



MIRR and Beyond

- Peggy Tadej, NVRC
- Jennifer Hirsch, OLDCC
- Toni Ann Fisher, DOD, Air Force Partnerships
- Krist Zimmerman, Joint Base Andrews
- Chris Landgraf, MCBQ



Peggy Tadej, Director of Comm and Military Partnerships, NVRC

- Peggy Tadej directs the Northern Virginia Community, Military & Federal Facility Partnership that meets bi-monthly with academic, military, community, and non-profit organizations to protect, preserve and enhance NOVA military installations and community partnerships. In 2022,
- Ms. Tadej received recognition from the Association of Defense Communities as a recipient as a Champion of the Defense Communities and Northern Virginia Region was recognized as a Great American Defense Community.
- For over ten years, she has engaged with regional installations to include: Joint Base Myer-Henderson Hall (JBM-HH), Fort Belvoir, and Marine Corps Base Quantico, as well as regional Army Reserves, Virginia National Guard units, and Marine Corps Reserves. Ms. Tadej works to encourage regular communication on military facility viability specific to the Pentagon, Mark Center, and National Geospatial Intelligence Agency; helps explore and create public-public and public-private opportunities with the bases and these locations; and addresses issues affecting readiness, public safety, cyber security, transportation, workforce transition, workforce development, training & education, resiliency, and diversity, equity, and inclusion consistent with the One Military, One Community initiative. She is providing cost efficiencies to local installations through the first Regional Intergovernmental Support Agreement. She promotes the military value of the installations within the region, provides awareness of the state of current and future mission readiness, provides demographic and economic data to support the mission of each installation.





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Jennifer Hirsch, Project Manager, DoD, OLDCC



Ms. Jennifer Hirsch has been with the Office of Local Defense Community Cooperation since 2021 and currently serves as the Assistant Program Activity Lead for the Installation Resilience Program. In this role, she assists states and communities with partnering with their local installations to support organizing, planning, and implementing actions needed to foster, protect, and enhance the resilience and sustainability of military installations. Prior to joining the office, Ms. Hirsch held positions with the Environmental Protection Agency and the National Capital Planning Commission where she managed community planning, environmental policy, and historic preservation programs. She holds a Bachelor of Arts in Architectural History from Brown University and a Master of City Planning and a Master of Science in historic preservation from the University of Pennsylvania.



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Installation Resilience Brief

Presented By:

Jennifer Hirsch

Assistant Program Activity Lead, Installation Resilience



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“One Community”

Local Installation(s) + Local Jurisdiction(s)
+State(s)



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Installation Resilience

<u>Resilience Factors</u>	
Flooding & Tidal Surge	Water Availability
Wind	Stormwater
Drought	Wastewater
Wildfire	Installation Energy
Earthquake	Operational Energy (logistics infrastructure)
Tornado & Severe Storm	Transportation (logistics)
Hurricane/Tropical Storm	Installation Access
Ice Storm	Communications
Air Space and Land Uses	Energy Compatibility
Airborne Noise	Air Quality
Urban Growth	Housing Availability
Spectrum Encroachment	Marine Resources
Endangered Species	Security





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Grant Overview

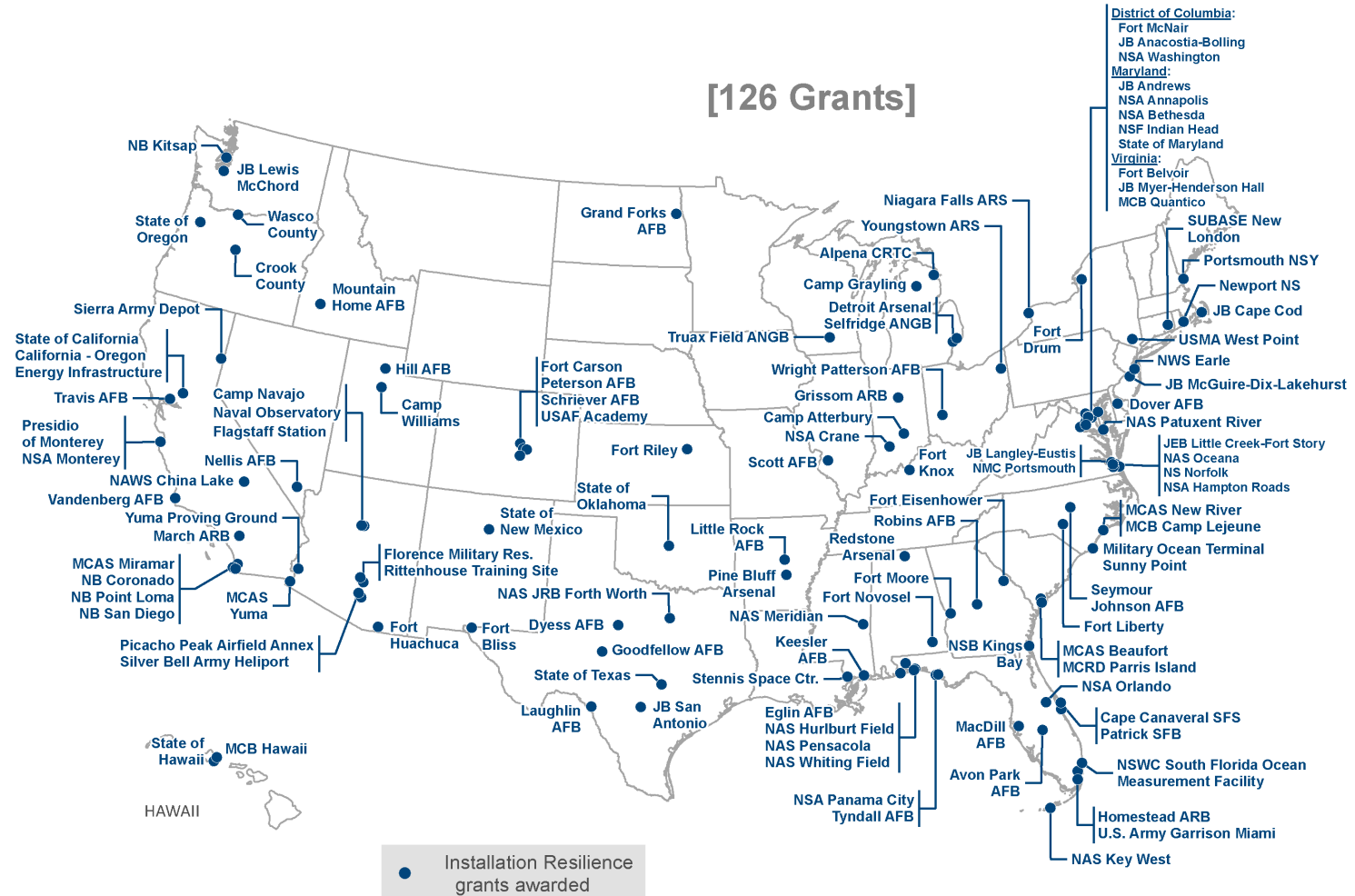
- Eligibility-based (non-competitive): Projects may be initiated either through a Military Service nomination or by a community inquiry
- Eligible applicants: State/regional/local governmental entities
- Planning grant (non-construction): Comprehensive resilience review or focused study (transportation, land use/encroachment, utility services, housing, stormwater management,) culminating in an action plan
- OLDCC technical and financial assistance also available to carry out implementation recommendations



