

Plymouth Archaeological Rediscovery Project

Burial Hill Survey 2013

Burial Hill is a Wisconsin glacial period drumlin of Carver coarse sand with elevations ranging from 108 to 120' above sea level. The typical soil profile consists of 18 cm of very dark brown to black coarse sand with approximately 1% of fine gravel. The A horizon overlays a yellowish brown to strong brown B horizon that extends to an average depth of 81 cmbs. The b horizon consists of a coarse sand with 1 to 10% fine gravel. The B horizon overlays a light yellowish brown coarse sand C horizon to a depth of at least 170 cmbs with 15% fine gravel. Depth to bedrock is generally well over 65".

Construction of a platform for the cannons taken from the Mayflower began in the winter of 1620/21 and construction of a proper fort and palisade was carried out in 1622. Burials may have begun as early as the winter of 1620 when the first deaths following their landing occurred for the Pilgrims. The hill was used as a place of fortification until the end of King Philip's War in 1678. The earliest grave stone on the hill is dated to 1691, but it is assumed that many more graves were located here prior to that time. Following the removal of fortifications in the 1670s, the hill was used for burials and pasturage.

The proposed GPR testing is shown in the figure below. The proposed procedure will be to do a series of GPR transects oriented north to south across the apex of Burial Hill where the fort and its associated defenses are believed to have been located. The actual location of the transects may differ when the field work is carried out. Each transect will be measured and the location will be precisely recorded and placed onto an overall plan of the project area.

Propo



Below is an outline with more specifics regarding what is expected to have comprised the Plymouth defenses and what may be encountered during the GPR survey.

European construction and intensive use of Burial/ Fort Hills (what we now call Burial Hill was exclusively called Fort Hill until 1689), as represented in the Records of the Colony of New Plymouth and the chronicles of the Pilgrims themselves, occurred in five phases: 1620-1627; 1632-1633; 1642; 1675-1678; 1711-1782. The first period consisted of the initial construction of the defenses and the meeting house, followed by the refurbishing of decayed defenses from the 1630 to the 1670s, and ending with the intensive use of the hills strictly for burial and pasturage.

The first period is the best documented. Medieval fortification was based on the principle of the wall and the keep, also known as motte and bailey fortification. In the case of European and English defensive fortifications, a thick stone wall surrounded the town and provided a defense against attack. In the English colonies, a need for a quickly erected defense, an abundance of timber, and a less serious threat of all out attack by cannon fire, saw the replacement of the thick stone wall with tall timber palisades. While the materials were different, the principle remained the same- provide a safe place of refuge for a larger village population, keep the attackers outside, and provide a defensible fortification. The palisade would often surround an appreciable portion of a town with houses, gardens, a freshwater supply and livestock pens located within the walls. During the medieval period this was termed the bailey. Also within the palisade a secondary defensive fall-back location, the motte, was located. The motte became the blockhouse or fort of the seventeenth century fortification. Originally the motte was a tower or keep within which the village lord kept residence. It had its own outer defensive curtain, a wall with defensive towers, and its own provisions. If the town walls were breached, defenders could fall-back to the motte and hold out there. The motte was usually located on a higher piece of land than the bailey, providing a height advantage over potential attackers. Machiavelli, in his 1520 treatise called *The Art of War*, described how fortification should occur in the age of cannons " of places strong by nature, that for this they must in these times either be surrounded by fens, or perched on a rock, for those that stand upon hills that be not much difficult to go up, be now-a-days considering the artillery and the caves most weak." The remedy for the latter is " to build in the plain, and to make the ditch that compasseth the city so deep that the enemy may not dig lower than the same where he shall not find water, which only is enemy to the caves." (Royal Military Academy 1893:95). In the case of Virginia, this seemed to be the key to fortification "The bold heights whose steep slopes gave security against the catapult, the beffroi, and the trebuchet, could give no such security against the cannon shot; and the new dangers of the mine made it necessary to come down from the hills, and to seek safety, not by rising above the ground, but by sinking into it." (Royal Military Academy 1893:95). Ditches and ramparts would also be located adjacent to the external side of the wall " ditches are the first and the strongest defences of fortified places" (Royal Military Academy 1893:95). The throwing up of earth onto the exterior of the palisade allowed for a stronger wall that could be erected quickly and without as much seating for the palisade pales. The simplest, and most ancient form, of ditches were simple excavations without any revetment on the

