Norrie Point Environmental Center
Interpretive Plan
December 7, 2020

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1. Introduction

1.1 Interpretation
Interpretation is a method of communication employed by heritage, cultural, and natural sites to connect with their audiences on an emotional and intellectual level by involving visitors with artifacts, objects, people, events, and landscapes. While interpretation offers a method to organize information, to be broadly relevant it must also reveal meanings and connections between sites and people.

Ideally, the variety of experiences within a space can satisfy not only a variety of audiences, but also an array of needs within those audiences. Understanding the audience is a key factor in choosing the appropriate messages, and the best media with which to transfer that message.

1.2 Communication
Because interpretation is a form of communication, it benefits us to understand the basics of how communication works. Very simply, communication begins with one person or entity (the Sender) who has a Message that they want to transmit to someone else (the Receiver).

First, the Sender must have a clear idea of what Message they want to transmit so that it doesn’t confuse the Receiver. In this document, Norrie Point is the Sender; the clear Messages we want to send are called our themes and subthemes. (See Section 4.)

Second, the Sender must decide what the best way is to transmit, or encode, their Message. You might’ve heard the term “lost in translation” when, for whatever reason, the Message doesn’t quite arrive at the Receiver in the way we intend. There are many reasons for this. Sometimes, there is Noise in the environment. Noise doesn’t necessarily mean loud, audible noise (although it certainly can.) Noise is anything that could disrupt the communication chain at any point along the way; how it leaves the Sender, how it gets to the Receiver, or how the message is ‘packaged’. Noise can be a basic need like hunger that demands your attention; leftover feelings from a heavy conversation you had earlier in the day; or a text message from a friend that you want to answer. There are countless distractions that we can’t plan for, but we can reduce Noise by focusing on what we can control in the environment: choosing the correct Media. (See Section 6.) Media is how we package our message. It can be an in-person program, a sign, a game, or an interactive exhibit element.

Third, the Receiver must process, or decode, the information that’s coming to them. Decoding a Message may seem simple, but each person has a frame of reference for doing so. In order for something to be relevant to us, we need to have some kind of schema, or cognitive framework, that we can use to organize and understand information. A good example is describing snow to someone who has never experienced it. Their schema may only consist of photos and stories. This could mean Messages about driving in a blizzard fail to land.

Using what we know about interpretation and communication, this document serves as an outline to the development of updated interpretive exhibits and experiences within Norrie Point Environmental Center.
2. Background

2.1 About Norrie Point Environmental Center

Norrie Point Environmental Center (NPEC) is a unique site situated within Mills-Norrie State Park in Staatsburg, NY. Its picturesque location directly on the eastern bank of the Hudson River offers stunning riverfront views and prime access to the river for research and recreation.

The building, owned by the New York State Office of Parks, Recreation, and Historic Preservation (NYS Parks), is a historic landmark that was constructed in 1936 as a restaurant. It now consists of conference rooms, a classroom, a dedicated exhibit space, a large outdoor patio with direct access to the water, and staff offices.

Norrie Point was designated as a research reserve site in 1982 as a partnership between the New York State Department of Environmental Conservation (DEC) and the National Oceanic and Atmospheric Association (NOAA). This partnership is known as the Hudson River National Estuarine Research Reserve (HRNERR). Norrie Point is the home base and research hub for four federally designated wetlands within the Hudson River Estuary Watershed. These four sites, which span from tidal freshwater, intertidal marsh, brackish habitats, and bedrock islands, are Tivoli Bays, Stockport Flats, Iona Island, and Piermont Marsh.

Research addresses pressing coastal management issues, including climate change, in order to inform decision-makers on best practices for sustaining resilient habitats; provide opportunities for community members to engage in stewardship; and foster an understanding among Hudson Valley residents about the connections between water, land, and people.

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**2.1.1 Mission Statements**

The following are excerpts from the missions and values of the three main organizations within Norrie Point Environmental Center: HRNERR, DEC, and the Hudson River Estuary Program (a program within DEC.)

**Hudson River National Estuarine Research Reserve (HRNERR)**

The mission of HRNERR is to improve the health and vitality of the Hudson River Estuary by protecting estuarine habitats through integrated education, training, stewardship, restoration, and monitoring and research.

Teachers and educators in kindergarten through college settings will expand their own estuary literacy and curriculum applications through a wide range of professional development, place-based lesson plans, and online multimedia resources.

Students gain environmental literacy through active participation in a wide range of educational offerings based on the foundation principles of the NERRS K–12 Estuary Education Program (KEEP).

Community members, families, and informal visitors learn about their estuary through a range of Reserve-sponsored field programs, presentations, facilities, and online resources.

Provide access for scientific research, environmental education, outdoor recreation, and public events while ensuring the protection of the Reserve’s natural resources.

Visitor impacts are managed on Reserve lands.

Hudson River research by students and visiting scientists is well supported.

**New York State Department of Environmental Conservation (DEC)**

“To conserve, improve and protect New York’s natural resources and environment and to prevent, abate and control water, land and air pollution, in order to enhance the health, safety and welfare of the people of the state and their overall economic and social well-being.”

DEC’s goal is to achieve this mission through the simultaneous pursuit of environmental quality, public health, economic prosperity and social well-being, including environmental justice and the empowerment of individuals to participate in environmental decisions that affect their lives.

**Hudson River Estuary Program (HREP)**

The Estuary Program’s goal is to conserve, protect and enhance river and shoreline habitats to ensure that life cycles of key species are supported for human enjoyment and to sustain a healthy ecosystem.

The mission of the Estuary Program is built around six benefits:

- Clean Water
- Resilient Communities
- Vital Estuary Ecosystem
- Estuary Fish, Wildlife, and Habitats
- Natural Scenery
- Education, River Access, Recreation, and Inspiration

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2.2 Project Goals

1. Increase knowledge and support of the local, state, and federal partnerships in place that allow NPEC to perform research and educate the public

2. Increase student/public sense of value and participation in research methods and stewardship opportunities

3. Increase visitor engagement and enjoyment

4. Increase the accessibility and inclusivity of exhibits to meet the needs of a broader audience

5. Increase the functionality of the exhibits to supplement current and future curriculum in a way that allows students to 'see themselves' in the research

3. Key Parameters

Parameters are key factors that influence decisions made throughout the design and development process. Parameters are neutral and can have one or several implications that steer project choices. Identifying parameters is an informed attempt to foresee challenges that require additional attention, as well as a way to identify and take advantage of opportunities unique to the site. The implications of parameters are not solutions in and of themselves, but can lead to more successful outcomes.

For example, a city park is redoing all of the exterior signs along their most popular trail. The old signs are wooden, and many have been graffitied. The presence and likelihood of graffiti is a parameter. Examples of implications that would influence design decisions might be: sign surfaces should be able to be cleaned of spray paint. This may lead to choosing high pressure laminate panels rather than wood or metal, so that paint doesn't seep into the wood, or so a metal surface won't be etched by harsh solvents during cleaning. This choice improves the integrity of the signs, and by proxy, the integrity of the visitor experience, by using what we already know about the site. Parameters prioritize realism to help us get closer to ideal.