OLDCC Installation Resilience Grants Awarded

FY2019 - FY2023

[126 Grants]

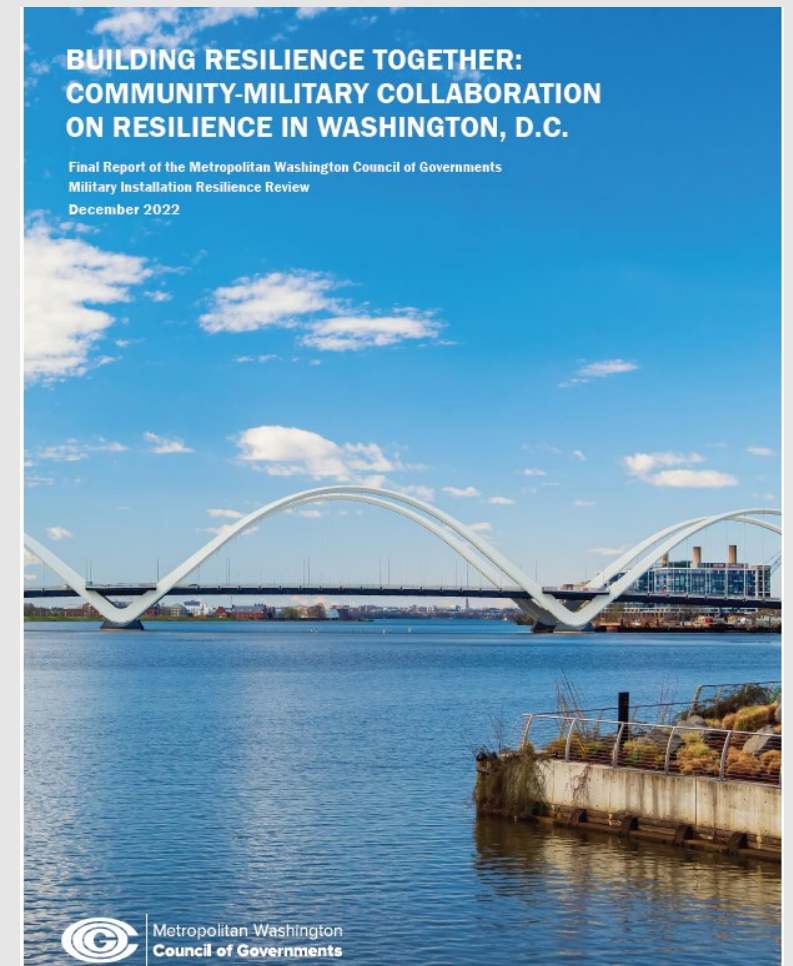




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NSA Washington, JBAB, Fort McNair

- **Issue:** Regional resilience and collaboration
- **Project Study Area:** Washington, DC Installations: NSA Washington, JBAB, Fort McNair, and surrounding jurisdictions.
- **Action:** Military Installation Resilience Review completed in 2022; Grant 2 will focus on implementation including:
 - Climate Impact Assessment
 - Roadmap for Solutions and Funding
 - Tabletop Exercises focused on telecommunications and utilities (electric and water)
 - Develop plan for increased coordination between District of Columbia government and installations





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<https://oldcc.gov/>

<https://oldcc.gov/resource/compatible-use-and-installation-resilience-grantee-guide-508-compliant>

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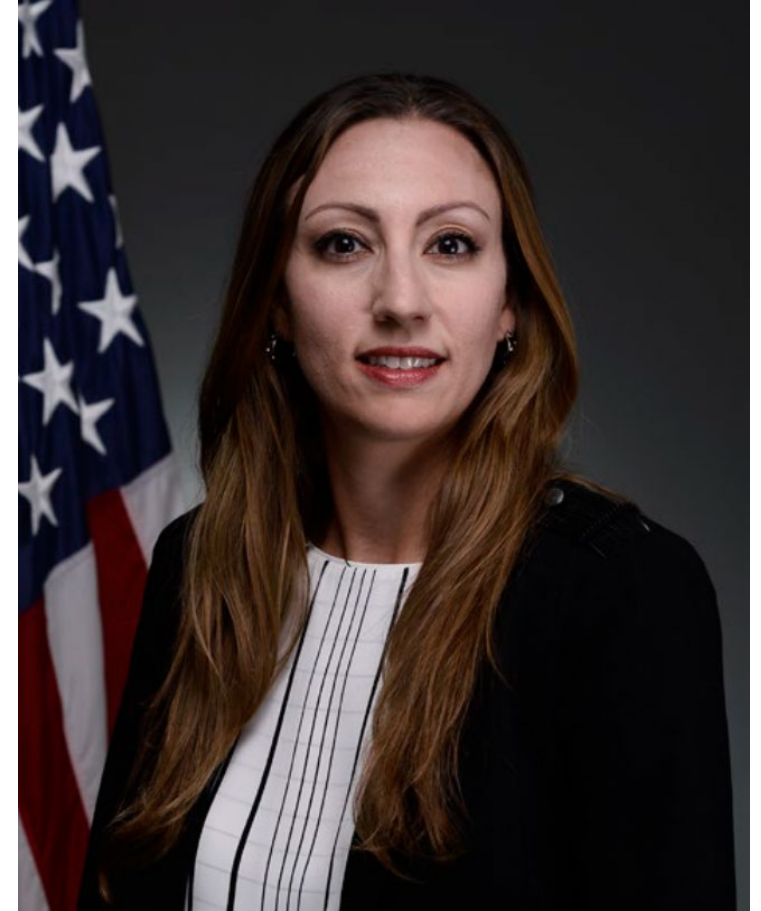


