



# Freshwater Research & Innovation Center

## Project Overview



**Northwestern  
Michigan College**

## The Need

The Great Lakes basin is increasingly impacted by climate change, variability in lake levels, invasive species, PFAS, microplastics, and other evolving conditions, which significantly influence its populations, ecosystems, economy, and environment. These changes heighten risks to water resource quality and availability, agricultural productivity, maritime operations, infrastructure resilience, biodiversity, public health, shoreline stability, coastal zones, and ongoing ecological restoration initiatives.



The Great Lakes hold **90%** of the freshwater in the United States and **20%** of the world's freshwater supply.

To protect our freshwater resources for future generations, we need collaborative scientific research, advanced technologies, and an educated workforce to assess impacts, address threats, and develop solutions. The proposed Freshwater Research and Innovation Center (Freshwater Center) aims to be the epicenter for that important work.

## Freshwater Research and Innovation Center

Bringing together higher-education, nonprofit, and business sectors, we aim to create a highly collaborative space for learning, research and development, and innovation in the growing fields of freshwater and marine technology, known as "Blue Tech", capitalizing on the strengths of our partners and our location.



Newly developed technologies and equipment will be tested in West Grand Traverse Bay by students and researchers.

Through our partners, innovation challenges, and outreach, we know that water tech and remediation tech entrepreneurs are devising ideas for new technologies, but they need specialized lab space, technical 'maker-space', and access to lab services and water to develop their technologies.

The vision for the new center is based on four pillars—education, research, innovation, and economic development.

## Education

From programs developed to inspire 9-12 grade students to partnerships with leading colleges and universities, the Freshwater Center will provide unique space for nationally recognized career programs in Freshwater Studies and Marine Technology to strengthen and feed the workforce pipeline. These experiences will inspire students and equip them with practical skills in the growing field of Blue Tech.



*The Freshwater Center will be uniquely positioned to deliver on its vision with a location in the geographic center of the Great Lakes.*



*The facility will include public exhibit space and targeted programming for prospective students.*

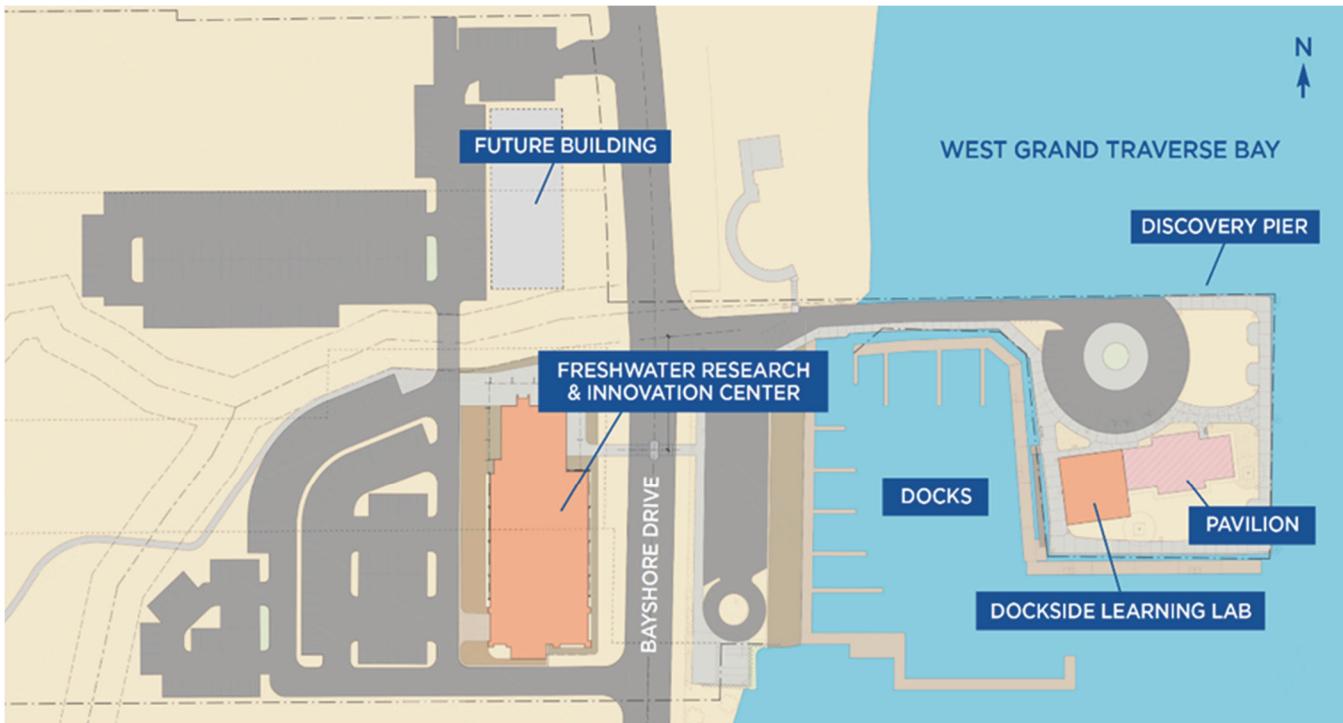
learning, development, and refinement to fast-track the creation of new technologies and advance our understanding, management, and preservation of freshwater. Programming will focus on helping entrepreneurs of Blue Tech startups by providing access to capital, mentorship, and critical resources that support the creation of impactful, scalable technologies.

