# UPDATE OF INTERPRETIVE SIGNAGE AT THE NATURE CONSERVANCY'S NEW POINT COMFORT PRESERVE

**Final Report**

**September 1, 2022**

**FY19 Virginia Coastal Zone Management Program Grant**

**Task 73.02**

**Grant #NA19NOS4190163**

**Submitted by:** **Sam Truslow**
**The Nature Conservancy**
**struslow@tnc.org; (434) 951-0579**

*This project was funded by the Virginia Coastal Zone Management Program led by the Virginia Department of Environmental Quality through Grant # NA19NOS4190163 of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, under the Coastal Zone Management Act of 1972, as amended.*

**PARTNERS**

Bavon Beach Homeowners Association

Mathews County Historical Society

Mathews Rotary Club

Mid-Atlantic Regional Integrated Science and Assessments Program

Pamunkey Indian Tribe

The Nature Conservancy

Virginia Coastal Zone Management Program

Virginia Department of Conservation and Recreation

Virginia Institute of Marine Science

**ACKNOWLEDGEMENTS**

This project was possible only because of the dedication and commitment of many individuals who contributed their time, expertise, edits and pictures. Project contributors include: Karl Braun, Bavon Beach Homeowners Association; Reed Lawson, Rebecca Barnhardt – Mathews County Historical Society; Stan Allen, Mathews Rotary Club; Kelsey Ruckert, NOAA Mid-Atlantic Regional Integrated Science and Assessments Program; Shaleigh Howells, Pamunkey Indian Tribe; Susan Bates, Chris Bruce, James Davis, Lena Lewis, Danny White- The Nature Conservancy; April Bahen, Laura McKay- Virginia Coastal Zone Management Program; Zach Bradford, Hali Haskins- Virginia Department of Conservation and Recreation; Donna A. Milligan- Virginia Institute of Marine Science.

Jason Boys with Idesign2, Inc. provided design services for all project products.

Panel production and frame/mount fabrication was done by Pannier Graphics (Gibsonia, PA).

## INTRODUCTION

New Point Comfort Preserve is an ecologically and culturally important site in Mathews County, Virginia that was acquired by The Nature Conservancy in 1994 with funding from Virginia Coastal Zone Management Program (VCZMP). The preserve protects tidal salt marsh, maritime forest and sandy beaches that provide habitat for several rare species. In 1997, Mathews County received funds from VCZMP to construct an ADA-accessible observation boardwalk to provide visitors with views of the Mobjack and Chesapeake Bays as well as the New Point Comfort Lighthouse. At the time of construction, four interpretive panels were installed on the boardwalk to give visitors information on the human and natural history of the area. The boardwalk has been open daily, year-round, and free of charge since 1997 and has become a well-known destination for both locals and visitors to the area.

In 2018, members of the local community reached out to TNC and other partners with concerns that the signage at New Point Comfort had exceeded its functional lifespan. Of the four original interpretive panels, one was missing and three had become faded to the point of being difficult to read. Shortly after the need to update the signage was identified, VCZMP staff were able to secure funds to support the project.

## PROJECT OBJECTIVES

The overarching project objective was to use a collaborative approach to create a series of interpretive panels that would expand visitor's understanding of the natural and cultural history of New Point Comfort. Additional project goals included:

- Convert silkscreen artwork from original panels to digital formats that could be more easily replicated on future replacement signs;
- Correct outdated content on existing signs;
- Collaborate with the Pamunkey Indian Tribe to expand on the indigenous and pre-colonization history of the area;
- Educate visitors about the potential impacts of climate change at New Point Comfort and provide resources they can use to address climate change in their personal lives;
- Highlight the partners, including VCZMP, that have made the protection and management of the preserve and public access infrastructure possible.