outer side. Later, the outer side was made steep and often set with masonry (Heck 1852:144). This was done so that invading attackers would fall into it and not be able to dig their way out back into the field. Ditches could be dry or filled with water. If they were dry, it was recommended that they be thickly set with caltrops, which were spiked tripod-shaped anti-personnel devices approximately three inches long. Caltrops would always land with one spike pointing up with the idea being that this would be stepped on by men or horses. A single example was recovered from the Jamestown excavations in Virginia. Gates into settlements were considered one of the weakest points of any defense. They had to be wide enough to facilitate the entry of wagons and carts, but small enough to be securely closed and defended, essentially presenting a solid wall to attackers. In the history of the Peloponnesian War, the Plataeans drove a spike of a spear into the bar of the gate so that the fleeing Thebans could not open it (Dale 1902: 92). At Wessagusset, it was recorded that the settlers spiked three of the four entrances into the town. It is likely that they drove spikes into the wooden cross bar that fastened the gate shut, making it impossible to open them.

In New England, seventeenth century fortifications such as those at Plymouth and at the Popham Colony, followed the motte and bailey principle of fortification. In Plymouth, an initial gun platform was erected on what they termed "the mount". This was subsequently replaced with the fort/ meetinghouse which had its own defensive works around it. At the Popham Colony, the administrative center of the colony (the lord's house), the president's house was located atop high rocky outcrop within which defenders could retreat. On this outcrop were erected a palisade wall and cannon emplacements which could defend the town below. In Virginia, possibly due to the fact that settlement was located on the relatively flat areas to the east of the "fall line" of the Virginia coastal plain, settlements did not have the advantage of high ground on which to situate forts/ mottes. This led to a different defensive structure than in New England. In Virginia palisaded towns, like Jamestown, were settlements surrounded by a palisade within which no one location was more heavily defended than another. The essentially lacked the motte, or to look at it in a wider sense, the palisaded community center became the fall-back/ hold-out location of the larger community. Unpalisaded habitation spread out beyond the initial fort in locations like Jamestown and Martin's Hundred with the palisaded initial settlement at the fort being the place where settlers could flee to seek refuge in time of attack. Virginia archaeologists have also looked towards the English invasion of Ireland in the early seventeenth century, called the Plantation period (1600-1641), as a source of information similar to Virginian fortifications. Noel Hume, discussing parallels for the Martin's Hundred settlement in Virginia (c. 1622), succinctly boils down the argument for an Irish to Virginia connection "Lessons learned in Ireland during the Elizabethan years were learned and digested by British settlement planners in London...were packaged in London in colonizing kits...It made no difference where they got off; what they did, and what had to do it with, remained the same."(Noel Hume 1992:237). Two different but similar types of seventeenth century English fortifications have been identified in Ireland: the larger walled towns (triangular in shape like the Jamestown Virginia fort) and the personal fortified enclosure that generally contained the home of the settlement's leader (Noel Hume 1992:237). This fortified "bawn" as it was termed in Ireland (a term originally

referring to an animal enclosure), was often located at the head of a settlement with a broad main street extending away from it. On either side of which were situated the meersteads (houselots) of the settlers, a layout very similar to Plymouth's Plantation, except that the bawn was replaced by the fort/ meetinghouse.