ToniAnn Fisher, Director for Air Force

Community Partnerships and Mission Sustainment in the Office of the Deputy Assistant Secretary of the Air Force for Installations

Ms. Fisher drives policy development to mitigate operational risk to Air Force installations and support innovative partnering solutions with local communities. Previously, Ms. Fisher was the Director of Operational Energy Resilience in the Office of the Deputy Assistant Secretary of Defense for Environment and Energy Resilience. Ms. Fisher also served as Chief of Aviation Energy Logistics and Sustainment Policy in the Office of the Deputy Assistant Secretary of the Air Force for Operational Energy to lead policy initiatives to optimize energy resilience in support of the global mission. Ms. Fisher has held positions as a federal government civilian and private sector consultant to oversee and manage national security and defense programs focused on building national and local government capacity, creating partnerships, and sustaining the U.S. military operational mission. She managed Army and Air Force program execution to facilitate partnership agreements between installations and local and state governments on a range of installation support services to enhance military and operational readiness. She managed development of risk management plans and partnerships to assist Air Force installations with long-term strategies and approaches to enhance mission sustainment.

Ms. Fisher also managed \$35M in U.S. security cooperation funds to strengthen U.S. military interoperability with the armed forces of NATO Partnership for Peace nations. Prior to the Department of Defense, Ms. Fisher served as a Foreign Service Officer with the Department of State in overseas and domestic assignments where she negotiated military and security agreements with foreign governments.





MIRR and Community Partnerships

- **A community-led cooperative, strategic planning process between an installation and the surrounding local jurisdictions. A MIRR can highlight:**
 - **The need for structured discussion to share resources, such as through Community Partnerships**
 - **Community stakeholders that need further engagement at a local level**
 - **Other projects that can be pursued immediately, leveraging range of existing partnership tools/program/authorities, and grants such as for DCIP, etc.**
- **Follow-on projects can be planned during the MIRR, allowing community momentum to transition into the Air Force Community Partnership (AFCP) and other processes quickly and easily**
- **Recent MIRR Initiatives**
 - **Solano County \$1.5M Critical Infrastructure Resilience study for Travis AFB**
 - **Prince George County environmental study for Joint Base Andrews (ID and improve local flood plains)**



Krist Zimmerman, Joint Base Andrews



- **Mr. Krist Zimmerman is the 316 WG Community Planning Liaison at Joint Base Andrews charged with managing the mission sustainment and Air Force Community Partnership programs. He works with all JBA mission partners, Air Force departments, and others to identify solutions that mitigate mission risk hazards and partnerships that sustain the installation's relationship with the local communities. His main focus is developing partnerships that create clean and renewable alternative energy projects to improve energy resilience and reduce federal building energy usage, which currently include installation of new electric vehicle charging stations and two DoD ESTCP-funded geothermal energy studies.**

