

Robinson Landing Site (44AX235) Field Updates

April 2017 – October 2018

Note: This information reflects the state of knowledge when this update was written. Information may have changed.

Foundations, Shafts and Privies

April 2017

(Archaeological photos courtesy of Thunderbird.)

Archaeological excavation is “well” underway at Robinson Terminal South, future site of EYA’s Robinson Landing development on the 300 block of South Union Street. Archaeologists from Thunderbird Archaeology, a division of Wetland Studies and Solutions, have been on-site for several weeks and are hard at work finding, identifying, and documenting the archaeological remains present.

They began by digging a series of diagonal trenches across the northwest corner of the site in an attempt to uncover any building foundations or other features that may still exist. These long, deep trenches are also useful for looking at the changes in soil layers across the site as well as documenting the location of the original Point Lumley.

Trenching on just this corner of the site has already uncovered several historic features. So far, the site represents a remarkably intact, well-preserved glimpse into early urban Alexandria.

Now that the features described below have been identified, archaeologists from Thunderbird are working closely with archaeologists from the City of Alexandria to make sure they are properly documented and excavated and that the artifacts will be excavated and analyzed so that we can learn more about early urban Alexandria. Stay tuned for more information regarding these archaeological features as well as any new discoveries from this site or elsewhere on Alexandria’s waterfront.

Stone Foundations

These two adjacent stone foundations (photo below) are the remains of two dwellings along South Union Street. Fortunately for us, the two buildings that used to stand on these foundations can be seen in this Civil War era photograph. Taken from the center of the block looking to the west, this view captures the rear of these two dwellings and allows us to better imagine what used to stand here.





Brick Shafts

Located against the rear of one of these dwellings is this brick-lined well or privy. At this point, it is not clear if this brick shaft was used for water or as a toilet, but further investigation of this feature will help us determine its use. In either case, the wet, oxygen-free, water-logged conditions at the bottom are excellent for preserving organic material that would otherwise decay and be lost. Currently on display at the [Alexandria Archaeology Museum](#) on the third floor of the Torpedo Factory is an exhibit of 18th-century leather shoes, which were recovered from a privy located just across the street.



Archaeologists discovered another brick-lined shaft in the middle of the northwest corner of the site. To assess the feature's depth, archaeologists removed a vertical section of soil from the bricks and exposed what appears to be a wooden ring at the base under the last course of bricks. The ring, also called a curb, aided in constructing the well and also provided a level surface. The feature is six feet in diameter and 5 feet deep.



Wooden Box Privy

Just peeking out of the sidewall of this trench is the corner of a wooden box privy. Like the brick shaft behind the stone foundation, this feature has the potential to hold a wide array of material culture that otherwise would not ordinarily survive. Interestingly, after heavy rain, the outline of this feature can be seen on the surface.



Brick Foundations

This brick foundation at the corner of South Union Street and Duke Street is exciting because it appears to date to the late 18th-early 19th century. Much of the interior of this structure is filled with brick rubble, but to the right you can see a chimney base and hearth. Preliminary testing shows that underneath this layer are intact deposits full of broken ceramics and glass that will help us date this building as well as MANY animal bones which we can use to understand what the people living here ate during the 18th and 19th centuries.



Industrial Use

In addition to residential structures, Thunderbird Archaeologists are uncovering evidence of this block's industrial use. Here is an interesting brick structure that doesn't seem to show up on any of the historic maps we've consulted. The interior brick seems to be built as a series of piers jutting out into the center of the structure, connected by a brick floor. Soot and dry, crumbling brick—evidence of controlled fire and burning—suggests that this was an industrial space and that this portion of the building was critical for whatever was produced here. Perhaps these are the remains of a bakery's ovens or some other industrial building that required fire and heat.



Robert Townsend Hooe Warehouse and Store

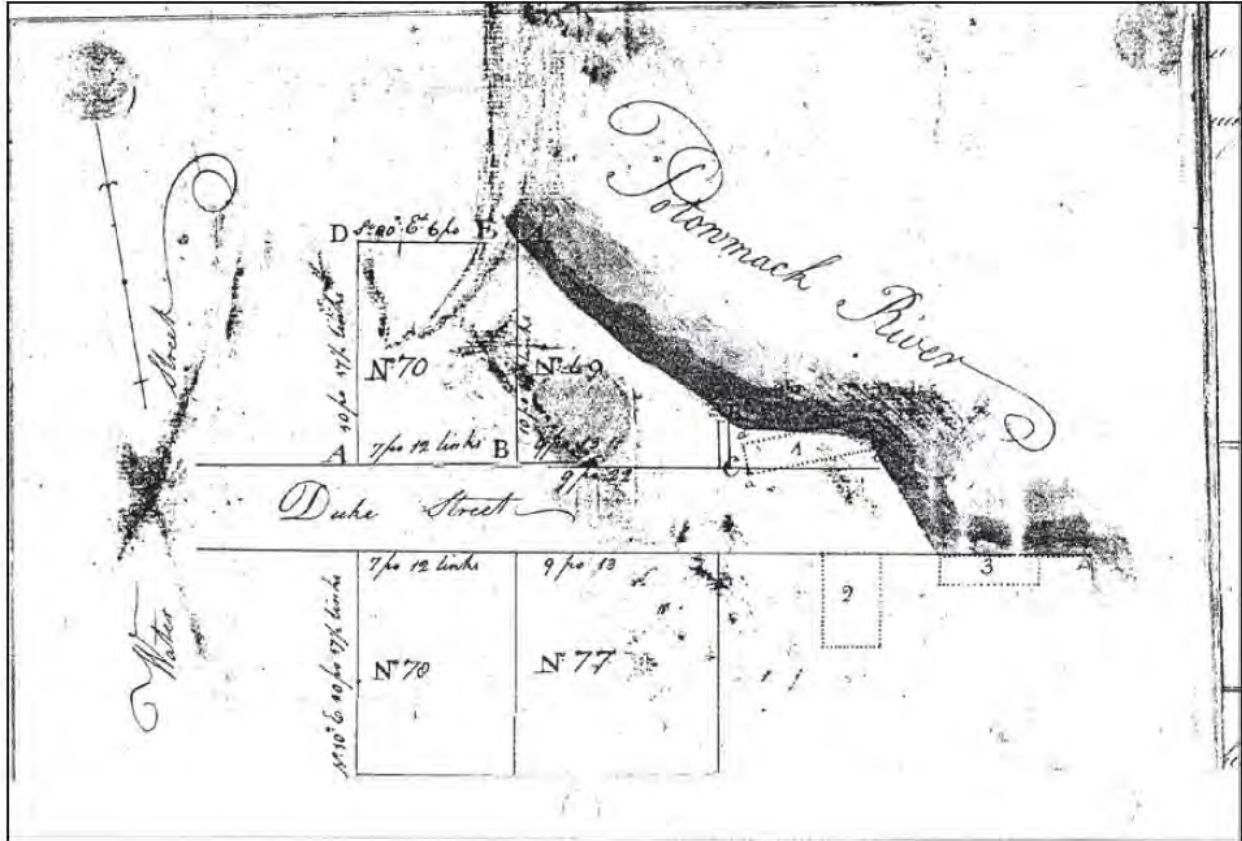
April 2017

As archaeology continues at the future site of Robinson Landing, we are excited to announce that archaeologists have located Robert Townsend Hooe's 18th-century warehouse and store.



Keen-eyed observers may have seen this approximately 64' long by 12' wide, partial stone foundation lying just to the west of the standing structure at 2 Duke Street. Built between May 1782 and June 1783, the warehouse that stood on top of these foundations played an important role in Alexandria's early history of trade and commerce. Archaeologists from Thunderbird Archaeology have uncovered the still-surviving foundations and one of the next steps will be to excavate beneath this level in order to see how many more courses of stone exist under the ground, if the foundation continues underneath 2 Duke Street, or if there are any material remains associated with the use of this building. So far, they have already answered one of their original research questions, which was whether-or-not the current building at 2 Duke Street rested partially on the foundation of Hooe's warehouse.

