afterward. St. Augustine's population grew to around 400 persons. The map above is an exaggeration. St. Augustine's actual appearance in the late 1500s was like the computer drawing below.

## Fort San Marcos and Nueva Santa Elena



Fort San Felipe II (1580-1587)





8.16

### Fort San Pedro (1565) Cebu Island, Spanish East Indies

Miguel López de Legazpi founded the first Spanish settlement in Cebu in 1565. A triangular timber fort was built on the end of a peninsula after Cebu Islanders began attacking the Spanish settler. The Spanish later established Manila as the capital of the Philippine province in 1571.

The fort is significant to the study of North American fortifications because it was contemporary with the forts at St. Augustine and Santa Elena, plus was constructed out of timbers. In fact, it's plan was almost identical to the French design of Charlesfort on the St. Johns River in Florida (1562.) The forts built by Juan Pardo were probably very similar to Fort San Pedro.

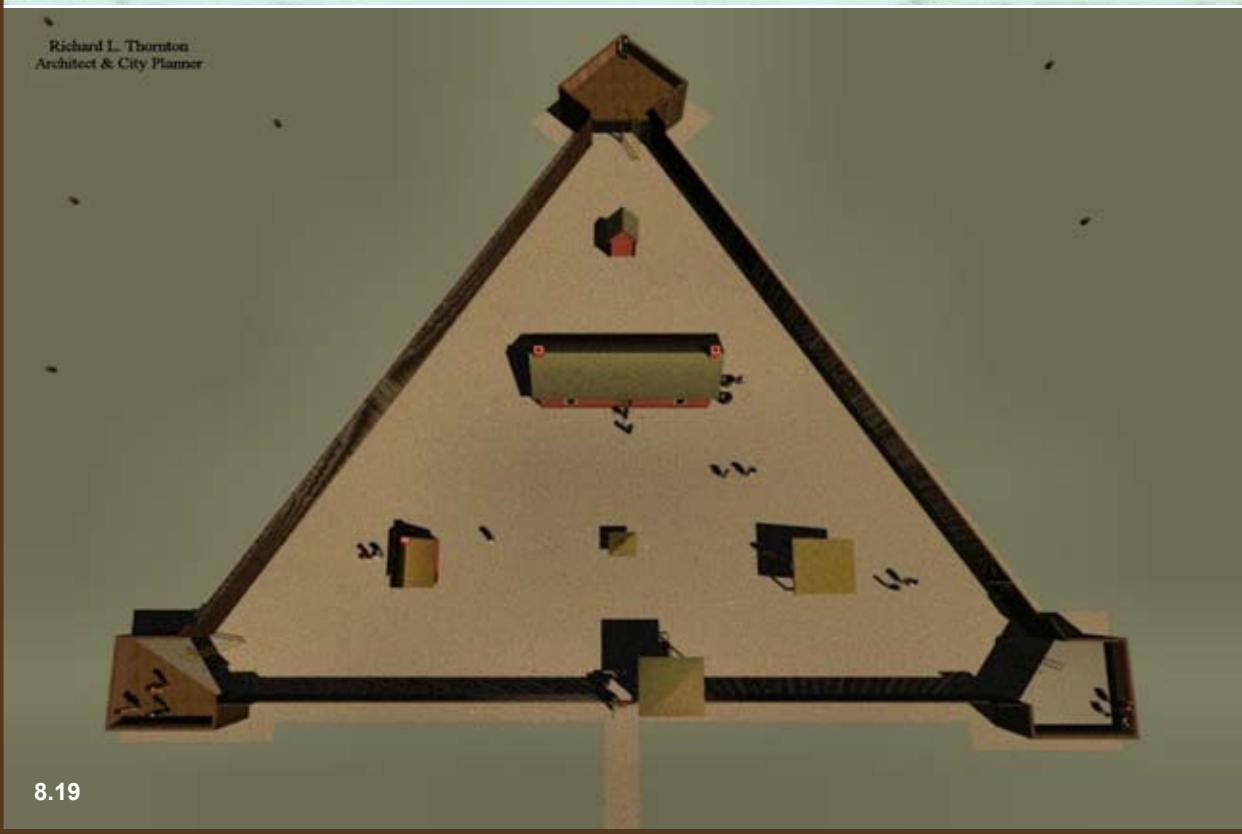
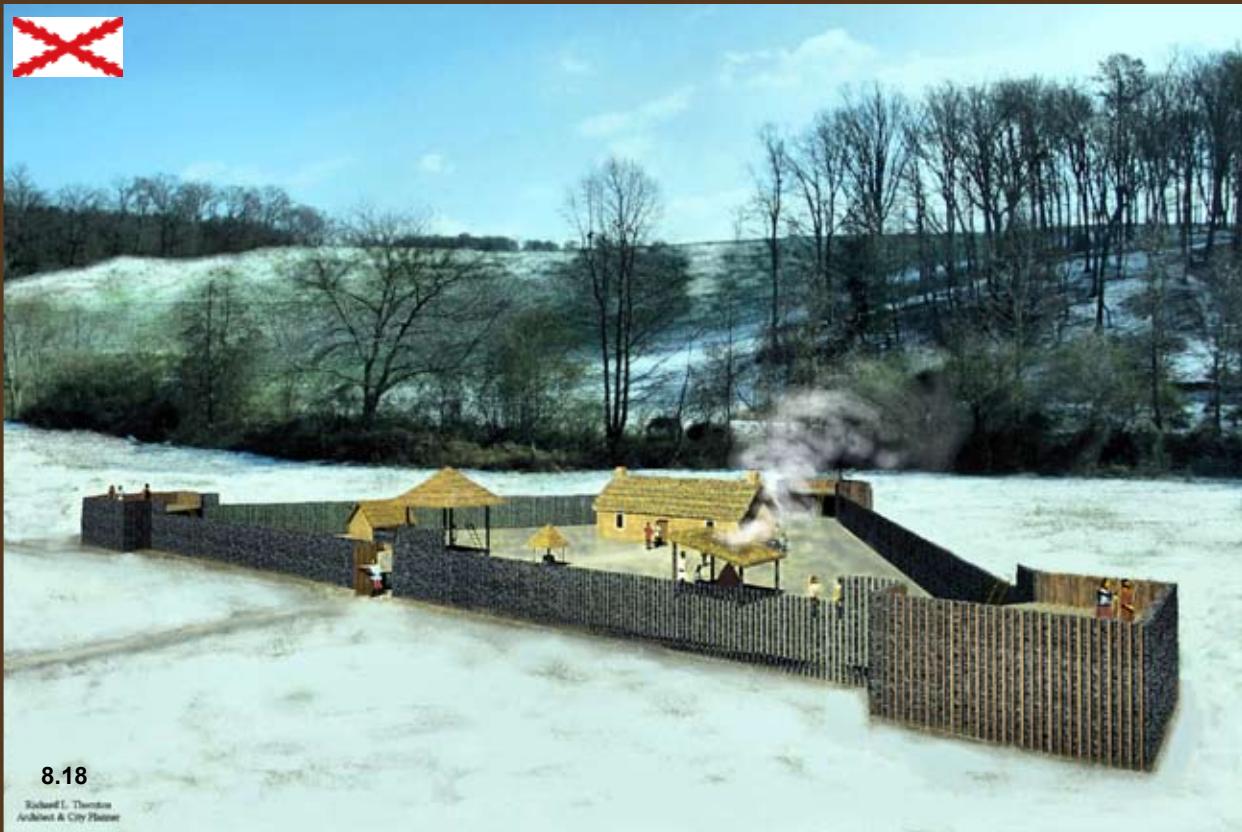