3.1 Physical Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Implication(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modifications to the building structure are limited</td>
<td>Stone floors and stone walls cannot have holes or fixtures put directly into them</td>
</tr>
<tr>
<td>Some alterations require approval from Parks; time should be padded for approval turnaround</td>
<td></td>
</tr>
<tr>
<td>The exterior areas surrounding NPEC are susceptible to extreme weather, including sun and water</td>
<td>Interpretive items/panels that are left outdoors must be made of materials that can withstand the elements</td>
</tr>
<tr>
<td>Items/panels must be tightly secured</td>
<td></td>
</tr>
<tr>
<td>There are unobstructed views of the river from both inside and outside of the building</td>
<td>View corridors and windows should not be blocked</td>
</tr>
<tr>
<td>Line of sight from different viewpoints can be harnessed to interpret specific subjects</td>
<td></td>
</tr>
<tr>
<td>Items/panels in direct sunlight, even near windows inside the building, should be rated to withstand fading through UV exposure</td>
<td></td>
</tr>
<tr>
<td>Staff offices are in close proximity to the exhibit space</td>
<td>Elements that make noise could potentially interfere with work</td>
</tr>
<tr>
<td>The inside of the building is split into multiple rooms</td>
<td>The public has access to most rooms, but sometimes aren’t sure if they’re allowed to go into them</td>
</tr>
<tr>
<td>There is easy access to the water</td>
<td>Many programmatic opportunities take place on the shoreline and patio outside</td>
</tr>
<tr>
<td>Open water is a safety hazard for small children</td>
<td></td>
</tr>
<tr>
<td>Not all entries and exits are fully accessible</td>
<td>Fully accessible areas should be utilized to their highest potential</td>
</tr>
</tbody>
</table>
### 3.2 Programmatic Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Implication(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The environmental center is not actively staffed when open</td>
<td>Elements should be able to be self-guided</td>
</tr>
<tr>
<td></td>
<td>People may not know where to go for help</td>
</tr>
<tr>
<td>The environmental center is used for large groups and conference-style meetings</td>
<td>Spaces should be able to open up for gatherings</td>
</tr>
<tr>
<td></td>
<td>Sometimes groups will be present at the same time that members of the public are visiting</td>
</tr>
<tr>
<td></td>
<td>Traffic flow will depend on the placement of elements and wayfinding signage</td>
</tr>
<tr>
<td>The environmental center is closed on weekends</td>
<td>Exterior interpretation should supplement what is inside</td>
</tr>
<tr>
<td></td>
<td>Hours of operation should be clearly visible</td>
</tr>
<tr>
<td>There is ample access to scientific equipment</td>
<td>Many tools are available to put in the space for people to test</td>
</tr>
<tr>
<td>The inside of the building is split into multiple rooms</td>
<td>The public has access to most rooms, but sometimes aren’t sure if they’re allowed to go into them</td>
</tr>
<tr>
<td>There is easy access to the water</td>
<td>Many programmatic opportunities take place on the shoreline and patio outside</td>
</tr>
<tr>
<td></td>
<td>Open water is a safety hazard for small children</td>
</tr>
<tr>
<td></td>
<td>The public uses these areas to recreate (fish, paddle, etc.)</td>
</tr>
<tr>
<td>Not all entries and exits are fully accessible</td>
<td>Fully accessible areas should be utilized to their highest potential</td>
</tr>
</tbody>
</table>

### 4. Interpretive Themes

The main theme, or big idea, of this exhibit installation:

“Scientific research, environmental monitoring, and experiential education are needed to understand and protect the Hudson River Estuary Watershed and the communities it encompasses.”

The sub-themes in this document will be an important avenue to ensuring a hands-on minds-on connection that always relates back to the main message of this exhibit. They provide guidance on all content and interactive elements within Norrie Point and its unique role as a research hub.

An exhibit is an interpretive experience where we lack control over the order of content that our audience consumes. They choose where to begin, where to end, where to spend their time, and what to ignore. On average, 17% of visitors spend 0-6 seconds reading and another quarter spend less than 10 seconds (von Ruschkowski et. al, 2012.) In order to make sure the big idea of the space is received in a short amount of time, all information should be relevant and timely.

One of the hardest things about exhibits is deciding what information to leave out. Sub-themes allow us to organize the exhibit in a way that makes it easy to digest, which is important when visitors spend so little time reading. We often have so many things we want to get across that our audience can quickly become overwhelmed. Think of it like a web – the more things that connect to each other at each potential stop, the more likely the big idea is to reveal itself to the audience. Sub-themes allow close inspection of each piece of information further down the line and provide a measure by which we can gauge their relevance and placement.

The subsequent five sub-themes were chosen based on documents provided by Norrie Point that included information about their goals, partners, current research, education programs, and management objectives. It's important to remember that themes and sub-themes are extremely beneficial for developing an organized visitor experience, but they may never actually be seen by your audience. They serve as a planning tool only; staff can develop personal interpretation like programs and hikes that support the messages, or an interpretive writer can use this information to help craft language that will be used on signage. These are a guide that things can be held to that ensure cohesiveness throughout the experience.
Story Points:

- Norrie Point researchers monitor conditions at four federally protected wetlands in the estuary watershed.
- Our researchers contribute to regional and national networks of data like HRECOS and SWaMP. This data is available for everyone to use...including you! Make a plot!
- The Hudson River is part of a network of 29 estuary sites around the country, all of whom share data and experiences.
- Who is a scientist? Science is practiced by a wide diversity of people using lot of different and cool tools. For example; sturgeon tagging by fisheries scientists like Amanda Higgs and Jess Best; wetland and sea level research by Sarah Fernald
- Anyone can be a part of community science projects throughout the watershed...even you! Such as the Eel Project, SAV restoration, Trees for Tribs, Amphibian Monitoring, etc.

Topic: Biodiversity

Sub-Theme: The Hudson Valley is home to many different and interesting species of plants and animals.

Story Points:

- The Hudson River watershed has a high diversity of turtles.
- Eels have an amazing migration throughout their lives and depend on many different habitats, including streams and tributaries near you.
- Different types of fish live in different parts of the estuary based on salinity and habitats. The Hudson system is home to over 230 species of fish!
- The Hudson River is an important migratory corridor for birds. Norrie is a great place to see birds that thrive on the river, including herons and eagles.
- Fishing is fun! Recommendation of fishing places, equipment, and consumption advisories.
- There are different aquatic habitats at Norrie Point, and you can explore the different plants and animals they support.
- Norrie Point actively works to improve the diversity of plant-life with native submerged aquatic vegetation to combat invasive water chestnut.
- There are a multitude of trophic interactions among predator and prey within the estuary.

Topic: Climate

Sub-Theme: Research shows that global climate change is having local effects on the Hudson River Estuary. People are impacted by these changes, and communities have the power to implement solutions.

Story Points:

- Core: Climate has changed over time, and cores of various substances capture a local historic record.
- Wetlands ecosystem services include sequestering carbon, buffering storms, absorbing flood waters, water filtration, and a source of habitats.
- Greenhouse gases in the Earth’s atmosphere affect global and local temperatures and precipitation. As individuals, and collectively, we make choices on much greenhouse gasses accumulate in the atmosphere.
- Phenology: Plants and animals go through seasonal cycles which both reflect and are affected by climate change.
- Climate Justice: The effects of climate change are felt differently in different communities, and there are various measures to mitigate and adapt.
- The impact of extreme weather events, like Hurricanes Irene and Lee, are made visible by depicting the high water line of the storms on the exterior of the building.
- Norrie Point works toward sustainability through solar energy.
Story Points:

- What are watersheds and estuaries?
- Tides rise and fall on a regular schedule primarily from the gravitational pull of the moon.
- An estuary is where a freshwater river meets ocean saltwater, mixed by the tides and geography.
- The NERRS network includes 30+ special estuary sites promoting research, education, and stewardship.
- A watershed (all of the land that drains into a body of water) is a physical feature, while political lines are arbitrary.
- The Hudson food web is fueled by the input of leaves, dirt, and organic materials from the watershed. The addition of extra wastewater can disrupt the balance of nutrients, food, and oxygen in the estuary.
- An estuary has a diverse and dynamic range of salinities from saltwater to brackish to fresh.
- The animals that can thrive in a stream tells us about the health of the stream.
- Keeping watersheds connected is crucial to water quality and animal migrations; dams and poorly designed culverts can have dramatic impacts.

5. Audiences

Accurately identifying our audiences is the linchpin of any successful interpretive plan. Audiences have their own goals and objectives for any outing and planning for those specific goals and objectives will increase the effectiveness of interpretive opportunities offered. More about increasing the effectiveness of interpretive opportunities can be found in Section 6.

Falk’s Visitor Identities

<table>
<thead>
<tr>
<th>Audience Identification</th>
<th>Characteristic/Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explorers</td>
<td>Motivated by personal curiosity; children</td>
</tr>
<tr>
<td>Facilitators</td>
<td>Motivated by other people and their needs; parent with child</td>
</tr>
<tr>
<td>Professionals/Hobbyists</td>
<td>Motivated by specific knowledge-related goals; birder</td>
</tr>
<tr>
<td>Rechargers</td>
<td>Motivated by desire for contemplative or restorative experience; solo hiker</td>
</tr>
<tr>
<td>Experience Seekers</td>
<td>Motivated by the desire to see and experience a place; social media focused individual</td>
</tr>
</tbody>
</table>

John Falk identified five major categories that visitors fall into:

5.1 Audience Goals and Objectives

Very rarely does an individual choose to visit a location specifically for its interpretive opportunities. Often audience goals and objectives are more personal. Someone visiting Norrie Point might want to:

- network with like-minded professionals
- spend quality time with family
- connect with nature alone
- provide students hands-on learning opportunities

It’s unreasonable to expect any individual to pay 100% attention to every available interpretive opportunity. Knowing this, we can plan our interpretive opportunities accordingly. The goals of a visitor determine what types of media they choose to interact with, what topics they’re interested in, and how long they engage. While management and staff typically have a long list of content they wish to convey, it’s important to remember...
that we are not our audience. Our audiences have different life experiences and frames of reference that will influence their interest level and ability (or willingness) to absorb information. Three main audience types were identified by Norrie Point staff.

