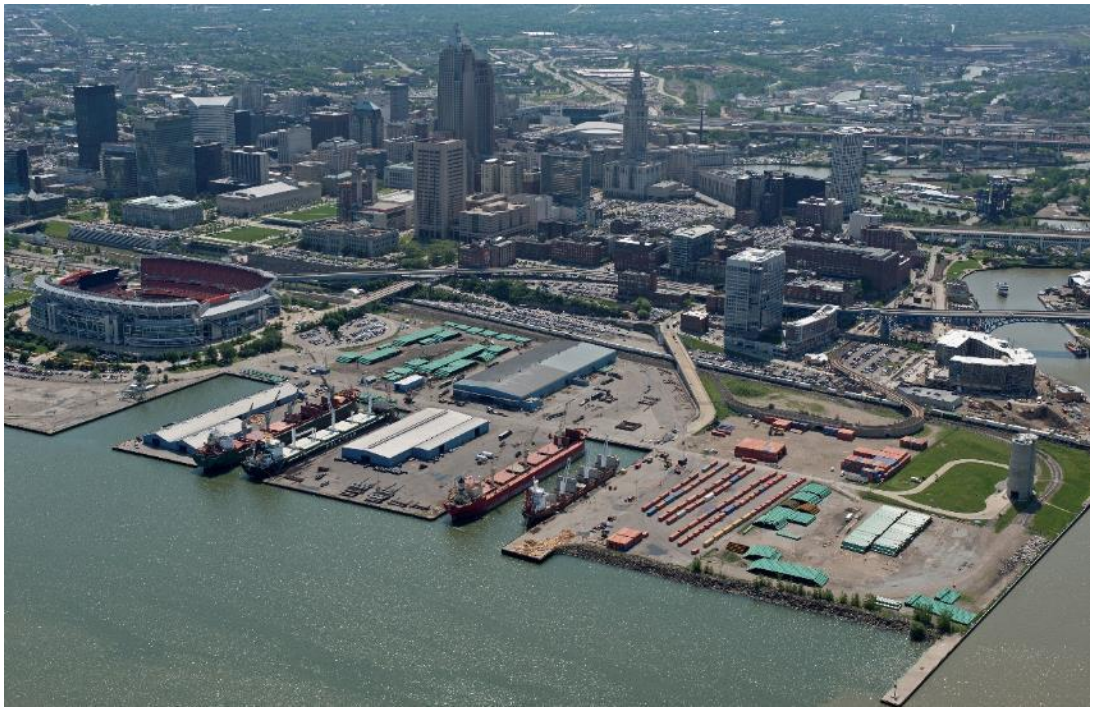
Exhibit I

PORT OF CLEVELAND'S ELECTRIFICATION AND WAREHOUSE A MODERNIZATION PROJECT

FY 2022 PIDP Urban Large Port Grant Application

Project Narrative



Submitted by:
The Cleveland-Cuyahoga County Port Authority
May 16, 2022

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2022 Port Infrastructure Development Program (PIDP) Project Information Form

Field Name	Response
Name of applicant	Cleveland-Cuyahoga County Port Authority
Is the applicant applying as a lead applicant with any private entity partners or joint applicants?	No
What is the project name?	Electrification and Warehouse A Modernization Project
Project description	The Project will improve cargo handling efficiency; more effectively utilize limited Terminal real estate; modernize a 144,000 square foot warehouse (Warehouse A) critical to the region's manufacturing industry; expand stormwater collection and treatment infrastructure to improve the quality of stormwater discharge to Lake Erie; fund the construction of a modernized maintenance and repowering facility for Terminal equipment; install electric infrastructure to meet the power requirements of ship cold ironing and electrified cargo handling equipment; and construct a new maritime training and resource center to support expanding workforce opportunities in the maritime industry.
Is this a planning project?	No
Is this a project at a coastal, Great Lakes, or inland river port?	Yes – Great Lakes
Is this application for a small project at a small port?	No
Is this project located in a noncontiguous State or U.S. territory?	No
GIS Coordinates (in Latitude and Longitude format)	41.503722°, -81.704231°
Is this project in an urban or rural area?	Urban
Project Zip Code	44113
Is the project located in a Historically Disadvantaged Community or a Community Development Zone? (A	Yes – Historically Disadvantaged Community and Opportunity Zone (Census Tract 1071.01)

Field Name	Response
CDZ is a Choice Neighborhood, Empowerment Zone, Opportunity Zone, or Promise Zone.)	
Has the same project been previously submitted for PIDP funding?	No
Is the applicant applying for other discretionary grant programs in 2022 for the same work or related scopes of work?	No
Has the applicant previously received TIGER, BUILD, RAISE, FASTLANE, INFRA or PIDP funding?	Yes – PIDP FY 2019 – $11,000,000
PIDP Grant Amount Requested	$27,614,711
Total Future Eligible Project costs	$34,518,389
Total Project Cost	$34,518,389
Total Federal Funding	$27,614,711
Total Non-Federal Funding	$6,903,678
Will RRIF or TIFIA funds be used as part of the project financing?	No

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I. PROJECT DESCRIPTION

Figure 1: Port of Cleveland's Electrification and Warehouse A Modernization Project Components

PIDP Grant Request: $27.615 million (80%)
Non-Federal Match: $6.904 million (20%)
Total Project Cost: $34.519 million

The Cleveland-Cuyahoga County Port Authority (the Port) is requesting a $27.615 million PIDP grant for the **Electrification and Warehouse A Modernization Project (the Project)**, located at the Port's General Cargo Terminal (the Terminal). The Project will improve cargo handling travel lanes and more efficiently utilize Terminal real estate, bring the Terminal's largest warehouse (Warehouse A) to a state of good repair, continue the implementation of the Port Authority's Stormwater Master Plan to improve the quality of Terminal stormwater discharging into Lake Erie, make necessary electrification investments to prepare the Port for a zero-emissions future, and construct a new on-Terminal Maritime Learning and Resource Center to support hands-on learning programs that prepare Davis Aerospace & Maritime High School students for employment opportunities in the maritime industry. The Project is located within a Historically Disadvantaged Community and Qualified Opportunity Zone and will leverage investments

previously made to the Port's infrastructure. **The Project has a Benefit-Cost Ratio of 3.29, at a 7% discount rate.**

The Project consists of both development phase (planning, permitting, engineering, and design) and construction activities for the following major components (Figure 1):

1. **W. 3rd Lot Cargo Movement Efficiency Improvements:** Demolish existing cargo handling equipment maintenance facility and hiring hall building and reconstruct as annexed wings off Warehouse A.
2. **Warehouse A Rehabilitation and Modernization:** Bring Warehouse A to a state of good repair with improvements, including, but not limited to, structural steel repairs and coatings, security and communication improvements, new central bay overhead crane, overhead door consolidation and replacement, window replacement, restroom facility upgrades and enhancements, LED lighting conversion, concrete slab and sill replacement, and fire suppression system replacement. Tie in exterior pavement grades with interior elevated grades of Warehouse A. Replace existing roof and assess roof structure for solar panel outfitting suitability. As budget permits and pending the findings of the solar suitability assessment, deploy solar array on the roof of Warehouse A to offset Port's annual electric demands through net metering agreement between the Port and Cleveland Public Power.
3. **Electrification and Stormwater Enhancements:** Conduct electrification and clean air master planning study. Based on planning study results, make necessary power upgrades to electrical feeds on the Terminal and outfit Warehouse A, including the locomotive storage area and the newly constructed maintenance facility wing, with sufficient charging, refueling, and/or maintenance infrastructure to serve as the hub for future low or zero-emissions fleet. As budget permits, run electrical feeds through previously installed duct banks from Warehouse A to Docks 22, 24, and 26W to meet future cold ironing and electric mobile harbor crane needs. Consolidate drainage in Project area and direct to previously installed or new stormwater treatment infrastructure in accordance with the Port's Stormwater Master Plan.
4. **Maritime Learning and Resource Center:** Construct a new 1,000+ square foot annexed wing from Warehouse A that will house training and education programs for students from Davis Aerospace & Maritime High School, part of the Cleveland Metropolitan School District.