8.17

### Fort San Pedro (1565) Cebu Island, Spanish East Indies

This sketch is based on exhibits at the Fort San Pedro Museum in Cebu City, Philippines. The quickly constructed triangular fort lacked a moat. Such was probably the design of Juan Pardo's forts, also.

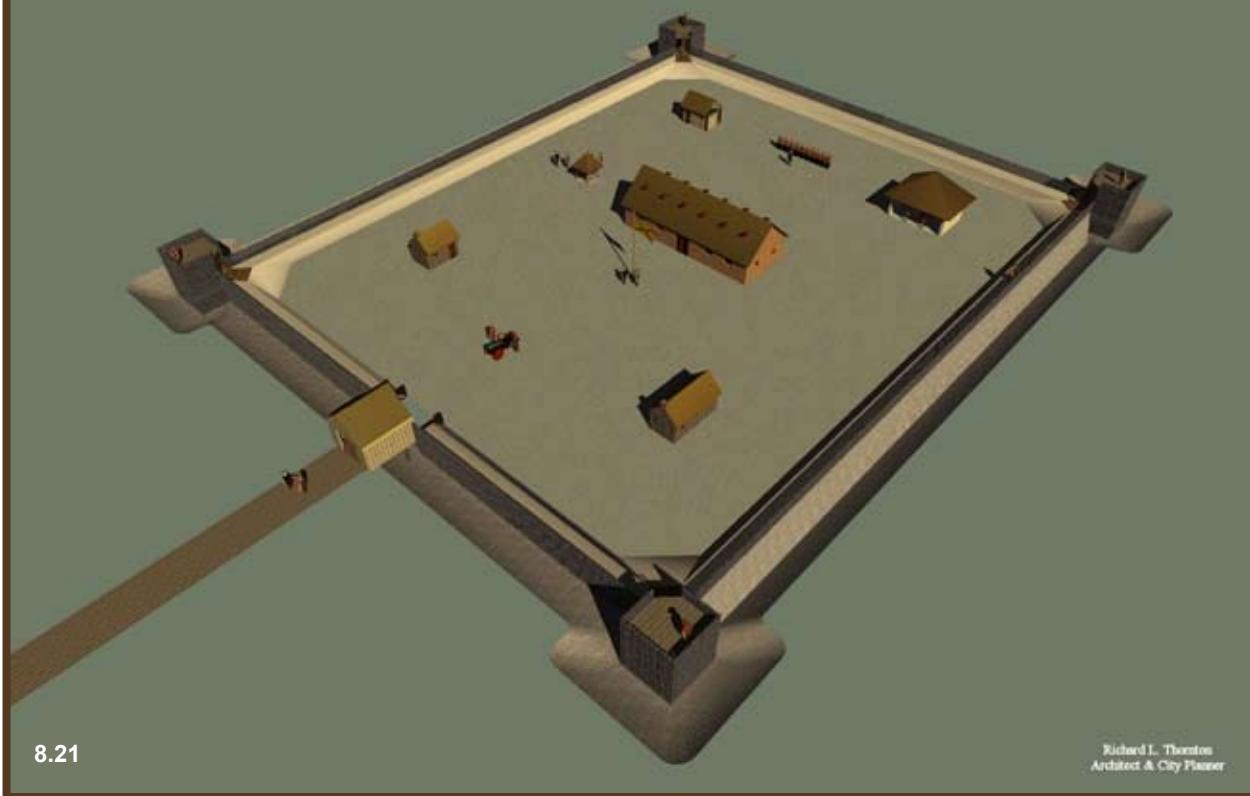
## Architecture of infantry forts built by Juan Pardo (1567-68) - Triangular



## Architecture of infantry forts built by Juan Pardo (1567-68) - Rectangular



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## Jewish Sephardic colonists in the Southern Highlands

On Hooper's Bald, a mountain peak rising over 5,400 feet elevation in Graham County, NC there is a large rock that has some unusual writing on it. As far back as anyone can remember or has heard of it, the writing has been there. Generation after generation of Graham County folks, especially the "old timers" recall seeing the writing when they were small children accompanying their fathers and grandfathers to Hooper Bald. They say their fathers and grandfathers told them of seeing the writing when they were small children. Some thought the writing was Spanish and attributed it to DeSoto who is said to have passed through this area in search of gold.

In 1988, Marshall Mcclung sent a photo of the writing to the Mcclung Museum at the University of Tennessee in Knoxville, Tennessee. Jeff Chapman of the Museum said that the inscription on the rock, "PRE DARMOS CASADA, SEP. 1615," was probably a Latin phrase that meant the person was claiming the Smoking Mountain Region as his own, was staking a claim, and would defend it to the point of bearing arms.

It is not Latin. It is written in a dialect of Castilian. The phrase means "Prayer we will give, married, September 15, 1615." Sephardic Jews used the word "*pre*" for prayer, while Spanish Catholics used "*suplicación*." There is other writing on the rock partially beneath the surface of the soil. It appears to be Hebrew, but only the tops are visible.

The 16th and 17th century Sephardic colonists in the Southern Highlands may have escaped the Inquisition from Spanish colonies in La Florida. Another possibility is that they were refugees from Cartagena, Colombia. Many Sephardic families in Cartagena had grown wealthy from silver and gold mine ownerships. They quietly practiced their religion without interference from local authorities until 1610 when the Inquisition arrived. These families quickly disappeared. The location where they moved has never been documented, but it quite possible that they bribed officials in the impoverished province of La Florida in order to take refuge in the mountains.