A Mutual Assurance Society fire insurance policy taken out by Hooe in 1796 reports that his warehouse was 72' long by 44' wide, was insured for 9,000 dollars, and stood on the spot where these stone foundations were uncovered. Confusingly, the policy states that while the first two stories were built of stone, the second and third stories were built of wood. Additional research may be able to clarify this confusion about the material of the second story.



Robert Townsend Hooe, originally from Charles County, Maryland, was a wealthy merchant in Alexandria and was elected to the office of Mayor of Alexandria in 1780. Together with several business partners, Hooe used this warehouse to import, store, and sell items imported from all over the world including German steel, Congo teas, English and Dutch cordage, Grenada rum, and Italian marble slabs, as well as more-common commercial goods like twine, yarn, glasses, muskets, porter and stout, cloth, blankets, and clothing. Hooe used this warehouse from the time of its completion in 1783 until his death in 1809.

The warehouse was eventually demolished and replaced by the current structure at 2 Duke Street sometime in the 19th century. This "new" building may actually be more than 100 years old. There is some architectural evidence that suggests it survived the 1897 fire that burned down Pioneer Mill and much of the surrounding area. It also appears to be the same size and in the same location as a building depicted on a Civil War map. It is a little unclear exactly what year Hooe's warehouse was taken down and what year the current structure was built, but further archaeological investigation may be able to help answer that question.

Posts and Privies

May

2017



This photograph of archaeologists hard at work was taken from the newly constructed [Hotel Indigo](#) — the site of the [Alexandria Ship and John Carlyle's 1755 warehouse](#) — and comes to us from local author and historian Jay Roberts. Archaeologists from Thunderbird continue to uncover pieces of Alexandria's past at the site of Robinson Landing on Alexandria's waterfront.

So far on just this small corner of the site, archaeologists have discovered more than 50 archaeological features. This number includes the structures we've already shared here like the [stone house foundations](#) along South Union Street, the brick foundation along Duke Street, and [Hooe's stone warehouse](#), which in this photo is in the shadow of 2 Duke Street. It also includes slightly less glamorous -- but no less interesting -- brick piers (the architectural kind that hold up buildings, not the maritime kind that you tie a ship up next to) and more than 20 wooden posts or post holes across the site that might be the remains of buildings, fences, piers, wharves, or cribbing used as part of the banking-out process.

As previously reported here, Thunderbird Archaeology has encountered several features which could be either privies or wells. At current count, the crew has identified TWO box privies, TWO barrel privies, and TWO brick-lined privies. Each of these features should contain a treasure-trove of data about everyday life from the 18th and 19th centuries. The waterlogged, oxygen-free environments at the bottoms of these privies help preserve delicate organic matter that would

not otherwise survive in the archaeological record and their use as privies means that archaeologists will be able to recover valuable information about diet and health in early Alexandria. Excavations have already revealed shoes, fabric, seeds, and wooden barrel fragments.

If you walk down Duke Street, you may see a small area just west of 2 Duke Street near Hooe's stone warehouse that has been roped off. This area contains unidentified features that are fragile in nature and need protection before archaeologists have a chance to excavate and record them properly.

The historic brick building with the 2 Duke address was probably built sometime before 1877 and was extensively repaired after the great fire of 1897. Read more about 2 Duke [here](#).

Stay tuned for more updates from the future site of Robinson Landing as archaeologists continue to document and excavate what has been discovered and as they discover what else is buried on the site.

Foundations and Features

June 2017

Archaeological work continues at the site of Robinson Terminal South.

Stone Foundations

Archaeologists have completed work on the two [stone foundation](#) buildings along South Union Street. Standard photographs and maps were drawn. Archaeologists also employed a documentation tool called photogrammetry to provide additional high-level documentation for the features – the output of which is a map and a 3D model. The residents of both houses dealt with water issues and installed drainage systems and pumps to control water at the base of the foundation. *(Photo courtesy of Thunderbird Archaeology.)*



Circular Brick Feature

Right along South Union Street, just south of the stone foundations, archaeologists have been hard at work uncovering a circular brick foundation. The soils inside were removed to expose a brick floor. It is uncertain exactly what this feature is but one hypothesis is a bake oven. Analysis of the artifacts associated with the feature and additional research may reveal its original purpose. *(Photos courtesy of Thunderbird Archaeology.)*



Hooe's Warehouse

Work continues on the interior of Hooe's warehouse where archaeologists discovered a wood-lined drain running along the inside of the massive stone foundation. Evidence of the original floor was also encountered, though the preservation of the floorboards is poor.

Twentieth Century Features

Archaeologists have begun to level the modern fill in the southern section of what will become the townhouse area between previously excavated archaeological trenches per the approved scope of work. In the middle of the site, a 20th century brick footer, believed to be one of the Robinson Terminal South buildings, was uncovered. Archaeologists are just beginning to explore other features in this area.

George Slacum

The archaeology crew has been focused on excavating the interior of a brick and stone foundation building in the northwest corner of the site, believed to have been owned by George Slacum, a shipping merchant. This building abuts another brick foundation, which has been completely excavated, and may have served as a kitchen. Archaeologists are excavating soil layers from within the building and screening the soil for artifacts.



Foundations, Bulkhead and Bakery

July 2017

Excavations were completed on two largely intact stone foundation dwellings, a circular brick foundation, a partial stone and brick foundation at the corner of Duke and South Union, and an adjacent brick foundation structure. The foundations of the structures along South Union have been excavated and dismantled and the area has been filled back in to prepare for the construction of townhomes.



Dwelling at the Corner of Duke and South Union

According to documentary research done by Thunderbird, this dwelling originally stood on town Lot 77, purchased by Nathaniel Chapman in 1749. Eventually, the lot was subdivided and Lot 1, where the dwelling stood, was purchased by Captain George Slacum in 1794. By 1810, at least three buildings stood in Slacum's lot, one of which was occupied by a shoemaker named John Wood – this building is in the approximate location of the stone and brick foundation structure identified by Thunderbird archaeologists. The foundation measured approximately 15 by 20 feet and contained multiple fill episodes. The photo shows the feature before it was excavated, facing east towards 2 Duke Street. (Photo courtesy of Thunderbird Archaeology.)



Hooe's Warehouse



Excavation of [Hooe's warehouse](#) is nearing completion, as well. This is the massive stone foundation, built in 1782/1783, that was impacted by the construction of 2 Duke Street, the brick building that still stands on the site. What remains is an approximately 70 foot long by 13 foot wide stone (schist) and mortar foundation separated into two bays. The warehouse was originally 44 feet wide, according to a Mutual Assurance Society fire insurance policy taken out by Robert Hooe in 1796. This image shows the surviving floor boards and wood-lined drain that directed water inside the walls and beneath the floor. The next photo depicts the difficulties early

Alexandrians faced in constructing a large and deep building like the warehouse on the tidal flats of Point Lumley. Stone masons built the warehouse foundation on a wooden board for stability and to provide a level surface for construction. *(Photos courtesy of Thunderbird Archaeology.)*

Post Bulkhead / Crib Complex

A feature complex made of up at least 15 posts and a surviving section of horizontal wood planking indicates the extensive earth-moving activities that Alexandrians undertook around the original ground of Point Lumley. These large wooden boxes filled with dirt appear to have been relatively shallow and may have filled in tidal flats located just on the boundary between Point Lumley land and the Potomac River.

Foundations along Duke Street

Work is now concentrating on the surviving remains of structures along Duke Street, which appear to date to the 19th century, and a brick foundation building with an interior partition wall that may have fronted an alley south of and partly parallel to Duke Street. These structures are in close proximity to [two features](#) discovered in May and originally thought to be burials.