A. Port of Cleveland Background and Economic Impacts

As the premier port on the Great Lakes, the Port of Cleveland's mission is to spur job creation and economic vitality in Cuyahoga County. The Port is an economic engine for the community, a key to Northeast Ohio's global competitiveness, and a partner in building the region's future.

There are two public marine terminals within Cleveland Harbor, including the General Cargo Terminal, where this Project is located. These facilities handle containers, iron ore, limestone, cement, and breakbulk cargoes, such as steel coils, tin plate and wire rod. The Terminal is an 80-acre general cargo operation with two mobile cranes with 92.6-ton capacity each, one stationary crane with 150-ton capacity, two Class 1 railroads, laydown areas, and enclosed warehouse storage capacity for weather-sensitive cargo.

The Port is one of the largest ports on the Great Lakes, with more than 13 million tons of cargo moving through Cleveland Harbor each year. According to a 2016 Port-commissioned economic impact study, this cargo handling activity results in the following annual economic benefits[1]:

- 20,273 jobs (direct, indirect, induced) supported by maritime activity
- $3.5 billion of total economic value supported in the region
- $1.4 billion total personal income and local consumption

B. The Great Lakes-St. Lawrence Seaway System

The Port is the first major U.S. port of call on the Great Lakes for ships transiting the St. Lawrence Seaway System and is a gateway to major Midwest markets, including Cincinnati, Columbus, Pittsburgh, Indianapolis, and Chicago. The Great Lakes-St. Lawrence Seaway (Figure 2) is a low-cost marine super-highway and the world's longest deep-draft navigation system. It extends 2,300 miles and borders eight states (Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin) and two Canadian provinces (Ontario and Quebec). More than 100 commercial ports, including the Port of Cleveland, line the navigation channel, serving as gateways for waterborne commerce moving both within the region and between North American and overseas destinations. The St. Lawrence Seaway's navigation season generally extends from late March to late December.

The Electrification and Warehouse A Modernization Project is one of many steps being taken to increase the use and competitiveness of the St. Lawrence Seaway System, with the goal of increasing national transportation system resiliency, improving transportation safety into the nation's large population base, reducing environmental costs of moving goods from the East Coast to inland locations, and reducing transportation costs on coastal seaports and transportation networks. An investment in the Port of Cleveland, more specifically the Electrification and Warehouse A Modernization Project, is an investment that has far reaching benefits beyond the Port of Cleveland. Ships that discharge their cargo at the Port of Cleveland go on to load cargo, primarily bulk material cargo, at other ports in the System.

[1] http://www.portofcleveland.com/media/1108/cccpaupdate_combined-final-report_120516.pdf

Figure 2: The Great Lakes-St. Lawrence Seaway System

C. Manufacturing and Cargo Movement at the Port of Cleveland

Although the Port's General Cargo Terminal is used predominantly for the import of high-grade steel products from Europe, including steel coil (hot and cold rolled), steel sheets, tin plate, and wire rod, the Port has recently positioned itself to serve the broader Midwest import and export markets through the start-up of the Cleveland-Europe Express, which is the only container service on the Great Lakes. The Port also handles iron ore, limestone, heavy machinery and equipment, wind-turbine components, and other oversized project cargo.

The cargo moving via the Port's marine terminals has a far-reaching impact on the local, regional, and national economies and is not just limited to activity at the marine terminals. The imported cargo is used as a primary input in local and regional manufacturing, while the export cargo (mostly machinery, steel, and other industrial products) is produced regionally and trucked and railed to the Port to serve domestic and international destinations. The General Cargo Terminal brings benefits to the entire St. Lawrence Seaway System and to the global supply chain with a diversified mix of bulk commodities and finished products.

Figure 3: Steel Coil Cargo Being Off-Loaded at the Port of Cleveland

Warehouse A, a focus of this Project, is the largest (144,000 square feet) and most utilized warehouse at the General Cargo Terminal and features extensive cargo capacity, locomotive storage space, terminal operator offices, and the Terminal's only warehouse overhead crane. Warehouse A is critical for the storage and handling of approximately 225,000 metric tons of weather-sensitive cargo annually for major customers, such as Chesterfield Steel, Tata International, SSAB, Saarstahl, Salzgitter, ArcelorMittal, ThyssenKrupp, and Algoma Steel (Figure 4). The unique size and location of this warehouse allow it to serve these customers with cargo throughout the winter months when access into the St. Lawrence Seaway System is restricted. There are few, if any, Ports within the Great Lakes that have comparable warehouse capacity to be able to handle this weather-sensitive cargo storage and throughput.

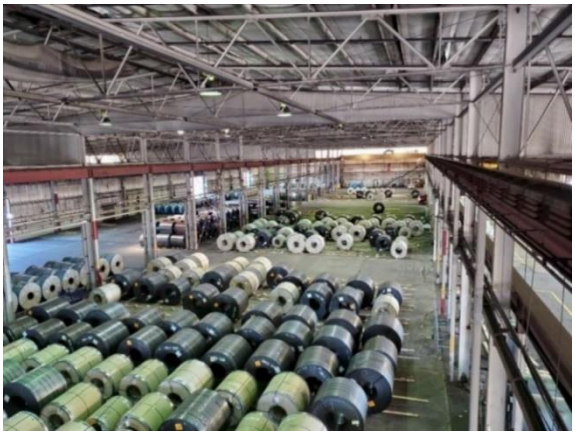

Figure 4: Steel Coil Cargo Inside Warehouse A

II. PROJECT LOCATION

A. LOCATION MAP

The Electrification and Warehouse A Modernization Project is located at the Port's General Cargo Terminal in an urban area of downtown Cleveland at 600-1101 Erieside Avenue, Cleveland, OH 44113 at the mouth of the Cuyahoga River on Lake Erie (41.503722°, -81.704231°) (Figure 5). The Terminal is a major node in the Great Lakes transportation system, serving both regional ports in the U.S. and Canada, as well as overseas ports. The Port is located within an 8-hour drive of half of all U.S. households, businesses, and manufacturing plants.