The alternative to fortifying an entire town is the fortification of an individual house, essentially creating a blockhouse where the community can seek refuge during an attack. In Virginia, the fortified house was usually the home of the colony leader. It is believed that the concept of the fortified house came from the English experience in the English invasion of Ireland (1600-1640). In Ireland, local tribes would create fortified community bawns where kin were driven into and protected (Hodges 1993:209). The defensive vocabulary of community bawns flows into fortified houses and was transplanted to the New World as one of the defensive alternatives available to colonists (Hodges 1993: 210). The speed of warfare in the New World, forced planters to adopt the same attitudes towards defense that the Native Americans and Gaelic had adopted: Throw up military works when you need them tear the down when you don't to save labor (Hodges 1993:213). Especially in Virginia where seventeenth century settlement was focused on the flat plain east of the Fall Line, the visual message sent by a fortified house's high profile on the cleared landscape, may have also provided a visual deterrent to attacking forces and a sense of security for the inhabitants. Fortified houses existed in New England as well. Samuel Maverick reported in 1660 that there existed in Revere a building dating back to 1625 which he had fortified with a "a pallizado and flankers and gunnes, both belowe and above in them" (PMHS 1885: 236). In 1628, one house was described as being in what would become Charleston, Ma., an "English palisadoed and thatched house" (Young 1846: 374). Reverend John Lathrop recorded that in 1634 all of the houses in Scituate were small, plain, "pallizadoe" houses (NEHGR 1856: 42). Plymouth Colony also had fortified houses, as evidenced in a 1647 court case where John Crocker's house was entered by someone "putting aside some loose pallizadoes" (Candee 1969: 38-39). The bawns in Ireland and the defensive works in the New World most often showed a preference for ditch set stockades over technically complicated post and rail works to defend against guerrilla warfare raids. The use of split rails solved three problems 1) how to build with green wood, 2) how to defend oneself rapidly, 3) how to flexibly fence with minimum effort (Hodges 1993: 211). While it is known that fortified houses were present in New England, the actual form is not known. In Virginia, the split-rail palisade surrounding the house had a maximum single side length of 240 feet, which was the distance that a seventeenth century firearm could accurately fire, with at least two corners ending in U-shaped, circular or curvilinear bastions which provide the maximum defense by muskets (Hodges 1993: 209-210).

It appears from the descriptions of the fortifications at Wessagusset that a full fort with palisade was present versus a fortified house. Both the New England and the Virginia fortification systems likely had several elements in common. In keeping with the basics of fortification systems Heck (1852) states that "fortifications of the middle ages consisted usually of a ditch surrounding the whole place, of a closed circumscribing wall, and a place of retreat, in which the garrison could defend themselves even when the wall

was in possession of the enemy” (Heck 1852: 144) This appears to have been a guiding principle to the establishment of fortifications in New England. In both New England and Virginia, walls would have had internal and external pmoeriums, strips of cleared ground aadjacent to the wall. An external pmoerium gave defenders a clear view of the area around the fortification and dissuaded attackers, especially attackers such as Native Americans who practiced more of a guerrilla warfare versus open field fighting, from probing for weaknesses in the wall. The internal pmoerium gave defenders a clear area adjacent to the wall to mobilize and movement and equipment anywhere along the defensive perimeter.

The defenses erected by Weston's colonists at Wessagusset may have been created as a result of three factors: 1) the defenses seen at Plymouth by Weston's men; 2) defensive plans determined before the ship left England that seventeenth century fortification principles; 3) tactics used at the Popham Colony in Maine in 1607. It is not known if Weston's colony had a military adviser either in England or accompanying the colonists at Wessagusset. It is known that Edward Johnson, who Thomas Morton recounts as having served as the judge over the man accused of stealing corn from the Natives, was described in the 1630s as Captain Edward Johnson when he lived in the Massachusetts Bay Colony. If that Edward Johnson was the same as the Edward Johnson at Wessagusset, he may have been the military leader of the group and thus, like Myles Standish of the Plymouth Colony, may have been in charge of determining where and of what type the defensive works would be. It is likely that the works were erected soon after the colonists landed and they were not hastily constructed defenses thrown up in February or March as a result of pressure from the Natives. They were described by Winslow as well made and the scant evidence available shows that some thought must have gone into them.