According to preliminary documentary research, the portion of the property containing these foundations and associated lots was public land. Three lots sat between Lot 77 (in the northwest corner of the site) and Hooe's warehouse, on land leased by the town trustees. The lots were primarily leased to members of the Campbell family from the early 1800s through at least 1830 who in turn subleased the land to whites and free black households. The Campbells did not reside on the property, though one briefly might have had a shop on Duke Street. By the 1850s, James Green was leasing the much of the property in the area. The land appears to have been open space during this period through the Civil War and became a lumber yard in the 1870s.

The red dotted lines show the general location of structures that once occupied the lots between Hooe's warehouse (to the east) and original town Lot 77 (to the west).



This photo focuses on the building to the south. A brick hearth is visible in the foreground and another brick hearth sits in the other room of the building. *(Photo courtesy of Thunderbird Archaeology.)*

Bakery

Archaeological work is just beginning to move south, towards Wolfe Street. In and among the foundations of a newly discovered stone dwelling, archaeologists uncovered this fascinating artifact – a dense, tough historic cracker called hardtack, a military staple during the Civil War that was also a foodstuff on long ship voyages. *(Photo courtesy of Thunderbird Archaeology.)*



Thunderbird Archaeology's documentary research revealed that the nearby structures included a bakehouse. After her husband's James Kirk's death, Bridget Kirk (shipbuilder Thomas Fleming's daughter) advertised the bakehouse in 1786 and Anderson and Jamieson Company leased it the following year: "Andrew Jamieson and Company...beg leave to inform the public that they will continue the biscuit-baking business, under the name of Anderson and Jamieson. They have for sale, all sorts of ship bread, and fine small bread, at Mrs. Kirk's bake-house, near the distillery, also at their bake-house, opposite the [illegible] Office" [Virginia Journal and Alexandria Advertiser April 26, 1787]. James Kirk was a prominent wheat merchant and later Mayor of Alexandria.

When Anderson and Jamieson Company dissolved in January 1791, Kirk leased directly to Andrew Jamieson until 1802. The lease called for the renovations and improvements on the existing bakehouse and related facilities, including: "...repairing the Bake house and Ovens, and building an half story over the Ovens, and finishing the Tenement contiguous to the said Bake-house, and building thereto a Shed Kitchen..." [Alexandria Deed Book D: 414].

Archaeologists have recently exposed and are evaluating the features that may be associated with the bakehouse and other structures.

What's Next



Over the coming days, excavation will expand to the southwestern portion of the block with another round of archaeological trenching. Thunderbird archaeologists will assess this area for features and foundations that will be impacted by a parking garage and additional town-homes.

This final image shows two members of the Thunderbird Archaeology field crew documenting the layers of soil within one of the buildings. They carefully record soil color and texture – information like this and catalogues of the artifacts discovered will be published in a final site report.

Wolfe Street and the Strand

August 2017

Wolfe Street

Archaeologists from Thunderbird Archaeology have just about wrapped up excavation in the northwest corner of the Robinson Landing site. They have continued their excavations in the central portions of the site, including the bakery and bulkhead complexes. They also have begun to dig in the south of the block, including here along Wolfe Street. Visible to the left in this photo are a row of building foundations fronting on Wolfe Street, in the background along S. Union Street is another building foundation, and in the foreground is a building originally built along The Strand. As these foundations are uncovered, the archaeologists are also uncovering

the narrow alleyways and small yards behind these buildings. By the turn of the 20th century, these earlier residential dwellings had been replaced by a more industrial landscape.



The Strand

Archaeologists have also discovered the remains of The Strand itself as it cuts through this block. As the port town expanded eastward into the river during the late 18th century, a new passageway or road was created to the east of Union Street. Property descriptions from the last decade of the 18th century indicate that a “space of ground” had been created and left open along the water’s edge to facilitate movement along the waterfront. Throughout the 19th and into the 20th century, The Strand cut through this block from between the building at 2 Duke Street and Pioneer Mill, south to where it ended at the intersection with Wolfe Street. By the 1920s, The Strand only extended as far as the end of 2 Duke Street, where it was reduced to a narrow recess between 2 Duke Street and the Robinson Terminal South warehouse in the late 1930s or early 1940s.

In this photograph, archaeologists have just come down onto the top of the southern end of The Strand as it runs into Wolfe Street. Here, the street was paved with flat stones, perhaps as a way to help keep this low-lying, river-adjacent city street from turning into an impassable quagmire (like the one seen here after a summer rainstorm).



Pioneer Mills, part 1

September 2017



Archaeologists from Thunderbird Archeology are now excavating to the east of the building at 2 Duke Street. There, they are beginning to uncover the imposing remains of Pioneer Mills.



Built in 1854, Pioneer Mills was six stories tall, made of brick, stone, and slate, and dominated the Alexandria waterfront for more than 50 years until it was destroyed by fire in 1897. One of the most iconic 19th-century photographs of the waterfront, seen here, was taken from the top of Pioneer Mills looking north up the waterfront.

Several weeks before the mill's opening in 1854, the following was published in the Alexandria Gazette:

The Alexandria Steam Flour Company have now erected their splendid Steam Mill in this place, and it being nearly completed and ready for the commencement of operations, we have taken great pleasure in going through it, and examining its capabilities.

The Mill, built of brick of the best and most durable materials, slate roof and fire proof, is situated on the Strand at the foot of Duke Street. It fronts on the Potomac River 122 feet – the main the main building being 80 feet deep - and the engine room 32 - making a total depth of 112 feet. It is six stories high, and the roof 77 feet above high water mark, or 73 feet from the first floor. It has 12 run-of-burr mill stones and splendid steam engine of 250 horse power. The Mill is capable of turning out eight hundred barrels of flour per day, and of consuming, per day, four thousand bushels of wheat. Attached to the Mill is an elevator for taking grain from the holds of vessels, and carrying it directly into the building. Large vessels can be loaded directly at the door of the Mill. A wharf has been constructed on the north side of the building on which a

switch from the track of the railroad on Union Street will be laid - so that grain from the cars will be brought, also, directly to the Mill.

This establishment is the largest Steam Flour Mill in the United States – and second only in extent to the Gallego Mills in Richmond. All the appurtenances and machinery are of the best kind, and the most modern improvements have been introduced.

Mr. William H. Fowle, is the General Agent, Mr. James C. Nevett, the Clerk and Treasurer, and Mr. R. F. Roberts, Chief Miller.

The Mill will be entirely finished throughout in the course of four or six weeks and operations commenced soon afterwards.

(Alexandria Gazette March 11, 1854)

While the large mill could produce large quantities of flour, this was also a liability. Without a constant supply of grain to mill into flour, the mill would sit idle and empty and would actually cost its owners money. The surrounding Virginia countryside could not meet the mill's demand for grain, so shipments were brought in from throughout the mid-Atlantic. The mill struggled to make a profit and by 1859, the owners of the Alexandria Flour Company advertised that Pioneer Mills and its coopers shop were for sale. During the Civil War, the mill was taken over by the Union Army and used as a commissary storehouse and its docks were used to load and unload supplies for the war. After the Civil War, the owners of Pioneer Mills continued to struggle to make the mill profitable. In 1874, millstones and other machinery were sold in order to pay outstanding taxes. The next year, the entire property was ordered to be sold to pay outstanding local and state taxes.

Throughout the rest of the 19th century, Pioneer Mills continued to see a variety of uses and owners. It was used as a grain warehouse, and was owned or leased by the Potomac Manufacturing Company which then became the Virginia Iron Ship Building Company, the J.C. Herbert Bryant Fertilizer Company, and the Haskins Wood Vulcanizing Company. Because of these subsequent uses of the building and periods of vacancy, archaeologists do not expect to find much direct evidence of the milling operations intact and in the ground.