8.31

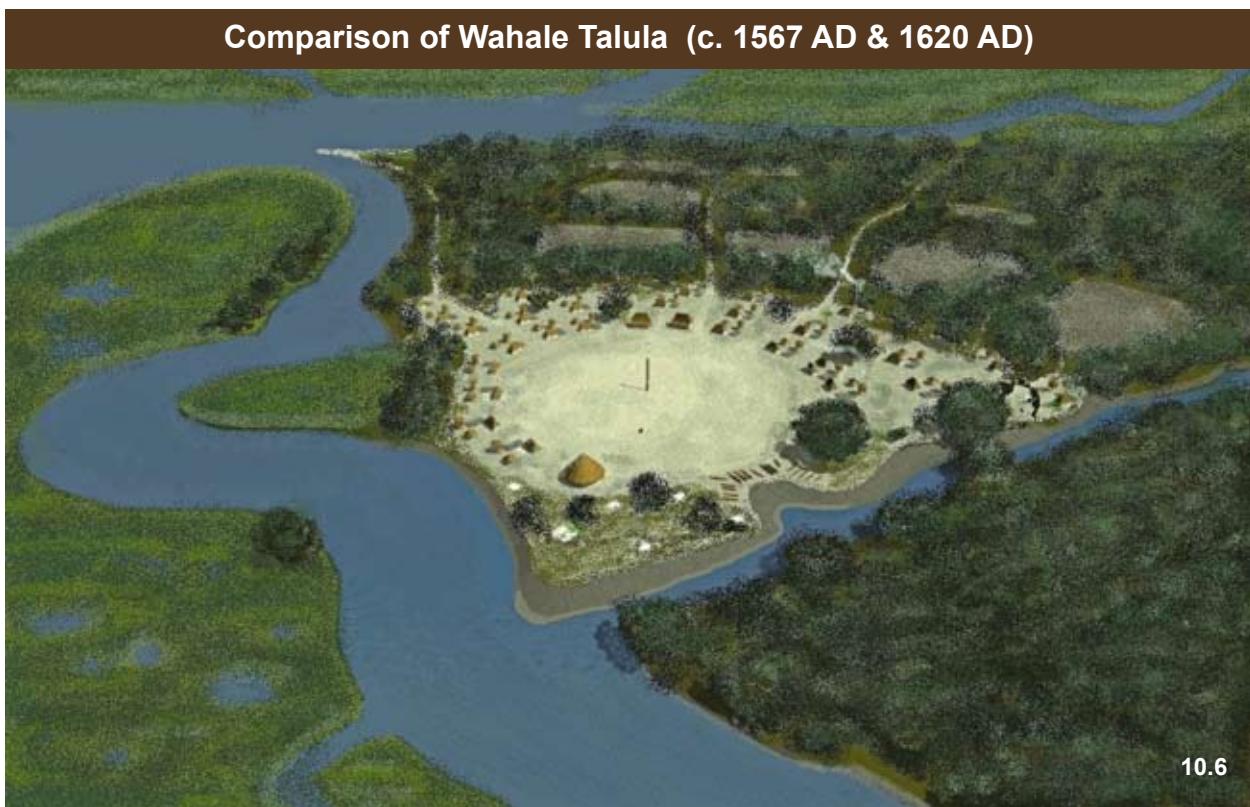
Richard Thornton

John White's map  
of Ocracoke Inlet  
& Cape Hatteras



9.10

### Comparison of Wahale Talula (c. 1567 AD & 1620 AD)



10.6

The village in 1567 AD was probably a little smaller than the one clustered around the mission in 1610. The increase in size after the mission was founded, was due to the immigration of Christian Wahale from other villages in the area. However, the population afterward declined from diseases, malnutrition and over work. Other Wahale's were fleeing to the interior to avoid forced labor and suppression by Spanish officials. Eventually the village only had about 50 residents, before it was completely abandoned.