Plymouth Colony Defenses

The settlers at Wessagusset spent an appreciable amount of time in Plymouth before going to Wessagusset. As a result, they may have helped erect the defenses, specifically the fort, during their stay. They at least would have seen how and why Plymouth erected their fortifications as they did and would have carried this information with them to Wessagusset. Plymouth's fortifications consisted of three main elements: an initial gun platform, a palisade, a formal fort. Fortification of the colony was likely directed by Captain Myles Standish, the colony's military leader, and it appears to have been an integral part of the colony from the start. Construction of the gun platform began soon after the arrival of e mayflower in Plymouth Harbor in 1620. The platform was later replaced by the fort/ meetinghouse in 1622. Both the meetinghouse and the palisade were constructed after word arrived from Virginia of the uprisings of the local Natives there against the English colonists in March 1622. It is likely that the fort and palisade were planned elements of the overall plantation design but due to the deaths during the first winter and the amiable relations with the majority of the local Natives, construction was forestalled until areal or perceived threat became an overwhelming concern.

Gun Platform

The defenses of Plymouth were begun on December 28, 1620 when Edward Winslow reported that “as many as could went to work on the hill where we purposed to build our platform for ordinance, and which doth command all the plain and the bay, and from whence we may see far into the sea, and might be easier impaled, having two rows of houses and a fair street.” (Heath 1963:42). It appears that the colonists had a plan for the colony, possibly based on a template for colonies in Northern Ireland. It is not known when the platform was completed and the ordinance was actually in place, because on January 17, 1621, Winslow related that after they had heard the “noise of a great many more [savages] behind the hill [over against our plantation], This caused us to plant our great ordinance in places most convenient” (Heath 1963:42). It is likely that the ordinance was still on the Mayflower at this point because on February 21, 1621 Winslow reported that “. . . the master came on shore with many of his sailors, and brought with him one of the great pieces, called a minion [a cannon with 33 inch bore, firing 2 lb shot], and helped us to draw it up the hill, with another piece that lay on shore, and mounted them, and a saller [a misprint for saker, a cannon with 4 inch bore, firing a six pound shot], and two bases [small cannons with 13 inch bore, firing 2lb shot]” (Heath 1963: 50).

Palisade

In March of 1622, after a challenge by the Narragansetts, the colonists decided that they should enclose the town within a palisade. This was likely part of their original plan for the town but it is interesting to note that they had inhabited their town for over a year at this point without a fear of attack or possibly a need to build a palisade. By this point there were as many as 53 men (26 of the original Mayflower passengers, six young men, and 26 men who arrived in November 1621 aboard the Fortune) who could have worked on building the palisade. In 1642, there is a description in the Plymouth Colony records of a palisade that was built in Plymouth. It was described as being “made of sharpened pales 102 feet long, buried 22 feet in the ground, and backed two against a third, and set >against a post and a Raile” (Candee 1969: 38). In light of the fact that we have no other descriptions of the first palisade, this one can serve as a working model for a strong possibility of how the town was originally impaled. Bradford relates the following “But this (the Narragansett challenge) made them the more carefully to look to themselves, so as they agreed to enclose their dwellings with a good strong pale, and make flankers in convenient places with gates to shut, which were every night locked, and a watch kept; and when need required, there was also warding in the daytime. And the company was by the Captain's and the Governor's advice divided into four squadrons, and everyone had their quarter appointed them unto which they were to repair upon any sudden alarm. And if there should be any cry of fire, a company was appointed for a guard, with muskets, whilst others quenched the same, to prevent Indian treachery. This was accomplished very cheerfully, and the town impaled round by the beginning of March, in which every family had a pretty garden plot secured” (Morrison 1952: 97). While Winslow states “ In the mean time, knowing our own weakness, notwithstanding our high words and lofty looks towards them, and still lying open to all casualty, having as yet (under God) no other defence than our arms, we thought it most needful to impale our town; which with all expedition we accomplished in the month of February, and some few days, taking in

the top of the hill under which our town is seated; making four bulwarks or jetties without the ordinary circuit of the pale, from whence we could defend the whole town; in three whereof are gates, and the fourth in time to be. “ (Winslow 1841: 284).The palisade appears to have been completed by March of the same year. Winslow relates that yearly March “By this time our town is impaled; enclosing a garden for every family.” (Winslow1841: 286) and that “[We] came to this conclusion; that as hitherto, upon all occasions between them and us, we had ever manifested undaunted courage and resolution, so it would not now stand with our safety to mew up ourselves in our new-enclosed town . . .” (Winslow 1841: 286)