The mill was badly damaged during a "cyclone" in 1896 and was finally destroyed during the 1897 fire that started across the street at Herbert Bryant's fertilizer plant. The partial remains of Pioneer Mill stood for the next decade as ruins, and in 1910 the Emerson Engine Company machine shop was built on the footprint of the old Pioneer Mills. This in turn was demolished by 1937 in order to build the Robinson Terminal South warehouses which stood on the site until recently.

ALEXANDRIA IN A CYCLONE.

Death and Destruction in its Path-- Houses Demolished and others Unroofed--W. D. Stewart and Mrs. Louisa Holt Killed Outright--Chimneys, Fences, Telegraph, Telephone and Electric Wires Prostrated--Trees Uprooted and others Stripped of Limbs and Branches--A Fearful Midnight Scene--Narrow Escapes from Death--Scenes and Incidents of the Worst Storm Ever Experienced in this City.

Alexandria passed through an experience last night which will be remembered so long as the present generation lives—a midnight scene creating a consternation and panic which threw women into hysterics, caused children to cry out in alarm and strong men to stand aghast at the devastation of the elements. Death, too, was following in the wake of the disturbance, and in two instances at least bricks and debris had crushed out human life.

The easterly wind of yesterday had several times assumed a velocity which caused some apprehension, and those who watched the antics of the weather

knocked out by the debris from the church.

Schuler's Hall, on the south side of King street, between Patrick and Henry, had the entire southern end blown out. The stage was crushed into kindling wood by the falling bricks. The roof was torn off and in its flight struck and demolished the chimney on the residence of Mr. J. Rector Smoot, opposite.

The southern portion of the Pioneer Mills collapsed from the wind, as did also that of the cooper shop on the opposite side of the Strand. The east end of the Vulcanizing works, at the foot of Wolfe street, was demolished, and the frame buildings at Agnew's shipyard, except the office, were crushed. The roof of Capt. Herbert Bryan's storehouse, on Duke street, running from Union to the Strand, was badly damaged.

The roof of Mr. John Heisley's residence on the east side of Fairfax street, between King and Prince, was blown off and the entire third story demolished. Mr. Heisley's family had a thrilling experience, and three of them at

ing on a porch in Dr. Fawcett's crushed it.

The roof of Isaac Eichberg & S dry goods house was carried away.

The residence of the late E Snowden, on lower Lee street, damaged considerably by the storm. The chimneys were blown down falling upon the roof crushed it in several places. The force of the wind be comprehended when it is stated that the chimneys on this house of the most massive build and evidently as strong as any in existence.

The Virginia Glass Works in V End, apart from the chimneys furnaces, are about eliminated. structure, most of which was of wood was demolished. The loss is a \$1,500.

Two houses belonging to Mr. George T. Baker, on Franklin street, were roofed, as was also the store and residence of Mr. James McCuen, south corner of Alfred and Gibbon streets house in course of erection by Mr. O'Brien on Patrick street, between Union and Franklin, was blown down and a frame house belonging to I

ALEXANDRIA GAZETTE

AN EXTENSIVE CONFLAGRATION.

An Entire Block Destroyed--The Pioneer Mills a Mass of Ruins--The Most Destructive Fire Ever Known in Alexandria--A Desolate Spectacle.

A sorry picture was presented to early risers this morning. Over a square of the river front was a mass of smoldering ruins—impending walls and stacks of tottering chimneys told the story—there had been a fire and it had burned over a section at one time the busiest in Alexandria's history—the space on the Strand from Duke to Prince street. Nothing but charred piles were left of wharves which in times gone by were the receptacles of shiploads of West India sugar and molasses, and upon which direct importations of articles from nearly every clime had been deposited. The "big mill," as it was called, erected at a cost of \$50,000, which had stood a silent monument for years to the prosperity which at one time animated the section—a time when commission stores were south of the mill—was no

ing crew from the Southern Railway yard. Huge chains were fastened to the walls and attached to the locomotive, and it required but little exertion on the part of the iron horse to pull down the dangerous walls. Large crowds viewed with interest the process.

The following were the buildings destroyed:

- The Pioneer Mills.
- Capt. Bryant's mill and two warehouses and sheds.
- W. S. Moore & Son's Old Dominion Machine and Brass Foundry.
- D. W. Aitcheson's wood and coal office and three warehouses.
- The Old Dominion Boat Club's house and contents.
- A. D. Brockett's warehouse with nearly all its contents of provisions, &c.
- N. Lindsey & Co.'s warehouse with the greater portion of its contents, a number of barrels of coal oil only having been saved.
- Aitcheson & Bros.' warehouse, containing blinds, sash, boxes, &c.
- The building occupied by the Virginia Beef Extract Company.
- Messrs. Aitcheson & Bros.' planing mill, on the west side of Union street, was slightly damaged.
- Mr. Richard S. Wattles's warehouse,

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In order to expose the mill's foundations, archaeologists must first dig through layers of rubble related to the destruction of this structure. Pictured here are pockets of brick, stone, and slate debris, all of which were used to build Pioneer Mills, as well as the burn layer related to the 1897 fire.



Here is an exposed section of the mill wall and floor with the USCGC Eagle in the background. Note the robust stone foundations with brick walls above as well as the worn brick floor. The walls needed to be thick in order to support the massive brick building above as well as the weight of the grain and machinery inside.



While exposing the mill's foundations and floor, archaeologists also uncovered several of these iron tools whose purpose is not immediately clear. Additional research into the workings of the steam mill or the later manufacturing operations may tell us what these were used for.



Thunderbird archaeologists will continue to expose and document the rest of the mill's foundation located at the end of Duke Street.

Pioneer Mills, Part 2

November 2017



The remains of Pioneer Mills have been fully uncovered and archaeologists are at work documenting the foundations and carefully disassembling the ruin. The mill's foundations measure 122' x 112' and in some places are more than 6' deep. This photo was taken next to the building at 2 Duke Street, looking east toward the Potomac River.



Pioneer Mills can be seen just above and to the right of the sailboat in this detail of an 1861 sketch by *New York Illustrated News* special artist Alfred Waud. Drawings like this one and historic photographs of the mill building can help us better understand some of the archaeological and architectural features being uncovered here at Robinson Landing.

Stone support piers



These larger, regularly-spaced flat stones in the center of the mill are actually just the tops of stone piers that extend several feet underground. On top of these piers would have sat vertical wooden posts that would have carried the weight of the heavy mill, including its 12 pairs of millstones, machinery, barrels and sacks of flour and wheat, interior floors and walls, and slate roof.

Brick engine pad and wheel pit

This large, heavy brick feature probably supported the mill's locally-made Smith and Perkins steam engine. While only barely uncovered in this photograph, additional excavations have revealed a slot or trench in the center of this brick pad that would have housed the engine main wheel, which would have been connected to a large shaft that would have supplied the rest of the mill with power through a series of wheels and belts.



Small support piers

One interpretation of these two parallel rows of flat stones and narrow channel leading away from the wheel pit is that they could have supported this rotating shaft. Belts would have connected this shaft to each of the pairs of mill stones as well as any other mechanical equipment in the mill such as hoists, lifts, and baggers.



Additions

The smaller brick rooms seen along the northern and western edges of the mill structure (here along the left and bottom of this photograph) are early-20th century additions to the mill. Added sometime between 1912 and 1921, they were used by the Safety First Manufacturing Company as a cleaning room, a core room (for storage of metal casting supplies?), and an office.



Archaeology

Sharp-eyed observers will also note these two darker, parallel features cutting diagonally across the mill site (running up and down in the center of this photo). These are back-filled archaeology trenches originally opened in the summer to confirm the mill's location prior to uncovering it.



Photogrammetry

The strange black and white pattern seen here is actually a photogrammetry target. Photogrammetry is a technique that uses many, overlapping images of the same subject in order to create a three dimensional model of that object. If you look closely at the other photos of the mill here, you can see several more of them placed strategically across the mill foundations. These targets are similar to each other, but not identical.



