



INDIAN RIVER COUNTY PDRP Planning Meeting 1 Infrastructure

Work Group Discussion Guidance

Lead Work Group Member: _____

Agency or Department: _____

Additional Departments/Organizations Identified

Please list any contact information for the departments or organizations previously identified for stakeholder input.

Department/Organization	Name	Contact Information
Water & Sewer		
Electric Utilities		
IRC Road & Bridge		
Bellsouth/AT&T		
Cablevision		
Drainage District		
Communications		
Budget Offices		
Planning Development		



INDIAN RIVER COUNTY PDRP Planning Meeting 1

Section 1: Background

These questions are provided to assist you in identifying issues that may be a priority and warrant consideration in the PDRP.

- Relocation of Critical Functions: Consider mission essential functions the County and its cities must perform in the aftermath of ALL disasters (emergency dispatch, permitting and inspections, utility restoration, required Public Meetings of the elected body, first appearances in front of a Judge, etc.) which of these can be temporarily relocated as opposed to mission essential functions which must be reconstructed to ensure community redevelopment. Are there Continuity of Operations Plan in existence which detail the process to ensure government will continue after a catastrophic event?
- Accessibility: Will critical facilities be accessible post-disaster? Will certain access roads and bridges be damaged? Will there be significant debris on access roads and bridges? Does the Debris Management Plan prioritize access to these facilities?
- High Risk Structures: What infrastructure and critical facilities are in close proximity to hazardous or highly vulnerable areas including hurricane storm surge zone, flood hazard areas, hazardous materials sites/facilities, etc? Has a list of facilities, structures, and infrastructure been identified (i.e. sewage treatment plant) which should be relocated if severely damaged or destroyed?
- Prioritizing Vulnerable Areas: Housing, structures and infrastructure in the hurricane storm surge inundation zone and high-risk flood plain will likely sustain damage. Consider working closely with the community development workgroup to identify these areas and explore long-term redevelopment strategies for heavily impacted residential areas which support long-term sustainability.

Debris management issues from Katrina

- Since Hurricane Katrina, more than 99 million cubic yards of debris have been removed in Alabama, Mississippi and Louisiana, paying out \$3.7 billion to date.
- Arsenic in Hurricane Katrina wood debris: Banned only in 2001, arsenic-treated lumber from houses and other structures destroyed by the hurricane poses a hazardous waste disposal problem. Placed in unlined landfills, there is a high risk of leaching.
- In January 2007, almost 500,000 m³, and much of the debris cannot be legally removed because homeowners cannot be located to give permission for demolition.
- Consider the long-term use of private property and advance negotiations with landowners through advance agreements for recovery activities such as debris storage, temporary housing and others. Include the negotiation of environment issues impacting property for these uses.
- Evaluate the expanded analysis of recycling/disposal contractor and long-term landfill space for post catastrophic events.





INDIAN RIVER COUNTY PDRP Planning Meeting 1

Section 2: Discussion Questions

Issue	Discussion Questions	Comments	Additional Information & Data Needs
Infrastructure for Temporary Recovery Operations	<p>For those facilities that house critical functions, have suitable primary and secondary alternate locations been identified?</p> <p>Have Continuity of Operations Plans been developed and where are they maintained?</p> <p>Which public services with similar functions can be co-located?</p> <p>Are there opportunities for installing permanent infrastructure instead of temporary infrastructure to support temporary disaster uses such as disaster housing? Disaster Recovery Centers? Debris Management sites?</p> <p>Can you identify alternative solutions in which temporary recovery operations could be pre-planned in a way that would benefit community capital investments?</p>		



INDIAN RIVER COUNTY PDRP Planning Meeting 1

Issue	Discussion Questions	Comments	Additional Information & Data Needs
	<p>Is there a process to ensure collaboration among the following entities in the aftermath of a catastrophic disaster: Public Works Community Planners, the Engineering Department., Growth Management Department., Economic Redevelopment, Private Utility Providers, Large Businesses, in order to prioritize infrastructure needs How could this collaboration be enhanced?</p> <p><i>Note: The Emergency Operations Center will NOT likely remain activated.</i></p> <p>What infrastructure components need to be considered when developing procedures for reviewing and deciding upon emergency building permits?</p>		