316th Wing



Joint Base Andrews / PG County Military Installation Resilience Report

Krist Zimmerman

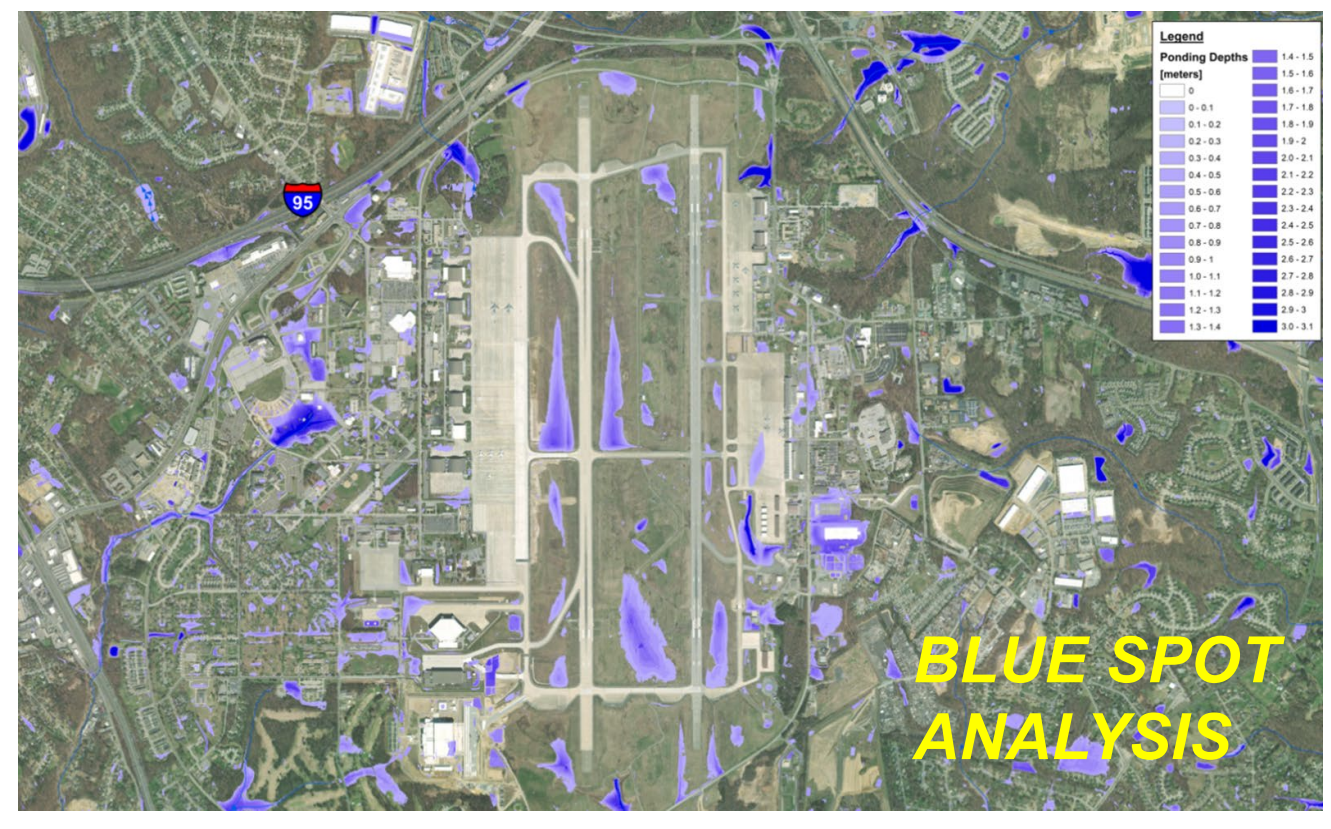
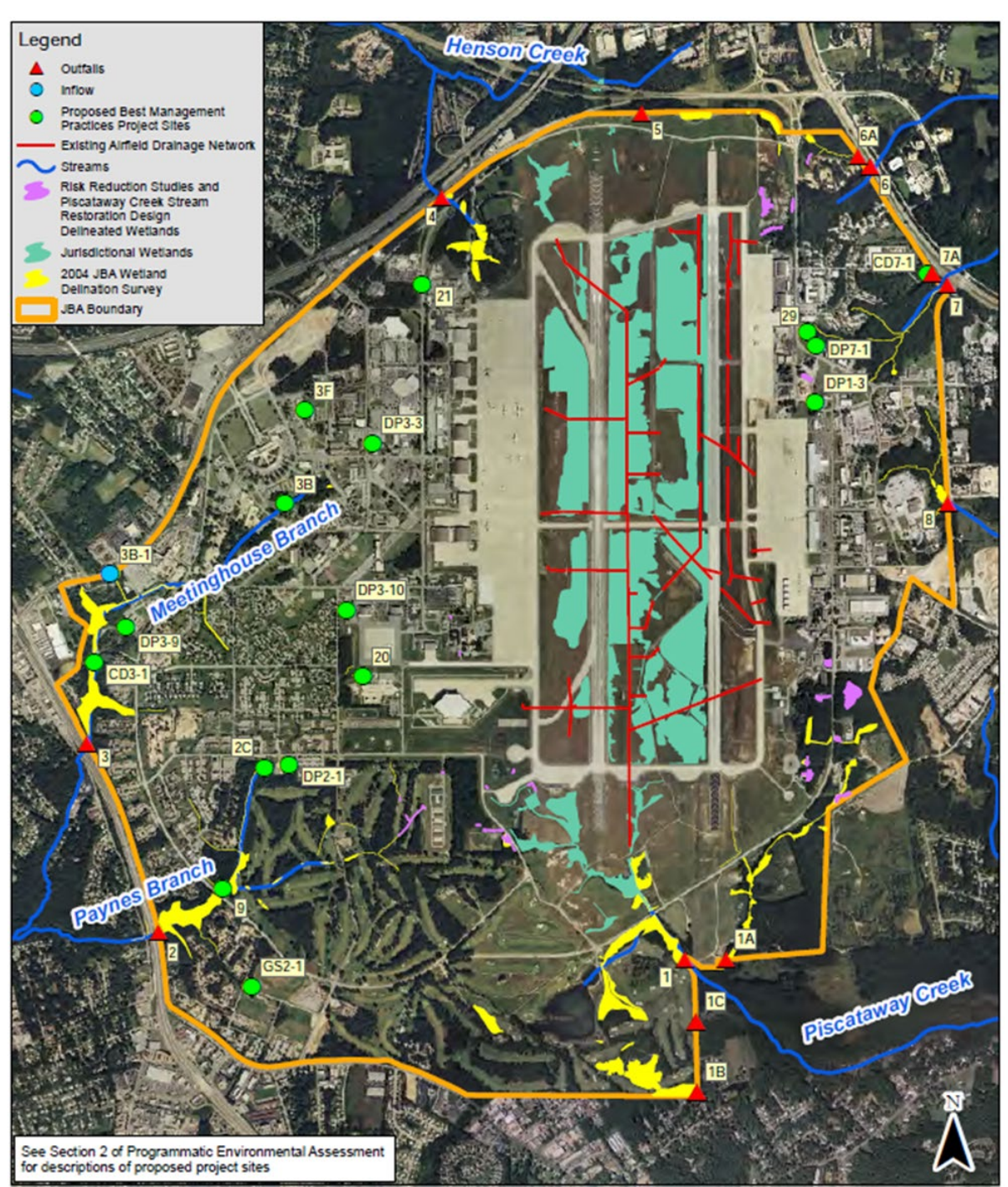
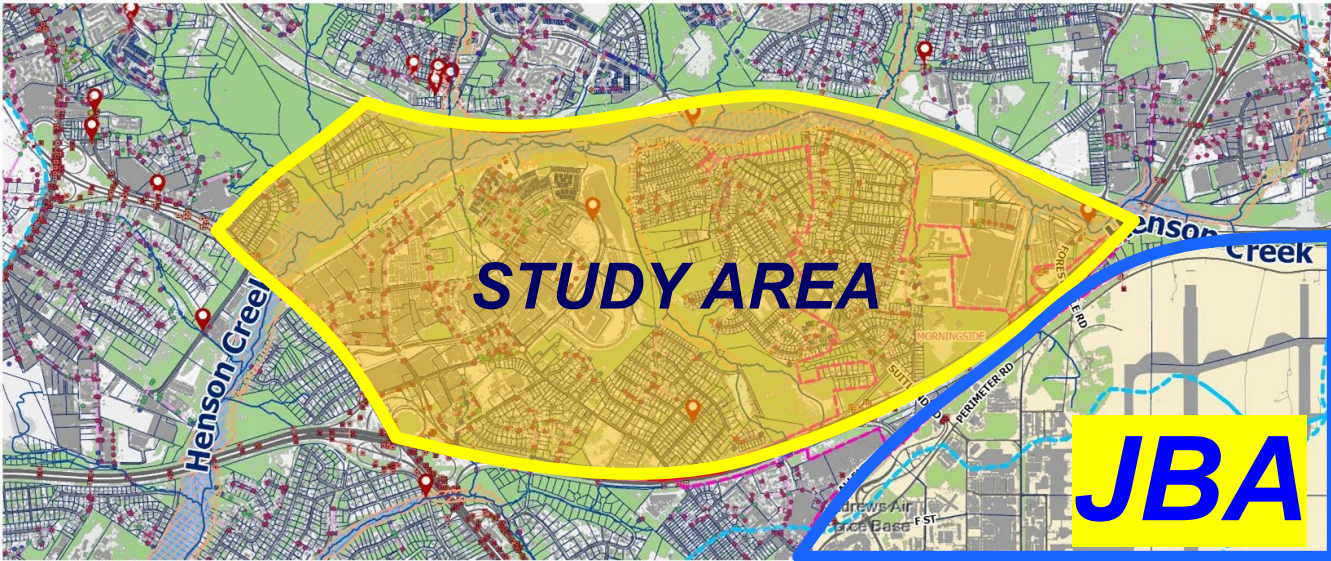
316 WG Community Planning Liaison



Joint Base Andrews MIRR w/PG County



- **MIRR proposed in March 2020 (pre-COVID)**
 - Prince George's County Dept of Environment selected
 - ◆ Deferred to 2022 due to **County Climate Action Plan** development
 - ◆ Used County's CAP to determine MIRR project and location
- **MIRR grant approved in September 2022 by OLDCC**
 - Kickoff meeting held on JBA with tour of base's outfalls
 - MIRR Study focus area:
 - ◆ **Storm water infrastructure challenges** in Henson Creek area along access routes to JBA
 - ◆ Use **Blue Spot Analysis** to identify flooding hazard areas
 - ◆ Identify flood areas to improve (potential future DCIP project?)