## PROJECT OUTCOMES

TNC identified a group of partners and stakeholders consisting of subject matter experts and design consultants to update the existing interpretive materials and create new content related specifically to sea-level rise and indigenous history of the area (see Partners and Acknowledgements, page ii). TNC worked with Jason Boys from iDesign 2, Inc., to develop the design and layout out of the final panels. During the project period, TNC coordinated with project partners and contributors in order to gather the necessary content, review and feedback for all project elements.

INTERPRETIVE PANELS

The plans for revising and/or producing new interpretive materials were guided by the existing panels that were originally installed at New Point Comfort Preserve in 1997 under a VCZMP grant awarded to Mathews County. Pannier Graphics was the preferred vendor for the project because they produced the original panels and had a proven track record for producing durable, aesthetically pleasing materials for similar projects in the area. Based on available mounting area on the boardwalk, TNC decided to create five panels with the following content:

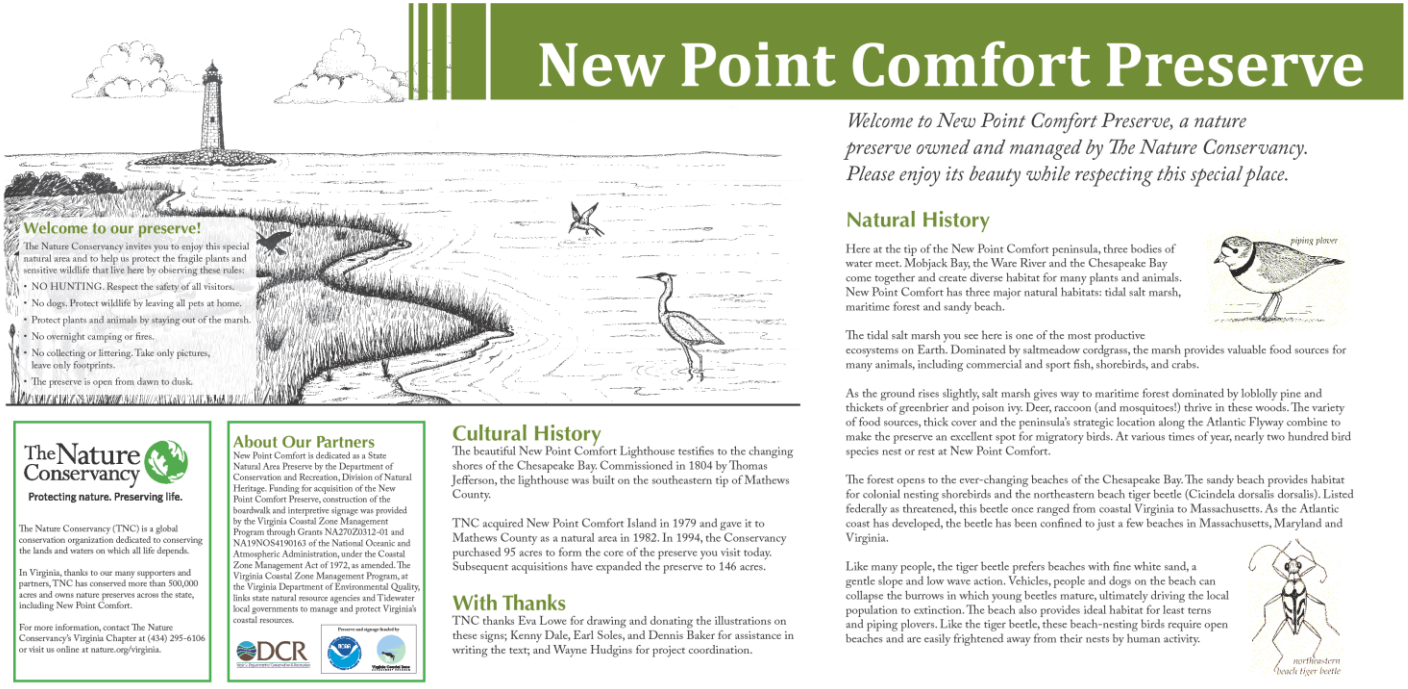
- ***Panel 1*** **Welcome to New Point Comfort**: Guidelines for visiting the preserve and recognition of the groups, including NOAA and CZM, that provided financial and other support for the protection and management of the preserve.
- ***Panel 2*** **Ecology**: Overview of the plants, animals, natural communities, and ecological processes that can be observed at the preserve.
- ***Panel 3*** **People and the Land**: Human history of the area from the Paleo-Indian Period through the early 20th century.
- ***Panel 4*** **New Point Comfort Lighthouse:** A timeline of important events related to the New Point Comfort Lighthouse from 1802 through 2021.
- ***Panel 5*** **A Changing Shoreline:** Describes the projected impacts of sea-level rise to New Point Comfort and provides QR codes for visitors to take action to fight climate change.