Mission Santa Catalina de Guale at  
the peak of its size around 1620 AD

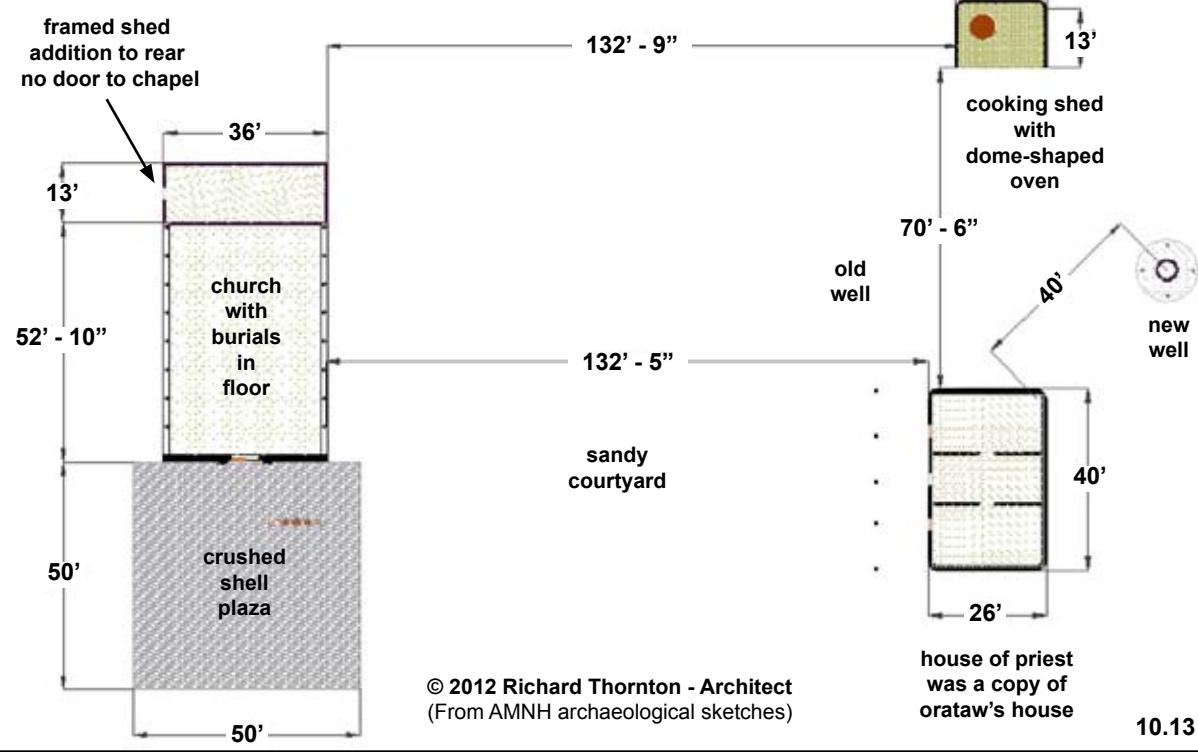
10.7

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## Archaeological studies at Mission Santa Catalina de Guale



### Detailed Site Plan of Mission Santa Catalina de Guale



## Mission Santa Catalina de Guale (1587- 1680)



As seen above and below, for much of the life of the Santa Catalina mission, the well consisted of barrels stuck in the ground. Very late, a lined well was built. The structure of the ***cocina*** or kitchen at Santa Catalina was virtually identical to that of a Muskogean ***topah-sokee*** or public hospitality shed, where warm food was available 24/7 in a village. However, instead of a hearth in the floor, the food was cooked in a beehive shaped oven, that is traditional of the Iberian Peninsula. Wahale women cooked the meals for the priest. Presumably, they also were taught how to bake the special bread for Mass. It is possible that the structure was also used for cooking communal meals.