Chris Landgraf – Community Planning Liaison Officer, Marine Corps Base Quantico

- Chris Landgraf is a Community Planning Liaison Officer (CPLO) at Marine Corps Base Quantico. He was the Program Manager for the Military Installation Resilience Review at the Northern Virginia Regional Commission until last month. Chris previously worked as the Deputy Director of Public Works at US Army Garrison Fort Belvoir in Virginia. While a US Army civilian, he served as the Director of Public Works in Operation Resolute Support in Kandahar, Afghanistan. Chris has also held the positions of Master Planner and Stormwater Program Manager at Fort Belvoir. Prior to his work at Fort Belvoir, Chris was the Environmental Planning Manager for New Kent County in Virginia during which time he co-authored an article on Low Impact Development for Land and Water Magazine. Chris has 25+ years of experience in stormwater and watershed planning. He holds a Master of Arts in Geography from the University of Arkansas and a Bachelor of Science in Biology from the University of Mary Washington.



Industry Day Background

22 Sept 2022- Presented 20 projects covering Energy, Water, and Wastewater totaling \$338.3 M

- 60 total participants including elected officials, public and private sectors, and military installations
- Private Sector Panel: Stantec; ESG; American Water; Dominion Energy; and LSI
- Presentations from DOD/REPI & OLDCC; and FEMA/BRIC

1 March 2023 – MIRR Update, Fairfax County presented list of “Shovel Ready” projects

Sept 7 2023 – Arlington County and Prince William County projects.

On-Going Next Steps:

- OLDCC – MIRR 2.0 - Policy Planning, Technical Analyses, and Policy Updates
- Complete REPI – March 2024 and Prepare application for DCIP
- Refine umbrella strategy and identify key players (Foundations & Grant writers) (Working)
- Develop a business case for each project (Working)

Project List Presented in Sept 2022 and March 2023

1MW Floating Solar Array for Water Treatment Plant	3.5								
Battery Back-up for 1MW Floating Solar Array	3	(1MW Battery Back-up)							
Transmission Lines for 1MW Solar Array at Water Treatme	2								
0.5 MW Floating Solar for Water Treatment Plant	2								
Floating Breakwater Protection for the 0.5 MW Array	3								
Battery Back-up for 0.5 MW Floating Solar	2								
Transmission Lines 0.5 MW Array at Water Treatment Plar	3								
New Substation at Fort Belvoir	30	(New Substation at Telegraph and Beulah)							
2 MW Battery Back-up for Community	6								
Micro-grid at New Fort Belvoir Substation	10	(2 MW Micro-grid)							
Micro-grid at Existing Fort Belvoir Substation	10	(2 MW Micro-grid)							
2 MW Battery Back-up for Community	6								
Transmission Line Improvements for FB Switch Gear	5								
Switch Gear for Fairfax County Covanta Power	5								
Battery Back-up for Landfill Solar	15								
Switch Gear for Arlington/Alexandria County Covanta Powe	5								
Transmission Line Improvements for AIA Switch Gear	5								
Solar Panels at Fort Belvoir Elementary School	2.4	(35,000 square feet of solar panels on the roof)							
Solar Panels at Woodlawn Elementary School	1.8	(30,000 square feet of solar panels on the roof)							
Micro-grid at Existing JBM-HH Substation	10	(2 MW Micro-grid)							
Gas Line Connections at JBM-HH	0.7								
Water Line Connections at JBM-HH	0.5								
Floating Solar at Lunga Reservoir	7	(2 MW floating solar array on west branch of Lunga Reservoir)							
2 MW Battery Back-up for MCBQ	6								
Transmission Lines for Lunga Reservoir Solar Array	4								
Floating Solar at Smith Reservoir	3.5	(1MW floating solar array on east branch of Smith Reservoir)							
1MW Battery Back-up for Community	3								
Floating Breakwater Protection for the 1MW Array	3								
Transmission Lines for Smith Reservoir Solar Array	4								
Planning Effort for Little Creek and Quantico Shoreline	0.9								
Natural Infrastructure Improvements for Little Creek	34.5	(Combination of stream improvements and stormwater catchments with infiltration)							
Shoreline Improvements at Quantico/PWC	22.5	(Combination of floating breakwaters and rock breakwaters)							
Town of Quantico Water and Wastewater Upgrades	10	(Options to connect Quantico to the new Water and Wastewater lines)							
10 (each) Solar EV Charging Stations at the Installations	9								
Regional Fast Ferry	100	(Ferry service between Woodbridge, JBAB, Pentagon, and DC)							
Total Cost (millions)	338.3								

Project List Priorities

- Fort Belvoir/Community Substation
- Covanta Switch Gear
- Fairfax County Landfill Solar
- Planning for Floating Solar Arrays (3 total)



Existing Substation at Fort Belvoir



Applicant: NVRC/Comm/Mil
Benefit: Community Resilience/DoD Compliance
Funding: DOE (\$21 M)

Install a 2 MW Micro-grid and transmission lines to supply power to Fairfax County Community Facilities outside the gate. Add battery back-up for Humphreys Engineer Center.