Fort

Following news from Virginia of the attacks by the Natives upon the English settlements thereon March 22, 1622, the Plymouth colonist decided it was time to build their fort to complement the palisade Bradford states “This summer they built a fort with good timber, both strong and comely,which was of good defense, made with a flat roof and battlements, on which their ordnance we remounted, and where they kept constant watch, especially in time of danger. It served them also fora meeting house and was fitted accordingly for that use. It was a great work for them in this weakness and time of wants, but the danger of the time required it; and both the continual rumors of the fears from the Indians here, especially the Narragansetts, and also the hearing of that great massacre in Virginia, made all hands willing to dispatch the same” (Morrison 1952:111).Edward Winslow places the construction of the fort in June 1622, which correlates well with Bradford's more general “this summer.” Phineas Pratt and the six others who were with him arrived on May 31, 1622, placing him in the town 1) a few moths after the palisade was built and2) right at the start of construction of the fort/meetinghouse. Pratt and the other remained in the town with the 60 other “lusty” men sent by Weston (who arrived in late July or early August),until the end of summer when the moved to Wessagusset. These 67 men may have helped construct the fort/ meetinghouse in Plymouth, as they were extra manual labor being fed out of the colony's stores. Winslow states “In the time of these straits, indeed before my going to Munhiggen [Monhegan], the Indians began again to cast forth many insulting speeches, glorying in our weakness, and giving out how easy it would be ere long to cut us off. Now also Massassowat {Massasoit} seemed to frown on us, and neither came or sent to us as formerly. These things occasioned further thoughts of fortification. And whereas we have a hill called the Mount, enclosed within our pale, under which our town is seated, we resolved to erect a fort thereon; from whence a few might easily secure the town from any assault the Indians can make,whilst the rest might be employed as occasion served. This work was begun with great eagerness,and with the approbation of all men, hoping that this being once finished, and a continual guard there kept, it would utterly discourage the savages from having any hopes or thoughts of rising against us. And though it took the greatest part of our strength from dressing our corn, yet, life being continued, we hoped God would raise some means in stead thereof for our further preservation” (Winslow 1841:295)In August of 1622, the ship Discovery made port at Plymouth with John Pory, the just retired Secretary to the Governor and Council of Virginia aboard. Pory states that in August “Now concerning the quality of the people . . . their industry as well appeareth by their building, as by a

substantial palisado about their [town] of 2700 foot in compass, stronger than I have seen any in Virginia, and lastly by a blockhouse which they have erected in the highest place of the town to mount their ordnance upon, from whence they may command all the harbour” (James 1997:11). Pory's description of the fort as a blockhouse, indicates that the structure may not have had a roof upon it, as he goes on to say that it was built to mount their ordnance upon, not within, as would be the case if it was roofed. On the other hand, the fort was not complete when Pory saw it in August; perhaps they had not put the roof on yet.