### How the famous Georgia Belle Peach was born.

In 1602 a party of Spanish explorers paddled up the Altamaha River as far as the land of the Tamati, who were related to the Wahale. The Spaniards were told that if they went any further, they would be killed. However, they were given traditional Muskogean hospitality, contingent on good behavior. While staying in the town of Al-tama-ahau, (*Place of the Tama lord in Chontal Maya*) they noticed that the Tamati were growing peaches and watermelons in addition to indigenous plants. When asked how they obtained these plants, the Tamati explained that as soon as the first Spanish missionaries planted Spanish crops & trees, the Tamati had obtained the seeds from the Wahale! The Creek Indians steadily adapted the fruit trees and vines to higher elevations and colder climates. By the mid-1700s, Native American cultivation of peaches, apples and melons was widespread all over the lower Southeast.

## Sainte-Croix Habitation (1604-1605)



11.8

### St. Croix Island today and in 1604

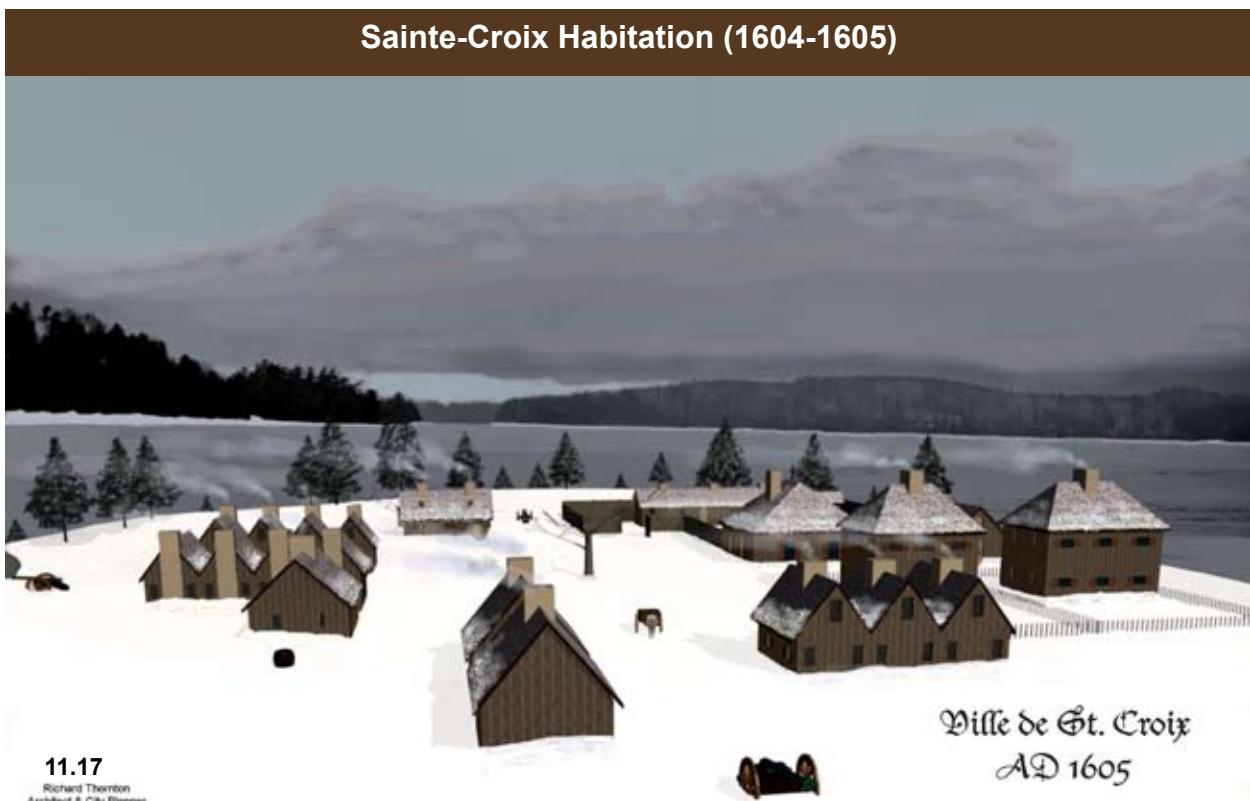
St. Croix International Historic Site is located on the boundary between Maine and New Brunswick. Although technically in the United States, the park services of both Canada and the USA maintain the island in a pristine condition. Interpretive centers are located in both Maine and New Brunswick.