TNC and DCR staff installed the panels at New Point Comfort in June 2022 (see Appendix 2 for photos). The frame and mounts were fabricated by Pannier to attach to the existing vertically oriented 2x6” railing of the boardwalk. Tamper-resistant hardware made by TufNut Works was used to attach the panels to the rails.

## DIGITAL FILES

All full-resolution digital files for this project have been submitted to the VCZMP as part of this final report.  TNC will also maintain these files for future use and reference.

## APPENDIX 1. INTERPRETIVE PANELS PRODUCED UNDER THE NEW POINT COMFORT SIGNAGE UPDATE PROJECT



# Ecology

## Land Between the Bays

New Point Comfort Preserve lies between the Chesapeake Bay to the east and Mobjack Bay to the west, within the largest and most productive of the Atlantic estuaries. New Point Comfort is a peninsula built of countless layers of waterborne sand, gravel, silt and shells of sea creatures, resting upon bedrock hundreds of feet below.

Erosion from wind and water continuously remakes the landscape around you. When the New Point Comfort lighthouse was erected in 1804, solid ground extended from there to where you now stand.

## Salt Marsh


*clapper rail*

Useless wasteland? No way! In fact, the type of salt marsh that surrounds this overlook is perhaps the most productive ecosystem on Earth. An acre of salt marsh can produce nearly 10 tons of organic matter each year. By comparison, an acre of domestic wheat yields only 1.5 tons per year.

Many kinds of aquatic and marsh plants and animals thrive here. The mixing of salt water from the ocean and fresh water from the land provides a nursery and feeding ground for a diversity of animals, including commercial and sport fish, shorebirds, shellfish and crabs.

A marsh's physical and chemical properties divide it into two zones, high marsh and low marsh. Those plants living closest to the water in the low marsh are adapted to high salinity from twice-daily flooding at high tide. Tall cordgrass (Spartina alterniflora) is the dominant plant in this zone. In autumn, waving fields of tall cordgrass give the marsh a golden hue. Plants that grow in or near salt water have adapted to rid themselves of excess salt that would quickly kill other plants. Observe the results of this process in the salt crystals that shine on the stems and leaves of cordgrass. Saltwort, which turns red in late summer, handles the problem by accumulating excess salt in its fleshy leaves, which it then sheds and replaces with new ones.

Saltmeadow cordgrass (Spartina patens) dominates the high marsh. Many marsh birds, such as the clapper rail and willet, nest in the high marsh and feed in the low marsh. Look also for sedge wrens and red-winged blackbirds. As we move from the high marsh toward the forest, where the ocean rarely reaches, grasses and shrubs that are less tolerant of salt water begin to take over.

An unwelcome invader of both fresh and brackish wetlands is common reed or Phragmites, which you may recognize by the handsome feathery flowerheads that top it in late summer and fall. Reproducing prolifically from stout underground stems (rhizomes), the reed grows in pure stands up to twelve feet tall. These dense stands choke out other more beneficial marsh plants. Its invasive and hardy nature makes controlling the spread of common reed very difficult.