Covanta Alexandria/Arlington Facility

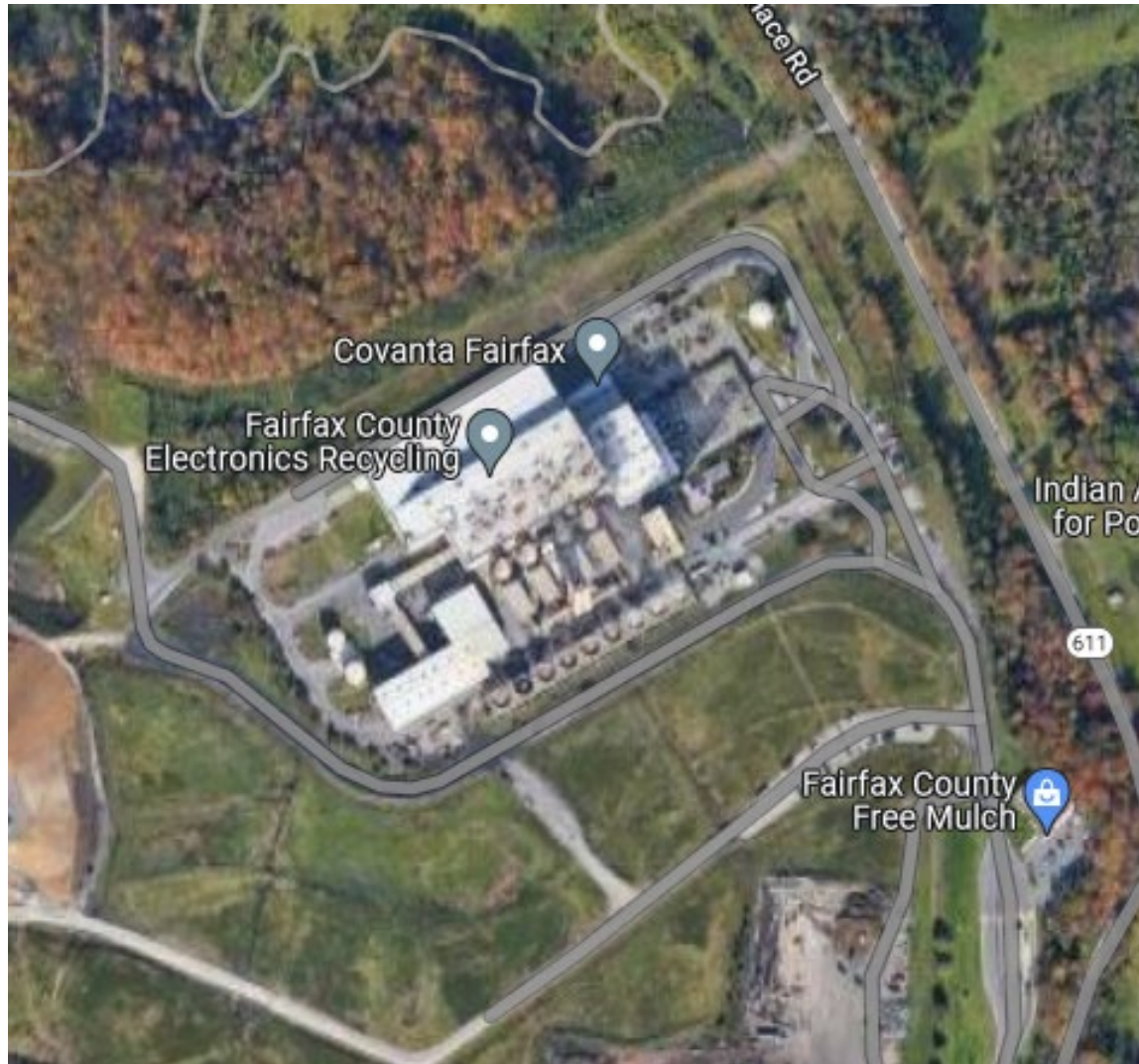
Applicant: NVRC/Comm
Benefit: Community Resilience
Funding: DOE/DCIP/BRIC (\$10 M)



The Covanta Alexandria/Arlington Facility generates 22 MW from burning trash. The power is currently fed to the grid. A Switch Gear and dedicated transmission line could allow power from one turbine to power the requirements of the Arlington County Water Treatment Plant and the Wastewater Treatment Plant after a major power disruption. Both plants service Joint Base Myer-Henderson Hall.

Covanta Fairfax Facility

Applicant: NVRC/Comm
Benefit: Community Resilience
Funding: DOE/DCIP/BRIC (\$5 M)



The Covanta Fairfax Facility generates 80 MW from burning trash. The power is currently fed to the grid. A Switch Gear and dedicated transmission line could allow power from one turbine to power the requirements of the Fairfax County Water Authority Treatment Plant and the Fairfax County Wastewater Treatment Plant after a major power disruption. Both plants service Fort Belvoir.

Fairfax County Landfill Solar Array

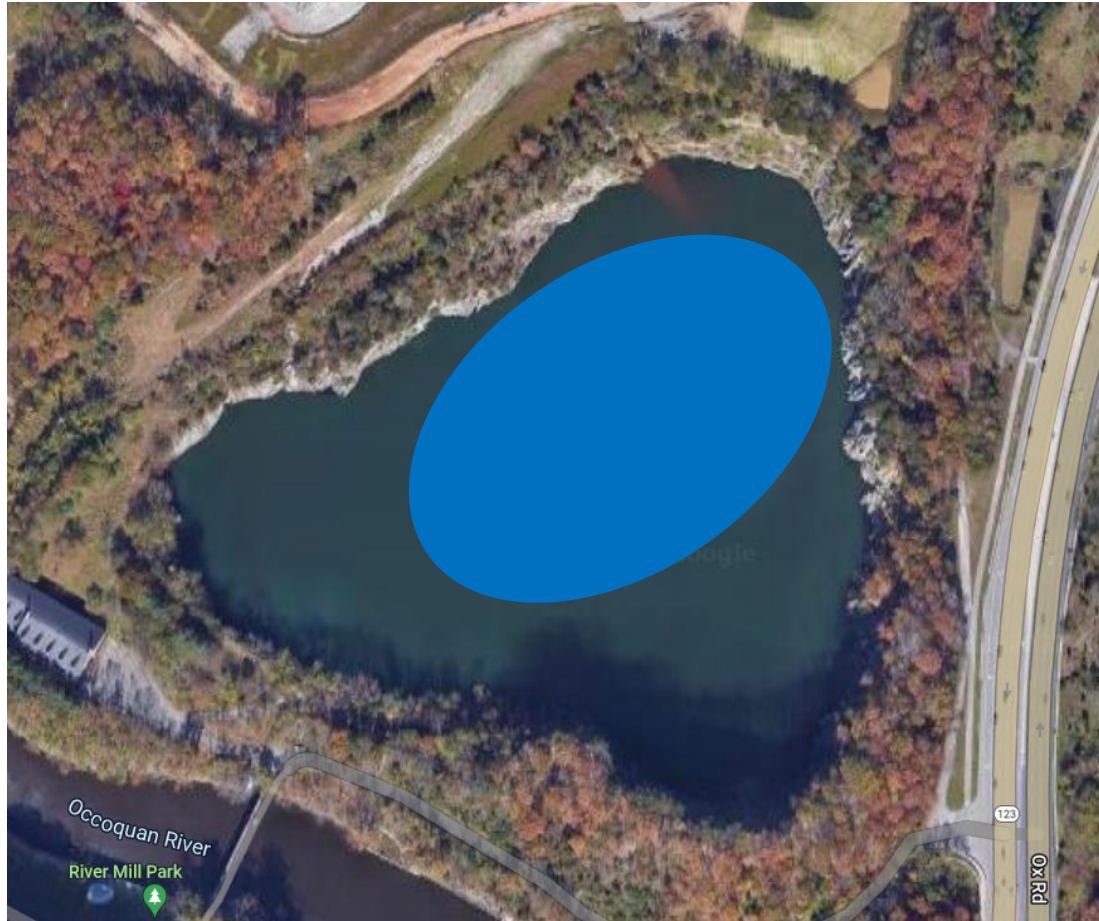
Applicant: NVRC/Comm
Benefit: Community Resilience
Funding: DOE/DCIP/BRIC (\$15 M)



Fairfax County has plans to install a 5 MW ground mounted solar array on the landfill. The array will require battery back-up near the array along with a transmission line from the array to the Fairfax Water Authority Treatment Plant.