11.9

Richard L. Thornton  
Architect & City Planner

## Sainte-Croix Habitation (1604-1605)



11.17

Richard Thornton  
Architect & City Planner

It was the winter from hell. Because of its latitude, French officials assumed that the St. Croix River Basin would have a similar climate to Bordeaux. The colonists did not bring adequate food supplies, clothing or tools to deal with harsh winter. They chose a location that was fully exposed to bitterly cold winds blowing down from northern Quebec. The river froze, making it impossible to obtain firewood and game. By late winter the island was virtually stripped of its trees to heat the un-insulated houses.

*"Their teeth became very loose, and could be pulled out with the fingers without its causing them pain," wrote the explorer. "The superfluous flesh was often cut out, which caused them to eject much blood through the mouth. Afterwards, a violent pain seized their arms and legs, which remained swollen and very hard, all spotted as if with flea bites; and they could not walk on account of the contraction of the muscles, so that they were almost without strength and suffered intolerable pains ... In a word, they were in such a condition that the majority of them could not rise nor move, and could not even be raised up on their feet without falling down in a swoon. So that out of 79, who composed our party, 35 have died, and more than 20 were on the point of death . . . We were unable to find any remedy for these maladies."*

Things got a better once the ice melted so the colonists were able to go hunting and trade with the natives. Once the river thawed sufficiently to permit canoe travel, the nearby natives were willing to trade meat for French bread. The gardens were planted again. The land proved to be fertile for the cool weather vegetable of northern Europe.

### Port Royal, Acadia (Nova Scotia)

Meanwhile, Champlain explored the region till he found a location that appeared to be more suitable for colonization. It was on the shore of the Bay of Fundy in the southwest corner of Nova Scotia. He named the new colony, Habitation Port Royal. The surviving St. Crois settlers moved there in August of 1605. Visitors to the island in 1606 stated that the vegetables were still growing in the gardens. The surviving buildings were burned in 1613 by a British expedition led by Samuel Argyll.

In April of 1505 Samuel Champlain found a sheltered inlet on the opposite side of the Bay of Fundy (Bay Fran-

## Port-Royal Habitation Reconstruction (1938-1940)

*Construction progress photos taken by Architect Kenneth D. Harris*



11.25



11.26

## Earthfast Construction in Early Virginia



### Cellar House

The first houses built at Jamestown were mostly cellar houses. They were at best, crude huts that would have been unhealthy and uncomfortable habitations in wet weather. These huts were based on the typical construction details of root cellars that were commonplace on English farms. The settlers learned the hard way that the climate of Jamestown was not like the English countryside that they left behind. Very few cellar houses were built for habitation after Jamestown burned in early 1608. They remained commonplace as root cellars much longer.