*common reed*

## Maritime Forests

At the edge of the marsh, on slightly higher ground, stands a second-growth forest of loblolly pine with an understory of mixed hardwood trees and shrubs. From ground level to high in the forest canopy is an almost impenetrable tangle of vines, including greenbrier, poison ivy, grapevine, honeysuckle and trumpet creeper. While these dense brambles are not inviting to people, they provide food and cover for a variety of wildlife. Neotropical migratory songbirds seek shelter here, resting on their journeys to and from the tropics and feeding on the incredibly numerous mosquitos. You can see and hear these songbirds by walking along the road at the edge of the woods in the spring and fall.

Amidst the pines are overgrown home sites, old gravestones, and non-native plants such as boxwood and English ivy that remind us of the generations of people who made their living here from the land and the adjacent waters.

## Food Chain

With its high organic content, the life-giving muck of the salt marsh forms the base of a complex, interconnected food chain. As marsh grass dies, its decaying stems and leaves (detritus) add their nutrients to the mud. The nutritious mud itself becomes both food and shelter for bacteria, worms, snails and tiny shrimp-like amphipods. Tiny particles of mud suspended in the water are food for plankton (microscopic plants and animals that drift with the current), which in turn are eaten by minnows and by the larvae of mosquitos, oysters and crabs. Similarly, adult oysters and clams filter their nutrients from the water.


*periwinkle snails & ribbed mussels*

At low tide, you may notice fiddler crabs emerging from their mud burrows to feed, using their claws to scoop mud into their mouths. As the tide rises, fiddlers return to their burrows to escape waterborne predators, while periwinkle snails climb up blades of marsh grass where they feed on algae they scrape from the stems.


*fiddler crab*

Now larger animals enter the food chain. Many detritus-eaters are food for insects, which are eaten in great numbers by swallows, willets, seagulls and rails. These birds might become a meal for a fast-diving northern harrier or peregrine falcon. Egrets and great blue herons are often seen patiently stalking the marsh's shallow waters for fish, crabs and snakes. Ducks and clapper rails prefer crabs and snails. Ospreys hunt by plunging feet first, snaring fish in their talons, while terns and pelicans dive headfirst, taking their catch in their bills.

Only two reptiles reside in the salt marsh. One, the nonpoisonous water snake, preys on fish. The other, the diamondback terrapin, feeds on snails, worms, fiddler crabs, fish and small clams.

Mammals sometimes seen on the preserve include river otters, which dine mainly on fish and clams, and muskrats, which are strict vegetarians. High on the marsh food chain is the fearsome mink, which preys on small mammals, and the playful raccoon, which will eat just about anything that doesn't eat it first.

The champion predators in this complex chain are humans, with our voracious appetite for crabs, clams, oysters, fish and waterfowl. Market hunting once threatened extinction for the diamondback terrapin and for several bird species. Today their greatest threat is loss of habitat. By protecting places like New Point Comfort Preserve, we are protecting habitat for all of the many species found here.



Preserve and signage funded by

DCR Virginia Department of Conservation & Recreation

The Nature Conservancy
Protecting nature. Preserving life.

# People and the Land

## Early Inhabitants

The area we know as New Point Comfort was first inhabited approximately 12,000 years ago, during the Paleo-Indian Period (15,000-8,000 BCE). Arriving at the end of the last glacial period, these early inhabitants would have found a place dramatically different from what you see today. With much of Earth's water frozen into glaciers, sea levels were 300 feet lower and where you now stand would have likely been a forest--almost 70 miles from the ocean!

As the climate warmed, sea levels rose, flooding a vast expanse of coastal plain and creating the Chesapeake Bay. The Chesapeake reached modern levels around 6,000 years ago during the Archaic Period (8,000-1,000 BCE). Indigenous societies thrived during this warming period, and coastal areas provided important resources. Oysters, for example, were harvested in large numbers beginning around 4,000 BCE.