## Economic Development

The Freshwater Center will include new business incubation and accelerator space and programs to remove barriers and support the transformation of top innovations into successful companies and careers. The Freshwater Center will be a base from where a highly trained workforce will feed the pipeline of environmental scientists and Blue Tech developers to make us a unique and key contributor to the Blue Tech sector.

## The Facility

The Freshwater Center will be located directly across the road and part of the newly redeveloped Discovery Pier on Grand Traverse Bay which provides dock space for research vessels, an outdoor classroom, equipment crane, and a planned Dockside Learning Lab which will be a space for hands-on, freshwater technology education.

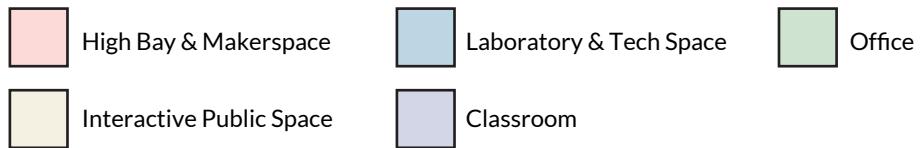


The 40,000 square-foot Freshwater Center facility will include wet labs, specialized labs, technical maker space, a large water test tank, meeting rooms, a classroom, offices, autoclave room, and a 3,000 square-foot Blue Tech exhibit space open to the public.

Through our partners, innovation challenges, and outreach we know that water tech and remediation tech entrepreneurs are devising ideas for new technologies, but they need specialized lab space, technical 'maker-space', and access to lab services and water to develop their technologies. The Freshwater Center will have:

- Specialized research labs and makerspace to develop and test new prototypes
- Public exhibit space and targeted educational programming for 9-12 graders to inspire prospective students and educate the public
- Hands-on educational space where partner colleges will host classes for associate and bachelor degree programs and professional certifications
- Partner organizations with expertise and programs that provide essential business startup services and resources that facilitate Blue Tech business growth
- Public engagement activities including guest speakers on current Great Lakes issues, research topics, and new advancements in Blue Tech.

## FLOOR PLANS



First Floor



The first floor will feature a public display area and specialized spaces for testing and development. These will include high bay and tech bay spaces with water test tanks, a makerspace with 3D printers, an electronics lab, and welding and paint booths.

Second Floor



The second floor will include collaborative laboratories, research space, and a classroom.

## **Power of Partnerships**

Six years ago, Discovery Pier transformed its mission and began pursuing the redevelopment of its campus in a way that would advance scientific understanding and stewardship of the Great Lakes. Discovery Pier brought together post-secondary educational institutions, researchers, and others who worked in the water and Blue Tech space to learn about their future goals, needs, and opportunities. This process revealed Northwestern Michigan College's need for space to grow their nationally ranked marine technology program, Michigan Technological University's interest in doing more Great Lakes and Blue Tech research and development in our region, and the desire of 20Fathoms and Traverse Connect to help more Blue Tech businesses start up and grow in the Traverse City region.

These cohesive goals and needs led to a formal partnership agreement that was executed in September 2022 between Discovery Pier, Northwestern Michigan College, Michigan Technological University, 20Fathoms, and Traverse Connect. Together, we developed a vision for the new facility—co-locating public engagement, education, research and development, innovation and commercialization—all focused on the emerging field of Blue Tech.