12.8

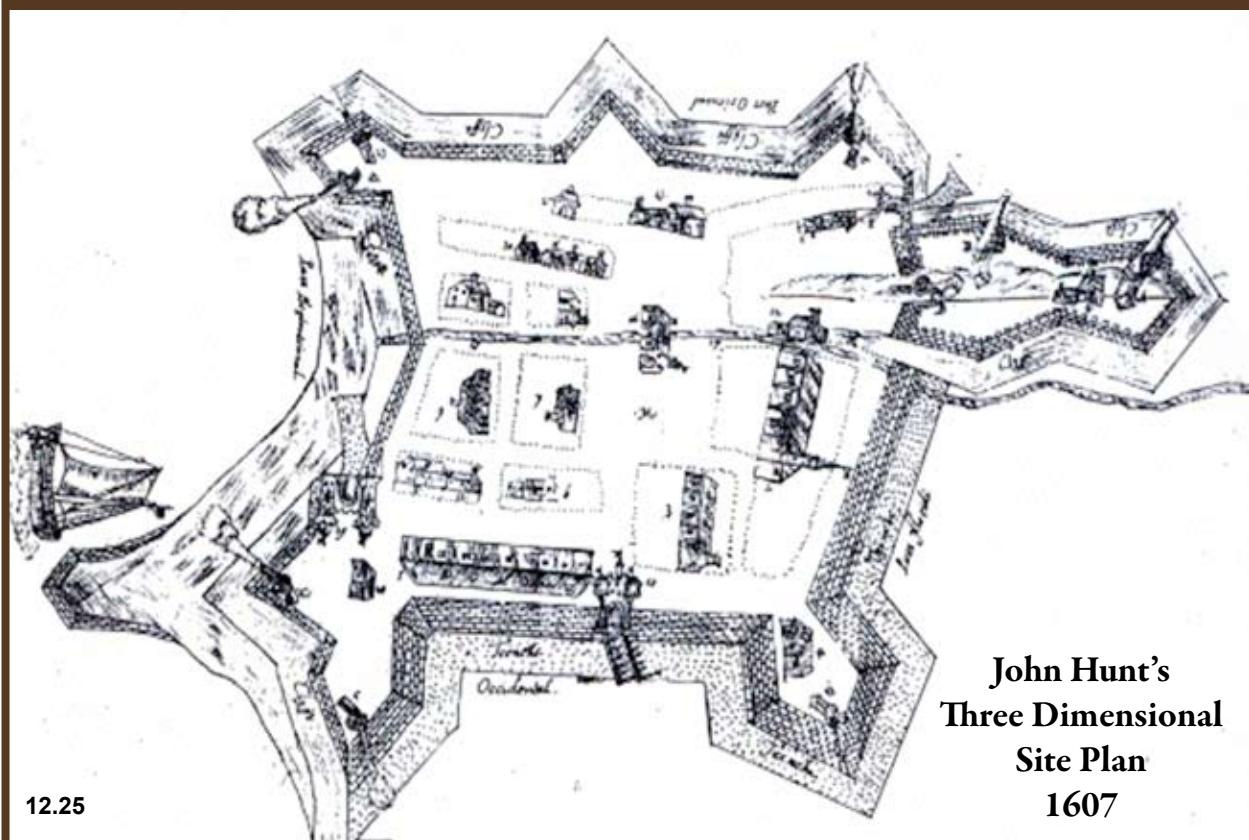
## Post Frame House

The 20th century invention of chemical wood treatments has caused this structural concept to become popular again for barns and storage sheds. It was commonplace in Medieval England. However the Virginia colonists discovered that it was not practical for their homes in the Chesapeake Bay region. The damp climate and indigenous termites destroyed the structural integrity of the posts in a matter of 3-10 years. The original Bald Cypress posts lasted a generation but as the colony grew the cypress became scarce and a costly option.

12.9



**Fort St. George, Maine (1607-1608)**



## The design of Fort St. George, Maine (1607-1608)

*From the perspective of an urban designer, Fort Saint George had the most sophisticated plan of any initial European colonial settlement in the Americas.*



12.28

**Birdseye view of a completed Fort St. George as it would have appeared from the west.**

As a result of espionage, Hunt's map was sold to the Spanish ambassador to London, Pedro de Zuniga. The map then passed to King Philip III of Spain, in 1608. In 1888 it was discovered in the Spanish national archives. This might be the only copy of the now-lost original map. It is unique as the only known plan of the original layout of an early English settlement in the Americas. The design contained all the components of a complete English village.

The French colonists at Fort Caroline were captured by the Spanish in 1565, with hardly a shot being fired. All of the Spanish forts established in the interior of the Southeast were quickly massacred by local natives as soon as the main body of the army went back to the coast. The Spanish couldn't even hold their new capital, Santa Elena, against Indian attacks. The first salvo from a Spanish galleon's cannons would have turned Fort King James (Jamestown) into splinters. Both the Roanoke and Jamestown Colonies were furnished a few small cannon that would have been ineffective against attacks by European ships or armies. The cannons were ineffective against Indians.

Such was not the case with Fort Saint George. The colonists were equipped with nine cannon; most of which could do serious damage to a ship. They were also accompanied by officers, who were experienced in fortification design, plus a draftsman to prepare his plans. The guns were placed on platforms in thick-walled bastions.

The colonists at Fort St. George constructed a fortification that could withstand an attack by European soldiers or ships. All of the cannon were at least 34 feet above the mouth of the Sagadahock River (now the Kennebec.) This elevation made it impossible for a warship of the time, to deliver close broadside fire against the fort. Two of the large bore cannon were perched on the top of the escarpment at about 75 feet above the mouth of the river.<sup>59</sup> If cut off from infantry support, the artillery emplacement was vulnerable to attack by Indians from the rear, but would have destroyed most ships attacking it in the bay. It was probably assumed that the handful of occupants in the hilltop fort could hold off an Indian attack until reinforcements arrived. It was normally not garrisoned anyway.

