

Supporting Regional Disaster Debris Management

Initiative Summary Statement:

Address existing challenges of debris management while planning for future hazards to minimize the impact of debris staging and storage sites on natural resources.

Initiative Description:

Objective: The long-term recovery from Hurricane Ian provides an opportunity to incorporate lessons learned by updating debris management plans with regional approaches to the communication of rules, roles, and responsibilities for debris removal in future events. Disaster debris management plans are common practice in emergency management to prepare jurisdictions for the removal, recycling, handling, and monitoring of disaster debris. Proper tracking and documentation of debris management is also a critical component of successful cost recovery for eligible expenses during federally declared disasters when additional financial resources may become available to local jurisdictions. The objective of this Initiative is to address the recovery of the region as it removes remaining Hurricane Ian debris, understand the impacts of the debris locations utilized during the storm, and assist jurisdictions in building additional capacity to respond to future events requiring massive debris operations.

Need: The Lee County region needs to increase its capacity to manage the tremendous amount of debris that results from relatively rare but very severe, destructive events like Hurricane Irma (2017) and Hurricane Ian. Post-Hurricane Irma, Lee County recognized the need for additional debris staging sites and increased the number to 33 sites (40+ as of November, 2023). These additional sites provided Lee County flexibility in problem-solving logistical challenges when responding to the catastrophic flooding of Hurricane Ian but can be expanded further. Hurricane Ian resulted in more than 12 million cubic yards of debris, with 6.3 million of that collected roadside in unincorporated areas. Due to the catastrophic impacts of storm surge and coastal flooding some logistics staging areas also sustained flooding, so mutual aid teams shifted to utilize sites intended for debris staging. This successfully sustained critical logistics activities but further reduced available debris management sites. In other areas, like Sanibel and Captiva, the number of debris staging sites are inadequate to manage the amount of debris generated by major tropical storm systems. As recovery has progressed, a new challenge has emerged – that of mitigating the negative environmental impacts of storm clean-up, especially in environmentally sensitive areas such as around mangroves.

Additionally, successfully completing all debris management processes often requires a significant amount of documentation and cross-jurisdiction coordination that puts a severe strain on staff resources during and after major events. Navigating the disaster reimbursement process requires significant staff capacity and expertise to identify and submit eligible costs as well as manage federal grants. On October 6, 2022, just days into the response to Hurricane Ian, President Biden approved the Governor's request for an additional 30 days of the federal cost share for debris removal. The efforts to remove debris require coordination with federal, state, and local jurisdictions, and the public to properly handle collection and disposal. Recovery and preparedness initiatives that implement efficiencies within any of the processes associated with debris management contribute to the resiliency of the region through potentially faster debris management/removal and by helping to limit strain on responders and making the best use of available personnel.

Regional Approach: A regional approach to debris management includes evaluating the current identified debris locations in both municipal and unincorporated areas, considering the identification of additional sites to prepare the region for future disasters, and incorporating any new processes into emergency response, recovery, and debris management plans. The Florida Department of Environmental Protection provides guidelines for the establishment, operation, and closure of disaster debris management sites. The County and municipalities can consider identifying additional temporary debris removal staging and storage sites as well as final disposal methods and locations that could remain operational even when storm surge and flooding renders more coastal or lower-lying sites temporarily unusable. Even more imperative is final disposal for Construction and Demolition debris within the region. As the debris is a pipeline from the impacted streets to the landfills (or energy plants plus landfills) that are the final location for the debris. Regional development of Construction and Demolition landfills will be essential to handle debris from storm surge or intense wind damage to buildings. The County and municipalities should prepare plans to better manage the debris that originates in its jurisdiction, to best ensure the region can be prepared to manage the catastrophic impacts of future events. At the same time, there must be recognition that barrier islands and smaller communities have limited availability to create additional debris management area and those jurisdictions, and the County should work in partnership to ensure debris generated from major storm events can be managed to mitigate public health and safety risks.

As part of these site evaluation and planning efforts, jurisdictions can consider the implications of debris storage and staging locations on the environment. During Hurricane Ian, storm surge washed a catastrophic amount of debris from the barrier islands into

nearby environmentally sensitive estuaries and mangrove forests. Efforts to remove debris in environmentally sensitive areas should consider cost feasibility, public safety, and environmental impacts where removal could cause more environmental harm than good. Through collaboration with natural resources experts, emergency management leaders may be able to integrate low impact debris staging areas.

The extra capacity needed to complete all debris management, removal, tracking, and documentation processes during major disasters taxes staff and often requires independent contractors that augment staff resources. Further, cost recovery requires monitoring of debris pick up to meet the requirements for federal programs. The State of Florida passed SB 250 (2023) that encourages local governments to have contracts for debris removal contractors in place by providing a model contract. Jurisdictions could also increase debris management capacity by establishing no cost, “on call” agreements with contractors during blue skies that can be quickly activated when needed.

Public education and communication about the rules and regulations related to debris removal is essential to timely and efficient storm debris pick up. Public information and communications offices can work together across jurisdictions to develop and disseminate consistent messaging that educates the public and contractors on appropriate debris removal. Coordinated messaging around common areas of confusion, including processes for debris management on private property, is especially important to prevent further challenges. Conflicting messages can cause confusion, slow the overall process, and lead to issues with cost recovery.

Impact: Quick and efficient removal of debris in future disaster is in the public’s best interest to begin recovery and prevent secondary impacts from lingering debris such as environmental degradation, public safety risks, emotional impacts reminding survivors of disaster-related trauma, and further economic loss. With effective regional planning and coordination of disaster debris sites, the secondary environmental, emotional, and economic impacts from catastrophic debris can be minimized.

Key Considerations:

- The Hurricane Ian After-Action Report identified the following recommendation: “The County should consider conducting a land use assessment to both determine the impacts of a Category 5 hurricane on various County properties and increase the number of available logistics staging areas and debris staging areas.”
- Consider the need for interjurisdictional memorandums of understanding to assist in debris management and staging as these locations are becoming less available, especially within heavier populated jurisdictions. Additionally, permit waivers should

be considered and advocated for by the Florida Department of Environmental Protection.

Co-Sponsoring Branches:

Planning & Capacity and Natural Resources

Stakeholders:

- Federal Emergency Management Agency
- Environmental Protection Agency
- Florida Division of Emergency Management
- Florida Department of Environmental Protection
- County departmental experts on natural resources, public safety, solid waste, communications, and parks.
- Municipal departmental experts on communications and public works

Potential Funding Sources:

- Federal Emergency Management Agency
- Federal Highway Administration
- United States Army Corps of Engineers
- United States Environmental Protection Agency
- Florida Division of Emergency Management
- Florida Department of Environmental Protection