The differences in the patterns help aid archaeologists from Thunderbird Archeology to align over 2000 photographs of the ruins in order to create a photogrammetric model.

Excavated foundation stones



After careful documentation and excavation, archaeologists are removing and stacking the Pioneer Mills foundation stones for potential reuse in future projects.

Buildings along Wolfe Street

February 2018

Archaeology continues at Robinson Landing as archaeologists uncover and document more of the site. Recently, they uncovered several unusual features.

This brick feature is inside the footprint of a brick and stone building found just behind 2 Duke Street and adjacent to where The Strand used to run through this block. On the right side of the stone wall here is a fairly typical hearth or fireplace. On the left side of the stone wall are two sloping brick surfaces with a small gap between them resting on a wooden plank that may have served as a level surface for construction. Small holes in the brick at either end of the gap could allow for the circulation of air or the removal of ashes if this feature was used for heating or cooking.



The change in wall construction from stone to brick suggests that this part of the brick feature might be located inside a shed or addition to the original structure. This building and feature are in roughly the same location as a kitchen known to be attached to the rear of 2 Duke Street during the Civil War; however, initial analysis of the artifacts recovered from this feature appear to be much earlier.



Archaeologists have also uncovered this pie-shaped feature tucked into a corner of a building in the middle of the site. Most brick cisterns, wells, and privies are circular, so it is unusual to find one shaped like this.

Work has also resumed on the complex of buildings along Wolfe Street. This building near the corner of S. Union Street and Wolfe is noteworthy because it has three bays resting on stone foundations with wood frame construction still present in the north and south bays. The foundations measure 42 by 25 feet, are aligned several degrees off of the street grid, and appear to have been built on infill as opposed to original ground. Wood left in the ground does not usually survive for archaeologists to discover, so these preserved beams provide an excellent opportunity to study wood frame architecture of early Alexandria.



These mortises were cut into this sill in order to attach vertical posts or studs that would have formed the building's wall. Similar mortises were found on [the 1755 Carlyle Warehouse excavated across the street in 2015](#). Archaeologists will also excavate a 5 by 2.5 foot wood-lined privy at the back of the lot where the three-bayed building stood.

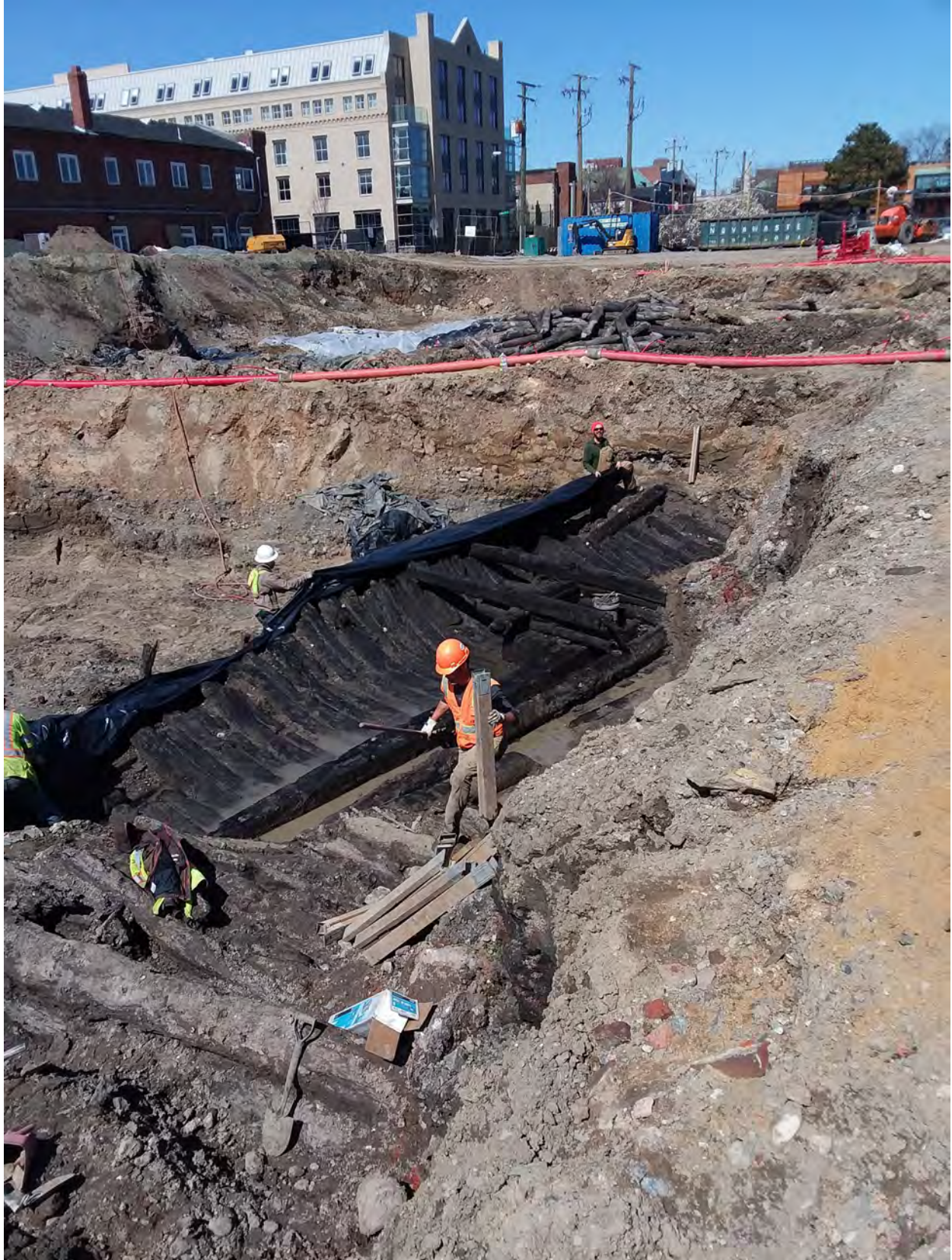
[Back in August](#), archaeologists uncovered and documented an original stretch of The Strand. They are currently preparing to excavate a small trench across it in order to better understand its construction and determine if this is the original surface.



Uncovering Two Historic Ships

March 2018

Spring brings more exciting discoveries at Robinson Landing. Archaeologists have recently uncovered two historic ships at the site.



Preliminary analysis in the field of the materials and construction technique suggests that the

ships likely date to the late 18th/early 19th century, the same time period as the ship uncovered at the Hotel Indigo site one block to the north. One likely interpretation is that both ships may have been abandoned and covered by fill or intentionally scuttled and used as fill to bank out, or extend, the City's shoreline into the Potomac. Most of the Robinson Terminal South block was filled in and the outline of the original Point Lumley had disappeared by the turn of the century.

One ship was found underneath the 1852 Pioneer Mill foundation, pulled up to the original shoreline and beached near Point Lumley. Archaeologists uncovered it in early March. It is listed on its side and oriented roughly east-west, perpendicular to the shoreline. This vessel may be more intact than the one found at the Hotel Indigo site and may provide additional clues about ship building traditions and construction techniques. The second ship was found in mid-March and is located to the southeast of the first one. It appears to run roughly parallel to the current shoreline and is adjacent to a stone warehouse foundation and associated wharf structure. Both vessels show a mix of trunnels (or wooden pegs) and iron fasteners.

Currently, both ships are being evaluated by archaeologists from Thunderbird and the City with assistance from other maritime archaeologists, dendrochronologists, and other experts to reveal further information about their construction and to assess their structural integrity. Dendrochronology of the ship timbers may be able to provide additional information on construction date and location of these vessels. Once more is known about them, contract archaeologists and City archaeologists will develop a plan for these unique finds for future research.