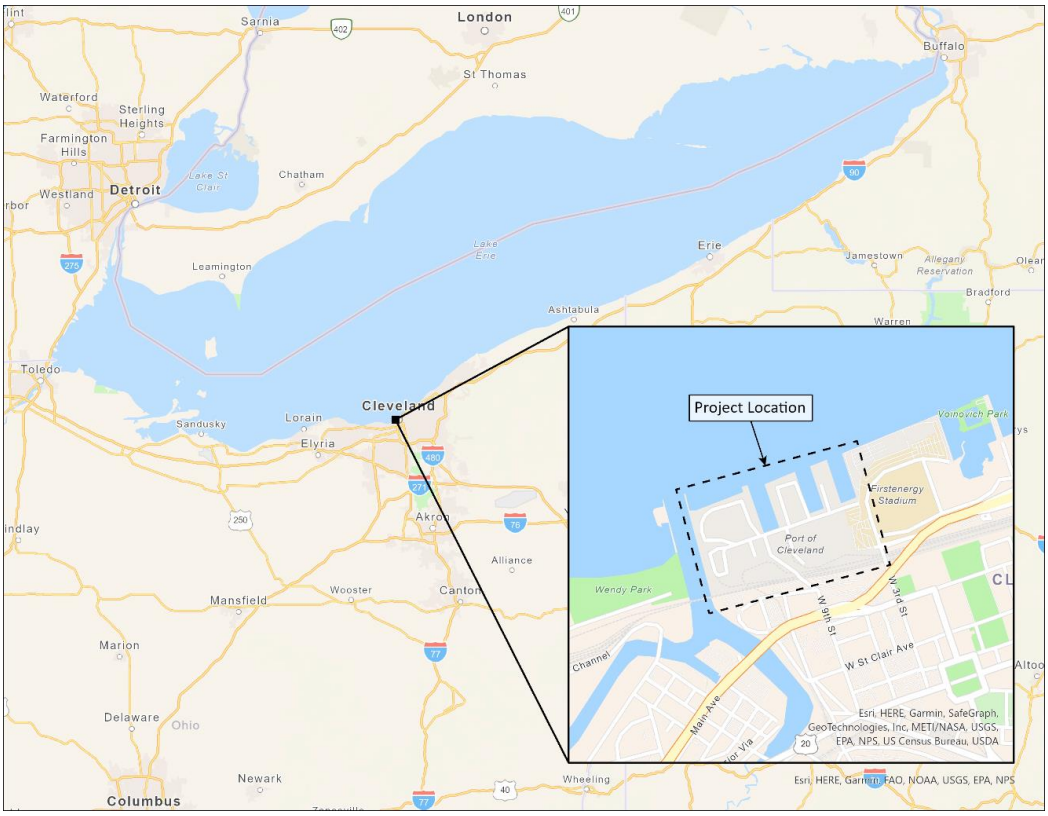

Figure 5: Project Location

B. TRANSPORTATION LINKAGES

From the Port's main gate on West 3rd Street, trucks have immediate access to State Route 2 and I-90. Quick access to I-77 and I- 71 are minutes away, and The Ohio Turnpike (80) is 25 miles away. The Port has direct on-dock rail service by two Class 1 Railroads, CSX and Norfolk Southern.

C. HISTORICALLY DISADVANTAGED COMMUNITY AND QUALIFIED OPPORTUNITY ZONE

The Port of Cleveland's General Cargo Terminal is located within both a Historically Disadvantaged Community[2] and a Qualified Opportunity Zone[3] (census tract 1071.01), as shown in Figures 6 and 7.

[2] https://usdot.maps.arcgis.com/apps/dashboards/d6f90dfcc8b44525b04c7ce748a3674a
[3] https://opportunityzones.hud.gov/

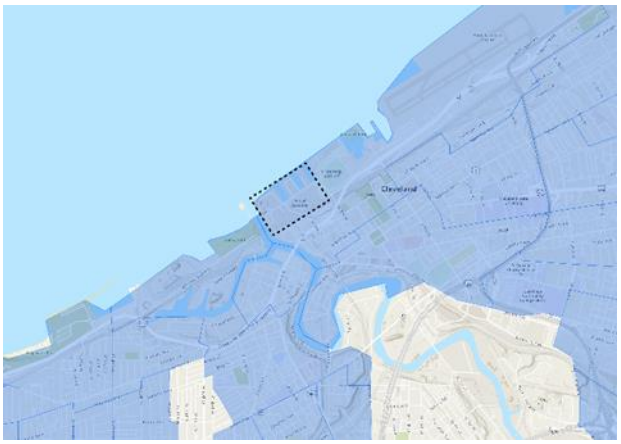

Figure 6: Historically Disadvantaged Community

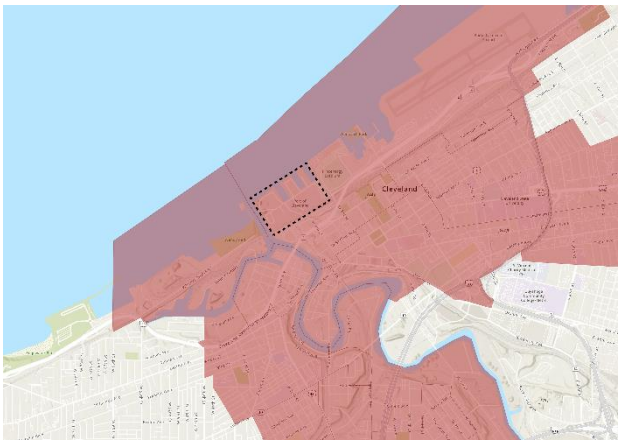

Figure 7: Opportunity Zone

III. GRANT FUNDS, SOURCES, AND USES OF PROJECT FUNDS

The total cost of the Electrification and Warehouse A Modernization Project is estimated at $34.519 million (Table 1). **The Port is allocating $6.904 million to the Project, but $27.615 million is still needed for Project construction.** If federal PIDP grant funds are not awarded, construction of the Project will be delayed as the Port seeks alternate sources of funding, which will result in additional costs due to rising construction costs. This will put the future of Warehouse A, and its associated cargo throughput, at risk, as well as leave the Port unable to advance necessary efficiency, environmental impact, and community engagement improvements aligned with its Strategic Plan and federal government initiatives.

A. Project Costs

Table 1: Project Costs

	Project Component	Cost	Funding Allocation		% Overall Project
			PIDP Funds	Local Funds	
1	W. 3rd Lot Cargo Movement Efficiency Improvements	$2,823,250	$2,258,600	$564,650	8%
2	Warehouse A Rehabilitation and Modernization	$18,531,976	$14,825,581	$3,706,395	54%
3	Electrification & Stormwater Enhancements	$8,172,015	$6,537,612	$1,634,403	24%
4	Maritime Learning & Resource Center	$488,750	$391,000	$97,750	1%
	Construction Total	**$30,015,991**	$24,012,793	$6,003,198	87%
	Planning, Design, & Permitting	$3,001,599	$2,401,279.25	$600,320	9%
	Inspection & Compliance	$1,500,800	$1,200,639.63	$300,160	4%
	TOTAL	**$34,518,389**	**$27,614,711**	**$6,903,678**	-

The cost data shown in Table 1 was compiled in April of 2022 by the Port's Director of Planning & Capital Development from various sources, including previous historic cost data, subcomponent quotes, and the Port's Stormwater Master Plan. **A SF-424C form is provided as an application attachment.** No previously incurred expenses or expenses that will be incurred prior to grant award announcement are included in the cost data.