At the time of European contact, this area was part of Tsenacommacah, the homeland of the Powhatan people. Meaning "densely inhabited lands" in Powhatan, Tsenacommacah had an estimated population of 15,000 people and over 100 settlements in territory spanning from the James River to the Potomac and from the Fall Line to the Eastern Shore.

## European Contact

Exactly when the first people of European descent came to New Point Comfort remains unknown. Captain John Smith may have landed here during his Chesapeake Bay explorations in the early 1600s, and colonial records dating from 1641 refer to a place called "newe Poynt Comfort." The earliest evidence of European settlement is a large cemetery located in the woods within the preserve's boundaries. The oldest graves date back to the 1820s and include members of the Brooks, Preston, Pritchard and Thomas families.

## Witness to War

Because of its strategic location, New Point Comfort has witnessed three major wars since European colonization. During the early days of the American Revolution, patriot forces established a camp in the area to observe British naval activity. During the War of 1812, British forces used the lighthouse as an observation platform.

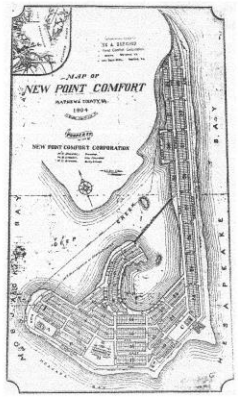
Confederate and Union troops used this area at various times throughout the Civil War. A Union soldier killed in a skirmish with Confederate militiamen is buried near the lighthouse.

## A Bountiful Bay

From the earliest times, people here earned their livelihood from the bay. As demand grew for famed Chesapeake Bay seafood, New Point Comfort became a lively center of commerce. At the turn of the 20th century, a wharf stood on the western shore of the lighthouse peninsula, where fishing boats returned with the day's catch to be sold for market. Rockfish, flounder, spot, blue crabs and oysters were valuable catches. A herring factory and a factory that processed menhaden for fertilizer also operated here.

## Unfulfilled Plans

In 1904, developers dreamed of turning New Point Comfort's fine beaches into a summer resort. Hundreds of lots were planned, and a hotel was to be built. However, the developers went bankrupt, and the project was never realized. That early defeat may have been just as well, as most of that land is now under water.






Preserve and signage funded by

DCR Virginia Department of Conservation & Recreation

The Nature Conservancy
Protecting nature. Preserving life.

# New Point Comfort Lighthouse

*"There is a peculiar fascination about lighthouses, those sentinels of the shallows and shoals of our waterways. Silently they stand by day, except when the fog creeps in on wet feet, cutting off sight and muffling sound. Then the blasts of the mighty horn go out across the waves, warning ships of the dangers at hand. By night a gleam of light cuts through the encircling darkness, pointing out the hazards ahead. When rain, snow or fog shut down in the darkness, the sonorous sound of the horn is again heard, and light and sound send their twin messages across waters.*

*Such a shallow is located at the southernmost tip of Mathews County, where New Point Comfort juts into the water and serves as a boundary between Chesapeake and Mobjack bays."*

- From *New Point Comfort Lighthouse*, by Martin Diggs, published in Virginia Cavalcade, Summer 1969. Quoted by permission of the Library of Virginia.

**Proud symbol of Mathews County,** New Point Comfort Lighthouse is the third-oldest surviving lighthouse on the Chesapeake Bay, surpassed only by those at Cape Henry and Old Point Comfort. On March 3, 1801, the United States Congress appropriated $8,500 for the construction of New Point Comfort Lighthouse, deeming this point of land critical to the safe navigation of southern Chesapeake Bay waters. Made of sandstone, the lighthouse has an overall height of 63 feet, with its top rising 58 feet above sea level.