5.2 Norrie Point Audiences

Self-directed, Mixed-age Public Visitors

Self-directed, mixed-age public visitors are visitors that come into the environmental center who are not a part of planned group programming. These could be people visiting Mills-Norrie State park for recreation; local or non-local people staying in the campground within the park; or anyone that comes into the Environmental Center on their own, regardless of whether or not the environmental center was their destination. Often these visitors, especially those in the park for other experiences, are unaware that Norrie Point is open to the public. Staff mentions that people frequently will come inside to use the restrooms but go no further.

Creating a more welcoming experience from farther away, for example at the stone ‘horseshoe’ at the end of the long walkway where people enter, could set up the expectations for people that they are not only welcome, but encouraged to stay. This allows Norrie Point to educate people without requiring them to come inside, for example on weekends when they are not open, and also encourage people to extend their visit by coming in to learn more when they are.

Characteristic: Children and adults learn differently, with adults more likely to read or explore visually and children more likely to touch and engage.
Implication: Hands-on learning spans age, so tactile elements are recommended when appropriate for the content. Adults may act as facilitators for the children in their group. Providing more in-depth background information for adults helps them guide the experience for their explorers (children).

Characteristic: Families, especially those with younger children, prefer to stay together.
Implication: Providing multiple levels of information or engagement within each element allows for discussion among family members; children that are occupied with a physical or visual element give adult caretakers additional time to read further or facilitate for children. Line of sight is important for caretakers when children are freely moving about the space.

Characteristic: Families have busy schedules, with adults that may work and children possibly being of school age.
Implication: These families are more likely to visit on weekends, during evening hours, during summer, or during school breaks. Being open to the public only during weekdays restricts visitation of local families with school-aged children in particular, or adult caretakers who work during regular business hours. It also restricts the number of Mills-Norrie campground visitors that can engage with the environmental center during weekend camping trips.

Characteristic: Caretakers are concerned about safety.
Implication: Safety includes line of sight to keep track of children; the comfort of staff being nearby; concerns about harmful plants or animals; and personal safety from harm for members of their group. This is especially important with river proximity. Open water is easily accessible from multiple points outside of the building. Outdoor panels or elements should be carefully placed in order to discourage gathering, leaning, or reaching in a way that could increase the likelihood of entrance or falls into the water.

Characteristic: Family outings/experiences make memories.
Implications: Offering opportunities for families to engage with one another in a meaningful way could improve their experience at the Center. Caretakers may have different reasons for bringing children NPEC including; providing interaction with nature; letting children ‘run off steam’; teaching/learning; recreating; other.

Characteristic: Adults attending without children have more time, but may also be less likely to engage.
Implication: Designing for mixed-age groups, like families, benefits solo adults as well. With multiple learning styles, solo adults or groups of adults can access both the more in-depth content designed for caretakers, as well as any interactive part of elements should they so choose.

Characteristic: Local visitors are more likely to practice repeat visitation.
Implication: Exhibits or stories that change over time can engage and re-engage repeat visitors. Repeat visitors may be more likely to take advantage of regular programming and stewardship opportunities outside of their visit.

Professional Conference/Meeting Attendees

Characteristic: Have a limited amount of time to spend exploring.
Implication: The overall idea of an element should be obvious from a distance in order to draw interest and encourage further exploration. Designing things in this way allows a person to scan the room and quickly choose what element they want to spend more time with.

Characteristic: Researchers or colleagues in this group are more likely to have baseline knowledge or sense of responsibility for the information presented.
Implication: Accuracy of information is always important, but is especially imperative for this group. Allowing some kind of input within the exhibit, for example a way to record their thoughts/feelings about a certain topic, could provide a positive, erudite way to engage with an element.

Characteristic: Researchers or colleagues in this group are more likely to have an educational background that corresponds to the information within Norrie Point.
Implication: There may be an opportunity to use their knowledge within the context of the conference/meeting that they’re attending.

Characteristic: Decision-makers may not have baseline systems knowledge.
Implication: Because elements can be viewed in any order, each element should stand on its own to some degree. This means defining or (preferably) removing scientific jargon; quickly explaining related, basic concepts (even if they are found elsewhere within the space); and making succinct emotional or intellectual connections to the individual’s life.

School Groups (Teachers and Students grades 6-12)
One of Norrie Point’s main audiences consists of school students, primarily middle and high school, and their teachers visiting for field trips. Exhibit elements within the environmental center should support and enhance programs for schools.

Characteristic: Teachers are responsible for large groups of young people.
Implication: Typically, this manifests in one of two ways. One, a teacher actively engages with their students as they explore, speaking with individuals, making announcements, asking questions, and generally facilitating the group throughout their exploration. Two, a teacher allows the opportunity for students to explore on their own and interact with one another, without any active facilitation on the part of the instructor, or relying on Norrie Point staff to facilitate.

Characteristic: Teachers are interested in connecting field trip experiences to classroom learning.
Implication: Most or all information could be brought back to a local, systems-level baseline that fit generically into as many learning standards as possible.

Characteristic: Teachers want their students to be engaged in the learning.
Implication: Providing both tactile pieces and text within each element accounts for varying learning styles among students. Elements with a social aspect could encourage more engagement among students.

Characteristic: For students, internal motivators are important (being with friends, enjoying being outside, having fun).
Implication: Elements that have a social aspect could be more successful in drawing students in and causing them to elaborate on the information.
be expanded to every interactive opportunity within a space. Observable behaviors of visitors can indicate the level of engagement an interactive is reaching.

These different levels of engagement that we can observe in audiences, in increasing level of effort are: We can't pay attention to everything at once, so how do we choose what to pay attention to? People choose to pay attention based on perceived personal benefit to perceived personal cost. One way to increase the benefits to a visitor is by understanding their goals and disseminating content in a way that offers a high reward for a minimal amount of effort, or a high benefit to cost ratio.

This ratio can be adjusted from either side. If the holding power of one area is low, either the benefit must be increased or the cost must be decreased. The lists below are not meant to be exhaustive, but quick examples of things that may increase or decrease perceived costs and perceived benefits.

To decrease perceived costs:
- Make text easy to read by increasing font size, providing high contrast, and maintaining consistency
- Limit the amount of text and organize text into clear hierarchies of importance that allow for the 3-30-3 rule of thumb
- Use visuals like photos or infographics rather than text when able

To increase perceived benefits:
- Use interesting visuals
- Organize content to simplify navigation
- Add or create movement
- Use catchy titles or titles with questions in them
- Make information relate to features in the surrounding environment; directive language

If something is frequently ignored by audiences, or if overuse is causing management issues like crowding, understanding the costs and benefits of each experience can provide insight into changes that can be made for better balance.

It's important to note that this ratio is the promise of reward, not necessarily the actual reward. The basis on which we place the promise of reward goes back to each individual's schema and goals. Humans use cost/benefit ratios quickly for hundreds of simple and complicated decisions throughout each day.

6.2 Using a Variety of Media
Media prescriptions are ways in which we transfer information from the agency to the audience. There are many ways to transfer information—signs, in-person programs, interactive exhibits, living creatures, and more. Having a variety of exhibit types within a space satisfies different things for different audiences. Content within exhibit spaces can meet audience needs by falling into one of four categories:

- The visitor and exhibit are both active. An example of this is an augmented reality interactive that responds to visitor action, or a visitor handling a living creature.
- The visitor is active, but the exhibit is inactive. An example of this is a touch table, where visitors engage and the objects are stationary.
- The visitor is inactive, but the exhibit is active. An example of this is the visitor watching a video or a live animal at a distance.
- The visitor and exhibit are both inactive. An example is an artifact inside of a glass case or a painting with a label next to it.

A mix of these four categories will allow the greatest impact among the broadest audience within the context of their experience, where their needs may change throughout their visit. However, it's good to understand that 'active' can mean different things to different people, and an exhibit does not have to adhere to the following suggestions to be successful; the suggestions below are merely a guideline if you find yourself questioning content variety.

One method of ensuring a space has enough variety for audiences is to have 25% Type 1 exhibits, 50% combination of Type 2a and Type 2b exhibits, and 25% Type 3 exhibits based on the matrix on page 18, which has one example to represent each type.