B. Funding Sources

The Port of Cleveland will provide a non-federal match of $6,903,678 (20% of the total Project costs) from its Capital & Maintenance Program funds, derived from revenue the Port generates on an annual basis. The Project's funding breakdown by year and source is shown in Table 2. A letter of commitment from the Port for the non-federal match is attached to this application.

Table 2: Project Funding Schedule

	2023	2024	2025	2026	2027	TOTAL
Federal (PIDP) Contribution	$800,426	$1,600,854	$10,085,373	$10,085,373	$5,042,686	$27,614,711
Port of Cleveland Contribution	$200,106	$400,213	$2,521,343	$2,521,343	$1,260,672	$6,903,678
TOTAL	**$1,000,532**	**$2,001,067**	**$12,606,716**	**$12,606,716**	**$6,303,358**	**$34,518,389**

IV. Merit Criteria

A. Achieving Safety, Efficiency, or Reliability Improvements

i. Loading and Unloading of Goods at a Port

Loading/Unloading of Goods
✓ **Unrestricted Port cargo handling travel lanes to the W. 3rd St. Lot and Warehouse A**
✓ **Additional acre of laydown space**
✓ **Save over 100 hours in cargo handling time**

The Electrification and Warehouse A Modernization Project will great improve the speed and safety of loading and unloading goods at the Port. The existing maintenance facility and hiring hall buildings south of Erieside Ave. are obsolete as constructed and currently impede the flow of cargo to and from vessels and the W. 3rd St. Laydown Lot to the south of Erieside Ave. Demolishing these facilities and reconstructing as annexed wings off Warehouse A will improve the flow of cargo to and from the W. 3rd Lot and all docks, **greatly enhancing cargo handling efficiency and capacity on the Terminal.** The additional acre in laydown space is invaluable with close proximity to the Terminal's most used docks, Docks 24 and 26, which are currently undergoing rehabilitation with PIDP funds (PIDP Grant No. 693JF71910010). The removal of these buildings and opening of the laydown yard is consistent with the Port's Facility Development Plan.

The movement of goods to and from vessels and into Warehouse A is also significantly hampered by the current state of disrepair of the warehouse. Cracks and unevenness in the concrete slab and adjacent pavement cause tripping hazards for employees and require heavy machinery to slow down considerably to safely move cargo. By removing this approximately 30 second delay in each cargo move to and from a vessel and Warehouse A, **the Project is estimated to save over 100 hours in cargo handling time**, a significant improvement in efficiency considering the seasonal shutdowns at the Port with the closing of the St. Lawrence Seaway System. Loading and unloading goods more efficiently is expected to lead to additional benefits, including reduced runtime of machinery, quicker vessel turnaround times, and the opportunity to move more cargo through the Port.

ii. Movement of Goods into, out of, around, or within a Port

Movement of Goods
✓ **Fully and safely utilize Warehouse A for throughput of over 225,000 metric tons of cargo annually**
✓ **$5.4 million in safety benefits**
✓ **$8.2 million in external truck and national infrastructure benefits**
✓ **$24.6 million in economic competitiveness benefits**

The rehabilitation and modernization of Warehouse A is critical to keeping the warehouse open and servicing the Port and the region in a safe and effective manner. The warehouse is beyond its anticipated useful life and is in a state of disrepair, limiting efficient movement and throughput of cargo and elevating workplace hazards for employees. The overhead crane, also past its useful life, is often undergoing costly repairs, with replacement parts increasingly difficult to source. If left unaddressed, Warehouse A operations will become increasingly restricted until eventual closure, resulting in the rerouting of the 225,000 metric tons of weather-sensitive cargo stored and handled annually.

Under the Without Project Scenario, the increased highway-truck miles to redirect this cargo through the Port of Toledo, the closest port with comparable warehouse capacity, would lead to an additional $5.4 million in safety costs due to the increased probability of crashes and an additional $8.2 million in external trucking and national infrastructure costs due to increased highway/pavement repair, highway congestion, and noise pollution. In addition, the closure of Warehouse A would lead to $24.6 million in economic competitiveness costs due to increased costs for transporting and trucking cargo.

iii. Operational Improvements

Operational Improvements
✓ **Provide an additional 40 years of useful life to Warehouse A**
✓ **Save ~$200,000 in annual maintenance and repair costs**
✓ **Stormwater infrastructure resiliency**

Built in 1975, Warehouse A reached the end of its anticipated useful life in 2015 and is prohibitively expensive, inefficient, and unsafe to maintain. Based on a 2021 inspection of the Warehouse A Middle Bay and crane runway system, all cross-bracing members between columns were determined to be in **critical condition and needing replacement in the next one to three years.** Many columns need straightened and new/repaired concrete encasements for protection from future potential impacts, while beams and rails need aligning, tightening, and general cleaning and painting (Figure 8). Six of the 24 crane bays are currently inaccessible due to poor infrastructure conditions.

Figure 8: Impacted Column and Cross-Bracing in Warehouse A

In 2021, a portion of Warehouse A's roofing was destroyed during a storm event (Figure 9). While insurance was able to ensure minimum repairs were made, the rest of the roof remains beyond its useful life and at risk for severe damage from high winds. To protect the safety of employees and minimize the risk of Warehouse A downtime or closure, a new roof designed for resiliency against storm events is greatly needed.

Figure 9: 2021 Warehouse A Roof Damage

Based on 2019-2021 data, the Port spends over $238,000 annually in maintenance costs for Warehouse A due to the warehouse's state of disrepair. Based upon historic review of repair and maintenance records, this number has been exponentially increasing. Additional safety concerns include cracks and unevenness in the concrete slab, which have become tripping hazards to employees and added additional time and effort to safely block and store cargo, and an outdated and unreliable fire suppression system, which limits the diversity of cargo that can be handled in the warehouse. Rehabilitation and modernization of Warehouse A will return the warehouse to a state of good repair and extend its life by an estimated 40 years. The Port has determined reinvestment in and modernization of this asset to be more cost-effective than reconstructing a new warehouse.

The Project will also incorporate aspects to improve the Port's resiliency and prepare for future natural or human-made disasters. The stormwater management and treatment aspects of this Project will be designed with climate change in mind to ensure the Port is well-prepared for future changes in lake levels, precipitation, and stormwater regulations. If funding is available from within the established Project budget, the installation of solar and improvements in electrical infrastructure could improve the Port's energy independence and reduce the likelihood of power outages.

iv. Environmental and Emissions Mitigation Measures

The Electrification and Warehouse A Modernization Project incorporates significant environmental and emissions reduction investments, which will greatly reduce the environmental and community impacts of port operations. The section on Merit Criteria C: "Addressing Climate Change and Environmental Justice Impacts," provides detailed information on scope items and quantifiable emissions reductions.

B. Supporting Economic Vitality at the Regional or National Level

A Benefit-Cost Analysis (BCA) was conducted for the Electrification and Warehouse A Modernization Project. The BCA provides a monetization and discounting of Project costs over a 20-year horizon, in a common unit of measurement in present day dollars. This BCA attempts to be comprehensive and objective in identifying and quantifying Project benefits and costs and complying with the guidelines for the BCA as outlined in the PIDP Notice of Funding Opportunity.

The Project's benefits are derived from analyzing With Project and Without Project Scenarios. If the Project is not built, Warehouse A will need to close, and its cargo throughput would likely be diverted to the Port of Toledo, the closest Port with comparable warehouse storage capacity. This analysis assumes that the warehouse space is available and can accommodate the diversion of cargo.