*Lighthouse and keepers' house, 1895* *Courtesy of the Mathews County Historical Society*

## A Light Through Time

**1802**
Elzey Burroughs agrees to build the lighthouse and keeper's house for $8,750.

**1804**
President Thomas Jefferson appoints Burroughs to be the lighthouse's first keeper.

**1805**
Lighthouse construction is completed.

**1812**
The British Navy occupies the lighthouse during the War of 1812.

**1841**
Tower receives a new lantern, 15 lamps and fifteen 21-foot reflectors. Upgrades cost $3,500.

**1852**
Newly formed Lighthouse Board inspects the lighthouse. Keeper Isaac Foster receives an annual salary of $400.

**1860s**
Confederate militia damages tower to obstruct Northern shipping and naval activity during the Civil War.

**1871**
J. McHenry Farley becomes the first, and only, officially appointed African-American keeper of New Point Comfort. He served until 1873.

**1900**
Rail fence and plank walkways installed.

**1919**
White, two-story keeper's house torn down when light is partly automated with an automatic acetylene light, replacing kerosene lamps. New lenses installed.

**1933**
Hurricane creates the channel called Deep Creek, completely separating the lighthouse from the mainland.

**1939**
Lighthouse Board turns over lighthouse to Coast Guard.

**1950**
Electricity now powers the light.

**1954**
Henry Dow, the last keeper, retires.

**1960**
Coast Guard suggests the lighthouse be closed; protests from the local community keep the light shining for three more years.

**1963**
Light replaced by an offshore beacon, the New Point Comfort Spit Light. Lighthouse structure still used as a day beacon.

**1968**
Lighthouse abandoned by the Coast Guard (discontinued maintenance).

*Herman Hellevik photograph c1930* *Courtesy of Mathews County Historical Society*

**1972**
Local citizens succeed in having New Point Comfort Lighthouse put on the register of the Virginia Historic Landmarks Commission, and it is designated as a state and national landmark.

**1975**
Lighthouse ceded by the United States to Mathews County.

**1976**
Mathews County Board of Supervisors establishes the New Point Lighthouse Committee.

**1978**
Initial repairs made through funds from private individuals, organizations, businesses and the Virginia Historic Landmarks Commission.

Virginia Institute of Marine Science begins study to ascertain the long-range effects of erosion around island.

**1981**
Major renovations undertaken through funds from the State of Virginia and private donors.

**1988**
Additional major renovations through funds from a federal grant, the Virginia Department of Conservation and Historic Resources, and local citizens.

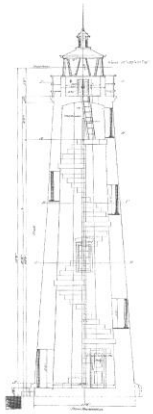
**1998**
Preserve boardwalk built.

**1999**
New Point Lighthouse Lantern Committee of local residents raise funds and install a solar-powered dawn-to-dusk lantern, which shone for six years.

**2001**
The Mathews County Historical Society Inc. forms the New Point Comfort Preservation Task Force, which reverted to county control in 2005.

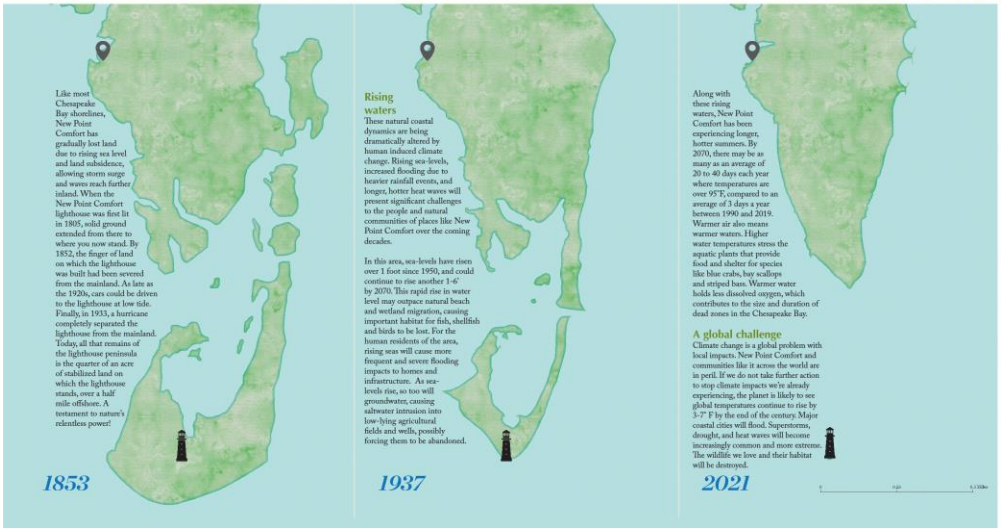
**2012**
Based on a plan created by the Virginia Institute of Marine Science, a rock revetment is constructed around the lighthouse to stabilize the island and provide a working surface for future restoration work. Virginia Department of Transportation funds project.