Vulcan Quarry Pond Floating Solar

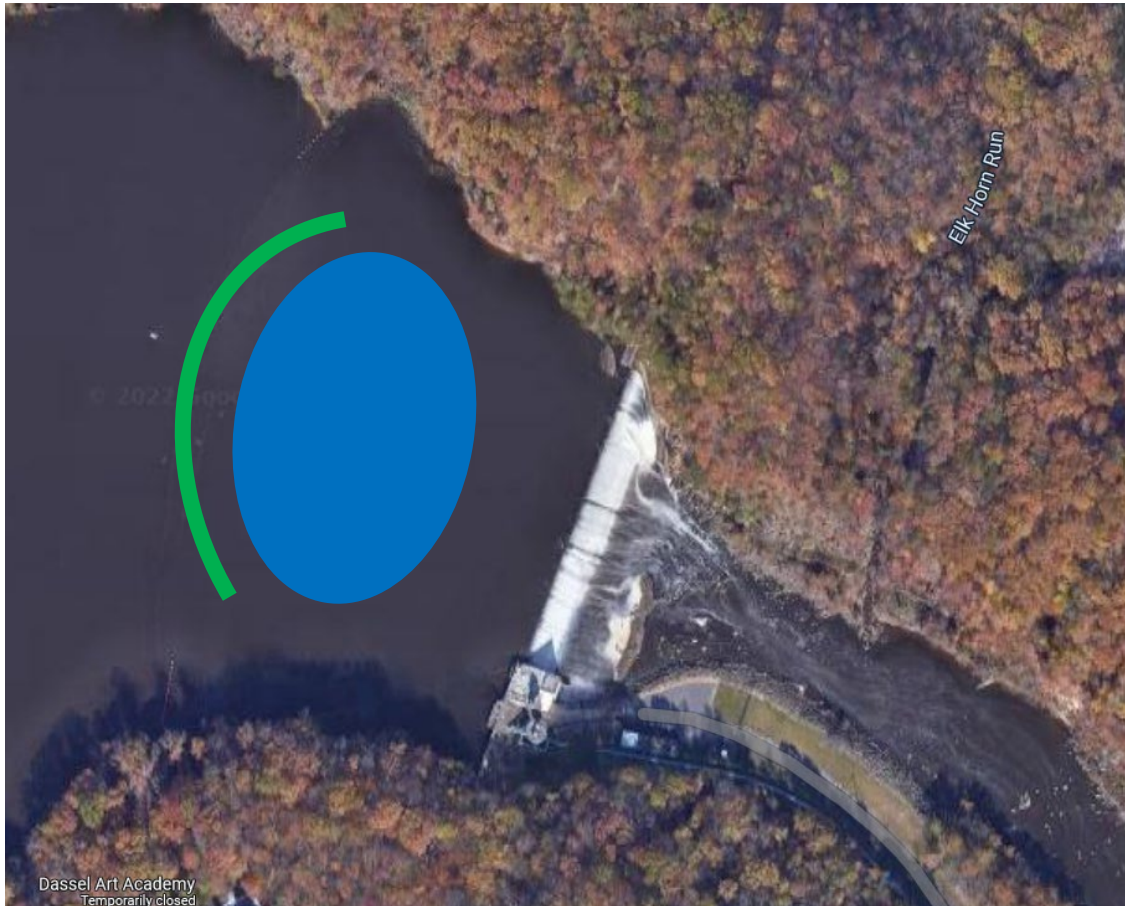
Applicant: NVRC/Comm
Benefit: Community Resilience
Funding: DOE/DCIP/BRIC (\$8.5 M)



Install a 1 MW floating solar array in the quarry pond. The array will require battery back-up near the water treatment plant along with a transmission line from the array to the plant. The array will support water operations in Fairfax County and at Fort Belvoir if there is an emergency.