Norrie Point Environmental Center Interpretive Experience Plan, 2020
<table>
<thead>
<tr>
<th>Visitor is Active</th>
<th>Exhibit is Active</th>
<th>Exhibit is Passive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 1: An augmented reality sand table where the visitor can manipulate the sand and the table responds to their actions</td>
<td>Type 2a: A touch table where the objects are stationary, but the visitor can move and explore tactiley</td>
<td>Type 2b: A live animal exhibit where the animal is moving or active and the visitor watches</td>
</tr>
<tr>
<td>Type 2 Exhibits (cont.)</td>
<td></td>
<td>Type 3: A stationary display of historical objects inside of a case</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type 2 Exhibits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Water Density: water/oil in self-contained flip container; oil is color to represent saltwater how fresh and salt have different density</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Eel Chutes and Ladders: drawer activity as board game</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• DOH Fish Catching Game: drawer activity (CHPL fish with magnetic rod)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Plastic Timeline: drawer activity (trash on rope to stretch out in order as timeline)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Turbidity Flip Tubes: plastic tubes with water and dirt, can mix up to make turbid by spinning, then measure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Sustainable Shoreline Flip Doors: illustration of shoreline, flip door fronts have ‘bad’ examples of shoreline, then behind is updated ‘good’ version</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type 3 Exhibits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Stannelee Trash Bass: art display made of found plastic trash</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Watershed Model: 3d model of Hudson River watershed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Tide Clocks: showing differences in tide along River</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Cores: rock, ice, and tree cores (real or replica) to show use in data collection/historical data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Sloop Sails: in Captain’s Room, useable as projector screen for images or videos</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| • Hydrophone Feed: real-time underwater sounds of the Hudson | | }

Type 1 Exhibits

- QR Code Trail: series of digital videos available along trail
- Drawer Activities: series of four hands-on activities within watershed table
- RAVEN: choose and listen to audio recordings of animals and environments
- Matching Prisms: spinning prisms with images on three sides; match images by category by spinning
- Turbidity Flip Tubes: different turbidity represented within clear plastic tubes that can be manipulated
- AR Floor Projector: Captain’s room, ceiling mounted projector/Kinect with AR capabilities
- Marine Debris Activities:
  - Wetland Piggy Bank: cash register/piggy bank interactive where carbon ‘coins’ are stored
  - Permeable Surfaces/Ground Cover: self-contained on a fulcrum; long container with two sides (one with ‘grass’ and one without) to tilt for water races (no cover will go faster)
  - Wetlands as a Filter: ‘plinko’ style game (also self-resetting, on a central hinge) with smooth marbles represent water (flow through slowly) and other shapes representing pollution (get caught)

6.3 Categorized Exhibits

Type 1 Exhibits

- Visitor is Active
- Visitor is Passive

<table>
<thead>
<tr>
<th>Visitor is Active</th>
<th>Exhibit is Active</th>
<th>Exhibit is Passive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 1: An augmented reality sand table where the visitor can manipulate the sand and the table responds to their actions</td>
<td>Type 2a: A touch table where the objects are stationary, but the visitor can move and explore tactiley</td>
<td>Type 2b: A live animal exhibit where the animal is moving or active and the visitor watches</td>
</tr>
</tbody>
</table>

Type 2 Exhibits

- Which Fish: In large fresh and saltwater fish tanks, watching fish while also determining which species are present by using the reader rail photo key
- How Fish Swim: Touch screen where audience can choose videos of how different fish swim and the hidden movements it creates in the water (waves)
- Living Animal Displays: Turtles, fish, eels, and other living creatures on display in tanks or small enclosed habitats for viewing; interpretive info available
- Touch Table: natural items on display for handling
- HRECONS: computerized graph and data scavenger hunt
- Microeye: user-friendly microscope with fixed or loose parts for exploration
- Scientist Tools: series of hands-on scientific tools to use and experiment with
- Binoculars/Spotting Scopes: get close-up views of the river, wildlife, and shoreline
- Various Flip-door Wooden Wall Fish: lifesize wooden cutouts of fish with flip doors that reveal more details about the species
- Roll-out Floor Maps: Captain’s room, large durable maps or projection area
- Habitat Comparisons: touch items on interp signage (# small animals for biodiversity, sponges of different sizes for water retention)
- Can I Swim in the Hudson?: dial for safety of swimming based on combined sewer overflow events (has it rained?)

Type 3 Exhibits

- Stannelee Trash Bass: art display made of found plastic trash
- Watershed Model: 3d model of Hudson River watershed
- Tide Clocks: showing differences in tide along River
- Cores: rock, ice, and tree cores (real or replica) to show use in data collection/historical data
- Sloop Sails: in Captain’s Room, useable as projector screen for images or videos
- Hydrophone Feed: real-time underwater sounds of the Hudson
- Navigational Buoy: real buoy with interpretive signage
- Restroom interpretive signage
- Any interpretive signage without corresponding elements

One way to transition into new exhibition elements when on a limited or phased budget is by following the one-third rule: a third of elements are custom fabrications; a third of elements are built or retrofitted in-house; and the final third are items that can be purchased and require little or no modifications while still enhancing the space and supporting project goals. An effective, quality exhibit can be put together using any combination of these three methods, and can significantly lower the financial barriers associated with custom fabrication for every element. These were all taken into consideration, as Norrie Point staff expressed the desire and ability to do some work in-house, as well as keep costs down. (See Appendices for Budget.)
7. Planning and Implementation

Even during the production of this document, some aspects of the new installation have already been implemented. Upgrades to the space that don’t require extensive changes to the area they’re being installed in can be peppered in over time as funding and opportunity allows. Examples are the upgraded step stools, the watershed table, and the children’s reading area. Before small improvements are made, it’s beneficial to think about what larger aspects of the project have yet to happen and if minor alterations will need to be redone to accommodate.

Larger or more time-intensive aspects of the project will require more planning. Certain things make sense to do before others, for example painting the walls before hanging new signage. Time is money, and planning ahead to maximize efficiency with installation will save many headaches in the long-run.

It should also be noted that not all spaces need equal treatment in this regard. CHPL panels can be hung on the exterior of the building with minimal prep work and can happen before, after, or at the same time as other interior projects. The same can be said for the different rooms: if the installation of the projector and sail in the Captain’s Room can be funded through an unplanned grant before traditional exhibits go into the carpeted space, there’s no reason that can’t happen. As such, referring back to a modified version of the initial ‘zones’ can be helpful.

7.1 Materials Suggestions

Interpretive Panels

Interpretive panels can be different materials based on their location. The factors that influence material choice are:

- Will the sign be in direct sunlight, even indoors? This will expedite fading.
- Will the sign be exposed to weather: wind, rain, snow, sun, etc?
- Does the site have an issue with graffiti or other decaying?
- Will the sign be touched frequently?
- Is the sign vertical or at an angle?

Vinyl on Foam Board: Flat interpretive signage hanging on an interior wall, especially signs out of reach of visitors and not in direct sunlight, can be a less durable (thus less expensive) material like vinyl on foam board. Vinyl on foam board can often be sourced from a local printer so is easier and cheaper to access than some other materials. It’s also lightweight and can be hung without hardware. Some vinyl graphics should be installed professionally, especially larger swaths of wall, because it takes some skill to get them level and without air bubbles. Some vinyl graphics do not come with applied adhesive and so act more like wallpaper. Vinyl graphics should be removed from the wall before painting. These can create a more immersive feeling within the space.

CHPL: Custom High Pressure Laminate signs are more expensive to print, but can handle inclement weather, touching, UV exposure, and sometimes graffiti. These would be recommended on any surface that is accessible by hands or includes a touchable interactive, like reader rails or the sound booth. Any signs outside the building should be HPL panels. The thickness of the HPL will vary based on location. Half-inch thick HPL would be ideal for exterior panels, vertical or angled, and interior can be as thin as 1mm depending on its use. Thinner HPL is cheaper.

Glass and Metal: Glass and metal signage is pricey, but can make for lovely ambiance that elevates an experience. Glass and metal cutouts can also be added to the frames of CHPL signs for increased visual draw.

Interactive Elements

Anything that is going to be touched, handled, or exposed to the public in any capacity will receive a fair amount of wear and tear. When possible, the most durable options should be used. Before you consider creating a specific interactive in-house, think about durability. If this exhibit and its contents are truly to stand the test of time for 10-20 years, or even 5 years, it behooves you to spend more money up front to acquire products with the highest durability. If a less than durable option is necessitated due to budget or location, thought should go into how contact can be minimized, for example by a barrier.

Items made by an exhibit fabrication firm will arrive ready to stand up to the test of heavy repeated use. When items are being made by a local professional, it’s important that they understand the use of objects in the original brief so they can make the best decisions regarding materials. When items are made in-house, materials should be chosen carefully, and it can be expected that they will likely need replacement more often than their professionally made counterparts. Often items we find in home improvement stores do not have the same durability as professional-grade alternatives. There are trade-offs to all options.
7.2 Guidelines and Considerations

The order of operations will vary based on your programming, open hours, funding, staffing, and other factors unique to Norrie Point and the timing of installation. As you plan ahead for each piece of the update, try to consider what makes the most sense. A general overview of phases might be:

Research and Discovery
- Where will interpretive panels and interactives be?
- How much space will they take up/what are their dimensions?
- What material will be used?
- Who will you source the final product from?
- Who will research the content and write the copy?