Many of the benefits quantified to determine the Benefit-to-Cost Ratio stem from the potential increase in highway-truck miles in a Without Project Scenario. Increased truck miles on the nation's highway system lead to the following costs:

- Increased emissions
- Increased highway safety costs
- Highway congestion
- Highway pavement deterioration
- Increased noise pollution
- Increased truck operating and value of time costs

Additional environmental benefits are determined from the investments in electrification infrastructure and resulting emissions reductions from cargo handling equipment and vessels at berth.

This BCA reflects USDOT's standard guidance regarding forecast periods and discount rates. As such, all estimates were calculated over a 20-year forecast period, starting in 2022. **The Project has a Benefit-Cost Ratio of 3.29, with a discount rate of 7% used throughout the analysis.**

A summary of the BCA results is shown in Table 3, and a detailed explanation of the analysis is available in the separate BCA Report Appendix. This BCA does not quantify the overall benefits to the other Great Lakes ports or the St. Lawrence Seaway system. However, vessel rotations on the Great Lakes typically involve numerous to serve both importing and exporting industries, and many times the Port of Cleveland is the keystone in that vessel rotation.

Table 3: BCA Summary Results (7% discount)

Category	Description	Present Value
Emissions	Reduction in nitrogen oxides (NO_x), Volatile Organic Compounds (VOC), Fine Particulate (PM), Sulfur Oxides (SO_x), and Carbon Dioxide (CO_2) emissions due to decreased highway miles and electrification of cargo handling equipment and vessels at berth	$40,793,006.26
Safety	Reduction in truck crash probability due to decreased highway miles	$5,375,870.63
External Truck and National Infrastructure	Reduction in highway/pavement repair, highway congestion, and noise pollution costs due to decreased highway miles	$8,226,403.49
Economic Competitiveness	Reduction in truck operating and value of time costs due to decreased highway miles	$24,635,958.82
Net Present Value of Benefits		**$79,031,239.21**
Net Present Value of Project Costs		**$24,046,381.64**
Benefit-to-Cost Ratio		**3.29**

C. Addressing Climate Change and Environmental Justice Impacts

Climate Change and Environmental Justice
✓ **$40.8 million in environmental benefits**
✓ **Treat 21 million gallons of stormwater annually**
✓ **Reduce emissions for nearby communities facing environmental justice concerns**

The Project includes significant stormwater infrastructure investments necessary to not only maintain compliance with the Port's industrial stormwater permit and be prepared for potentially stricter regulations in the future, but also be better stewards of Cuyahoga River and Cleveland Harbor, which continue to become more popular for recreation and fishing. Historically, all stormwater that fell within the Port's Terminal flowed directly into Lake Erie without treatment. With the ongoing Dock 24 and 26 Master Modernization and Rehabilitation Project, funded in part by a FY 2019 PIDP grant award, new stormwater collection infrastructure, subsurface detention vaults, and above ground treatment devices are being installed to collect and treat

stormwater from approximately 15.3 acres of the Terminal. **This Project will complement the Dock 24 and 26 investments and treat an additional 21 million gallons of stormwater annually and more than double the area treated on the Terminal from 15.3 acres to 37 acres (Figure 10).** Stormwater management designs will be guided by the Port's Stormwater Master Plan and consider projected climate change impacts.

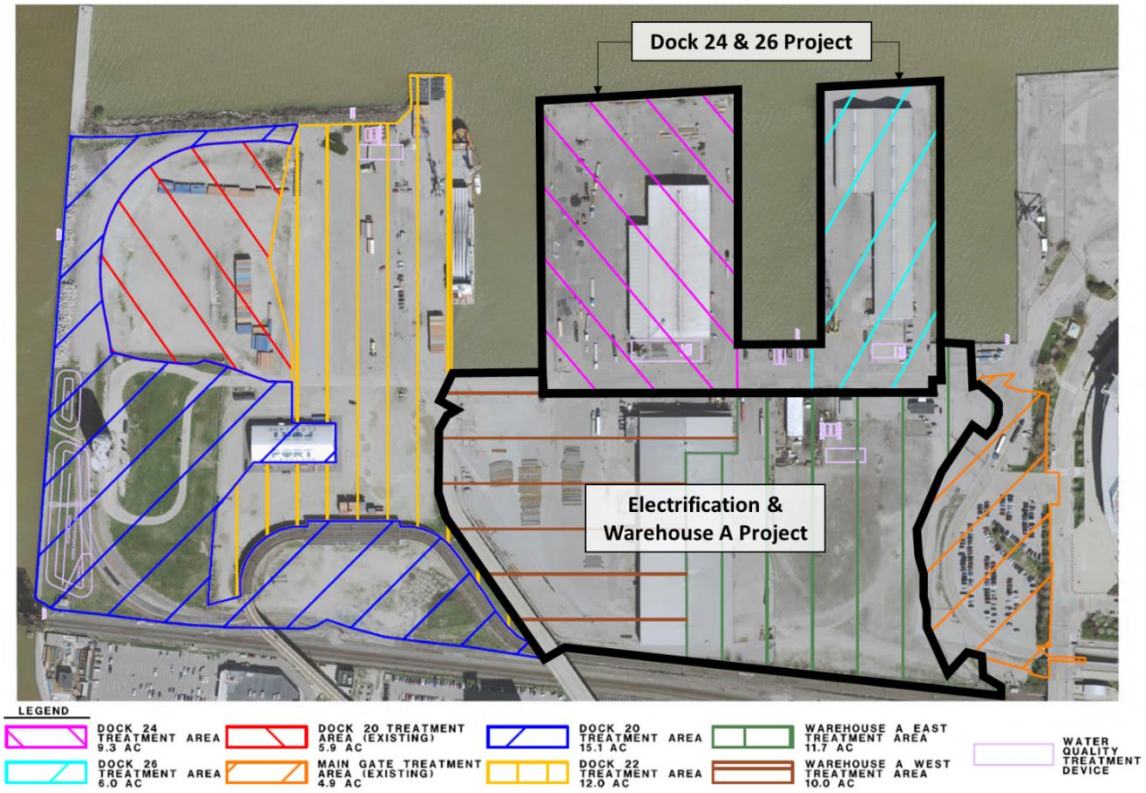

Figure 10: Stormwater Drainage Areas

In addition, planning, design, and updated infrastructure are needed to lay the groundwork for the Port's transition towards electrification and net-zero emissions. Like many ports, the Port's General Cargo Terminal is located in a county which is in nonattainment or maintenance for several National Ambient Air Quality Standards (2014 8-hour ozone, 2008 8-hour ozone, 2012 $PM_{2.5}$, and 2006 $PM_{2.5}$) and is a priority diesel PM area based on the 2014 National Air Toxics Assessment. **Many members of the surrounding communities face environmental justice concerns and health disparities.** According to the US DOT's Disadvantaged Census Tract tool, the Project is located in a Historically Disadvantaged Community, facing environmental, equity, economic, and transportation access disadvantages.[4] Per EPA's Environmental Justice Screening and Mapping Tool (EJSCREEN) Environmental Justice Indices, the Project area is in the 87th percentile for the Air Toxics Respiratory Hazard Index, 88th percentile for $PM_{2.5}$ levels, and 90th percentile for diesel PM.[5] A summary of the emissions from the Port is shown in Figure 11,

[4] https://usdot.maps.arcgis.com/apps/dashboards/d6f90dfcc8b44525b04c7ce748a3674a
[5] https://ejscreen.epa.gov/mapper/

identifying vessels at berth (hoteling) and cargo handling equipment as the two leading sources of emissions.