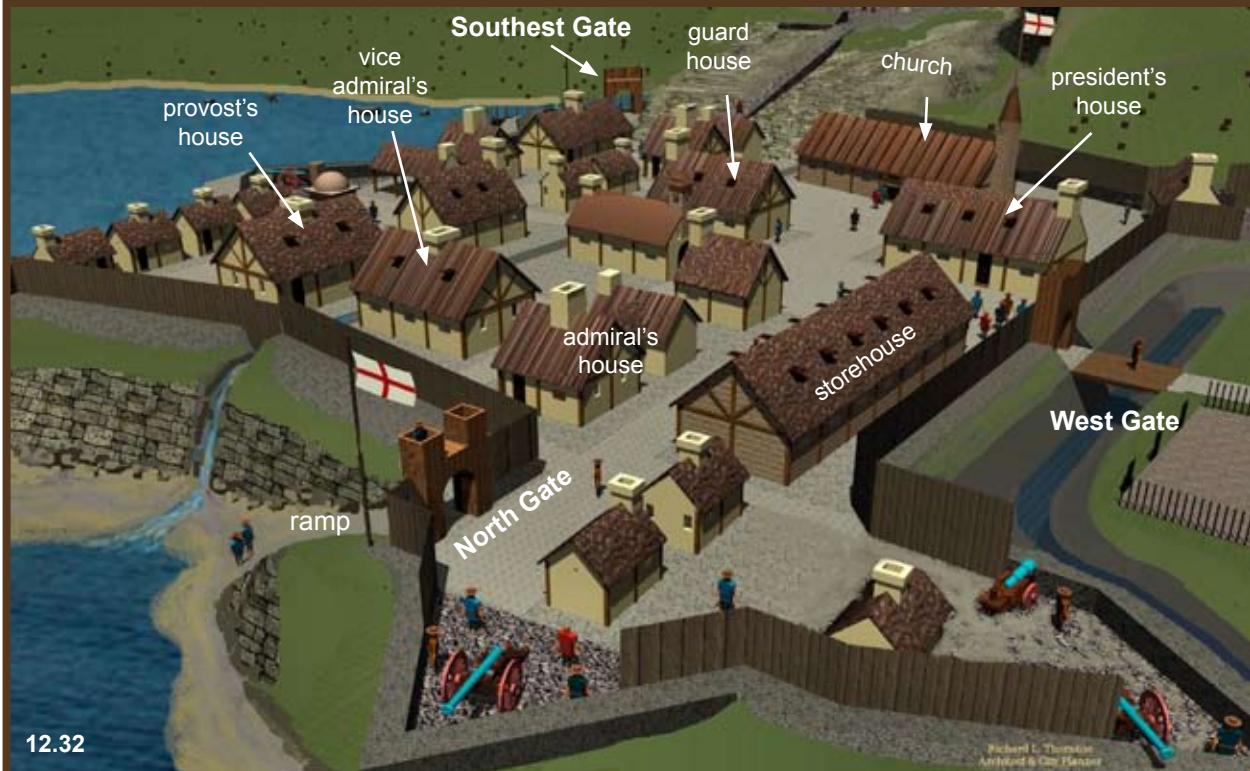
The defensive concept would not have worked, if Fort St. Georgia had been attacked by ships and infantry. Once

### The design of Fort St. George, Maine (1607-1608)



2

### The design of Fort St. George, Maine (1607-1608)



Birdseye views of the two fortified gates. Jamestown lacked these sophisticated defensive features. The gates were protected by ditches, ramps and bridges, plus bastions & towers that would provide crossfire against any infantry units attacking Fort Saint George.



## BIOGRAPHICAL SKETCH



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Richard Thornton is an award-winning professional architect and city planner, who has written numerous books and articles on the Native Americans of the Southeastern United States. Richard has lived in the mountains of Georgia, North Carolina or Virginia most of his life. He is best known for his hundreds of articles on architectural and Native American history in the National edition of the Examiner, plus appearing on the internationally broadcast History Channel program, "America Unearthed, the Mayas in Georgia." This popular program was based entirely on Richard's book, "*Itsapa, the Itza Mayas in Georgia.*"

Richard holds a Professional Degree in Architecture from Georgia Institute of Technology and a Masters in Urban Planning from Georgia State University. He was the first recipient of the Barrett Fellowship, which enabled him to study Mesoamerican architecture and city planning in Mexico. He has been the Architect for hundreds of new buildings and historic preservation projects throughout the Southeastern United States. He was also the Architect for Oklahoma's Trail of Tears Memorial in Tulsa.