The colonists apparently were fairly single-minded in their construction of the fort, putting other needs such as planting and trade, second to the endeavor. In October 1622, Winslow states “ By reason whereof (our own wants being like to be now greater than formerly, partly because we were forced to neglect our corn and spend much time in fortification, but especially because such havoc was made of that little we had, through the unjust and dishonest carriage of those people before mentioned [Weston's colonists], at our first entertainment of them,...” (Winslow 1841:300). In total it took 10 months to finish the fort. Winslow, in March 1623, stated that “Now was our fort made fit for service, and some ordnance mounted; and though it may seem long work, it being ten months since it begun . . . amongst us divers seeing the work prove tedious, would have dissuaded from proceeding, flattering themselves with peace and security, and accounting it rather a work of superfluity and vainglory, than simple necessity” (Winslow 1841:335). In September 1623, Emmanuel Altham, Captain of the Little James and one of the Merchant Adventurers who had financed the settlement at Plymouth, visited and reported: “It is well situated upon a high hill close unto the seaside, and very commodious for shipping to come unto them. In this plantation is about twenty houses, for or five of which are very fair and pleasant, and the rest(as time will serve) shall be made better. And this town is in such manner that it makes a great street between the houses, and at the upper end of the town there is a strong fort, both by nature and art, with six pieces of reasonable good artillery mounted thereon; in which fort is continual watch, so that no Indian can come near thereabouts but he is presently seen. This town is paled about with pale of eight foot long, or thereabouts, and in the pale are three great gates” (James 1997: 24). Altham also states that the ordnance was mounted thereon, not therein, another indication that the fort had an unroofed gundeck. Captain John Smith, who almost was the Plymouth colony's military leader, never visited the Plantation, but that did not stop him from describing it (most likely through the intelligence from someone else). Smith states in 1624 that “At New-Plimoth there is about 180 persons, some cattle and goats, but many swine and poultry, 32 dwelling houses, whereof 7 were burnt the last winter, and the value of five hundred pounds in other goods. The town is impaled about half a mile in compass. In the town upon a high mount they have a fort well built with wood, loam and stone, where is planted their ordnance; also a fair watchtower, partly framed, for the sentinel...” (Barbour 1986: 472). Smith is the only description that states that the fort was of wood, loam and stone (possibly referring to earthworks around the fort itself as well as the fort) and mentions a watchtower.

The final description of the fortifications and layout of Plymouth comes from the visiting Dutchman Isaac de Rasiere, chief Trading Agent for the Dutch West India Company and Secretary to the Director-General of New Netherlands who visited in 1627 and wrote a letter to Samuel Blommaert in 1628. De Rasiere states “New Plymouth lies on the slope of a hill stretching east towards the sea-coast, with a broad street about a cannon shot of 800 feet long, leading down the hill; with a [street] crossing in the middle, northwards to the rivulet and southwards to the land. The houses are constructed of clapboards, with gardens also enclosed behind and at the sides with clapboards, so that their houses and courtyards are arranged in very good order, with a stockade against sudden attack; and at the ends of the streets there are three wooden gates. In the center, on the cross street, stands the Governor's house, before which is a square stockade upon which four pateros are mounted, so as to enfilade the streets. Upon the hill they have a large square house with a flat roof, built of thick sawn planks stayed with oak beams, upon the top of which they have six cannon, which shoot iron balls of four and five pounds, and command the surrounding country. The lower part they use for their church, where they preach on Sundays and the usual holidays...”(James 1997: 75-76). It should be remembered that this description was originally written in Dutch and translated to English and it is unknown what may have been lost in translation. From these descriptions, a chronology and inventory of the construction and extent of the fortifications at Plymouth can be drawn up:

November 1620 Mayflower Lands
December 28, 1620 Platform for ordinance begun
February 21, 1621 Ordinance unloaded from Mayflower and set up
February-March 1622 Palisade constructed
May 31, 1622 Phineas Pratt and six others arrive
June 1622 Fort begun
late July/ early August 1622 60 of Weston's lusty men arrive
August 1622 John Pory visits colony
March 1623 Fort finished
September 1623 Emmanuel Altham visits colony
1624 John Smith writes of Plymouth
1627 De Rasiere visits colony
1634 Fort torn down and replaced

Plymouth defenses facts:

- Plymouth had a palisade 2700 feet in compass (about ½ mile in compass)
- palisade stronger than Pory had seen in Virginia
- pale are 8 feet long or thereabouts
- palisade around 32 houses
- lay on the slope of a hill
- had a broad street 800' long
- another street crossing in the middle
- at the ends of the streets are three wooden gates

- four bulwarks or jetties outside of pale, in three whereof are gates, and the fourth in time to be
- at the cross street was a square stockade upon which four patereros
- at the top of the hill they have large square house with a flat roof, built of thick sawn planks stayed with oak beams, upon the top of which they have six cannon a high mount they have a fort well built with wood, loam and stone, where is planted their ordnance
- a fair watchtower, partly framed, for the sentinel
- fort also called a blockhouse