Prototyping
- When will interactive elements be prototyped?
- Will you choose to prototype language on signs as well?
- Who will create the prototypes (typically cardboard or cheap materials)?
- Who will measure the effectiveness of prototypes?
- Who will be your test audience for prototypes?

Design and Layout
- Who will design interpretive panels and graphics?
- Who will print them?
- How will they be installed and do you need to hire someone to do it?

Interior Changes
- Do you need additional electrical outlets?
- Will you paint the interior of the building?
- Do you need additional lighting?

Installation
- Do you need to close the building to the public temporarily?
- Do you need to alter the locations or timing of any programs?
- Will areas of the building be temporarily unusable or unsafe?
- Will you require staff to work additional or different hours than normal?
- Will you have a ‘grand opening’?
- How will you advertise?

Below is a list of timing considerations or estimates for physical elements or tasks in each zone. An estimate by area can be found in Appendix E.

Interpretive Panel Prep (6-8 months, all interior and exterior panels)
- Content gathering
- Research, sourcing photos, custom illustrations, writing/acquiring copy, editing & approving copy, corresponding & receiving permission for use
- Graphic design and layout

Interpretive Panel Production/Installation (per batch)
- Printing and delivery turnaround (4-8 weeks depending on supplier & number of panels)
- Installation
- Consider 1 hour per interior sign. Exterior signs should be allotted more time based on their type. Exterior signs may need time (24+ hours) for adhesive or cement to dry depending on installation method. This applies to interior signs as well if they require a more complicated installation than others.

Things to Consider

1. One person or a small team should be the point(s) of contact for all involved staff, fabricators, contractors, etc. Tasks can be delegated, but without a dedicated party that oversees the project from start to finish, there is a possibility that things are missed. This party should meet somewhat regularly, at minimum once a month early in the project, and more frequently as it progresses. Access to shared documents, especially timelines and task lists, will help collaboration.

2. Big days that require an "all hands on deck" approach should be decided as far in advance as possible in order to prepare staff schedules. For example if staff is painting interior walls instead of a painting company, no programs should be planned for inside the building, an appropriate number of staff scheduled to be on-site, and an adequate supply of materials to make sure everyone has the means to assist. Always consider the use of your building and site before planning closures or changes for staff.

3. Plan on storing parts of the exhibit until they are ready to be installed. While installation will happen in phases, it's very likely that some elements or panels will need to go into storage until it makes sense to put them on the floor. While this can seem insignificant, large panels and bulky interactives will begin to take up a fair amount of space.
space. It's not realistic to assume everything will arrive on time.

4. Disposal of old content will also need to be taken into consideration. What can be recycled? What should be put in storage? What can be offered to other places? What needs to be taken to the transfer station and how will you get it there?

5. As you work through the timeline and get closer to certain benchmarks, you may be asking more of your staff. Will staff need to stay after hours for something? Will their regular working days for a certain week need to change?

6. Open hours and on-site programs will need attention as the project moves from development into execution. Will you need to alter your open hours? Will you need to move a program outdoors or alter content? Will an area you normally use be ‘under construction’ and unsafe for students or visitors?

**Budget Narrative**

A breakdown of one budget can be found in Appendix A. The way this budget was outlined, a low and high cost was assumed for individual pieces, and services were separated from exhibit hard costs. Depending on available funding and chosen phases, the overall cost ranges from $84,000 to $375,000. The budget is designed in a way that individual pieces can be tailored to fit allotted funding and staff skills. While some things may be best outsourced to a subcontractor, other things could be done in-house by staff, interns, or volunteers.

Norrie Point staff expressed high level of interest in doing as much in-house work as makes sense in order to minimize spending. Obviously staff time is a trade-off when building exhibits in-house, but financial costs can sometimes end up increasing as well, especially if something made in-house doesn't work and requires a second installation provided by a fabricator. However, it's the author's strong personal opinion that building exhibits in-house can be extremely effective and offers an interesting form of professional development.

**Maintenance Considerations**

A general fund of $1000 per year can be set aside for upkeep, though it may not be used every year. Some items within the space will need to be replaced as they take abuse from the public, especially touch table items and anything that can ‘walk away.’ At the end of each fiscal year, staff can determine whether they want to roll any remaining money into the following fiscal year or reallocate those funds to other areas.

**Cleaning**

For general disinfecting and cleaning purposes, it would be recommended to allow up to $75 per month in cleaning supplies to include either paper towels or reusable rags, spray disinfectant, and disinfectant wipes. Hand sanitizer stations can be set up in one or two obvious places within the main exhibit space or in respective rooms where activities are happening and this should be taken into account as well. It's project manager preference whether to choose prefabricated hand sanitizer stations that require specific inserts or to use state-manufactured gallon-sized pump hand sanitizer.

When open to the public, it’s recommended that the hands-on exhibits be disinfected after each group or, if general come-and-go visitors, on a timed schedule based on level of visitation. For example, if 10 visitors come through per hour, you may consider disinfecting hands-on exhibits or frequently touched items every hour. CDC-approved cleaners for Covid-19 that are readily available for public purchase include many products containing quaternary ammonium. These are things like Lysol disinfecting wipes, Clorox disinfecting wipes, Fantastik all-purpose cleaner, and Lysol disinfectant spray. More information about Covid-19 approved cleaners for institutions like Norrie Point can be found here: https://cfpub.epa.gov/giwiz/disinfectants/index.cfm. A list of daily tasks can be divided as works best for staff and posted in a visible location.

A more in-depth cleaning can be done by cleaning crews at the end of each day, which would include the disinfection of frequently touched surfaces within the exhibit.
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<thead>
<tr>
<th>Walls Sq Ft Area Component Description</th>
<th>Low Source</th>
<th>High Source</th>
<th>Note</th>
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<tbody>
<tr>
<td>Interp panel, horseshoe HPL 12sq ft w/ cantilever pedestal base</td>
<td>$450.00</td>
<td>$925.00</td>
<td>iZone quote S&amp;H not included</td>
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<tr>
<td>Interp panel, fence in courtyard HPL 12sq ft w/ cantilever pedestal base</td>
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<td>Vinyl hours on doors</td>
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<td>Exterior bulletin board 3’x5’ lockable w/ LED light</td>
<td>Displays2Go</td>
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<td>Sandwich board signs Plastic corrugate</td>
<td>Leif Signs New Windsor</td>
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<td>VistaPrint</td>
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<td>900 02 Hallway Window signs retractable</td>
<td>P&amp;P New Windsor</td>
<td>$240.00</td>
<td>ProStik II Professional</td>
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<td>Wall murals @ bathrooms</td>
<td>MagicMurals</td>
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<tr>
<td>Interp panel, wall hung, interior Foam core, 12sq ft (x3)</td>
<td>DEC</td>
<td>$320.00</td>
<td>P&amp;P New Windsor</td>
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<tr>
<td>Wall mural b/w stairs &amp; classroom 16’ length, 6’ height (above reader rail)</td>
<td>MagicMurals</td>
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<tr>
<td>Reader Rail (hallway) degree tilt, open in back and mounted to wall; or non-custom modular</td>
<td>LNJ Beacon (Custom!)</td>
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<td>Reader Rail push button matching (no base)</td>
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<td>Mounting hardware/fasteners</td>
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<td>200 06 Sound Booth Vestibule (wall =200</td>
<td>Speaker - inset</td>
<td>Single inset speaker</td>
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<tr>
<td>Custom RAVEN hanging interactive</td>
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<tr>
<td>07 Wet Classroom Custom Blinds Rand Window Fashions (Draper Inc)</td>
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<td>08 Captain’s Room</td>
<td>Will need to consult someone who really knows how projecting onto the sail will affect your needs</td>
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<tr>
<td>1500 09 River Room</td>
<td>Rail hangers for student projects Display rails, keep paper projects off counter</td>
<td>$75.00</td>
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<td>Three white boards Low = not on rails, high=on rails, custom</td>
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<td>CHPL Panels (4 - 1/2”) for wall mounting</td>
<td>iZone</td>
<td>$6,000.00</td>
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<td>Buoy Real or fabricated</td>
<td>Allowance</td>
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<td>Buoy interpretive signage CHPL</td>
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<td>Artist panels Hand painted panels</td>
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<td>$2,000.00</td>
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<tr>
<td>Interior Paint (all rooms)</td>
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<td>$1,800.00</td>
<td>$600 primer, $1200 paint</td>
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**Total Before Services:** $83,178.50