**2021**
Major restoration of the masonry, metal works and lantern completed under a grant from the Virginia Department of Transportation to Mathews County.

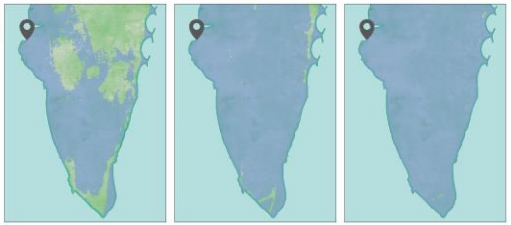


Preserve and signage funded by
DCR Virginia Department of Conservation & Recreation
The Nature Conservancy Protecting nature. Preserving life.

# A Changing Shoreline




## Future Scenarios



*2 foot sea level rise* *4 foot sea level rise* *6 foot sea level rise*

## The good news...

Climate change is not an impossible problem. We know what causes it and what to do to stop it. You can be part of the climate change solution!

Tell your policy makers that you care about climate change and want to see them enact laws and policies that address greenhouse gas emissions and climate impacts.

Calculate your carbon footprint and take actions you can to lower it. Your carbon footprint is the amount of carbon dioxide and other greenhouse gases emitted each year to support your lifestyle. You might be surprised which of your activities are emitting the most greenhouse gases and how easily you can take steps to shrink your footprint.

Talk about climate change with family and friends. Seven in ten Americans understand that climate change is happening, but most do not discuss it with friends and family. We can't fix what we don't talk about. The Nature Conservancy has resources to help you break the climate silence and pave the way for action on global warming.

Preserve and signage funded by
MARISA marisa.psu.edu/outlooks
DCR Virginia Department of Conservation & Recreation
The Nature Conservancy Protecting nature. Preserving life.

## APPENDIX 2. FINAL PANEL INSTALLATION PHOTOS



## APPENDIX 3. PROJECT COSTS

| **Expense** | **Amount** |
|---|---|
| Panel design and layout | $585.00 |
| Panel and frame/mount production | $5020.00 |
| TNC personnel, indirect, fringe | $4295.79 |
| Total project costs: | $9,900.79 |