These two ships along with the one previously recovered at the Hotel Indigo site provide insight into a critical period of Alexandria's early history of trade and commerce as well as the larger maritime world of the late 18th and early 19th century. Recovering one ship is unusual, but having three within a two-block area to compare is very exciting. Together these ships are a valuable data source for maritime historians and archaeologists.

Uncovering Historic Ships and Wharves

April 2018

Spring brings more exciting discoveries at Robinson Landing! Archaeologists have recently uncovered several historic ships and wharves.

Archaeologists working at the former site of Robinson Terminal South have discovered the remains of several historic ships and a wharf structure. Initial evaluation indicates that these ships and wharves were probably used as part of the land making (banking out) process in the late 18th/early 19th century as early Alexandrians filled in the Potomac River shoreline. These ships along with the one previously recovered at the [Hotel Indigo site](#) provide insight into a critical period of Alexandria's early history of trade and commerce as well as the larger maritime world of the late 18th and early 19th-century. Recovering one ship is rare, but having at least four within a two-block area is remarkable. Together these ships and wharves are a valuable and extremely rare data source for maritime historians and archaeologists.

Ships

To date, three ships have been discovered at Robinson Landing. Preliminary field evaluation of the materials and construction technique suggests that they all probably date to the late 18th/early 19th century, the same time period as the ship uncovered at the Hotel Indigo site one block to the north. All of the vessels show a mix of trunnels (or wooden pegs) and iron fasteners. A likely interpretation of how these ships came to be buried on this block is that once they were past their prime as sea-going vessels, they were either abandoned and simply covered by fill or they were intentionally scuttled and used as fill to extend the City's shoreline into the Potomac. Most of the Robinson Terminal South block was filled in and the outline of the original Point Lumley had disappeared by the turn of the century.

The first ship found on this block was discovered in early March. It was found underneath the 1852 Pioneer Mill foundation, scuttled near Point Lumley and used as part of the wharf system. It is listed, or tilted, on its side and oriented roughly east-west, perpendicular to the shoreline. This vessel may be more intact than the one found at the Hotel Indigo site and may provide additional clues about ship building traditions and construction techniques.

Another ship, closer to the Potomac River shoreline, was found in mid-March and is located to the southeast of the first one. Archaeologists have uncovered a section measuring roughly 46 feet long and 12.3 feet wide, consisting of 49 frames. This ship appears to run roughly parallel to the current shoreline. It is immediately north of a stone warehouse foundation and is part of the associated wharf structure. This ship appears to be intentionally notched into the adjoining wharf structure. Further study of this ship and the associated wharf structure may provide additional clues about late 18th-century harbor engineering.

A third ship was recently discovered near Wolfe Street. Only a portion has been uncovered at this time, but it appears to lie roughly parallel to Wolfe Street. This is the most complete of the ships in that it appears to have a significant portion of both sides (port and starboard) present continuing up the sides.

Currently, the ships are being evaluated by archaeologists from Thunderbird and the City with assistance from maritime archaeologists, dendrochronologists, and other experts to reveal further information about their construction and to assess their structural integrity. Archaeologists will document the vessels in place. Dendrochronology of the ship timbers may be able to provide additional information on construction date and location of these vessels. Once more is known about them, contract archaeologists and City archaeologists will develop a plan for these unique finds for future research.





Photos of Ship #2, courtesy EYA, LLC. Archaeologists uncovered a section measuring roughly 46 feet long and 12.3 feet wide, consisting of 49 frames. This ship appears to be intentionally notched into the adjoining wharf structure.

Wharves

Archaeologists have uncovered the remains of an intricate network of wharves and other waterfront structures. These likely date to the late 18th and early 19th century when Alexandrians were busy filling in, or banking out, into the Potomac River.

Cribbing and large wooden pilings have been found across much of the eastern portion of the property. Large timber pilings are related to and have been pulled from beneath the Pioneer Mill foundation.

Archaeologists have uncovered a nearly 100-foot-long portion of timber retaining wall or bulkhead running roughly east to west across the property. This feature is roughly six timbers tall, held together via scarf joints and trunnels (wooden nails), and formed one wall of a larger wharf. The wall was additionally held in place with long timbers (called tie-backs) running roughly perpendicular to it. Additionally, the second ship also appears to have been used for support as one of its ends is slotted into the wharf wall. A stone structure, possibly an early warehouse, sits atop this wharf.

Recovering Robinson Terminal South Ship #1 and Wharves

May 2018

Ship 1 (Feature 155-1) Update

Thanks to a team effort, the first ship has been successfully removed from the Robinson Terminal South site! Contract archaeologists, City staff, and consultants from the Maryland Archaeological Conservation Lab worked together to document, remove, and stabilize the remains.

This ship was found in mid-March and was oriented roughly north-south, paralleling the original shoreline. Both the bow and stern were notched into wharf structures used for “banking out”. Before and during removal archaeologists documented this feature using measured drawings and photogrammetry, and dendrochronology samples were taken from multiple timbers. These detailed records will provide valuable data on shipbuilding techniques and wharf construction.

The City is now storing the timbers in tanks of water to ensure their continued stabilization. Without these measures, the wood would desiccate and disintegrate, precluding any potential for future study or conservation.





Ship Fast Facts

- Archaeologically recovered remains include: frames, hull planking, sacrificial planking, keelson, keel, parts of the bow stem and stern.
- Would have been roughly 55 feet long.
- Given this size it was probably a coastal vessel.
- The sacrificial planking shows little to no evidence of ship worm damage.
- It appears to be more roughly made than the ship recovered from the Hotel Indigo site.

A Big thank you to everyone who helped us get this first ship out of the ground and safely into tanks!

Wharf Structure (Feature 161) Update

Archaeologists have been busy uncovering more evidence of Alexandria's 18th-century shoreline expansion.

Contract archaeologists working at the former site of Robinson Terminal South have recently discovered the remains of a bulkhead wharf structure (Feature 161). This feature is located just north of Wolfe Street and runs roughly east-west, generally parallel to the street. It was found below the foundation remains of several structures and extends under paved portions of [The Strand](#), previously discovered by archaeologists. The Strand was originally laid out as a 21-foot-wide alley by the Kirks in the 1780s. Initial evaluation suggests that this stacked timber structure was used in the land making (banking out) process in the late 18th century.

The uncovered remains of the wharf consist of two main walls made up of large cut beams and some un-milled logs, secured with tie backs and cross braces. A third wall is assumed to exist underneath Wolfe Street, but is not currently visible and is outside the project area. The north wall is made of three stacked logs at its western end and four logs towards the east, closer to the Potomac River. The eastern wall of this feature is five logs tall and large rocks were found along the eastern edge of the wall. The timbers on the northeast corner appear to be joined using a crude corner notching technique, possibly lock notched. This construction method gives the corners a "Lincoln Log" appearance. Towards the western section of the feature, there is a continuous course of horizontally laid, abutting timbers running roughly east-west, parallel to Wolfe St. Their purpose is currently being researched.

Feature 161 is evidence of the initial expansion of Lot 85 beyond the natural shoreline. In the late 18th-century, this lot was associated with both Thomas Fleming and James and Bridget Kirk. Fleming purchased the lot from the town trustees in 1763. At that time, most of the southern portion of this block was in tidal mudflats. In 1770 Fleming sold the property to James Kirk, a merchant and later Mayor of Alexandria. The Kirks built land, a wharf, and laid out an alley before James Kirk died in 1786, after which Bridget Kirk began subdividing and leasing parcels on the lot.

Archaeologists have been busily documenting this feature using measured drawings and photographs, and dendrochronology samples have also been taken across the feature. These detailed records will provide valuable data on how people in the past created land to meet their needs. 18th-century wharf construction was not the standardized engineering that we often see today. In fact, methods and materials varied greatly even in the Anglo-American maritime world. The end product was heavily dependent on local environmental and economic conditions as well as on the technical knowledge of those doing the construction. Wharves and other landfill retaining structures are prime examples of historical carpentry that fit into larger historical and cultural frameworks. Understanding the construction methods and materials of this wharf will allow it to be situated within the broader context of early American vernacular architecture.