**Total After Services:** $133,058.50

Norrie Point Environmental Center Interpretive Experience Plan, 2020
## Appendix B: Estimates

### Quote No. IZONE 40696

03/17/2020

Page 1 of 7

**Customer**  
Wolf Tree Design

**Reference**  
Budgetary Pricing (Opt A)

<table>
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<th>Terms</th>
<th>Due Date</th>
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<th>Client PO</th>
<th>Service Date</th>
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<td>XPO</td>
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<td>03/17/2020</td>
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**Bill to**  
Wolf Tree Design  
Emily Nestlerode  
44 Alfred Place  
Walden, NY 12586  
US  
Email: emily@wolftreedesign.com

**Proof to**  
Wolf Tree Design  
Emily Nestlerode  
44 Alfred Place  
Walden, NY 12586  
US  
Email: emily@wolftreedesign.com

**Ship to**  
Wolf Tree Design  
Emily Nestlerode  
44 Alfred Place  
Walden, NY 12586  
US  
Email: emily@wolftreedesign.com

**Valid Until**  
05/16/2020

**Revision Date**  
03/17/2020

**F.O.B.**  
N/A

**Project Name**  
Budgetary Pricing  
Opp Ref. IZONE-37161

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<td>580.37</td>
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<td></td>
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<td>38 H x 48 W 1/2&quot; Exterior Panel Single Sided</td>
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<td>Standard 1/8&quot; Beveled Edge Included (12,000 SQ FT)</td>
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<td></td>
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<td>FINISHING OPTIONS: Matte Finish - Exterior</td>
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<td>QTY (6) 1/4&quot; Threaded Holes per panel, price includes 1/2&quot; long 1/4&quot;-20 Button Socket Cap Black Oxide Screws</td>
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<td>CANTILEVER PEDESTAL FOR 36&quot;H X 1/2&quot; THICK PANEL, 45 DEGREE ANGLE, FOR 1/4&quot; HARDWARE, IN GROUND INSTALLATION, BLACK TEXTURE POWDER COAT, 2X6X1/8&quot; ALUMINUM TUBE POST DUE TO PANEL HEIGHT, POST BURIAL 24&quot; [CPED-99-45]</td>
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<td>PDF Proofs of each unique panel layout</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>*HARDWARE WILL SHIP SEPARATELY FROM PANEL(S), ADDITIONAL TRANSIT TIME MAY BE REQUIRED.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(continued on next page)

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Qu0068-00-01

Norrie Point Environmental Center  
Interpretive Experience Plan, 2020
**Quote No. IZONE 40696**

03/17/2020

Page 2 of 7

**Customer**  
Wolf Tree Design

**Reference**  
Budgetary Pricing (Opt A)

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
<th>Qty</th>
<th>UOM</th>
<th>Unit Price</th>
<th>Extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>ChPL panels 1/2&quot; XT</td>
<td>36 H X 48 W : 1/2&quot; Exterior Panel Single Sided</td>
<td>5</td>
<td>Each</td>
<td>590.37</td>
<td>2,951.85</td>
</tr>
</tbody>
</table>

| Qty (8) 1/4" threaded holes per panel, price includes 1/2" long 1/4"-20 Button Socket Cap Black Oxide Screws |

| 2. | CFI | DOUBLE PEDESTAL 16X20 MOUNT PLATE, 45 DEGREE ANGLE, IN GROUND INSTALLATION, SIX 1/2" ALUMINUM POSTS, TWO PART CONSTRUCTION, BLACK TEXTURE POWDERCOAT (DBL-1620X-45) | 5 | Each | 333.86 | 1,669.30 |

| 3. | PDF Proofs | PDF Proofs of each unique panel layout | 5 | Each | 0.00 | 0.00 |

| 4. | ChPL Color Samples | 8" x 10" images cropped from full-sized panel layouts. | 1 | Each | 50.00 | 50.00 |

| 5. | Wrapping and Crating | | 1 | Each | 200.00 | 200.00 |

| 6. | Shipping and Handling | *Estimated - 3 business days transit to 12586 | 1 | Each | 690.66 | 690.66 |

*Hardware will ship separately from Panel(s), additional transit time may be required.

(continued on next page)

**Quote Valid Until:** 05/16/2020

---

**Quote No. IZONE 40696-01**

03/17/2020

Page 1 of 7

**Customer**  
Wolf Tree Design

**Reference**  
Budgetary Pricing (Opt B)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
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<th>Unit Price</th>
<th>Extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>CHPL panels 1/2&quot; XT</td>
<td>5</td>
<td>Each</td>
<td>590.37</td>
<td>2,951.85</td>
</tr>
</tbody>
</table>

**continued on next page**
**Quote No. IZONE 40696-01**

03/17/2020

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
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<th>Qty</th>
<th>UOM</th>
<th>Unit Price</th>
<th>Extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>CHPL panels: 1/2&quot; XT 3/11x 144 W - 1/2&quot; Ext/End Panel Single Sided Standard 1/8&quot; Beveled Edge Included (38,000 SQ FT) FINISHING OPTIONS: Matte Finish - Exterior</td>
<td>6</td>
<td>Each</td>
<td>1,535.23</td>
<td>9,211.38</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>CFI SINGLE HEEL MOUNT, 100X10XV MOUNT PLATE PLT: A/1620 WITH THRU HOLES AND WELDED HEEL FOR 45 DEGREE PRESENTATION, BLACK TEXTURE POWDERCOAT [HM-1620-45] - STANDARD 4 SLOTS PER PLATE</td>
<td>36</td>
<td>Each</td>
<td>148.96</td>
<td>5,362.56</td>
<td></td>
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</table>

**Quote Valid Until: 05/16/2020**

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**Quote No. IZONE 40696-02**

03/17/2020

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Description</th>
<th>Qty</th>
<th>UOM</th>
<th>Unit Price</th>
<th>Extension</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td>PDF Proofs PDF Proofs of each unique panel layout</td>
<td>6</td>
<td>Each</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>CHPL Color Samples 8&quot; x 10&quot; images cropped from full-sized panel layouts.</td>
<td>1</td>
<td>Each</td>
<td>50.00</td>
<td>50.00</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Wrapping and Crating</td>
<td>1</td>
<td>Each</td>
<td>395.00</td>
<td>395.00</td>
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</tr>
<tr>
<td>6.</td>
<td>Shipping and Handling <em>Estimated - 3 business days transit to 12586</em></td>
<td>1</td>
<td>Each</td>
<td>1,167.27</td>
<td>1,167.27</td>
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*HARDWARE WILL SHIP SEPARATELY FROM PANEL(S). ADDITIONAL TRANSIT TIME MAY BE REQUIRED.

(continued on next page)
**Quote No. IZONE 40696-02**  
**03/17/2020**  
**Page 2 of 7**

**Customer**: Wolf Tree Design  
**Reference**: Budgetary Pricing (Opt C)

<table>
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<th>Item</th>
<th>Description</th>
<th>Qty</th>
<th>UOM</th>
<th>Unit Price</th>
<th>Extension</th>
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</thead>
<tbody>
<tr>
<td>WM18</td>
<td>Wall Mount Bracket (30 Degree) 18&quot; x 18&quot;</td>
<td>15</td>
<td>Each</td>
<td>72.00</td>
<td>1,080.00</td>
<td></td>
</tr>
</tbody>
</table>

*Note: Estimate does NOT include any special delivery services such as a Lift Gate. Specific Delivery Scheduling or delivery to a residential or governmental address. Additional charges may apply if such services are required at time of delivery. International shipment estimates are in US Dollars they do NOT include Brokerage fees, duties, taxes or other customs clearance costs. International customers must have a Customs Broker of their choosing to handle customs clearance of their shipment and are responsible for all associated costs.*

**Subtotal**: $1,080.00  
**Sales Tax (8.125%)**: $1,311.07  
**Deposit Required**: $8,748.64  
**Total (USD)**: $17,497.28