INDIAN RIVER COUNTY PDRP Planning Meeting 1

Issue	Discussion Questions	Comments	Additional Information & Data Needs
Debris Management	<p>Has the debris management plan been coordinated with Community Development and Environmental Resources Departments to ensure there is no conflict with debris management (siting and type of debris) and other post-disaster uses, future land use and sensitive environmental areas?</p> <p>What type of precautions have been taken (or should be taken) to limit soil and water contamination as well as air pollution at debris management sites?</p> <p>Detail the responsibilities of the Utilities and Solid Waste staff during long-term recovery.</p>		



INDIAN RIVER COUNTY PDRP Planning Meeting 1

Issue	Discussion Questions	Comments	Additional Information & Data Needs
Financing Infrastructure and Public Facilities Repair	Are there opportunities to enhance the existing Debris Management Plan to consider a catastrophic level disaster such as augmenting landfill capacity, increasing resources, etc?		
	When was insurance coverage for public facilities and infrastructure last evaluated for sufficient coverage? How often is this done? Is it adequate? If not, what prevents adequate coverage from being obtained?		



INDIAN RIVER COUNTY PDRP Planning Meeting 1

Issue	Discussion Questions	Comments	Additional Information & Data Needs
	<p>Are mitigation enhancements covered under current policies and Public Assistance or would additional funding, such as the Hazard Mitigation Grant Program (HMGP) needed to rebuild post-disaster?</p> <p>Does Indian River County have any financial reserves that can be targeted for grant matching funds or local investment for completion of projects post-disaster? Would the use of bonds be considered? Are there specific strategies in place to address revenue shortfalls?</p>		



INDIAN RIVER COUNTY PDRP Planning Meeting 1

Issue	Discussion Questions	Comments	Additional Information & Data Needs
Infrastructure and Public Facilities Mitigation	<p>For public facilities and infrastructure that have been identified as being in vulnerable locations, have locations that are less vulnerable been identified?</p> <p>Are there obstacles that would prevent relocation? If yes, what are they?</p> <p>Does the Local Mitigation Strategy's project list adequately identify vulnerable infrastructure and facilities that could be mitigated or relocated? (see attached LMS Projects 2011)</p> <p>Are there additional opportunities to make the community more resilient (i.e. sea level rise) or green (alternative energy, water reuse)?</p>		





INDIAN RIVER COUNTY PDRP Planning Meeting 1

Issue	Discussion Questions	Comments	Additional Information & Data Needs
	<p>Do any utility lines, such as sewer, water, gas, electric and cable TV, run above ground, east of the Coastal Construction Control Line (CCCL)?</p> <p>If so, would IRC consider relocating the utility lines landward of the CCCL and underground, if possible?</p> <p>Are there any underground storage tanks located east of the CCCL?</p> <p>What other infrastructure vulnerabilities can you identify that are unique to Indian River County and its' jurisdictions?</p>		



INDIAN RIVER COUNTY PDRP Planning Meeting 1

Section 3: Plan and Vision Integration

The following documents were identified during the kickoff meeting as providing guidance and vision for post-disaster infrastructure redevelopment. Consider how these plans, policies and procedures should be incorporated by your workgroup. **Describe what revisions, additions, or changes that would be required to implement these policies post-disaster.**

Plans/Policies/Procedures	Background	Action Items
<p>Comprehensive Plan</p>	<p>Identify any actions to be taken in the aftermath of a catastrophic level disaster that would mitigate negative impacts during long-term recovery and redevelopment.</p> <p>Development and Redevelopment in Flood Prone Areas. According to the 1988 Flood Insurance Rate Study for IRC, the County has significant amount of flood prone land. The most flood prone area is west of I-95 and includes the St. Johns Marsh area. The area surrounding the City of Fellsmere also contains flood prone areas which follow the pattern of drainage canals and ditches. Much of the flood zone is confined to wetlands and impounded wetlands; however, some development has occurred within the flood zone. Within the county, development in flood prone areas has not been a major problem since most development in those areas is relatively new; the development meets storm water regulations, with structures having higher finished floor elevations.</p>	



INDIAN RIVER COUNTY PDRP Planning Meeting 1

Those characteristics greatly reduce problems associated with flooding.

For areas with flooding concerns, redevelopment can occur in two ways: One approach is to retrofit or expand drainage facilities to improve the capacity of the drainage system, which lessens the likelihood of flooding without extensive property renovation. The second approach requires the renovation or removal of individual structures. The second method would likely be more appropriate only in those areas with severe flooding problems or where the economic value of the structure does not warrant the maintenance expense. In Indian River County, the first method (improvement of the drainage system) is the preferred method.