Alexandria Archaeology has undertaken extensive research on previously excavated wharf sites. For additional information, see Dr. Shephard's article in [The Alexandria Chronicle](#).

This bulkhead wharf structure literally helped create the city's modern shoreline. It provided the foundation on which early Alexandrians built their homes and commercial ventures. It provided access to deeper water in the Potomac, bringing ships, goods, and people from around the world to the city. Banking out was fundamental to the development of the port and these wharves and piers served as Alexandria's lifeline to the world.



[Image Source: Jeff Hancock Hancock Photography Robinson Landing Ships - 002 - Panorama of cribbing](#)

Ship 3 Status Update

May 2018

The third ship (Feature 159) discovered at the Robinson Landing site will soon undergo mitigation. The ship, which was the primary feature visible from the public viewing opportunity on April 14, 2018, remains partially buried under Wolfe Street and is only partially exposed at this time. Preliminary evaluation suggests that it is larger and more intact than the other two ships found on the property and may be the most complete with portions of both sides (port and starboard) present. Here is additional preliminary information on Feature 159:

- Based on an examination of historic maps and survey located points on the ship, the hypothesis is that this ship became part of landfill sometime between 1798 and 1845. Because the creation of land along the waterfront in the late 18th and early 19th century was largely undertaken by private citizens, it takes extensive historical documentary and archaeological research to reconstruct the sequence of making land in Alexandria.

- Initial examination suggests that all four ships (including the one discovered during construction of the Hotel Indigo) appear to be of similar construction, with tightly spaced futtocks and comparable wooden and iron fastenings.
- The hull planking of Feature 159 appears to be twice as thick as the other ships suggesting that this may have been an ocean-going vessel, rather than confined to coastal waters.
- Based on the visible portions of the ship, the bow, port and starboard side appear extant; the stern has not been uncovered at this time. The exposed hull fragment measures 25 feet wide by 50 feet long.
- Like the other ships, this one appears to be part of late 18th or early 19th century wharf architecture.



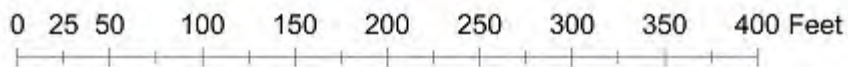
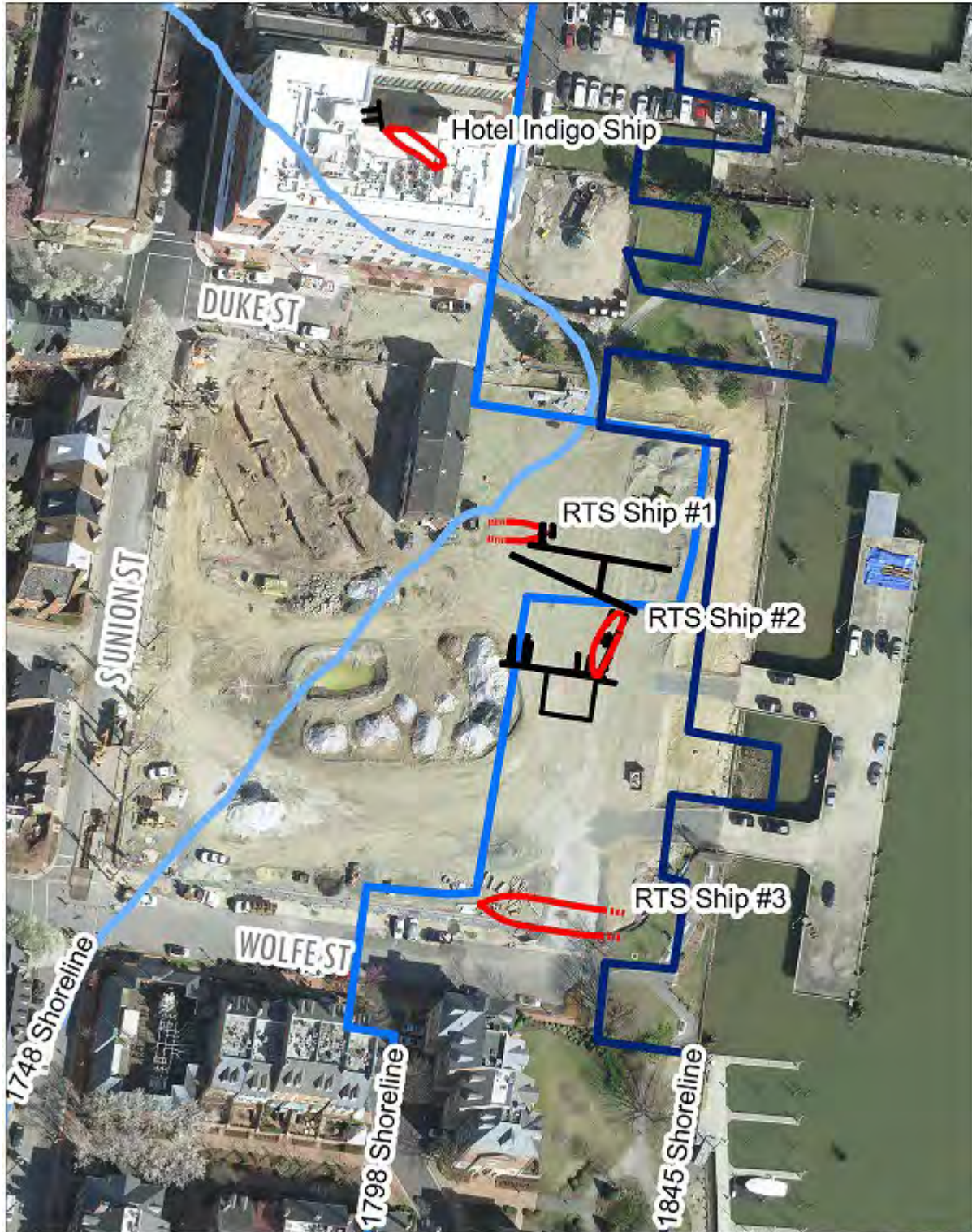
Alexandria Archaeology has approved a resource management plan for the treatment of Feature 159 by the developer's contract archaeologists. The mitigation process will involve backfilling the already exposed portions of the ship to protect them during the construction of a slurry wall that will stabilize Wolfe Street and contain the underground parking garage. Once this wall is in place, archaeologists will fully expose the part of the feature that is already

partially exposed within the garage area and carefully document the remains using traditional and 3D documentation techniques (photogrammetry) before the ship is dismantled and removed into water storage to prevent decay. Dendrochronology samples have already been taken.

This resource management plan will leave a portion of the ship preserved under Wolfe Street for future archaeological study. Excavation of Wolfe Street if done at this time would need to be significant and would create substantial safety risks for workers due to the depth of excavation and unstable perimeter slope; would risk damaging underground gas, electric, and water utilities; and would bring construction excavation even closer to adjacent Harborside homes. The project archaeologists developed the mitigation plan in consultation with Alexandria Archaeology, maritime archaeologists, conservators, engineers, and the developer, who explored all available options.



MARITIME ARCHAEOLOGY on the ALEXANDRIA WATERFRONT



Wharves and Bulkheads (Feature 162 and Feature 165)

June 2018

Archaeologists have been busy uncovering even more evidence of Alexandria's ever expanding shoreline.