Quote Valid Until: 05/16/2020
**Price List**

* Prices Exclude Exhibit Design / Gallery Layout, Shipping, & Installation

<table>
<thead>
<tr>
<th>Description of Work</th>
<th>Price *</th>
<th>Price * w/o Reader Rail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reader Rail with Spinner</td>
<td>$5,600</td>
<td>$3,800</td>
</tr>
<tr>
<td>Reader Rail with Monitor (Video File Provided By Client)</td>
<td>$5,000</td>
<td>$3,200</td>
</tr>
<tr>
<td>Reader Rail with iPad (Video File &amp; iPad Provided By Client)</td>
<td>$4,200</td>
<td>$2,400</td>
</tr>
<tr>
<td>Reader Rail with (3) Graphic Flip Doors</td>
<td>$3,700</td>
<td>$1,900</td>
</tr>
<tr>
<td>Reader Rail with (3) Scent Flip Doors</td>
<td>$4,400</td>
<td>$2,600</td>
</tr>
<tr>
<td>Reader Rail with Display Case</td>
<td>$3,600</td>
<td>$1,800</td>
</tr>
<tr>
<td>Reader Rail with Flip Book, (3) Double Sided Pages</td>
<td>$4,300</td>
<td>$2,500</td>
</tr>
<tr>
<td>Reader Rail with Graphic Panel</td>
<td>$2,500</td>
<td>$700</td>
</tr>
<tr>
<td>Reader Rail with Handset Sound Interactive and (6) Push Buttons (Audio File Provided By Client)</td>
<td>$5,000</td>
<td>$3,200</td>
</tr>
<tr>
<td>Reader Rail with (6) Push Button Matching Interactive</td>
<td>$5,400</td>
<td>$3,600</td>
</tr>
<tr>
<td>Reader Rail with Sliding Magnifier Interactive</td>
<td>$5,400</td>
<td>$3,600</td>
</tr>
<tr>
<td>Table Top Exhibit with Graphic Map, LED Lights, and (6) Push Buttons</td>
<td>$8,700</td>
<td></td>
</tr>
<tr>
<td>Table Top Exhibit with Diorama Table (Final Price Dependent on Diorama Details)</td>
<td>$9,300</td>
<td></td>
</tr>
<tr>
<td>Table Top Exhibit for Tactile Objects (Objects Provided By Client)</td>
<td>$4,200</td>
<td></td>
</tr>
<tr>
<td>Interior Kiosk, Small Kiosk</td>
<td>$2,600</td>
<td></td>
</tr>
<tr>
<td>Interior Kiosk, Large Kiosk</td>
<td>$4,000</td>
<td></td>
</tr>
<tr>
<td>Crawl Through Log</td>
<td>$12,500</td>
<td></td>
</tr>
<tr>
<td>Activity Table</td>
<td>$6,400</td>
<td></td>
</tr>
</tbody>
</table>

---

**Norrie Point Environmental Center Interpretive Experience Plan, 2020**

**Activity Table**

<table>
<thead>
<tr>
<th>QTY</th>
<th>RATE</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1,400.00</td>
<td>1,400.00T</td>
</tr>
</tbody>
</table>

**Custom Build**

- Piece A 138" long reader rail-
  - As drawn
  - All hardware and/or drawer slides concealed and push-to-open
  - Primarily constructed from LDF (lightweight MDF) with a CNC plywood skeleton for rigidity and support of cabinet hardware. CAD done by us and drawings/3D models handed over to you at end of job.
  - Designed to fit the touchscreens provided by client
  - Finish is patched, sanded, and primed with latex primer
  - Wrapped in poly wrapping and shrink

- Piece B 168" long reader rail-
  - As drawn
  - All hardware and drawer slides concealed and push-to-open
  - Primarily constructed from LDF with a CNC plywood skeleton for rigidity and support of cabinet hardware. CAD done by us and drawings/3D models handed over to you at end of job.
  - Designed to fit the touchscreens provided by client
  - Finish is patched, sanded, and primed with latex primer
  - Wrapped in poly wrapping and shrink

- Piece C 60" x 36" wall mounted-
  - As drawn
  - All hardware and drawer slides concealed and push-to-open
  - Primarily constructed from LDF with a CNC plywood skeleton for rigidity and support of cabinet hardware. CAD done by us and drawings/3D models handed over to you at end of job.
  - Designed to fit the touchscreens provided by client
  - Finish is patched, sanded, and primed with latex primer
  - Wrapped in poly wrapping and shrink

- Piece D 60" x 32" wall mounted-
**DESCRIPTION** | **QTY** | **RATE** | **AMOUNT**
--- | --- | --- | ---
As drawn  
All hardware and drawer slides concealed and push-to-open  
- Primarily constructed from LDF with a CNC plywood skeleton for rigidity and support of cabinet hardware. CAD done by us and drawings/3d models handed over to you at end of job.  
- Designed to fit the touchscreens provided by client  
- Finish is patched, sanded, and primed with latex primer  
- Wrapped in poly wrapping and shrink | 1 | 1,800.00 | 1,800.00

| Custom Build  
Pierce E 40" tall rolling unit-  
As drawn  
All hardware and drawer slides concealed and push-to-open  
- Primarily constructed from LDF with a CNC plywood skeleton for rigidity and support of cabinet hardware. CAD done by us and drawings/3d models handed over to you at end of job.  
- Designed to fit the touchscreens provided by client  
- Finish is patched, sanded, and primed with latex primer  
- Wrapped in poly wrapping and shrink | 1 | 1,800.00 | 1,800.00

**SUBTOTAL**  
8,500.00  
**TAX** | 690.63  
**TOTAL**  
$9,190.63

Please note: 
This does not include installation on site, screen or other technology mounting inside units, paint, shipping or delivery.

December 1, 2020
Wolf Tree Design
Walden, NY 12586

Attention: Emily Nestlerode

RE: Sliding Rail Whiteboard Quote

Dear Ms. Nestlerode:

Thank you for the opportunity to provide this quote. DDS proposes to provide the following Murerase® dry erase board rail system:

**Rail System:**

- Magiboards - Magnetic Whiteboard Sliding Rail System
  - (1) 16’ long rail system
  - Each rail system includes the following:
    - **Rail Mounted** - (2) 36”h x 48”w Plain magnetic whiteboards. One board on each track
    - Includes hanging brackets and safety clips
    - **Wall Mounted** - (1) Overall dimension – 36”h x 96”w Plain board whiteboard
- Murerase whiteboards boards are very durable, are made for heavy usage and come with a 5-year warranty against ghosting if properly maintained

**Pricing:**

- Boards & Rail System: $1,229.00
- Design & layout: $0.00
- Ship (zip 12580): $244.00
- Total: $1,473.00

* This rail system will be shipped on a pallet. This quote is based on delivering with a liftgate. If there is limited access for this delivery or if there is a need for inside delivery or “white glove” delivery, there will be additional charges for shipping

1101 Sussex Blvd, Suite #5 Broomall, PA 19008  ● TELEPHONE  484-440-9665
Notes:

- All dimensions are approximately $\frac{1}{4}''$ +/- from outside of frame to outside of frame.
- Murerase Dry Erase has a 5-year warranty against ghosting from the use of Dry Erase Markers.
- This quote does not include installation.
- The delivery of the products after acceptance of the quote is 2 to 3 weeks.
- Freight and shipping costs are based on delivering to a normal loading dock or to the end of the truck. The freight quote does not include delivery to a residence, notification, scheduling, limited access location or with a lift gate unless otherwise noted. If there are additional charges due to any of the conditions above, these payment for these costs will be the responsibility of the customer.
- All custom boards require a credit card. We accept VISA, MC, AMEX & PayPal.
- Payment Terms – Net 10 days from receipt of invoice. The invoice will be sent the day the boards are completed and shipped

Proposed on 12/1/20 by Digital Designed Solutions, LLC.

Signature: ________________________  Name: ______________________________

Date: ____________

*Quote is Valid for 60 days
Freight if quoted is valid for 5 working days

If you have any questions, please feel free to contact me any time.

Sincerely,

Adam Creed
adam@ddscustom.com
www.ddscustom.com
Cell – 610.714.1071
Reader Rails

Custom Reader Rails
LNU, Inc, Beacon, NY
https://lnjtech.squarespace.com
Contact: Luc Stamplaen, info@lnjtech.com

Prefabicated Modular Reader Rails
Upland Exhibits
https://www.uplandexhibits.com

Prefabicated or Custom Reader Rails, Panels, Interactive Elements
Taylor Studios, Inc, Rantoul, IL
https://taylorstudios.com/shave-your-alpaca
Contact: Danielle Rice, drice@taylorstudios.com

Displays/Display Cases

Sliding Rail Whiteboards
Digital Designed Solutions
https://ddscustom.com/sliding-rail-systems/
Contact: Adam Creed, adam@ddscustom.com

Display Cases
Displays2Go
https://www.displays2go.com/

Museum Display Cases
Museum Display
https://museumdisplay.com/

Stock Displays
Braeside Stock Displays
https://www.braesidedisplays.com/

Printed/Graphics

CHPL Panels and Mounts
iZone Imaging
https://izoneimaging.com/

Custom Wall Murals
Magic Murals
https://www.magicmurals.com/museums/

Custom Printed Blinds
Rand Window Fashions, Burnt Hills, NY
https://www.randwindowfashions.com/
Contact: Bill Crosby, randwindowfshn@aol.com