## **Founding Partners & Roles**

**Discovery Pier** - 9-12 grade and general public programming (educational)

**Northwestern Michigan College** - Space to move and grow their nationally ranked Marine Technology program and Water & Environmental Tech program

**Michigan Technological University** - Great Lakes research and marine tech development

**20Fathoms and Traverse Connect** - Blue Tech business start-up support

## **Emerging Partnerships & Roles**

**Michigan State University and MSU Research Foundation** - Research and innovation, Blue Tech venture start-up programming and services

**University of Michigan** - Entrepreneurship/Business Development and Education

**Central Michigan University** - Education and research

**Grand Valley State University** - Education and research

**Great Lake Fisheries Commission** - Research related to FishPass / fish passage

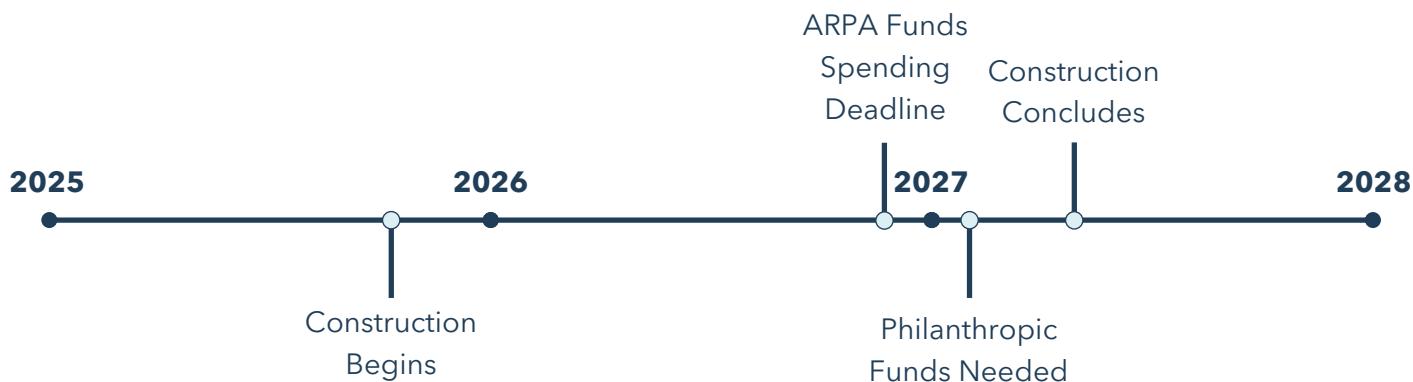
**U.S. Coast Guard** - Research related to freshwater oil spill response

## Timetable for Implementation

We plan to break ground on the Freshwater Center in October/November 2025. Our construction management firm, The Christman Company, estimates an 18-month construction period with a completion date of March/April 2027.

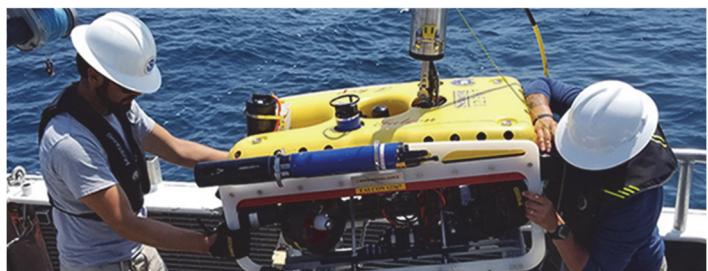
In July of 2023, this project was awarded \$15 million of federal ARPA funding from the State of Michigan. Our project timeline is driven by the federal government's requirements tied to that \$15 million. All ARPA funds must be spent by December 31, 2026. To meet that deadline, we need to break ground on the facility in the fall of 2025.

We will use the \$15 million in ARPA funds for the first 'half' of construction costs and use private dollars raised for the last 'half' of construction. While we aim to have all of the funds pledged prior to breaking ground, we won't need the vast majority of the private philanthropic funds (from private donors and foundations) until January of 2027—after the \$15 million of ARPA funds has been spent. The total project cost stands at \$28.9 million.



## You Can Help

Your gift to the Freshwater Center will mean the construction of a world class facility and the protection of our freshwater resources for future generations. You will create a hub for freshwater research, education, and technology development, and a collaborative home for students, researchers, and entrepreneurs in Traverse City. Contact Discovery Pier or Northwestern Michigan College to discuss how you can make a gift.



*Students will deploy remotely operated vehicles and other marine technology to collect data from Lake Michigan.*

Please contact us to learn more about the Freshwater Research & Innovation Center and how you can support this project.



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• [freshwatercenter.org](http://freshwatercenter.org)