## APPENDIX 4. SPECIFICATIONS FOR PANEL FRAMES AND MOUNTS

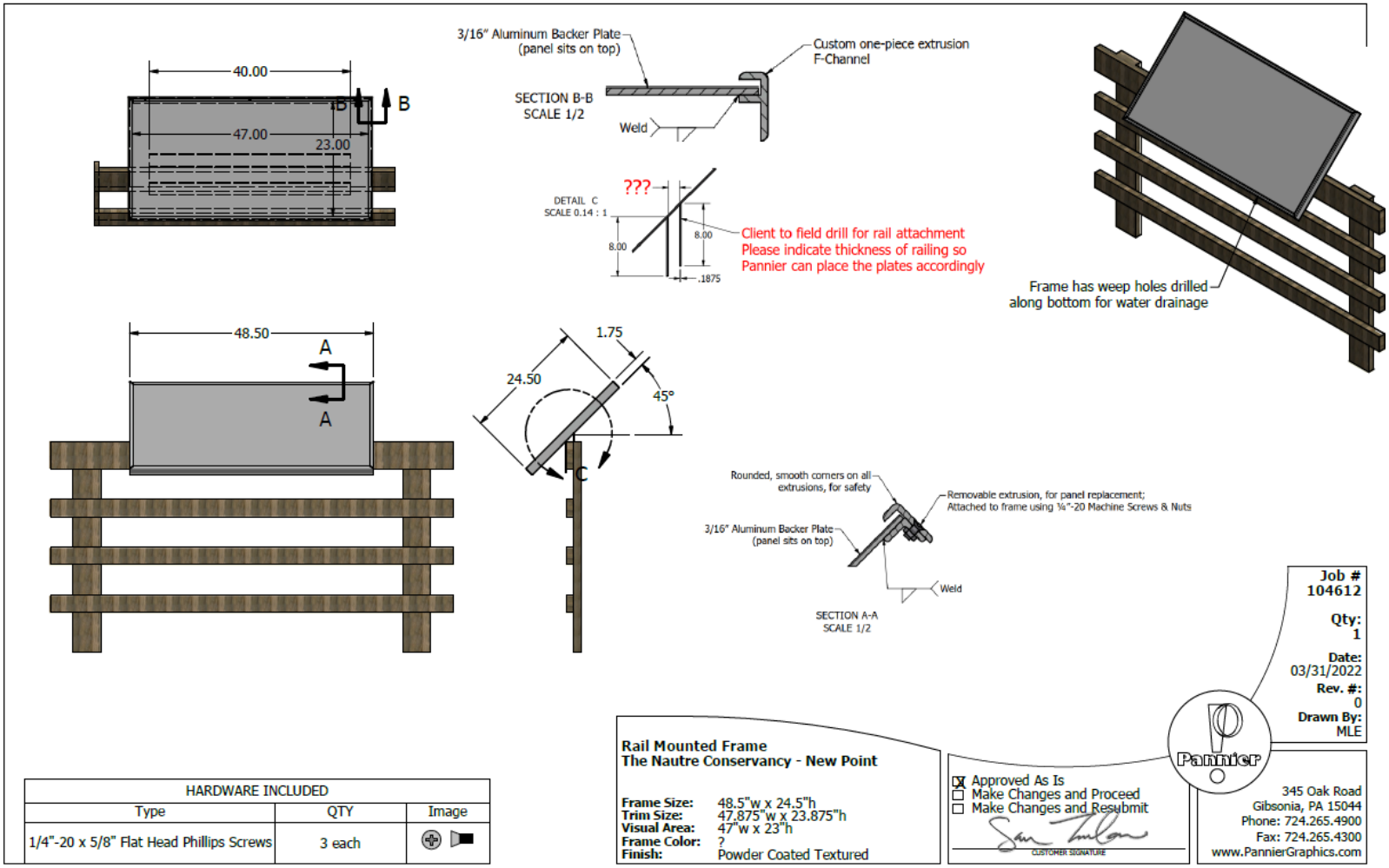
Pannier
345 Oak Road . Gibsonia, PA 15044
724.265.4900 . 724-265-4300 (fax)
www.PannierGraphics.com

### FRAME COLOR

### STANDARD TEXTURED POWDER COATING COLOR SELECTION

- ☐ Black
- ☐ NPS Brown
- ☐ NPS Dark Brown (formerly Charcoal)
- ☑ NPS Medium Gray (formerly Guam Gray)

## Panel 1 Dimensions




| HARDWARE INCLUDED | | |
|---|---|---|
| Type | QTY | Image |
| 1/4"-20 x 5/8" Flat Head Phillips Screws | 3 each | |

## Panel 2-5 Dimensions