1630s

The defenses on the Fort Hills were ordered rebuilt in 1633 because “Wheras our ancient work of fortification by continuance of time has decayed” (PCR xxx). The work was to be carried out by the united labor of all able bodied men of the town. In the same year, Humphrey Turner was granted permission to sell a piece of land near the pond on the western side of the fort, a piece that he enclosed “:... with a firm pallisado...with a small randevous” (PCR Vol 1.: 13) to Josias Winslow. It appears that Turner had created a fortified house or at least a fortified plot of land at this location. Two years later, the town hired Thomas Boseman to “do the fort” making posts 10” square to be not over 10' apart with three rails between them and boarded nine feet high, cut sharp at the top; all the lumber to be sawed (PCR xxx). It appears that by the 1630s, the fort referred to a palisaded enclosure, possibly with a building inside but probably at least with a platform for cannons (as will be seen was present in the 1640s).

1640s

In the 1640s, with worsening relations between the English and the New England Natives, the town decided to to rebuild or possibly build, a watch house on the fort hills. In 1642 the town ordered that another fortification be made about the ordinance and another piece to be mounted and a watchtower to be built (fragments of the brick of the watchhouse were found by the author of the Pilgrim Republic and in March 1884 while digging grave of Abigail Judson, foundation for watchhouse exposed including the hearth). The town agreed that Nathaniel Southworth was to build the said watchhouse which was to be 16' in length and 12' in breadth and 8' studd to be walled with board. It was to have 2 floors, the upper to be 6' above the lower. Southworth was to batten the walls and to make a small pair of stairs in it and to frame two small windows below, to make 2 gables to the roof or each side, to cover the roof with shingle; and to build a chimney in the said house; and to do all the worke thereunto; onely the frame is to be brought to the place at the townes charge; and for the said work hee is to have eight pounds to be payed either in money; or other pay equivalent (PCR xxx147). At the same meeting where this plan was approved, the Treasurer promised to procure Carriages to mount the ordnance, or to pay for the making of them, indicating that cannons were still being used on the hill. On September 20, 1642 it was determined that every man shall bring 2 pieces more of wood, 8 foot long, to finish the fortification of fort hill and that Richard Church shall speedily make the carriage for another piece of ordinance (PCR Vol. 1: 11). It was also ordered that at this time that that watch house on the hill was to be repaired and that a brick chimney be built in it. On September 24, 1643, it was

determined that a (new?) watch house should be built out of brick and that Mr. Grome would sell the bricks at 6s/ 1000 (PCR Vol. 1: 15). The following February, these rates were recorded in the town records (PCR Vol 1: 17):

charges for fortifying the fort last year	
-for the bridge causey (causeway)	2-10-00
-for Richard Church wages	00-16-00
-for sawing the planks	00-08-00
-for iron work to paddock	00-04-00
-to Mr Groomes	00-10-00
-for a pair of wheelles	01-10-00
-to Mr Fuller for drawing the planks to the towne	00-06-00
-for the repair of the stocks to John Groome	00-06-00
Total	6-10-00

These charges indicate that there was a causeway leading to the fort, indicating that a moat or ditch surrounded the fort itself; that Richard Church was paid for making wheels for the cannons and possibly for other carpentry work; that Mr. Groome/ Grome may have been paid for bricks and for carpentry or iron work; and that a paddock, probably a place to bring animals if the inhabitants have to take refuge in the fort, was associated with the fort (much in the fashion of the Irish bawns). So by the early 1640s we can conclude that the following were elements of the “fort”:

- a watch house, originally of wood and later of brick
- a palisade
- a moat or substantial ditch with a causeway
- a paddock
- a platform or blockhouse on which cannon were mounted

1670s

The fort that stood on the hill appears to have been abandoned and possibly removed by the time of King Philip's War in the 1670s. On February 19, 1675, the town ordered that “...a fortification built upon the fort hill at Plymouth: to be an hundred feet square the pallasadoes to be 10 foot and one halfe long: to be set 2 foot and an halfe in the ground; and to be set against a post and a raile; every man is to doe three foot of the said fence of the fortification the Pallasadoes are to be battered on the backsyde one against every two and sharpened on the topp to be accomplished by every male in each family from sixteen yeares old and upwards and that there shalbe a watchhouse erected within the said ffence or fortification and that the three peeces of ordnance shalbe planted within the said ffence or fortification.” (PCR Vol. 1: 46). At the end of the war, on December 18, 1678,, the watch house was granted to Samuel Jenney “...in respect to his destitute condition to be for a house for him to dwell in; and not to be sold or estranged to any other use; and hee hath liberty to Remove it to any other place for the end aforesaid, when he pleaseth” (PCR Vol. 1: 159). This appears to mark the end of the use of the Fort Hill as a place of fortification.