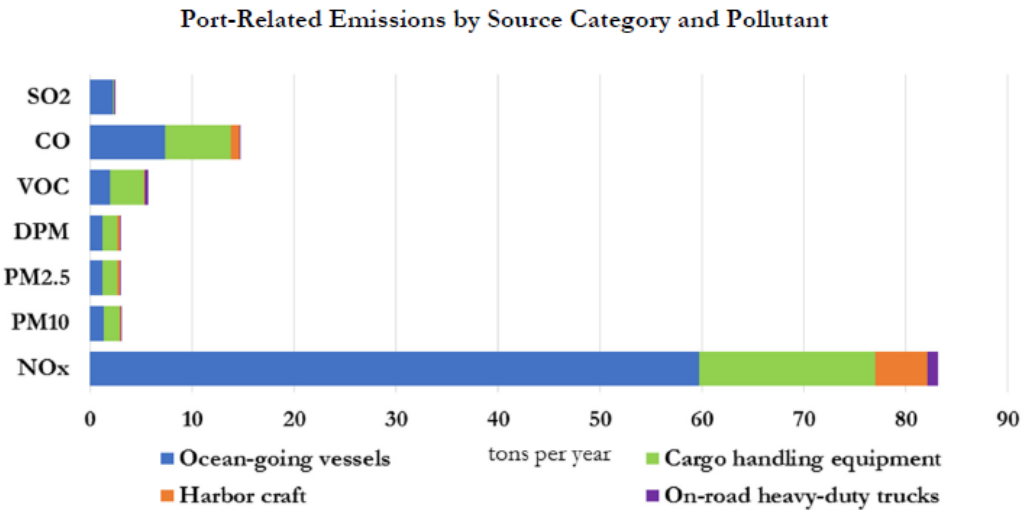

Figure 11: Emissions at the Port of Cleveland

The Project's resulting reduction in emissions will have numerous environmental and public health impacts on the area and communities surrounding the Terminal and the Greater Cleveland Area. As part of the Project, a comprehensive Electrification and Clean Air Plan will be developed for the Port, including a thorough review of the Port's existing electrical infrastructure, recommendations and costs for upgrades, realistic goals and timelines for tracking progress, and a solar feasibility study for the Terminal. It is anticipated as part of this plan that the reconstructed Maintenance Shop wing on Warehouse A will be outfitted with charging, refueling, and/or other infrastructure to serve as the hub for the Port's future zero-emissions fleet, and power will be installed along Docks 22, 24, and 26 for cold ironing and the powering of electrified dockside mobile harbor cranes. By laying the groundwork for a smooth transition towards electrification, the Port will be prepared to start replacing equipment and powering vessels at berth over an approximate 20-year period as technology allows. In addition to emissions benefits at the Terminal, keeping Warehouse A in operation will ensure cargo does not have to be rerouted to other ports and spend additional time trucked on highways. An approximate two million truck miles will be saved by keeping Warehouse A in use. The benefits of electrifying appropriate cargo handling equipment and vessels at berth and investing in Warehouse A rehabilitation are shown in Table 4. These environmental benefits are valued at approximately $40.8 million.

Table 4: Electrification Emissions Reductions

	Approximate Annual Emissions Reductions (short tons)			
Pollutant	**Vessels at Berth**	**Cargo Handling Equipment**	**Highway Miles**	**TOTAL**
Nitrogen Oxides (NO_x)	29.10	3.60	72.15	**104.85**
Volatile Organic Compounds (VOC)	1.00	0.20	2.63	**3.83**
Fine Particulate (PM)	1.20	0.50	2.85	**4.55**
Sulfur Oxides (SO_x)	1.40	0.02	0.13	**1.55**
Carbon Dioxide (CO_2)	2,348.00	1,173.70	5,491.65	**9,013.35**

D. Advancing Equity and Opportunity for All

Equity and Opportunity
✓ **Maritime and Learning Resource Center will provide opportunities for underserved student populations**
✓ **Application of Port minimum wage and inclusion policies in all Project activities**

The Port prioritizes advancing racial equity and reducing barriers to opportunity as a dynamic, job-generating enterprise in the City of Cleveland. In its Strategic Plan, the Port includes a key goal of "inclusive practices to reflect [its] diverse community."[6] To further this important goal, the Port has launched recent initiatives to address equity and barriers to opportunity, which include a $15 minimum wage policy for port-related work, 30% minority and female business participation goals, and the creation in November 2020 of a Port Community Investment Grant program dedicated to economically vulnerable neighborhoods and their residents. The Port's program makes grants to aid Cuyahoga County based nonprofit programs and organizations focused on workforce development, economic development, and community improvement and quality of life issues. The Board resolution establishing these internal initiatives is provided as an attachment to this application.

Figure 12: Davis Students Aboard Flotsam & Jetsam

The Project's newly constructed Maritime and Learning Resource Center wing off Warehouse A will continue to advance the Port's goals of advancing equity and providing opportunity for community members. This center will provide space for experiential learning opportunities for students from Davis Aerospace & Maritime High School, founded by the Cleveland Metropolitan School District and PHASTAR Corporation, a 501(c)(3) organization whose mission is "to break the cycle of poverty and increase equity in education by providing hands-on

[6] https://www.portofcleveland.com/strategic-plan/

experiential learning opportunities and work experience for youth interested in exploring careers in aerospace and maritime."[7] The Davis Aerospace & Maritime High School student population is largely underserved, with 100% of students considered economically disadvantaged and all students eligible for free lunches. The student population is 64.5% African American, 15.7% Caucasian, 16.6% Hispanic, and 0.9% Asian, 25.35% of the students have a disability, and 13.1% of enrolled students have limited English proficiency. 200-300 students are enrolled in Davis Aerospace & Maritime High School each year.[8] The Port currently contracts with PHASTAR to operate the Port's two debris harvesting vessels, Flotsam and Jetsam, including students aboard the vessels (Figure 13).

E. Leveraging Federal Funding to Attract Non-Federal Sources of Infrastructure Investment

The Port has demonstrated on recent projects that Federal grant funding sparks additional state and local investment beyond the original matching grant amount. Examples of partially federally funded Port projects that have spurred or are spurring additional backside/upland investments include the following:

- **Dock 24 and 26 Master Modernization and Rehabilitation Project:** This partially PIDP funded project (FY 2019 $11 million) has garnered more than double state and local investments, with approximately $8.5 million coming from the Ohio Department of Transportation (ODOT) Maritime Assistance Program (MAP) and over $3.6 million from Port local funds. The Electrification and Warehouse A Modernization Project will build off components from the Dock 24 and 26 Project, such as tying in new stormwater infrastructure with treatment devices installed on Dock 24 and extending electrical infrastructure through duct banks installed along the sides of Dock 24 and 26.
- **Port of Cleveland's Main Gate & Access Road Improvements:** This partially federally funded project (U.S. DOT Federal Highway Administration Earmark OH302) at the Port's main gate, completed in 2021, included added technology to improve the security clearance process and lay the groundwork to improve the cargo processing and throughput efficiency of the General Cargo Terminal. The Port is working with its Terminal operator on added improvements and enhancements to move cargo more efficiently off the Terminal.
- **Cleveland Bulk Terminal Maritime Rehabilitation Project:** This partially federally funded project (U.S. DOT Federal Highway Administration Earmarks OH360 and OH351), completed in 2019, involved the rehabilitation of the Bulk Terminal maritime infrastructure, which laid the groundwork for the extension of the upland ore conveyance tunnel, completed in 2021. This project leveraged over $2.15 million in ODOT MAP funds,

[7] https://phastar.org/who-we-are/mission-history/
[8] https://phastar.org/faqs/

$4 million in funding from the Port's terminal operator, and $1 million in funding from the Port.