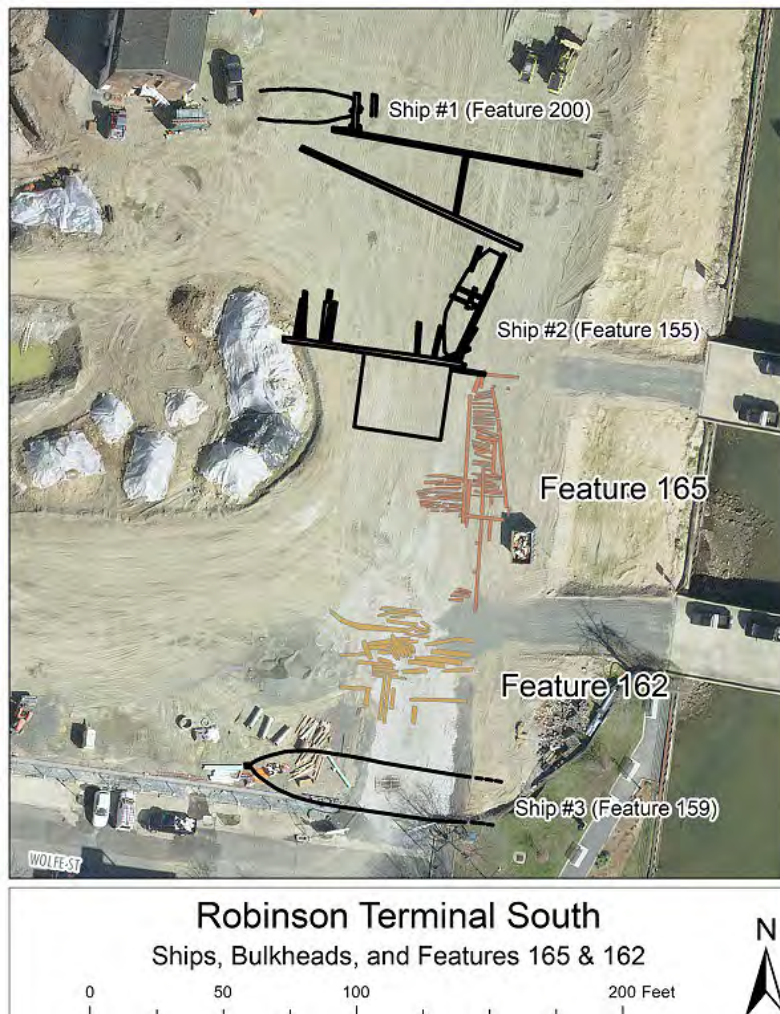
Contract archaeologists from Thunderbird Archeology working at the former site of Robinson Terminal South have recently discovered the remains of two more harbor structures used to "bank out" or extend the city's shoreline. Initial evaluation and consultation of relevant maps suggests that these two features were used in the land making process in the 1840s.

Feature 165 is another bulkhead wharf. It is located to the south of the first ship (Feature 155) excavated at this site and to the north of the third ship discovered near Wolfe Street (Feature 159). The feature runs roughly north-south, generally paralleling the river. It was found to the east of The Strand. The uncovered remains of the bulkhead wharf consist of several different structures. The southern end is made up of three or four un-milled stacked timbers, running roughly north-south, sitting on sandy soil. It is roughly 70 feet north-south and about 20 feet east-west; however, a 30-foot north-south portion of the wall in this area is either missing or has not been exposed yet. The northern end of the structure appears to be a crib or possible coffer dam. It is roughly 50 feet north-south by 15 feet east-west and is made using at least 10 milled timbers that are stacked forming a rectangular "crib" construction. The interior of this feature is filled with stacked timber.

Feature 162 is a series of logs and tree trunks, running perpendicular to the southern portion of Feature 165. It is roughly 55 feet east-west by 40 feet north-south. The relationship between the two features is still unclear, but the logs do not appear to be associated tie-backs for the bulkhead wharf.



Both Feature 162 and 165 are located within Parcel 5 of Lot 85 and are evidence of the lots expansion beyond the natural shoreline into the Potomac River. This parcel, located to the east of the Strand, was likely home to an active wharf-front from the 1780s onward. In the late 18th-century, this lot was associated with both Thomas Fleming and James and Bridget Kirk. Fleming purchased the lot from the town trustees in 1763. At that time, most of the southern portion of this block was in tidal mudflats. In 1770 Fleming sold the property to James Kirk, a merchant and later Mayor of Alexandria. The Kirks built land and a wharf, and laid out an alley before James Kirk died in 1786, after which Bridget Kirk began subdividing and leasing parcels on the lot. Following Bridget's death in 1797, the property passed to her son Robert Kirk and eventually his wife Sarah. During the Kirks' ownership in the late 18th and early 19th centuries, numerous individuals leased portions of the wharf. In 1830, Sarah Kirk sold Parcel 5 to Henry Dangerfield, who is listed as the owner of the "warehouses and wharf" by the corner of Wolfe Street and The Strand in an 1830 tax list. In turn, Dangerfield sold the property to James Green in May 1843. The 1850 tax list records no occupant for the "House and Wharf" east of The Strand, suggesting that these were now being used by Green's lumberyard business and not leased.



Archaeologists have been busily documenting these features using measured drawings and photographs and dendrochronology samples will also be taken from the two features. Feature 165 will also be bisected to get better look at the structure and fill in profile. These detailed records will provide valuable data on how people in the past created land to meet their needs. Though these two features may date to a later round of shoreline expansion, they are still critical to telling the story of the waterfront since they built upon earlier structures and helped give Alexandria its modern outline. This site, when treated as a whole, will be critical for better understanding 18th and 19th century wharf construction methods, which were not standardized, and strategies, which were often *ad hoc* and dependent on local environmental and economic factors.

Alexandria Archaeology has undertaken extensive research on previously excavated wharf sites. For additional information, see Dr. Shephard's article in *The Alexandria Chronicle*: ["Reaching for the Channel: Some Documentary and Archaeological Evidence of Extending Alexandria's Waterfront."](#)

Excavation of Ship 3 (Feature 159)

October 2018

The wooden vessel has recently been more fully exposed in preparation for excavation. A retaining wall installed through the ship allows archaeologists to work safely on the section within the footprint of the future parking garage. The remainder of the ship outside the wall near and under Wolfe Street will be preserved in the ground. Contract archaeologists with the assistance of City staff are carefully documenting, excavating, and stabilizing the ship's timbers.



This vessel is the largest and most intact of the four ships found along the waterfront since 2015. The length of the hull runs a few degrees off the street grid and at a steep angle from west to east, suggesting the slope of the original shoreline. The hull fragment within the project area is roughly 85 feet long and about 30 feet wide at its widest point. For comparison, the three other ships discovered at Robinson Landing and at the site of the Hotel Indigo each measured about 50 feet in length and 15 feet in width. Because of the size, Ship 3 could have sailed in the open ocean.

From what is visible, this ship does not appear to have been cut in half along the keel like the other vessels and still has both its port and starboard sides. Remains of the hull include the presumed bow, ceiling planking, keelson, framing, futtocks, keel, and hull and sacrificial planking. Preliminary field evaluation of the materials and construction technique suggests that this vessel was built sometime in the 18th or early 19th century. A mixture of trunnels (wooden pegs) and iron fasteners hold the timbers together.

Based on an examination of historic maps and survey located points on the ship, we hypothesize that this ship became part of landfill sometime between 1798 and 1845. Fragments of a wharf structure are set atop of the ship.

A team of contract archaeologists, City staff, and consulting experts will thoroughly document the ship in place using a combination of traditional mapping and 3D documentation (photogrammetry) several times during the excavation process to record the individual layers before carefully excavating it. Additionally, experts will take dendrochronology samples from multiple timbers, which may tell us more about where and when this ship was constructed. Like the two smaller ships excavated earlier this year and the ship from 220 South Union Street discovered in 2015, the City will store the timbers in tanks of water to ensure their continued stabilization while long term plans are developed.



Above left: The excavation of Ship 3, looking west. Above right: Ceiling planking, with markings from the ship-builders. Below: The ship's timbers being placed in a pool of water to preserve the wood.