Large Printing (Floor Maps)
Kubin-Nicholson, New York, NY
https://kubin.com
Contact: John Graney, Graney.J@kubin.com

Vinyl Floor Coverings
Printed Space
http://www.printedspace.com/floors.aspx

Vinyl on Foamboard/Small Vinyl
P&P Quick Copy, New Windsor, NY
Contact: Jess
https://www.ppquickcopy.com/

Outdoor Signs (non-CHPL)
Leif Signs, LLC, New Windsor, NY
https://leifsigns.com/

Replicas/Models

Biological Replicas
Animal Museum Replica
http://www.animalmuseumreplica.com

Scale Models
Brees Studio
https://www.breesstudio.com/portfolio_zoological_models.php

Large and Small Models, Custom
Blue Rhino Studios
https://www.rhinocentral.com/

Hardware/Parts

Hardware
Grainger Industrial Supply
https://www.grainger.com/

Interpretive Panel Hardware
Fossil Industries
https://fossilgraphics.com/hardware

CHPL Panels and Mounts
iZone Imaging
https://izoneimaging.com/

Walls/Furniture

Customizable Exhibition Wall System
Logic Exhibit Systems
https://qetlogicexhibitsystem.com/how-it-works/

Children's Furniture
Schoolsin
https://www.schoolsin.com/

Soft Seating/Public Space Furniture Solutions
School Outfitters
https://www.schooloutfitters.com/

Electronics/Audio/Tech

Electronic Parts
SparkFun
https://www.sparkfun.com/categories/145

Large Tech Installation Interactives
Breeze Creative Products
http://www.breezecreativeproducts.com/

Speakers/Touchless Audio
Holosonics
https://www.holosonics.com/touchless-audio

SMART Boards
SmartTech
https://www.smarttech.com/
## Appendix E: Timeline

### Phases by Area

<table>
<thead>
<tr>
<th>Content development</th>
<th>Support for Story Points</th>
<th>Photo/illustration needs/options</th>
<th>Norrie-specific examples</th>
<th>Interactives subjectified</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**The content development stage is behind-the-scenes. This is where specific information to support Story Points is created, especially Norrie-specific opportunities. For example, which scientists are profiled and which stewardship opportunities are to be showcased. Locations of panels containing copy should be chosen and a ‘storyboard’ of sorts can be compiled. Information will be provided to an interpretive copywriter that includes any science-specific information that will help them word copy appropriately. If it’s determined the custom illustrations or photos need to be created, this can be an additional step so that you have them in hand before the design layout phase. Knowing which interactives will be located where will help the copywriter use directive language to refer visitors to turn their attention to specific things in the environment.**

### Support for Story Points

<table>
<thead>
<tr>
<th>Photo/illustration needs/options</th>
<th>Norrie-specific examples</th>
<th>Interactives subjectified</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Photo/illustration needs/options**

- Norrie-specific examples
- Interactives subjectified

### Norrie-specific examples

**Interactives subjectified**

- This step is a placeholder for time spent interacting with different fabrication companies. This means back-and-forth communication on cost, dimensions, needs, etc. that could be emails, phone calls, or in-house R&D.

### Interpretive storytelling style

- **Copywriting**: An interpretive copywriter will need an outline of the information to convey in each piece of text, as well as supporting scientific information explanations and the physical locations/directions of things in the environment. Their job is to word the information in an accessible and engaging manner while keeping the actual word count to a minimum. Most interpretive panels are recommended to have no more than 230 words, but varies by size. A smaller panel will have far less, therefore, being concise is necessary. Make sure to include time for editing back-and-forth in this time. Once copy is complete, it should then be sent for translation services so the graphic designer has all pieces prior to starting. Expect a copywriter to reduce the amount of text you provide significantly.

### Copywriting

- **Interpretive storytelling style**
- **Copy and photos to designer**
- **Measurements/sizes finalized**
- **Templates from fabricators if needed**

### Interpretive storytelling style

- An interpretive copywriter will need an outline of the information to convey in each piece of text, as well as supporting scientific information explanations and the physical locations/directions of things in the environment. Their job is to word the information in an accessible and engaging manner while keeping the actual word count to a minimum. Most interpretive panels are recommended to have no more than 230 words, but varies by size. A smaller panel will have far less, therefore, being concise is necessary. Make sure to include time for editing back-and-forth in this time. Once copy is complete, it should then be sent for translation services so the graphic designer has all pieces prior to starting. Expect a copywriter to reduce the amount of text you provide significantly.

### Copy and photos to designer

- **Graphic design/layout**
- **Copywriting/layout**
- **Measurements/sizes finalized**

### Graphic design/layout

- The graphic designer will need dimensions, photos, illustrations, and copy before beginning. It's best if the graphic designer and copywriter have some overlap and communication with each other if there are any questions or suggestions. If prefabricated options are being chosen, some panels or interactives, many fabrication companies provide templates to be used for graphic designers. These should be provided. Make sure to include time for editing back-and-forth in this time. Once copy is complete, it should then be sent for translation services so the graphic designer has all pieces prior to starting. Expect a copywriter to reduce the amount of text you provide significantly.

### Room Prep

- **Painting walls**
- **Furniture if needed**
- **Murals installed**

### Interactive/panel fabrication

- Be sure to consider time for shipping. Some of your larger interactives have already been ordered, but panels can be fabricated much more quickly and require the copywriting and layout processes to happen first. Smaller or in-house interactives can be created now, or at any point throughout the process.

### Interactive/panel installation

- Installation in-house, or if installation can’t be done by staff in-house, for example perhaps the sail in the Captain’s room, time for finding, scheduling, and installation by professionals. Be sure to discuss installation with fabricators for anything custom that’s to be shipped to you so that you know what will be required and whether or not your staff has the ability to install it themselves.
### Appendix F: Colors

<table>
<thead>
<tr>
<th>Phases by Area</th>
<th>Outdoor Breezeway &amp; Entry</th>
<th>Hallway</th>
<th>Carpeted Exhibit Area</th>
<th>Sound Booth Vestibule</th>
<th>Classroom</th>
<th>Captain's Room</th>
<th>River Room</th>
<th>Patio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content development</td>
<td>up to 3 weeks</td>
<td>up to 6 weeks</td>
<td>up to 12 weeks</td>
<td>2 weeks</td>
<td>up to 4 weeks</td>
<td>2 weeks</td>
<td>2 weeks</td>
<td>up to 3 weeks</td>
</tr>
<tr>
<td>Interactives Ordered</td>
<td>1 day</td>
<td>3 days</td>
<td>3 days</td>
<td>1 day</td>
<td>3 days</td>
<td>3 days</td>
<td>1 day</td>
<td>3 days</td>
</tr>
<tr>
<td>Copywriting</td>
<td>3 weeks</td>
<td>up to 3 weeks</td>
<td>up to 5 weeks</td>
<td>3 days</td>
<td>1 week</td>
<td>1 week</td>
<td>1 week</td>
<td></td>
</tr>
<tr>
<td>Graphic design layout</td>
<td>3 weeks</td>
<td>up to 4 weeks</td>
<td>up to 6 weeks</td>
<td>3 days</td>
<td>1 week</td>
<td>3 weeks (if custom video)</td>
<td>1 week</td>
<td></td>
</tr>
<tr>
<td>Room Prep</td>
<td>2 days</td>
<td>up to 2 weeks</td>
<td>up to 2 weeks</td>
<td>3 days</td>
<td>2 days</td>
<td>2 days</td>
<td>2 weeks (if built-in benches)</td>
<td>3 days</td>
</tr>
<tr>
<td>Interactives/panel fabrication</td>
<td>4 weeks</td>
<td>6 weeks</td>
<td>8 weeks</td>
<td>4 weeks</td>
<td>6 weeks</td>
<td>3 days</td>
<td>8 weeks (if custom buoy)</td>
<td>1 week</td>
</tr>
<tr>
<td>Interactives/panel installation</td>
<td>4 days</td>
<td>1 week</td>
<td>2 weeks</td>
<td>2 days</td>
<td>2 days</td>
<td>3 days</td>
<td>1 week</td>
<td></td>
</tr>
<tr>
<td>Total Estimated Time</td>
<td>up to 3 months</td>
<td>up to 7 months</td>
<td>up to 10 months</td>
<td>up to 2 months</td>
<td>up to 3 months</td>
<td>up to 2 months</td>
<td>up to 1 month</td>
<td>up to 4 months</td>
</tr>
</tbody>
</table>

**Notes**

1 day = 8 working hours
1 week = 40 working hours
Except fabrication – fabrication is a reflection of actual weeks est. turnaround
Project Leads
Maija Niemisto
Chris Bowser

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