The Port has had significant success in applying for and obtaining funding from the ODOT MAP in recent years and anticipates on applying for additional funds if the program is re-authorized. From 2020-2021, the Port acquired $20,197,126 from the ODOT MAP for several projects at the Port's terminals and in Cleveland Harbor. The Port is well experienced in obtaining local and state funds to fully leverage federal funds and maximize project benefits.

V. PROJECT READINESS

A. TECHNICAL CAPACITY

i. Applicant's History

The Port's Planning & Development and Accounting teams have extensive experience in planning, design, and construction projects and federal grant management and have successfully met all reporting requirements for federally funded grants received. Most notably, the Port received $11 million during the FY 2019 PIDP grant cycle for the Dock 24 and 26 Master Modernization and Rehabilitation Project, which is currently in progress. The Port has also teamed with the Northeast Ohio Areawide Coordinating Agency (NOACA) to acquire $9 million in INFRA funds in 2019 for the stabilization of Irishtown Bend, a hillside that threatens to slide into the Cuyahoga River and disrupt shipping. Additional federal funds received in recent years are included in Table 5.

Table 5: Recent Federal Grants

Fiscal Year	Funding Program	Project Title	Assistance Agreement Number	Funding Amount	Status
2021	U.S. EPA Great Lakes Restoration Initiative	Green Bulkhead at Irishtown Bend	00E03067	$1,700,000	In Progress
2021	U.S. EPA Diesel Emissions Reduction Act	Cleveland Bulk Terminal Loader Replacement	00E03004	$186,250	In Progress
2019	U.S. DOT MARAD Port Infrastructure Development Program	Dock 24 and 26 Master Modernization and Rehabilitation Project	693JF71910010	$11,000,000	In Progress
2019	U.S. DOT FHWA Federal Earmark	General Cargo Terminal Main	80986	$2,675,000	Complete

	and Toll Revenue Credit Funds	Gate and Access Road Project			
2017	U.S. DOT FHWA Federal Earmark and Toll Revenue Credit Funds	Cleveland Bulk Terminal Maritime Rehabilitation Project	80987	$6,384,126	Complete
2017	U.S. DOT FHWA (through regional MPO) Congestion Mitigation and Air Quality (CMAQ) Program	Bulk Terminal Tunnel and Conveyance Extension	112415	$3,152,500	Complete
2015	U.S. DOT FHWA (through regional MPO) Congestion Mitigation and Air Quality Program	Port Cranes Purchase Project	99005	$4,621,830	Complete

ii. Project Schedule

Planning and design will proceed from the fourth quarter of 2023 through 2024, allowing sufficient time for the grant agreement execution and NEPA process to occur in late 2022 and through 2023. Construction is estimated to begin in the first quarter of 2025 and continue through mid-2027. Construction will be phased to allow all areas of the Port to remain open to limit impacts to Terminal operations.

Table 6: Project Schedule

	2022		2023				2024				2025				2026				2027			
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Award Notice																						
NEPA Documentation & Grant Agreement Execution																						
RFQ for Design Consultant																						
Planning and Design																						
RFP for Construction																						
Construction																						

If the NEPA and grant agreement processes can be completed earlier than scheduled, the Port will move up the dependent design and construction tasks accordingly.

iii. Inclusion in Local, Regional, and State Plans

Components of the Electrification and Warehouse A Modernization Project are included in several internal Port planning documents, including the Port's 2019 Facility Development Plan, 2021 Stormwater Master Plan, and 2017-2022 Strategic Plan.[9]

At the state level, the Port and its growth in containerized and breakbulk cargo is identified as a key resource in ODOT's current Statewide Freight Plan.[10] While not specifically listed as a project that will be funded by national freight funding dollars, the Project will assist the State in fulfilling its obligations towards better air quality and ensure the Port continue to grow. The Project will also help advance ODOT'S Long-Range Transportation Plan,[11] which discusses climate variability and methods Ohio can deploy to achieve better air emissions, and ODOT's Ohio Maritime Strategy,[12] which lays out a plan to better utilize ports to achieve a more balanced transportation system and supply chain network.

> *"The State Freight Plan encourages Ohio Ports to modernize and prepare for an alternative energy future. Marine ports have a tremendous opportunity to reduce air emissions and modernize through shore power systems, wind, solar and renewable energies, and investments in electric or alternative energy equipment. The Port of Cleveland's application establishes the foundation to advance these goals."*
>
> Mark Locker, AICP
> ODOT Project Manager; Freight, Maritime, & Logistics

> *"This project promotes NOACA's goals for the region to build a sustainable multimodal transportation system that supports economic development and enhanced quality of life."*
>
> Grace Galluci
> NOACA Executive Director & CEO

At the regional level, the Project fits well within several of Northeast Ohio Areawide Coordinating Agency's (NOACA) strategic plans, including its Long-Range Plan, eNEO2050,[13] which focuses on maintaining existing transportation assets, economic development, sustainable technologies, encouraging employment, and environmental protection. NOACA is the metropolitan planning organization (MPO) for the Cleveland metropolitan area.

B. Environmental Risk

i. NEPA Status

Based on current MARAD NEPA documentation (MAO 600-1 Appendix 1, Items 4, 9, and 10), **it is anticipated that the Project can achieve environmental clearance as a Categorical Exclusion.** The Categorical Exclusion will summarize all technical studies, reports, coordination, and other activities conducted throughout the environmental process. The document will also include any

[9] https://www.portofcleveland.com/strategic-plan/
[10] https://www.transportation.ohio.gov/programs/transport-ohio#page=1
[11] https://www.transportation.ohio.gov/programs/access-ohio-2045/access-ohio-2045#page=1
[12] https://www.transportation.ohio.gov/programs/maritime-freight/resources/maritime-strategy
[13] https://www.eneo2050.com/

special environmental commitments that will be required prior, during, and after Project construction.