Occoquan Dam Floating Solar

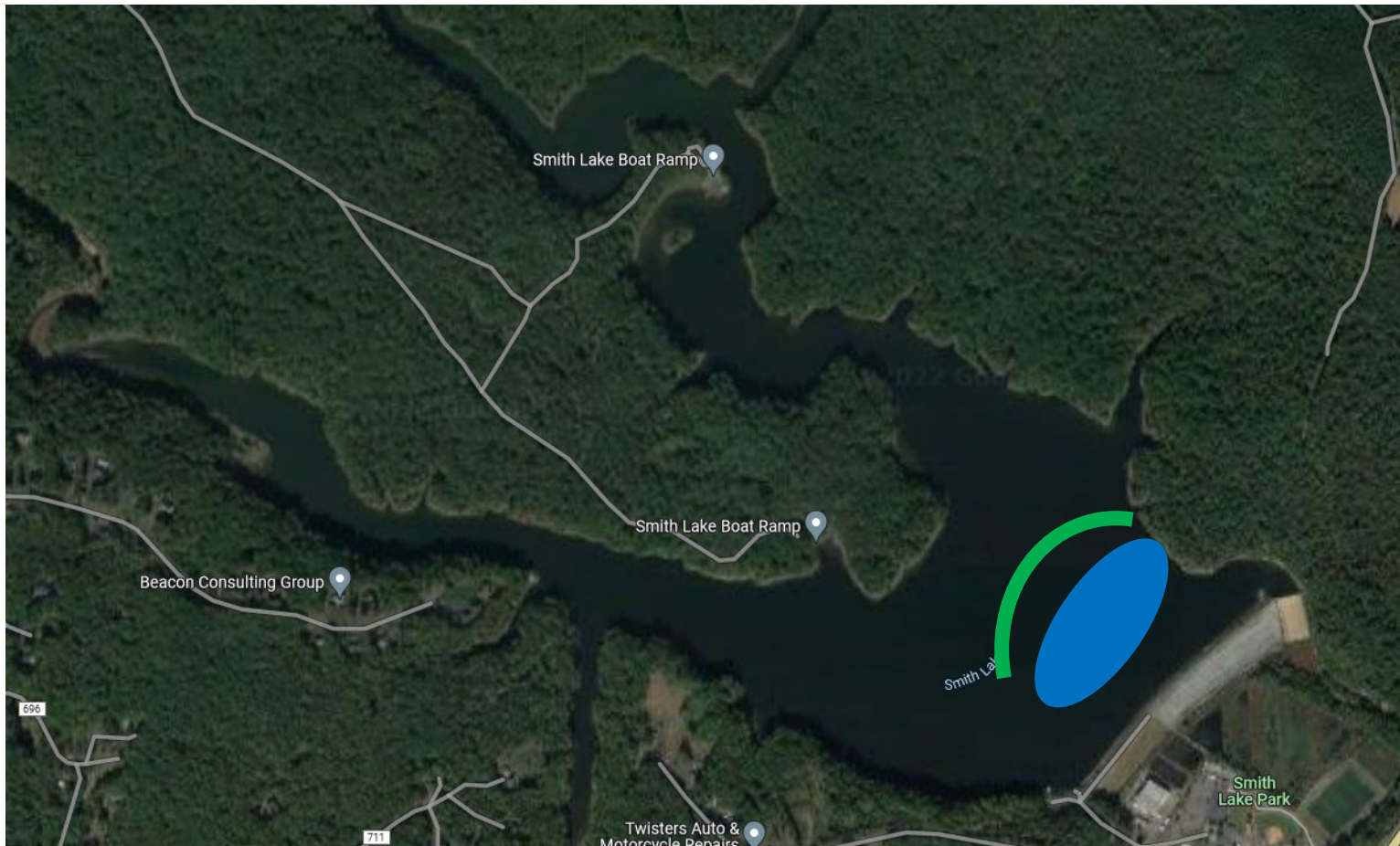
Applicant: NVRC/Comm
Benefit: Community Resilience
Funding: DOE/DCIP/BRIC (\$10 M)



Install a 0.5 MW floating solar array with a floating bulkhead above to deflect trees and debris. The array will require battery back-up near the water treatment plant along with a transmission line from the array to the plant. The array will support water operations in Fairfax County and at Fort Belvoir if there is an emergency.

Smith Lake Floating Solar Array

Applicant: NVRC/Comm
Benefit: Community Resilience
Funding: DOE/DCIP/BRIC (\$10.5 M)



Install a 1 MW floating solar array with a floating bulkhead above to deflect trees and debris. The array will require battery back-up near the dam along with a transmission line from the array to the Stafford County electric grid.

Parallel Projects - Readiness and Environmental Protection Integration (REPI)

Flooding and Erosion at MCB Quantico

- In 2022, NVRC was awarded REPI funds for a project to assess the flooding of Little Creek at Fuller Gate and shoreline erosion at MCAF along the Potomac River.
- The project identified natural infrastructure solutions that would enhance base and community resilience by addressing erosion, improving stream and watershed habitats, and improving water quality.



Shoreline erosion at MCB Quantico
Source: NVRC

Noman M. Cole, Jr., Pollution Control Plant

- In 2023, NVRC is pursuing REPI funds to implement Noman Cole Jr. Pollution Control Plant Resiliency Measures (Strategy B.9).
- The proposed strategy aims to mitigate flooding impacts to the facility's structure and processes and to ensure access is maintained.



Noman Cole Jr. Plant
Source: Fairfax County

MIRR 2.0

NVRC will use Community and Military subject matter expertise in climate change and resilience to write policies, review procedures, update plans, and facilitate outreach in Northern Virginia communities.

Additional technical services (i.e., meeting facilitation, workshop coordination, etc.) to complete planning tasks for 15 strategies that were identified in the Military Installation Resilience Review completed in May 2023.

Facilitate and support outreach, meetings, workshops, tabletop exercises and other stakeholder engagement activities associated with the following topics:

- **Coordination of Technical and Policy Priorities**
- **Transportation**
- **Emergency Management**
- **Coastal/Inland Flooding**

Actions and Opportunities

Current Actions

- Readiness and Environmental Protection Integration (REPI) Challenge Proposal:

Partners: NVRC and Prince William County

- Virginia Security Corridor Sentinel Landscape :

Purpose: Preserve, coordinate, and grow the spaces and conditions vital to prioritizing mission readiness, preparedness for war, and modernizing key capabilities.

Status: Awarded to the Commonwealth July 2023

Future Opportunities

- Readiness and Environmental Protection Integration (REPI) : Conservation projects and natural resource restoration.
- OLDCC MIRR 2.0: NVRC will implement Regional Strategies identified in the initial MIRR
- National Oceanic and Atmospheric Administration Grant: NVRC has applied for a NOAA grant that includes projects around MCBQ
- Defense Community Infrastructure Pilot (DCIP) Program
- Federal Emergency Management Agency Building Resilience In Communities (BRIC) Grant

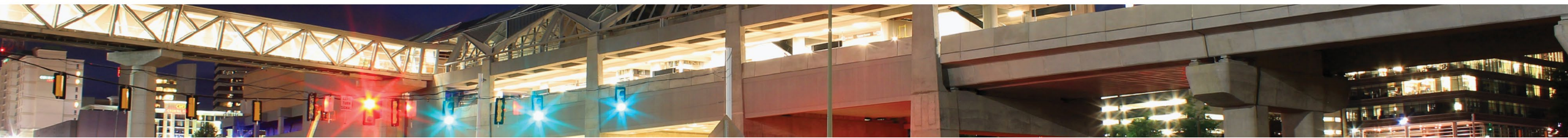
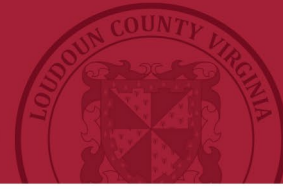


Closing Comments

- Resilience is a long-term process
- Partnerships are key to successful resilience projects
- Funding is available, but you must be willing to look for programs and take the time to write the grants
- If you are not thinking about 2030 you may be behind the curve
- Questions???

Next Steps

- Does anyone have projects that should be added to this list?
- Has anyone received a grant for projects in the community?
- What can everyone contribute to these projects?
- Continue to work with the counties on possible REPI, DCIP, BRIC, NOAA and other projects
- Pursue funding sources for project planning
- Plan for Industry Day #4 March 7, 2024



THANK YOU!



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