Along with drainage system improvements, new development in those areas will meet the current stormwater management and water quality standards of the county and regulatory agencies

Going forward, the county should continue to regulate development in flood prone areas in a manner that is consistent with the National Flood Insurance Program.

Identify other infrastructure improvements that are necessary

Structures or Areas Exhibiting Potential or Repeated Storm Damage. Indian River County has significantly fewer structures threatened by potential



INDIAN RIVER COUNTY PDRP Planning Meeting 1

storm damage than many comparable coastal counties. In unincorporated Indian River County, beachfront development consists mainly of low-density single-family structures. In addition, many undeveloped tracts of land exist along the beach.

In 1990, the County adopted the 1981 FDNR "Coastal Construction Control Line" (C.C.C.L.) as a line of construction prohibition. This line is designated as the "County Dune Stabilization Setback Line" (D.S.S.L.). Other than approved dune walkovers, minor structures or erosion control projects, construction is not allowed seaward (east) of this regulatory line.

Within Indian River County, the Coastal Barrier Resource Act (CoBRA) recognizes and discourages development in two areas: an area south of Ambersand Beach on the northern portion of the barrier island; and an area in the southern portion of the barrier island near the Indian River - St. Lucie County line. Because these relatively undeveloped areas are recognized as having the greatest potential for storm damage, federal flood insurance is unavailable in these areas. Should a Category V storm event occur, much of the barrier island and particularly the areas identified by CoBRA could be completely destroyed.

Are there any other areas in the County that are not named above, but should be considered as high flood risk? What is located in these areas?



INDIAN RIVER COUNTY PDRP Planning Meeting 1

Local Mitigation Strategy

The Coastal Management Element includes initiatives to evaluate future options for damaged public facilities following a disaster event, and includes abandonment, relocation, and reconstruction with structural modifications.

Have the public facilities been identified? Have alternative locations been identified?

One of the limitations of Indian River County that are identified in the LMS is that not all eligible local governments have participated in the Community Rating System Program or the Flood Mitigation Assistance Program, to the maximum extent possible. Having a strong CRS program reduces the cost of Flood insurance premiums to Indian River County residents and the FMA Program is a major source of funding to assist in retrofitting flooding problems.

Properties on the barrier island are susceptible to both flooding and wind related storm damage. What is preventing all eligible communities from participating in the Community Rating System Program or Flood Mitigation Assistance Program?

Is Indian River County willing to encourage greater participation or integrate it into the PDRP and Comprehensive Plans?

There are several important public facilities that are located on the barrier island and are susceptible to both flooding and wind-related storm damage. The



INDIAN RIVER COUNTY PDRP Planning Meeting 1

Long Range Transportation Plan

impact of storm events can be reduced significantly if measures such as hardening the facilities are taken. Other concerns include toxic material spills due to truck rollovers and train derailment.

Have alternative locations for these facilities been identified?

The goals, objectives, and policies of the 2035 LRTP update support or address post-disaster redevelopment initiatives indirectly through various goals and objectives.

For example, Goal 2 calls for a transportation system that provides alternative modes of transportation which enhance the mobility for people and freight. Objectives to achieve this include improving bus headways, expanding hours of bus service, adding sidewalks and bicycle routes, and enhancing freight mobility.

Goal 5 seeks to preserve and maintain the transportation system through adequate investment and management of the infrastructure. In order to do this, Indian River County will ensure the one hundred percent of the bridges on major roads have a structurally safe rating of 60 or more through the year 2035.

Recently, Indian River County made amendments to its Comprehensive Plan, adding a set of objectives, based on the EAR Report of the Transportation



INDIAN RIVER COUNTY PDRP Planning Meeting 1

Element. Some of the key changes included: adding a System Preservation objective; adding policies that address landscaping, regional transit coordination, right-of-way acquisition, passenger rail service, transportation demand management, and Intelligent Transportation System (ITS) projects.

What infrastructure components are not addressed in the LRTP that should be in order to further its vision?

What infrastructure components should be considered in the post-disaster environment where opportunities may exist to build back smarter and more sustainably?

Has any consideration been given in Indian River County to develop Transit Oriented Development? If so, what?

Would Transit Oriented Development be a viable option for Indian River County in a post-disaster environment?