While NEPA review has not yet started, Port personnel are well experienced working with MARAD's Office of Environmental Compliance to complete the NEPA process in a timely and efficient manner. Based on MARAD personnel availability, the Port has planned for final NEPA determination to conclude by the end of 2023.

ii. Environmental Permits and Reviews

Based on the scope of the Project, environmental permitting is expected to be limited. The Port anticipates no impacts to Lake Erie or the adjacent Federal Navigation Channel, and no real estate will need to be acquired. Based off a precursory review, no impacts to Section 106 properties or endangered species are expected. The Project is not dependent on any U.S. Army Corps of Engineers investments or planned activities. Permits likely to be needed include the following:

- Due to the Project's proximity to Burke Lakefront Airport, a FAA 7460 Airspace Determination may be required for construction equipment and/or new infrastructure.
- If the amount of disturbed area is greater than 1 acre, an Ohio EPA construction general stormwater permit will be required. The Port is well experienced with acquiring these permits in collaboration with contractors and monitoring contractors for compliance.
- A City of Cleveland Building Permit will likely be required for construction of the annexed maintenance facility, hiring hall, maritime training center, and the electrical upgrades to Warehouse A.
- The Port will need to update its existing industrial stormwater permit Stormwater Pollution Prevention Plan (SWPPP) to account for the changes in drainage patterns and installation of treatment infrastructure as part of this Project. The Project is expected to greatly improve the Port's ability to comply with permit benchmarks and be better prepared for future more restrictive requirements.

Port personnel have significant experience with all expected permitting requirements and will be well positioned to obtain necessary permits during design in 2023 and 2024.

iii. State/Local Approvals

The Project's investments are consistent with the Port's Facility Development Plan, Stormwater Master Plan, and Strategic Plan, which has approval from the Board. The Project has broad support from stakeholders, including the Terminal's operator, customers, ODOT, state and local politicians, and PHASTAR Corporation. **Letters of support are provided as attachments to this application.**

C. Risk Mitigation

The Port has identified potential risks to the Project's proposed schedule and budget and has compiled mitigation strategies for these risks in Table 7.

Table 7: Project Risks and Mitigation Strategies

Risk	Description	Impact/Probability	Mitigation Strategies
Funding	-Current funding challenges to modernize Warehouse A -Rising costs due to inflation and current market forces -Uncertainties in design	High/Moderate	-PIDP grant -ODOT MAP grant -Port cash reserves -Fine-tuning of scope -Explore additional federal funding sources, such as CMAQ, Reduction of Truck Emissions at Ports Program, or Carbon Reduction Program
NEPA	-Preparation of MARAD Categorical Exclusion documents	Low	-Categorical Exclusion highly anticipated -Close coordination with MARAD -Provide ample time in schedule
Permitting	-FAA 7460 Airspace Determination likely required as result of construction equipment operation height and proximity to Burke Lakefront Airport -Construction Stormwater General Permit likely required due to area of disturbance -City of Cleveland Building Permit likely required -Industrial Stormwater General Permit SWPPP modification required after Project	Low	-Acquire early on in design process -Provide ample time in schedule

VI. DOMESTIC PREFERENCE

All iron, steel, manufactured products, and construction materials to be used in the Project will be sourced from U.S. manufacturers. The Project contract will include a "Build America, Buy America Act Requirements" provision, per MARAD requirements. The Port will audit the contractor's fulfillment of the requirement through the submission of delivery tickets and TE-24s on all permanent materials. The contractor will be required to submit proof all materials comply with requirements.

Through the Port's ongoing PIDP Dock 24 and 26 Master Modernization and Rehabilitation Project, as well as past federally funded projects, Port personnel have ample experience in monitoring and enforcing domestic content requirements. The Port has performed upfront due diligence to verify the overhead crane proposed to be replaced under this Project can be sourced domestically and will meet Buy America requirements.

VII. DETERMINATIONS

Project Determination	Response
1. The project improves the safety, efficiency, or reliability of the movement of goods through a port or intermodal connection to the port.	The following Project aspects will improve the safety, efficiency, or reliability of the movement of goods through the Port of Cleveland's General Cargo Terminal: • Demolishing the existing maintenance facility and hiring hall buildings will improve the efficiency of cargo movement in and out of the W. 3rd St. Lot and create an additional acre of laydown capacity. • Restoring Warehouse A's concrete slab and adjacent pavement will reduce inefficiencies and save over 100 hours in cargo handling time. • Keeping Warehouse A in service will ensure the 225,000 metric tons of weather-sensitive cargo do not need to be rerouted and cause an additional $5.4 million in safety costs, $8.2 million in national infrastructure costs, and $24.6 million in economic competitiveness costs due to increased highway truck miles. • Restoring Warehouse A to a state of good repair will address several safety concerns, including impacted columns and cross-bracing, unevenness in the concrete slab, and an unreliable fire suppression system. • Replacing Warehouse A's overhead crane will reduce costs and downtime due to repairs. • Electrification preparation will greatly reduce the emissions that can negatively impact the health of employees and nearby communities facing environmental justice concerns. • Stormwater management and treatment improvements will ensure the Port can maintain compliance with its industrial stormwater permit and avoid operational delays or shutdowns from regulators. • Minimum wage and inclusion policies and the new Maritime and Learning Resource Center will ensure the future of the maritime workforce is well-prepared.

2. The project is cost effective.	The Project has a Benefit-Cost Ratio of 3.29, with a discount rate of 7% used throughout the analysis.
3. The eligible applicant has the authority to carry out the project.	The Cleveland-Cuyahoga County Port Authority was established in 1968 to manage maritime operations pursuant to the provision in ORC Chapter 4582.
4. The eligible applicant has sufficient funding available to meet the matching requirements.	The Port will provide a 20 percent non-federal match of $6,903,678 over the life of the Project from its capital budget and cash reserves. A letter of commitment from President and CEO William D. Friedman is included as an attachment to this application.
5. The project will be completed without unreasonable delay.	The Project will be completed in a timely manner as follows and as further detailed in the Project Schedule section of this application: Award Notice: Q4 2022 NEPA Documentation and Grant Agreement Execution: Q1-Q4 2023 Design and Permitting: Q1-Q4 2024 Construction: Q1 2025-Q2 2027 Project tasks will be moved up accordingly based on early completion of the NEPA and grant agreement processes.
6. The project cannot be easily and efficiently completed without Federal funding or financial assistance available to the project sponsor.	The Port of Cleveland's current (2022) operating budget is $10,113,110, and capital budget is $26,513,242, almost $25 million of which is needed for paving on Dock 22, mandatory U.S. Customs and Border Protection facility investments, and the Dock 24 and 26 Master Modernization and Rehabilitation Project. With approximately $12 million in reserves and given the Port's current and future budget constraints, PIDP funding is critical to move this Project forward. Answers to individual questions provided in the Notice of Funding Opportunity are shown below: 1. How would the project scope be affected if PIDP (or other Federal) funds were not received? Without funding assistance, the Port does not anticipate having the budget flexibility in the coming years to make investments beyond minimal repairs and maintenance to keep sections of Warehouse A in operation as long as possible. Given the current conditions and age of the

	infrastructure, it is anticipated Warehouse A will eventually need to close without the significant renovations described in this application. 2. How would the project schedule be affected if PIDP (or other Federal) funds were not received? The Project would continue to be delayed until sufficient funding is obtained from federal and/or state sources. 3.How would the project cost be affected if PIDP (or other Federal) funds were not received? Due to the delay of the Project, costs would continue to rise due to inflation and the uncertainties in the supply chain and labor market.

VIII. SUPPORTING DOCUMENTS

The following supporting documents are included as attachments in the application package:

1. SF-424C
2. Funding Commitment Letter
3. BCA Narrative
4. BCA Spreadsheet (Excel)
5. Port's Workforce Policy and Community Investment Fund Board Resolution
6. Letters of Support