18th century

The Fort Hill/ Fort Hills, was used strictly as a place for burial and pasturing animals in the 18th century. On May 14, 1711 it was ordered that the common lands “about the fort hills” were to be sold by Left Lathop Nathaniel Thomas and Insi Benjamin Warren to the highest bidder with room being reserved for a burying place (PCR 46). The following year the town sold to Ignatius Cushing “a certain parsell of land lying in plimoth aforsd upon the hills above the road Comonly known by the name fort hills” (PCR 69). This land was and was at the rear of the Court St. lots North of Court Square. Joshua Morse is also known to have land in the same area, described as adjoining Cushing's land (PCR 70). In 1725, Eleazer Donham was allowed to have thirty feet of land in length and twenty feet in width at the foot of Fort Hill above the way at the head of the House lotts, the said way to be left twenty feet wide the saidd Land is granted to the said Eleazer Donham and his heirs so long as they shall keep a dwelling House thereon (PCR 234). In the 1730s it is known that Mrs. Wetherrel owned land on which she had stables and that James Warren was granted land “lying & being at the foot of the Fort Hill in Plymouth on the westerly side of the way that leads from the meeting house northerly at the foot of sd hill & is over against the vacency that is between the Barnes of Isaac Lathrop Esqr. and Samuel Clarke and containeth thirty feet front on sd way and twenty five feet back” (PCR 290, 300). James Shurtleff is also known to have owned land at the foot of fort Hill in the 1730s (PCR 318). In 1747, Jacob Taylor petitioned to build abarn at the foot of Fort Hill near Captain Wates lot (PCR Vol. 3: 24). Silvanus Bartlett is known to have owned land at the south foot of fort hill in 1761 (PCR Vol 3: 130, 131).

Various people petitioned the town to allow them to have “burying hill” fenced in with a good post and rail fence, and while the town initially refused to allow it, a petition for the same by Reverand Chandler Robbins in 1782 was passed (PCR Vol. 3: 227, 341, 447). Robbins petition was requesting liberty to fence in the burying hill that he might pasture the same. The town voted to allow Robbins liberty to fence burying hill as long as the town think it proper he to have liberty to take off the fence when he pleased. It was proposed that the fence shall go behind the meeting house & the barns to his personage lott, also that he shall make a fence from the Meeting House to the land of Sylvanus Bartlett (on the south side of burying/ fort hill) leaving an open way to go over sd hill to the lane leading down by the house of John Cotton Esqr. (PCR Vol. 3: 447).

Summary

A ground penetrating radar survey at the summit of Burial Hill could possibly encounter any of the following traces of past occupation:

- post holes associated with the original gun platform erected in 1620
- traces of the original fort/ meeting house of 1622
- traces of the filled in earthworks surrounding the fort (probably at least on three sides)
- traces of the post holes for the original 1620s palisade
- traces of the post holes for the 1624 watch house
- traces of the 1630s platform or blockhouse
- traces of the 1630s watch house

- post holes for the 1630s palisade
- traces of the 1640s brick watch house
- post holes associated with the 1640s paddock
- traces of the hearths associated with the 1630s and 1640s watch houses
- post holes for the 1670s palisade
- unmarked post 1670s graves
- post holes associated with the late 18th century fencing of the hill for pasturage

Post holes associated with the palisades are expected to go at least 2 to 2.5' into the ground while those associated with the paddock or the 18th century fencing are assumed to be shallower. The earthworks and ditch surrounding the fort are expected to be large, wide and relatively deep, filled-in features.